
ILIX Präzisionswerkzeuge GmbH
ILIX®
PRECISION

DEUTSCHE QUALITÄT UND ZUVERLÄSSIGKEIT SEIT 1895

Die Anfänge der **ILIX Präzisionswerkzeuge** Werkzeugherstellung begannen am 1 Juli 1895, als die erste Zentrale in Frankfurt am Main gegründet wurde. Schon von Beginn an war die Werkzeugfirma in viele industrielle Bereiche involviert. Ein besonderer Fokus lag dabei in der Herstellung von Präzisionswerkzeugen.

Ein historischer Wendepunkt sowohl in technischer Hinsicht als auch auf dem Gebiet der Herstellung kam dann 1926. Begründet durch die Vorteile des Werkstoffs Hochleistungsstahl HSS konnte nun eine neue innovative Werkzeugreihe hergestellt werden. Diese wurde nun auf den Markt unter dem Namen ILIX Precision gebracht. Ab diesem Zeitpunkt wurden weitere gute Entwicklungen zur Erstellung eines Komplettangebots an Präzisionswerkzeugen Zerspanung getätigt. Damit begann der Weg des konstanten Wachstums, der fortlaufenden technischen Innovationskraft und der ständigen Suche nach bester Qualität bis zum heutigen Tag und in Zukunft.

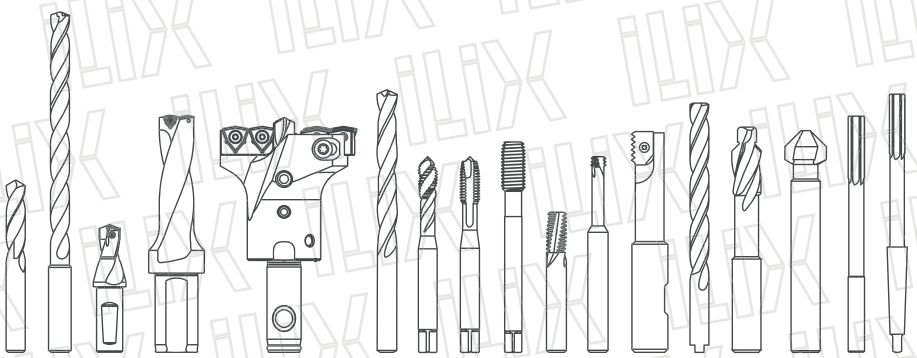
ILIX Precision bietet heute einen grossen Bereich an **Bohrwerkzeugen**, **Gewindewerkzeugen**, **Reibwerkzeugen** und **Senkwerkzeugen** im Standard an. Im ILIX Katalog finden Sie Präzisionswerkzeuge aus **Hss**, **Hss-Co**, **Hss-Co-PM**, **Hartmetall** und Wendeplatten für die unterschiedlichsten Anwendungen und Materialien.

GERMAN QUALITY AND RELIABILITY SINCE 1895

The origins of the **ILIX Präzisionswerkzeuge** tool manufacturing plant date back to 1 July 1895, when the first headquarters were founded in Frankfurt am Main. From the very beginning, although the company was involved in multiple industrial sectors, one of the primary objectives was to focus on the production of cutting tools.

The historical turning point, on a technical and production level, came in 1926, when, characterized by the advantages brought by the use of high-speed alloy steel (HSS), an innovative line of drilling tools was produced, presented on the market through the brand ILIX Precision. From that moment on, solid foundations were created to develop a complete range of products for chip removal, thanks to a path of continuous growth, technical innovation and constant search for quality, up to the present day.

ILIX Precision currently offers a wide range of **drilling**, **threading**, **countersinking, counterboring** and **reaming** cutting tools. Inside the ILIX catalogue you will find cutting tools in **HSS**, **HSS-Co**, **HSS-Co-PM**, **Solid Carbide** and **indexable products** for different types of applications and materials.



▸ Index nach Artikelcode | Index by article code

Schlüssel Code	Seite Page	Abschnitt Section
501D (NEW)	143	A-02
503D (Ø)	144	A-02
505D (Ø)	145	A-02
507D	146	A-02
50CMTF (Ø)	154	A-02
50DMTX (Ø)	154	A-02
50GMTF (Ø)	154	A-02
50PHTF (NEW)	152	A-02
50SMTL (Ø)	154	A-02
510D (NEW)	147	A-02
6001K	113	A-01
6002K	116	A-01
6002TF	116	A-01
6003K	115	A-01
6003TF	115	A-01
6005	118	A-01
6007	119	A-01
6011TF	47	A-01
6012TF	49	A-01
6014NX (🔄)	66	A-01
6015TF	39	A-01
6016TF	41	A-01
6017TT	43	A-01
6018TT	45	A-01
6019TF (TECH)	91	A-01
6020TF	51	A-01
6021TF	53	A-01
6022TF	56	A-01
6025TT (TECH)	68	A-01
6026TT (TECH)	70	A-01
6027TT (TECH)	72	A-01
6028TT (TECH)	74	A-01
6029TF (TECH)	92	A-01
6030TF (TECH)	93	A-01
6031TF (TECH)	95	A-01
6032TT	76	A-01
6034TT	77	A-01
6035TT (NEW)	78	A-01
6036TT	79	A-01
6038TT	80	A-01
6039TT (NEW)	81	A-01
603D	148	A-02
6040/5	98	A-01
6040/7	99	A-01
6040/L	100	A-01
6040F5	97	A-01
6041 (Ø)	83	A-01
6042 (Ø)	84	A-01
6043 (NEW)	85	A-01
6044 (Ø)	86	A-01
6045 (NEW)	87	A-01
6050XB (NEW)	60	A-01
6051XB	59	A-01
6052XB	61	A-01
6053XB (NEW)	63	A-01
605D	149	A-02
607D	150	A-02
6080TP	104	A-01
6081TP	105	A-01
60CMTF	157	A-02
60DMTX	157	A-02
60GMTF	157	A-02
60SMTL	157	A-02
6100	321	A-03
6102	322	A-03
6102TN	322	A-03
6103	322	A-03
6103TN	322	A-03
6106	230	A-03
6108	264	A-03
6109	220	A-03
6110TF	256	A-03
6111	256	A-03
6111TC	256	A-03
6111TN	256	A-03
6112	269	A-03
6112TN (NEW)	269	A-03
6113	269	A-03
6113TN (NEW)	269	A-03
6114	293	A-03
6115	293	A-03
6116	296	A-03
6118TF (NEW)	89	A-01
6119	298	A-03
6120	260	A-03
6123K	109	A-01
6123TF	109	A-01
6126K	107	A-01
6126TF	107	A-01
6127K	111	A-01
6130	280	A-03
6131	225	A-03
6132	225	A-03
6132TN	225	A-03
6133TN	17	A-01
6134TN	24	A-01
6135	225	A-03
6135TX (🔄)	225	A-03
6136TF (NEW)	94	A-01
6140	256	A-03
6140TX (🔄)	256	A-03
6142	320	A-03
6143TF	17	A-01
6144	318	A-03
6147	321	A-03
6147TN	321	A-03
6148	321	A-03
6148TN	321	A-03
6149	225	A-03
6150	306	A-03
6151	230	A-03
6151TN	230	A-03
6152TP (NEW)	230	A-03
6153	250	A-03
6153TN	250	A-03
6154	250	A-03
6156	220	A-03
6156TN (NEW)	220	A-03
6158	242	A-03
6159	220	A-03
6160	319	A-03
6162	316	A-03
6162TN	316	A-03
6164	319	A-03
6165	264	A-03
6165TN	264	A-03
6166	269	A-03
6168	283	A-03
6168TN	283	A-03

(NEW) Absolute Neuheit ILIX | Absolute novelty ILIX **(NEW) Neue Aufl.23** | New Ed.23 **(TECH) Technologie-Upgrade** | Technology upgrade
(Ø) Neue Reihe | New range **(🔄) Neue Beschichtung** | New Coating

▸ Index nach Artikelcode | Index by article code

(NEW) **Absolute Neuheit ILIX** | Absolute novelty ILIX (NEW) **Neue Aufl.23** | New Ed.23 (♻) **Neue Beschichtung** | New Coating

▸ Index nach Artikelcode | Index by article code

Schlüssel Code	Seite Page	Abschnitt Section
6337	822	D-01
6355	838	D-01
6360	827	D-01
6361	827	D-01
6362	827	D-01
6369	824	D-01
6370	815	D-01
6371	816	D-01
6372	813	D-01
6372C	818	D-01
6372TN	813	D-01
6373	821	D-01
6376	825	D-01
6501	307	A-03
6502	308	A-03
6511	309	A-03
6513	309	A-03
6516	311	A-03
6522TN	29	A-01
6601TN	423	B-01
6603	605	B-02
6603P	605	B-02
6603S	605	B-02
6603T	605	B-02
66046G	526	B-02
6604	526	B-02
6605XP (🔄)	550	B-02
66066G	538	B-02
6606	538	B-02
66073B	598	B-02
6607	598	B-02
6607TN	598	B-02
6608	524	B-02
6609	525	B-02
6610	619	B-02
6611	619	B-02
6612	527	B-02
6613	527	B-02
6614	521	B-02
6614P	521	B-02
6614S	521	B-02
6614T	521	B-02
6615	520	B-02
6615P	520	B-02
6615S	520	B-02
6615T	520	B-02
6616	539	B-02
6617	558	B-02
6618	520	B-02
6618P	520	B-02
6618S	520	B-02
6618T	520	B-02
6620XP (🔄)	532	B-02
6621	527	B-02
6622	542	B-02
6622BL	542	B-02
6622TN	542	B-02
6623	560	B-02
6623TN	560	B-02
6624	527	B-02
6625	521	B-02
6625P	521	B-02
6625S	521	B-02
6625T	521	B-02
6626XP (🔄)	576	B-02
6627	609	B-02
6627P	609	B-02
6627T	609	B-02
6628	597	B-02
6629	534	B-02
6629TC	534	B-02
6631	534	B-02
6631TF	534	B-02
6632	552	B-02
6632TF	552	B-02
6633	568	B-02
6633P	568	B-02
6633T	568	B-02
6634VP (🔄)	550	B-02
6636	607	B-02
6637	552	B-02
6637TC	552	B-02
66386G	547	B-02
66387G	547	B-02
6638	547	B-02
6638TC	547	B-02
6638TN	547	B-02
6638VP	547	B-02
6639	526	B-02
66406G	537	B-02
6640	537	B-02
6641	541	B-02
6642	559	B-02
6643	534	B-02
66446G	530	B-02
66447G	531	B-02
6644	530	B-02
6644TC	531	B-02
6644TN6G	531	B-02
6644TN	531	B-02
6644VP	530	B-02
6645TF (NEW)	449	B-01
66466G	541	B-02
6646	540	B-02
6646TN	540	B-02
6646VP	540	B-02
6646XP (🔄)	540	B-02
66476G	559	B-02
6647	558	B-02
6647VP	558	B-02
6647XP (🔄)	558	B-02
6648	527	B-02
66496G	538	B-02
6649	538	B-02
6649TN	539	B-02
6651	552	B-02
6652	573	B-02
6652TC	573	B-02
6652TN	573	B-02
6652VP	573	B-02
6653	577	B-02
6654	532	B-02
6654VP	532	B-02
6654XP (🔄)	532	B-02
66556G	577	B-02
6655	576	B-02
6655VP	576	B-02
6655XP (🔄)	576	B-02
6656	570	B-02

(NEW) Absolute Neuheit ILIX | Absolute novelty ILIX (🔄) **Neue Beschichtung** | New Coating

▸ Index nach Artikelcode | Index by article code

Schlüssel Code	Seite Page	Abschnitt Section
66576G	528	B-02
6657	528	B-02
6657TC	529	B-02
6657TN	529	B-02
6658	546	B-02
6658TC	546	B-02
6659	526	B-02
6660	563	B-02
66616G	533	B-02
6661	532	B-02
6661TN	533	B-02
6661VP	533	B-02
6661XP (🔄)	533	B-02
66626G	551	B-02
6662	550	B-02
6662VP	550	B-02
6662XP (🔄)	551	B-02
66636G	581	B-02
6663	581	B-02
6663TN	581	B-02
6663VP	581	B-02
6663XP (🔄)	581	B-02
6664	572	B-02
6664TN	572	B-02
6665	613	B-02
66664H	535	B-02
66666G	535	B-02
6666	535	B-02
6666TF	535	B-02
6667	553	B-02
6667TF	553	B-02
6667TN	553	B-02
6668TB	414	B-01
6669TB	415	B-01
6670	534	B-02
6671	576	B-02
6672	562	B-02
6673	608	B-02
6674	608	B-02
6675	608	B-02
6678	526	B-02
6679	526	B-02
66803B	596	B-02
6680	596	B-02
6680TN	596	B-02
6681	535	B-02
6681TF	535	B-02
6682	433	B-01
6683	425	B-01
6684	426	B-01
66873B	602	B-02
6687	602	B-02
66883B	600	B-02
6688	600	B-02
6689	553	B-02
6689TF	553	B-02
66903B	588	B-02
6690	588	B-02
6690TN	588	B-02
66913B	586	B-02
6691	586	B-02
6691TN	586	B-02
6692	564	B-02
66933B	594	B-02
6693	594	B-02
66943B	592	B-02
6694	592	B-02
6695	565	B-02
6696	586	B-02
6697	606	B-02
6699	606	B-02
6700	616	B-02
6700VP	616	B-02
6700XP (🔄)	616	B-02
6701	614	B-02
6701VP	614	B-02
6701XP (🔄)	614	B-02
6702	617	B-02
6703	613	B-02
6703TN	613	B-02
6703VP	613	B-02
6704	616	B-02
6704TN	616	B-02
6704VP	616	B-02
6705	546	B-02
6705TN	546	B-02
6706	528	B-02
6706TN	528	B-02
67074H	536	B-02
67076G	536	B-02
67077G	536	B-02
6707	536	B-02
6707TC	537	B-02
6707TN6G	536	B-02
6707TN	537	B-02
6707VP	536	B-02
6708	615	B-02
6708TF	615	B-02
6709	544	B-02
6709TF	545	B-02
6709TN	544	B-02
6710	622	B-02
67116G	554	B-02
67117G	555	B-02
6711	554	B-02
6711TC	555	B-02
6711TN	554	B-02
6711VP	554	B-02
6712	528	B-02
6715	546	B-02
6716	614	B-02
6718	598	B-02
6718VP	598	B-02
6719	596	B-02
67206G	584	B-02
6720	584	B-02
67216G	584	B-02
6721	584	B-02
6722	543	B-02
6722BL	543	B-02
6722TF	543	B-02
6722TN	543	B-02
6723	560	B-02
6723TN	560	B-02
6724	570	B-02
6725	561	B-02
6725TN	561	B-02
6726	572	B-02
6726TC	572	B-02

(🔄) **Neue Beschichtung** | New Coating

▸ Index nach Artikelcode | Index by article code

Schlüssel Code	Seite Page	Abschnitt Section
6726TN	572	B-02
6727	539	B-02
6728	592	B-02
6729	600	B-02
6730	580	B-02
6730TC	580	B-02
6730TN	580	B-02
6730VP	580	B-02
6731	577	B-02
6732	587	B-02
6733	593	B-02
6734	601	B-02
6735	587	B-02
6735VP	587	B-02
6735XP (🔄)	587	B-02
6736	453	B-01
6737	589	B-02
6738	590	B-02
6739	589	B-02
6739VP	589	B-02
6739XP (🔄)	589	B-02
6740	558	B-02
6741	580	B-02
6747	599	B-02
6749	594	B-02
6749VP	594	B-02
6750TN	394	B-01
6751TN	395	B-01
6752TN	396	B-01
6753TC	400	B-01
6754	592	B-02
6754VP	593	B-02
6755TN	394	B-01
6756TN	395	B-01
6757TN	396	B-01
6758TC	401	B-01
6758TN	401	B-01
6760	457	B-01
6762	454	B-01
6765	455	B-01
6767	456	B-01
6770NX (🔄)	451	B-01
6770TC	450	B-01
6771	453	B-01
6772TC	400	B-01
6773TC	388	B-01
6774TC	388	B-01
6775	585	B-02
6775P	585	B-02
6775S	585	B-02
6775T	585	B-02
6776	595	B-02
6776P	595	B-02
6776T	595	B-02
6777TC	402	B-01
6777TN	402	B-01
6778TC	389	B-01
6779TC	389	B-01
6780TC (NEW)	385	B-01
6781TC (NEW)	386	B-01
6782TC (NEW)	385	B-01
6783TC (NEW)	386	B-01
6788	467	B-01
6790	618	B-02
6794	597	B-02
6794VP	597	B-02
6796	601	B-02
6797	602	B-02
6800TF	463	B-01
6801TN	464	B-01
6802	590	B-02
6803TC (NEW)	459	B-01
6804TC (NEW)	460	B-01
6805TC (NEW)	461	B-01
6808	544	B-02
6808BL	544	B-02
6808TN	545	B-02
6809	561	B-02
6809TN	561	B-02
6811TN (NEW)	591	B-02
6815	599	B-02
6815TN (NEW)	599	B-02
6816	603	B-02
6816TN (NEW)	603	B-02
6818	617	B-02
6818TN (NEW)	617	B-02
6819	545	B-02
6820	528	B-02
6821	546	B-02
6823	586	B-02
6824	592	B-02
6825	427	B-01
6826	428	B-01
6828	429	B-01
6829	430	B-01
6830TB	416	B-01
6831TB	417	B-01
6832TB	418	B-01
6833TB	419	B-01
6834TB	420	B-01
6835TB	421	B-01
6836	606	B-02
6837	607	B-02
6838	596	B-02
6839	600	B-02
6840 (TECH)	566	B-02
6841 (TECH)	567	B-02
6844	443	B-01
6845	445	B-01
6848	597	B-02
6849	601	B-02
6850TN	533	B-02
6850VP	533	B-02
6851TN	551	B-02
6851VP	551	B-02
6852VP	587	B-02
6853VP	593	B-02
6854VP	597	B-02
6855VP	601	B-02
6856VP	615	B-02
6857	611	B-02
6858	610	B-02
6859	537	B-02
6860	555	B-02
6861	531	B-02
6862	547	B-02
6863	580	B-02
6864	573	B-02
6866	593	B-02

(NEW) Absolute Neuheit ILIX | Absolute novelty ILIX **(TECH) Technologie-Upgrade** | Technology upgrade

(🔄) **Neue Beschichtung** | New Coating

▸ Index nach Artikelcode | Index by article code

Schlüssel Code	Seite Page	Abschnitt Section
6867	531	B-02
6868	547	B-02
6869	438	B-01
6870	541	B-02
6870TF	541	B-02
6871	559	B-02
6871TF	559	B-02
6872	581	B-02
6872TF (🔄)	581	B-02
6873	588	B-02
6874	594	B-02
6875	598	B-02
6876	602	B-02
6877	573	B-02
6878	529	B-02
6878HL (🔄)	529	B-02
6879	552	B-02
6879HL (🔄)	553	B-02
6880	577	B-02
6880HL (🔄)	577	B-02
6892	432	B-01
6893	435	B-01
6894	434	B-01
6897	440	B-01
6899	570	B-02
6902	529	B-02
6904	572	B-02
6905	610	B-02
6906	437	B-01
6907	447	B-01
6908	625	B-02
6909	627	B-02
6910	624	B-02
6911	626	B-02
6912	612	B-02
6912TN	612	B-02
6913	610	B-02
6914	623	B-02
6915	622	B-02
6916	619	B-02
6917	620	B-02
6917TN	620	B-02
6918	621	B-02
6919	620	B-02
6920	621	B-02
6921	620	B-02
6921TN	620	B-02
6922	621	B-02
6923	620	B-02
6924	621	B-02
6925	621	B-02
6926	621	B-02
6927A	780	C-01
6927B	781	C-01
6928	444	B-01
6929	446	B-01
6930	695	B-03
6930TF	695	B-03
6931	696	B-03
6931TF	696	B-03
6932	697	B-03
6932TF	697	B-03
6933	707	B-03
6933TF	707	B-03
6934	709	B-03
6934TF	709	B-03
6935	708	B-03
6935TF	708	B-03
6936	710	B-03
6936TF	710	B-03
6937	628	B-02
6937P	628	B-02
6937S	628	B-02
6937T	628	B-02
6938	629	B-02
6939	629	B-02
6940	711	B-03
6940HA (NEW)	711	B-03
6940HATC (NEW)	711	B-03
6940TC (🔄)	711	B-03
6942	712	B-03
6942HA (NEW)	712	B-03
6942HATC (NEW)	712	B-03
6942TC (🔄)	712	B-03
6943	716	B-03
6943HA (NEW)	716	B-03
6943HATC (NEW)	716	B-03
6943TC (🔄)	716	B-03
6944	714	B-03
6944HA (NEW)	714	B-03
6944HATC (NEW)	714	B-03
6944TC (🔄)	714	B-03
6945VP	604	B-02
6946	715	B-03
6946HA (NEW)	715	B-03
6946HATC (NEW)	715	B-03
6946TC (🔄)	715	B-03
6947	713	B-03
6947HA (NEW)	713	B-03
6947HATC (NEW)	713	B-03
6947TC (🔄)	713	B-03
6948	436	B-01
6950	726	B-03
6950TF (🔄)	726	B-03
6951	610	B-02
6952	726	B-03
6952TF (🔄)	726	B-03
6954	726	B-03
6954TF (🔄)	726	B-03
6956TF (🔄)	728	B-03
6958TF (🔄)	728	B-03
6960	725	B-03
6961	725	B-03
6962	727	B-03
6963	725	B-03
6964	408	B-01
6965	409	B-01
6966	410	B-01
6967TC (🔄)	412	B-01
6969TN	465	B-01
6971TN	404	B-01
6972TN	405	B-01
6973HL (🔄)	404	B-01
6974HL (🔄)	405	B-01
6975HL (🔄)	404	B-01
6976HL (NEW)	405	B-01
6977HL (🔄)	406	B-01
6978HL (🔄)	406	B-01
6984TC	390	B-01

(NEW) **Absolute Neuheit ILIX** | Absolute novelty ILIX (🔄) **Neue Beschichtung** | New Coating

▸ Index nach Artikelcode | Index by article code

(NEW) Absolute Neuheit ILIX | Absolute novelty ILIX **(NEW) Neue Aufl.23** | New Ed.23 **(Ø) Neue Reihe** | New range
(🔄) Neue Beschichtung | New Coating

▸ **Ersatzteile** | Spare Parts

Schlüssel Code	Seite Page	Abschnitt Section
6970-15	725	B-03
6970-26	727	B-03
6980	725	B-03
(GAFM) 16X25	174	A-02
(GABM) 10X15	174	A-02
(GABM) 12X20	174	A-02
(GABM) 12X18	174	A-02
(GABM) 16X27	174	A-02
(GABM) 8X12	174	A-02
(GAFM) 14X25	174	A-02
(GAFM) 12X25	174	A-02
(GAFM) 12X20	174	A-02
(GAFM) 10X20	174	A-02
(GAFM) 8X15	174	A-02
(GAFM) 8X12	174	A-02
(GAFM) 6X10	174	A-02
(GARM) 14X20	174	A-02
(GARM) 12X20	174	A-02
(GARM) 10X18	174	A-02
(GARM) 10X16	174	A-02
(GARM) 8X15	174	A-02
(GARM) 6X10	174	A-02
(GASM) 4X8	174	A-02
(GASM) 5X8	174	A-02
(GASM) 6X10	174	A-02
CE	166	A-02
CI	166	A-02
DHP	166	A-02
DHP 10X35	168	A-02
DHP 12X38	168	A-02
DHP 16X45	168	A-02
DHP 20X45	168	A-02
DHP 25X56	168	A-02

Schlüssel Code	Seite Page	Abschnitt Section
DHP 30X68	168	A-02
DHRG 28	169	A-02
DHRG 32	169	A-02
DHRG 40	169	A-02
DHRG 48	169	A-02
DHRG 58	169	A-02
DHRG 70	169	A-02
DHRG 80	169	A-02
GAF	166	A-02
GAR	166	A-02
KY T10	152	A-02
KY T10	155	A-02
KY T10	158	A-02
KY T15	152	A-02
KY T15	155	A-02
KY T20	152	A-02
KY T20	155	A-02
KY T25	153	A-02
KY T25	156	A-02
KY T6	157	A-02
KY T7	154	A-02
KY T7	158	A-02
KY T8	154	A-02
KY T8	158	A-02
KY T9	154	A-02
SRA 3X.35	157	A-02
SRB 3X.35	157	A-02
SRC 3.5X.35	158	A-02
SRD 4X.5	158	A-02
SRE 4.5X.5	158	A-02
SRF 5X.5	158	A-02
VT 2.2X0.45	173	A-02
VT 2.5X0.45	173	A-02

Schlüssel Code	Seite Page	Abschnitt Section
VT 3.5X0.6	166	A-02
VT 3.5X0.6	173	A-02
VT 3X0.5	173	A-02
VT 4X0.7	173	A-02
VTA 2.2X.45	154	A-02
VTB 2.5X.45	154	A-02
VTC 3X.5	154	A-02
VTD 3X.5	155	A-02
VTE 4X.7	152	A-02
VTE 4X.7	155	A-02
VTF 3.5X.6	152	A-02
VTF 3.5X.6	155	A-02
VTG 4.5X.75	152	A-02
VTG 4.5X.75	156	A-02
VTH 5X.8X23.40	156	A-02
VTH 5X.8X21.75	156	A-02
VTH 5X.8X19.75	152	A-02
VTH 5X.8X19.75	156	A-02
VTI 6x1x32,5	156	A-02
VTI 6x1x28,5	156	A-02
VTI 6x1x27	156	A-02
VTI 6X1X28.5	153	A-02
VTI 6X1X27	153	A-02
VTSM 4X10	173	A-02
VTSM 5X12	173	A-02
VTSM 6X12	173	A-02
VTSM 6X14	173	A-02
VTSM 6X16	173	A-02
VTSM 8X18	173	A-02
VTSM 8X20	173	A-02
VTSM 8X25	173	A-02

ALLGEMEINER INDEX | GENERAL INDEX

A

Bohren
Drilling

B

Gewindeschneiden
Threading

C

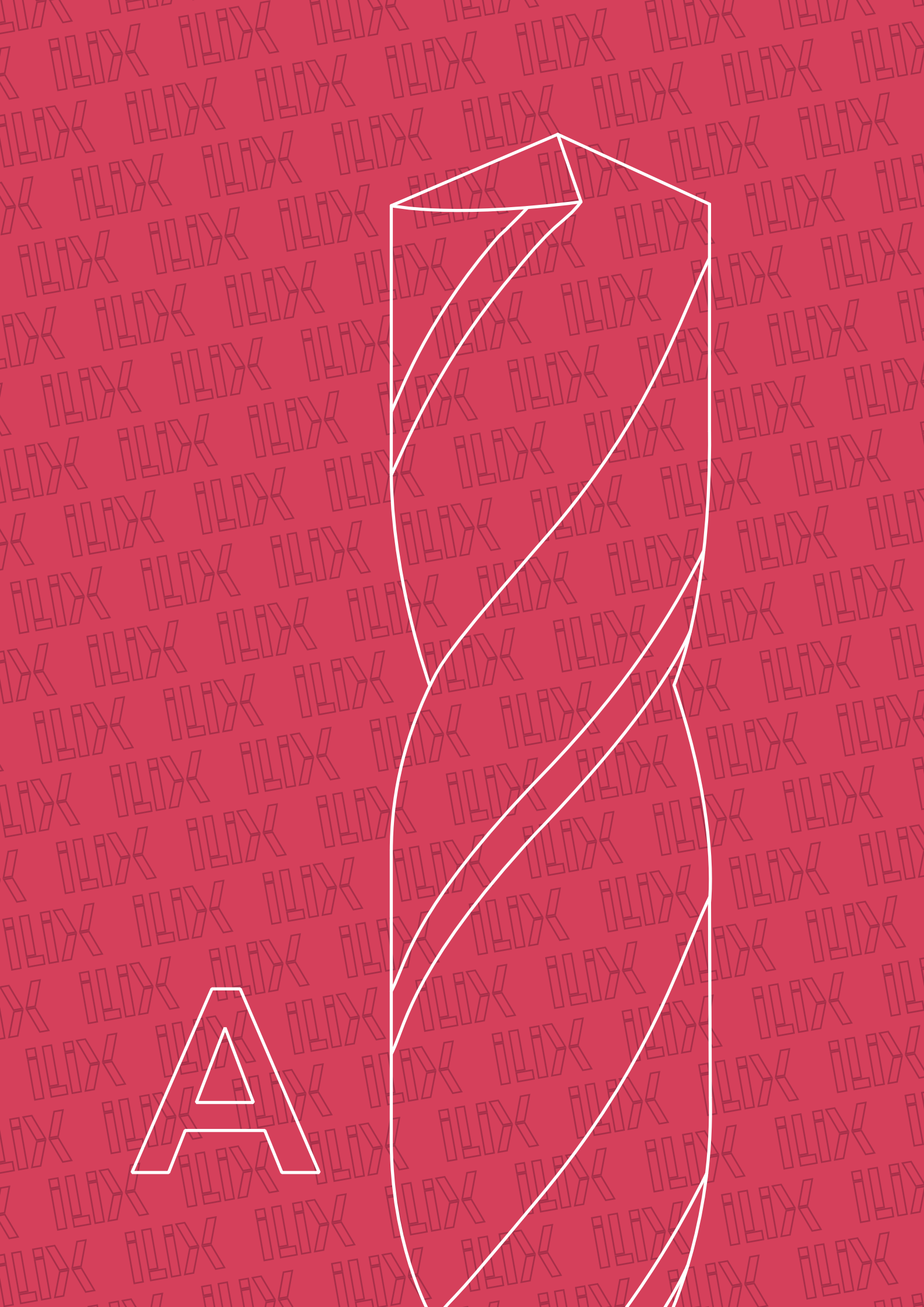
Kegelige Ansenkung
Countersinking

Zylindrische Ansenkung
Counterboring

D

Reiben
Reaming

Allgemeine Information
General info


A

01

HOCHLEISTUNGSBOHRER
HIGH PERFORMANCE DRILLS

HOCHLEISTUNGSBOHRER
HIGH PERFORMANCE DRILLS

A.01.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

	Beschreibung des Familienprodukts	Family product description

▸ HSS-Co

RECORD HD p. 08	**HSS-Co-Bohrer geeignet zum Bohren von Stählen, Gusseisen und NE-Werkstoffen.** HSS-Co drills suitable for drilling steels, cast irons and non-ferrous materials.
RECORD HD i p. 08	**HSS-Co-Bohrer mit Innenkühlung, geeignet zum Bohren von allgemeinen und hochlegierten Stählen, Edelstählen, Gusseisen und NE-Werkstoffen.** HSS-Co drills with internal coolant suitable for drilling general and high alloy steels, stainless steels, cast irons and non-ferrous materials.
RECORD EVO. VA p. 08	**HSS-Co-Bohrer geeignet zum Bohren von Edelstählen, Titanlegierungen.** HSS-Co drills suitable for drilling stainless steels, titanium alloys.

▸ HSS-Co-8%

NEW RECORD HX p. 08	**HSS-Co-8%-Bohrer geeignet zum Bohren von Stählen mit einer Zugfestigkeit über 1200 N/mm².** HSS-Co-8% drills suitable for drilling steels with tensile strength above 1200 N/mm².

▸ HSS-Co-PM

RECORD PM p. 09	**HSS-Co-PM-Bohrer geeignet zum Bohren von Stählen und Gusseisen.** HSS-Co-PM drills suitable for drilling steels and cast irons.

▸ **Vollhartmetall** | Solid Carbide

RECORD 2S p. 09	**VHM-Bohrer geeignet zum Bohren von Stählen und Gusseisen.** Solid carbide drills suitable for drilling steels and cast irons.
RECORD 2S i p. 09	**VHM-Bohrer mit Innenkühlung zum Bohren von Stählen und Gusseisen.** Solid carbide drills with internal coolant for drilling steels and cast irons.

Beschreibung des Familienprodukts | Family product description

▸ Vollhartmetall | Solid Carbide

RECORD HP i p. 10	**Vollhartmetall-Hochleistungsbohrer mit Innenkühlung.** Solid carbide high performance drills with internal coolant.
RECORD VA p. 10	**VHM-Bohrer geeignet zum Bohren von Edelstählen, Titanlegierungen und NE-Werkstoffen.** Solid carbide drills suitable for drilling stainless steels, titanium alloys and non-ferrous materials.
RECORD VA i p. 10	**VHM-Bohrer mit Innenkühlung, geeignet zum Bohren von Edelstählen, Titanlegierungen und NE-Werkstoffen.** Solid carbide drills with internal coolant suitable for drilling stainless steels, titanium alloys and non-ferrous materials.
RECORD EVO. TP p. 10	**VHM-Bohrer geeignet zum Bohren von gehärteten Stählen.** Solid carbide drills suitable for drilling hardened steels.
RECORD DH i p. 11	**VHM-Bohrer mit Innenkühlung, geeignet zum Bohren tiefer Löcher in Stählen und Gusseisen.** Solid carbide drills with internal coolant suitable for drilling deep holes of steels and cast irons.
RECORD DH i ALU p. 11	**VHM-Bohrer mit Innenkühlung, geeignet zum Bohren tiefer Löcher in Aluminiumlegierungen und NE-Werkstoffen.** Solid carbide drills with internal coolant suitable for drilling deep holes of aluminium alloys and non-ferrous materials.
NEW MICRO DRILL p. 12	**Vollhartmetall-Mikrobohrer geeignet zum Bohren von Stählen, Edelstählen, Gusseisen und Titanlegierungen.** Solid carbide Micro drills suitable for drilling steels, stainless steels, cast irons and titanium alloys.
MICRO DRILL i p. 12	**Vollhartmetall-Mikrobohrer mit Innenkühlung, geeignet zum Bohren tiefer Löcher in Stählen, Edelstählen und Gusseisen.** Solid carbide Micro drills with internal coolant suitable for drilling deep holes of steels, stainless steels and cast irons.
RECORD 4S i p. 12	**VHM-Bohrer mit Innenkühlung, gerade Nuten mit 4 Fasen, geeignet zum Bohren von kurzspanenden Werkstoffen wie Gusseisen und Aluminiumlegierungen.** Solid carbide drills with internal coolant, straight flute chip with 4 margin lands, suitable for drilling short-chip materials such as cast irons and aluminium alloys.
RECORD STL p. 13	**VHM-Bohrer, STL-Geometrie, geeignet für hochlegierte Stähle, ferritische Edelstähle, Gusseisen und NE-Werkstoffe.** Solide carbide drills, STL geometry, suitable for high alloy steels, ferritic stainless steels, cast irons and non-ferrous materials.

	Beschreibung des Familienprodukts	Family product description

▸ **Vollhartmetall** | Solid Carbide

RECORD STL i **p. 13**	**VHM-Bohrer mit Innenkühlung, STL-Geometrie, geeignet zum Bohren tiefer Löcher in hochlegierte Stähle, ferritische Edelstähle, Gusseisen und NE-Werkstoffe.** Solide carbide drills with internal coolant, STL geometry, suitable for drilling deep holes high alloy steels, ferritic stainless steels, cast irons and non-ferrous materials.
RECORD 3S **p. 13**	**VHM-Bohrer mit 3 Schneiden für hohe Vorschübe geeignet zum Bohren von kurzspanenden Stählen, Gusseisen, Aluminium- und Bronzelegierungen.** Solid carbide drills, with 3 flutes for high feed rates suitable for drilling short chips steels, cast irons, aluminium and bronze alloys.
RECORD 3BX **p. 14**	**VHM-Bohrer, mit 3 Schneiden für hohe Vorschübe, spezielle BX-Geometrie geeignet zum Bohren von Gusseisen, Aluminiumlegierungen, NE-Werkstoffen und Titanlegierungen.** Solid carbide drills, with 3 flutes for high feed rates, special BX geometry suitable for drilling cast irons, Aluminium alloys, non-ferrous materials and Titanium alloys.

▸ **PKD** | PCD

PKD **p. 14**	**VHM-Bohrer, mit polykristalliner Diamantbeschichtung an den Schneiden, geeignet zum Bohren von NE-Werkstoffen.** Solid carbide drills, with polycrystalline diamond coating on cutting edges suitable for drilling non-ferrous materials.

ÜBERBLICK | OVERVIEW

Leitfaden zur Werkzeugauswahl | Tool selection guide

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD HD																
6133TN 	HSS-Co	≤3xd	HD	1897 DIN	130°	TiN		1 ÷ 32	h8					-	-	17
6143TF 	HSS-Co	≤3xd	HD	1897 DIN	130°	TiAlN FUTURA		1 ÷ 20	h8					-	-	17
6208TN 	HSS-Co	≤8xd	HD	338 DIN	130°	TiN		1 ÷ 20	h8					-	-	19
6228TF 	HSS-Co	≤8xd	HD	338 DIN	130°	TiAlN FUTURA		1 ÷ 16	h8					-	-	19
6248TP 	HSS-Co	≤12xd	HD	340 DIN	130°	TiN TOP		1 ÷ 12	h8					-	-	21
6248TF 	HSS-Co	≤12xd	HD	340 DIN	130°	TiAlN FUTURA		1 ÷ 12	h8					-	-	21
RECORD EVOLUTION VA																
6134TN 	HSS-Co	≤3xd	VA	~1897 DIN	120-130 140°	TiN	1835 A	1 ÷ 20	h8			-			-	24
6229TN 	HSS-Co	≤8xd	VA	~338 DIN	120-130°	TiN	1835 A	1 ÷ 20	h8			-			-	26
RECORD HD i **(mit Innenkühlung** | with internal coolant)																
6522TN 	HSS-Co	≤5xd	HD i	ILIX NORM DIN	130°	TiN	1835 E	5 ÷ 24	h8						-	29
RECORD HX																
NEW **6205NX** 	HSS-Co 8%	≤3xd	HX	ILIX NORM DIN	135°	TiSiN PLUS		2 ÷ 12	h8							32

ÜBERBLICK | OVERVIEW

Leitfaden zur Werkzeugauswahl | Tool selection guide

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD PM																
NEW 6178NX 	HSS-Co PM	≤3xd	PM	1897 DIN	130°	TiSiN		2 ÷ 12	h8					-	-	34
RECORD 2S																
6213TN 	M.D.I. HM	≤3xd	2S	~1897 DIN	140°	TiN		1,5 ÷ 20	h7					-	-	37
6015TF 	M.D.I. HM	≤3xd	2S	6537 K DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	m7					-		39
6016TF 	M.D.I. HM	≤3xd	2S	6537 K DIN	140°	TiAlN FUTURA PLUS	6535 HE	3 ÷ 20	m7					-		41
6017TT 	M.D.I. HM	≤5xd	2S	6537 L DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	m7					-		43
6018TT 	M.D.I. HM	≤5xd	2S	6537 L DIN	140°	TiAlN FUTURA PLUS	6535 HE	3 ÷ 20	m7					-		45
RECORD 2S i (mit Innenkühlung | with internal coolant)																
6011TF 	M.D.I. HM	≤3xd	2S i	6537 K DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	m7					-		47
6012TF 	M.D.I. HM	≤3xd	2S i	6537 K DIN	140°	TiAlN FUTURA PLUS	6535 HE	3 ÷ 20	m7					-		49
6020TF 	M.D.I. HM	≤5xd	2S i	6537 L DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	m7					-		51
6021TF 	M.D.I. HM	≤5xd	2S i	6537 L DIN	140°	TiAlN FUTURA PLUS	6535 HE	3 ÷ 20	m7					-		53

ÜBERBLICK | OVERVIEW

Leitfaden zur Werkzeugauswahl | Tool selection guide

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD HP i (mit Innenkühlung | with internal coolant)																
6022TF	M.D.I. HM	≤5xd	HP i	6537 L DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	m7		-		-	-	-	56
RECORD VA																
6051XB	M.D.I. HM	≤3xd	VA	6537 K DIN	140°	TiAlN BLUE EVO	6535 HA	3 ÷ 16	m7	-					-	59
RECORD VA i (mit Innenkühlung | with internal coolant)																
NEW 6050XB	M.D.I. HM	≤3xd	VA i	6537 K DIN	140°	TiAlN BLUE EVO	6535 HA	3 ÷ 14	m7	-					-	60
6052XB	M.D.I. HM	≤5xd	VA i	6537 L DIN	140°	TiAlN BLUE EVO	6535 HA	3 ÷ 16	m7	-					-	61
NEW 6053XB	M.D.I. HM	≤8xd	VA i	ILIX NORM DIN	140°	TiAlN BLUE EVO	6535 HA	3 ÷ 16	m7	-					-	63
RECORD EVOLUTION TP																
NEW 6014NX	M.D.I. HM	≤5xd	TP	ILIX NORM DIN	140°	TiSiN PLUS	6535 HA	3 ÷ 12	m7	-	-		-	-		66
RECORD DH i (mit Innenkühlung | with internal coolant)																
NEW Tech 6025TT	M.D.I. HM	≤8xd	DH i	ILIX NORM DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	m7				-			68
NEW Tech 6026TT	M.D.I. HM	≤8xd	DH i	ILIX NORM DIN	140°	TiAlN FUTURA PLUS	6535 HE	3 ÷ 20	m7				-			70
NEW Tech 6027TT	M.D.I. HM	≤12xd	DH i	ILIX NORM DIN	140°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 20	h7				-			72

ÜBERBLICK | OVERVIEW

Leitfaden zur Werkzeugauswahl | Tool selection guide

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD DH i (mit Innenkühlung | with internal coolant)																	
NEW Tech 6028TT		M.D.I. HM	≤12xd	DH i	ILIX NORM DIN	140°	TiAlN FUTURA PLUS	6535 HE	3 ÷ 20	h7				-			74
6032TT		M.D.I. HM	≤15xd	DH i	ILIX NORM DIN	135°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 12	h7				-		-	76
6034TT		M.D.I. HM	≤20xd	DH i	ILIX NORM DIN	135°	TiAlN FUTURA PLUS	6535 HA	2 ÷ 12	h7				-		-	77
NEW 6035TT		M.D.I. HM	≤25xd	DH i	ILIX NORM DIN	135°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 12	h7				-		-	78
6036TT		M.D.I. HM	≤30xd	DH i	ILIX NORM DIN	135°	TiAlN FUTURA PLUS	6535 HA	2 ÷ 12	h7				-		-	79
6038TT		M.D.I. HM	≤40xd	DH i	ILIX NORM DIN	135°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 9	fg6				-		-	80
NEW 6039TT		M.D.I. HM	≤50xd	DH i	ILIX NORM DIN	135°	TiAlN FUTURA PLUS	6535 HA	3 ÷ 6	fg6				-		-	81
RECORD DH i ALU (mit Innenkühlung | with internal coolant)																	
NEW ∅ 6041		M.D.I. HM	≤15xd	DH i ALU	ILIX NORM DIN	137°	-	6535 HA	3 ÷ 14	h7	-	-	-		-	-	83
NEW ∅ 6042		M.D.I. HM	≤20xd	DH i ALU	ILIX NORM DIN	137°	-	6535 HA	2 ÷ 12	h7	-	-	-		-	-	84
NEW 6043		M.D.I. HM	≤25xd	DH i ALU	ILIX NORM DIN	137°	-	6535 HA	3 ÷ 12	h7	-	-	-		-	-	85
NEW ∅ 6044		M.D.I. HM	≤30xd	DH i ALU	ILIX NORM DIN	137°	-	6535 HA	2 ÷ 12	h7	-	-	-		-	-	86
NEW 6045		M.D.I. HM	≤40xd	DH i ALU	ILIX NORM DIN	137°	-	6535 HA	4 ÷ 5	h7	-	-	-		-	-	87

ÜBERBLICK | OVERVIEW

Leitfaden zur Werkzeugauswahl | Tool selection guide

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
MICRO DRILL																
NEW 6118TF	M.D.I. HM	≤5xd	MICRO DRILL	ILIX NORM DIN	140°	TiAlN FUTURA TOP	6535 HA	0,1 ÷ 3	h7				-			89
MICRO DRILL i (mit Innenkühlung | with internal coolant)																
NEW Tech 6019TF	M.D.I. HM	≤5xd	MICRO DRILL i	ILIX NORM DIN	135°	TiAlN FUTURA TOP	6535 HA	0,8 ÷ 3	h7				-		-	91
NEW Tech 6029TF	M.D.I. HM	≤8xd	MICRO DRILL i	ILIX NORM DIN	135°	TiAlN FUTURA TOP	6535 HA	0,8 ÷ 3	h7				-		-	92
NEW Tech 6030TF	M.D.I. HM	≤12xd	MICRO DRILL i	ILIX NORM DIN	135°	TiAlN FUTURA TOP	6535 HA	0,8 ÷ 3	h7				-		-	93
NEW 6136TF	M.D.I. HM	≤15xd	MICRO DRILL i	ILIX NORM DIN	135°	TiAlN FUTURA TOP	6535 HA	0,8 ÷ 3	h7				-		-	94
NEW Tech 6031TF	M.D.I. HM	≤20xd	MICRO DRILL i	ILIX NORM DIN	135°	TiAlN FUTURA TOP	6535 HA	0,8 ÷ 3	h7				-		-	95
RECORD 4S i (mit Innenkühlung | with internal coolant)																
6040F5	M.D.I. HM	≤5xd	4S i	ILIX NORM DIN	130°	TiAlN FUTURA	6535 HA	4 ÷ 20	m7	-	-			-	-	97
6040/5	M.D.I. HM	≤5xd	4S i	ILIX NORM DIN	130°	-	6535 HA	4 ÷ 20	m7	-	-			-	-	98
6040/7	M.D.I. HM	≤7xd	4S i	ILIX NORM DIN	130°	-	6535 HA	5 ÷ 20	m7	-	-			-	-	99
6040/L	M.D.I. HM	≤10xd	4S i	ILIX NORM DIN	130°	-	6535 HA	5 ÷ 20	m7	-	-			-	-	100

ÜBERBLICK | OVERVIEW

Leitfaden zur Werkzeugauswahl | Tool selection guide

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD STL																
6236TF 	M.D.I. HM	≤5xd	STL	6537 L DIN	130°	TiAlN FUTURA	6535 HA	3 ÷ 12	h7						-	**102**
6238TF 	M.D.I. HM	≤8xd	STL	~338 DIN	130°	TiAlN FUTURA		3 ÷ 12	h7						-	**103**
RECORD STL i **(mit Innenkühlung** | with internal coolant)																
6080TP 	M.D.I. HM	≤7/8 xd	STL i	~338 DIN	130°	TiN TOP	6535 HA	5 ÷ 11.5	h7						-	**104**
6081TP 	M.D.I. HM	≤7/8 xd	STL i	~338 DIN	130°	TiN TOP	6535 HE	5 ÷ 12	h7						-	**105**
RECORD 3S																
6126K 	M.D.I. HM	≤3xd	3S	~1897 DIN	150°	-		3 ÷ 20	h7			-	-		-	**107**
6126TF 	M.D.I. HM	≤3xd	3S	~1897 DIN	150°	TiAlN FUTURA		3 ÷ 20	h7			-	-	-	-	**107**
6123K 	M.D.I. HM	≤4xd	3S	ILIX NORM DIN	150°	-		3 ÷ 20	h7	-	-			-	-	**109**
6123TF 	M.D.I. HM	≤4xd	3S	ILIX NORM DIN	150°	TiAlN FUTURA		3 ÷ 20	h7	-	-			-	-	**109**
6127K 	M.D.I. HM	≤4xd	3S	ILIX NORM DIN	150°	-		3 ÷ 20	h7	-	-	-		-	-	**111**
6001K 	M.D.I. HM	≤5xd	3S	ILIX NORM DIN	150°	-		3 ÷ 20	h7			-	-	-	-	**113**

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
▸ RECORD 3BX																	
6003K		M.D.I. HM	≤5xd	3BX	6537 L DIN	130°	-	6535 HA	3 ÷ 16	h7	-	-				-	**115**
6003TF		M.D.I. HM	≤5xd	3BX	6537 L DIN	130°	TiAlN FUTURA	6535 HA	3 ÷ 16	h7	-	-				-	**115**
6002K		M.D.I. HM	≤5xd	3BX	6537 L DIN	130°	-	6535 HE	3 ÷ 16	h7	-	-				-	**116**
6002TF		M.D.I. HM	≤5xd	3BX	6537 L DIN	130°	TiAlN FUTURA	6535 HE	3 ÷ 16	h7	-	-				-	**116**
▸ PKD																	
6005		PKD	≤3xd	PKD	1897 DIN	120°	-		3 ÷ 20	h7	-	-	-		-	-	**118**
6007		PKD	≤8xd	PKD	338 DIN	120°	-		3 ÷ 20	h7	-	-	-		-	-	**119**

HOCHLEISTUNGSBOHRER
HIGH PERFORMANCE DRILLS

A.01.02

Produktpalette
Products range

HSS-Co-Bohrer der RECORD HD-Serie wurden speziell für allgemeine Anwendungen in Stahl und Gusseisen entwickelt und gewährleisten hohe Leistung und Prozesssicherheit.

HSS-Co drills of the RECORD HD series are specifically designed for general applications on steel and cast iron ensuring high performances and process reliability.

Record HD

TiN- UND TiALN-BESCHICHTUNG MIT PVD-TECHNIK GEWÄHRLEISTEN EINE HOHE VERSCHLEISSFESTIGKEIT UND MINIMIEREN DIE HAFTUNG AUF LANGSPANENDEN STÄHLEN.
TiN and TiALN coating, with PVD technique, ensure high wear resistance minimizing adhesion on long chip steels.

DIE SPEZIELLE SPANNUT UND DIE POLIERTE OBERFLÄCHE SORGEN FÜR EINE BESSERE SPANABFUHR AUCH BEI NIEDRIGEM KÜHLMITTELDRUCK.
The specific flute and the polished surface ensure better chip evacuation even in case of low coolant pressure.

BESSERE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE IM VERGLEICH ZU HERKÖMMLICHEN HSS-BOHRERN.
Better drilling quality thanks to reduced axial forces compared to traditional HSS drills.

HERVORRAGENDE DRUCK- UND TORSIONSFESTIGKEIT BEI INSTABILEN ARBEITSBEDINGUNGEN.
Excellent resistance to compression and torsion during unstable working conditions.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

REDUZIERUNG DES TIEFLOCHBOHRENS IM VERGLEICH ZU HERKÖMMLICHEN HSS-BOHRERN.
Reduction of peck drilling compared to traditional HSS drills.

ILIX® PRECISION

RECORD HD

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

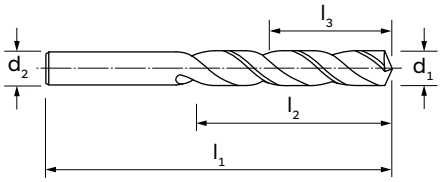
1897

DIN

≤3xd

130°

P. 122



MATERIAL | MATERIAL	HSS-Co	HSS-Co
BESCHICHTUNG | COATING	TiN	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (h8)	l_1	l_2	l_3	d_2	6133TN	6143TF
1,0	26	6	5	1,0	●	●
1,1	28	7	5	1,1	●	●
1,2	30	8	6	1,2	●	●
1,3	30	8	6	1,3	●	●
1,4	32	9	7	1,4	●	●
1,5	32	9	7	1,5	●	●
1,6	34	10	8	1,6	●	●
1,7	34	10	8	1,7	●	●
1,8	36	11	8	1,8	●	●
1,9	36	11	8	1,9	●	●
2,0	38	12	9	2,0	●	●
2,1	38	12	9	2,1	●	●
2,2	40	13	10	2,2	●	●
2,3	40	13	10	2,3	●	●
2,4	43	14	10	2,4	●	●
2,5	43	14	10	2,5	●	●
2,6	43	14	10	2,6	●	●
2,7	46	16	12	2,7	●	●
2,8	46	16	12	2,8	●	●
2,9	46	16	12	2,9	●	●
3,0	46	16	12	3,0	●	●
3,1	49	18	13	3,1	●	●
3,2	49	18	13	3,2	●	●
3,3	49	18	13	3,3	●	●
3,4	52	20	15	3,4	●	●
3,5	52	20	15	3,5	●	●
3,6	52	20	15	3,6	●	●

d_1 (h8)	l_1	l_2	l_3	d_2	6133TN	6143TF
3,7	52	20	15	3,7	●	●
3,8	55	22	16	3,8	●	●
3,9	55	22	16	3,9	●	●
4,0	55	22	16	4,0	●	●
4,1	55	22	16	4,1	●	●
4,2	55	22	16	4,2	●	●
4,3	58	24	18	4,3	●	●
4,4	58	24	17	4,4	●	●
4,5	58	24	17	4,5	●	●
4,6	58	24	17	4,6	●	●
4,7	58	24	17	4,7	●	●
4,8	62	26	19	4,8	●	●
4,9	62	26	19	4,9	●	●
5,0	62	26	19	5,0	●	●
5,1	62	26	18	5,1	●	●
5,2	62	26	18	5,2	●	●
5,3	62	26	18	5,3	●	●
5,4	66	28	20	5,4	●	●
5,5	66	28	20	5,5	●	●
5,6	66	28	20	5,6	●	●
5,7	66	28	20	5,7	●	●
5,8	66	28	19	5,8	●	●
5,9	66	28	19	5,9	●	●
6,0	66	28	19	6,0	●	●
6,1	70	31	22	6,1	●	●
6,2	70	31	22	6,2	●	●
6,3	70	31	22	6,3	●	●

01/02 →

ILIX PRECISION

RECORD HD

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2	6133TN	6143TF
6,4	70	31	21	6,4	●	●
6,5	70	31	21	6,5	●	●
6,6	70	31	21	6,6	●	●
6,7	70	31	21	6,7	●	●
6,8	74	34	24	6,8	●	●
6,9	74	34	24	6,9	●	●
7,0	74	34	24	7,0	●	●
7,1	74	34	23	7,1	●	●
7,2	74	34	23	7,2	●	●
7,3	74	34	23	7,3	●	●
7,4	74	34	23	7,4	●	●
7,5	74	34	23	7,5	●	●
7,6	79	37	26	7,6	●	●
7,7	79	37	26	7,7	●	●
7,8	79	37	25	7,8	●	●
7,9	79	37	25	7,9	●	●
8,0	79	37	25	8,0	●	●
8,1	79	37	25	8,1	●	●
8,2	79	37	25	8,2	●	●
8,3	79	37	25	8,3	●	●
8,4	79	37	24	8,4	●	●
8,5	79	37	24	8,5	●	●
8,6	84	40	27	8,6	●	●
8,7	84	40	27	8,7	●	●
8,8	84	40	27	8,8	●	●
8,9	84	40	27	8,9	●	●
9,0	84	40	27	9,0	●	●
9,1	84	40	26	9,1	●	●
9,2	84	40	26	9,2	●	●
9,3	84	40	26	9,3	●	●
9,4	84	40	26	9,4	●	●
9,5	84	40	26	9,5	●	●
9,6	89	43	29	9,6	●	●
9,7	89	43	29	9,7	●	●
9,8	89	43	28	9,8	●	●
9,9	89	43	28	9,9	●	●
10,0	89	43	28	10,0	●	●
10,1	89	43	28	10,1	●	-
10,2	89	43	28	10,2	●	●
10,3	89	43	28	10,3	●	-
10,5	89	43	27	10,5	●	●
10,8	95	47	31	10,8	●	●
11,0	95	47	31	11,0	●	●
11,2	95	47	30	11,2	●	●
11,3	95	47	30	11,3	●	●
11,5	95	47	30	11,5	●	●
11,8	95	47	29	11,8	●	●

d_1 (h8)	l_1	l_2	l_3	d_2	6133TN	6143TF
12,0	102	51	33	12,0	●	●
12,5	102	51	32	12,5	●	●
12,8	102	51	32	12,8	●	-
13,0	102	51	32	13,0	●	●
13,3	107	54	34	13,3	●	-
13,5	107	54	34	13,5	●	●
13,8	107	54	33	13,8	●	-
14,0	107	54	33	14,0	●	●
14,5	111	56	34	14,5	●	●
14,8	111	56	34	14,8	●	-
15,0	111	56	34	15,0	●	●
15,3	111	56	33	15,3	●	-
15,5	115	58	35	15,5	●	●
15,8	115	58	34	15,8	●	-
16,0	115	58	34	16,0	●	●
16,5	115	58	33	16,5	●	●
17,0	119	60	35	17,0	●	●
17,5	123	60	34	17,5	●	●
17,8	123	60	33	17,8	●	-
18,0	123	62	35	18,0	●	●
18,5	127	64	36	18,5	●	●
19,0	127	64	36	19,0	●	●
19,5	131	66	37	19,5	●	●
19,7	131	66	37	19,7	●	-
20,0	131	66	36	20,0	●	●
20,5	136	68	37	20,0	●	-
21,0	136	68	37	20,0	●	-
21,5	141	68	36	20,0	●	-
22,0	141	68	35	20,0	●	-
22,5	146	72	38	20,0	●	-
23,0	146	72	38	20,0	●	-
23,5	146	72	37	20,0	●	-
24,0	151	75	39	20,0	●	-
24,5	151	75	38	20,0	●	-
25,0	151	75	38	25,0	●	-
25,5	156	78	40	25,0	●	-
26,0	156	78	39	25,0	●	-
26,5	156	78	38	25,0	●	-
27,0	162	81	41	25,0	●	-
27,5	162	81	40	25,0	●	-
28,0	162	81	39	25,0	●	-
28,5	168	84	41	25,0	●	-
29,0	168	84	41	25,0	●	-
29,5	168	84	40	25,0	●	-
30,0	168	84	39	25,0	●	-
31,0	168	84	38	25,0	●	-
32,0	180	90	42	25,0	●	-

02/02

RECORD HD

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

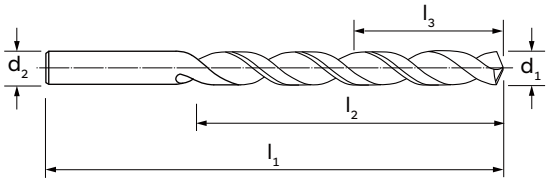
338

DIN

≤8xd

130°

P. 122



MATERIAL | MATERIAL	HSS-Co	HSS-Co
BESCHICHTUNG | COATING	TiN	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (h8)	l_1	l_2	l_3	d_2	6208TN	6228TF
1,0	34	12	11	1,0	●	●
1,1	36	14	12	1,1	●	●
1,2	38	16	14	1,2	●	●
1,3	38	18	16	1,3	●	●
1,4	40	18	16	1,4	●	●
1,5	40	20	18	1,5	●	●
1,6	43	20	18	1,6	●	●
1,7	43	22	20	1,7	●	●
1,8	46	22	19	1,8	●	●
1,9	46	24	21	1,9	●	●
2,0	49	24	21	2,0	●	●
2,1	49	24	21	2,1	●	●
2,2	53	27	24	2,2	●	●
2,3	53	27	24	2,3	●	●
2,4	57	30	26	2,4	●	●
2,5	57	30	26	2,5	●	●
2,6	57	30	26	2,6	●	●
2,7	61	33	29	2,7	●	●
2,8	61	33	29	2,8	●	●
2,9	61	33	29	2,9	●	●
3,0	61	33	29	3,0	●	●
3,1	65	36	31	3,1	●	●
3,2	65	36	31	3,2	●	●
3,3	65	36	31	3,3	●	●
3,4	70	39	34	3,4	●	●
3,5	70	39	34	3,5	●	●
3,6	70	39	34	3,6	●	●

d_1 (h8)	l_1	l_2	l_3	d_2	6208TN	6228TF
3,7	70	39	34	3,7	●	●
3,8	75	43	37	3,8	●	●
3,9	75	43	37	3,9	●	●
4,0	75	43	37	4,0	●	●
4,1	75	43	37	4,1	●	●
4,2	75	43	37	4,2	●	●
4,3	80	47	41	4,3	●	●
4,4	80	47	40	4,4	●	●
4,5	80	47	40	4,5	●	●
4,6	80	47	40	4,6	●	●
4,7	80	47	40	4,7	●	●
4,8	86	52	45	4,8	●	●
4,9	86	52	45	4,9	●	●
5,0	86	52	45	5,0	●	●
5,1	86	52	44	5,1	●	●
5,2	86	52	44	5,2	●	●
5,3	86	52	44	5,3	●	●
5,4	93	57	49	5,4	●	●
5,5	93	57	49	5,5	●	●
5,6	93	57	49	5,6	●	●
5,7	93	57	49	5,7	●	●
5,8	93	57	48	5,8	●	●
5,9	93	57	48	5,9	●	●
6,0	93	57	48	6,0	●	●
6,1	101	63	54	6,1	●	●
6,2	101	63	54	6,2	●	●
6,3	101	63	54	6,3	●	●

01/02 →

RECORD HD

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2	6208TN	6228TF
6,4	101	63	53	6,4	●	●
6,5	101	63	53	6,5	●	●
6,6	101	63	53	6,6	●	●
6,7	101	63	53	6,7	●	●
6,8	109	69	59	6,8	●	●
6,9	109	69	59	6,9	●	●
7,0	109	69	59	7,0	●	●
7,1	109	69	58	7,1	●	●
7,2	109	69	58	7,2	●	●
7,3	109	69	58	7,3	●	●
7,4	109	69	58	7,4	●	●
7,5	109	69	58	7,5	●	●
7,6	117	75	64	7,6	●	●
7,7	117	75	64	7,7	●	●
7,8	117	75	63	7,8	●	●
7,9	117	75	63	7,9	●	●
8,0	117	75	63	8,0	●	●
8,1	117	75	63	8,1	●	●
8,2	117	75	63	8,2	●	●
8,3	117	75	63	8,3	●	●
8,4	117	75	62	8,4	●	●
8,5	117	75	62	8,5	●	●
8,6	125	81	68	8,6	●	●
8,7	125	81	68	8,7	●	●
8,8	125	81	68	8,8	●	●
8,9	125	81	68	8,9	●	●
9,0	125	81	68	9,0	●	●
9,1	125	81	67	9,1	●	●
9,2	125	81	67	9,2	●	●
9,3	125	81	67	9,3	●	●
9,4	125	81	67	9,4	●	●
9,5	125	81	67	9,5	●	●

d_1 (h8)	l_1	l_2	l_3	d_2	6208TN	6228TF
9,6	133	87	73	9,6	●	●
9,7	133	87	73	9,7	●	●
9,8	133	87	72	9,8	●	●
9,9	133	87	72	9,9	●	●
10,0	133	87	72	10,0	●	●
10,2	133	87	72	10,2	●	●
10,5	133	87	71	10,5	●	●
11,0	142	94	78	11,0	●	●
11,2	142	94	77	11,2	●	●
11,3	142	94	77	11,3	-	●
11,5	142	94	77	11,5	●	●
12,0	151	101	83	12,0	●	●
12,5	151	101	82	12,5	●	●
13,0	151	101	82	13,0	●	●
13,1	151	101	81	13,1	-	●
13,3	160	108	88	13,3	-	●
13,5	160	108	88	13,5	●	●
14,0	160	108	87	14,0	●	●
14,5	169	114	92	14,5	●	●
15,0	169	114	92	15,0	●	●
15,1	178	120	97	15,1	-	●
15,3	178	120	97	15,3	-	●
15,5	178	120	97	15,5	●	●
16,0	178	120	96	16,0	●	●
16,5	184	125	100	16,5	●	-
17,0	184	125	100	17,0	●	-
17,5	191	130	104	17,5	●	-
18,0	191	130	103	18,0	●	-
18,5	198	135	107	18,5	●	-
19,0	198	135	107	19,0	●	-
19,5	205	140	111	19,5	●	-
20,0	205	140	110	20,0	●	-

02/02

RECORD HD

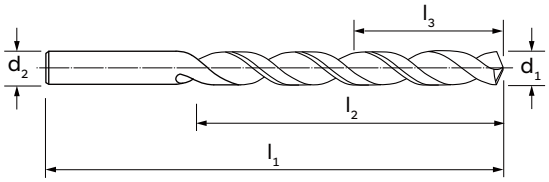
HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

340
DIN

≤12xd

130°

P. 122



MATERIAL | MATERIAL	HSS-Co	HSS-Co
BESCHICHTUNG | COATING	TiN Top	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (h8)	l_1	l_2	l_3	d_2	6248TP	6248TF
1,0	56	33	32	1,0	●	●
1,1	60	37	35	1,1	●	●
1,2	65	41	39	1,2	●	●
1,3	65	41	39	1,3	●	●
1,4	70	45	43	1,4	●	●
1,5	70	45	43	1,5	●	●
1,6	76	50	48	1,6	●	●
1,7	76	50	48	1,7	●	●
1,8	80	53	50	1,8	●	●
1,9	80	53	50	1,9	●	●
2,0	85	56	53	2,0	●	●
2,1	85	56	53	2,1	●	●
2,2	90	59	56	2,2	●	●
2,3	90	59	56	2,3	●	●
2,4	95	62	58	2,4	●	●
2,5	95	62	58	2,5	●	●
2,6	95	62	58	2,6	●	●
2,7	100	66	62	2,7	●	●
2,8	100	66	62	2,8	●	●
2,9	100	66	62	2,9	●	●
3,0	100	66	62	3,0	●	●
3,1	106	69	64	3,1	●	●
3,2	106	69	64	3,2	●	●
3,3	106	69	64	3,3	●	●
3,4	112	73	68	3,4	●	●
3,5	112	73	68	3,5	●	●
3,6	112	73	68	3,6	●	●

d_1 (h8)	l_1	l_2	l_3	d_2	6248TP	6248TF
3,7	112	73	68	3,7	●	●
3,8	119	78	72	3,8	●	●
3,9	119	78	72	3,9	●	●
4,0	119	78	72	4,0	●	●
4,1	119	78	72	4,1	●	●
4,2	119	78	72	4,2	●	●
4,3	126	82	76	4,3	●	●
4,4	126	82	75	4,4	●	●
4,5	126	82	75	4,5	●	●
4,6	126	82	75	4,6	●	●
4,7	126	82	75	4,7	●	●
4,8	132	87	80	4,8	●	●
4,9	132	87	80	4,9	●	●
5,0	132	87	80	5,0	●	●
5,1	132	87	79	5,1	●	●
5,2	132	87	79	5,2	●	●
5,3	132	87	79	5,3	●	●
5,4	139	91	83	5,4	●	●
5,5	139	91	83	5,5	●	●
5,6	139	91	83	5,6	●	●
5,7	139	91	83	5,7	●	●
5,8	139	91	82	5,8	●	●
5,9	139	91	82	5,9	●	●
6,0	139	91	82	6,0	●	●
6,1	148	97	88	6,1	●	●
6,2	148	97	88	6,2	●	●
6,3	148	97	88	6,3	●	●

01/02 →

RECORD HD

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2	6248TP	6248TF
6,4	148	97	87	6,4	●	●
6,5	148	97	87	6,5	●	●
6,6	148	97	87	6,6	●	●
6,7	148	97	87	6,7	●	●
6,8	156	102	92	6,8	●	●
6,9	156	102	92	6,9	●	●
7,0	156	102	92	7,0	●	●
7,1	156	102	91	7,1	●	●
7,2	156	102	91	7,2	●	●
7,3	156	102	91	7,3	●	●
7,4	156	102	91	7,4	●	●
7,5	156	102	91	7,5	●	●
7,6	165	109	98	7,6	●	●
7,7	165	109	98	7,7	●	●
7,8	165	109	97	7,8	●	●
7,9	165	109	97	7,9	●	●
8,0	165	109	97	8,0	●	●
8,1	165	109	97	8,1	●	●
8,2	165	109	97	8,2	●	●
8,3	165	109	97	8,3	●	●
8,4	165	109	96	8,4	●	●

d_1 (h8)	l_1	l_2	l_3	d_2	6248TP	6248TF
8,5	165	109	96	8,5	●	●
8,6	175	115	102	8,6	●	●
8,7	175	115	102	8,7	●	●
8,8	175	115	102	8,8	●	●
8,9	175	115	102	8,9	●	●
9,0	175	115	102	9,0	●	●
9,1	175	115	101	9,1	●	●
9,2	175	115	101	9,2	●	●
9,3	175	115	101	9,3	●	●
9,4	175	115	101	9,4	●	●
9,5	175	115	101	9,5	●	●
9,6	184	121	107	9,6	●	●
9,7	184	121	107	9,7	●	●
9,8	184	121	106	9,8	●	●
9,9	184	121	106	9,9	●	●
10,0	184	121	106	10,0	●	●
10,2	184	121	106	10,2	●	●
10,5	184	121	105	10,5	●	●
11,0	195	128	112	11,0	●	●
11,5	195	128	111	11,5	●	●
12,0	205	134	116	12,0	●	●

02/02

HSS-Co-Bohrer der RECORD EVOLUTION VA-Serie wurden speziell für die Bearbeitung von Edelstählen und Titanlegierungen entwickelt und gewährleisten hohe Leistung und Zuverlässigkeit.

HSS-Co drills of the RECORD EVOLUTION VA series are specifically designed for machining stainless steels and Titanium alloys, ensuring high performances and reliability.

Record EVOLUTION VA

DIE TiN-BESCHICHTUNG MIT PVD-TECHNIK GEWÄHRLEISTET EINE HOHE VERSCHLEISSFESTIGKEIT UND MINIMIERT DIE HAFTUNG AUF ABRASIVEN MATERIALIEN.
TiN coating, with PVD technique, ensures high wear resistance minimizing adhesion on abrasive materials.

DAS SORTIMENT IST IN DIN 1897 UND DIN 338 ERHÄLTLICH.
The range is available in DIN 1897 and DIN 338.

SPEZIELLE SPANNUT UND POLIERTE OBERFLÄCHE FÜR EINE BESSERE SPANABFUHR AUCH BEI NIEDRIGEM KÜHLMITTELDRUCK.
Specific flute and polished surface to ensure better chip evacuation even in case of low coolant pressure.

BESSERE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE IM VERGLEICH ZU HERKÖMMLICHEN HSS-BOHRERN.
Better drilling quality thanks to reduced axial forces compared to traditional HSS drills.

HERVORRAGENDE DRUCK- UND TORSIONSFESTIGKEIT BEI INSTABILEN ARBEITSBEDINGUNGEN.
Excellent resistance to compression and torsion during unstable working conditions.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

REDUZIERUNG DES TIEFLOCHBOHRENS IM VERGLEICH ZU HERKÖMMLICHEN HSS-BOHRERN.
Reduction of peck drilling compared to traditional HSS drills.

ILIX® PRECISION

ILIX PRECISION

RECORD EVOLUTION VA

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

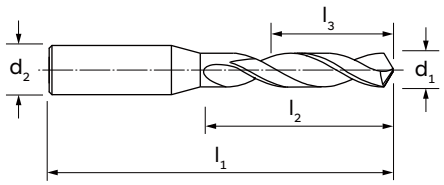
~1897
DIN

≤3xd

1835 A

120° 130° 140°

P. 122



MATERIAL | MATERIAL	HSS-Co
BESCHICHTUNG | COATING	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)		6134TN
1,0	38	6	5	3	140°	●
1,1	39	7	5	3	140°	●
1,2	40	8	6	3	140°	●
1,3	40	8	6	3	140°	●
1,4	41	9	7	3	140°	●
1,5	41	9	7	3	140°	●
1,6	42	10	8	3	140°	●
1,7	42	10	8	3	140°	●
1,8	43	11	8	3	140°	●
1,9	43	11	8	3	140°	●
2,0	44	12	9	3	130°	●
2,1	44	12	9	3	130°	●
2,2	45	13	10	3	130°	●
2,3	45	13	10	3	130°	●
2,4	46	14	10	3	130°	●
2,5	46	14	10	3	130°	●
2,6	46	14	10	3	130°	●
2,7	46	16	12	3	130°	●
2,8	46	16	12	3	130°	●
2,9	46	16	12	3	130°	●
3,0	46	16	12	3	130°	●
3,1	49	18	13	4	130°	●
3,2	49	18	13	4	130°	●
3,3	49	18	13	4	130°	●
3,4	52	20	15	4	130°	●
3,5	52	20	15	4	130°	●
3,6	52	20	15	4	130°	●

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)		6134TN
3,7	52	20	15	4	130°	●
3,8	55	22	16	4	130°	●
3,9	55	22	16	4	130°	●
4,0	55	22	16	4	130°	●
4,1	55	22	16	6	120°	●
4,2	55	22	16	6	120°	●
4,3	58	24	18	6	120°	●
4,4	58	24	17	6	120°	●
4,5	58	24	17	6	120°	●
4,6	58	24	17	6	120°	●
4,7	58	24	17	6	120°	●
4,8	62	26	19	6	120°	●
4,9	62	26	19	6	120°	●
5,0	62	26	19	6	120°	●
5,1	62	26	18	6	120°	●
5,2	62	26	18	6	120°	●
5,3	62	26	18	6	120°	●
5,4	66	28	20	6	120°	●
5,5	66	28	20	6	120°	●
5,6	66	28	20	6	120°	●
5,7	66	28	20	6	120°	●
5,8	66	28	19	6	120°	●
5,9	66	28	19	6	120°	●
6,0	66	28	19	6	120°	●
6,1	70	31	22	8	120°	●
6,2	70	31	22	8	120°	●
6,3	70	31	22	8	120°	●

01/02 →

RECORD EVOLUTION VA

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)			6134TN
6,4	70	31	21	8	120°		●
6,5	70	31	21	8	120°		●
6,6	70	31	21	8	120°		●
6,7	70	31	21	8	120°		●
6,8	74	34	24	8	120°		●
6,9	74	34	24	8	120°		●
7,0	74	34	24	8	120°		●
7,1	74	34	23	8	120°		●
7,2	74	34	23	8	120°		●
7,3	74	34	23	8	120°		●
7,4	74	34	23	8	120°		●
7,5	74	34	23	8	120°		●
7,6	79	37	26	8	120°		●
7,7	79	37	26	8	120°		●
7,8	79	37	25	8	120°		●
7,9	79	37	25	8	120°		●
8,0	79	37	25	8	120°		●
8,1	79	37	25	10	120°		●
8,2	79	37	25	10	120°		●
8,3	79	37	25	10	120°		●
8,4	79	37	24	10	120°		●
8,5	79	37	24	10	120°		●
8,6	84	40	27	10	120°		●
8,7	84	40	27	10	120°		●
8,8	84	40	27	10	120°		●
8,9	84	40	27	10	120°		●
9,0	84	40	27	10	120°		●
9,1	84	40	26	10	120°		●
9,2	84	40	26	10	120°		●
9,3	84	40	26	10	120°		●
9,4	84	40	26	10	120°		●
9,5	84	40	26	10	120°		●
9,6	89	43	29	10	120°		●
9,7	89	43	29	10	120°		●
9,8	89	43	28	10	120°		●
9,9	89	43	28	10	120°		●
10,0	89	43	28	10	120°		●
10,1	89	43	28	10	120°		●
10,2	89	43	28	10	120°		●
10,3	89	43	28	10	120°		●
10,4	89	43	27	10	120°		●

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)			6134TN
10,5	89	43	27	10	120°		●
10,6	89	43	27	12	120°		●
10,7	95	47	31	12	120°		●
10,8	95	47	31	12	120°		●
10,9	95	47	31	12	120°		●
11,0	95	47	31	12	120°		●
11,1	95	47	30	12	120°		●
11,2	95	47	30	12	120°		●
11,3	95	47	30	12	120°		●
11,4	95	47	30	12	120°		●
11,5	95	47	30	12	120°		●
11,6	95	47	30	12	120°		●
11,7	95	47	30	12	120°		●
11,8	95	47	29	12	120°		●
11,9	102	51	33	12	120°		●
12,0	102	51	33	12	120°		●
12,1	102	51	33	12	120°		●
12,2	102	51	33	12	120°		●
12,3	102	51	33	12	120°		●
12,4	102	51	32	12	120°		●
12,5	102	51	32	12	120°		●
12,6	102	51	32	12	120°		●
12,7	102	51	32	12	120°		●
12,8	102	51	32	12	120°		●
12,9	102	51	32	12	120°		●
13,0	102	51	32	12	120°		●
13,5	107	54	34	16	120°		●
14,0	107	54	33	16	120°		●
14,5	111	56	34	16	120°		●
15,0	111	56	34	16	120°		●
15,5	115	58	35	16	120°		●
16,0	115	58	34	16	120°		●
16,5	119	60	35	20	120°		●
17,0	119	60	35	20	120°		●
17,5	123	62	36	20	120°		●
18,0	123	62	35	20	120°		●
18,5	127	64	36	20	120°		●
19,0	127	64	36	20	120°		●
19,5	131	66	37	20	120°		●
20,0	131	66	36	20	120°		●

02/02

RECORD EVOLUTION VA

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

~338
DIN

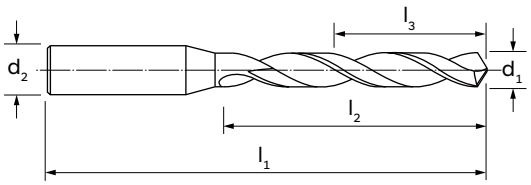
≤8xd

1835 A

120°

130°

P. 122



MATERIAL | MATERIAL	HSS-Co
BESCHICHTUNG | COATING	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)			6229TN
1,0	41	12	11	3	130°		●
1,1	43	14	12	3	130°		●
1,2	44	16	14	3	130°		●
1,3	44	16	14	3	130°		●
1,4	46	18	16	3	130°		●
1,5	46	18	16	3	130°		●
1,6	47	20	18	3	130°		●
1,7	47	20	18	3	130°		●
1,8	49	22	19	3	130°		●
1,9	49	22	19	3	130°		●
2,0	49	24	21	3	130°		●
2,1	49	24	21	3	130°		●
2,2	53	28	25	3	130°		●
2,3	53	28	25	3	130°		●
2,4	57	31	27	3	130°		●
2,5	57	31	27	3	130°		●
2,6	57	31	27	3	130°		●
2,7	61	34	30	3	130°		●
2,8	61	34	30	3	130°		●
2,9	61	34	30	3	130°		●
3,0	61	33	29	3	130°		●
3,1	65	36	31	4	130°		●
3,2	65	36	31	4	130°		●
3,3	65	36	31	4	130°		●
3,4	70	39	34	4	130°		●
3,5	70	39	34	4	130°		●
3,6	70	39	34	4	130°		●

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)			6229TN
3,7	70	39	34	4	130°		●
3,8	75	43	37	4	130°		●
3,9	75	43	37	4	130°		●
4,0	75	43	37	4	130°		●
4,1	75	43	37	6	120°		●
4,2	75	43	37	6	120°		●
4,3	80	47	41	6	120°		●
4,4	80	47	40	6	120°		●
4,5	80	47	40	6	120°		●
4,6	80	47	40	6	120°		●
4,7	80	47	40	6	120°		●
4,8	86	52	45	6	120°		●
4,9	86	52	45	6	120°		●
5,0	86	52	45	6	120°		●
5,1	86	52	44	6	120°		●
5,2	86	52	44	6	120°		●
5,3	86	52	44	6	120°		●
5,4	93	57	49	6	120°		●
5,5	93	57	49	6	120°		●
5,6	93	57	49	6	120°		●
5,7	93	57	49	6	120°		●
5,8	93	57	48	6	120°		●
5,9	93	57	48	6	120°		●
6,0	93	57	48	6	120°		●
6,1	101	63	54	8	120°		●
6,2	101	63	54	8	120°		●
6,3	101	63	54	8	120°		●

01/02 →

RECORD EVOLUTION VA

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)		6229TN
6,4	101	63	53	8	120°	●
6,5	101	63	53	8	120°	●
6,6	101	63	53	8	120°	●
6,7	101	63	53	8	120°	●
6,8	109	69	59	8	120°	●
6,9	109	69	59	8	120°	●
7,0	109	69	59	8	120°	●
7,1	109	69	58	8	120°	●
7,2	109	69	58	8	120°	●
7,3	109	69	58	8	120°	●
7,4	109	69	58	8	120°	●
7,5	109	69	58	8	120°	●
7,6	117	75	64	8	120°	●
7,7	117	75	64	8	120°	●
7,8	117	75	63	8	120°	●
7,9	117	75	63	8	120°	●
8,0	117	75	63	8	120°	●
8,1	117	75	63	10	120°	●
8,2	117	75	63	10	120°	●
8,3	117	75	63	10	120°	●
8,4	117	75	62	10	120°	●
8,5	117	75	62	10	120°	●
8,6	125	81	68	10	120°	●
8,7	125	81	68	10	120°	●
8,8	125	81	68	10	120°	●
8,9	125	81	68	10	120°	●
9,0	125	81	68	10	120°	●
9,1	125	81	67	10	120°	●
9,2	125	81	67	10	120°	●
9,3	125	81	67	10	120°	●
9,4	125	81	67	10	120°	●
9,5	125	81	67	10	120°	●
9,6	133	87	73	10	120°	●
9,7	133	87	73	10	120°	●
9,8	133	87	72	10	120°	●
9,9	133	87	72	10	120°	●
10,0	133	87	72	10	120°	●
10,1	133	87	72	10	120°	●
10,2	133	87	72	10	120°	●
10,3	133	87	72	10	120°	●
10,4	133	87	71	10	120°	●

d_1 (h8)	l_1	l_2	l_3	d_2 (h7)		6229TN
10,5	133	87	71	10	120°	●
10,6	133	87	71	12	120°	●
10,7	142	94	78	12	120°	●
10,8	142	94	78	12	120°	●
10,9	142	94	78	12	120°	●
11,0	142	94	78	12	120°	●
11,1	142	94	77	12	120°	●
11,2	142	94	77	12	120°	●
11,3	142	94	77	12	120°	●
11,4	142	94	77	12	120°	●
11,5	142	94	77	12	120°	●
11,6	142	94	77	12	120°	●
11,7	142	94	77	12	120°	●
11,8	142	94	76	12	120°	●
11,9	151	94	76	12	120°	●
12,0	151	101	83	12	120°	●
12,1	151	101	83	12	120°	●
12,2	151	101	83	12	120°	●
12,3	151	101	83	12	120°	●
12,4	151	101	82	12	120°	●
12,5	151	101	82	12	120°	●
12,6	151	101	82	12	120°	●
12,7	151	101	82	12	120°	●
12,8	151	101	82	12	120°	●
12,9	151	101	82	12	120°	●
13,0	151	101	82	12	120°	●
13,5	160	108	88	16	120°	●
14,0	160	108	87	16	120°	●
14,5	169	114	92	16	120°	●
15,0	169	114	92	16	120°	●
15,5	178	120	97	16	120°	●
16,0	178	120	96	16	120°	●
16,5	184	125	100	20	120°	●
17,0	184	125	100	20	120°	●
17,5	191	130	104	20	120°	●
18,0	191	130	103	20	120°	●
18,5	198	135	107	20	120°	●
19,0	198	135	107	20	120°	●
19,5	205	140	111	20	120°	●
20,0	205	140	110	20	120°	●

02/02

HSS-Co-Bohrer der Serie RECORD HD i mit Innenkühlung wurden speziell für allgemeine Anwendungen in Stählen und Gusseisen entwickelt und gewährleisten hohe Leistung und Zuverlässigkeit.

HSS-Co drills of the RECORD HD i serie, with internal coolant, are specifically designed for general applications on steels and cast irons ensuring high performances and reliability.

Record HD i

DIE TiN-BESCHICHTUNG MIT PVD-TECHNIK GEWÄHRLEISTET EINE HOHE VERSCHLEISSFESTIGKEIT UND MINIMIERT DIE HAFTUNG AUF LANGSPANENDEN STÄHLEN.
TiN coating, with PVD technique, ensures high wear resistance minimizing adhesion on long chip steels.

DIE SPEZIELLE SPANNUT UND DIE POLIERTE OBERFLÄCHE SORGEN FÜR EINE BESSERE SPANABFUHR AUCH BEI NIEDRIGEM KÜHLMITTELDRUCK.
The specific flute and the polished surface ensure better chip evacuation even in case of low coolant pressure.

BESSERE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE IM VERGLEICH ZU HERKÖMMLICHEN HSS-BOHRERN.
Better drilling quality thanks to reduced axial forces compared to traditional HSS drills.

HERVORRAGENDE DRUCK- UND TORSIONSFESTIGKEIT BEI INSTABILEN ARBEITSBEDINGUNGEN.
Excellent resistance to compression and torsion during unstable working conditions.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

REDUZIERUNG DES TIEFLOCHBOHRENS IM VERGLEICH ZU HERKÖMMLICHEN HSS-BOHRERN.
Reduction of peck drilling compared to traditional HSS drills.

ILIX® PRECISION

RECORD HD i

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

ILIX NORM

DIN

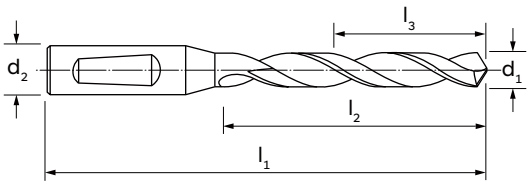
≤5xd

1835 E

130°

A

P. 122



MATERIAL | MATERIAL	HSS-Co
BESCHICHTUNG | COATING	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2	l_3	d_2		6522TN
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●

d_1 (h8)	l_1	l_2	l_3	d_2		6522TN
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,2	122	75	60	12		●
10,5	122	75	59	12		●
11,0	122	75	59	12		●

01/02 →

RECORD HD i

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2		6522TN
11,5	122	75	58	12		●
12,0	122	75	57	12		●
12,5	134	87	68	14		●
13,0	134	87	68	14		●
13,5	134	87	67	14		●
14,0	134	87	66	14		●
14,5	150	100	78	16		●
15,0	150	100	78	16		●
15,5	150	100	77	16		●
16,0	150	100	76	16		●
16,5	162	112	87	18		●
17,0	162	112	87	18		●
17,5	162	112	86	18		●

d_1 (h8)	l_1	l_2	l_3	d_2		6522TN
18,0	162	112	85	18		●
18,5	176	124	96	20		●
19,0	176	124	96	20		●
19,5	176	124	95	20		●
20,0	176	124	94	20		●
20,5	207	145	114	25		●
21,0	210	145	114	25		●
21,5	207	145	113	25		●
22,0	207	145	112	25		●
22,5	207	145	111	25		●
23,0	207	145	111	25		●
23,5	207	145	110	25		●
24,0	207	145	109	25		●

02/02

Die HSS-Co-8%-Bohrer der RECORD HX-Serie sind für den Baumaschinenbereich konzipiert und sorgen für hohe Leistung und Zuverlässigkeit beim Bohren von hochfesten Stählen wie HARDOX und WELDOX.

The HSS-Co-8% drills of the RECORD HX series are designed for the construction machinery sector, ensuring high performances and reliability when drilling high-strength steels such as HARDOX and WELDOX.

RECORD HX

NX (TiSiN Plus) BESCHICHTUNG SORGT FÜR HOHE VERSCHLEISSFESTIGKEIT.
NX (TiSiN Plus) coating ensures high wear resistance.

NIEDRIGER REIBWERT DURCH SCHMALERE FÜHRUNGSFASEN.
Low coefficient of friction thanks to narrower guide chamfers.

KURZE SPANNUT MIT SPEZIELL VERSTÄRKTEM KERN FÜR STABILEN BOHRPROZESS.
Short flute with specially reinforced cor for stable drilling process.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

ILIX® PRECISION

ILIX PRECISION

RECORD HX

HSS-Co-8% Hochleistungs-Spiralbohrer, ähnlich DIN 338
HSS-Co-8% high performance twist drills, similar to DIN 338

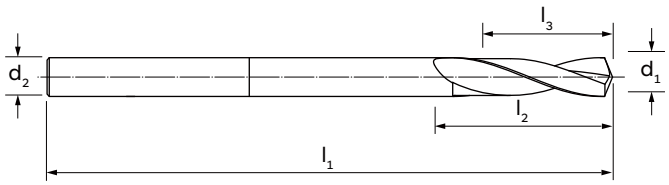
NEW

ILIX NORM
DIN

≤3xd

135°

P. 122



MATERIAL | MATERIAL — HSS-Co 8%

BESCHICHTUNG | COATING — TiSiN Plus

SCHNITTRICHTUNG | CUTTING DIRECTION

MATERIALGRUPPEN
MATERIAL GROUPS

- **P** | **Stahl** | Steels — P
- **M** | **Rostfreier Stahl** | Stainless Steels — M
- **K** | **Gusseisen** | Cast Irons — K
- **N** | **Nichteisenmetalle** | Non-ferrous metals — N
- **S** | **HRSA und Titan** | HRSA and Titanium — S
- **H** | **Gehärtete Stähle** | Hardened Steels — H

d_1 (h8)	l_1	l_2	l_3	d_2 (f11)	6205NX
2,0	49	12	9	2,0	●
2,5	57	14	10	2,5	●
3,0	61	16	12	3,0	●
3,3	65	18	13	3,3	●
3,5	70	20	15	3,5	●
4,0	75	22	16	4,0	●
4,2	75	22	16	4,2	●
4,5	80	24	17	4,5	●
5,0	86	26	19	5,0	●
5,5	93	28	20	5,5	●
6,0	93	28	19	6,0	●
6,5	101	31	21	6,5	●
6,8	109	34	24	6,8	●
7,0	109	34	24	7,0	●
7,5	109	34	23	7,5	●
8,0	117	37	25	8,0	●
8,5	117	37	24	8,5	●
9,0	125	40	27	9,0	●
9,5	125	40	26	9,5	●
10,0	133	43	28	10,0	●
10,2	133	43	28	10,2	●
10,5	133	43	27	10,5	●
11,0	142	47	31	11,0	●
11,5	142	47	30	11,5	●
12,0	151	51	33	12,0	●

d_1 (h8)	l_1	l_2	l_3	d_2 (f11)	6205NX

HSS-Co-PM-Bohrer der RECORD PM-Serie wurden speziell für allgemeine Anwendungen in Stählen und Gusseisen entwickelt und gewährleisten im Vergleich zu herkömmlichen HSS-Co-Bohrern eine hohe Leistung und Zuverlässigkeit.

HSS-Co-PM drills of the RECORD PM series are specifically designed for general applications on steels and cast irons ensuring high performances and reliability compared to traditional HSS-Co drills.

Record PM

DIE DURCH PVD-TECHNIK ERHALTENE TISIN-BESCHICHTUNG GEWÄHRLEISTET EINE HOHE VERSCHLEISSFESTIGKEIT UND MINIMIERT DIE HAFTUNG AUF LANGSPANENDEN STÄHLEN MIT NIEDRIGEM KOHLENSTOFFGEHALT.
TiSiN coating obtained with PVD technique, ensures high wear resistance minimizing adherence on long-chip low-carbon steels.

DIE SPEZIELLE SPANNUT UND DIE POLIERTE OBERFLÄCHE SORGEN FÜR EINE BESSERE SPANABFUHR.
The specific flute and the polished surface ensure better chip evacuation.

BESSERE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE IM VERGLEICH ZU HERKÖMMLICHEN HSS-CO-BOHRERN.
Better drilling quality thanks to reduced axial forces compared to traditional HSS-Co drills.

HERVORRAGENDE DRUCK- UND TORSIONSFESTIGKEIT BEI INSTABILEN ARBEITSBEDINGUNGEN.
Excellent resistance to compression and torsion during unstable working conditions.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

REDUZIERUNG DES TIEFLOCHBOHRENS IM VERGLEICH ZU HERKÖMMLICHEN HSS-CO-BOHRERN.
Reduction of peck drilling compared to traditional HSS-Co drills.

ILIX® PRECISION

ILIX PRECISION

RECORD PM

HSS-Co Hochleistungs-Spiralbohrer-PM | HSS-Co-PM high performance twist drills

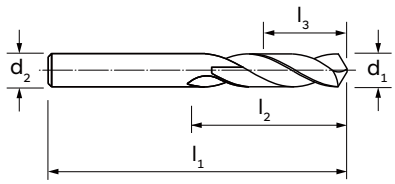
NEW

1897
DIN

≤3xd

130°

P. 122



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiSiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2	l_3	d_2 (f11)	6178NX
2,0	38	12	9	2,0	●
2,1	38	12	9	2,1	●
2,2	40	13	10	2,2	●
2,3	40	13	10	2,3	●
2,4	43	14	10	2,4	●
2,5	43	14	10	2,5	●
2,6	43	14	10	2,6	●
2,7	43	14	10	2,7	●
2,8	46	16	12	2,8	●
2,9	46	16	12	2,9	●
3,0	46	16	12	3,0	●
3,1	49	18	13	3,1	●
3,2	49	18	13	3,2	●
3,3	49	18	13	3,3	●
3,4	52	20	15	3,4	●
3,5	52	20	15	3,5	●
3,6	52	20	15	3,6	●
3,7	52	20	15	3,7	●
3,8	55	22	16	3,8	●
3,9	55	22	16	3,9	●
4,0	55	22	16	4,0	●
4,1	55	22	16	4,1	●
4,2	55	22	16	4,2	●
4,3	58	24	18	4,3	●
4,4	58	24	17	4,4	●
4,5	58	24	17	4,5	●
4,6	58	24	17	4,6	●

d_1 (h8)	l_1	l_2	l_3	d_2 (f11)	6178NX
4,7	58	24	17	4,7	●
4,8	62	26	19	4,8	●
4,9	62	26	19	4,9	●
5,0	62	26	19	5,0	●
5,1	62	26	18	5,1	●
5,2	62	26	18	5,2	●
5,3	62	26	18	5,3	●
5,4	66	28	20	5,4	●
5,5	66	28	20	5,5	●
5,6	66	28	20	5,6	●
5,7	66	28	20	5,7	●
5,8	66	28	19	5,8	●
5,9	66	28	19	5,9	●
6,0	66	28	19	6,0	●
6,1	70	31	22	6,1	●
6,2	70	31	22	6,2	●
6,3	70	31	22	6,3	●
6,4	70	31	21	6,4	●
6,5	70	31	21	6,5	●
6,6	70	31	21	6,6	●
6,7	70	31	21	6,7	●
6,8	74	34	24	6,8	●
6,9	74	34	24	6,9	●
7,0	74	34	24	7,0	●
7,1	74	34	23	7,1	●
7,2	74	34	23	7,2	●
7,3	74	34	23	7,3	●

01/02 →

RECORD PM

HSS-Co Hochleistungs-Spiralbohrer-PM | HSS-Co-PM high performance twist drills

d_1 (h8)	l_1	l_2	l_3	d_2 (f11)		6178NX
7,4	74	34	23	7,4		●
7,5	74	34	23	7,5		●
7,6	79	37	26	7,6		●
7,7	79	37	26	7,7		●
7,8	79	37	25	7,8		●
7,9	79	37	25	7,9		●
8,0	79	37	25	8,0		●
8,1	79	37	25	8,1		●
8,2	79	37	25	8,2		●
8,3	79	37	25	8,3		●

d_1 (h8)	l_1	l_2	l_3	d_2 (f11)		6178NX
8,4	79	37	24	8,4		●
8,5	79	37	24	8,5		●
9,0	84	40	27	9,0		●
9,5	84	40	26	9,5		●
10,0	89	43	28	10,0		●
10,2	89	43	28	10,2		●
10,5	89	43	27	10,5		●
11,0	95	47	31	11,0		●
11,5	95	47	30	11,5		●
12,0	102	51	33	12,0		●

02/02

Die VHM-Bohrer RECORD 2S und 2S i Serie garantieren höchste Spanabfuhr und längere Standzeiten bei der Stahl- und Gussbearbeitung.

The solid carbide drills RECORD 2S and 2S i series guarantee maximum chip removal and longer tool life in steels and cast irons machining.

Record 2S-2S i

2S-GEOMETRIE.
2S geometry.

ERHÄLTLICH IN DEN VERSIONEN 3xD UND 5xD MIT UND OHNE INNENKÜHLUNG.
Available in 3xD and 5xD versions with and without internal coolant.

DIE MIT PVD-TECHNIK ERHALTENEN BESCHICHTUNGEN TF (TiAlN Futura Plus) UND TN (TiN) GEWÄHRLEISTEN EINE HOHE VERSCHLEISSFESTIGKEIT UND EINEN NIEDRIGEN REIBUNGSKOEFFIZIENTEN AUCH BEI ANWENDUNGEN MIT MINIMALMENGENSCHMIERUNG (MMS).
The coatings TF (TiAlN Futura Plus) and TN (TiN), obtained with PVD technique, ensure high wear resistance, low coefficient of friction even during applications with minimum quantity of lubricaton (MQL).

DIN 6535HA UND DIN 6535HE SCHÄFTE IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA and DIN 6535HE shanks in tolerance h6 suitable for shrink fit.

VERBESSERTE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE.
Improved drilling quality thanks to reduced axial forces.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

ILIX® PRECISION

RECORD 2S

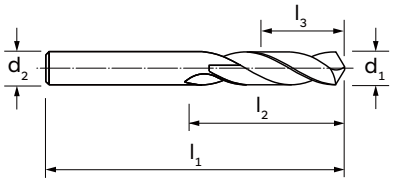
VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

~1897
DIN

≤3xd

140°

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steelss	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2		6213TN
1,5	32	9	7	1,5		●
1,6	34	10	8	1,6		●
1,7	34	10	8	1,7		●
1,8	36	11	8	1,8		●
1,9	36	11	8	1,9		●
2,0	38	12	9	2,0		●
2,1	38	12	9	2,1		●
2,2	40	13	10	2,2		●
2,3	40	13	10	2,3		●
2,4	43	14	10	2,4		●
2,5	43	14	10	2,5		●
2,6	43	14	10	2,6		●
2,7	46	16	12	2,7		●
2,8	46	16	12	2,8		●
2,9	46	16	12	2,9		●
3,0	46	16	12	3,0		●
3,1	49	18	13	3,1		●
3,2	49	18	13	3,2		●
3,3	49	18	13	3,3		●
3,4	52	20	15	3,4		●
3,5	52	20	15	3,5		●
3,6	52	20	15	3,6		●
3,7	52	20	15	3,7		●
3,8	55	22	16	3,8		●
3,9	55	22	16	3,9		●
4,0	55	22	16	4,0		●
4,1	55	22	16	4,1		●

d_1 (h7)	l_1	l_2	l_3	d_2		6213TN
4,2	55	22	16	4,2		●
4,3	58	24	18	4,3		●
4,4	58	24	17	4,4		●
4,5	58	24	17	4,5		●
4,6	58	24	17	4,6		●
4,7	58	24	17	4,7		●
4,8	62	26	19	4,8		●
4,9	62	26	19	4,9		●
5,0	62	26	19	5,0		●
5,1	62	26	18	5,1		●
5,2	62	26	18	5,2		●
5,3	62	26	18	5,3		●
5,4	66	28	20	5,4		●
5,5	66	28	20	5,5		●
5,6	66	28	20	5,6		●
5,7	66	28	20	5,7		●
5,8	66	28	19	5,8		●
5,9	66	28	19	5,9		●
6,0	66	28	19	6,0		●
6,1	70	31	22	6,1		●
6,2	70	31	22	6,2		●
6,3	70	31	22	6,3		●
6,4	70	31	21	6,4		●
6,5	70	31	21	6,5		●
6,6	70	31	21	6,6		●
6,7	70	31	21	6,7		●
6,8	74	34	24	6,8		●

01/02 →

ILIX PRECISION

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (h7)	l_1	l_2	l_3	d_2		6213TN
6,9	74	34	24	6,9		●
7,0	74	34	24	7,0		●
7,1	74	34	23	7,1		●
7,2	74	34	23	7,2		●
7,3	74	34	23	7,3		●
7,4	74	34	23	7,4		●
7,5	74	34	23	7,5		●
7,6	79	37	26	7,6		●
7,7	79	37	26	7,7		●
7,8	79	37	25	7,8		●
7,9	79	37	25	7,9		●
8,0	79	37	25	8,0		●
8,1	79	37	25	8,1		●
8,2	79	37	25	8,2		●
8,3	79	37	25	8,3		●
8,4	79	37	24	8,4		●
8,5	79	37	24	8,5		●
8,6	84	40	27	8,6		●
8,7	84	40	27	8,7		●
8,8	84	40	27	8,8		●
8,9	84	40	27	8,9		●
9,0	84	40	27	9,0		●
9,1	84	40	26	9,1		●
9,2	84	40	26	9,2		●
9,3	84	40	26	9,3		●
9,4	84	40	26	9,4		●
9,5	84	40	26	9,5		●
9,6	89	43	29	9,6		●
9,7	89	43	29	9,7		●
9,8	89	43	28	9,8		●
9,9	89	43	28	9,9		●
10,0	89	43	28	10,0		●
10,1	89	43	28	10,1		●
10,2	89	43	28	10,2		●
10,3	89	43	28	10,3		●
10,4	89	43	27	10,4		●
10,5	89	43	27	10,5		●
10,6	89	43	27	10,6		●
10,7	95	47	31	10,7		●
10,8	95	47	31	10,8		●
10,9	95	47	31	10,9		●
11,0	95	47	31	11,0		●
11,1	95	47	30	11,1		●
11,2	95	47	30	11,2		●
11,3	95	47	30	11,3		●
11,4	95	47	30	11,4		●
11,5	95	47	30	11,5		●
11,6	95	47	30	11,6		●
11,7	95	47	30	11,7		●
11,8	95	47	29	11,8		●

d_1 (h7)	l_1	l_2	l_3	d_2		6213TN
11,9	102	51	33	11,9		●
12,0	102	51	33	12,0		●
12,1	102	51	33	12,1		●
12,2	102	51	33	12,2		●
12,3	102	51	33	12,3		●
12,4	102	51	32	12,4		●
12,5	102	51	32	12,5		●
12,6	102	51	32	12,6		●
12,7	102	51	32	12,7		●
12,8	102	51	32	12,8		●
12,9	102	51	32	12,9		●
13,0	102	51	32	13,0		●
13,1	102	51	31	13,1		●
13,2	102	51	31	13,2		●
13,3	107	54	34	13,3		●
13,4	107	54	34	13,4		●
13,5	107	54	34	13,5		●
13,6	107	54	34	13,6		●
13,7	107	54	34	13,7		●
13,8	107	54	33	13,8		●
13,9	107	54	33	13,9		●
14,0	107	54	33	14,0		●
14,1	111	56	35	14,1		●
14,2	111	56	35	14,2		●
14,3	111	56	35	14,3		●
14,4	111	56	34	14,4		●
14,5	111	56	34	14,5		●
14,6	111	56	34	14,6		●
14,7	111	56	34	14,7		●
14,8	111	56	34	14,8		●
14,9	111	56	34	14,9		●
15,0	111	56	34	15,0		●
15,1	115	58	35	15,1		●
15,2	115	58	35	15,2		●
15,3	115	58	35	15,3		●
15,4	115	58	35	15,4		●
15,5	115	58	35	15,5		●
15,6	115	58	35	15,6		●
15,7	115	58	35	15,7		●
15,8	115	58	34	15,8		●
15,9	115	58	34	15,9		●
16,0	115	58	34	16,0		●
16,5	119	60	35	16,5		●
17,0	119	60	35	17,0		●
17,5	123	62	36	17,5		●
18,0	123	62	35	18,0		●
18,5	127	64	36	18,5		●
19,0	127	64	36	19,0		●
19,5	131	66	37	19,5		●
20,0	131	66	36	20,0		●

02/02

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 K

DIN

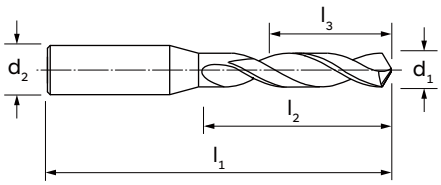
≤3xd

6535 HA

140°

SHRINK FIT

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6015TF
3,0	62	20	16	6		●
3,1	62	20	15	6		●
3,2	62	20	15	6		●
3,3	62	20	15	6		●
3,4	62	20	15	6		●
3,5	62	20	15	6		●
3,6	62	20	15	6		●
3,7	62	20	15	6		●
3,8	66	24	18	6		●
3,9	66	24	18	6		●
4,0	66	24	18	6		●
4,1	66	24	18	6		●
4,2	66	24	18	6		●
4,3	66	24	18	6		●
4,4	66	24	17	6		●
4,5	66	24	17	6		●
4,6	66	24	17	6		●
4,7	66	24	17	6		●
4,8	66	28	21	6		●
4,9	66	28	21	6		●
5,0	66	28	21	6		●
5,1	66	28	20	6		●
5,2	66	28	20	6		●
5,3	66	28	20	6		●
5,4	66	28	20	6		●
5,5	66	28	20	6		●
5,6	66	28	20	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6015TF
5,7	66	28	20	6		●
5,8	66	28	19	6		●
5,9	66	28	19	6		●
6,0	66	28	19	6		●
6,1	79	34	25	8		●
6,2	79	34	25	8		●
6,3	79	34	25	8		●
6,4	79	34	24	8		●
6,5	79	34	24	8		●
6,6	79	34	24	8		●
6,7	79	34	24	8		●
6,8	79	34	24	8		●
6,9	79	34	24	8		●
7,0	79	41	31	8		●
7,1	79	41	30	8		●
7,2	79	41	30	8		●
7,3	79	41	30	8		●
7,4	79	41	30	8		●
7,5	79	41	30	8		●
7,6	79	41	30	8		●
7,7	79	41	30	8		●
7,8	79	41	29	8		●
7,9	79	41	29	8		●
8,0	79	41	29	8		●
8,1	89	47	35	10		●
8,2	89	47	35	10		●
8,3	89	47	35	10		●

01/02 →

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6015TF
8,4	89	47	34	10		●
8,5	89	47	34	10		●
8,6	89	47	34	10		●
8,7	89	47	34	10		●
8,8	89	47	34	10		●
8,9	89	47	34	10		●
9,0	89	47	34	10		●
9,1	89	47	33	10		●
9,2	89	47	33	10		●
9,3	89	47	33	10		●
9,4	89	47	33	10		●
9,5	89	47	33	10		●
9,6	89	47	33	10		●
9,7	89	47	33	10		●
9,8	89	47	32	10		●
9,9	89	47	32	10		●
10,0	89	47	32	10		●
10,1	102	55	40	12		●
10,2	102	55	40	12		●
10,3	102	55	40	12		●
10,4	102	55	39	12		●
10,5	102	55	39	12		●
10,6	102	55	39	12		●
10,7	102	55	39	12		●
10,8	102	55	39	12		●
10,9	102	55	39	12		●
11,0	102	55	39	12		●
11,1	102	55	38	12		●
11,2	102	55	38	12		●
11,3	102	55	38	12		●
11,4	102	55	38	12		●
11,5	102	55	38	12		●
11,6	102	55	38	12		●
11,7	102	55	38	12		●
11,8	102	55	37	12		●
11,9	102	55	37	12		●
12,0	102	55	37	12		●
12,1	107	60	42	14		●
12,2	107	60	42	14		●
12,3	107	60	42	14		●
12,4	107	60	41	14		●
12,5	107	60	41	14		●
12,6	107	60	41	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6015TF
12,7	107	60	41	14		●
12,8	107	60	41	14		●
12,9	107	60	41	14		●
13,0	107	60	41	14		●
13,1	107	60	40	14		●
13,2	107	60	40	14		●
13,3	107	60	40	14		●
13,4	107	60	40	14		●
13,5	107	60	40	14		●
13,6	107	60	40	14		●
13,7	107	60	40	14		●
13,8	107	60	39	14		●
13,9	107	60	39	14		●
14,0	107	60	39	14		●
14,1	115	65	44	16		●
14,2	115	65	44	16		●
14,3	115	65	44	16		●
14,4	115	65	43	16		●
14,5	115	65	43	16		●
14,6	115	65	43	16		●
14,7	115	65	43	16		●
14,8	115	65	43	16		●
14,9	115	65	43	16		●
15,0	115	65	43	16		●
15,1	115	65	42	16		●
15,2	115	65	42	16		●
15,3	115	65	42	16		●
15,4	115	65	42	16		●
15,5	115	65	42	16		●
15,6	115	65	42	16		●
15,7	115	65	42	16		●
15,8	115	65	41	16		●
15,9	115	65	41	16		●
16,0	115	65	41	16		●
16,5	123	73	48	18		●
17,0	123	73	48	18		●
17,5	123	73	47	18		●
18,0	123	73	46	18		●
18,5	131	79	51	20		●
19,0	131	79	51	20		●
19,5	131	79	50	20		●
20,0	131	79	49	20		●

02/02

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

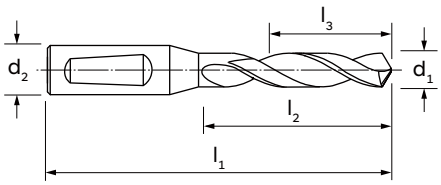
6537 K
DIN

≤3xd

6535 HE

140°

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)	6016TF
3,0	62	20	16	6	●
3,1	62	20	15	6	●
3,2	62	20	15	6	●
3,3	62	20	15	6	●
3,4	62	20	15	6	●
3,5	62	20	15	6	●
3,6	62	20	15	6	●
3,7	62	20	15	6	●
3,8	66	24	18	6	●
3,9	66	24	18	6	●
4,0	66	24	18	6	●
4,1	66	24	18	6	●
4,2	66	24	18	6	●
4,3	66	24	18	6	●
4,4	66	24	17	6	●
4,5	66	24	17	6	●
4,6	66	24	17	6	●
4,7	66	24	17	6	●
4,8	66	28	21	6	●
4,9	66	28	21	6	●
5,0	66	28	21	6	●
5,1	66	28	20	6	●
5,2	66	28	20	6	●
5,3	66	28	20	6	●
5,4	66	28	20	6	●
5,5	66	28	20	6	●
5,6	66	28	20	6	●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)	6016TF
5,7	66	28	20	6	●
5,8	66	28	19	6	●
5,9	66	28	19	6	●
6,0	66	28	19	6	●
6,1	79	34	25	8	●
6,2	79	34	25	8	●
6,3	79	34	25	8	●
6,4	79	34	24	8	●
6,5	79	34	24	8	●
6,6	79	34	24	8	●
6,7	79	34	24	8	●
6,8	79	34	24	8	●
6,9	79	34	24	8	●
7,0	79	41	31	8	●
7,1	79	41	30	8	●
7,2	79	41	30	8	●
7,3	79	41	30	8	●
7,4	79	41	30	8	●
7,5	79	41	30	8	●
7,6	79	41	30	8	●
7,7	79	41	30	8	●
7,8	79	41	29	8	●
7,9	79	41	29	8	●
8,0	79	41	29	8	●
8,1	89	47	35	10	●
8,2	89	47	35	10	●
8,3	89	47	35	10	●

01/02 →

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6016TF
8,4	89	47	34	10		●
8,5	89	47	34	10		●
8,6	89	47	34	10		●
8,7	89	47	34	10		●
8,8	89	47	34	10		●
8,9	89	47	34	10		●
9,0	89	47	34	10		●
9,1	89	47	33	10		●
9,2	89	47	33	10		●
9,3	89	47	33	10		●
9,4	89	47	33	10		●
9,5	89	47	33	10		●
9,6	89	47	33	10		●
9,7	89	47	33	10		●
9,8	89	47	32	10		●
9,9	89	47	32	10		●
10,0	89	47	32	10		●
10,1	102	55	40	12		●
10,2	102	55	40	12		●
10,3	102	55	40	12		●
10,4	102	55	39	12		●
10,5	102	55	39	12		●
10,6	102	55	39	12		●
10,7	102	55	39	12		●
10,8	102	55	39	12		●
10,9	102	55	39	12		●
11,0	102	55	39	12		●
11,1	102	55	38	12		●
11,2	102	55	38	12		●
11,3	102	55	38	12		●
11,4	102	55	38	12		●
11,5	102	55	38	12		●
11,6	102	55	38	12		●
11,7	102	55	38	12		●
11,8	102	55	37	12		●
11,9	102	55	37	12		●
12,0	102	55	37	12		●
12,1	107	60	42	14		●
12,2	107	60	42	14		●
12,3	107	60	42	14		●
12,4	107	60	41	14		●
12,5	107	60	41	14		●
12,6	107	60	41	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6016TF
12,7	107	60	41	14		●
12,8	107	60	41	14		●
12,9	107	60	41	14		●
13,0	107	60	41	14		●
13,1	107	60	40	14		●
13,2	107	60	40	14		●
13,3	107	60	40	14		●
13,4	107	60	40	14		●
13,5	107	60	40	14		●
13,6	107	60	40	14		●
13,7	107	60	40	14		●
13,8	107	60	39	14		●
13,9	107	60	39	14		●
14,0	107	60	39	14		●
14,1	115	65	44	16		●
14,2	115	65	44	16		●
14,3	115	65	44	16		●
14,4	115	65	43	16		●
14,5	115	65	43	16		●
14,6	115	65	43	16		●
14,7	115	65	43	16		●
14,8	115	65	43	16		●
14,9	115	65	43	16		●
15,0	115	65	43	16		●
15,1	115	65	42	16		●
15,2	115	65	42	16		●
15,3	115	65	42	16		●
15,4	115	65	42	16		●
15,5	115	65	42	16		●
15,6	115	65	42	16		●
15,7	115	65	42	16		●
15,8	115	65	41	16		●
15,9	115	65	41	16		●
16,0	115	65	41	16		●
16,5	123	73	48	18		●
17,0	123	73	48	18		●
17,5	123	73	47	18		●
18,0	123	73	46	18		●
18,5	131	79	51	20		●
19,0	131	79	51	20		●
19,5	131	79	50	20		●
20,0	131	79	49	20		●

02/02

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 L
DIN

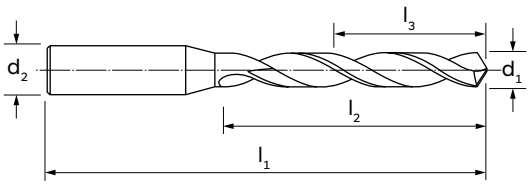
≤5xd

6535 HA

140°

SHRINK FIT

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6017TT
3,0	66	28	24	6		●
3,1	66	28	23	6		●
3,2	66	28	23	6		●
3,3	66	28	23	6		●
3,4	66	28	23	6		●
3,5	66	28	23	6		●
3,6	66	28	23	6		●
3,7	66	28	23	6		●
3,8	74	36	30	6		●
3,9	74	36	30	6		●
4,0	74	36	30	6		●
4,1	74	36	30	6		●
4,2	74	36	30	6		●
4,3	74	36	30	6		●
4,4	74	36	29	6		●
4,5	74	36	29	6		●
4,6	74	36	29	6		●
4,7	74	36	29	6		●
4,8	82	44	37	6		●
4,9	82	44	37	6		●
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6017TT
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●

01/02 →

ILIX PRECISION

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6017TT
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,1	118	71	56	12		●
10,2	118	71	56	12		●
10,3	118	71	56	12		●
10,4	118	71	55	12		●
10,5	118	71	55	12		●
10,6	118	71	55	12		●
10,7	118	71	55	12		●
10,8	118	71	55	12		●
10,9	118	71	55	12		●
11,0	118	71	55	12		●
11,1	118	71	54	12		●
11,2	118	71	54	12		●
11,3	118	71	54	12		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6017TT
11,5	118	71	54	12		●
11,6	118	71	54	12		●
11,7	118	71	54	12		●
11,8	118	71	53	12		●
11,9	118	71	53	12		●
12,0	118	71	53	12		●
12,2	124	77	59	14		●
12,5	124	77	58	14		●
12,7	124	77	58	14		●
12,8	124	77	58	14		●
13,0	124	77	58	14		●
13,1	124	77	57	14		●
13,5	124	77	57	14		●
13,8	124	77	56	14		●
14,0	124	77	56	14		●
14,5	133	83	61	16		●
14,8	133	83	61	16		●
15,0	133	83	61	16		●
15,1	133	83	60	16		●
15,5	133	83	60	16		●
15,8	133	83	59	16		●
16,0	133	83	59	16		●
16,5	143	93	68	18		●
17,0	143	93	68	18		●
17,5	143	93	67	18		●
18,0	143	93	66	18		●
18,5	153	101	73	20		●
19,0	153	101	73	20		●
19,5	153	101	72	20		●
20,0	153	101	71	20		●

02/02

RECORD 2S

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

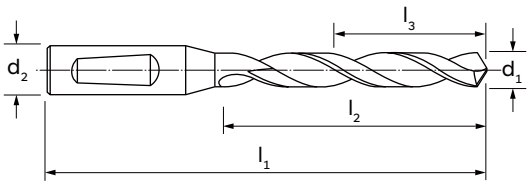
6537 L
DIN

≤5xd

6535 HE

140°

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6018TT
3,0	66	28	24	6		●
3,1	66	28	23	6		●
3,2	66	28	23	6		●
3,3	66	28	23	6		●
3,4	66	28	23	6		●
3,5	66	28	23	6		●
3,6	66	28	23	6		●
3,7	66	28	23	6		●
3,8	74	36	30	6		●
3,9	74	36	30	6		●
4,0	74	36	30	6		●
4,1	74	36	30	6		●
4,2	74	36	30	6		●
4,3	74	36	30	6		●
4,4	74	36	29	6		●
4,5	74	36	29	6		●
4,6	74	36	29	6		●
4,7	74	36	29	6		●
4,8	82	44	37	6		●
4,9	82	44	37	6		●
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6018TT
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●

01/02 →

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6018TT
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,1	118	71	56	12		●
10,2	118	71	56	12		●
10,3	118	71	56	12		●
10,4	118	71	55	12		●
10,5	118	71	55	12		●
10,6	118	71	55	12		●
10,7	118	71	55	12		●
10,8	118	71	55	12		●
10,9	118	71	55	12		●
11,0	118	71	55	12		●
11,1	118	71	54	12		●
11,2	118	71	54	12		●
11,3	118	71	54	12		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6018TT
11,5	118	71	54	12		●
11,6	118	71	54	12		●
11,7	118	71	54	12		●
11,8	118	71	53	12		●
11,9	118	71	53	12		●
12,0	118	71	53	12		●
12,2	124	77	59	14		●
12,5	124	77	58	14		●
12,7	124	77	58	14		●
12,8	124	77	58	14		●
13,0	124	77	58	14		●
13,1	124	77	57	14		●
13,5	124	77	57	14		●
13,8	124	77	56	14		●
14,0	124	77	56	14		●
14,5	133	83	61	16		●
14,8	133	83	61	16		●
15,0	133	83	61	16		●
15,1	133	83	60	16		●
15,5	133	83	60	16		●
15,8	133	83	59	16		●
16,0	133	83	59	16		●
16,5	143	93	68	18		●
17,0	143	93	68	18		●
17,5	143	93	67	18		●
18,0	143	93	66	18		●
18,5	153	101	73	20		●
19,0	153	101	73	20		●
19,5	153	101	72	20		●
20,0	153	101	71	20		●

02/02

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 K
DIN

≤3xd

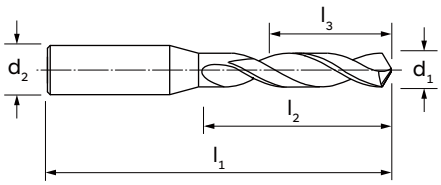
6535 HA

140°

A

SHRINK FIT

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6011TF
3,0	62	20	16	6		●
3,1	62	20	15	6		●
3,2	62	20	15	6		●
3,3	62	20	15	6		●
3,4	62	20	15	6		●
3,5	62	20	15	6		●
3,6	62	20	15	6		●
3,7	62	20	15	6		●
3,8	66	24	18	6		●
3,9	66	24	18	6		●
4,0	66	24	18	6		●
4,1	66	24	18	6		●
4,2	66	24	18	6		●
4,3	66	24	18	6		●
4,4	66	24	17	6		●
4,5	66	24	17	6		●
4,6	66	24	17	6		●
4,7	66	24	17	6		●
4,8	66	28	21	6		●
4,9	66	28	21	6		●
5,0	66	28	21	6		●
5,1	66	28	20	6		●
5,2	66	28	20	6		●
5,3	66	28	20	6		●
5,4	66	28	20	6		●
5,5	66	28	20	6		●
5,6	66	28	20	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6011TF
5,7	66	28	20	6		●
5,8	66	28	19	6		●
5,9	66	28	19	6		●
6,0	66	28	19	6		●
6,1	79	34	25	8		●
6,2	79	34	25	8		●
6,3	79	34	25	8		●
6,4	79	34	24	8		●
6,5	79	34	24	8		●
6,6	79	34	24	8		●
6,7	79	34	24	8		●
6,8	79	34	24	8		●
6,9	79	34	24	8		●
7,0	79	41	31	8		●
7,1	79	41	30	8		●
7,2	79	41	30	8		●
7,3	79	41	30	8		●
7,4	79	41	30	8		●
7,5	79	41	30	8		●
7,6	79	41	30	8		●
7,7	79	41	30	8		●
7,8	79	41	29	8		●
7,9	79	41	29	8		●
8,0	79	41	29	8		●
8,1	89	47	35	10		●
8,2	89	47	35	10		●
8,3	89	47	35	10		●

01/02 →

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6011TF
8,4	89	47	34	10		●
8,5	89	47	34	10		●
8,6	89	47	34	10		●
8,7	89	47	34	10		●
8,8	89	47	34	10		●
8,9	89	47	34	10		●
9,0	89	47	34	10		●
9,1	89	47	33	10		●
9,2	89	47	33	10		●
9,3	89	47	33	10		●
9,4	89	47	33	10		●
9,5	89	47	33	10		●
9,6	89	47	33	10		●
9,7	89	47	33	10		●
9,8	89	47	32	10		●
9,9	89	47	32	10		●
10,0	89	47	32	10		●
10,1	102	55	40	12		●
10,2	102	55	40	12		●
10,3	102	55	40	12		●
10,4	102	55	39	12		●
10,5	102	55	39	12		●
10,6	102	55	39	12		●
10,7	102	55	39	12		●
10,8	102	55	39	12		●
10,9	102	55	39	12		●
11,0	102	55	39	12		●
11,1	102	55	38	12		●
11,2	102	55	38	12		●
11,3	102	55	38	12		●
11,4	102	55	38	12		●
11,5	102	55	38	12		●
11,6	102	55	38	12		●
11,7	102	55	38	12		●
11,8	102	55	37	12		●
11,9	102	55	37	12		●
12,0	102	55	37	12		●
12,1	107	60	42	14		●
12,2	107	60	42	14		●
12,3	107	60	42	14		●
12,4	107	60	41	14		●
12,5	107	60	41	14		●
12,6	107	60	41	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6011TF
12,7	107	60	41	14		●
12,8	107	60	41	14		●
12,9	107	60	41	14		●
13,0	107	60	41	14		●
13,1	107	60	40	14		●
13,2	107	60	40	14		●
13,3	107	60	40	14		●
13,4	107	60	40	14		●
13,5	107	60	40	14		●
13,6	107	60	40	14		●
13,7	107	60	40	14		●
13,8	107	60	39	14		●
13,9	107	60	39	14		●
14,0	107	60	39	14		●
14,1	115	65	44	16		●
14,2	115	65	44	16		●
14,3	115	65	44	16		●
14,4	115	65	43	16		●
14,5	115	65	43	16		●
14,6	115	65	43	16		●
14,7	115	65	43	16		●
14,8	115	65	43	16		●
14,9	115	65	43	16		●
15,0	115	65	43	16		●
15,1	115	65	42	16		●
15,2	115	65	42	16		●
15,3	115	65	42	16		●
15,4	115	65	42	16		●
15,5	115	65	42	16		●
15,6	115	65	42	16		●
15,7	115	65	42	16		●
15,8	115	65	41	16		●
15,9	115	65	41	16		●
16,0	115	65	41	16		●
16,5	123	73	48	18		●
17,0	123	73	48	18		●
17,5	123	73	47	18		●
18,0	123	73	46	18		●
18,5	131	79	51	20		●
19,0	131	79	51	20		●
19,5	131	79	50	20		●
20,0	131	79	49	20		●

02/02

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 K
DIN

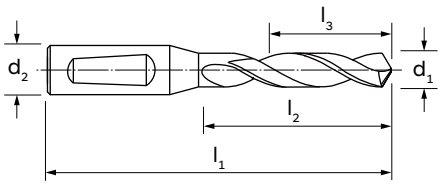
≤3xd

6535 HE

140°

A

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6012TF
3,0	62	20	16	6		●
3,1	62	20	15	6		●
3,2	62	20	15	6		●
3,3	62	20	15	6		●
3,4	62	20	15	6		●
3,5	62	20	15	6		●
3,6	62	20	15	6		●
3,7	62	20	15	6		●
3,8	66	24	18	6		●
3,9	66	24	18	6		●
4,0	66	24	18	6		●
4,1	66	24	18	6		●
4,2	66	24	18	6		●
4,3	66	24	18	6		●
4,4	66	24	17	6		●
4,5	66	24	17	6		●
4,6	66	24	17	6		●
4,7	66	24	17	6		●
4,8	66	28	21	6		●
4,9	66	28	21	6		●
5,0	66	28	21	6		●
5,1	66	28	20	6		●
5,2	66	28	20	6		●
5,3	66	28	20	6		●
5,4	66	28	20	6		●
5,5	66	28	20	6		●
5,6	66	28	20	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6012TF
5,7	66	28	20	6		●
5,8	66	28	19	6		●
5,9	66	28	19	6		●
6,0	66	28	19	6		●
6,1	79	34	25	8		●
6,2	79	34	25	8		●
6,3	79	34	25	8		●
6,4	79	34	24	8		●
6,5	79	34	24	8		●
6,6	79	34	24	8		●
6,7	79	34	24	8		●
6,8	79	34	24	8		●
6,9	79	34	24	8		●
7,0	79	41	31	8		●
7,1	79	41	30	8		●
7,2	79	41	30	8		●
7,3	79	41	30	8		●
7,4	79	41	30	8		●
7,5	79	41	30	8		●
7,6	79	41	30	8		●
7,7	79	41	30	8		●
7,8	79	41	29	8		●
7,9	79	41	29	8		●
8,0	79	41	29	8		●
8,1	89	47	35	10		●
8,2	89	47	35	10		●
8,3	89	47	35	10		●

01/02 →

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6012TF
8,4	89	47	34	10		●
8,5	89	47	34	10		●
8,6	89	47	34	10		●
8,7	89	47	34	10		●
8,8	89	47	34	10		●
8,9	89	47	34	10		●
9,0	89	47	34	10		●
9,1	89	47	33	10		●
9,2	89	47	33	10		●
9,3	89	47	33	10		●
9,4	89	47	33	10		●
9,5	89	47	33	10		●
9,6	89	47	33	10		●
9,7	89	47	33	10		●
9,8	89	47	32	10		●
9,9	89	47	32	10		●
10,0	89	47	32	10		●
10,1	102	55	40	12		●
10,2	102	55	40	12		●
10,3	102	55	40	12		●
10,4	102	55	39	12		●
10,5	102	55	39	12		●
10,6	102	55	39	12		●
10,7	102	55	39	12		●
10,8	102	55	39	12		●
10,9	102	55	39	12		●
11,0	102	55	39	12		●
11,1	102	55	38	12		●
11,2	102	55	38	12		●
11,3	102	55	38	12		●
11,4	102	55	38	12		●
11,5	102	55	38	12		●
11,6	102	55	38	12		●
11,7	102	55	38	12		●
11,8	102	55	37	12		●
11,9	102	55	37	12		●
12,0	102	55	37	12		●
12,1	107	60	42	14		●
12,2	107	60	42	14		●
12,3	107	60	42	14		●
12,4	107	60	41	14		●
12,5	107	60	41	14		●
12,6	107	60	41	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6012TF
12,7	107	60	41	14		●
12,8	107	60	41	14		●
12,9	107	60	41	14		●
13,0	107	60	41	14		●
13,1	107	60	40	14		●
13,2	107	60	40	14		●
13,3	107	60	40	14		●
13,4	107	60	40	14		●
13,5	107	60	40	14		●
13,6	107	60	40	14		●
13,7	107	60	40	14		●
13,8	107	60	39	14		●
13,9	107	60	39	14		●
14,0	107	60	39	14		●
14,1	115	65	44	16		●
14,2	115	65	44	16		●
14,3	115	65	44	16		●
14,4	115	65	43	16		●
14,5	115	65	43	16		●
14,6	115	65	43	16		●
14,7	115	65	43	16		●
14,8	115	65	43	16		●
14,9	115	65	43	16		●
15,0	115	65	43	16		●
15,1	115	65	42	16		●
15,2	115	65	42	16		●
15,3	115	65	42	16		●
15,4	115	65	42	16		●
15,5	115	65	42	16		●
15,6	115	65	42	16		●
15,7	115	65	42	16		●
15,8	115	65	41	16		●
15,9	115	65	41	16		●
16,0	115	65	41	16		●
16,5	123	73	48	18		●
17,0	123	73	48	18		●
17,5	123	73	47	18		●
18,0	123	73	46	18		●
18,5	131	79	51	20		●
19,0	131	79	51	20		●
19,5	131	79	50	20		●
20,0	131	79	49	20		●

02/02

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 L

DIN

≤5xd

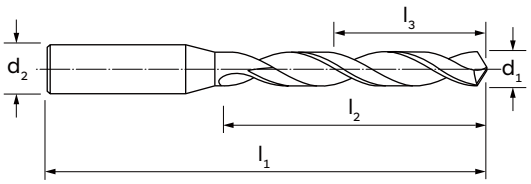
6535 HA

140°

A

SHRINK FIT

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6020TF
3,0	66	28	24	6		●
3,1	66	28	23	6		●
3,2	66	28	23	6		●
3,3	66	28	23	6		●
3,4	66	28	23	6		●
3,5	66	28	23	6		●
3,6	66	28	23	6		●
3,7	66	28	23	6		●
3,8	74	36	30	6		●
3,9	74	36	30	6		●
4,0	74	36	30	6		●
4,1	74	36	30	6		●
4,2	74	36	30	6		●
4,3	74	36	30	6		●
4,4	74	36	29	6		●
4,5	74	36	29	6		●
4,6	74	36	29	6		●
4,7	74	36	29	6		●
4,8	82	44	37	6		●
4,9	82	44	37	6		●
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6020TF
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●

01/02 →

ILIX PRECISION

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6020TF
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,1	118	71	56	12		●
10,2	118	71	56	12		●
10,3	118	71	56	12		●
10,4	118	71	55	12		●
10,5	118	71	55	12		●
10,6	118	71	55	12		●
10,7	118	71	55	12		●
10,8	118	71	55	12		●
10,9	118	71	55	12		●
11,0	118	71	55	12		●
11,1	118	71	54	12		●
11,2	118	71	54	12		●
11,3	118	71	54	12		●
11,4	118	71	54	12		●
11,5	118	71	54	12		●
11,6	118	71	54	12		●
11,7	118	71	54	12		●
11,8	118	71	53	12		●
11,9	118	71	53	12		●
12,0	118	71	53	12		●
12,1	124	77	59	14		●
12,2	124	77	59	14		●
12,3	124	77	59	14		●
12,4	124	77	58	14		●
12,5	124	77	58	14		●
12,6	124	77	58	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6020TF
12,7	124	77	58	14		●
12,8	124	77	58	14		●
12,9	124	77	58	14		●
13,0	124	77	58	14		●
13,1	124	77	57	14		●
13,2	124	77	57	14		●
13,3	124	77	57	14		●
13,4	124	77	57	14		●
13,5	124	77	57	14		●
13,6	124	77	57	14		●
13,7	124	77	57	14		●
13,8	124	77	56	14		●
13,9	124	77	56	14		●
14,0	124	77	56	14		●
14,1	133	83	62	16		●
14,2	133	83	62	16		●
14,3	133	83	62	16		●
14,4	133	83	61	16		●
14,5	133	83	61	16		●
14,6	133	83	61	16		●
14,7	133	83	61	16		●
14,8	133	83	61	16		●
14,9	133	83	61	16		●
15,0	133	83	61	16		●
15,1	133	83	60	16		●
15,2	133	83	60	16		●
15,3	133	83	60	16		●
15,4	133	83	60	16		●
15,5	133	83	60	16		●
15,6	133	83	60	16		●
15,7	133	83	60	16		●
15,8	133	83	59	16		●
15,9	133	83	59	16		●
16,0	133	83	59	16		●
16,5	143	93	68	18		●
17,0	143	93	68	18		●
17,5	143	93	67	18		●
18,0	143	93	66	18		●
18,5	153	101	73	20		●
19,0	153	101	73	20		●
19,5	153	101	72	20		●
20,0	153	101	71	20		●

02/02

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 L
DIN

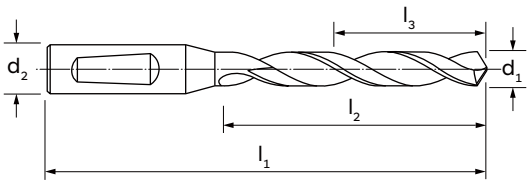
≤5xd

6535 HE

140°

A

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6021TF
3,0	66	28	24	6		●
3,1	66	28	23	6		●
3,2	66	28	23	6		●
3,3	66	28	23	6		●
3,4	66	28	23	6		●
3,5	66	28	23	6		●
3,6	66	28	23	6		●
3,7	66	28	23	6		●
3,8	74	36	30	6		●
3,9	74	36	30	6		●
4,0	74	36	30	6		●
4,1	74	36	30	6		●
4,2	74	36	30	6		●
4,3	74	36	30	6		●
4,4	74	36	29	6		●
4,5	74	36	29	6		●
4,6	74	36	29	6		●
4,7	74	36	29	6		●
4,8	82	44	37	6		●
4,9	82	44	37	6		●
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6021TF
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●

01/02 →

ILIX PRECISION

RECORD 2S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6021TF
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,1	118	71	56	12		●
10,2	118	71	56	12		●
10,3	118	71	56	12		●
10,4	118	71	55	12		●
10,5	118	71	55	12		●
10,6	118	71	55	12		●
10,7	118	71	55	12		●
10,8	118	71	55	12		●
10,9	118	71	55	12		●
11,0	118	71	55	12		●
11,1	118	71	54	12		●
11,2	118	71	54	12		●
11,3	118	71	54	12		●
11,4	118	71	54	12		●
11,5	118	71	54	12		●
11,6	118	71	54	12		●
11,7	118	71	54	12		●
11,8	118	71	53	12		●
11,9	118	71	53	12		●
12,0	118	71	53	12		●
12,1	124	77	59	14		●
12,2	124	77	59	14		●
12,3	124	77	59	14		●
12,4	124	77	58	14		●
12,5	124	77	58	14		●
12,6	124	77	58	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6021TF
12,7	124	77	58	14		●
12,8	124	77	58	14		●
12,9	124	77	58	14		●
13,0	124	77	58	14		●
13,1	124	77	57	14		●
13,2	124	77	57	14		●
13,3	124	77	57	14		●
13,4	124	77	57	14		●
13,5	124	77	57	14		●
13,6	124	77	57	14		●
13,7	124	77	57	14		●
13,8	124	77	56	14		●
13,9	124	77	56	14		●
14,0	124	77	56	14		●
14,1	133	83	62	16		●
14,2	133	83	62	16		●
14,3	133	83	62	16		●
14,4	133	83	61	16		●
14,5	133	83	61	16		●
14,6	133	83	61	16		●
14,7	133	83	61	16		●
14,8	133	83	61	16		●
14,9	133	83	61	16		●
15,0	133	83	61	16		●
15,1	133	83	60	16		●
15,2	133	83	60	16		●
15,3	133	83	60	16		●
15,4	133	83	60	16		●
15,5	133	83	60	16		●
15,6	133	83	60	16		●
15,7	133	83	60	16		●
15,8	133	83	59	16		●
15,9	133	83	59	16		●
16,0	133	83	59	16		●
16,5	143	93	68	18		●
17,0	143	93	68	18		●
17,5	143	93	67	18		●
18,0	143	93	66	18		●
18,5	153	101	73	20		●
19,0	153	101	73	20		●
19,5	153	101	72	20		●
20,0	153	101	71	20		●

02/02

Die VHM-Bohrer der RECORD HP i Serie sorgen für maximale Spanabfuhr und längere Standzeiten bei der Bearbeitung von mittel-/hochlegierten Stählen und Gusseisen.

The solid carbide drills of the RECORD HP i series ensures maximum chip removal and longer tool life in medium/high alloy steels and cast irons machining.

Record HP i

HP-GEOMETRIE.
HP geometry.

ERHÄLTLICH IN 5xD-VERSION MIT INNERER KÜHLMITTELZUFUHR.
Available in 5xD version with internal coolant.

TF-BESCHICHTUNG (TiAlN Futura Plus) MIT PVD-TECHNIK SORGT FÜR HOHE VERSCHLEISSFESTIGKEIT UND NIEDRIGEN REIBUNGSKOEFFIZIENTEN.
TF coating (TiAlN Futura Plus), with PVD technique, ensures high wear resistance and low coefficient of friction.

DIN 6535HA SCHAFT IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA shank in h6 tolerance suitable for shrink fit.

BESSERE GERADHEIT UND BOHRUNGSQUALITÄT DANK VIER RANDFASEN.
Better straightness and hole quality thanks to four margin lands.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

ILIX® PRECISION

ILIX PRECISION

RECORD HP i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 L

DIN

≤5xd

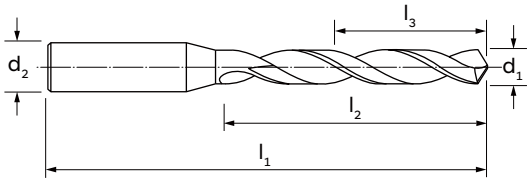
6535 HA

140°

A

SHRINK FIT

P. 124



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6022TF
3,0	66	28	24	6		●
3,1	66	28	23	6		●
3,2	66	28	23	6		●
3,3	66	28	23	6		●
3,4	66	28	23	6		●
3,5	66	28	23	6		●
3,6	66	28	23	6		●
3,7	66	28	23	6		●
3,8	74	36	30	6		●
3,9	74	36	30	6		●
4,0	74	36	30	6		●
4,1	74	36	30	6		●
4,2	74	36	30	6		●
4,3	74	36	30	6		●
4,4	74	36	29	6		●
4,5	74	36	29	6		●
4,6	74	36	29	6		●
4,7	74	36	29	6		●
4,8	82	44	37	6		●
4,9	82	44	37	6		●
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6022TF
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●

01/02 →

RECORD HP i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6022TF
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,2	118	71	56	12		●
10,5	118	71	55	12		●
10,7	118	71	55	12		●
10,8	118	71	55	12		●
11,0	118	71	55	12		●
11,2	118	71	54	12		●
11,5	118	71	54	12		●
11,8	118	71	53	12		●
12,0	118	71	53	12		●
12,2	124	77	59	14		●
12,5	124	77	58	14		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6022TF
12,75	124	77	58	14		●
12,80	124	77	58	14		●
13,00	124	77	58	14		●
13,10	124	77	57	14		●
13,50	124	77	57	14		●
13,80	124	77	56	14		●
14,00	124	77	56	14		●
14,20	133	83	62	16		●
14,50	133	83	61	16		●
14,80	133	83	61	16		●
15,00	133	83	61	16		●
15,10	133	83	60	16		●
15,20	133	83	60	16		●
15,50	133	83	60	16		●
15,80	133	83	59	16		●
15,90	133	83	59	16		●
16,00	133	83	59	16		●
16,50	143	93	68	18		●
16,70	143	93	68	18		●
16,75	143	93	68	18		●
17,00	143	93	68	18		●
17,20	143	93	67	18		●
17,50	143	93	67	18		●
18,00	143	93	66	18		●
18,50	153	101	73	20		●
19,00	153	101	73	20		●
19,50	153	101	72	20		●
20,00	153	101	71	20		●

02/02

Die Vollhartmetallbohrer der Serien RECORD VA und VA i wurden speziell für die Bearbeitung von Edelstählen und hitzebeständigen Legierungen entwickelt, können aber auch hervorragende Leistungen bei kohlenstoffarmen Stählen und Titanlegierungen garantieren.

The solid carbide drills of the RECORD VA and VA i series are specifically designed for machining stainless steels and heat-resistant alloys but they can also guarantee excellent performances on low carbon steels and Titanium alloys.

Record VA-VA i

VA-GEOMETRIE.
VA geometry.

ERHÄLTLICH IN DEN VERSIONEN 3xD, 5xD UND 8xD MIT UND OHNE INNENKÜHLUNG.
Available in 3xD, 5xD and 8xD versions with and without internal coolant.

DIE NANOKOMPOSIT-BESCHICHTUNG XB (TiAlN BLUE EVO) GEWÄHRLEISTET EINE HOHE VERSCHLEISSFESTIGKEIT UND MINIMIERT DIE HAFTUNG AUF ROSTFREIEN STÄHLEN.
The XB (TiAlN Blue Evo) nanocomposite coating ensures high wear resistance minimizing adhesion on stainless steels.

DIN 6535HA SCHAFT IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA shank in h6 tolerance suitable for shrink fit.

DAS SPEZIFISCHE DESIGN DER SPANNUT UND DIE POLIERTE OBERFLÄCHE SORGEN FÜR EINE BESSERE SPANABFUHR AUCH BEI NIEDRIGEM KÜHLMITTELDRUCK.
The specific design of the flute and the polished surface ensure better chip evacuation even in case of low coolant pressure.

VERBESSERTE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE.
Improved drilling quality thanks to reduced axial forces.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

ILIX® PRECISION

RECORD VA

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

6537 K
DIN

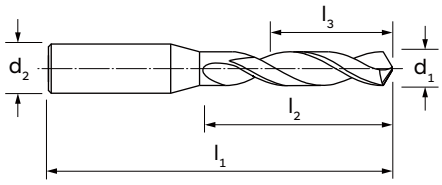
≤3xd

6535 HA

140°

SHRINK FIT

P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Blue Evo
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6051XB
3,0	62	20	16	6		●
3,3	62	20	15	6		●
3,5	62	20	15	6		●
3,8	66	24	18	6		●
4,0	66	24	18	6		●
4,2	66	24	18	6		●
4,3	66	24	18	6		●
4,5	66	24	17	6		●
5,0	66	28	21	6		●
5,1	66	28	20	6		●
5,5	66	28	20	6		●
5,8	66	28	19	6		●
6,0	66	28	19	6		●
6,2	79	34	25	8		●
6,5	79	34	24	8		●
6,6	79	34	24	8		●
6,8	79	34	24	8		●
7,0	79	34	24	8		●
7,5	79	41	30	8		●
7,8	79	41	29	8		●
8,0	79	41	29	8		●
8,5	89	47	34	10		●
8,6	89	47	34	10		●
8,8	89	47	34	10		●
9,0	89	47	34	10		●
9,5	89	47	33	10		●
9,8	89	47	32	10		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6051XB
10,0	89	47	32	10		●
10,2	102	55	40	12		●
10,5	102	55	39	12		●
11,0	102	55	39	12		●
11,2	102	55	38	12		●
11,5	102	55	38	12		●
11,8	102	55	37	12		●
12,0	102	55	37	12		●
13,0	107	60	41	14		●
13,5	107	60	40	14		●
13,8	107	60	39	14		●
14,0	107	60	39	14		●
15,0	115	65	43	16		●
16,0	115	65	41	16		●

ILIX PRECISION

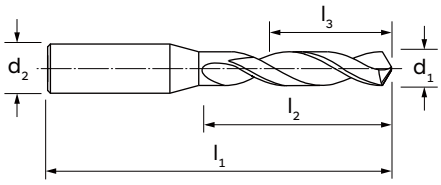
RECORD VA i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

6537 K
DIN

≤3xd



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Blue Evo
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)	6050XB
3,0	62	20	14	6	●
3,2	62	20	14	6	●
3,3	62	20	14	6	●
3,5	62	20	14	6	●
3,8	66	24	17	6	●
4,0	66	24	17	6	●
4,2	66	24	17	6	●
4,5	66	24	17	6	●
4,8	66	28	20	6	●
5,0	66	28	20	6	●
5,5	66	28	20	6	●
5,8	66	28	20	6	●
6,0	66	28	20	6	●
6,5	79	34	24	8	●
6,8	79	34	24	8	●
7,0	79	34	24	8	●
7,5	79	41	29	8	●
7,8	79	41	29	8	●
8,0	79	41	29	8	●
8,5	89	47	35	10	●
8,8	89	47	35	10	●
9,0	89	47	35	10	●
9,8	89	47	35	10	●
10,0	89	47	35	10	●
10,2	102	55	40	12	●
10,8	102	55	40	12	●
11,8	102	55	40	12	●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)	6050XB
12,0	102	55	40	12	●
14,0	107	60	43	14	●

RECORD VA i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

6537 L
DIN

≤5xd

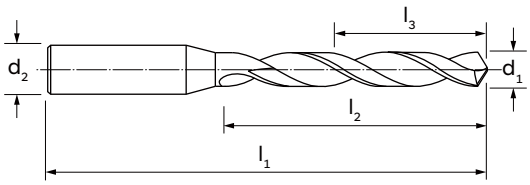
6535 HA

140°

A

SHRINK FIT

P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Blue Evo
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6052XB
3,0	66	28	24	6		●
3,1	66	28	23	6		●
3,2	66	28	23	6		●
3,3	66	28	23	6		●
3,4	66	28	23	6		●
3,5	66	28	23	6		●
3,6	66	28	23	6		●
3,7	66	28	23	6		●
3,8	74	36	30	6		●
3,9	74	36	30	6		●
4,0	74	36	30	6		●
4,1	74	36	30	6		●
4,2	74	36	30	6		●
4,3	74	36	30	6		●
4,4	74	36	29	6		●
4,5	74	36	29	6		●
4,6	74	36	29	6		●
4,7	74	36	29	6		●
4,8	82	44	37	6		●
4,9	82	44	37	6		●
5,0	82	44	37	6		●
5,1	82	44	36	6		●
5,2	82	44	36	6		●
5,3	82	44	36	6		●
5,4	82	44	36	6		●
5,5	82	44	36	6		●
5,6	82	44	36	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6052XB
5,7	82	44	36	6		●
5,8	82	44	35	6		●
5,9	82	44	35	6		●
6,0	82	44	35	6		●
6,1	91	53	44	8		●
6,2	91	53	44	8		●
6,3	91	53	44	8		●
6,4	91	53	43	8		●
6,5	91	53	43	8		●
6,6	91	53	43	8		●
6,7	91	53	43	8		●
6,8	91	53	43	8		●
6,9	91	53	43	8		●
7,0	91	53	43	8		●
7,1	91	53	42	8		●
7,2	91	53	42	8		●
7,3	91	53	42	8		●
7,4	91	53	42	8		●
7,5	91	53	42	8		●
7,6	91	53	42	8		●
7,7	91	53	42	8		●
7,8	91	53	41	8		●
7,9	91	53	41	8		●
8,0	91	53	41	8		●
8,1	103	61	49	10		●
8,2	103	61	49	10		●
8,3	103	61	49	10		●

01/02 →

ILIX PRECISION

RECORD VA i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6052XB
8,4	103	61	48	10		●
8,5	103	61	48	10		●
8,6	103	61	48	10		●
8,7	103	61	48	10		●
8,8	103	61	48	10		●
8,9	103	61	48	10		●
9,0	103	61	48	10		●
9,1	103	61	47	10		●
9,2	103	61	47	10		●
9,3	103	61	47	10		●
9,4	103	61	47	10		●
9,5	103	61	47	10		●
9,6	103	61	47	10		●
9,7	103	61	47	10		●
9,8	103	61	46	10		●
9,9	103	61	46	10		●
10,0	103	61	46	10		●
10,1	118	71	56	12		●
10,2	118	71	56	12		●
10,3	118	71	56	12		●
10,4	118	71	55	12		●
10,5	118	71	55	12		●
10,6	118	71	55	12		●
10,7	118	71	55	12		●
10,8	118	71	55	12		●
10,9	118	71	55	12		●
11,0	118	71	55	12		●
11,1	118	71	54	12		●
11,2	118	71	54	12		●
11,3	118	71	54	12		●
11,4	118	71	54	12		●
11,5	118	71	54	12		●
11,6	118	71	54	12		●
11,7	118	71	54	12		●
11,8	118	71	53	12		●
11,9	118	71	53	12		●
12,0	118	71	53	12		●
12,5	124	77	58	14		●
13,0	124	77	58	14		●
13,5	124	77	57	14		●
14,0	124	77	56	14		●
14,5	133	83	61	16		●
15,0	133	83	61	16		●
15,5	133	83	60	16		●
16,0	133	83	59	16		●

02/02

RECORD VA i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

≤8xd

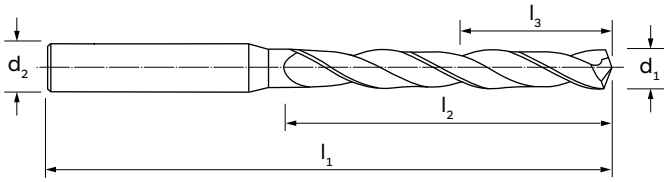
6535 HA

140°

A

SHRINK FIT

P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Blue Evo
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6053XB
3,0	72	34	30	6		●
3,1	72	34	29	6		●
3,2	72	34	29	6		●
3,3	72	34	29	6		●
3,4	72	34	29	6		●
3,5	72	34	29	6		●
3,6	72	34	29	6		●
3,7	72	34	29	6		●
3,8	81	43	37	6		●
3,9	81	43	37	6		●
4,0	81	43	37	6		●
4,1	81	43	37	6		●
4,2	81	43	37	6		●
4,3	81	43	37	6		●
4,4	81	43	36	6		●
4,5	81	43	36	6		●
4,6	81	43	36	6		●
4,7	81	43	36	6		●
4,8	95	57	50	6		●
4,9	95	57	50	6		●
5,0	95	57	50	6		●
5,1	95	57	49	6		●
5,2	95	57	49	6		●
5,3	95	57	49	6		●
5,4	95	57	49	6		●
5,5	95	57	49	6		●
5,6	95	57	49	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6053XB
5,7	95	57	49	6		●
5,8	95	57	48	6		●
5,9	95	57	48	6		●
6,0	95	57	48	6		●
6,1	114	76	67	8		●
6,2	114	76	67	8		●
6,3	114	76	67	8		●
6,4	114	76	66	8		●
6,5	114	76	66	8		●
6,6	114	76	66	8		●
6,7	114	76	66	8		●
6,8	114	76	66	8		●
6,9	114	76	66	8		●
7,0	114	76	66	8		●
7,1	114	76	65	8		●
7,2	114	76	65	8		●
7,3	114	76	65	8		●
7,4	114	76	65	8		●
7,5	114	76	65	8		●
7,6	114	76	65	8		●
7,7	114	76	65	8		●
7,8	114	76	64	8		●
7,9	114	76	64	8		●
8,0	114	76	64	8		●
8,1	142	95	83	10		●
8,2	142	95	83	10		●
8,3	142	95	83	10		●

01/02 →

RECORD VA i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6053XB
8,4	142	95	82	10		●
8,5	142	95	82	10		●
8,6	142	95	82	10		●
8,7	142	95	82	10		●
8,8	142	95	82	10		●
8,9	142	95	82	10		●
9,0	142	95	82	10		●
9,1	142	95	81	10		●
9,2	142	95	81	10		●
9,3	142	95	81	10		●
9,4	142	95	81	10		●
9,5	142	95	81	10		●
9,6	142	95	81	10		●
9,7	142	95	81	10		●
9,8	142	95	80	10		●
9,9	142	95	80	10		●
10,0	142	95	80	10		●
10,1	162	114	99	12		●
10,2	162	114	99	12		●
10,3	162	114	99	12		●
10,4	162	114	98	12		●
10,5	162	114	98	12		●
10,6	162	114	98	12		●
10,7	162	114	98	12		●
10,8	162	114	98	12		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6053XB
10,9	162	114	98	12		●
11,0	162	114	98	12		●
11,1	162	114	97	12		●
11,2	162	114	97	12		●
11,3	162	114	97	12		●
11,4	162	114	97	12		●
11,5	162	114	97	12		●
11,6	162	114	97	12		●
11,7	162	114	97	12		●
11,8	162	114	96	12		●
11,9	162	114	96	12		●
12,0	162	114	96	12		●
12,5	178	131	112	14		●
12,8	178	131	112	14		●
13,0	178	131	112	14		●
13,5	178	131	111	14		●
13,8	178	131	110	14		●
14,0	178	131	110	14		●
14,5	203	152	130	16		●
14,8	203	152	130	16		●
15,0	203	152	130	16		●
15,5	203	152	129	16		●
15,8	203	152	128	16		●
16,0	203	152	128	16		●

02/02

Die VHM-Bohrer der Serie RECORD EVOLUTION TP sind speziell für die Bearbeitung von gehärteten Stählen mit einer Härte von über 50 HRC ausgelegt.

The solid carbide drills of the RECORD EVOLUTION TP series are specifically designed for machining hardened steels with hardness more than 50 HRC.

Record EVOLUTION TP

TP-GEOMETRIE.
TP geometry.

ERHÄLTLICH IN 5xD-VERSION OHNE INNENKÜHLUNG.
Available in 5xD version without internal coolant.

DIE NEUE NX (TiSiN Plus) SPEZIFISCHE BESCHICHTUNG SORGT FÜR EINE HOHE VERSCHLEISSFESTIGKEIT.
The new NX (TiSiN Plus) specific coating ensures high wear resistance.

DIN 6535HA SCHAFT IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA shank in h6 tolerance suitable for shrink fit.

AUSGEZEICHNETE STABILITÄT BEIM BOHREN VON WÄRMEBEHANDELTEN MATERIALIEN.
Excellent stability while drilling heat-treated materials.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centring capability.

ILIX® PRECISION

RECORD EVOLUTION TP

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

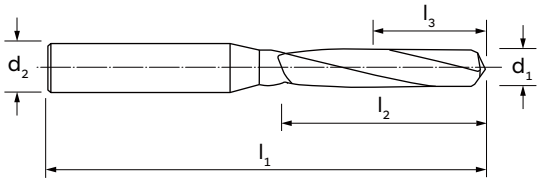
≤5xd

6535 HA

140°

›50 HRC

P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiSiN Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2		6014NX
3,0	46	16	12	3		●
3,4	50	20	15	4		●
3,5	50	20	15	4		●
4,0	52	22	16	4		●
4,3	68	28	22	6		●
4,5	68	28	21	6		●
5,0	72	32	25	6		●
5,1	72	32	24	6		●
5,5	75	35	27	6		●
6,0	75	35	26	6		●
6,5	75	35	25	6		●
6,9	85	45	35	8		●
7,0	85	45	35	8		●
7,5	85	45	34	8		●
8,0	98	50	38	8		●
8,5	98	50	37	10		●
8,6	105	57	44	10		●
9,0	105	57	44	10		●
9,5	105	57	43	10		●
10,0	111	63	48	10		●
10,4	111	63	47	12		●
10,5	111	63	47	12		●
11,0	119	71	55	12		●
12,0	127	71	53	12		●

d_1 (m7)	l_1	l_2	l_3	d_2		6014NX

Die VHM-Bohrer der RECORD DH i-Serie sind für das Bohren tiefer Löcher in Stählen, rostfreien Stählen, Gusseisen und hitzebeständigen Legierungen konzipiert.

The solid carbide drills of the RECORD DH i series have been designed for drilling deep holes on steels, stainless steels, cast irons and heat-resistant alloys.

Record DH i

DH-GEOMETRIE.
DH geometry.

INNENKÜHLUNG.
Internal coolant.

TT (TiAlN Futura Plus)-BESCHICHTUNG MIT PVD-TECHNIK SORGT FÜR HOHE VERSCHLEISSFESTIGKEIT, NIEDRIGEN REIBWERT AUCH BEI ANWENDUNGEN MIT MINIMALMENGENSCHMIERUNG (MMS).
TT (TiAlN Futura Plus) coating, with PVD technique, ensures high wear resistance, low coefficient of friction even on applications with minimum quantity lubrication (MQL).

DIN 6535HA UND DIN 6535HE SCHÄFTE IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA and DIN 6535HE shanks in tolerance h6 suitable for shrink fit.

SPEZIELLE SCHNEIDENFORM UND POLIERTE OBERFLÄCHENBEARBEITUNG SORGEN FÜR EINE BESSERE SPANABFUHR.
Specific flute shape and polished surface process ensure better chip evacuation.

DIE VIER FASEN ERMÖGLICHEN DEM BOHRER EINE BESSERE LEISTUNG BEI DER BEARBEITUNG VON QUERBOHRUNGEN.
The four margin lands allow the drill to better perform during cross-holes machining.

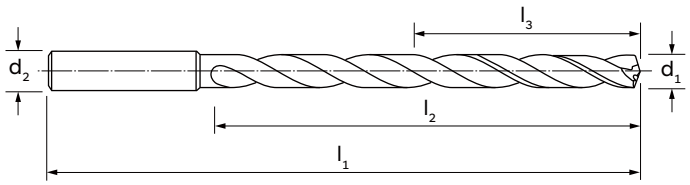
ILIX® PRECISION

ILIX PRECISION

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH | ILIX NORM DIN | ≤8xd | 6535 HA | 140° | A | SHRINK FIT | P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6025TT
3,0	70	32	28	6		●
3,1	70	32	27	6		●
3,2	70	32	27	6		●
3,3	70	32	27	6		●
3,4	70	32	27	6		●
3,5	70	32	27	6		●
3,6	70	32	27	6		●
3,7	70	32	27	6		●
3,8	80	42	36	6		●
3,9	80	42	36	6		●
4,0	80	42	36	6		●
4,1	80	42	36	6		●
4,2	80	42	36	6		●
4,3	80	42	36	6		●
4,4	80	42	35	6		●
4,5	80	42	35	6		●
4,6	80	42	35	6		●
4,7	80	42	35	6		●
4,8	92	54	47	6		●
4,9	92	54	47	6		●
5,0	92	54	47	6		●
5,1	92	54	46	6		●
5,2	92	54	46	6		●
5,3	92	54	46	6		●
5,4	92	54	46	6		●
5,5	92	54	46	6		●
5,6	92	54	46	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6025TT
5,7	92	54	46	6		●
5,8	92	54	45	6		●
5,9	92	54	45	6		●
6,0	92	54	45	6		●
6,1	100	62	53	8		●
6,2	100	62	53	8		●
6,3	100	62	53	8		●
6,4	100	62	52	8		●
6,5	100	62	52	8		●
6,6	100	62	52	8		●
6,7	100	62	52	8		●
6,8	100	62	52	8		●
6,9	100	62	52	8		●
7,0	108	70	60	8		●
7,1	108	70	59	8		●
7,2	108	70	59	8		●
7,3	108	70	59	8		●
7,4	108	70	59	8		●
7,5	108	70	59	8		●
7,6	108	70	59	8		●
7,7	108	70	59	8		●
7,8	108	70	58	8		●
7,9	108	70	58	8		●
8,0	108	70	58	8		●
8,1	122	80	68	10		●
8,2	122	80	68	10		●
8,3	122	80	68	10		●

01/02 →

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6025TT
8,4	122	80	67	10		●
8,5	122	80	67	10		●
8,6	122	80	67	10		●
8,7	122	80	67	10		●
8,8	122	80	67	10		●
8,9	122	80	67	10		●
9,0	122	80	67	10		●
9,1	130	88	74	10		●
9,2	130	88	74	10		●
9,3	130	88	74	10		●
9,4	130	88	74	10		●
9,5	130	88	74	10		●
9,6	130	88	74	10		●
9,7	130	88	74	10		●
9,8	130	88	73	10		●
9,9	130	88	73	10		●
10,0	130	88	73	10		●
10,1	152	105	90	12		●
10,2	152	105	90	12		●
10,3	152	105	90	12		●
10,4	152	105	89	12		●
10,5	152	105	89	12		●
10,6	152	105	89	12		●
10,7	152	105	89	12		●
10,8	152	105	89	12		●
10,9	152	105	89	12		●
11,0	152	105	89	12		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6025TT
11,1	152	105	88	12		●
11,2	152	105	88	12		●
11,3	152	105	88	12		●
11,4	152	105	88	12		●
11,5	152	105	88	12		●
11,6	152	105	88	12		●
11,7	152	105	88	12		●
11,8	152	105	87	12		●
11,9	152	105	87	12		●
12,0	152	105	87	12		●
12,5	170	123	104	14		●
13,0	170	123	104	14		●
13,5	170	123	103	14		●
14,0	170	123	102	14		●
14,5	192	142	120	16		●
15,0	192	142	120	16		●
15,5	192	142	119	16		●
16,0	192	142	118	16		●
16,5	223	171	146	18		●
17,0	223	171	146	18		●
17,5	223	171	145	18		●
18,0	223	171	144	18		●
18,5	244	190	162	20		●
19,0	244	190	162	20		●
19,5	244	190	161	20		●
20,0	244	190	160	20		●

02/02

ILIX PRECISION

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH

ILIX NORM
DIN

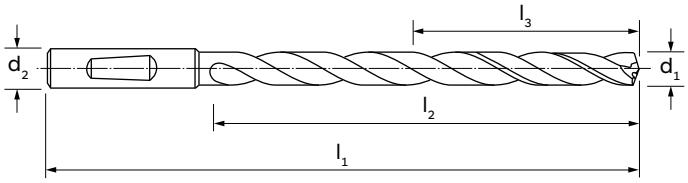
≤8xd

6535 HE

140°

A

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6026TT
3,0	70	32	28	6		●
3,1	70	32	27	6		●
3,2	70	32	27	6		●
3,3	70	32	27	6		●
3,4	70	32	27	6		●
3,5	70	32	27	6		●
3,6	70	32	27	6		●
3,7	70	32	27	6		●
3,8	80	42	36	6		●
3,9	80	42	36	6		●
4,0	80	42	36	6		●
4,1	80	42	36	6		●
4,2	80	42	36	6		●
4,3	80	42	36	6		●
4,4	80	42	35	6		●
4,5	80	42	35	6		●
4,6	80	42	35	6		●
4,7	80	42	35	6		●
4,8	92	54	47	6		●
4,9	92	54	47	6		●
5,0	92	54	47	6		●
5,1	92	54	46	6		●
5,2	92	54	46	6		●
5,3	92	54	46	6		●
5,4	92	54	46	6		●
5,5	92	54	46	6		●
5,6	92	54	46	6		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6026TT
5,7	92	54	46	6		●
5,8	92	54	45	6		●
5,9	92	54	45	6		●
6,0	92	54	45	6		●
6,1	100	62	53	8		●
6,2	100	62	53	8		●
6,3	100	62	53	8		●
6,4	100	62	52	8		●
6,5	100	62	52	8		●
6,6	100	62	52	8		●
6,7	100	62	52	8		●
6,8	100	62	52	8		●
6,9	100	62	52	8		●
7,0	108	70	60	8		●
7,1	108	70	59	8		●
7,2	108	70	59	8		●
7,3	108	70	59	8		●
7,4	108	70	59	8		●
7,5	108	70	59	8		●
7,6	108	70	59	8		●
7,7	108	70	59	8		●
7,8	108	70	58	8		●
7,9	108	70	58	8		●
8,0	108	70	58	8		●
8,1	122	80	68	10		●
8,2	122	80	68	10		●
8,3	122	80	68	10		●

01/02 →

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6026TT
8,4	122	80	67	10		●
8,5	122	80	67	10		●
8,6	122	80	67	10		●
8,7	122	80	67	10		●
8,8	122	80	67	10		●
8,9	122	80	67	10		●
9,0	122	80	67	10		●
9,1	130	88	74	10		●
9,2	130	88	74	10		●
9,3	130	88	74	10		●
9,4	130	88	74	10		●
9,5	130	88	74	10		●
9,6	130	88	74	10		●
9,7	130	88	74	10		●
9,8	130	88	73	10		●
9,9	130	88	73	10		●
10,0	130	88	73	10		●
10,1	152	105	90	12		●
10,2	152	105	90	12		●
10,3	152	105	90	12		●
10,4	152	105	89	12		●
10,5	152	105	89	12		●
10,6	152	105	89	12		●
10,7	152	105	89	12		●
10,8	152	105	89	12		●
10,9	152	105	89	12		●
11,0	152	105	89	12		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6026TT
11,1	152	105	88	12		●
11,2	152	105	88	12		●
11,3	152	105	88	12		●
11,4	152	105	88	12		●
11,5	152	105	88	12		●
11,6	152	105	88	12		●
11,7	152	105	88	12		●
11,8	152	105	87	12		●
11,9	152	105	87	12		●
12,0	152	105	87	12		●
12,5	170	123	104	14		●
13,0	170	123	104	14		●
13,5	170	123	103	14		●
14,0	170	123	102	14		●
14,5	192	142	120	16		●
15,0	192	142	120	16		●
15,5	192	142	119	16		●
16,0	192	142	118	16		●
16,5	223	171	146	18		●
17,0	223	171	146	18		●
17,5	223	171	145	18		●
18,0	223	171	144	18		●
18,5	244	190	162	20		●
19,0	244	190	162	20		●
19,5	244	190	161	20		●
20,0	244	190	160	20		●

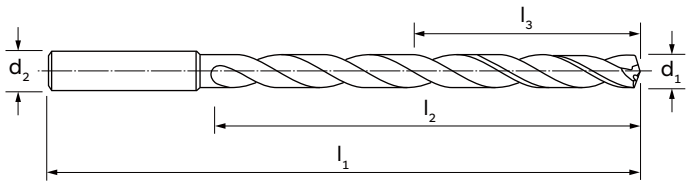
02/02

ILIX PRECISION

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH | ILIX NORM DIN | ≤12xd | 6535 HA | 140° | A | SHRINK FIT | P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6027TT
3,0	92	54	50	6	●
3,3	92	54	49	6	●
3,4	92	54	49	6	●
3,5	92	54	49	6	●
3,8	102	64	58	6	●
4,0	102	64	58	6	●
4,2	102	64	58	6	●
4,3	102	64	58	6	●
4,5	102	64	57	6	●
4,8	121	83	76	6	●
5,0	121	83	76	6	●
5,1	121	83	75	6	●
5,2	121	83	75	6	●
5,5	121	83	75	6	●
5,6	121	83	75	6	●
5,8	121	83	74	6	●
6,0	121	83	74	6	●
6,1	148	110	101	8	●
6,5	148	110	100	8	●
6,6	148	110	100	8	●
6,8	148	110	100	8	●
6,9	148	110	100	8	●
7,0	148	110	100	8	●
7,4	148	110	99	8	●
7,5	148	110	99	8	●
7,8	148	110	98	8	●
8,0	148	110	98	8	●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6027TT
8,1	180	138	126	10	●
8,3	180	138	126	10	●
8,4	180	138	125	10	●
8,5	180	138	125	10	●
8,6	180	138	125	10	●
8,7	180	138	125	10	●
8,8	180	138	125	10	●
9,0	180	138	125	10	●
9,3	180	138	124	10	●
9,5	180	138	124	10	●
9,8	180	138	123	10	●
10,0	180	138	123	10	●
10,2	206	158	143	12	●
10,3	206	158	143	12	●
10,4	206	158	142	12	●
10,5	206	158	142	12	●
10,8	206	158	142	12	●
11,0	206	158	142	12	●
11,2	206	158	141	12	●
11,5	206	158	141	12	●
11,8	206	158	140	12	●
12,0	206	158	140	12	●
12,5	230	182	163	14	●
13,0	230	182	163	14	●
13,5	230	182	162	14	●
14,0	230	182	161	14	●
14,5	260	208	186	16	●

01/02 →

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6027TT
15,0	260	208	186	16		●
15,5	260	208	185	16		●
16,0	260	208	184	16		●
16,5	285	234	209	18		●
17,0	285	234	209	18		●
17,5	285	234	208	18		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6027TT
18,0	285	234	207	18		●
18,5	310	258	230	20		●
19,0	310	258	230	20		●
19,5	310	258	229	20		●
20,0	310	258	228	20		●

02/02

ILIX PRECISION

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH

ILIX NORM
DIN

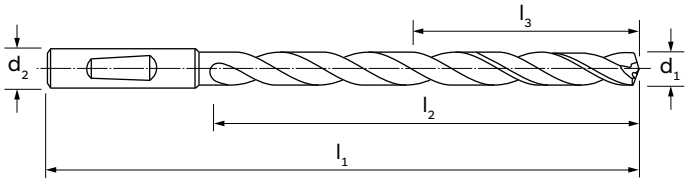
≤12xd

6535 HE

140°

A

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6028TT
3,0	92	54	50	6		●
3,3	92	54	49	6		●
3,4	92	54	49	6		●
3,5	92	54	49	6		●
3,8	102	64	58	6		●
4,0	102	64	58	6		●
4,2	102	64	58	6		●
4,3	102	64	58	6		●
4,5	102	64	57	6		●
4,8	121	83	76	6		●
5,0	121	83	76	6		●
5,1	121	83	75	6		●
5,2	121	83	75	6		●
5,5	121	83	75	6		●
5,6	121	83	75	6		●
5,8	121	83	74	6		●
6,0	121	83	74	6		●
6,1	148	110	101	8		●
6,5	148	110	100	8		●
6,6	148	110	100	8		●
6,8	148	110	100	8		●
6,9	148	110	100	8		●
7,0	148	110	100	8		●
7,4	148	110	99	8		●
7,5	148	110	99	8		●
7,8	148	110	98	8		●
8,0	148	110	98	8		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6028TT
8,1	180	138	126	10		●
8,3	180	138	126	10		●
8,4	180	138	125	10		●
8,5	180	138	125	10		●
8,6	180	138	125	10		●
8,7	180	138	125	10		●
8,8	180	138	125	10		●
9,0	180	138	125	10		●
9,3	180	138	124	10		●
9,5	180	138	124	10		●
9,8	180	138	123	10		●
10,0	180	138	123	10		●
10,2	206	158	143	12		●
10,3	206	158	143	12		●
10,4	206	158	142	12		●
10,5	206	158	142	12		●
10,8	206	158	142	12		●
11,0	206	158	142	12		●
11,2	206	158	141	12		●
11,5	206	158	141	12		●
11,8	206	158	140	12		●
12,0	206	158	140	12		●
12,5	230	182	163	14		●
13,0	230	182	163	14		●
13,5	230	182	162	14		●
14,0	230	182	161	14		●
14,5	260	208	186	16		●

01/02 →

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6028TT
15,0	260	208	186	16		●
15,5	260	208	185	16		●
16,0	260	208	184	16		●
16,5	285	234	209	18		●
17,0	285	234	209	18		●
17,5	285	234	208	18		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6028TT
18,0	285	234	207	18		●
18,5	310	258	230	20		●
19,0	310	258	230	20		●
19,5	310	258	229	20		●
20,0	310	258	228	20		●

02/02

ILIX PRECISION

RECORD DH i

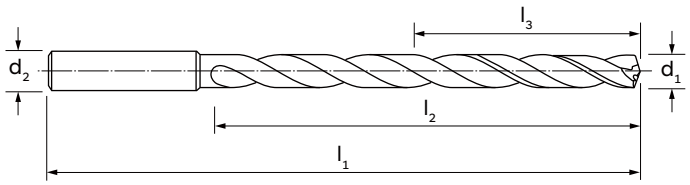
Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

ILIX NORM
DIN

≤15xd

6535 HA

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6032TT
3,0	100	60	55	6		●
3,2	100	60	55	6		●
3,5	100	60	55	6		●
3,8	115	75	69	6		●
4,0	115	75	69	6		●
4,2	115	75	69	6		●
4,5	130	90	83	6		●
4,8	130	90	83	6		●
5,0	130	90	83	6		●
5,5	150	108	99	6		●
5,8	150	108	99	6		●
6,0	150	108	99	6		●
6,5	165	125	115	8		●
6,8	165	125	115	8		●
7,0	165	125	115	8		●
7,5	180	140	128	8		●
8,0	180	140	128	8		●
8,5	205	160	147	10		●
8,8	205	160	147	10		●
9,0	205	160	147	10		●
10,0	225	180	165	10		●
10,2	240	190	174	12		●
12,0	265	215	197	12		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6032TT

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

ILIX NORM
DIN

≤20xd

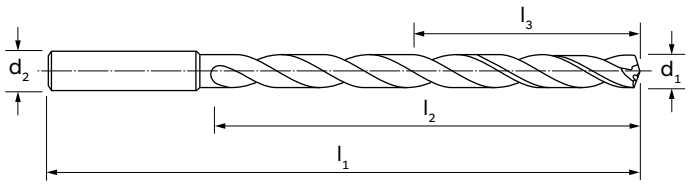
6535 HA

135°

A

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6034TT
2,0	92	50	47	4		●
2,5	112	70	66	4		●
3,0	120	80	75	6		●
3,1	120	80	75	6		●
3,2	120	80	75	6		●
3,3	120	80	75	6		●
3,4	120	80	75	6		●
3,5	120	80	75	6		●
3,7	130	90	84	6		●
3,8	130	90	84	6		●
3,9	130	90	84	6		●
4,0	130	90	84	6		●
4,2	160	110	103	6		●
4,5	160	110	103	6		●
4,7	160	110	103	6		●
4,8	160	120	113	6		●
4,9	160	120	113	6		●
5,0	160	120	113	6		●
5,1	160	120	113	6		●
5,2	160	120	113	6		●
5,4	160	120	113	6		●
5,5	185	140	131	6		●
5,9	185	140	131	6		●
6,0	185	140	131	6		●
6,2	210	160	150	8		●
6,4	210	160	150	8		■
6,5	210	160	150	8		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6034TT
6,8	210	160	150	8		●
7,0	210	160	150	8		●
7,1	230	180	168	8		●
7,4	230	180	168	8		●
7,5	230	180	168	8		●
7,8	230	180	168	8		●
8,0	230	180	168	8		●
8,5	260	195	182	10		●
9,0	290	230	216	10		●
9,5	290	230	216	10		●
10,0	290	230	216	10		●
10,2	315	268	251	12		●
10,5	315	268	251	12		●
10,9	315	268	251	12		●
11,0	315	268	251	12		●
12,0	315	268	251	12		●

■ **So lange der Vorrat reicht** | Till stocks last

ILIX PRECISION

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

≤25xd

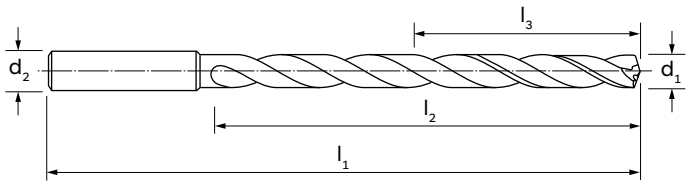
6535 HA

135°

A

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6035TT
3,0	135	98	93	6		●
3,2	135	98	93	6		●
3,3	150	110	105	6		●
3,5	150	110	105	6		●
3,8	160	120	114	6		●
4,0	160	120	114	6		●
4,2	160	120	114	6		●
4,5	180	135	128	6		●
4,8	180	135	128	6		●
5,0	180	135	128	6		●
5,5	205	168	159	6		●
5,8	205	168	159	6		●
6,0	205	168	159	6		●
6,5	240	200	190	8		●
6,8	240	200	190	8		●
7,0	240	200	190	8		●
7,5	260	220	208	8		●
7,8	260	220	208	8		●
8,0	260	220	208	8		●
8,5	285	240	227	10		●
8,8	310	268	254	10		●
9,0	310	268	254	10		●
9,8	310	268	254	10		●
10,0	310	268	254	10		●
10,2	375	325	308	12		●
10,8	375	325	308	12		●
11,8	375	325	308	12		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6035TT
12,0	375	325	308	12		●

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

ILIX NORM
DIN

≤30xd

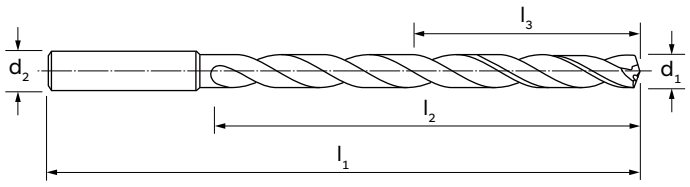
6535 HA

135°

A

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6036TT
2,0	115	70	67	4		●
2,5	138	90	86	4		●
3,0	150	105	100	6		●
3,2	150	105	100	6		●
3,3	185	135	130	6		●
3,5	185	135	130	6		●
3,6	185	135	130	6		●
3,7	185	135	130	6		●
3,8	185	135	130	6		●
4,0	185	135	130	6		●
4,2	185	135	130	6		●
4,5	215	165	158	6		●
4,8	215	165	158	6		●
5,0	215	165	158	6		●
5,1	230	180	171	6		●
5,2	230	180	171	6		●
5,5	230	180	171	6		●
5,8	230	180	171	6		●
6,0	230	180	171	6		●
6,5	280	215	205	8		●
6,8	280	230	220	8		●
7,0	280	230	220	8		●
7,5	280	230	220	8		●
8,0	315	265	253	8		●
8,5	350	295	282	10		●
9,0	380	330	316	10		●
10,0	380	330	316	10		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6036TT
10,2	430	380	365	12		●
12,0	430	380	365	12		●

ILIX PRECISION

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

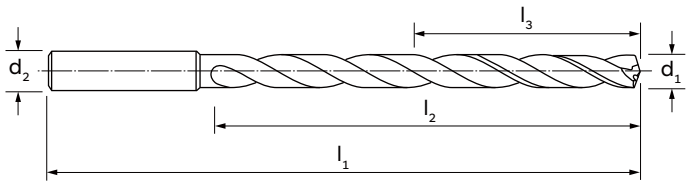
ILIX NORM
DIN

≤40xd

6535 HA

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (fg6)	l_1	l_2	l_3	d_2 (h6)		6038TT
3,0	195	150	146	6		●
4,0	220	175	169	6		●
4,2	245	200	194	6		●
4,5	245	200	194	6		●
4,8	275	230	223	6		●
5,0	275	230	223	6		●
5,5	305	260	251	6		●
5,8	305	260	251	6		●
6,0	305	260	251	6		●
6,5	345	300	290	8		●
6,8	345	300	290	8		●
7,0	345	300	290	8		●
7,5	385	340	328	8		●
8,0	385	340	328	8		●
9,0	430	380	367	10		●

d_1 (fg6)	l_1	l_2	l_3	d_2 (h6)		6038TT

RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

≤50xd

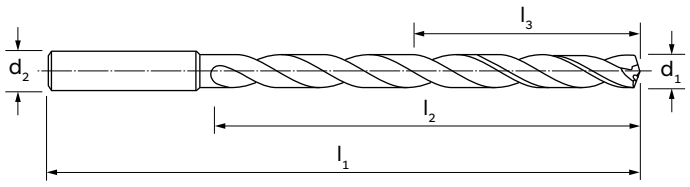
6535 HA

135°

A

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Plus
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (fg6)	l_1	l_2	l_3	d_2 (h6)		6039TT
3	220	175	170	6		●
4	265	220	214	6		●
5	320	275	268	6		●
6	355	315	306	6		●

d_1 (fg6)	l_1	l_2	l_3	d_2 (h6)		6039TT

Die VHM-Bohrer der Serie RECORD DH I ALU sind zum Bohren tiefer Löcher in Aluminium, Aluminiumlegierungen und NE-Werkstoffen konzipiert.

The solid carbide drills of the RECORD DH I ALU series are designed for drilling deep holes on Aluminium, Aluminium alloys and non-ferrous materials.

Record DH i ALU

GEOMETRIE DH I ALU.
Geometry DH I ALU.

VERFÜGBAR VON 15xD BIS 40xD MIT INNENKÜHLUNG.
Available from 15xD to 40xD with internal coolant.

DIE EXKLUSIVE SPEZIALNUTENAUSFÜHRUNG ERMÖGLICHT EINE EFFIZIENTE SPANABFUHR.
The exclusive special flute execution allows efficient chip evacuation.

DIE POLIERTE UND GELÄPPTE NUTOBERFLÄCHE SORGT DURCH EIN INNOVATIVES TECHNOLOGIESYSTEM AUCH BEI ANWENDUNGEN MIT MINIMALMENGENSCHMIERUNG (MMS) FÜR EINEN NIEDRIGEN REIBWERT UND VERHINDERT DIE BILDUNG EINER AUFBAUSCHNEIDE.
The polished and lapped flute surface, through an innovative technology system, ensures low coefficient of friction even on applications with minimum quantity lubrication (MQL) and prevents the formation of a built up edge.

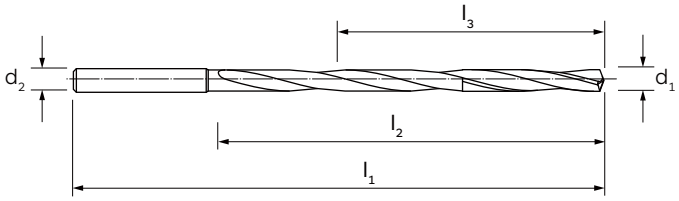
DIE VIER FASEN ERMÖGLICHEN DEM BOHRER EINE BESSERE LEISTUNG BEI DER BEARBEITUNG VON QUERBOHRUNGEN.
The four margin lands allow the drill to better perform during cross-holes machining.

ILIX® PRECISION

RECORD DH i ALU

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW ∅ | ILIX NORM DIN | ≤15xd | 6535 HA | 137° | A | SHRINK FIT | P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN / MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6041
3,0	95	51,0	45	6		●
• **3,2**	100	54,4	48	6		●
• **3,3**	100	56,1	50	6		●
• **3,5**	110	59,5	53	6		●
• **3,8**	110	64,6	57	6		●
4,0	110	68,0	60	6		●
4,2	120	71,4	63	6		●
• **4,5**	120	76,5	68	6		●
• **4,8**	125	81,6	72	6		●
5,0	125	85,0	75	6		●
5,5	135	93,5	83	6		●
• **5,8**	140	98,6	87	6		●
6,0	140	100,0	90	6		●
6,5	150	110,5	98	8		●
• **6,8**	160	115,6	102	8		●
7,0	160	119,0	105	8		●
• **7,5**	165	127,5	113	8		●
• **7,8**	170	132,6	117	8		●
8,0	180	136,0	120	8		●
8,5	190	144,5	128	10		●
• **8,8**	200	149,6	132	10		●
• **9,0**	200	153,0	135	10		●
• **9,8**	215	166,6	147	10		●
10,0	215	170,0	150	10		●
• **10,2**	230	173,4	153	12		●
• **10,8**	235	183,6	162	12		●
• **11,8**	255	200,6	177	12		●

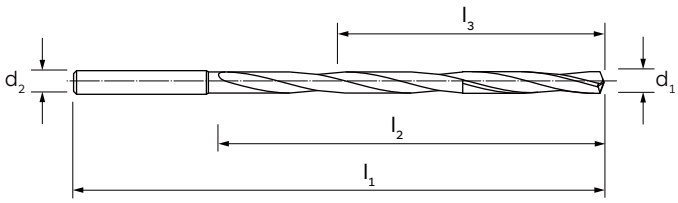
d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6041
12,0	255	204,0	180	12		●
• **14,0**	285	238,0	210	14		●

• **Neue Durchmesser** | New diameters

RECORD DH i ALU

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW ∅ | ILIX NORM DIN | ≤20xd | 6535 HA | 137° | A | SHRINK FIT | P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN / MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	–
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6042
• **2,0**	80	44,0	40	4		●
• **2,2**	85	48,4	44	4		●
• **2,3**	85	50,6	46	4		●
• **2,4**	90	52,8	48	4		●
• **2,5**	90	55,0	50	4		●
• **2,7**	95	59,4	54	4		●
• **2,8**	95	61,6	56	4		●
3,0	110	66,0	60	6		●
• **3,2**	115	70,4	64	6		●
• **3,3**	115	72,6	66	6		●
• **3,5**	120	77,0	70	6		●
• **3,8**	130	83,6	76	6		●
4,0	130	88,0	80	6		●
• **4,2**	140	92,4	84	6		●
4,5	140	99,0	90	6		●
• **4,8**	150	105,6	96	6		●
5,0	150	110,0	100	6		●
5,5	160	121,0	110	6		●
• **5,8**	170	127,6	116	6		●
6,0	170	132,0	120	6		●
6,5	185	143,0	130	8		●
• **6,8**	195	149,6	136	8		●
7,0	195	154,0	140	8		●
• **7,5**	210	165,0	150	8		●
• **7,8**	215	171,6	156	8		●
8,0	215	176,0	160	8		●
8,5	230	187,0	170	10		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6042
• **8,8**	240	193,6	176	10		●
• **9,0**	250	198,0	180	10		●
• **9,8**	265	215,6	196	10		●
10,0	265	220,0	200	10		●
• **10,2**	275	224,4	204	12		●
• **10,8**	295	237,6	216	12		●
• **11,8**	315	259,6	236	12		●
12,0	315	264,0	240	12		●

• **Neue Durchmesser** | New diameters

RECORD DH i ALU

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

≤25xd

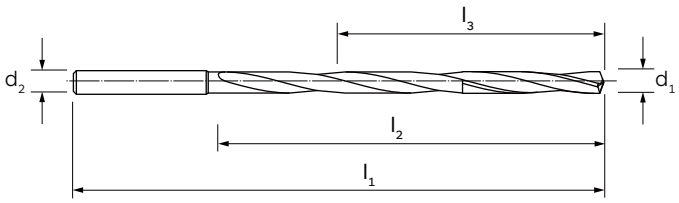
6535 HA

137°

A

SHRINK FIT

P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6043
3,0	125	81,0	75	6		●
3,3	140	89,1	83	6		●
4,0	150	108,0	100	6		●
4,2	160	113,4	105	6		●
4,5	165	121,5	113	6		●
5,0	175	135,0	125	6		●
5,5	190	148,5	138	6		●
6,0	200	162,0	150	6		●
6,5	215	175,5	163	8		●
6,8	230	183,6	170	8		●
7,0	230	189,0	175	8		●
8,0	255	216,0	200	8		●
8,5	285	229,5	213	10		●
8,8	310	237,6	220	10		●
9,0	310	243,0	225	10		●
10,0	315	270,0	250	10		●
10,2	325	275,4	255	12		●
10,8	340	291,6	270	12		●
12,0	375	324,0	300	12		●

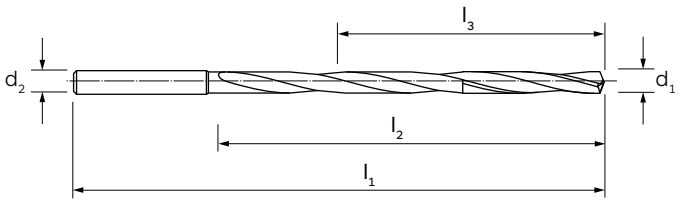
d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6043

ILIX PRECISION

RECORD DH i ALU

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW ∅ | ILIX NORM DIN | ≤30xd | 6535 HA | 137° | A | SHRINK FIT | P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6044
• **2,0**	110	64,0	60	4		●
• **2,2**	110	70,4	66	4		●
• **2,3**	110	73,6	69	4		●
• **2,4**	110	76,8	72	4		●
• **2,5**	115	80,0	75	4		●
• **2,7**	120	86,4	81	4		●
• **2,8**	125	89,6	84	4		●
3,0	140	96,0	90	6		●
• **3,2**	150	102,4	96	6		●
• **3,3**	150	105,6	99	6		●
• **3,5**	155	112,0	105	6		●
• **3,8**	170	121,6	114	6		●
4,0	170	128,0	120	6		●
• **4,2**	185	134,4	126	6		●
4,5	185	144,0	135	6		●
• **4,8**	200	153,6	144	6		●
5,0	200	160,0	150	6		●
5,5	215	176,0	165	6		●
• **5,8**	230	185,6	174	6		●
6,0	230	192,0	180	6		●
6,5	250	208,0	195	8		●
• **6,8**	265	217,6	204	8		●
7,0	265	224,0	210	8		●
• **7,5**	280	240,0	225	8		●
• **7,8**	315	249,6	234	8		●
• **8,0**	315	256,0	240	8		●
• **8,5**	315	272,0	255	10		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6044
• **8,8**	325	281,6	264	10		●
• **9,0**	335	288,0	270	10		●
• **9,8**	360	313,6	294	10		●
• **10,0**	365	320,0	300	10		●
• **10,2**	375	326,4	306	12		●
• **10,8**	395	345,6	324	12		●
• **11,8**	425	377,6	354	12		●
• **12,0**	430	384,0	360	12		●

• **Neue Durchmesser** | New diameters

RECORD DH i ALU

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

≤40xd

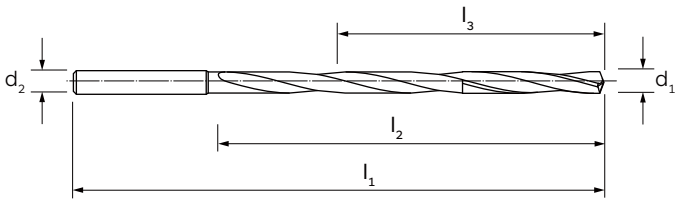
6535 HA

137°

A

SHRINK FIT

P. 126



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6045
4	210	168	160	6		●
5	250	210	210	6		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6045

Die Vollhartmetall-MICRODRILL-Serie wurde entwickelt, um tiefes Mikrobohren in Stählen, rostfreien Stählen, Gusseisen und hitzebeständigen Legierungen durchzuführen.

The solid carbide MICRO DRILL series are designed to perform deep micro-drilling on steels, stainless steels, cast irons and heat-resistant alloys.

Micro drill
MICRO DRILL i

ERHÄLTLICH VON 5xD BIS 20xD MIT UND OHNE INNENKÜHLUNG.
Available from 5xD to 20xD with and without internal coolant.

DIE TF (TiAlN Futura Top)-BESCHICHTUNG MIT PVD-TECHNIK AUF DER BOHRERSPITZE SORGT FÜR EINE HOHE VERSCHLEISSFESTIGKEIT UND EINEN NIEDRIGEN REIBUNGSKOEFFIZIENTEN.
The TF (TiAlN Futura Top) coating, with PVD technique on the drill's tip, ensures high wear resistance and low friction coefficient.

DIN 6535HA SCHAFT IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA shank in h6 tolerance suitable for shrink fit.

SPEZIELLES SCHNEIDENDESIGN UND POLIERTE OBERFLÄCHE SORGEN FÜR EINE BESSERE SPANABFUHR.
Special flute design and polished surface ensure better chip evacuation.

DIE VIER FASEN ERMÖGLICHEN EINE BESSERE GERADHEIT DES LOCHS.
The four margin lands allow a better straightness of the hole.

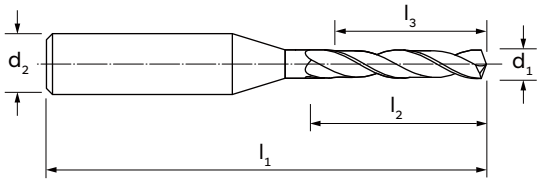
IN DEN DURCHMESSERN VON 0,8 mm BIS 1,45 mm IST EINE SPEZIELLE KÜHLMITTELBOHRUNG ENTWICKELT WORDEN. SIE VERBESSERT DIE DURCHFLUSSRATE BEI GLEICHEM DRUCK ERHEBLICH, VERGLICHEN MIT DEN HERKÖMMLICHEN BOHRERN MIT INNEREN KÜHLMITTELBOHRUNGEN.
A special coolant chamber has been studied, from diameter 0.80 mm to 1.45 mm, to improve the flow rate by considerably with the same pressure, compared to traditional drills with internal coolant lubrication.

ILIX® PRECISION

MICRO DRILL

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW | ILIX NORM DIN | ≤5xd | 6535 HA | 140° | SHRINK FIT | P. 132



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6118TF
0,10	38	1,50	0,50	3		●
0,15	38	1,80	0,75	3		●
0,20	38	2,40	1,00	3		●
0,25	38	2,70	1,25	3		●
0,30	38	3,00	1,50	3		●
0,35	38	3,30	1,75	3		●
0,40	38	3,60	2,00	3		●
0,45	38	3,80	2,25	3		●
0,50	38	4,00	2,50	3		●
0,55	38	4,60	2,75	3		●
0,60	38	4,80	3,00	3		●
0,65	38	5,00	3,25	3		●
0,70	38	6,00	3,50	3		●
0,75	38	6,20	3,75	3		●
0,80	38	6,40	4,00	3		●
0,85	38	6,70	4,25	3		●
0,90	38	7,00	4,50	3		●
0,95	38	7,25	4,75	3		●
1,00	38	7,50	5,00	3		●
1,05	38	7,75	5,25	3		●
1,10	38	8,00	5,50	3		●
1,15	38	8,25	5,75	3		●
1,20	38	8,50	6,00	3		●
1,25	38	8,75	6,25	3		●
1,30	38	9,00	6,50	3		●
1,35	38	9,50	6,75	3		●
1,40	38	10,00	7,00	3		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6118TF
1,45	38	10,50	7,25	3		●
1,50	38	11,00	7,50	3		●
1,55	38	11,25	7,75	3		●
1,60	38	11,50	8,00	3		●
1,65	38	11,75	8,25	3		●
1,70	38	12,00	8,50	3		●
1,75	38	12,25	8,75	3		●
1,80	38	12,50	9,00	3		●
1,85	38	12,75	9,25	3		●
1,90	38	13,00	9,50	3		●
1,95	38	13,50	9,75	3		●
2,00	46	14,00	10,00	4		●
2,05	46	14,50	10,25	4		●
2,10	46	15,00	10,50	4		●
2,15	46	15,50	10,75	4		●
2,20	46	16,00	11,00	4		●
2,25	46	16,50	11,25	4		●
2,30	46	17,00	11,50	4		●
2,35	46	17,50	11,75	4		●
2,40	46	18,00	12,00	4		●
2,45	46	18,50	12,25	4		●
2,50	46	19,00	12,50	4		●
2,55	50	19,50	12,75	4		●
2,60	50	20,00	13,00	4		●
2,65	50	20,50	13,25	4		●
2,70	50	21,00	13,50	4		●
2,75	50	21,50	13,75	4		●

01/02 →

MICRO DRILL

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6118TF
2,80	50	22,00	14,00	4		●
2,85	50	22,50	14,25	4		●
2,90	50	23,00	14,50	4		●

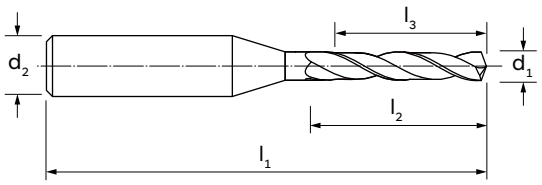
d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6118TF
2,95	50	23,50	14,75	4		●
3,00	50	24,00	15,00	4		●

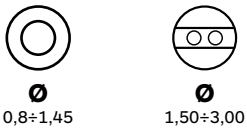
02/02

MICRO DRILL i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH | ILIX NORM DIN | ≤5xd | 6535 HA | 135° | A | SHRINK FIT | P. 132





KÜHLMITTELÖFFNUNG | COOLANT HOLE

MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6019TF
• **0,80**	50	5,5	4,00	3		●
• **0,85**	50	5,8	4,25	3		●
• **0,90**	50	6,0	4,50	3		●
• **0,95**	50	6,2	4,75	3		●
• **1,00**	50	6,5	5,0	3		●
• **1,05**	50	6,8	5,2	3		●
• **1,10**	50	7,2	5,6	3		●
• **1,15**	50	7,5	5,8	3		●
• **1,20**	50	7,8	6,0	3		●
• **1,25**	50	8,1	6,2	3		●
• **1,30**	50	8,5	6,6	3		●
• **1,35**	50	8,8	6,8	3		●
• **1,40**	50	9,1	7,0	3		●
• **1,45**	50	9,4	7,2	3		●
1,50	50	9,8	7,6	3		●
1,55	50	10,1	7,8	3		●
1,60	50	10,4	8,0	3		●
1,65	55	10,7	8,2	3		●
1,70	55	11,1	8,6	3		●
1,75	55	11,4	8,8	3		●
1,80	55	11,7	9,0	3		●
1,85	55	12,0	9,2	3		●
1,90	55	12,4	9,6	3		●
1,95	55	12,7	9,8	3		●
2,00	55	13,0	10,0	3		●
2,05	55	13,3	10,2	3		●
2,10	55	13,7	10,6	3		●

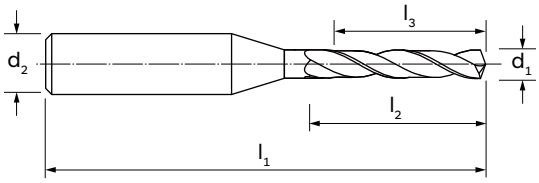
d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6019TF
2,15	55	14,0	10,8	3		●
2,20	55	14,3	11,0	3		●
2,25	55	14,6	11,2	3		●
2,30	55	15,0	11,6	3		●
2,35	55	15,3	11,8	3		●
2,40	55	15,6	12,0	3		●
2,45	55	15,9	12,2	3		●
2,50	55	16,3	12,6	3		●
2,55	55	16,6	12,8	3		●
2,60	55	16,9	13,0	3		●
2,65	55	17,2	13,2	3		●
2,70	55	17,6	13,6	3		●
2,75	55	17,9	13,8	3		●
2,80	55	18,2	14,0	3		●
2,85	55	18,5	14,2	3		●
2,90	55	18,9	14,6	3		●
2,95	55	19,2	14,8	3		●
3,00	55	19,5	15,0	3		●

• **In den Durchmessern von 0,8 mm bis 1,45 mm ist eine spezielle Kühlmittelbohrung entwickelt worden. Sie verbessert die Durchflussrate bei gleichem Druck erheblich, verglichen mit den herkömmlichen Bohrern mit inneren Kühlmittelbohrungen.** | In the diameters from 0,8 mm to 1,45 mm included it has been developed a special coolant hole. It improves considerably the flow rate with the same pressure, compared to the conventional drills with internal coolant holes.

MICRO DRILL i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH | ILIX NORM DIN | ≤8xd | 6535 HA | 135° | A | SHRINK FIT | P. 132



Ø ● 0,8÷1,45

Ø 1,50÷3,00

KÜHLMITTELÖFFNUNG | COOLANT HOLE

MATERIAL | MATERIAL — M.D.I.-HM

BESCHICHTUNG | COATING — TiAlN Futura Top

SCHNITTRICHTUNG | CUTTING DIRECTION

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6029TF
• **0,80**	50	8,0	6,4	3		●
• **0,85**	50	8,5	6,8	3		●
• **0,90**	50	9,0	7,2	3		●
• **0,95**	50	9,5	7,6	3		●
• **1,00**	50	9,5	8,0	3		●
• **1,05**	50	10,0	8,4	3		●
• **1,10**	50	10,5	8,9	3		●
• **1,15**	50	10,9	9,2	3		●
• **1,20**	50	11,4	9,6	3		●
• **1,25**	50	11,9	10,0	3		●
• **1,30**	50	12,4	10,5	3		●
• **1,35**	50	12,8	10,8	3		●
• **1,40**	50	13,3	11,2	3		●
• **1,45**	50	13,8	11,6	3		●
1,50	50	14,3	12,1	3		●
1,55	50	14,7	12,4	3		●
1,60	50	15,2	12,8	3		●
1,65	60	15,7	13,2	3		●
1,70	60	16,2	13,7	3		●
1,75	60	16,6	14,0	3		●
1,80	60	17,1	14,4	3		●
1,85	60	17,6	14,8	3		●
1,90	60	18,1	15,3	3		●
1,95	60	18,5	15,6	3		●
2,00	60	19,0	16,0	3		●
2,05	60	19,5	16,4	3		●
2,10	60	20,0	16,9	3		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6029TF
2,15	60	20,4	17,2	3		●
2,20	60	20,9	17,6	3		●
2,25	60	21,4	18,0	3		●
2,30	60	21,9	18,5	3		●
2,35	60	22,3	18,8	3		●
2,40	60	22,8	19,2	3		●
2,45	60	23,3	19,6	3		●
2,50	60	23,8	20,1	3		●
2,55	60	24,2	20,4	3		●
2,60	60	24,7	20,8	3		●
2,65	60	25,2	21,2	3		●
2,70	60	25,7	21,7	3		●
2,75	60	26,1	22,0	3		●
2,80	60	26,6	22,4	3		●
2,85	60	27,1	22,8	3		●
2,90	60	27,6	23,3	3		●
2,95	60	28,0	23,6	3		●
3,00	60	28,5	24,0	3		●

• **In den Durchmessern von 0,8 mm bis 1,45 mm ist eine spezielle Kühlmittelbohrung entwickelt worden. Sie verbessert die Durchflussrate bei gleichem Druck erheblich, verglichen mit den herkömmlichen Bohrern mit inneren Kühlmittelbohrungen.** | In the diameters from 0,8 mm to 1,45 mm included it has been developed a special coolant hole. It improves considerably the flow rate with the same pressure, compared to the conventional drills with internal coolant holes.

MICRO DRILL i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH

ILIX NORM
DIN

≤12xd

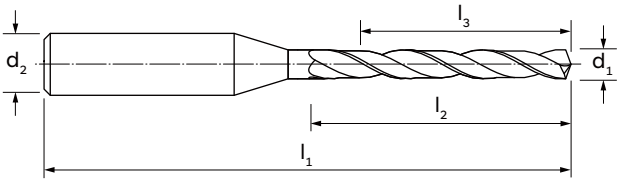
6535 HA

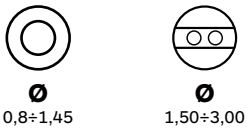
135°

A

SHRINK FIT

P. 132





Ø
● 0,8÷1,45

Ø
1,50÷3,00

KÜHLMITTELÖFFNUNG | COOLANT HOLE

MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6030TF
● **0,80**	55	11,2	9,6	3		●
● **0,85**	55	11,9	10,2	3		●
● **0,90**	55	12,6	10,8	3		●
● **0,95**	55	13,5	11,4	3		●
● **1,00**	55	13,5	12,0	3		●
● **1,05**	55	14,2	12,6	3		●
● **1,10**	55	14,9	13,3	3		●
● **1,15**	55	15,5	13,8	3		●
● **1,20**	55	16,2	14,4	3		●
● **1,25**	55	16,9	15,0	3		●
● **1,30**	55	17,6	15,7	3		●
● **1,35**	55	18,2	16,2	3		●
● **1,40**	55	18,9	16,8	3		●
● **1,45**	55	19,6	17,4	3		●
1,50	55	20,3	18,1	3		●
1,55	55	20,9	18,6	3		●
1,60	65	21,6	19,2	3		●
1,65	65	22,3	19,8	3		●
1,70	65	23,0	20,5	3		●
1,75	65	23,6	21,0	3		●
1,80	65	24,3	21,6	3		●
1,85	65	25,0	22,2	3		●
1,90	65	25,7	22,9	3		●
1,95	65	26,3	23,4	3		●
2,00	65	27,0	24,0	3		●
2,05	65	27,7	24,6	3		●
2,10	65	28,4	25,3	3		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6030TF
2,15	65	29,0	25,8	3		●
2,20	65	29,7	26,4	3		●
2,25	65	30,4	27,0	3		●
2,30	65	31,1	27,7	3		●
2,35	75	31,7	28,2	3		●
2,40	75	32,4	28,8	3		●
2,45	75	33,1	29,4	3		●
2,50	75	33,8	30,1	3		●
2,55	75	34,4	30,6	3		●
2,60	75	35,1	31,2	3		●
2,65	75	35,8	31,8	3		●
2,70	75	36,5	32,5	3		●
2,75	75	37,1	33,0	3		●
2,80	75	37,8	33,6	3		●
2,85	75	38,5	34,2	3		●
2,90	75	39,2	34,9	3		●
2,95	75	39,8	35,4	3		●
3,00	75	40,5	36,0	3		●

● **In den Durchmessern von 0,8 mm bis 1,45 mm ist eine spezielle Kühlmittelbohrung entwickelt worden. Sie verbessert die Durchflussrate bei gleichem Druck erheblich, verglichen mit den herkömmlichen Bohrern mit inneren Kühlmittelbohrungen.** | In the diameters from 0,8 mm to 1,45 mm included it has been developed a special coolant hole. It improves considerably the flow rate with the same pressure, compared to the conventional drills with internal coolant holes.

MICRO DRILL i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW

ILIX NORM
DIN

≤15xd

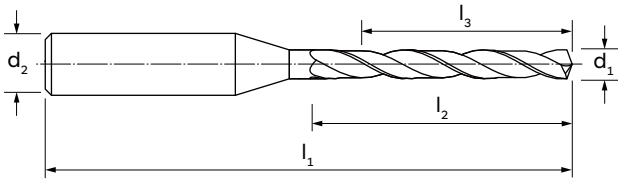
6535 HA

135°

A

SHRINK FIT

P. 132



Ø
● 0,8÷1,45

Ø
1,50÷3,00

KÜHLMITTELÖFFNUNG | COOLANT HOLE

MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6136TF
● **0,80**	60	13,60	12,00	3		●
● **0,85**	60	14,45	12,75	3		●
● **0,90**	60	15,30	13,50	3		●
● **0,95**	60	16,15	14,25	3		●
● **1,00**	60	16,50	15,00	3		●
● **1,05**	60	17,30	15,80	3		●
● **1,10**	60	18,20	16,50	3		●
● **1,15**	60	19,00	17,30	3		●
● **1,20**	60	19,80	18,00	3		●
● **1,25**	60	20,60	18,80	3		●
● **1,30**	60	21,50	19,50	3		●
● **1,35**	60	22,30	20,30	3		●
● **1,40**	60	23,10	21,00	3		●
● **1,45**	60	23,90	21,80	3		●
1,50	60	24,80	22,50	3		●
1,55	60	25,60	23,30	3		●
1,60	65	26,40	24,00	3		●
1,65	65	27,20	24,80	3		●
1,70	65	28,10	25,50	3		●
1,75	65	28,90	26,30	3		●
1,80	65	29,70	27,00	3		●
1,85	75	30,50	27,80	3		●
1,90	75	31,40	28,50	3		●
1,95	75	32,20	29,30	3		●
2,00	75	33,00	30,00	3		●
2,05	75	33,80	30,80	3		●
2,10	75	34,70	31,50	3		●

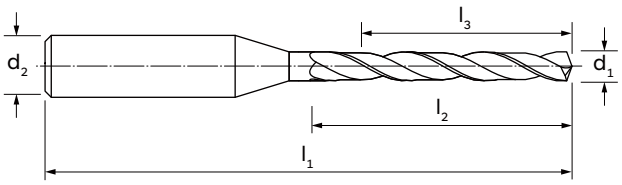
d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6136TF
2,15	75	35,50	32,30	3		●
2,20	75	36,30	33,00	3		●
2,25	75	37,10	33,80	3		●
2,30	82	38,00	34,50	3		●
2,35	82	38,80	35,30	3		●
2,40	82	39,60	36,00	3		●
2,45	82	40,40	36,80	3		●
2,50	82	41,30	37,50	3		●
2,55	82	42,10	38,30	3		●
2,60	82	42,90	39,00	3		●
2,65	82	43,70	39,80	3		●
2,70	82	44,60	40,50	3		●
2,75	82	45,40	41,30	3		●
2,80	82	46,20	42,00	3		●
2,85	82	47,00	42,80	3		●
2,90	82	47,90	43,50	3		●
2,95	82	48,70	44,30	3		●
3,00	82	49,50	45,00	3		●

● **In den Durchmessern von 0,8 mm bis 1,45 mm ist eine spezielle Kühlmittelbohrung entwickelt worden. Sie verbessert die Durchflussrate bei gleichem Druck erheblich, verglichen mit den herkömmlichen Bohrern mit inneren Kühlmittelbohrungen.** | In the diameters from 0,8 mm to 1,45 mm included it has been developed a special coolant hole. It improves considerably the flow rate with the same pressure, compared to the conventional drills with internal coolant holes.

MICRO DRILL i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer
Solid Carbide Micro Grain high performance twist drills

NEW TECH | ILIX NORM DIN | ≤20xd | 6535 HA | 135° | A | SHRINK FIT | P. 132



KÜHLMITTELÖFFNUNG | COOLANT HOLE

MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6031TF
• **0,80**	65	17,6	16	3		●
• **0,85**	65	18,7	17	3		●
• **0,90**	65	19,8	18	3		●
• **0,95**	65	20,9	19	3		●
• **1,00**	65	21,5	20	3		●
• **1,05**	65	22,6	21	3		●
• **1,10**	65	23,7	22	3		●
• **1,15**	65	24,7	23	3		●
• **1,20**	65	25,8	24	3		●
• **1,25**	65	26,9	25	3		●
• **1,30**	65	28,0	26	3		●
• **1,35**	65	29,0	27	3		●
• **1,40**	65	30,1	28	3		●
• **1,45**	75	31,2	29	3		●
1,50	75	32,3	30	3		●
1,55	75	33,3	31	3		●
1,60	75	34,4	32	3		●
1,65	75	35,5	33	3		●
1,70	75	36,6	34	3		●
1,75	75	37,6	35	3		●
1,80	75	38,7	36	3		●
1,85	75	39,8	37	3		●
1,90	75	40,9	38	3		●
1,95	75	41,9	39	3		●
2,00	82	43,0	40	3		●
2,05	82	44,1	41	3		●
2,10	82	45,2	42	3		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6031TF
2,15	82	46,2	43	3		●
2,20	82	47,3	44	3		●
2,25	82	48,4	45	3		●
2,30	100	49,5	46	3		●
2,35	100	50,5	47	3		●
2,40	100	51,6	48	3		●
2,45	100	52,7	49	3		●
2,50	100	53,8	50	3		●
2,55	100	54,8	51	3		●
2,60	100	55,9	52	3		●
2,65	100	57,0	53	3		●
2,70	100	58,1	54	3		●
2,75	100	59,1	55	3		●
2,80	100	60,2	56	3		●
2,85	100	61,3	57	3		●
2,90	100	62,4	58	3		●
2,95	100	63,4	59	3		●
3,00	100	64,5	60	3		●

• **In den Durchmessern von 0,8 mm bis 1,45 mm ist eine spezielle Kühlmittelbohrung entwickelt worden. Sie verbessert die Durchflussrate bei gleichem Druck erheblich, verglichen mit den herkömmlichen Bohrern mit inneren Kühlmittelbohrungen.** | In the diameters from 0,8 mm to 1,45 mm included it has been developed a special coolant hole. It improves considerably the flow rate with the same pressure, compared to the conventional drills with internal coolant holes.

Die VHM-Bohrer der Serie 4S i sind für die Bearbeitung von Aluminiumlegierungen, Gusseisen und NE-Werkstoffen konzipiert.

The solid carbide drills of the 4S i series are designed for machining Aluminum alloy materials, cast irons and non-ferrous materials.

Record 4S i

GEOMETRIE X GEEIGNET FÜR DRUCKGUSSBOHRUNGEN, QUERBOHRUNGEN UND SCHRÄGE FLÄCHEN.
Geometry X suitable for die-casting holes, cross-holes machining and inclined surfaces.

ERHÄLTLICH IN DEN VERSIONEN 5xD, 7xD UND 10xD MIT INNERER KÜHLMITTELZUFUHR.
Available in 5xD, 7xD and 10xD versions with internal coolant.

IN DER 5xD-VERSION IST DIE TF (TiAlN Futura Plus)-BESCHICHTUNG MIT PVD-TECHNOLOGIE VERFÜGBAR, UM EINE HOHE VERSCHLEISSFESTIGKEIT UND EINEN NIEDRIGEN REIBUNGSKOEFFIZIENTEN AUF SPHÄROGUSS UND ALUMINIUM MIT HOHEM SILIZIUMGEHALT ZU GEWÄHRLEISTEN.
In the 5xD version, the TF (TiAlN Futura Plus) coating, with PVD technology, is available to ensure high wear resistance and low coefficient of friction on nodular cast irons and aluminium with a high silicon content.

DIN 6535HA SCHÄFTE IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA shanks in h6 tolerance suitable for shrink fit.

ZWEI SCHNEIDEN MIT GERADER SPANNUT UND VIER FASEN.
Two cutting edges with straight flute and four margin lands.

DIE FASEN MIT DOPPELTEM RAND VERBESSERN DIE QUALITÄT DER LOCHOBERFLÄCHE UND ERZIELEN GENAUERE TOLERANZEN UND EINE HERVORRAGENDE GERADHEIT.
The double margins lands improves the hole surface quality achieving more precise tolerances and excellent straightness.

ILIX® PRECISION

RECORD 4S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

ILIX NORM
DIN

≤5xd

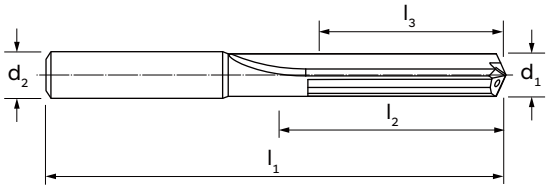
6535 HA

130°

A

SHRINK FIT

P. 130



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040F5
4,0	74	36	30	6		●
4,2	74	36	30	6		●
5,0	82	44	37	6		●
5,5	82	44	36	6		●
6,0	82	44	35	6		●
6,5	91	53	43	8		●
6,8	91	53	43	8		●
7,0	91	53	43	8		●
7,5	91	53	42	8		●
8,0	91	53	41	8		●
8,5	103	61	48	10		●
9,0	103	61	48	10		●
10,0	103	61	46	10		●
10,2	118	71	56	12		●
10,5	118	71	55	12		●
11,0	118	71	55	12		●
11,5	118	71	54	12		●
12,0	118	71	53	12		●
12,5	124	77	58	14		●
13,0	124	77	58	14		●
14,0	124	77	56	14		●
15,0	133	83	61	16		●
15,5	133	83	60	16		●
16,0	133	83	59	16		●
17,0	143	93	68	18		●
17,5	143	93	67	18		●
18,0	143	93	66	18		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040F5
19,5	153	101	72	20		●
20,0	153	101	71	20		●

RECORD 4S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

ILIX NORM

DIN

≤5xd

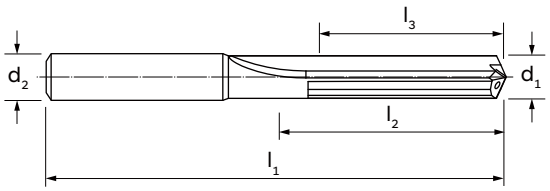
6535 HA

130°

A

SHRINK FIT

P. 130



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040/5
4,0	74	36	30	6		●
4,2	74	36	30	6		●
5,0	82	44	37	6		●
5,5	82	44	36	6		●
6,0	82	44	35	6		●
6,5	91	53	43	8		●
6,8	91	53	43	8		●
7,0	91	53	43	8		●
7,5	91	53	42	8		●
8,0	91	53	41	8		●
8,5	103	61	48	10		●
9,0	103	61	48	10		●
10,0	103	61	46	10		●
10,2	118	71	56	12		●
10,5	118	71	55	12		●
11,0	118	71	55	12		●
11,5	118	71	54	12		●
12,0	118	71	53	12		●
12,5	124	77	58	14		●
13,0	124	77	58	14		●
14,0	124	77	56	14		●
15,0	133	83	61	16		●
15,5	133	83	60	16		●
16,0	133	83	59	16		●
17,0	143	93	68	18		●
17,5	143	93	67	18		●
18,0	143	93	66	18		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040/5
19,5	153	101	72	20		●
20,0	153	101	71	20		●

RECORD 4S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

ILIX NORM
DIN

≤7xd

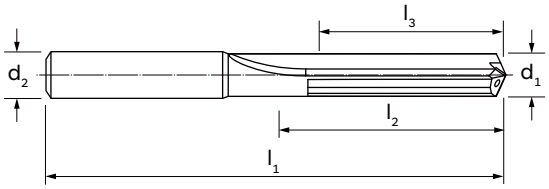
6535 HA

130°

A

SHRINK FIT

P. 130



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040/7
5,0	98	60	53	6		●
6,0	98	60	51	6		●
7,0	114	76	66	8		●
8,0	114	76	64	8		●
9,0	134	92	79	10		●
10,0	134	92	77	10		●
11,0	155	108	92	12		●
12,0	155	108	90	12		●
14,0	172	125	104	14		●
15,0	193	143	121	16		●
16,0	193	143	119	16		●
17,0	210	160	135	18		●
17,5	210	160	134	18		●
18,0	210	160	133	18		●
20,0	229	177	147	20		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040/7

ILIX PRECISION

RECORD 4S i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

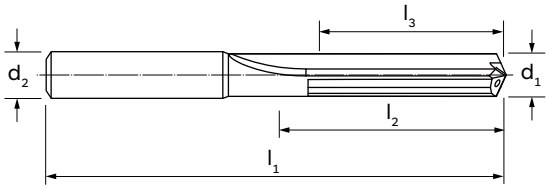
ILIX NORM

DIN

≤10xd

6535 HA

P. 130



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040/L
5,0	121	82	75	6		●
5,5	121	82	74	6		●
6,0	121	82	73	6		●
6,5	146	106	96	8		●
6,8	146	106	96	8		●
7,0	146	106	96	8		●
7,5	146	106	95	8		●
8,0	146	106	94	8		●
8,5	175	130	117	10		●
9,0	175	130	117	10		●
10,0	175	130	115	10		●
10,2	209	159	144	12		●
10,5	209	159	143	12		●
11,0	209	159	143	12		●
11,5	209	159	142	12		●
12,0	209	159	141	12		●
12,5	233	183	164	14		●
13,0	233	183	164	14		●
14,0	233	183	162	14		●
15,0	260	207	185	16		●
16,0	260	207	183	16		●
17,0	284	231	206	18		●
18,0	284	231	204	18		●
20,0	308	255	225	20		●

d_1 (m7)	l_1	l_2	l_3	d_2 (h6)		6040/L

Die VHM-Bohrer der RECORD STL und STL i Serie sorgen für maximale Spanabfuhr bei Stählen und Gusseisen.

The solid carbide drills of the RECORD STL and STL i series ensure maximum chip removal on steels and cast irons.

Record STL-STL i

STL-GEOMETRIE.
STL geometry.

ERHÄLTLICH IN DEN VERSIONEN 5XD, 7XD UND 8XD MIT UND OHNE INNENKÜHLUNG.
Available in versions 5xD, 7xD and 8xD with and without internal coolant.

TF-BESCHICHTUNG (TiAlN Futura Plus) MIT PVD-TECHNOLOGIE SORGT FÜR HOHE VERSCHLEISSFESTIGKEIT, NIEDRIGEN REIBWERT UND STABILITÄT AUCH BEI ANWENDUNGEN MIT MINIMALMENGENSCHMIERUNG (MMS).
TF coating (TiAlN Futura Plus), with PVD technology, ensures high wear resistance, low coefficient of friction and stability even in case of applications with minimum quantity lubrication (MQL).

IN DER VERSION 7/8xD IST DIE BESCHICHTUNG TP (TiN-KOPF) MIT PVD-TECHNIK ERHÄLTLICH, DIE LÄNGERE STANDZEITEN UND KÜRZERE BEARBEITUNGSZEITEN GEWÄHRLEISTET.
In version 7/8xD is available the coating TP (Tin on the tip), with PVD technique, ensures longer tool life and reduced machining time.

SCHÄFTE DIN 6535HA UND DIN 6535HE IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
DIN 6535HA and DIN 6535HE shanks in tolerance h6 suitable for shrink fit.

SPEZIELLE SPANNUT FÜR EINE EFFIZIENTE UND SCHNELLE SPANABFUHR.
Specific flute designed for an efficient and fast chip evacuation.

VERBESSERTE BOHRQUALITÄT DURCH REDUZIERTE AXIALKRÄFTE.
Improved drilling quality thanks to reduced axial forces.

HERVORRAGENDE SELBSTZENTRIERFÄHIGKEIT.
Excellent self-centering capability.

ILIX® PRECISION

ILIX PRECISION

RECORD STL

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

6537 L

DIN

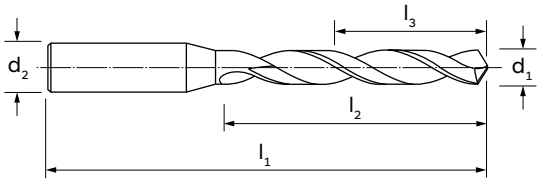
≤5xd

6535 HA

130°

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	–

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6236TF
3,0	66	28	24	6		■
3,3	66	28	23	6		■
3,5	66	28	23	6		■
4,0	74	36	30	6		■
4,2	74	36	30	6		■
5,0	82	44	37	6		■
5,5	82	44	36	6		■
6,0	82	44	35	6		■
6,5	91	53	43	8		■
6,8	91	53	43	8		■
7,0	91	53	43	8		■
7,5	91	53	42	8		■
8,0	91	53	41	8		■
9,0	103	61	48	10		■
9,5	103	61	47	10		■
10,0	103	61	46	10		■
10,2	118	71	56	12		■
10,5	118	71	55	12		■
11,5	118	71	54	12		■
12,0	118	71	53	12		■

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6236TF

■ **So lange der Vorrat reicht** | Till stocks last

RECORD STL

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

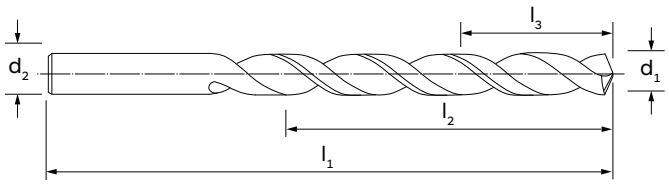
~338
DIN

≤8xd

130°

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6238TF
3,0	61	33	29	3,0		●
3,1	65	36	31	3,1		●
3,2	65	36	31	3,2		●
3,3	65	36	31	3,3		●
3,4	70	39	34	3,4		●
3,5	70	39	34	3,5		●
3,7	70	39	34	3,7		●
3,8	75	43	37	3,8		●
4,0	75	43	37	4,0		●
4,2	75	43	37	4,2		●
4,3	80	47	41	4,3		●
4,5	80	47	40	4,5		●
4,7	80	47	40	4,7		●
4,8	86	52	45	4,8		●
5,0	86	52	45	5,0		●
5,1	86	52	44	5,1		●
5,2	86	52	44	5,2		●
5,5	93	57	49	5,5		●
5,8	93	57	48	5,8		●
6,0	93	57	48	6,0		●
6,1	101	63	54	6,1		●
6,5	101	63	53	6,5		●
6,6	101	63	53	6,6		●
6,8	109	69	59	6,8		●
7,0	109	69	59	7,0		●
7,5	109	69	58	7,5		●
7,8	117	75	63	7,8		●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6238TF
8,0	117	75	63	8,0		●
8,1	117	75	63	8,1		●
8,5	117	75	62	8,5		●
9,0	125	81	68	9,0		●
9,5	125	81	67	9,5		●
10,0	133	87	72	10,0		●
10,2	133	87	72	10,2		●
10,5	133	87	71	10,5		●
11,0	142	94	78	11,0		●
11,5	142	94	77	11,5		●
12,0	151	101	83	12,0		●

RECORD STL i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

~338
DIN

≤7/8 xd

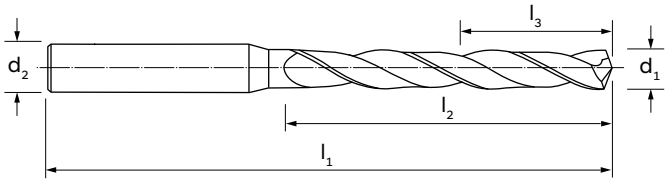
6535 HA

130°

A

SHRINK FIT

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiN Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	–

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6080TP
5,0	101	63	56	6		■
5,1	101	63	55	6		■
5,2	101	63	55	6		■
5,5	101	63	55	6		■
5,8	101	63	54	6		■
6,0	101	63	54	6		■
6,1	117	79	70	8		■
6,6	117	79	69	8		■
6,8	117	79	69	8		■
7,0	117	79	69	8		■
7,5	117	79	68	8		■
7,8	117	79	67	8		■
8,0	117	79	67	8		■
8,1	133	91	79	10		■
8,5	133	91	78	10		■
9,0	133	91	78	10		■
9,5	133	91	77	10		■
10,0	133	91	76	10		■
10,2	151	104	89	12		■
10,5	151	104	88	12		■
11,0	151	104	88	12		■
11,5	151	104	87	12		■

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6080TP

■ **So lange der Vorrat reicht** | Till stocks last

RECORD STL i

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

~338
DIN

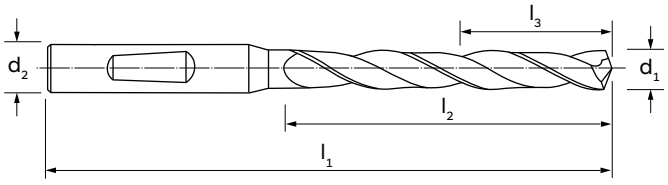
≤7/8 xd

6535 HE

130°

A

P. 128



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiN Top
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6081TP
5,0	101	63	56	6		■
5,1	101	63	55	6		■
5,2	101	63	55	6		■
5,5	101	63	55	6		■
5,8	101	63	54	6		■
6,0	101	63	54	6		■
6,1	117	79	70	8		■
6,6	117	79	69	8		■
6,8	117	79	69	8		■
7,0	117	79	69	8		■
7,5	117	79	68	8		■
7,8	117	79	67	8		■
8,0	117	79	67	8		■
8,1	133	91	79	10		■
8,5	133	91	78	10		■
9,0	133	91	78	10		■
9,5	133	91	77	10		■
10,0	133	91	76	10		■
10,2	151	104	89	12		■
10,5	151	104	88	12		■
11,0	151	104	88	12		■
11,5	151	104	87	12		■
12,0	151	104	86	12		■

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6081TP

■ **So lange der Vorrat reicht** | Till stocks last

Die VHM-Bohrer der Serie RECORD 3S-3BX sind für Anwendungen in Grauguss, Sphäroguss und Aluminium konzipiert und gewährleisten ein hohes Zerspanungsvolumen.

The solid carbide drills of the RECORD 3S-3BX series are designed for applications on grey cast iron, ductile cast iron and aluminium ensuring high chip removal volume.

Record 3S-3BX

GEOMETRIE 3S UND 3BX.
Geometry 3S and 3BX.

ERHÄLTLICH IN DEN VERSIONEN 3XD, 4XD UND 5XD OHNE INNENKÜHLUNG.
Available in 3xD, 4xD and 5xD versions without internal coolant.

TF (TiAlN Futura Plus)-BESCHICHTUNG MIT PVD-TECHNIK SORGT FÜR HOHE VERSCHLEISSFESTIGKEIT AUCH BEI HOHEN SCHNITTGESCHWINDIGKEITEN.
TF (TiAlN Futura Plus) coating, with PVD technique, ensures high wear resistance even at high cutting speed.

DREI EFFEKTIVE SCHNEIDKANTEN FÜR EINEN SCHNELLEREN VORSCHUB ALS ZWEISCHNEIDIGE BOHRER.
Three effective cutting edges for a faster feed rate than two-edges drills.

DREI GROSSE SPANNUTEN FÜR SCHNELLE SPANABFUHR.
Three large flutes for rapid chip evacuation.

DREI FÜHRUNGSFASEN BIETEN EINE BESSERE BOHRQUALITÄT UND GERADHEIT ALS ZWEISCHNEIDIGE BOHRER.
Three guide margin lands provide better drilling quality and straightness than two-fluted drills.

ILIX® PRECISION

RECORD 3S

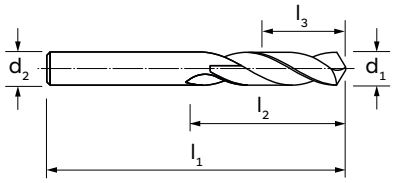
Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

~1897
DIN

≤3xd

150°

P. 130



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	-	-
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (h7)	l_1	l_2	l_3	d_2	6126K	6126TF
3,0	46	16	12	3,0	●	●
3,1	49	18	13	3,1	●	●
3,2	49	18	13	3,2	●	●
3,3	49	18	13	3,3	●	●
3,4	52	20	15	3,4	●	●
3,5	52	20	15	3,5	●	●
3,6	52	20	15	3,6	●	●
3,7	52	20	15	3,7	●	●
3,8	55	22	16	3,8	●	●
3,9	55	22	16	3,9	●	●
4,0	55	22	16	4,0	●	●
4,1	55	22	16	4,1	●	●
4,2	55	22	16	4,2	●	●
4,3	58	24	18	4,3	●	●
4,4	58	24	17	4,4	●	●
4,5	58	24	17	4,5	●	●
4,6	58	24	17	4,6	●	●
4,7	58	24	17	4,7	●	●
4,8	62	26	19	4,8	●	●
4,9	62	26	19	4,9	●	●
5,0	62	26	19	5,0	●	●
5,1	62	26	18	5,1	●	●
5,2	62	26	18	5,2	●	●
5,3	62	26	18	5,3	●	●
5,4	66	28	20	5,4	●	●
5,5	66	28	20	5,5	●	●
5,6	66	28	20	5,6	●	●

d_1 (h7)	l_1	l_2	l_3	d_2	6126K	6126TF
5,7	66	28	20	5,7	●	●
5,8	66	28	19	5,8	●	●
5,9	66	28	19	5,9	●	●
6,0	66	28	19	6,0	●	●
6,1	70	31	22	6,1	●	●
6,2	70	31	22	6,2	●	●
6,3	70	31	22	6,3	●	●
6,4	70	31	21	6,4	●	●
6,5	70	31	21	6,5	●	●
6,6	70	31	21	6,6	●	●
6,7	70	31	21	6,7	●	●
6,8	74	34	24	6,8	●	●
6,9	74	34	24	6,9	●	●
7,0	74	34	24	7,0	●	●
7,1	74	34	23	7,1	●	●
7,2	74	34	23	7,2	●	●
7,3	74	34	23	7,3	●	●
7,4	74	34	23	7,4	●	●
7,5	74	34	23	7,5	●	●
7,6	79	37	26	7,6	●	●
7,7	79	37	26	7,7	●	●
7,8	79	37	25	7,8	●	●
7,9	79	37	25	7,9	●	●
8,0	79	37	25	8,0	●	●
8,1	79	37	25	8,1	●	●
8,2	79	37	25	8,2	●	●
8,3	79	37	25	8,3	●	●

01/02 →

ILIX PRECISION

RECORD 3S

Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

d_1 (h7)	l_1	l_2	l_3	d_2	6126K	6126TF
8,4	79	37	24	8,4	●	●
8,5	79	37	24	8,5	●	●
8,6	84	40	27	8,6	●	●
8,7	84	40	27	8,7	●	●
8,8	84	40	27	8,8	●	●
8,9	84	40	27	8,9	●	●
9,0	84	40	27	9,0	●	●
9,1	84	40	26	9,1	●	●
9,2	84	40	26	9,2	●	●
9,3	84	40	26	9,3	●	●
9,4	84	40	26	9,4	●	●
9,5	84	40	26	9,5	●	●
9,6	89	43	29	9,6	●	●
9,7	89	43	29	9,7	●	●
9,8	89	43	28	9,8	●	●
9,9	89	43	28	9,9	●	●
10,0	89	43	28	10,0	●	●
10,1	89	43	28	10,1	●	●
10,2	89	43	28	10,2	●	●
10,3	89	43	28	10,3	●	●
10,4	89	43	27	10,4	●	●
10,5	89	43	27	10,5	●	●
10,6	89	43	27	10,6	●	●
10,7	95	47	31	10,7	●	●
10,8	95	47	31	10,8	●	●
10,9	95	47	31	10,9	●	●
11,0	95	47	31	11,0	●	●
11,1	95	47	30	11,1	●	●
11,2	95	47	30	11,2	●	●
11,3	95	47	30	11,3	●	●
11,4	95	47	30	11,4	●	●
11,5	95	47	30	11,5	●	●
11,6	95	47	30	11,6	●	●
11,7	95	47	30	11,7	●	●
11,8	95	47	29	11,8	●	●
11,9	102	51	33	11,9	●	●
12,0	102	51	33	12,0	●	●
12,1	102	51	33	12,1	●	●
12,2	102	51	33	12,2	●	●
12,3	102	51	33	12,3	●	●
12,4	102	51	32	12,4	●	●
12,5	102	51	32	12,5	●	●
12,6	102	51	32	12,6	●	●
12,7	102	51	32	12,7	●	●
12,8	102	51	32	12,8	●	●
12,9	102	51	32	12,9	●	●
13,0	102	51	32	13,0	●	●
13,1	102	51	31	13,1	●	●
13,2	102	51	31	13,2	●	●
13,3	107	54	34	13,3	●	●
13,4	107	54	34	13,4	●	●
13,5	107	54	34	13,5	●	●
13,6	107	54	34	13,6	●	●
13,7	107	54	34	13,7	●	●
13,8	107	54	33	13,8	●	●
13,9	107	54	33	13,9	●	●
14,0	107	54	33	14,0	●	●
14,1	111	56	35	14,1	●	●
14,2	111	56	35	14,2	●	●
14,3	111	56	35	14,3	●	●
14,4	111	56	34	14,4	●	●
14,5	111	56	34	14,5	●	●
14,6	111	56	34	14,6	●	●
14,7	111	56	34	14,7	●	●
14,8	111	56	34	14,8	●	●
14,9	111	56	34	14,9	●	●
15,0	111	56	34	15,0	●	●
15,1	115	58	35	15,1	●	●
15,2	115	58	35	15,2	●	●
15,3	115	58	35	15,3	●	●
15,4	115	58	35	15,4	●	●
15,5	115	58	35	15,5	●	●
15,6	115	58	35	15,6	●	●
15,7	115	58	35	15,7	●	●
15,8	115	58	34	15,8	●	●
15,9	115	58	34	15,9	●	●
16,0	115	58	34	16,0	●	●
16,5	119	60	35	16,5	●	●
17,0	119	60	35	17,0	●	●
17,5	123	62	36	17,5	●	●
18,0	123	62	35	18,0	●	●
18,5	127	64	36	18,5	●	●
19,0	127	64	36	19,0	●	●
19,5	131	66	37	19,5	●	●
20,0	131	66	36	20,0	●	●

02/02

RECORD 3S

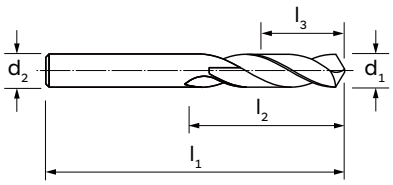
Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

ILIX NORM
DIN

≤4xd

150°

P. 130



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–

d_1 (h7)	l_1	l_2	l_3	d_2	6123K	6123TF
3,0	46	22	18	3,0	●	●
3,1	49	24	19	3,1	●	●
3,2	49	24	19	3,2	●	●
3,3	49	24	19	3,3	●	●
3,4	52	27	22	3,4	●	●
3,5	52	27	22	3,5	●	●
3,6	52	27	22	3,6	●	●
3,7	52	27	22	3,7	●	●
3,8	55	30	24	3,8	●	●
3,9	55	30	24	3,9	●	●
4,0	55	30	24	4,0	●	●
4,1	55	30	24	4,1	●	●
4,2	55	30	24	4,2	●	●
4,3	58	32	26	4,3	●	●
4,4	58	32	25	4,4	●	●
4,5	58	32	25	4,5	●	●
4,6	58	32	25	4,6	●	●
4,7	58	32	25	4,7	●	●
4,8	62	35	28	4,8	●	●
4,9	62	35	28	4,9	●	●
5,0	62	35	28	5,0	●	●
5,1	62	35	27	5,1	●	●
5,2	62	35	27	5,2	●	●
5,3	62	35	27	5,3	●	●
5,4	66	39	31	5,4	●	●
5,5	66	39	31	5,5	●	●
5,6	66	39	31	5,6	●	●

d_1 (h7)	l_1	l_2	l_3	d_2	6123K	6123TF
5,7	66	39	31	5,7	●	●
5,8	66	39	30	5,8	●	●
5,9	66	39	30	5,9	●	●
6,0	66	39	30	6,0	●	●
6,1	70	42	33	6,1	●	●
6,2	70	42	33	6,2	●	●
6,3	70	42	33	6,3	●	●
6,4	70	42	32	6,4	●	●
6,5	70	42	32	6,5	●	●
6,6	70	42	32	6,6	●	●
6,7	70	42	32	6,7	●	●
6,8	74	42	32	6,8	●	●
6,9	74	42	32	6,9	●	●
7,0	74	45	35	7,0	●	●
7,1	74	45	34	7,1	●	●
7,2	74	45	34	7,2	●	●
7,3	74	45	34	7,3	●	●
7,4	74	45	34	7,4	●	●
7,5	74	45	34	7,5	●	●
7,6	79	48	37	7,6	●	●
7,7	79	48	37	7,7	●	●
7,8	79	48	36	7,8	●	●
7,9	79	48	36	7,9	●	●
8,0	79	48	36	8,0	●	●
8,1	79	48	36	8,1	●	●
8,2	79	48	36	8,2	●	●
8,3	79	48	36	8,3	●	●

01/02 →

ILIX PRECISION

RECORD 3S

Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

Ø (h7)	l_1	l_2	l_3	d_2	6123K	6123TF
8,4	79	48	35	8,4	●	●
8,5	79	48	35	8,5	●	●
8,6	84	52	39	8,6	●	●
8,7	84	52	39	8,7	●	●
8,8	84	52	39	8,8	●	●
8,9	84	52	39	8,9	●	●
9,0	84	52	39	9,0	●	●
9,1	84	52	38	9,1	●	●
9,2	84	52	38	9,2	●	●
9,3	84	52	38	9,3	●	●
9,4	84	52	38	9,4	●	●
9,5	84	52	38	9,5	●	●
9,6	89	55	41	9,6	●	●
9,7	89	55	41	9,7	●	●
9,8	89	55	40	9,8	●	●
9,9	89	55	40	9,9	●	●
10,0	89	55	40	10,0	●	●
10,1	89	55	40	10,1	●	●
10,2	89	55	40	10,2	●	●
10,3	89	55	40	10,3	●	●
10,4	89	55	39	10,4	●	●
10,5	89	55	39	10,5	●	●
10,6	89	55	39	10,6	●	●
10,7	95	60	44	10,7	●	●
10,8	95	60	44	10,8	●	●
10,9	95	60	44	10,9	●	●
11,0	95	60	44	11,0	●	●
11,1	95	60	43	11,1	●	●
11,2	95	60	43	11,2	●	●
11,3	95	60	43	11,3	●	●
11,4	95	60	43	11,4	●	●
11,5	95	60	43	11,5	●	●
11,6	95	60	43	11,6	●	●
11,7	95	60	43	11,7	●	●
11,8	95	60	42	11,8	●	●
11,9	102	65	47	11,9	●	●
12,0	102	65	47	12,0	●	●
12,1	102	65	47	12,1	●	●
12,2	102	65	47	12,2	●	●
12,3	102	65	47	12,3	●	●
12,4	102	65	46	12,4	●	●
12,5	102	65	46	12,5	●	●
12,6	102	65	46	12,6	●	●
12,7	102	65	46	12,7	●	●
12,8	102	65	46	12,8	●	●
12,9	102	65	46	12,9	●	●
13,0	102	65	46	13,0	●	●
13,1	102	65	45	13,1	●	●
13,2	102	65	45	13,2	●	●
13,3	107	66	46	13,3	●	●
13,4	107	66	46	13,4	●	●
13,5	107	66	46	13,5	●	●
13,6	107	66	46	13,6	●	●
13,7	107	66	46	13,7	●	●
13,8	107	66	45	13,8	●	●
13,9	107	66	45	13,9	●	●
14,0	107	66	45	14,0	●	●
14,1	111	70	49	14,1	●	●
14,2	111	70	49	14,2	●	●
14,3	111	70	49	14,3	●	●
14,4	111	70	48	14,4	●	●
14,5	111	70	48	14,5	●	●
14,6	111	70	48	14,6	●	●
14,7	111	70	48	14,7	●	●
14,8	111	70	48	14,8	●	●
14,9	111	70	48	14,9	●	●
15,0	111	70	48	15,0	●	●
15,1	115	73	50	15,1	●	●
15,2	115	73	50	15,2	●	●
15,3	115	73	50	15,3	●	●
15,4	115	73	50	15,4	●	●
15,5	115	73	50	15,5	●	●
15,6	115	73	50	15,6	●	●
15,7	115	73	50	15,7	●	●
15,8	115	73	49	15,8	●	●
15,9	115	73	49	15,9	●	●
16,0	115	73	49	16,0	●	●
16,5	119	73	48	16,5	●	●
17,0	119	73	48	17,0	●	●
17,5	123	76	50	17,5	●	●
18,0	123	76	49	18,0	●	●
18,5	127	76	48	18,5	●	●
19,0	127	76	48	19,0	●	●
19,5	131	79	50	19,5	●	●
20,0	131	79	49	20,0	●	●

02/02

RECORD 3S

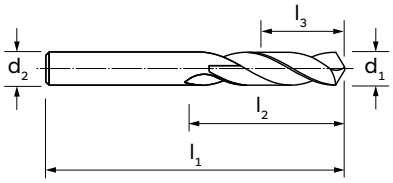
Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

ILIX NORM
DIN

≤4xd

150°

P. 130



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2		6127K
3,0	46	22	18	3,0		●
3,1	49	24	19	3,1		●
3,2	49	24	19	3,2		●
3,3	49	24	19	3,3		●
3,4	52	27	22	3,4		●
3,5	52	27	22	3,5		●
3,6	52	27	22	3,6		●
3,7	52	27	22	3,7		●
3,8	55	30	24	3,8		●
3,9	55	30	24	3,9		●
4,0	55	30	24	4,0		●
4,1	55	30	24	4,1		●
4,2	55	30	24	4,2		●
4,3	58	32	26	4,3		●
4,4	58	32	25	4,4		●
4,5	58	32	25	4,5		●
4,6	58	32	25	4,6		●
4,7	58	32	25	4,7		●
4,8	62	35	28	4,8		●
4,9	62	35	28	4,9		●
5,0	62	35	28	5,0		●
5,1	62	35	27	5,1		●
5,2	62	35	27	5,2		●
5,3	62	35	27	5,3		●
5,4	66	39	31	5,4		●
5,5	66	39	31	5,5		●
5,6	66	39	31	5,6		●

d_1 (h7)	l_1	l_2	l_3	d_2		6127K
5,7	66	39	31	5,7		●
5,8	66	39	30	5,8		●
5,9	66	39	30	5,9		●
6,0	66	39	30	6,0		●
6,1	70	42	33	6,1		●
6,2	70	42	33	6,2		●
6,3	70	42	33	6,3		●
6,4	70	42	32	6,4		●
6,5	70	42	32	6,5		●
6,6	70	42	32	6,6		●
6,7	70	42	32	6,7		●
6,8	74	42	32	6,8		●
6,9	74	42	32	6,9		●
7,0	74	45	35	7,0		●
7,1	74	45	34	7,1		●
7,2	74	45	34	7,2		●
7,3	74	45	34	7,3		●
7,4	74	45	34	7,4		●
7,5	74	45	34	7,5		●
7,6	79	48	37	7,6		●
7,7	79	48	37	7,7		●
7,8	79	48	36	7,8		●
7,9	79	48	36	7,9		●
8,0	79	48	36	8,0		●
8,1	79	48	36	8,1		●
8,2	79	48	36	8,2		●
8,3	79	48	36	8,3		●

01/02 →

ILIX PRECISION

RECORD 3S

Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

d_1 (h7)	l_1	l_2	l_3	d_2		6127K
8,4	79	48	35	8,4		●
8,5	79	48	35	8,5		●
8,6	84	52	39	8,6		●
8,7	84	52	39	8,7		●
8,8	84	52	39	8,8		●
8,9	84	52	39	8,9		●
9,0	84	52	39	9,0		●
9,1	84	52	38	9,1		●
9,2	84	52	38	9,2		●
9,3	84	52	38	9,3		●
9,4	84	52	38	9,4		●
9,5	84	52	38	9,5		●
9,6	89	55	41	9,6		●
9,7	89	55	41	9,7		●
9,8	89	55	40	9,8		●
9,9	89	55	40	9,9		●
10,0	89	55	40	10,0		●
10,1	89	55	40	10,1		●
10,2	89	55	40	10,2		●
10,3	89	55	40	10,3		●
10,4	89	55	39	10,4		●
10,5	89	55	39	10,5		●
10,6	89	55	39	10,6		●
10,7	95	60	44	10,7		●
10,8	95	60	44	10,8		●
10,9	95	60	44	10,9		●
11,0	95	60	44	11,0		●
11,1	95	60	43	11,1		●
11,2	95	60	43	11,2		●
11,3	95	60	43	11,3		●
11,4	95	60	43	11,4		●
11,5	95	60	43	11,5		●
11,6	95	60	43	11,6		●
11,7	95	60	43	11,7		●
11,8	95	60	42	11,8		●
11,9	102	65	47	11,9		●
12,0	102	65	47	12,0		●
12,1	102	65	47	12,1		●
12,2	102	65	47	12,2		●
12,3	102	65	47	12,3		●
12,4	102	65	46	12,4		●
12,5	102	65	46	12,5		●
12,6	102	65	46	12,6		●

d_1 (h7)	l_1	l_2	l_3	d_2		6127K
12,7	102	65	46	12,7		●
12,8	102	65	46	12,8		●
12,9	102	65	46	12,9		●
13,0	102	65	46	13,0		●
13,1	102	65	45	13,1		●
13,2	102	65	45	13,2		●
13,3	107	66	46	13,3		●
13,4	107	66	46	13,4		●
13,5	107	66	46	13,5		●
13,6	107	66	46	13,6		●
13,7	107	66	46	13,7		●
13,8	107	66	45	13,8		●
13,9	107	66	45	13,9		●
14,0	107	66	45	14,0		●
14,1	111	70	49	14,1		●
14,2	111	70	49	14,2		●
14,3	111	70	49	14,3		●
14,4	111	70	48	14,4		●
14,5	111	70	48	14,5		●
14,6	111	70	48	14,6		●
14,7	111	70	48	14,7		●
14,8	111	70	48	14,8		●
14,9	111	70	48	14,9		●
15,0	111	70	48	15,0		●
15,1	115	73	50	15,1		●
15,2	115	73	50	15,2		●
15,3	115	73	50	15,3		●
15,4	115	73	50	15,4		●
15,5	115	73	50	15,5		●
15,6	115	73	50	15,6		●
15,7	115	73	50	15,7		●
15,8	115	73	49	15,8		●
15,9	115	73	49	15,9		●
16,0	115	73	49	16,0		●
16,5	119	73	48	16,5		●
17,0	119	73	48	17,0		●
17,5	123	76	50	17,5		●
18,0	123	76	49	18,0		●
18,5	127	76	48	18,5		●
19,0	127	76	48	19,0		●
19,5	131	79	50	19,5		●
20,0	131	79	49	20,0		●

02/02

RECORD 3S

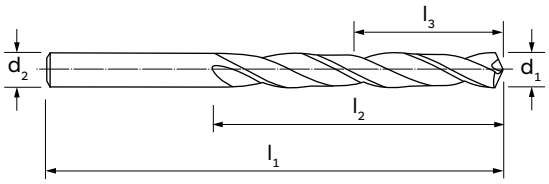
Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

ILIX NORM
DIN

≤5xd

150°

P. 130



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2		6001K
3,0	61	22	18	3,0		●
3,1	65	24	19	3,1		●
3,2	65	24	19	3,2		●
3,3	65	24	19	3,3		●
3,5	70	27	22	3,5		●
3,6	70	27	22	3,6		●
3,7	70	27	22	3,7		●
3,8	75	30	24	3,8		●
3,9	75	30	24	3,9		●
4,0	75	30	24	4,0		●
4,1	75	30	24	4,1		●
4,2	75	30	24	4,2		●
4,3	80	32	26	4,3		●
4,5	80	32	25	4,5		●
4,6	80	32	25	4,6		●
4,7	80	32	25	4,7		●
5,0	86	35	28	5,0		●
5,1	86	35	27	5,1		●
5,2	86	35	27	5,2		●
5,4	93	39	31	5,4		■
5,5	93	39	31	5,5		●
5,7	93	39	31	5,7		●
5,8	93	39	30	5,8		●
5,9	93	39	30	5,9		■
6,0	93	39	30	6,0		●
6,2	101	42	33	6,2		●
6,5	101	42	32	6,5		●

d_1 (h7)	l_1	l_2	l_3	d_2		6001K
6,6	101	43	33	6,6		●
6,8	109	45	35	6,8		●
7,0	109	45	35	7,0		●
7,2	109	47	36	7,2		●
7,4	109	48	37	7,4		●
7,5	109	49	38	7,5		●
7,8	117	51	39	7,8		●
7,9	117	51	39	7,9		■
8,0	117	52	40	8,0		●
8,5	117	55	42	8,5		●
8,7	125	57	44	8,7		●
8,8	125	57	44	8,8		●
9,0	125	59	46	9,0		●
9,2	125	60	46	9,2		●
9,3	125	60	46	9,3		●
9,4	125	61	47	9,4		●
9,5	125	62	48	9,5		●
9,8	133	64	49	9,8		●
9,9	133	64	49	9,9		■
10,0	133	65	50	10,0		●
10,2	133	66	51	10,2		●
10,5	133	68	52	10,5		●
10,7	142	70	54	10,7		●
10,8	142	70	54	10,8		●
11,0	142	71	55	11,0		●
11,2	142	73	56	11,2		●
11,5	142	75	58	11,5		●

01/02 →

■ **So lange der Vorrat reicht** | Till stocks last

RECORD 3S

Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

d_1 (h7)	l_1	l_2	l_3	d_2		6001K
11,8	142	77	59	11,8		●
11,9	151	77	59	11,9		■
12,0	151	78	60	12,0		●
12,2	151	79	61	12,2		●
12,5	151	81	62	12,5		●
12,8	151	83	64	12,8		●
13,0	151	84	65	13,0		●
13,5	160	88	68	13,5		●
14,0	160	91	70	14,0		●
14,5	169	94	72	14,5		●
15,0	169	98	76	15,0		●
15,5	178	101	78	15,5		●
16,0	178	104	80	16,0		●
16,5	184	108	83	16,5		●
17,0	184	111	86	17,0		●
17,5	191	114	88	17,5		●
18,0	191	117	90	18,0		●
18,5	198	120	92	18,5		●
19,0	198	124	96	19,0		●
19,5	205	125	96	19,5		●
20,0	205	130	100	20,0		●

02/02

RECORD 3BX

Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

6537 L
DIN

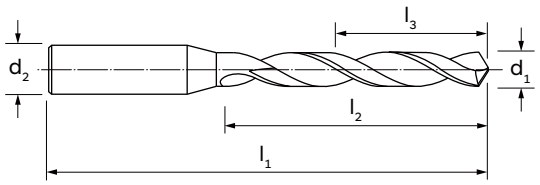
≤5xd

6535 HA

130°

SHRINK FIT

P. 130



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN / MATERIAL GROUPS

P | **Stahl** | Steels	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6003K	6003TF
3,00	66	28	24	6	●	●
3,15	66	28	23	6	●	●
3,30	66	28	23	6	●	●
3,50	66	28	23	6	●	●
3,70	66	28	23	6	●	●
3,80	74	36	30	6	●	●
4,00	74	36	30	6	●	●
4,20	74	36	30	6	●	●
4,30	74	36	30	6	●	●
4,45	74	36	29	6	●	●
4,50	74	36	29	6	●	●
4,65	74	36	29	6	●	●
5,00	82	44	37	6	●	●
5,50	82	44	36	6	●	●
5,55	82	44	36	6	●	●
5,75	82	44	35	6	●	●
5,90	82	44	35	6	●	●
6,00	82	44	35	6	●	●
6,50	91	53	43	8	●	●
6,55	91	53	43	8	●	●
6,80	91	53	43	8	●	●
7,00	91	53	43	8	●	●
7,25	91	53	42	8	●	●
7,40	91	53	42	8	●	●
7,50	91	53	42	8	●	●
7,55	91	53	42	8	●	●
8,00	91	53	41	8	●	●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6003K	6003TF
8,50	103	61	48	10	●	●
8,75	103	61	48	10	●	●
9,00	103	61	48	10	●	●
9,30	103	61	47	10	●	●
9,40	103	61	47	10	●	●
9,50	103	61	47	10	●	●
10,00	103	61	46	10	●	●
10,20	118	71	56	12	●	●
10,50	118	71	55	12	●	●
11,00	118	71	55	12	●	●
11,20	118	71	54	12	●	●
11,30	118	71	54	12	●	●
11,50	118	71	54	12	●	●
11,70	118	71	54	12	●	●
12,00	118	71	53	12	●	●
12,50	124	77	58	14	●	●
13,00	124	77	58	14	●	●
13,10	124	77	57	14	●	●
13,30	124	77	57	14	●	●
13,50	124	77	57	14	●	●
14,00	124	77	56	14	●	●
14,50	133	83	61	16	●	●
15,00	133	83	61	16	●	●
15,10	133	83	60	16	●	●
15,30	133	83	60	16	●	●
15,50	133	83	60	16	●	●
16,00	133	83	59	16	●	●

ILIX PRECISION

RECORD 3BX

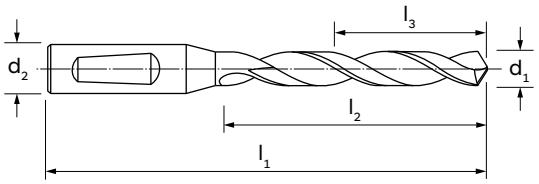
Vollhartmetall-Hochleistungs-Spiralbohrer mit 3 Schneiden.
Solid Carbide high performance twist drills with 3 flutes

6537 L
DIN

≤5xd

6535 HE

P. 130



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–

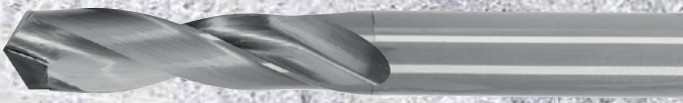
d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6002K	6002TF
3,00	66	28	24	6	●	●
3,15	66	28	23	6	●	●
3,30	66	28	23	6	●	●
3,50	66	28	23	6	●	●
3,70	66	28	23	6	●	●
3,80	74	36	30	6	●	●
4,00	74	36	30	6	●	●
4,20	74	36	30	6	●	●
4,30	74	36	30	6	●	●
4,45	74	36	29	6	●	●
4,50	74	36	29	6	●	●
4,65	74	36	29	6	●	●
5,00	82	44	37	6	●	●
5,50	82	44	36	6	●	●
5,55	82	44	36	6	●	●
5,75	82	44	35	6	●	●
5,90	82	44	35	6	●	●
6,00	82	44	35	6	●	●
6,50	91	53	43	8	●	●
6,55	91	53	43	8	●	●
6,80	91	53	43	8	●	●
7,00	91	53	43	8	●	●
7,25	91	53	42	8	●	●
7,40	91	53	42	8	●	●
7,50	91	53	42	8	●	●
7,55	91	53	42	8	●	●
8,00	91	53	41	8	●	●

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6002K	6002TF
8,50	103	61	48	10	●	●
8,75	103	61	48	10	●	●
9,00	103	61	48	10	●	●
9,30	103	61	47	10	●	●
9,40	103	61	47	10	●	●
9,50	103	61	47	10	●	●
10,00	103	61	46	10	●	●
10,20	118	71	56	12	●	●
10,50	118	71	55	12	●	●
11,00	118	71	55	12	●	●
11,20	118	71	54	12	●	●
11,30	118	71	54	12	●	●
11,50	118	71	54	12	●	●
11,70	118	71	54	12	●	●
12,00	118	71	53	12	●	●
12,50	124	77	58	14	●	●
13,00	124	77	58	14	●	●
13,10	124	77	57	14	●	●
13,30	124	77	57	14	●	●
13,50	124	77	57	14	●	●
14,00	124	77	56	14	●	●
14,50	133	83	61	16	●	●
15,00	133	83	61	16	●	●
15,10	133	83	60	16	●	●
15,30	133	83	60	16	●	●
15,50	133	83	60	16	●	●
16,00	133	83	59	16	●	●

Die VHM-Bohrer mit polykristalliner Diamantbeschichtung der PKD-Serie sind auf die neuen Marktanforderungen der Automobil- und Luftfahrtindustrie ausgelegt.

The solide carbide drills with polycrystalline diamond coating of the PCD series are designed to meet the new market needs of the automotive and aerospace industry.

PKD DRILLS



GEOMETRIE TYP N.
Geometry type N.

ERHÄLTLICH IN DEN VERSIONEN 3xD UND 8xD OHNE INNENKÜHLUNG.
Available in 3xD and 8xD versions without internal coolant.

FÜHRUNGSFASEN FÜR EINE BESSERE LOCHGERADHEIT.
Margin lands for better hole straightness.

ZYLINDERSCHAFT IN TOLERANZ H6 ZUM SCHRUMPFEN GEEIGNET.
Cylindrical shank in h6 tolerance suitable for shrink fit.

GEEIGNET FÜR DIE BEARBEITUNG VON ALUMINIUM, VERBUNDWERKSTOFFEN UND LEICHTMETALLLEGIERUNGEN.
Suitable for processing Aluminium, composite materials and light alloys.

ILIX® PRECISION

ILIX PRECISION

PKD

VHM-Hochleistungs-Spiralbohrer mit polykristallinem Diamant.
Solid Carbide with polycrystalline diamond high performance twist drills

1897

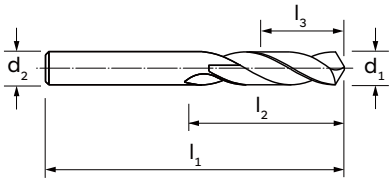
DIN

≤3xd

120°

SHRINK FIT

P. 126



MATERIAL | MATERIAL	PKD
BESCHICHTUNG | COATING	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	–
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6005
3,0	46	16	12	3,0	▲
3,1	49	18	13	3,1	▲
3,2	49	18	13	3,2	▲
3,3	49	18	13	3,3	▲
3,4	52	20	15	3,4	▲
3,5	52	20	15	3,5	▲
3,6	52	20	15	3,6	▲
3,7	52	20	15	3,7	▲
3,8	55	22	16	3,8	▲
3,9	55	22	16	3,9	▲
4,0	55	22	16	4,0	▲
4,1	55	22	16	4,1	▲
4,2	55	22	16	4,2	▲
4,3	52	24	18	4,3	▲
4,4	52	24	17	4,4	▲
4,5	52	24	17	4,5	▲
4,6	52	24	17	4,6	▲
4,7	52	24	17	4,7	▲
4,8	62	26	19	4,8	▲
4,9	62	26	19	4,9	▲
5,0	62	26	19	5,0	▲
5,1	62	26	18	5,1	▲
5,2	62	26	18	5,2	▲
5,3	62	26	18	5,3	▲
5,4	66	28	20	5,4	▲
5,5	66	28	20	5,5	▲
5,6	66	28	20	5,6	▲

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)	6005
5,7	66	28	20	5,7	▲
5,8	66	28	19	5,8	▲
5,9	66	28	19	5,9	▲
6,0	66	28	19	6,0	▲
6,1	70	31	22	6,1	▲
6,2	70	31	22	6,2	▲
6,3	70	31	22	6,3	▲
6,4	70	31	21	6,4	▲
6,5	70	31	21	6,5	▲
7,0	74	34	24	7,0	▲
7,5	74	34	23	7,5	▲
8,0	79	37	25	8,0	▲
8,5	79	37	24	8,5	▲
9,0	84	40	27	9,0	▲
9,5	84	40	26	9,5	▲
10,0	89	43	28	10,0	▲
10,5	89	43	27	10,5	▲
11,0	95	47	31	11,0	▲
11,5	95	47	30	11,5	▲
12,0	102	51	33	12,0	▲
12,7	102	51	32	12,7	▲
14,0	107	54	33	14,0	▲
16,0	115	58	34	16,0	▲
20,0	131	66	36	20,0	▲

▲ **Auf Anfrage** | On request

PKD

VHM-Hochleistungs-Spiralbohrer mit polykristallinem Diamant.
Solid Carbide with polycrystalline diamond high performance twist drills

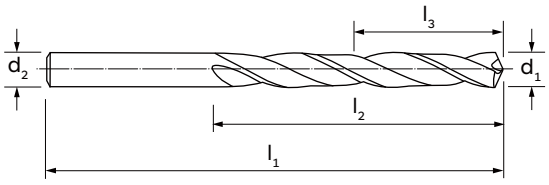
338
DIN

≤8xd

120°

SHRINK FIT

P. 126



MATERIAL | MATERIAL	PKD
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6007
3,0	61	33	29	3,0		▲
3,1	65	36	31	3,1		▲
3,2	65	36	31	3,2		▲
3,3	65	36	31	3,3		▲
3,4	70	39	34	3,4		▲
3,5	70	39	34	3,5		▲
3,6	70	39	34	3,6		▲
3,7	70	39	34	3,7		▲
3,8	75	43	37	3,8		▲
3,9	75	43	37	3,9		▲
4,0	75	43	37	4,0		▲
4,1	75	43	37	4,1		▲
4,2	75	43	37	4,2		▲
4,3	80	47	41	4,3		▲
4,4	80	47	40	4,4		▲
4,5	80	47	40	4,5		▲
4,6	80	47	40	4,6		▲
4,7	80	47	40	4,7		▲
4,8	86	52	45	4,8		▲
4,9	86	52	45	4,9		▲
5,0	86	52	45	5,0		▲
5,1	86	52	44	5,1		▲
5,2	86	52	44	5,2		▲
5,3	86	52	44	5,3		▲
5,4	93	57	49	5,4		▲
5,5	93	57	49	5,5		▲
5,6	93	57	49	5,6		▲

d_1 (h7)	l_1	l_2	l_3	d_2 (h6)		6007
5,7	93	57	49	5,7		▲
5,8	93	57	48	5,8		▲
5,9	93	57	48	5,9		▲
6,0	93	57	48	6,0		▲
6,1	101	63	54	6,1		▲
6,2	101	63	54	6,2		▲
6,3	101	63	54	6,3		▲
6,4	101	63	53	6,4		▲
6,5	101	63	53	6,5		▲
7,0	109	69	59	7,0		▲
7,5	109	69	58	7,5		▲
8,0	117	75	63	8,0		▲
8,5	117	75	62	8,5		▲
9,0	125	81	68	9,0		▲
9,5	125	81	67	9,5		▲
10,0	133	87	72	10,0		▲
10,5	133	87	71	10,5		▲
11,0	142	94	78	11,0		▲
11,5	142	94	77	11,5		▲
12,0	151	101	83	12,0		▲
12,7	151	101	82	12,7		▲
14,0	160	108	87	14,0		▲
16,0	178	120	96	16,0		▲
20,0	205	140	110	20,0		▲

▲ **Auf Anfrage** | On request

HOCHLEISTUNGSBOHRER
HIGH PERFORMANCE DRILLS

A.01.03

Schnittdaten
Cutting data

SCHNITTDATEN | CUTTING DATA

HSS-Co / HSS-Co-PM Hochleistungs-Spiralbohrer | HSS-Co / HSS-Co-PM high performance twist drills

Familienprodukt Family product	**Werkzeugcode** Tool Code		**Niedriglegierter Stahl** Low-Alloyed Steel **<800 N/mm²**		**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**		**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**		**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic		**Rostfreier Stahl Austenitisch** Stainless steel Austenitic		**Graues Gusseisen** Grey cast iron		**Sphäroguss** Nodular cast iron	
Materialgruppen | Materials Group			**P1**		**P2**		**P3**		**M1**		**M2**		**K1**		**K2**	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD HD	**6133TN**		**40**	**6**	**25**	**4**	**18**	**3**	15	3	10	3	**45**	**6**	**30**	**6**
	6143TF		**45**	**7**	**28**	**5**	**20**	**4**	18	4	12	3	**50**	**7**	**35**	**7**
	6208TN		**40**	**6**	**25**	**4**	**18**	**3**	15	3	10	3	**45**	**6**	**30**	**6**
	6228TF		**45**	**7**	**28**	**5**	**20**	**4**	18	4	12	3	**50**	**7**	**35**	**7**
	6248TF		**40**	**6**	**20**	**4**	**15**	**3**	15	3	10	3	**35**	**6**	**27**	**6**
	6248TP		**37**	**6**	**18**	**4**	**12**	**3**	12	3	8	3	**32**	**6**	**25**	**6**
RECORD EVO. VA	**6134TN**		50	5	-	-	-	-	**25**	**4**	**15**	**4**	-	-	-	-
	6229TN		50	5	-	-	-	-	**25**	**4**	**15**	**4**	-	-	-	-
RECORD HD i	**6522TN**		**50**	**7**	**35**	**5**	**25**	**4**	**20**	**4**	13	3	**55**	**7**	**40**	**6**
RECORD HX	**6205NX**		**40**	**7**	**25**	**5**	**15**	**3**	15	4	10	3	**35**	**7**	**15**	**5**
RECORD PM	**6178NX**		**45**	**6**	**30**	**5**	**17**	**4**	18	3	-	-	**50**	**6**	**35**	**5**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für HSS-Co / HSS-Co-PM Spiralbohrer | Feed f_n (mm/rev) for HSS-Co / HSS-Co-PM drills

Vorschub (mm/U) Feed table (mm/rev)	**Ø 1**	**Ø 2**	**Ø 3**	**Ø 4**	**Ø 5**	**Ø 6**
1	0,005	0,018	0,025	0,032	0,035	0,048
2	0,008	0,023	0,032	0,040	0,045	0,060
3	0,011	0,030	0,040	0,045	0,055	0,073
4	0,013	0,037	0,045	0,053	0,070	0,090
5	0,017	0,045	0,053	0,066	0,080	0,100
6	0,020	0,053	0,066	0,080	0,092	0,110
7	0,023	0,066	0,080	0,088	0,100	0,125
8	0,027	0,080	0,088	0,100	0,110	0,140
9	0,030	0,088	0,100	0,110	0,125	0,155
10	0,033	0,100	0,110	0,125	0,140	0,162
12	0,037	0,110	0,125	0,140	0,155	0,170

Beispiel Schnittdaten: 6133TN Ø 5 | Werkstück Materialgruppe P1 | V_c = 40 m/min | f_n= **0,092 (mm/U)** (Koeffizient f=6)
Cutting data example: 6133TN Ø 5 | Working material group P1 | V_c = 40 m/min | f_n= **0,092** mm/rev (coefficient f=6)

SCHNITTDATEN | CUTTING DATA

HSS-Co / HSS-Co-PM Hochleistungs-Spiralbohrer | HSS-Co / HSS-Co-PM high performance twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys		**Nicht eisenhaltige Materialien** Non ferrous materials		**Titan und Titanlegierungen** Titanium and Titanium alloys		**HRSA Hitzebeständige Legierungen** Heat resistant alloys		**Gehärtete Stähle** Hardened steels **38/48 HRC**		**Gehärtete Stähle** Hardened steels **48/58 HRC**		**Gehärtete Stähle** Hardened steels **58/68 HRC**			**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1		**N2**		**S1**		**S2**		**H1**		**H2**		**H3**		**Materialgruppen |** Materials Group		
V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
-	-	**50**	**5**	-	-	-	-	-	-	-	-	-	-		**6133TN**	17
-	-	**60**	**6**	-	-	-	-	-	-	-	-	-	-		**6143TF**	17
-	-	**50**	**5**	-	-	-	-	-	-	-	-	-	-		**6208TN**	19
-	-	**60**	**6**	-	-	-	-	-	-	-	-	-	-		**6228TF**	19
70	7	**40**	**5**	-	-	-	-	-	-	-	-	-	-		**6248TF**	21
-	-	**36**	**4**	-	-	-	-	-	-	-	-	-	-		**6248TP**	21
80	6	50	5	**10**	**2**	-	-	-	-	-	-	-	-		**6134TN**	24
80	6	50	5	**10**	**2**	-	-	-	-	-	-	-	-		**6229TN**	26
70	**7**	**60**	**5**	8	2	-	-	-	-	-	-	-	-		**6522TN**	29
70	7	35	5	**9**	**2**	**7**	**2**	5	2	-	-	-	-		**6205NX**	32
60	6	40	5	-	-	-	-	-	-	-	-	-	-		**6178NX**	34

Ø 8	**Ø 10**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 32**		
0,060	0,080	0,092	0,125	0,140	0,140	**1**	**Vorschub (mm/U)** Feed table (mm/rev)
0,073	0,092	0,110	0,140	0,165	0,165	**2**	
0,092	0,110	0,130	0,165	0,180	0,180	**3**	
0,100	0,130	0,155	0,180	0,210	0,210	**4**	
0,110	0,155	0,162	0,210	0,235	0,235	**5**	
0,125	0,162	0,170	0,235	0,250	0,250	**6**	
0,140	0,170	0,185	0,250	0,280	0,280	**7**	
0,155	0,185	0,190	0,280	0,310	0,310	**8**	
0,162	0,190	0,200	0,310	0,345	0,345	**9**	
0,170	0,200	0,220	0,335	0,370	0,370	**10**	
0,185	0,220	0,235	0,360	0,420	0,420	**12**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Familienprodukt Family product	**Werkzeugcode** Tool Code		**Niedriglegierter Stahl** Low-Alloyed Steel **<800 N/mm²**		**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**		**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**		**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic		**Rostfreier Stahl Austenitisch** Stainless steel Austenitic		**Graues Gusseisen** Grey cast iron		**Sphäroguss** Nodular cast iron	
Materialgruppen | Materials Group			**P1**		**P2**		**P3**		**M1**		**M2**		**K1**		**K2**	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD 2S	**6213TN**		**85**	**7**	**60**	**6**	**50**	**6**	30	3	20	2	**85**	**7**	**65**	**5**
	6015TF		**90**	**7**	**65**	**7**	**50**	**6**	35	3	25	2	**85**	**7**	**65**	**5**
	6016TF		**90**	**7**	**65**	**7**	**50**	**6**	35	3	25	2	**85**	**7**	**65**	**5**
	6017TT		**90**	**7**	**65**	**7**	**50**	**6**	35	3	25	2	**85**	**7**	**65**	**5**
	6018TT		**90**	**7**	**65**	**7**	**50**	**6**	35	3	25	2	**85**	**7**	**65**	**5**
RECORD 2S i	**6011TF**		**130**	**8**	**90**	**8**	**70**	**7**	40	3	30	3	**120**	**8**	**90**	**5**
	6012TF		**130**	**8**	**90**	**8**	**70**	**7**	40	3	30	3	**120**	**8**	**90**	**5**
	6020TF		**130**	**8**	**90**	**8**	**70**	**7**	40	3	30	3	**120**	**8**	**90**	**5**
	6021TF		**130**	**8**	**90**	**8**	**70**	**7**	40	3	30	3	**120**	**8**	**90**	**5**
RECORD HP i	**6022TF**		**150**	**7**	**120**	**6**	**100**	**6**	-	-	-	-	**160**	**7**	**130**	**6**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für VHM-Hochleistungs-Spiralbohrer | Feed f_n (mm/rev) for solid carbide drills

Vorschub (mm/U) Feed table (mm/rev)	**Ø 2**	**Ø 3**	**Ø 4**	**Ø 5**	**Ø 6**
1	0,008	0,010	0,020	0,030	0,040
2	0,015	0,020	0,030	0,040	0,050
3	0,020	0,030	0,040	0,050	0,060
4	0,030	0,040	0,050	0,060	0,070
5	0,040	0,060	0,080	0,100	0,120
6	0,050	0,080	0,120	0,140	0,170
7	0,070	0,100	0,150	0,180	0,200
8	0,090	0,120	0,170	0,200	0,220

Beispiel Schnittdaten: 6213TN Ø 5 | Werkstück Materialgruppe P1 | V_c = 85 m/min | f_n = **0,180 (mm/U)** (Koeffizient f=7)
Cutting data example: 6213TN Ø 5 | Working material group P1 | V_c = 85 m/min | f_n = **0,180** mm/rev (coefficient f=7)

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
110	7	100	5	-	-	-	-	-	-	-	-	-	-		**6213TN**	37
-	-	-	-	25	2	35	3	**15**	**1**	-	-	-	-		**6015TF**	39
-	-	-	-	25	2	35	3	**15**	**1**	-	-	-	-		**6016TF**	41
-	-	-	-	25	2	35	3	**15**	**1**	-	-	-	-		**6017TT**	43
-	-	-	-	25	2	35	3	**15**	**1**	-	-	-	-		**6018TT**	45
-	-	-	-	30	2	40	4	**15**	**1**	-	-	-	-		**6011TF**	47
-	-	-	-	30	2	40	4	**15**	**1**	-	-	-	-		**6012TF**	49
-	-	-	-	30	2	40	4	**15**	**1**	-	-	-	-		**6020TF**	51
-	-	-	-	30	2	40	4	**15**	**1**	-	-	-	-		**6021TF**	53
-	-	-	-	-	-	-	-	20	2	10	1	-	-		**6022TF**	56

Ø 8	**Ø 10**	**Ø 12**	**Ø 16**	**Ø 20**		
0,050	0,060	0,070	0,090	0,120	**1**	**Vorschub (mm/U)** Feed table (mm/rev)
0,060	0,070	0,085	0,110	0,125	**2**	
0,070	0,090	0,110	0,130	0,150	**3**	
0,100	0,120	0,140	0,160	0,200	**4**	
0,140	0,180	0,200	0,240	0,280	**5**	
0,190	0,230	0,280	0,350	0,400	**6**	
0,250	0,300	0,350	0,400	0,500	**7**	
0,270	0,320	0,370	0,450	0,550	**8**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer - PKD | Solid Carbide high performance twist drills and PKD

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD VA	6051XB		-	-	-	-	-	-	50	3	35	2	80	7	-	-
	6050XB		-	-	-	-	-	-	70	3	45	2	120	7	-	-
RECORD VA i	6052XB		-	-	-	-	-	-	70	3	45	2	120	7	-	-
	6053XB		-	-	-	-	-	-	70	3	45	2	120	7	-	-
RECORD EVO. TP	6014NX		-	-	-	-	-	-	-	-	-	-	75	4	-	-
RECORD DH i ALU	6041		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6042		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6043		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6044		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6045		-	-	-	-	-	-	-	-	-	-	-	-	-	-
PKD	6005		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6007		-	-	-	-	-	-	-	-	-	-	-	-	-	-

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für VHM-Hochleistungs / PKD -Spiralbohrer | Feed f_n (mm/rev) for solid carbide and PKD drills

Vorschub (mm/U) Feed table (mm/rev)	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6
1	0,010	0,015	0,020	0,025	0,030
2	0,020	0,030	0,040	0,050	0,060
3	0,030	0,040	0,050	0,055	0,065
4	0,040	0,050	0,065	0,080	0,100
5	0,060	0,080	0,100	0,120	0,150
6	0,070	0,085	0,110	0,140	0,170
7	0,080	0,100	0,120	0,180	0,230

Beispiel Schnittdaten: 6051XB Ø 5 | Werkstück Materialgruppe M1 | **V_c** = 50 m/min | **f_n= 0,055 (mm/U)** (Koeffizient f=3)
Cutting data example: 6051XB Ø 5 | Working material group M1 | **V_c** = 50 m/min | **f_n= 0,055** mm/rev (coefficient f=3)

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer und PKD | Solid Carbide high performance twist drills and PKD

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
220	**5**	**120**	**5**	**35**	**2**	40	2	-	-	-	-	-	-		**6051XB**	59
270	**6**	**150**	**5**	**40**	**2**	45	2	-	-	-	-	-	-		**6050XB**	60
270	**6**	**150**	**5**	**40**	**2**	45	2	-	-	-	-	-	-		**6052XB**	61
270	**6**	**150**	**5**	**40**	**2**	45	2	-	-	-	-	-	-		**6053XB**	62
-	-	-	-	-	-	-	-	**23**	**2**	**18**	**1**	**12**	**1**		**6014NX**	66
200	**6**	**140**	**5**	-	-	-	-	-	-	-	-	-	-		**6041**	83
200	**6**	**140**	**5**	-	-	-	-	-	-	-	-	-	-		**6042**	84
200	**6**	**140**	**5**	-	-	-	-	-	-	-	-	-	-		**6043**	85
200	**6**	**140**	**5**	-	-	-	-	-	-	-	-	-	-		**6044**	86
200	**6**	**140**	**5**	-	-	-	-	-	-	-	-	-	-		**6045**	87
350	**7**	**200**	**6**	-	-	-	-	-	-	-	-	-	-		**6005**	118
350	**7**	**200**	**6**	-	-	-	-	-	-	-	-	-	-		**6007**	119

Ø 8	**Ø 10**	**Ø 12**	**Ø 16**	**Ø 20**		
0,035	0,040	0,050	0,065	0,080	**1**	**Vorschub (mm/U)** Feed table (mm/rev)
0,070	0,080	0,100	0,140	0,170	**2**	
0,080	0,100	0,120	0,180	0,210	**3**	
0,120	0,140	0,180	0,250	0,300	**4**	
0,180	0,220	0,250	0,300	0,400	**5**	
0,230	0,290	0,330	0,450	0,550	**6**	
0,270	0,350	0,400	0,550	0,650	**7**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD STL	6236TF		70	6	60	5	50	4	40	4	-	-	70	7	45	6
	6238TF		70	6	60	5	50	4	40	4	-	-	70	7	45	6
RECORD STL i	6080TP		90	6	70	5	60	4	45	4	30	3	80	7	50	7
	6081TP		90	6	70	5	60	4	45	4	30	3	80	7	50	7
RECORD DH i	6025TT		130	8	90	8	70	7	40	3	30	3	120	8	90	5
	6026TT		130	8	90	8	70	7	40	3	30	3	120	8	90	5
	6027TT		115	6	80	6	60	5	45	3	30	2	100	6	80	5
	6028TT		115	6	80	6	60	5	45	3	30	2	100	6	80	5
	6032TT		105	5	75	4	55	3	45	3	30	3	105	6	95	4
	6034TT		100	5	70	4	50	3	45	3	30	3	105	6	95	4
	6035TT		100	5	70	4	50	3	45	3	30	3	105	6	95	4
	6036TT		90	5	60	4	40	3	40	3	30	3	90	6	80	4
	6038TT		70	4	50	4	40	3	35	3	30	2	70	5	60	4
	6039TT		70	4	50	4	40	3	35	3	30	2	70	5	60	4

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für VHM-Hochleistungs-Spiralbohrer | Feed f_n (mm/rev) for solid carbide drills

Vorschub (mm/U) Feed table (mm/rev)	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6
1	0,008	0,010	0,020	0,030	0,040
2	0,015	0,020	0,030	0,040	0,050
3	0,020	0,030	0,040	0,050	0,060
4	0,030	0,040	0,050	0,060	0,070
5	0,040	0,060	0,080	0,100	0,120
6	0,050	0,080	0,120	0,140	0,170
7	0,070	0,100	0,150	0,180	0,200
8	0,090	0,120	0,170	0,200	0,220

Beispiel Schnittdaten: 6236TF Ø 5 | Werkstück Materialgruppe P1 | V_c = 70 m/min | f_n = **0,140 (mm/U)** (Koeffizient f=6)
Cutting data example: 6236TF Ø 5 | Working material group P1 | V_c = 70 m/min | f_n = **0,140** mm/rev (coefficient f=6)

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
150	**8**	**100**	**6**	15	2	-	-	-	-	-	-	-	-		**6236TF**	102
150	**8**	**100**	**6**	15	2	-	-	-	-	-	-	-	-		**6238TF**	103
180	**7**	**120**	**6**	15	2	20	2	-	-	-	-	-	-		**6080TP**	104
180	**7**	**120**	**6**	15	2	20	2	-	-	-	-	-	-		**6081TP**	105
-	-	-	-	30	2	40	4	15	1	-	-	-	-		**6025TT**	68
-	-	-	-	30	2	40	4	15	1	-	-	-	-		**6026TT**	70
-	-	-	-	25	2	45	3	10	1	-	-	-	-		**6027TT**	72
-	-	-	-	25	2	45	3	10	1	-	-	-	-		**6028TT**	74
-	-	-	-	25	1	45	2	-	-	-	-	-	-		**6032TT**	76
-	-	-	-	25	1	45	2	-	-	-	-	-	-		**6034TT**	77
-	-	-	-	25	1	45	2	-	-	-	-	-	-		**6035TT**	78
-	-	-	-	-	-	35	2	-	-	-	-	-	-		**6036TT**	79
-	-	-	-	-	-	30	2	-	-	-	-	-	-		**6038TT**	80
-	-	-	-	-	-	30	2	-	-	-	-	-	-		**6039TT**	81

Ø 8	**Ø 10**	**Ø 12**	**Ø 16**	**Ø 20**		
0,050	0,060	0,070	0,090	0,120	**1**	**Vorschub (mm/U)** Feed table (mm/rev)
0,060	0,070	0,085	0,110	0,125	**2**	
0,070	0,090	0,110	0,130	0,150	**3**	
0,100	0,120	0,140	0,160	0,200	**4**	
0,140	0,180	0,200	0,240	0,280	**5**	
0,190	0,230	0,280	0,350	0,400	**6**	
0,250	0,300	0,350	0,400	0,500	**7**	
0,270	0,320	0,370	0,450	0,550	**8**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD 3S	6126K		60	5	50	4	35	3	40	4	-	-	-	-	-	-
	6126TF		65	5	55	4	35	3	40	4	-	-	-	-	-	-
	6123K		-	-	-	-	-	-	-	-	-	-	90	7	80	7
	6123TF		-	-	-	-	-	-	-	-	-	-	95	7	85	7
	6127K		-	-	-	-	-	-	-	-	-	-	-	-	-	-
	6001K		60	5	50	4	35	3	40	4	-	-	-	-	-	-
RECORD 3BX	6002K		-	-	-	-	-	-	-	-	-	-	90	8	80	8
	6002TF		-	-	-	-	-	-	-	-	-	-	95	8	85	8
	6003K		-	-	-	-	-	-	-	-	-	-	90	8	80	8
	6003TF		-	-	-	-	-	-	-	-	-	-	95	8	85	8
RECORD 4S i	6040F5		-	-	-	-	-	-	-	-	-	-	130	8	-	-
	6040/5		-	-	-	-	-	-	-	-	-	-	120	8	-	-
	6040/7		-	-	-	-	-	-	-	-	-	-	120	8	-	-
	6040/L		-	-	-	-	-	-	-	-	-	-	80	7	-	-

V_c: **Schnittgeschwindigkeit (m/min)** | cutting speed (m/min) **f**: **Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für VHM-Hochleistungs-Spiralbohrer | Feed f_n (mm/rev) for solid carbide drills

Vorschub (mm/U) Feed table (mm/rev)	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6
1	0,020	0,025	0,040	0,050	0,055
2	0,030	0,035	0,055	0,065	0,075
3	0,035	0,040	0,065	0,085	0,090
4	0,040	0,050	0,080	0,100	0,110
5	0,050	0,060	0,100	0,120	0,130
6	0,060	0,070	0,120	0,130	0,150
7	0,070	0,080	0,130	0,160	0,180
8	0,080	0,100	0,160	0,200	0,220

Beispiel Schnittdaten: 6126K Ø 5 | Werkstück Materialgruppe P1 | V_c = 60 m/min | f_n = **0,120 (mm/U)** (Koeffizient f=5)
Cutting data example: 6126K Ø 5 | Working material group P1 | V_c = 60 m/min | f_n = **0,120** mm/rev (coefficient f=5)

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
-	-	-	-	10	1	15	1	-	-	-	-	-	-		**6126K**	107
-	-	-	-	-	-	-	-	-	-	-	-	-	-		**6126TF**	107
130	**6**	**130**	**7**	-	-	-	-	-	-	-	-	-	-		**6123K**	109
140	**6**	**140**	**7**	-	-	-	-	-	-	-	-	-	-		**6123TF**	109
200	**7**	**150**	**6**	-	-	-	-	-	-	-	-	-	-		**6127K**	111
-	-	-	-	-	-	-	-	-	-	-	-	-	-		**6001K**	113
180	**8**	**140**	**7**	**10**	**2**	-	-	-	-	-	-	-	-		**6002K**	116
190	**8**	**160**	**7**	-	-	-	-	-	-	-	-	-	-		**6002TF**	116
180	**8**	**140**	**7**	**10**	**2**	-	-	-	-	-	-	-	-		**6003K**	115
190	**8**	**160**	**7**	-	-	-	-	-	-	-	-	-	-		**6003TF**	115
350	**7**	**220**	**7**	-	-	-	-	-	-	-	-	-	-		**6040F5**	97
350	**7**	**220**	**7**	-	-	-	-	-	-	-	-	-	-		**6040/5**	98
350	**7**	**220**	**7**	-	-	-	-	-	-	-	-	-	-		**6040/7**	99
300	**7**	**180**	**7**	-	-	-	-	-	-	-	-	-	-		**6040/L**	100

Ø 8	**Ø 10**	**Ø 12**	**Ø 16**	**Ø 20**		
0,065	0,070	0,080	0,090	0,100	**1**	**Vorschub (mm/U)** Feed table (mm/rev)
0,085	0,095	0,100	0,120	0,130	**2**	
0,110	0,120	0,130	0,140	0,170	**3**	
0,130	0,140	0,150	0,170	0,200	**4**	
0,150	0,160	0,180	0,200	0,230	**5**	
0,170	0,190	0,210	0,230	0,270	**6**	
0,210	0,240	0,260	0,290	0,340	**7**	
0,250	0,280	0,310	0,350	0,400	**8**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

SCHNITTDATEN | CUTTING DATA

VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
MICRO DRILL	6118TF		90	6	70	5	50	4	35	1	30	1	85	6	60	5
	6019TF		100	7	70	6	55	5	35	4	30	4	100	7	60	7
	6029TF		100	7	70	6	55	5	35	4	30	4	100	7	60	7
MICRO DRILL i	6030TF		100	7	70	6	55	5	35	4	30	4	100	7	60	7
	6136TF		95	6	65	4	50	4	35	3	30	3	95	6	55	6
	6031TF		95	6	65	4	50	4	35	3	30	3	95	6	55	6

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub (mm/U) Feed table (mm/rev)	Ø 0,25	Ø 0,5	Ø 0,8	Ø 1	Ø 1,25	Ø 1,5
1	0,004	0,008	0,010	0,012	0,015	0,020
2	0,005	0,010	0,012	0,015	0,020	0,025
3	0,006	0,010	0,015	0,018	0,025	0,030
4	0,070	0,012	0,018	0,020	0,030	0,040
5	0,008	0,015	0,020	0,030	0,040	0,050
6	0,010	0,020	0,030	0,040	0,055	0,075
7	0,010	0,020	0,040	0,050	0,070	0,085

Beispiel Schnittdaten: 6118TF Ø 1 | Werkstück Materialgruppe P1 | V_c = 90 m/min | f_n = **0,040 (mm/U)** (Koeffizient f=6)
Cutting data example: 6118TF Ø 1 | Working material group P1 | V_c = 90 m/min | f_n = **0,040** mm/rev (coefficient f=6)

SCHNITTDATEN | CUTTING DATA

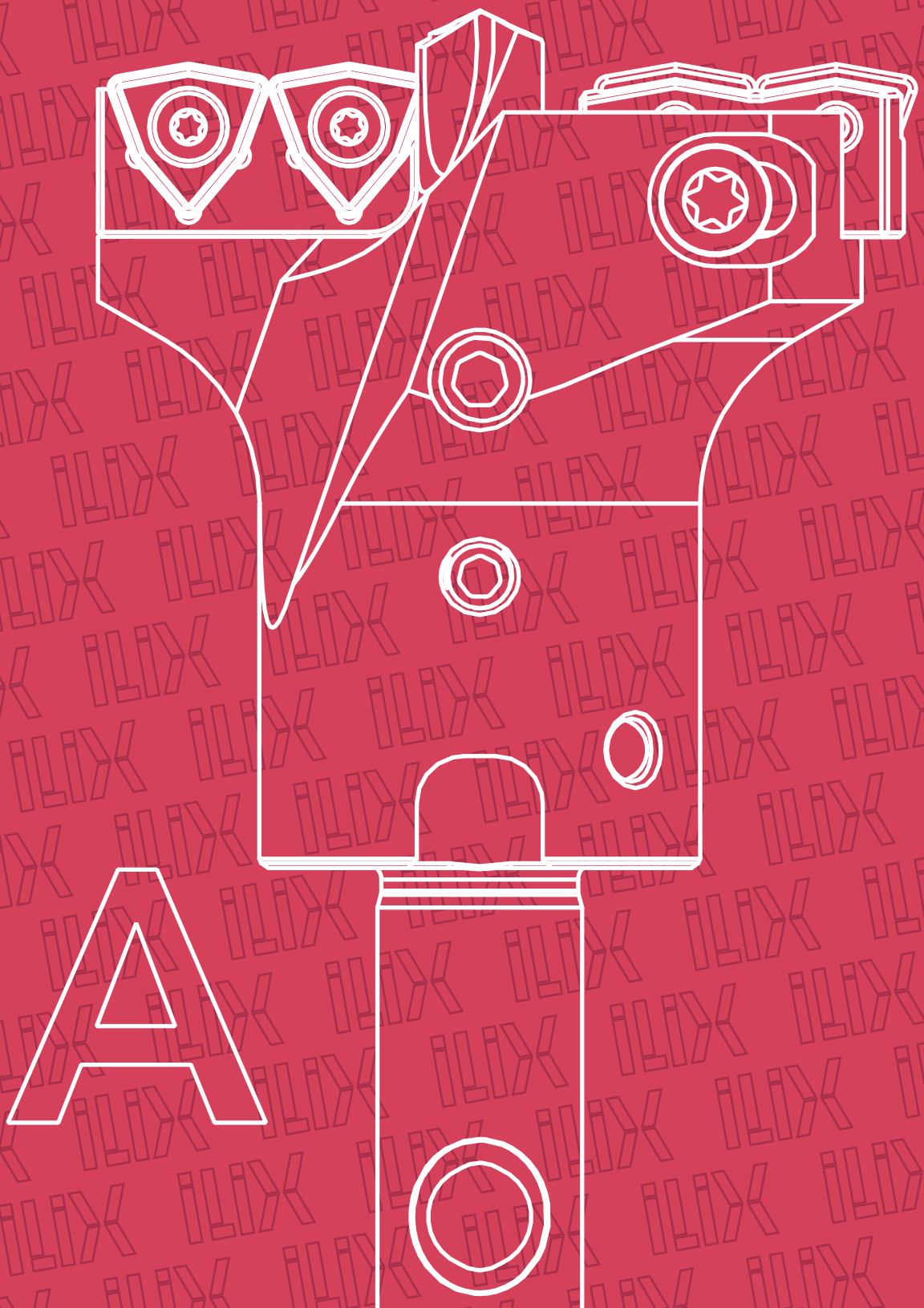
VHM-Hochleistungs-Spiralbohrer | Solid Carbide high performance twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
-	-	-	-	**30**	**1**	-	-	30	2	-	-	-	-		**6118TF**	89
-	-	-	-	30	4	**40**	**4**	-	-	-	-	-	-		**6019TF**	91
-	-	-	-	30	4	**40**	**4**	-	-	-	-	-	-		**6029TF**	92
-	-	-	-	30	4	**40**	**4**	-	-	-	-	-	-		**6030TF**	93
-	-	-	-	25	3	**35**	**3**	-	-	-	-	-	-		**6136TF**	94
-	-	-	-	25	3	**35**	**3**	-	-	-	-	-	-		**6031TF**	95

Ø 1,75	**Ø 2**	**Ø 2,25**	**Ø 2,5**	**Ø 3**		
0,025	0,030	0,033	0,036	0,040	**1**	**Vorschub (mm/U)** Feed table (mm/rev)
0,030	0,033	0,036	0,040	0,050	**2**	
0,033	0,036	0,040	0,050	0,080	**3**	
0,045	0,050	0,070	0,080	0,100	**4**	
0,060	0,080	0,085	0,090	0,120	**5**	
0,090	0,100	0,110	0,125	0,140	**6**	
0,100	0,110	0,120	0,140	0,160	**7**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions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WENDEPLATTENBOHRER
INDEXABLE DRILLS

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A.02.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD AG DRILL 500 **Körper** | Bodies																	
NEW 501D		STAHL Steel	1xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	16 ÷ 32	-	-	-	-	-	-	-	143
NEW ∅ 503D		STAHL Steel	≤3xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	12 ÷ 40	-	-	-	-	-	-	-	144
NEW ∅ 505D		STAHL Steel	≤5xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	12 ÷ 40	-	-	-	-	-	-	-	145
507D		STAHL Steel	≤7xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	12 ÷ 32	-	-	-	-	-	-	-	146
NEW 510D		STAHL Steel	≤10xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	16 ÷ 32	-	-	-	-	-	-	-	147
RECORD AG DRILL 500 **Einsätze** | Inserts																	
NEW 50PHTF		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	145°	TiAlN FUTURA	-	16 ÷ 32	-							152
NEW ∅ 50GMTF		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiAlN FUTURA	-	12 ÷ 40	-		-	-	-	-		154
NEW ∅ 50DMTX		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiSiXN	-	12 ÷ 40	-	-		-	-		-	154
NEW ∅ 50SMTL		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiN WCC	-	12 ÷ 40	-	-	-	-		-	-	154
NEW ∅ 50CMTF		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiAlN FUTURA	-	12 ÷ 40	-	-	-		-	-	-	154
RECORD AG DRILL 600 **Körper** | Bodies																	
603D		STAHL Steel	≤3xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	16 ÷ 40	-	-	-	-	-	-	-	148

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD AG DRILL 600																	
Körper | Bodies																	
605D		STAHL Steel	≤5xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	16 ÷ 40	-	–	–	–	–	–	–	149
607D		STAHL Steel	≤7xd	RECORD AG DRILL	ILIX NORM DIN	-	-	1835 E	16 ÷ 40	-	–	–	–	–	–	–	150
RECORD AG DRILL 600																	
Einsätze | Inserts																	
60GMTF		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiAlN FUTURA	-	16 ÷ 40	-		–	–	–	–		157
60DMTX		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiSiXN	-	16 ÷ 40	-	–		–	–		–	157
60SMTL		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiN WCC	-	16 ÷ 40	-	–	–	–		–	–	157
60CMTF		VHM HM	-	RECORD AG DRILL	ILIX NORM DIN	140°	TiAlN FUTURA	-	16 ÷ 40	-	–	–		–	–	–	157
RECORD INDEX DRILL																	
Körper | Bodies																	
GTR3D		STAHL Steel	≤3xd	RECORD INDEX DRILL	ILIX NORM DIN	-	-	9766	16,0 ÷ 50,0	-	–	–	–	–	–	–	161
NEW **GSQ3D**		STAHL Steel	≤3xd	RECORD INDEX DRILL	ILIX NORM DIN	-	-	9766	16,0 ÷ 50,0	-	–	–	–	–	–	–	162
NEW **GTR4D**		STAHL Steel	≤4xd	RECORD INDEX DRILL	ILIX NORM DIN	-	-	9766	16,0 ÷ 50,0	-	–	–	–	–	–	–	163
NEW **GSQ4D**		STAHL Steel	≤4xd	RECORD INDEX DRILL	ILIX NORM DIN	-	-	9766	16,0 ÷ 50,0	-	–	–	–	–	–	–	164
DHTR		STAHL Steel	≤8xd	RECORD INDEX DRILL	ILIX NORM DIN	-	-	9766	25,0 ÷ 45,0	-	–	–	–	–	–	–	165

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	Typ Type	DIN	Spitzenwinkel Point angle	Beschichtung Coating	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
RECORD INDEX DRILL **Körper** | Bodies																	
NEW ∅ DHMTR		STAHL Steel	≤10xd	RECORD INDEX DRILL	ILIX NORM DIN	-	-	9766	45,0 ÷ 180,0	-	-	-	-	-	-	-	168
RECORD INDEX DRILL **Einsätze** | Inserts																	
WCEX LC	AGP25 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiAlN FUTURA	-	-	-	-	-	-	-	-	-	175
WCEX LC	AGP35 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiAlN FUTURA	-	-	-	-	-	-	-	-	-	175
WCEX ..... MC	AGP25 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiAlN FUTURA	-	-	-	-	-	-	-	-	-	176
WCEX ..... MC	AGP35 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiAlN FUTURA	-	-	-	-	-	-	-	-	-	176
SPKX ..... MC	AGP25 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiAlN FUTURA	-	-	-	-	-	-	-	-	-	177
NEW SPKX ..... MC	AGP35 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiAlN FUTURA	-	-	-	-	-	-	-	-	-	177
NEW SPHX ..... LN	AGN010 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	-	-	-	-	-	-	-	-	178
NEW SPKX ..... MC	AGU30 	VHM HM	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiN	-	-	-	-	-	-	-	-	-	178
RECORD INDEX DRILL "DHTR - DHMTR" **Patronen** | Cartdriges																	
CI-CE	DHTR 	STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	-	-	-	-	-	-	-	-	166
CI-CE	DHMTR 	STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	-	-	-	-	-	-	-	-	173

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Schnitttiefe** Cutting depth	**Typ** Type	**DIN**	**Spitzenwinkel** Point angle	**Beschichtung** Coating	**Schaft** Shank	**Durchmesserbereich** Diameters range	**Fertigungstoleranz** Manufacturing tolerance	P	M	K	N	S	H	**Werkzeugseite** Tool page
RECORD INDEX DRILL "DHMTR"																	
Patronen | Cartdriges																	
NEW ∅ CI-CE		STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	-	-	–	–	–	–	–	–	173
RECORD INDEX DRILL "DHTR - DHMTR"																	
Pilotbohrer | Pilot Drill																	
NEW ∅ DHP		HSS	-	RECORD INDEX DRILL	ILIX NORM DIN	-	TiN	-	-	-	–	–	–	–	–	–	166 171
RECORD INDEX DRILL "DHMTR"																	
Schaft | Shank																	
NEW ∅ DHMSH ...		STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	13,0 ÷ 40,0	-	–	–	–	–	–	–	169
RECORD INDEX DRILL "DHMTR"																	
Verlängerung | Extension																	
NEW ∅ DHMEX ...		STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	13,0 ÷ 40,0	-	–	–	–	–	–	–	170
RECORD INDEX DRILL "DHMTR"																	
Antriebsring | Drive ring																	
NEW ∅ DHRG...		STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	-	-	–	–	–	–	–	–	171
RECORD INDEX DRILL "DHMTR"																	
Reduzierbohrbüchsen | Reducer drill sleeves																	
DHMBS ...		STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	16,0 ÷ 40,0	-	–	–	–	–	–	–	172
RECORD INDEX DRILL "DHMTR"																	
Reduzierer | Reducers																	
NEW ∅ DHMRD ...		STAHL Steel	-	RECORD INDEX DRILL	ILIX NORM DIN	-	-	-	28,0 ÷ 58,0	-	–	–	–	–	–	–	172

WENDEPLATTENBOHRER
INDEXABLE DRILLS

A.02.02

Produktpalette
Products range

Die Grundkörper der RECORD AG DRILL 500/600 Serie sind für die Bearbeitung von Stählen, Edelstählen, Gusseisen und NE-Werkstoffen mit hohen Vorschüben ausgelegt. Erhältlich in zwei Typen mit unterschiedlichen Plattenspannsystemen in den Versionen 1xD, 3xD, 5xD, 7xD und 10xD mit internen Kühlmittelbohrungen.

The RECORD AG DRILL 500/600 series bodies are designed to machining, with high feed rates, steels, stainless steels, cast irons and non-ferrous materials.
Available in two types with different insert clamping systems in 1xD, 3xD, 5xD, 7xD and 10xD versions with internal coolant holes.

Record AG DRILL

KÖRPER | BODY

DAS SPEZIFISCHE DESIGN ZUR REDUZIERUNG DER SCHNITTKRÄFTE GARANTIERT EINE OPTIMALE LOCHQUALITÄT.
The specific design, developed to reduce cutting forces, guarantees optimum hole quality.

GROSSE SPANTASCHEN SORGEN FÜR EINE EFFIZIENTE SPANABFUHR.
Large chip pockets ensure efficient chip evacuation.

DIE GENAUE KOPPLUNG ZWISCHEN SITZ UND WENDESCHNEIDPLATTEN GEWÄHRLEISTET EINE BEMERKENSWERTE STABILITÄT DES BOHRVORGANGS.
The accurate coupling between seat and inserts ensures remarkable stability of the drilling process.

EINFACHER EINSATZWECHSEL DURCH SCHRAUBE ODER KÖRNUNG JE NACH GEWÄHLTEM TYP.
Simple insert replacement by means of screw or grain according to the type chosen.

WENIGER VERSCHLEISS AM SCHAFT DANK DER CHEMISCH AUF DEN STAHL AUFGEBRACHTEN NICKEL-OBERFLÄCHENBEHANDLUNG.
Less wear on the shank thanks to the nickel surface treatment chemically deposited on the steel.

DIN 1835E SCHAFT UND TOLERANZ h6 GARANTIEREN EINE SICHERE SPANNUNG IM WERKZEUGHALTER.
DIN 1835E shank and tolerance h6 guarantee a safe clamping in the tool holder.

ILIX® PRECISION

RECORD AG DRILL 500

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

NEW

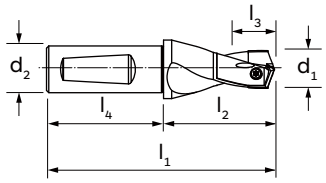
ILIX NORM
DIN

1xd

1835 E

A

P. 192



Pilotbohrer für RECORD AG DRILL 507D - 510D
Pilot drill for RECORD AG DRILL 507D - 510D

MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 152÷156) - NICHT ENTHALTEN - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 152÷156)- NOT INCLUDED- NOT INCLUDED

50PHTF

50GMTF

50DMTX

50SMTL

50CMTF

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	501D
AA	16,00 - 16,40	20	108	58	35	50	●
AB	16,50 - 16,90	20	108	58	35	50	●
AC	17,00 - 17,40	20	108	58	35	50	●
AD	17,50 - 17,90	20	108	58	35	50	●
AE	18,00 - 18,40	20	110	60	37	50	●
AF	18,50 - 18,90	20	110	60	37	50	●
AG	19,00 - 19,40	20	110	60	37	50	●
AH	19,50 - 19,90	20	110	60	37	50	●
AI	20,00 - 20,40	25	119	63	40	56	●
AJ	20,50 - 20,90	25	119	63	40	56	●
AK	21,00 - 21,40	25	119	63	40	56	●
AL	21,50 - 21,90	25	119	63	40	56	●
AM	22,00 - 22,40	25	119	63	40	56	●
AN	22,50 - 22,90	25	119	63	40	56	●
AO	23,00 - 23,40	25	121	65	42	56	●
AP	23,50 - 23,90	25	121	65	42	56	●
AQ	24,00 - 24,40	25	121	65	42	56	●
AR	24,50 - 24,90	25	122	66	43	56	●
AS	25,00 - 25,40	25	122	66	43	56	●
AT	25,50 - 25,90	32	131	71	44	60	●
AU	26,00 - 26,40	32	133	73	46	60	●
AV	26,50 - 26,90	32	133	73	46	60	●
AW	27,00 - 27,40	32	133	73	46	60	●
AX	27,50 - 27,90	32	133	73	46	60	●
AY	28,00 - 28,40	32	135	75	48	60	●
AZ	28,50 - 28,90	32	135	75	48	60	●
BA	29,00 - 29,40	32	135	75	48	60	●

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	501D
BB	29,50 - 29,90	32	135	75	48	60	●
BC	30,00 - 30,40	32	137	77	50	60	●
BD	30,50 - 30,90	32	137	77	50	60	●
BE	31,00 - 31,40	32	137	77	50	60	●
BF	31,50 - 31,90	32	137	77	50	60	●
BG	32,00 - 32,90	32	137	77	50	60	●

Bestellbeispiel: (501D + AA) | **Ordering example**: (501D + AA)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD AG DRILL 500

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

NEW ∅

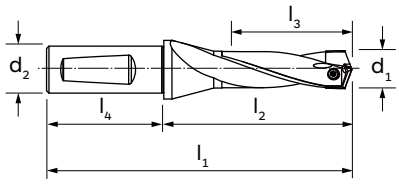
ILIX NORM
DIN

≤3xd

1835 E

A

P. 192



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 152÷156) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 152÷156)- NOT INCLUDED

50PHTF

50GMTF

50DMTX

50SMTL

50CMTF

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	503D
A	12,00 - 12,40	16	111	63	42	48	●
B	12,50 - 12,90	16	111	63	42	48	●
C	13,00 - 13,40	16	111	63	42	48	●
D	13,50 - 13,90	16	111	63	42	48	●
E	14,00 - 14,40	20	122	72	48	50	●
F	14,50 - 14,90	20	122	72	48	50	●
G	15,00 - 15,40	20	122	72	48	50	●
H	15,50 - 15,90	20	122	72	48	50	●
AA	16,00 - 16,40	20	130	80	54	50	●
AB	16,50 - 16,90	20	130	80	54	50	●
AC	17,00 - 17,40	20	130	80	54	50	●
AD	17,50 - 17,90	20	130	80	54	50	●
AE	18,00 - 18,40	20	138	88	60	50	●
AF	18,50 - 18,90	20	138	88	60	50	●
AG	19,00 - 19,40	20	138	88	60	50	●
AH	19,50 - 19,90	20	138	88	60	50	●
AI	20,00 - 20,40	25	153	97	66	56	●
AJ	20,50 - 20,90	25	153	97	66	56	●
AK	21,00 - 21,40	25	153	97	66	56	●
AL	21,50 - 21,90	25	153	97	66	56	●
AM	22,00 - 22,40	25	153	97	66	56	●
AN	22,50 - 22,90	25	153	97	66	56	●
AO	23,00 - 23,40	25	160	104	72	56	●
AP	23,50 - 23,90	25	160	104	72	56	●
AQ	24,00 - 24,40	25	160	104	72	56	●
AR	24,50 - 24,90	25	170	114	78	56	●
AS	25,00 - 25,40	25	170	114	78	56	●

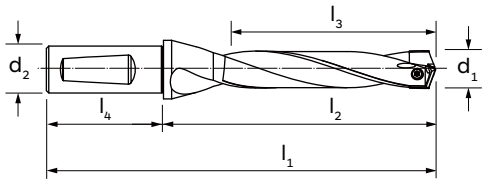
	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	503D
AT	25,50 - 25,90	32	170	114	78	60	●
AU	26,00 - 26,40	32	182	122	84	60	●
AV	26,50 - 26,90	32	182	122	84	60	●
AW	27,00 - 27,40	32	182	122	84	60	●
AX	27,50 - 27,90	32	182	122	84	60	●
AY	28,00 - 28,40	32	190	130	90	60	●
AZ	28,50 - 28,90	32	190	130	90	60	●
BA	29,00 - 29,40	32	190	130	90	60	●
BB	29,50 - 29,90	32	190	130	90	60	●
BC	30,00 - 30,40	32	198	138	96	60	●
BD	30,50 - 30,90	32	198	138	96	60	●
BE	31,00 - 31,40	32	198	138	96	60	●
BF	31,50 - 31,90	32	198	138	96	60	●
• **BG**	32,00 - 32,90	32	198	138	96	60	●
• **BH**	33,00 - 33,90	32	207	147	105	60	●
• **BI**	34,00 - 34,90	32	207	147	105	60	●
• **BJ**	35,00 - 35,90	32	212	152	110	60	●
• **BK**	36,00 - 36,90	32	212	152	110	60	●
• **BL**	37,00 - 37,90	32	222	162	120	60	●
• **BM**	38,00 - 38,90	32	222	162	120	60	●
• **BN**	39,00 - 40,00	32	222	162	120	60	●

Bestellbeispiel: (503D + A) | **Ordering example**: (503D + A) • **Neue Durchmesser** | New diameters
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD AG DRILL 500

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

NEW ∅ | ILIX NORM DIN | ≤5xd | 1835 E | A | P. 192



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 152÷156) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 152÷156)- NOT INCLUDED

50PHTF | 50GMTF | 50DMTX | 50SMTL | 50CMTF

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	505D
A	12,00 - 12,40	16	139	91	70	48	●
B	12,50 - 12,90	16	139	91	70	48	●
C	13,00 - 13,40	16	139	91	70	48	●
D	13,50 - 13,90	16	139	91	70	48	●
E	14,00 - 14,40	20	154	104	80	50	●
F	14,50 - 14,90	20	154	104	80	50	●
G	15,00 - 15,40	20	154	104	80	50	●
H	15,50 - 15,90	20	154	104	80	50	●
AA	16,00 - 16,40	20	166	116	90	50	●
AB	16,50 - 16,90	20	166	116	90	50	●
AC	17,00 - 17,40	20	166	116	90	50	●
AD	17,50 - 17,90	20	166	116	90	50	●
AE	18,00 - 18,40	20	178	128	100	50	●
AF	18,50 - 18,90	20	178	128	100	50	●
AG	19,00 - 19,40	20	178	128	100	50	●
AH	19,50 - 19,90	20	178	128	100	50	●
AI	20,00 - 20,40	25	197	141	110	56	●
AJ	20,50 - 20,90	25	197	141	110	56	●
AK	21,00 - 21,40	25	197	141	110	56	●
AL	21,50 - 21,90	25	197	141	110	56	●
AM	22,00 - 22,40	25	197	141	110	56	●
AN	22,50 - 22,90	25	197	141	110	56	●
AO	23,00 - 23,40	25	209	153	120	56	●
AP	23,50 - 23,90	25	209	153	120	56	●
AQ	24,00 - 24,40	25	209	153	120	56	●
AR	24,50 - 24,90	25	222	166	130	56	●
AS	25,00 - 25,40	25	222	166	130	56	●

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	505D
AT	25,50 - 25,90	32	222	166	130	60	●
AU	26,00 - 26,40	32	238	178	140	60	●
AV	26,50 - 26,90	32	238	178	140	60	●
AW	27,00 - 27,40	32	238	178	140	60	●
AX	27,50 - 27,90	32	238	178	140	60	●
AY	28,00 - 28,40	32	250	190	150	60	●
AZ	28,50 - 28,90	32	250	190	150	60	●
BA	29,00 - 29,40	32	250	190	150	60	●
BB	29,50 - 29,90	32	250	190	150	60	●
BC	30,00 - 30,40	32	262	202	160	60	●
BD	30,50 - 30,90	32	262	202	160	60	●
BE	31,00 - 31,40	32	262	202	160	60	●
BF	31,50 - 31,90	32	262	202	160	60	●
• **BG**	32,00 - 32,90	32	262	202	160	60	●
• **BH**	33,00 - 33,90	32	277	217	175	60	●
• **BI**	34,00 - 34,90	32	277	217	175	60	●
• **BJ**	35,00 - 35,90	32	287	227	185	60	●
• **BK**	36,00 - 36,90	32	287	227	185	60	●
• **BL**	37,00 - 37,90	32	302	242	200	60	●
• **BM**	38,00 - 38,90	32	302	242	200	60	●
• **BN**	39,00 - 40,00	32	302	242	200	60	●

Bestellbeispiel: (505D + A) | **Ordering example**: (505D + A) • **Neue Durchmesser** | New diameters
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD AG DRILL 500

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

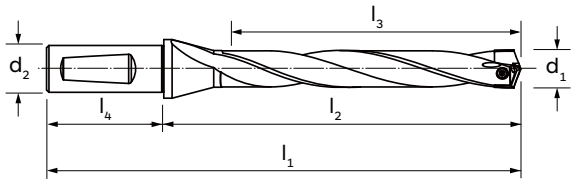
ILIX NORM
DIN

≤7xd

1835 E

A

P. 194



Pilotbohrung mit Art.-Nr. 501D bohren (siehe Seite 143)
Drill pilot hole with art. 501D (see page 143)

MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 152÷156) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 152÷156)- NOT INCLUDED

50PHTF

50GMTF

50DMTX

50SMTL

50CMTF

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	507D
A	12,00 - 12,40	16	167	119	98	48	●
B	12,50 - 12,90	16	167	119	98	48	●
C	13,00 - 13,40	16	167	119	98	48	●
D	13,50 - 13,90	16	167	119	98	48	●
E	14,00 - 14,40	20	186	136	112	50	●
F	14,50 - 14,90	20	186	136	112	50	●
G	15,00 - 15,40	20	186	136	112	50	●
H	15,50 - 15,90	20	186	136	112	50	●
AA	16,00 - 16,40	20	202	152	126	50	●
AB	16,50 - 16,90	20	202	152	126	50	●
AC	17,00 - 17,40	20	202	152	126	50	●
AD	17,50 - 17,90	20	202	152	126	50	●
AE	18,00 - 18,40	20	218	168	140	50	●
AF	18,50 - 18,90	20	218	168	140	50	●
AG	19,00 - 19,40	20	218	168	140	50	●
AH	19,50 - 19,90	20	218	168	140	50	●
AI	20,00 - 20,40	25	241	185	154	56	●
AJ	20,50 - 20,90	25	241	185	154	56	●
AK	21,00 - 21,40	25	241	185	154	56	●
AL	21,50 - 21,90	25	241	185	154	56	●
AM	22,00 - 22,40	25	241	185	154	56	●
AN	22,50 - 22,90	25	241	185	154	56	●
AO	23,00 - 23,40	25	257	201	168	56	●
AP	23,50 - 23,90	25	257	201	168	56	●
AQ	24,00 - 24,40	25	257	201	168	56	●
AR	24,50 - 24,90	25	274	218	182	56	●
AS	25,00 - 25,40	25	274	218	182	56	●

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	507D
AT	25,50 - 25,90	32	274	218	182	60	●
AU	26,00 - 26,40	32	294	234	196	60	●
AV	26,50 - 26,90	32	294	234	196	60	●
AW	27,00 - 27,40	32	294	234	196	60	●
AX	27,50 - 27,90	32	294	234	196	60	●
AY	28,00 - 28,40	32	310	250	210	60	●
AZ	28,50 - 28,90	32	310	250	210	60	●
BA	29,00 - 29,40	32	310	250	210	60	●
BB	29,50 - 29,90	32	310	250	210	60	●
BC	30,00 - 30,40	32	326	266	224	60	●
BD	30,50 - 30,90	32	326	266	224	60	●
BE	31,00 - 31,40	32	326	266	224	60	●
BF	31,50 - 31,90	32	326	266	224	60	●
BG	32,00 - 32,90	32	326	266	224	60	●

Bestellbeispiel: (507D + A) | **Ordering example**: (507D + A)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD AG DRILL 500

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

NEW

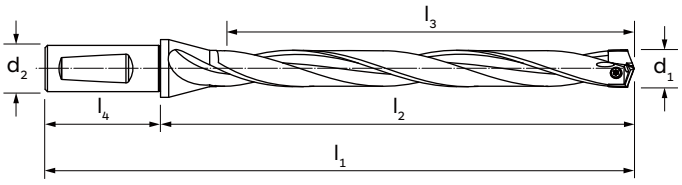
ILIX NORM
DIN

≤10xd

1835 E

A

P. 194



Pilotbohrung mit Art.-Nr. 501D bohren (siehe Seite 143)
Drill pilot hole with art. 501D (see page 143)

MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 152÷156) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 152÷156)- NOT INCLUDED

50PHTF

50GMTF

50DMTX

50SMTL

50CMTF

	d_1 (Abmessungsbereich - Range)	d_2 (h6)	l_1	l_2	l_3	l_4	510D
AA	16,00 - 16,40	20	243	195	168	50	●
AB	16,50 - 16,90	20	249	201	170	50	●
AC	17,00 - 17,40	20	255	207	178	50	●
AD	17,50 - 17,90	20	260	212	184	50	●
AE	18,00 - 18,40	20	267	219	188	50	●
AF	18,50 - 18,90	20	274	224	194	50	●
AG	19,00 - 19,40	20	280	230	199	50	●
AH	19,50 - 19,90	20	286	236	204	50	●
AI	20,00 - 20,40	25	292	242	209	56	●
AJ	20,50 - 20,90	25	306	250	214	56	●
AK	21,00 - 21,40	25	312	256	219	56	●
AL	21,50 - 21,90	25	317	261	224	56	●
AM	22,00 - 22,40	25	323	267	229	56	●
AN	22,50 - 22,90	25	329	273	234	56	●
AO	23,00 - 23,40	25	335	279	240	56	●
AP	23,50 - 23,90	25	341	285	245	56	●
AQ	24,00 - 24,40	25	347	291	250	56	●
AR	24,50 - 24,90	25	352	296	255	56	●
AS	25,00 - 25,40	25	359	303	260	56	●
AT	25,50 - 25,90	32	369	309	265	60	●
AU	26,00 - 26,40	32	377	317	270	60	●
AV	26,50 - 26,90	32	382	322	275	60	●
AW	27,00 - 27,40	32	388	328	280	60	●
AX	27,50 - 27,90	32	394	334	285	60	●
AY	28,00 - 28,40	32	400	340	290	60	●
AZ	28,50 - 28,90	32	405	345	295	60	●
BA	29,00 - 29,40	32	412	352	301	60	●

	d_1 (Abmessungsbereich - Range)	d_2 (h6)	l_1	l_2	l_3	l_4	510D
BB	29,50 - 29,90	32	418	358	306	60	●
BC	30,00 - 30,40	32	424	364	311	60	●
BD	30,50 - 30,90	32	429	369	316	60	●
BE	31,00 - 31,40	32	435	375	321	60	●
BF	31,50 - 31,90	32	441	381	326	60	●
BG	32,00 - 32,90	32	451	391	336	60	●

Bestellbeispiel: (510D + AA) | **Ordering example**: (510D + AA)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD AG DRILL 600

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

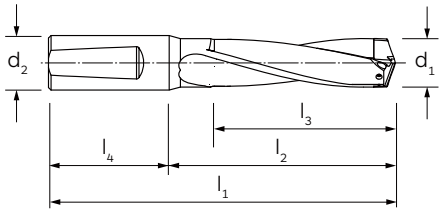
ILIX NORM
DIN

≤3xd

1835 E

A

P. 196



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 157-158) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 157-158) - NOT INCLUDED

60GMTF	60DMTX	60SMTL	60CMTF
			

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	603D
A	16,00 - 17,00	20	130	76	54	50	●
B	17,10 - 17,90	20	130	76	54	50	●
C	18,00 - 19,00	20	138	84	60	50	●
D	19,10 - 20,00	20	138	84	60	50	●
E	20,10 - 21,00	25	153	93	66	56	●
F	21,10 - 22,50	25	153	93	66	56	●
G	22,60 - 24,00	25	161	101	72	56	●
H	24,10 - 25,50	25	170	110	78	56	●
I	25,60 - 27,50	32	182	118	84	60	●
L	27,60 - 29,50	32	190	126	90	60	●
M	29,60 - 32,00	32	198	134	96	60	■
N	32,10 - 34,50	32	206	142	102	60	■
O	34,60 - 37,50	32	218	154	114	60	■
P	37,60 - 40,00	32	231	167	120	60	■

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	603D

Bestellbeispiel: (603D + A) | **Ordering example**: (603D + A)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included
■ **Solange der Vorrat reicht** | Till stocks last

RECORD AG DRILL 600

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

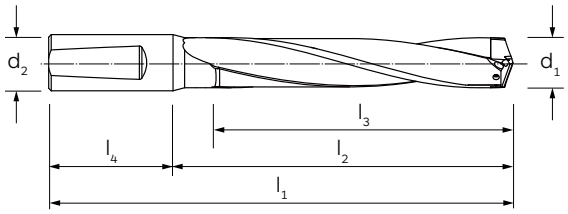
ILIX NORM
DIN

≤5xd

1835 E

A

P. 196



STAHL

MATERIAL | MATERIAL

BESCHICHTUNG | COATING

-

SCHNITTRICHTUNG | CUTTING DIRECTION

PASSENDE EINSÄTZE (SIEHE SEITE 157-158) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 157-158) - NOT INCLUDED

60GMTF	60DMTX	60SMTL	60CMTF
			

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	605D
A	16,00 - 17,00	20	166	112	90	50	●
B	17,10 - 17,90	20	166	112	90	50	●
C	18,00 - 19,00	20	178	124	100	50	●
D	19,10 - 20,00	20	178	124	100	50	●
E	20,10 - 21,00	25	197	137	110	56	●
F	21,10 - 22,50	25	197	137	110	56	●
G	22,60 - 24,00	25	209	149	120	56	●
H	24,10 - 25,50	25	222	162	130	56	●
I	25,60 - 27,50	32	238	174	140	60	●
L	27,60 - 29,50	32	250	186	150	60	●
M	29,60 - 32,00	32	262	198	160	60	■
N	32,10 - 34,50	32	274	210	170	60	■
O	34,60 - 37,50	32	292	228	190	60	■
P	37,60 - 40,00	32	311	247	200	60	■

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	605D

Bestellbeispiel: (605D + A) | **Ordering example**: (605D + A)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

■ **Solange der Vorrat reicht** | Till stocks last

RECORD AG DRILL 600

Wendeplattenkörper für Vollhartmetall-Wendeschneidplatten
Indexable bodies for solid carbide inserts

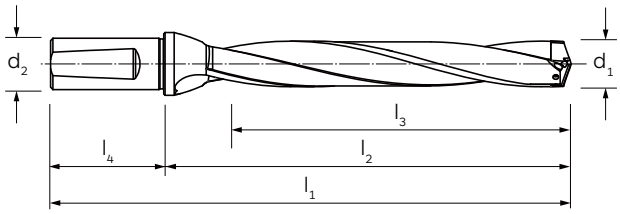
ILIX NORM
DIN

≤7xd

1835 E

A

P. 196



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

PASSENDE EINSÄTZE (SIEHE SEITE 157-158) - NICHT ENTHALTEN
SUITABLE INSERTS (SEE PAGE 157-158) - NOT INCLUDED

60GMTF	60DMTX	60SMTL	60CMTF
			

	d_1 (Abmessungsbereich - Range)	d_2	l_1	l_2	l_3	l_4	607D
A	16,00 - 17,00	20	202	148	126	50	●
B	17,10 - 17,90	20	202	148	126	50	●
C	18,00 - 19,00	20	218	164	140	50	●
D	19,10 - 20,00	20	218	164	140	50	●
E	20,10 - 21,00	25	241	181	154	56	●
F	21,10 - 22,50	25	241	181	154	56	●
G	22,60 - 24,00	25	257	197	168	56	●
H	24,10 - 25,50	25	274	214	182	56	●
I	25,60 - 27,50	32	294	230	196	60	●
L	27,60 - 29,50	32	310	246	210	60	●
M	29,60 - 32,00	32	326	262	224	60	■
N	32,10 - 34,50	32	342	278	238	60	■
O	34,60 - 37,50	32	366	302	266	60	■
P	37,60 - 40,00	32	391	327	280	60	■

	d_1 (Abmessungsbereich - Range)	d_2 (h6)	l_1	l_2	l_3	l_4	607D

Bestellbeispiel: (607D + A) | **Ordering example**: (607D + A)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included
■ **Solange der Vorrat reicht** | Till stocks last

Wendeschneidplattengeometrien und Beschichtungen der RECORD AG DRILL 500/600-Serie sind für eine breite Palette von Eisen- und Nichteisenwerkstoffen, langen und kurzen Spänen ausgelegt, mit einer selbstzentrierenden geometrischen Lösung, um die Leistung in allen Anwendungen zu verbessern. Erhältlich in Durchmessern von 16 bis 40 mm für beide Typen.

Inserts geometries and coatings of the RECORD AG DRILL 500/600 series are designed for a wide range of ferrous and non-ferrous materials, long and short chips, with a self-centring geometric solution to improve performance in all applications. Available in diameters from 16 to 40 mm for both types.

Record AG DRILL

EINSÄTZE | INSERTS

50....	60....	
		**PH** (TF) **UNIVERSALEINSATZ ZUM BOHREN VON PILOTLÖCHERN ENTWICKELT.** Universal insert developed for drilling pilot holes.
		**CM** (TF) **FÜR DIE GUSSEISENBEARBEITUNG GEEIGNETE WENDESCHNEIDPLATTE.** Insert suitable for cast iron machining.
		**GM** (TF) **SCHNEIDPLATTE GEEIGNET FÜR DIE BEARBEITUNG VON STÄHLEN UND GUSSEISEN.** Insert suitable for machining steels and cast irons.
		**DM** (TX) **FÜR DIE EDELSTAHLBEARBEITUNG GEEIGNETE WENDESCHNEIDPLATTE.** Insert suitable for stainless steel machining.
		**SM** (TL) **SCHNEIDPLATTE GEEIGNET FÜR DIE BEARBEITUNG VON NE-WERKSTOFFEN.** Insert suitable for machining non-ferrous materials.

ILIX® PRECISION

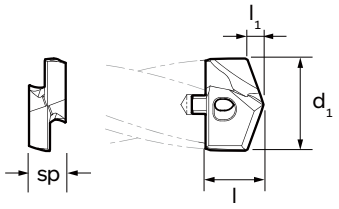
RECORD AG DRILL 500

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

NEW

ILIX NORM
DIN

145°



Zum Bohren von Pilotlöchern
For drilling pilot holes

MATERIAL | MATERIAL	VHM-HM
BESCHICHTUNG | COATING	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

	d_1 (m7)	l	l_1	sp	**Schrauben** Screw	**Torx-Schlüssel** Torx key		50 PHTF
AA	**16,0**	10,6	2,6	7,0	VTF 3.5X.6	KY T10		●
AB	**16,5**	10,6	2,7	7,0	VTF 3.5X.6	KY T10		●
AC	**17,0**	10,6	2,7	7,0	VTF 3.5X.6	KY T10		●
AD	**17,5**	10,6	2,8	7,0	VTF 3.5X.6	KY T10		●
AD	**17,6**	10,6	2,8	7,0	VTF 3.5X.6	KY T10		●
AE	**18,0**	12,1	2,9	8,0	VTE 4X.7	KY T15		●
AF	**18,5**	12,1	3,0	8,0	VTE 4X.7	KY T15		●
AG	**19,0**	12,1	3,0	8,0	VTE 4X.7	KY T15		●
AH	**19,5**	12,1	3,1	8,0	VTE 4X.7	KY T15		●
AH	**19,6**	12,1	3,1	8,0	VTE 4X.7	KY T15		●
AI	**20,0**	13,3	3,2	9,0	VTG 4.5X.75	KY T15		●
AJ	**20,5**	13,3	3,3	9,0	VTG 4.5X.75	KY T15		●
AK	**21,0**	13,3	3,4	9,0	VTG 4.5X.75	KY T15		●
AK	**21,1**	13,3	3,4	9,0	VTG 4.5X.75	KY T15		●
AL	**21,5**	13,3	3,4	9,0	VTG 4.5X.75	KY T15		●
AM	**22,0**	14,8	3,5	10,0	VTH 5X.8X19.75	KY T20		●
AN	**22,5**	14,8	3,6	10,0	VTH 5X.8X19.75	KY T20		●
AO	**23,0**	14,8	3,7	10,0	VTH 5X.8X19.75	KY T20		●
AP	**23,5**	14,8	3,8	10,0	VTH 5X.8X19.75	KY T20		●
AQ	**24,0**	15,3	3,8	11,0	VTH 5X.8X19.75	KY T20		●
AQ	**24,1**	15,3	3,8	11,0	VTH 5X.8X19.75	KY T20		●
AR	**24,5**	15,3	3,9	11,0	VTH 5X.8X19.75	KY T20		●
AS	**25,0**	15,3	4,0	11,0	VTH 5X.8X19.75	KY T20		●
AT	**25,5**	15,3	4,1	11,0	VTH 5X.8X19.75	KY T20		●
AT	**25,7**	15,3	4,1	11,0	VTH 5X.8X19.75	KY T20		●
AU	**26,0**	19,4	4,1	12,0	VTH 5X.8X19.75	KY T20		●
AV	**26,5**	19,4	4,2	12,0	VTH 5X.8X19.75	KY T20		●

01/02 →

Bestellbeispiel: (50PHTF + 16) | **Ordering example**: (50PHTF + 16)
Torx-Schlüssel nicht enthalten | Torx key not included

RECORD AG DRILL 500

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

	d_1 (m7)	l	l_1	sp	Schrauben Screw	Torx-Schlüssel Torx key		50 PHTF
AW	**27,0**	19,4	4,3	12,0	VTH 5X.8X19.75	KY T20		●
AX	**27,5**	19,4	4,4	12,0	VTH 5X.8X19.75	KY T20		●
AX	**27,7**	19,4	4,4	12,0	VTH 5X.8X19.75	KY T20		●
AY	**28,0**	20,1	4,5	13,0	VTH 5X.8X19.75	KY T20		●
AZ	**28,5**	20,1	4,5	13,0	VTH 5X.8X19.75	KY T20		●
BA	**29,0**	20,1	4,6	13,0	VTH 5X.8X19.75	KY T20		●
BB	**29,5**	20,1	4,7	13,0	VTH 5X.8X19.75	KY T20		●
BC	**30,0**	21,7	4,8	14,0	VTI 6X1X27	KY T25		●
BD	**30,5**	21,7	4,9	14,0	VTI 6X1X27	KY T25		●
BE	**31,0**	21,7	4,9	14,0	VTI 6X1X27	KY T25		●
BF	**31,5**	21,7	5,0	14,0	VTI 6X1X27	KY T25		●
BG	**32,0**	22,4	5,1	15,0	VTI 6X1X28.5	KY T25		●

02/02

Bestellbeispiel: (50PHTF + 27) | **Ordering example**: (50PHTF + 27)
Torx-Schlüssel nicht enthalten | Torx key not included

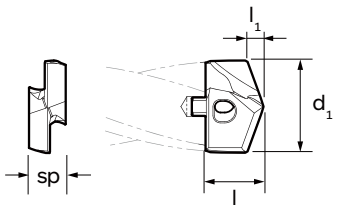
RECORD AG DRILL 500

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

NEW ∅

ILIX NORM
DIN

140°



MATERIAL | MATERIAL	VHM-HM	VHM-HM	VHM-HM	VHM-HM
BESCHICHTUNG | COATING	TiAlN Futura	TiNOX	TL	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	M	–	–
K | **Gusseisen** | Cast Irons	–	–	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	–	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	S	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

	d_1 (h7)	l	l_1	sp	Schrauben Screw	Torx-Schlüssel Torx key	50 GMTF	50 DMTX	50 SMTL	50 CMTF
A	**12,0**	7,8	2,2	5,0	VTA 2.2X.45	KY T7	●	●	●	●
A	**12,1**	7,8	2,2	5,0	VTA 2.2X.45	KY T7	●	●	●	●
A	**12,2**	7,8	2,2	5,0	VTA 2.2X.45	KY T7	●	●	●	●
A	**12,3**	7,8	2,2	5,0	VTA 2.2X.45	KY T7	●	●	●	●
A	**12,4**	7,8	2,2	5,0	VTA 2.2X.45	KY T7	●	●	●	●
B	**12,5**	7,8	2,3	5,0	VTA 2.2X.45	KY T7	●	●	●	●
B	**12,6**	7,8	2,3	5,0	VTA 2.2X.45	KY T7	●	●	●	●
B	**12,7**	7,8	2,3	5,0	VTA 2.2X.45	KY T7	●	●	●	●
B	**12,8**	7,8	2,3	5,0	VTA 2.2X.45	KY T7	●	●	●	●
B	**12,9**	7,8	2,3	5,0	VTA 2.2X.45	KY T7	●	●	●	●
C	**13,0**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
C	**13,1**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
C	**13,2**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
C	**13,3**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
C	**13,4**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
D	**13,5**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
D	**13,6**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
D	**13,7**	8,6	2,4	5,5	VTB 2.5X.45	KY T8	●	●	●	●
D	**13,8**	8,6	2,5	5,5	VTB 2.5X.45	KY T8	●	●	●	●
D	**13,9**	8,6	2,5	5,5	VTB 2.5X.45	KY T8	●	●	●	●
E	**14,0**	9,7	2,5	6,0	VTC 3X.5	KY T9	●	●	●	●
E	**14,1**	9,7	2,5	6,0	VTC 3X.5	KY T9	●	●	●	●
E	**14,2**	9,7	2,5	6,0	VTC 3X.5	KY T9	●	●	●	●
E	**14,3**	9,7	2,6	6,0	VTC 3X.5	KY T9	●	●	●	●
E	**14,4**	9,7	2,6	6,0	VTC 3X.5	KY T9	●	●	●	●
F	**14,5**	9,7	2,6	6,0	VTC 3X.5	KY T9	●	●	●	●
F	**14,6**	9,7	2,7	6,0	VTC 3X.5	KY T9	●	●	●	●

01/03 →

Bestellbeispiel: (50GMTF + 12) | **Ordering example**: (50GMTF + 12)
Torx-Schlüssel nicht enthalten | Torx key not included

RECORD AG DRILL 500

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

	d_1 (h7)	l	l_1	sp	Schrauben Screw	Torx-Schlüssel Torx key	50 GMTF	50 DMTX	50 SMTL	50 CMTF
F	**14,7**	9,7	2,7	6,0	VTC 3X.5	KY T9	●	●	●	●
F	**14,8**	9,7	2,7	6,0	VTC 3X.5	KY T9	●	●	●	●
F	**14,9**	9,7	2,7	6,0	VTC 3X.5	KY T9	●	●	●	●
G	**15,0**	9,9	2,7	6,0	VTD 3X.5	KY T10	●	●	●	●
G	**15,1**	9,9	2,7	6,0	VTD 3X.5	KY T10	●	●	●	●
G	**15,2**	9,9	2,8	6,0	VTD 3X.5	KY T10	●	●	●	●
G	**15,3**	9,9	2,8	6,0	VTD 3X.5	KY T10	●	●	●	●
G	**15,4**	9,9	2,8	6,0	VTD 3X.5	KY T10	●	●	●	●
H	**15,5**	9,9	2,8	6,0	VTD 3X.5	KY T10	●	●	●	●
H	**15,6**	9,9	2,8	6,0	VTD 3X.5	KY T10	●	●	●	●
H	**15,7**	9,9	2,9	6,0	VTD 3X.5	KY T10	●	●	●	●
H	**15,8**	9,9	2,9	6,0	VTD 3X.5	KY T10	●	●	●	●
H	**15,9**	9,9	2,9	6,0	VTD 3X.5	KY T10	●	●	●	●
AA	**16,0**	11,1	3,1	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AA	**16,1**	11,1	3,1	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AA	♦ **16,15**	11,1	3,1	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AA	**16,2**	11,1	3,1	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AA	**16,3**	11,1	3,1	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AA	**16,4**	11,1	3,1	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AB	**16,5**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AB	**16,6**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AB	**16,7**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AB	♦ **16,75**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AB	**16,8**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AB	**16,9**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AC	**17,0**	11,1	3,2	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AC	**17,1**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AC	**17,2**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AC	**17,3**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AC	**17,4**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AD	**17,5**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AD	**17,6**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AD	**17,7**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AD	**17,8**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AD	**17,9**	11,1	3,3	7,0	VTF 3.5X.6	KY T10	●	●	●	●
AE	**18,0**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AE	**18,1**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AE	**18,2**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AE	♦ **18,3**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AE	**18,4**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AF	**18,5**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AF	**18,6**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AF	**18,7**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AF	**18,8**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AF	**18,9**	12,7	3,4	8,0	VTE 4X.7	KY T15	●	●	●	●
AG	**19,0**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AG	**19,1**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AG	**19,2**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AG	♦ **19,25**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AG	**19,3**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AG	**19,4**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AH	**19,5**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AH	**19,6**	12,7	3,5	8,0	VTE 4X.7	KY T15	●	●	●	●
AH	**19,7**	12,7	3,5	8,0	VTE 4X.7	KY T20	●	●	●	●
AH	**19,8**	12,7	3,5	8,0	VTE 4X.7	KY T20	●	●	●	●
AH	**19,9**	12,7	3,5	8,0	VTE 4X.7	KY T20	●	●	●	●

02/03 →

Bestellbeispiel: (50GMTF + 16) | **Ordering example**: (50GMTF + 16)
♦ **Durchmesser für Rohrböden** | Diameters for tube sheets
Torx-Schlüssel nicht enthalten | Torx key not included

RECORD AG DRILL 500

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

	d_1 (h7)	l	l_1	sp	Schrauben Screw	Torx-Schlüssel Torx key	50 GMTF	50 DMTX	50 SMTL	50 CMTF
AI	**20,0**	14,0	3,6	9,0	VTG 4.5X.75	KY T15	●	●	●	●
AJ	**20,5**	14,0	3,7	9,0	VTG 4.5X.75	KY T15	●	●	●	●
AK	**21,0**	14,0	3,9	9,0	VTG 4.5X.75	KY T15	●	●	●	●
AL	**21,5**	14,0	3,9	9,0	VTG 4.5X.75	KY T15	●	●	●	●
AM	**22,0**	15,4	3,9	9,0	VTH 5X.8X19.75	KY T20	●	●	●	●
AN	**22,5**	15,4	3,9	9,0	VTH 5X.8X19.75	KY T20	●	●	●	●
AO	**23,0**	15,4	4,2	10,0	VTH 5X.8X19.75	KY T20	●	●	●	●
AP	**23,5**	15,4	4,2	10,0	VTH 5X.8X19.75	KY T20	●	●	●	●
AQ	**24,0**	15,9	4,2	10,0	VTH 5X.8X21.75	KY T20	●	●	●	●
AR	**24,5**	15,9	4,5	11,0	VTH 5X.8X21.75	KY T20	●	●	●	●
AS	**25,0**	15,9	4,5	11,0	VTH 5X.8X21.75	KY T20	●	●	●	●
AT	**25,5**	15,8	4,5	11,0	VTH 5X.8X21.75	KY T20	●	●	●	●
AU	**26,0**	20,1	4,9	12,0	VTH 5X.8X23.40	KY T20	●	●	●	●
AV	**26,5**	20,1	4,9	12,0	VTH 5X.8X23.40	KY T20	●	●	●	●
AW	**27,0**	20,1	4,9	12,0	VTH 5X.8X23.40	KY T20	●	●	●	●
AX	**27,5**	20,1	4,9	12,0	VTH 5X.8X23.40	KY T20	●	●	●	●
AY	**28,0**	20,8	5,2	13,0	VTH 5X.8X23.40	KY T20	●	●	●	●
AZ	**28,5**	20,8	5,2	13,0	VTH 5X.8X23.40	KY T20	●	●	●	●
BA	**29,0**	20,8	5,2	13,0	VTH 5X.8X23.40	KY T20	●	●	●	●
BB	**29,5**	20,8	5,2	13,0	VTH 5X.8X23.40	KY T20	●	●	●	●
BC	**30,0**	22,4	5,6	14,0	VTI 6 x 1 x 27	KY T25	●	●	●	●
BD	**30,5**	22,4	5,6	14,0	VTI 6 x 1 x 27	KY T25	●	●	●	●
BE	**31,0**	22,4	5,8	14,0	VTI 6 x 1 x 27	KY T25	●	●	●	●
BF	**31,5**	22,4	5,8	14,0	VTI 6 x 1 x 27	KY T25	●	●	●	●
BG	**32,0**	23,2	6,0	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BG	• **32,5**	23,2	6,0	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BH	• **33,0**	23,2	6,2	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BH	• **33,5**	23,2	6,2	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BI	• **34,0**	23,2	6,2	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BI	• **34,5**	23,2	6,3	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BJ	• **35,0**	23,2	6,4	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BJ	• **35,5**	23,2	6,5	15,0	VTI 6 x 1 x 28,5	KY T25	●	●	●	●
BK	• **36,0**	23,9	6,6	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BK	• **36,5**	23,9	6,7	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BL	• **37,0**	23,9	6,8	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BL	• **37,5**	23,9	6,9	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BM	• **38,0**	23,9	7,0	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BM	• **38,5**	23,9	7,0	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BN	• **39,0**	23,9	7,1	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BN	• **39,5**	23,9	7,2	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●
BN	• **40,0**	23,9	7,3	16,0	VTI 6 x 1 x 32,5	KY T25	●	●	●	●

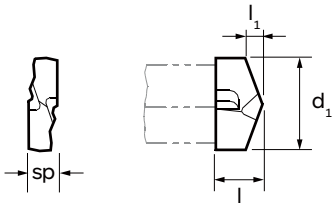
03/03

Bestellbeispiel: (50GMTF + 20) | **Ordering example**: (50GMTF + 20) • **Neue Durchmesser** | New diameters
Schraube Wendeplatten und Torx-Schlüssel nicht enthalten | Insert Screw and torx key not included

RECORD AG DRILL 600

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

ILIX NORM
DIN



MATERIAL | MATERIAL	VHM-HM	VHM-HM	VHM-HM	VHM-HM
BESCHICHTUNG | COATING	TiAlN Futura	TiNOX	TL	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	M	–	–
K | **Gusseisen** | Cast Irons	–	–	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	–	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	S	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

	d_1 (h7)	l	l_1	sp	Schrauben Screw	Torx-Schlüssel Torx key	60 GMTF	60 DMTX	60 SMTL	60 CMTF
A	**16,00**	8,0	2,9	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,10**	8,0	2,9	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,20**	8,0	3,0	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,30**	8,0	3,0	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,40**	8,0	3,0	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,50**	8,0	3,0	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,60**	8,0	3,0	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,70**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,80**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**16,90**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
A	**17,00**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,10**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,20**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,30**	8,0	3,1	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,40**	8,0	3,2	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,50**	8,0	3,2	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,60**	8,0	3,2	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,70**	8,0	3,2	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,80**	8,0	3,2	4,5	SRA 3X.35	KY T6	●	●	●	●
B	**17,90**	8,0	3,3	4,5	SRA 3X.35	KY T6	●	●	●	●
C	**18,00**	8,0	3,3	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,10**	8,0	3,3	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,20**	8,0	3,3	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,30**	8,0	3,3	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,40**	8,0	3,3	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,50**	8,0	3,4	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,60**	8,0	3,4	5,0	SRB 3X.35	KY T6	●	●	●	●

01/02 →

Bestellbeispiel: (60GMTF + 16) | **Ordering example**: (60GMTF + 16)
Torx-Schlüssel nicht enthalten | Torx key not included

RECORD AG DRILL 600

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

	d_1 (h7)	l	l_1	sp	Schrauben Screw	Torx-Schlüssel Torx key	60 GMTF	60 DMTX	60 SMTL	60 CMTF
C	**18,70**	8,0	3,4	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,80**	8,0	3,4	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**18,90**	8,0	3,4	5,0	SRB 3X.35	KY T6	●	●	●	●
C	**19,00**	8,0	3,5	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,10**	8,0	3,5	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,20**	8,0	3,5	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,30**	8,0	3,5	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,40**	8,0	3,5	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,50**	8,0	3,5	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,60**	8,0	3,6	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,70**	8,0	3,6	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,80**	8,0	3,6	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**19,90**	8,0	3,6	5,0	SRB 3X.35	KY T6	●	●	●	●
D	**20,00**	8,0	3,6	5,0	SRB 3X.35	KY T6	●	●	●	●
E	**20,50**	8,8	3,7	5,5	SRB 3X.35	KY T6	●	●	●	●
E	**21,00**	8,8	3,8	5,5	SRB 3X.35	KY T6	●	●	●	●
F	**21,50**	8,8	3,9	5,5	SRB 3X.35	KY T6	●	●	●	●
F	**22,00**	8,8	4,0	5,5	SRB 3X.35	KY T6	●	●	●	●
F	**22,50**	8,8	4,1	5,5	SRB 3X.35	KY T6	●	●	●	●
G	**23,00**	10,0	4,2	6,3	SRC 3.5X.35	KY T7	●	●	●	●
G	**23,50**	10,0	4,3	6,3	SRC 3.5X.35	KY T7	●	●	●	●
G	**24,00**	10,0	4,4	6,3	SRC 3.5X.35	KY T7	●	●	●	●
H	**24,50**	10,0	4,5	6,3	SRC 3.5X.35	KY T7	●	●	●	●
H	**25,00**	10,0	4,5	6,3	SRC 3.5X.35	KY T7	●	●	●	●
H	**25,50**	10,0	4,6	6,3	SRC 3.5X.35	KY T7	●	●	●	●
I	**26,00**	11,6	4,7	7,3	SRD 4X.5	KY T8	●	●	●	●
I	**26,50**	11,6	4,8	7,3	SRD 4X.5	KY T8	●	●	●	●
I	**27,00**	11,6	5,9	7,3	SRD 4X.5	KY T8	●	●	●	●
I	**27,50**	11,6	5,0	7,3	SRD 4X.5	KY T8	●	●	●	●
L	**28,00**	11,6	5,1	7,3	SRD 4X.5	KY T8	●	●	●	●
L	**28,50**	11,6	5,2	7,3	SRD 4X.5	KY T8	●	●	●	●
L	**29,00**	11,6	5,3	7,3	SRD 4X.5	KY T8	●	●	●	●
L	**29,50**	11,6	5,4	7,3	SRD 4X.5	KY T8	●	●	●	●
M	**30,00**	13,6	5,5	8,5	SRE 4.5X.5	KY T8	●	●	●	●
M	**30,50**	13,6	5,6	8,5	SRE 4.5X.5	KY T8	●	●	●	●
M	**31,00**	16,6	5,6	8,5	SRE 4.5X.5	KY T8	●	●	●	●
M	**31,50**	13,6	5,7	8,5	SRE 4.5X.5	KY T8	●	●	●	●
M	**32,00**	13,6	5,8	8,5	SRE 4.5X.5	KY T8	■	■	■	■
N	**32,50**	13,6	5,9	8,5	SRE 4.5X.5	KY T8	■	■	■	■
N	**33,00**	13,6	6,0	8,5	SRE 4.5X.5	KY T8	■	■	■	■
N	**33,50**	13,6	6,1	8,5	SRE 4.5X.5	KY T8	■	■	■	■
N	**34,00**	13,6	6,2	8,5	SRE 4.5X.5	KY T8	■	■	■	■
N	**34,50**	13,6	6,2	8,5	SRE 4.5X.5	KY T8	■	■	■	■
O	**35,00**	16,0	6,4	10,0	SRF 5X.5	KY T10	■	■	■	■
O	**36,00**	16,0	6,6	10,0	SRF 5X.5	KY T10	■	■	■	■
O	**37,00**	16,0	6,7	10,0	SRF 5X.5	KY T10	■	■	■	■
O	**37,50**	16,0	6,8	10,0	SRF 5X.5	KY T10	■	■	■	■
P	**38,00**	16,0	6,9	10,0	SRF 5X.5	KY T10	■	■	■	■
P	**39,00**	16,0	7,1	10,0	SRF 5X.5	KY T10	■	■	■	■
P	**40,00**	16,0	7,3	10,0	SRF 5X.5	KY T10	■	■	■	■

02/02

Bestellbeispiel: (60GMTF + 22) | **Ordering example**: (60GMTF + 22)
Torx-Schlüssel nicht enthalten | Torx key not included

■ **Solange der Vorrat reicht** | Till stocks last

▸ **MONTAGEMODUS EINFÜGEN** | INSERT MOUNTING MODE

AG DRILL 500

Schraube Wendeplatten
Insert Screw

Torx-Schlüssel | Torx key

AG DRILL 600

Schraube Wendeplatten
Insert Screw

Torx-Schlüssel | Torx key

Die Wendeplattenbohrer GTR3D, GTR4D, GSQ3D, GSQ4D, DHTR und die DHMTR-Serie sind für die Bearbeitung von Stahl, Edelstahlguss und NE-Materialien ausgelegt.

The indexable insert drills GTR3D, GTR4D, GSQ3D, GSQ4D, DHTR and DHMTR series are designed for machining steel, stainless steel cast irons and non-ferrous materials.

Record INDEX DRILL

DIE GTRD-SERIE IST IN DURCHMESSERN VON 16 BIS 50 mm IN DER 3xD- UND 4xD-VERSION MIT WCEX-WENDESCHNEIDPLATTEN ERHÄLTLICH.
The GTRD series is available in diameters from 16 to 50 mm in the 3xD and 4xD version with WCEX inserts.

DIE GSQD-SERIE IST IN DEN DURCHMESSERN 16 BIS 50 mm IN DER 3xD- UND 4xD-VERSION MIT SPKX-WENDESCHNEIDPLATTEN ERHÄLTLICH.
The GSQD series is available in diameters 16 to 50 mm in the 3xD and 4xD version with SPKX inserts.

DIE DHTR-SERIE IST IN DEN DURCHMESSERN 25 BIS 45 mm IN DER 8xD-VERSION MIT WCEX-WENDESCHNEIDPLATTEN ERHÄLTLICH.
The DHTR series is available in diameters from 25 to 45 mm in the 8xD version with WCEX inserts.

DIE DHMTR-SERIE IST IN DURCHMESSERN VON 45 BIS 180 mm MIT WCEX-WENDESCHNEIDPLATTEN ERHÄLTLICH.
The DHMTR series is available in diameters from 45 to 180 mm with WCEX inserts.

DAS EINZIGARTIGE DESIGN GARANTIERT EINE HOHE PRODUKTIVITÄT UND VIELSEITIGKEIT.
The unique design guarantees high productivity and versatility.

DIE GROSSEN SPANTASCHEN SORGEN FÜR EINE EFFIZIENTE SPANABFUHR UND ERHÖHEN DIE LEBENSDAUER DES BOHRKÖRPERS.
The large chip pockets ensure efficient chip evacuation increasing the lifetime of the drill body.

VERFÜGBARKEIT VON WCEX- UND SPKX-WENDESCHNEIDPLATTENGEOMETRIEN UND -SORTEN, DIE FÜR DIE BEARBEITUNG DER MEISTEN MATERIALIEN GEEIGNET SIND.
Availability of WCEX and SPKX insert geometries and grades suitable for machining most materials.

HSS-Co-PILOTBOHRER, TIN-BESCHICHTET MIT PVD-TECHNIK, BIETET DEM BOHRER EINE HOHE STABILITÄT UND GERADHEIT WÄHREND DER BEARBEITUNG.
HSS-Co pilot drill, TiN coated with pvd technique, offers high stability and straightness to the drill during machining.

ILIX® PRECISION

RECORD INDEX DRILL "GTR3D"

Bohrkörper für Vollhartmetall-Wendeschneidplatten | Indexable body for solid carbide inserts

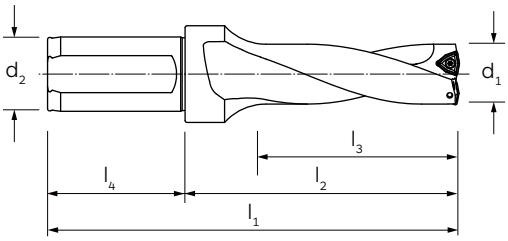
ILIX NORM
DIN

≤3xd

9766

A

P. 198



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

VERFÜGBARKEIT UND KOMPATIBILITÄT VON KÖRPERDURCHMESSERN/WENDEPLATTEN
BODY DIAMETER/INSERT AVAILABILITY AND COMPATIBILITY

Separat zu bestellende Wendeplatten | Inserts to be ordered separately		WCEX.....LC	WCEX.....MC
	Ø 16 ÷ 20	**WCEX 030204...**	-	●
	Ø 20,5 ÷ 25	**WCEX 040204...**	-	●
	Ø 25,5 ÷ 30	**WCEX 050308...**	●	●
	Ø 31 ÷ 41	**WCEX 06T308...**	●	●
	Ø 42 ÷ 50	**WCEX 080408...**	-	●
		Näheres auf Seite | More details on page	**175**	**176**

d_1	d_2	l_1	l_2	l_3	l_4	GTR3D
***16,0**	25	132	76	48	56	●
***16,5**	25	134	78	50	56	●
***17,0**	25	135	79	51	56	●
***17,5**	25	137	81	53	56	●
***18,0**	25	138	82	54	56	●
***18,5**	25	140	84	56	56	●
***19,0**	25	141	85	57	56	●
***19,5**	25	143	87	59	56	●
***20,0**	25	144	88	60	56	●
20,5	25	146	90	62	56	●
21,0	25	147	91	63	56	●
21,5	25	149	93	65	56	●
22,0	25	150	94	66	56	●
22,5	25	152	96	68	56	●
23,0	25	153	97	69	56	●
23,5	25	155	99	71	56	●
24,0	25	156	100	72	56	●
24,5	25	158	102	74	56	●
25,0	25	159	103	75	56	●
25,5	32	170	110	77	60	●
26,0	32	171	111	78	60	●
26,5	32	173	113	80	60	●
27,0	32	174	114	81	60	●
27,5	32	176	116	83	60	●
28,0	32	177	117	84	60	●

d_1	d_2	l_1	l_2	l_3	l_4	GTR3D
28,5	32	179	119	86	60	●
29,0	32	180	120	87	60	●
29,5	32	182	122	89	60	●
30,0	32	183	123	90	60	●
31,0	32	186	126	93	60	●
32,0	32	189	129	96	60	●
33,0	32	192	132	99	60	●
34,0	32	195	135	102	60	●
35,0	32	198	138	105	60	●
36,0	32	201	141	108	60	●
37,0	32	204	144	111	60	●
38,0	32	207	147	114	60	●
39,0	32	210	150	117	60	●
40,0	32	213	153	120	60	●
41,0	32	216	156	123	60	●
42,0	40	234	164	126	70	●
43,0	40	237	167	129	70	●
44,0	40	240	170	132	70	●
45,0	40	243	173	135	70	●
46,0	40	246	176	138	70	●
47,0	40	249	179	141	70	●
48,0	40	252	182	144	70	●
49,0	40	255	185	147	70	●
50,0	40	258	188	150	70	●

Bestellbeispiel: (GTR3D + 16) | **Ordering example**: (GTR3D + 16)

* **(d_2 =20mm) Solange der Vorrat reicht** | Until stocks are exhausted

Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD INDEX DRILL "GSQ3D"

Bohrkörper für Vollhartmetall-Wendeschneidplatten | Indexable body for solid carbide inserts

NEW

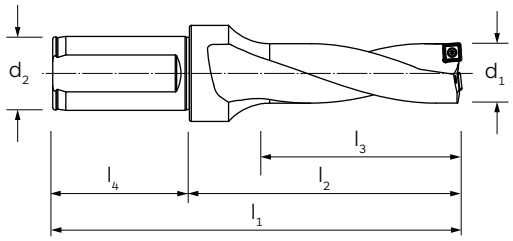
ILIX NORM
DIN

≤3xd

9766

A

P. 198



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

VERFÜGBARKEIT UND KOMPATIBILITÄT VON KÖRPERDURCHMESSERN/WENDEPLATTEN BODY DIAMETER/INSERT AVAILABILITY AND COMPATIBILITY



Separat zu bestellende Wendeplatten | Inserts to be ordered separately		SPKX.....MC	SPKX.....MC	SPHX.....LN
	Ø 16 ÷ 21,5	**SP..X 060204...**	●	●	●
	Ø 22 ÷ 27,5	**SPKX 07T308...**	●	●	-
	Ø 28 ÷ 33	**SPKX 090408...**	●	●	-
	Ø 34 ÷ 41	**SPKX 110408...**	●	●	-
	Ø 42 ÷ 50	**SPKX 140512...**	●	●	-
	Näheres auf Seite | More details on page		**177**	**178**	**178**

d_1	d_2	l_1	l_2	l_3	l_4	GSQ3D
16,0	25	132	76	48	56	●
16,5	25	134	78	50	56	●
17,0	25	135	79	51	56	●
17,5	25	137	81	53	56	●
18,0	25	138	82	54	56	●
18,5	25	140	84	56	56	●
19,0	25	141	85	57	56	●
19,5	25	143	87	59	56	●
20,0	25	144	88	60	56	●
20,5	25	146	90	62	56	●
21,0	25	147	91	63	56	●
21,5	25	149	93	65	56	●
22,0	32	159	99	66	60	●
22,5	32	161	101	68	60	●
23,0	32	162	102	69	60	●
23,5	32	164	104	71	60	●
24,0	32	165	105	72	60	●
24,5	32	167	107	74	60	●
25,0	32	168	108	75	60	●
25,5	32	170	110	77	60	●
26,0	32	171	111	78	60	●
26,5	32	173	113	80	60	●
27,0	32	174	114	81	60	●
27,5	32	176	116	83	60	●
28,0	32	177	117	84	60	●

d_1	d_2	l_1	l_2	l_3	l_4	GSQ3D
28,5	32	179	119	86	60	●
29,0	32	180	120	87	60	●
29,5	32	183	123	89	60	●
30,0	32	185	125	90	60	●
31,0	32	188	128	93	60	●
32,0	32	191	131	96	60	●
33,0	32	194	134	99	60	●
34,0	40	212	142	102	70	●
35,0	40	215	145	105	70	●
36,0	40	218	148	108	70	●
37,0	40	221	151	111	70	●
38,0	40	224	154	114	70	●
39,0	40	227	157	117	70	●
40,0	40	230	160	120	70	●
41,0	40	233	163	123	70	●
42,0	40	236	166	126	70	●
43,0	40	239	169	129	70	●
44,0	40	242	172	132	70	●
45,0	40	245	175	135	70	●
46,0	40	248	178	138	70	●
47,0	40	251	181	141	70	●
48,0	40	254	184	144	70	●
49,0	40	257	187	147	70	●
50,0	40	260	190	150	70	●

Bestellbeispiel: (GSQ3D + 16) | **Ordering example**: (GSQ3D + 16)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD INDEX DRILL "GTR4D"

Bohrkörper für Vollhartmetall-Wendeschneidplatten | Indexable body for solid carbide inserts

NEW

ILIX NORM
DIN

≤4xd

9766

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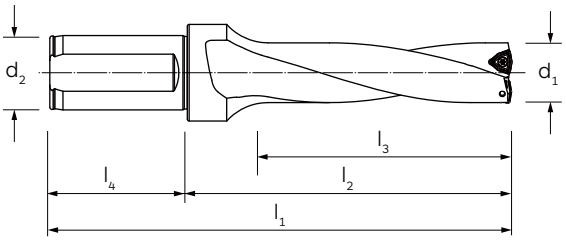
P. 198



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

VERFÜGBARKEIT UND KOMPATIBILITÄT VON KÖRPERDURCHMESSERN/WENDEPLATTEN BODY DIAMETER/INSERT AVAILABILITY AND COMPATIBILITY

Separat zu bestellende Wendeplatten | Inserts to be ordered separately		WCEX.....LC	WCEX.....MC
	Ø 16 ÷ 20	**WCEX 030204...**	-	●
	Ø 20,5 ÷ 25,5	**WCEX 040204...**	-	●
	Ø 26 ÷ 30	**WCEX 050308...**	●	●
	Ø 31 ÷ 41	**WCEX 06T308...**	●	●
	Ø 42 ÷ 50	**WCEX 080408...**	-	●
		Näheres auf Seite | More details on page	**175**	**176**

d_1	d_2	l_1	l_2	l_3	l_4	GTR4D
16,0	25	148	92	64	56	●
16,5	25	150	94	66	56	●
17,0	25	152	96	68	56	●
17,5	25	154	98	70	56	●
18,0	25	156	100	72	56	●
18,5	25	158	102	74	56	●
19,0	25	160	104	76	56	●
19,5	25	162	106	78	56	●
20,0	25	164	108	80	56	●
20,5	25	166	110	82	56	●
21,0	25	168	112	84	56	●
21,5	25	170	114	86	56	●
22,0	32	181	121	88	60	●
22,5	32	183	123	90	60	●
23,0	32	185	125	92	60	●
23,5	32	187	127	94	60	●
24,0	32	189	129	96	60	●
24,5	32	191	131	98	60	●
25,0	32	193	133	100	60	●
25,5	32	195	135	102	60	●
26,0	32	197	137	104	60	●
26,5	32	199	139	106	60	●
27,0	32	201	141	108	60	●
27,5	32	203	143	110	60	●
28,0	32	205	145	112	60	●

d_1	d_2	l_1	l_2	l_3	l_4	GTR4D
28,5	32	207	147	114	60	●
29,0	32	210	150	116	60	●
29,5	32	213	153	118	60	●
30,0	32	215	155	120	60	●
31,0	32	219	159	124	60	●
32,0	32	223	163	128	60	●
33,0	32	227	167	132	60	●
34,0	40	246	176	136	70	●
35,0	40	250	180	140	70	●
36,0	40	254	184	144	70	●
37,0	40	258	188	148	70	●
38,0	40	262	192	152	70	●
39,0	40	266	196	156	70	●
40,0	40	270	200	160	70	●
41,0	40	274	204	164	70	●
42,0	40	278	208	168	70	●
43,0	40	282	212	172	70	●
44,0	40	286	216	176	70	●
45,0	40	290	220	180	70	●
46,0	40	294	224	184	70	●
47,0	40	298	228	188	70	●
48,0	40	302	232	192	70	●
49,0	40	306	236	196	70	●
50,0	40	310	240	200	70	●

Bestellbeispiel: (GTR4D + 16) | **Ordering example**: (GTR4D + 16)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD INDEX DRILL "GSQ4D"

Bohrkörper für Vollhartmetall-Wendeschneidplatten | Indexable body for solid carbide inserts

NEW

ILIX NORM DIN

≤4xd

9766

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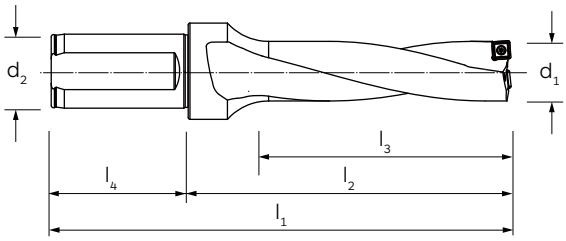
P. 198



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

VERFÜGBARKEIT UND KOMPATIBILITÄT VON KÖRPERDURCHMESSERN/WENDEPLATTEN BODY DIAMETER/INSERT AVAILABILITY AND COMPATIBILITY



Separat zu bestellende Wendeplatten | Inserts to be ordered separately		SPKX.....MC	SPKX.....MC	SPHX.....LN
	Ø 16 ÷ 21,5	**SP..X 060204...**	●	●	●
	Ø 22 ÷ 27,5	**SPKX 07T308...**	●	●	-
	Ø 28 ÷ 33	**SPKX 090408...**	●	●	-
	Ø 34 ÷ 41	**SPKX 110408...**	●	●	-
	Ø 42 ÷ 50	**SPKX 140512...**	●	●	-
	Näheres auf Seite | More details on page		**177**	**178**	**178**

d_1	d_2	l_1	l_2	l_3	l_4	GSQ4D
16,0	25	148	92	64	56	●
16,5	25	150	94	66	56	●
17,0	25	152	96	68	56	●
17,5	25	154	98	70	56	●
18,0	25	156	100	72	56	●
18,5	25	158	102	74	56	●
19,0	25	160	104	76	56	●
19,5	25	162	106	78	56	●
20,0	25	164	108	80	56	●
20,5	25	166	110	82	56	●
21,0	25	168	112	84	56	●
21,5	25	170	114	86	56	●
22,0	32	181	121	88	60	●
22,5	32	183	123	90	60	●
23,0	32	185	125	92	60	●
23,5	32	187	127	94	60	●
24,0	32	189	129	96	60	●
24,5	32	191	131	98	60	●
25,0	32	193	133	100	60	●
25,5	32	195	135	102	60	●
26,0	32	197	137	104	60	●
26,5	32	199	139	106	60	●
27,0	32	201	141	108	60	●
27,5	32	203	143	110	60	●
28,0	32	205	145	112	60	●

d_1	d_2	l_1	l_2	l_3	l_4	GSQ4D
28,5	32	207	147	114	60	●
29,0	32	210	150	116	60	●
29,5	32	213	153	118	60	●
30,0	32	215	155	120	60	●
31,0	32	219	159	124	60	●
32,0	32	223	163	128	60	●
33,0	32	227	167	132	60	●
34,0	40	246	176	136	70	●
35,0	40	250	180	140	70	●
36,0	40	254	184	144	70	●
37,0	40	258	188	148	70	●
38,0	40	262	192	152	70	●
39,0	40	266	196	156	70	●
40,0	40	270	200	160	70	●
41,0	40	274	204	164	70	●
42,0	40	278	208	168	70	●
43,0	40	282	212	172	70	●
44,0	40	286	216	176	70	●
45,0	40	290	220	180	70	●
46,0	40	294	224	184	70	●
47,0	40	298	228	188	70	●
48,0	40	302	232	192	70	●
49,0	40	306	236	196	70	●
50,0	40	310	240	200	70	●

Bestellbeispiel: (GSQ4D + 16) | **Ordering example**: (GSQ4D + 16)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD INDEX DRILL "DHTR"

Bohrkörper für Vollhartmetall-Wendeschneidplatten | Indexable body for solid carbide inserts

ILIX NORM
DIN

≤8xd

9766

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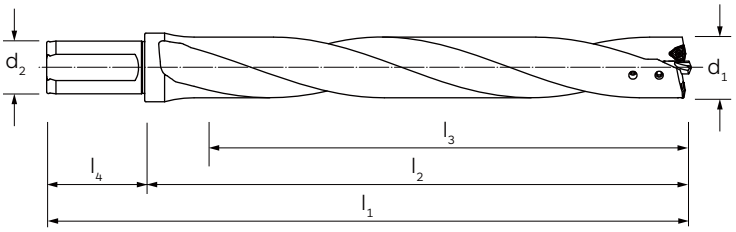
P. 200



MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

VERFÜGBARKEIT UND KOMPATIBILITÄT VON KÖRPERDURCHMESSERN/WENDEPLATTEN BODY DIAMETER/INSERT AVAILABILITY AND COMPATIBILITY

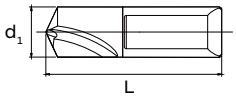
Separat zu bestellende Wendeplatten/Pilotbohrer | Inserts/pilot drill to be ordered separately	WCEX.....LC	WCEX.....MC
WCEX 030204...	-	●
WCEX 040204...	-	●
WCEX 050308...	●	●
WCEX 06T308...	●	●
Näheres auf Seite | More details on page	175	176

d_1	d_2	l_1	l_2	l_3	l_4	**Wendeplatten** Insert	**Pilotbohrer** Pilot Drill	**DHTR**
25	32	310	250	220	60	WCEX 030204...	DHP 6x30	●
26	32	310	250	220	60	WCEX 040204...	DHP 6x30	●
27	32	310	250	220	60	WCEX 040204...	DHP 6x30	●
28	32	310	250	220	60	WCEX 040204...	DHP 6x30	●
29	32	310	250	220	60	WCEX 040204...	DHP 6x30	●
30	32	310	250	220	60	WCEX 040204...	DHP 6x30	●
31	32	350	290	260	60	WCEX 050308...	DHP 8x35	●
32	32	350	290	260	60	WCEX 050308...	DHP 8x35	●
33	32	350	290	260	60	WCEX 050308...	DHP 8x35	●
34	32	350	290	260	60	WCEX 050308...	DHP 8x35	●
35	32	350	290	260	60	WCEX 050308...	DHP 8x35	●
36	32	390	330	300	60	WCEX 050308...	DHP 8x35	●
37	32	390	330	300	60	WCEX 050308...	DHP 8x35	●
38	32	390	330	300	60	WCEX 050308...	DHP 8x35	●
39	32	390	330	300	60	WCEX 050308...	DHP 8x35	●
40	32	390	330	300	60	WCEX 050308...	DHP 8x35	●
***41**	40	445	375	340	70	WCEX 06T308...	DHP 10x35	●
***42**	40	445	375	340	70	WCEX 06T308...	DHP 10x35	●
***43**	40	445	375	340	70	WCEX 06T308...	DHP 10x35	●
***44**	40	445	375	340	70	WCEX 06T308...	DHP 10x35	●
***45**	40	445	375	340	70	WCEX 06T308...	DHP 10x35	●

***Montagekartuschen für DHTR CI-CE, siehe Seite 166** | Mounting Cartdriges for DHTR CI-CE, see page 166

Bestellbeispiel: (DHTR + 25) | **Ordering example**: (DHTR + 25)
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

▸ **Pilotbohrer (DHTR)** | Pilot Drill **(DHTR)**



Abmessungsbereich Range **(DHTR)**	**Abmessungsbereich** Range	**d_1**	**L**	**Magterial** Material	**Beschichtung** Coating	**Kühlmittel** Coolant	**DHP**
25 ÷ 30	**6x30**	6	30	HSS-Co	TiN	✖	●
31 ÷ 40	**8x35**	8	35	HSS-Co	TiN	✖	●
41 ÷ 45	**10x35**	10	35	HSS-Co	TiN	✔	●

Bestellbeispiel: (DHP + 6x30) | **Ordering example**: (DHP + 6x30)

Einstellung des Pilotbohrers auf Seite 181 | Pilot drill adjustment on page 181

▸ **Einstellschraube für Pilotbohrer (DHTR)** | Adjustment Screw for Pilot Drill (DHTR)

Abmessungsbereich Range **(DHTR)**	**Abmessungsbereich** Range **(DHP)**	**Maße** Dimensions		**GAR**
Ø 25 ÷ 30	6x30	**5X8**		●
Ø 31 ÷ 40	8x35	**6X10**		●
Ø 41 ÷ 45	10x35	**8X12**		●

Bestellbeispiel: (GAR + 5X8) | **Ordering example**: (GAR + 5X8)

▸ **Schrauben für die Befestigung Pilotbohrer (DHTR)** | Clamping bolt for pilot drill (DHTR)

Abmessungsbereich Range **(DHTR)**	**Abmessungsbereich** Range **(DHP)**	**Maße** Dimensions		**GAF**
Ø 25 ÷ 30	6x30	**5X8**		●
Ø 31 ÷ 40	8x35	**6X10**		●
Ø 41 ÷ 45	10x35	**8X12**		●

Bestellbeispiel: (GAF + 5X8) | **Ordering example**: (GAF + 5X8)

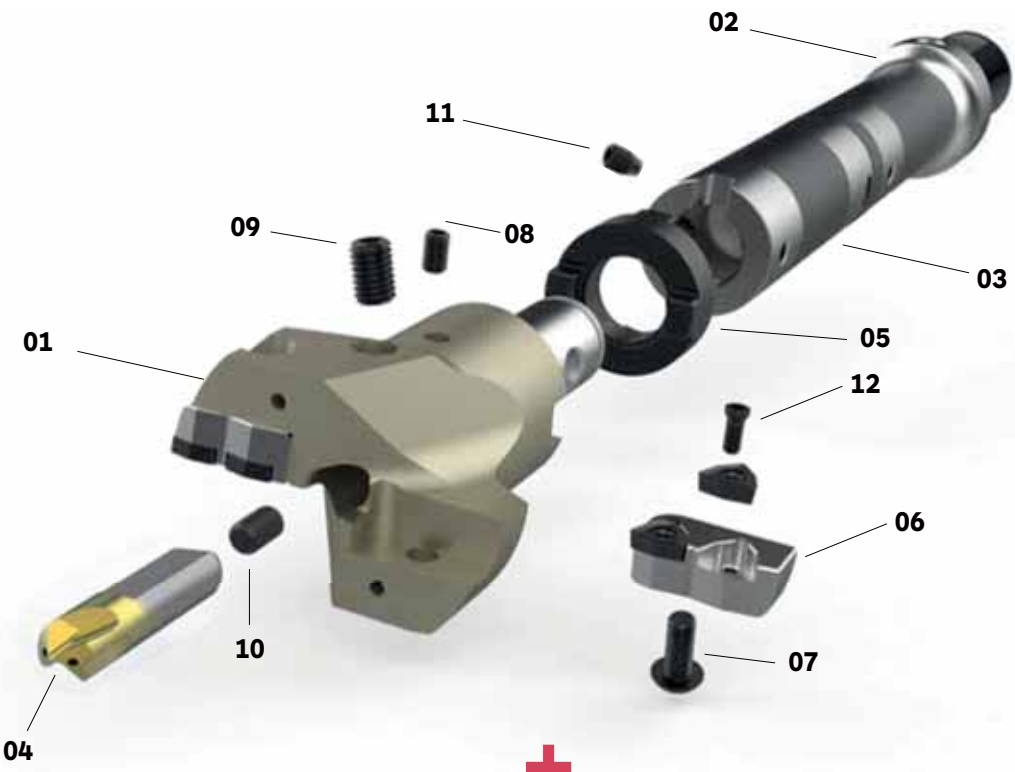
▸ **Innen und Aussen Patronen (DHTR)** | Internal and external cartdriges (DHTR)

Abmessungsbereich Range **(DHTR)**	**Innen Patro.** Int. Cartridge	**Außen Patro.** Ext. Cartridge	**Patronenschraube** Cartridge scew	**Wendeschneidplatten** Insert	**Schraube Wendeplatten** Screw insert	**CI-CE**
Ø 41	**CI 4145**	**CE 4141**	VTS 5X10	WCEX 06T308..	VT 3.5X0.6	●
Ø 42	**CI 4145**	**CE 4142**	VTS 5X10	WCEX 06T308..	VT 3.5X0.6	●
Ø 43	**CI 4145**	**CE 4143**	VTS 5X10	WCEX 06T308..	VT 3.5X0.6	●
Ø 44	**CI 4145**	**CE 4144**	VTS 5X10	WCEX 06T308..	VT 3.5X0.6	●
Ø 45	**CI 4145**	**CE 4145**	VTS 5X10	WCEX 06T308..	VT 3.5X0.6	●

Bestellbeispiel: (CI + 41-45) | **Ordering example**: (CI + 41-45)

RECORD INDEX DRILL "DHMTR"

Bohrkörper für Vollhartmetall-Wendeschneidplatten | Indexable body for solid carbide inserts



Bohrkörper **(DHMTR)**	01	Drill Body **(DHMTR)**
(DHMSH) Schaft	02	**(DHMSH)** Shank
(DHMEX) Verlängerung	03	**(DHMEX)** Extension
Pilotbohrer **(DHP)**	04	Pilot Drill **(DHP)**
Antriebsring **(DHRG)**	05	Drive Ring **(DHRG)**
Patrone Innen/Außen **(CI/CE)**	06	Cartdrige Inner/Outer **(CI/CE)**
Fixierungspatronenschraube **(VTSM)**	07	Fixation Cartdridge Screw **(VTSM)**
Befestigungsschraube für Pilotbohrer **(GASM)**	08	Fixing Screw for Pilot Drill **(GASM)**
Klemmbolzen für Pilotbohrer **(GAFM)**	09	Clamping Bolt for Pilot Drill **(GAFM)**
Einstellschraube für Pilotbohrer **(GARM)**	10	Adjustment Screw for Pilot Drill **(GARM)**
Befestigungsschraube Bohrkörper **(GABM)**	11	Fixation drill Screw **(GABM)**
Schraube für Wendeplatte **(VT)**	12	Insert screw **(VT)**

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DIN

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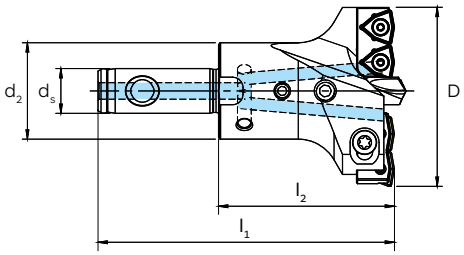
P. 200



Bohrkörper (DHMTR) 01
(DHMTR) Drill Body

MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

VERFÜGBARKEIT UND KOMPATIBILITÄT VON KÖRPERDURCHMESSERN/WENDEPLATTEN
BODY DIAMETER/INSERT AVAILABILITY AND COMPATIBILITY

Wendeschneidplatten/Zentrierbohrer separat bestellen | Inserts/pilot drill to be ordered separately	WCEX.....LC	WCEX.....MC
WCEX 030204...	-	●
WCEX 040204...	-	●
WCEX 050308...	●	●
WCEX 06T308...	●	●
WCEX 080408...	-	●
Näheres auf Seite | More details on page	175	176

	D (Min-Max)	d_2	d_s	l_2	l_1	Innen Patron. Int. Cartridge	Außen Patron. Ext. Cartridge	Wendeschneidplatten Insert	Pilotbohrer Pilot Drill	DHMTR
2 Wendeschneidplatten pro Patrone | 2 Inserts per cartridge										
A	**45-50**	28	13	50	85	CI 45-50	CE 45-50	WCEX 030204..	DHP 10X35	●
B	**50-55**	28	13	50	85	CI 50-55	CE 50-55	WCEX 030204..	DHP 10X35	●
C	**55-60**	32	16	60	100	CI 55-60	CE 55-60	WCEX 040204..	DHP 12X38	●
D	**60-65**	32	16	60	100	CI 60-65	CE 60-65	WCEX 050308..	DHP 12X38	●
E	**65-70**	32	16	60	100	CI 65-70	CE 65-70	WCEX 050308..	DHP 12X38	●
F	**70-75**	40	22	70	115	CI 70-75	CE 70-75	WCEX 050308..	DHP 12X38	●
G	**75-80**	40	22	70	115	CI 75-80	CE 75-80	WCEX 06T308..	DHP 16X45	●
H	**80-85**	40	22	70	115	CI 80-85	CE 80-85	WCEX 06T308..	DHP 16X45	●
I	**85-90**	48	27	70	120	CI 85-90	CE 85-90	WCEX 06T308..	DHP 16X45	●
L	**90-95**	48	27	70	120	CI 90-95	CE 90-95	WCEX 06T308..	DHP 16X45	●
M	**95-100**	48	27	70	120	CI 95-100	CE 95-100	WCEX 06T308..	DHP 16X45	●
3 Wendeschneiplatten pro Partrone | 3 Inserts per cartridge										
N	**100-105**	58	32	80	130	CI 100-105	CE 100-105	WCEX 050308..	DHP 20X45	●
O	**105-110**	58	32	80	130	CI 105-110	CE 105-110	WCEX 06T308..	DHP 20X45	●
P	**110-115**	58	32	80	130	CI 110-115	CE 110-115	WCEX 06T308..	DHP 20X45	●
Q	**115-120**	70	40	90	145	CI 115-120	CE 115-120	WCEX 06T308..	DHP 20X45	●
R	**120-125**	70	40	90	145	CI 120-125	CE 120-125	WCEX 06T308..	DHP 25X56	●
S	**125-130**	70	40	90	145	CI 125-130	CE 125-130	WCEX 06T308..	DHP 25X56	●
T	• **130-135**	70	40	90	145	CI 130-135	CE 130-135	WCEX 06T308	DHP 25X56	●
U	• **135-140**	70	40	90	145	CI 135-140	CE 135-140	WCEX 06T308	DHP 25X56	●
V	• **140-150**	80	50	100	160	CI 140-150	CE 140-150	WCEX 080408	DHP 25X56	●
W	• **150-160**	80	50	100	160	CI 150-160	CE 150-160	WCEX 080408	DHP 25X56	●
X	• **160-170**	80	50	100	160	CI 160-170	CE 160-170	WCEX 080408	DHP 30X68	●
Y	• **170-180**	80	50	100	160	CI 170-180	CE 170-180	WCEX 080408	DHP 30X68	●

Bestellbeispiel: (DHMTR + 45-50) | **Ordering example**: (DHMTR + 45-50) • **Neue Durchmesser** | New diameters
Einsatzschraube und Torx-Schlüssel im Lieferumfang enthalten | Insert Screw and torx key included, inserts not included

RECORD INDEX DRILL "DHMTR"

Modulare Bohrer mit Wendeschneidplatten | Modular drills with indexable inserts

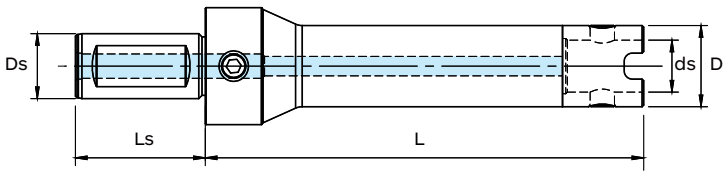
NEW ∅

ILIX NORM

DIN

9766

A



(DHMSH) Schaft
(DHMSH) Shank 02

MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

	Abmessungsbereich Range	ds	Ds	D	L	Ls	Antriebsring Drive ring	DHMSH
A-B	**13x115**	13	32	28	115	70	DHRG 28	●
A-B	**13x200**	13	32	28	200	70	DHRG 28	●
A-B	**13x300**	13	32	28	300	70	DHRG 28	●
C-D-E	**16x125**	16	40	32	125	80	DHRG 32	●
C-D-E	**16x200**	16	40	32	200	80	DHRG 32	●
C-D-E	**16x300**	16	40	32	300	80	DHRG 32	●
F-G-H	**22x148**	22	40	40	148	80	DHRG 40	●
F-G-H	**22x200**	22	40	40	200	80	DHRG 40	●
F-G-H	**22x300**	22	40	40	300	80	DHRG 40	●
I-L-M	**27x168**	27	40	48	168	80	DHRG 48	●
I-L-M	**27x300**	27	40	48	300	80	DHRG 48	●
N-O-P	**32x186**	32	40	58	186	80	DHRG 58	●
N-O-P	**32x300**	32	40	58	300	80	DHRG 58	●
Q-R-S-T-U	**40x186**	40	50	70	186	80	DHRG 70	●
Q-R-S-T-U	**40x300**	40	50	70	300	80	DHRG 70	●
V-W-X-Y	• **50x184**	50	50	80	184	80	DHRG 80	●
V-W-X-Y	• **50x300**	50	50	80	300	80	DHRG 80	●

Bestellbeispiel: (DHMSH + 13x115) | **Ordering example**: (DHMSH + 13x115)
Antriebsring nicht enthalten | Drive ring not included

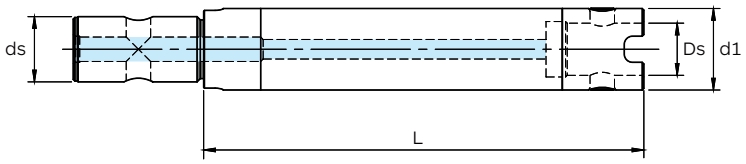
• **Neue Durchmesser** | New Measures

NEW ∅

ILIX NORM

DIN

A



Verlängerung (DHMEX)
(DHMEX) Extension 03

MATERIAL | MATERIAL	STAHL
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

	Abmessungsbereich Range	**ds**	**Ds**	**D1**	**L**	**Antriebsring** Drive ring	**DHMEX**
A-B	**13x115**	13	13	28	115	DHRG 28	●
A-B	**13x150**	13	13	28	150	DHRG 28	●
A-B	**13x200**	13	13	28	200	DHRG 28	●
A-B	**13x300**	13	13	28	300	DHRG 28	●
C-D-E	**16x115**	16	16	32	115	DHRG 32	●
C-D-E	**16x200**	16	16	32	200	DHRG 32	●
C-D-E	**16x300**	16	16	32	300	DHRG 32	●
F-G-H	**22x113**	22	22	40	113	DHRG 40	●
F-G-H	**22x200**	22	22	40	200	DHRG 40	●
F-G-H	**22x300**	22	22	40	300	DHRG 40	●
I-L-M	**27x113**	27	27	48	113	DHRG 48	●
I-L-M	**27x200**	27	27	48	200	DHRG 48	●
I-L-M	**27x300**	27	27	48	300	DHRG 48	●
N-O-P	**32x186**	32	32	58	186	DHRG 58	●
N-O-P	**32x300**	32	32	58	300	DHRG 58	●
Q-R-S-T-U	**40x186**	40	40	70	186	DHRG 70	●
Q-R-S-T-U	**40x300**	40	40	70	300	DHRG 70	●
Q-R-S-T-U	**40x500**	40	40	70	500	DHRG 70	●
V-W-X-Y	• **50x204**	50	50	80	204	DHRG 80	●
V-W-X-Y	• **50x300**	50	50	80	300	DHRG 80	●
V-W-X-Y	• **50x500**	50	50	80	500	DHRG 80	●

Bestellbeispiel: (DHMEX + 13x115) | **Ordering example**: (DHMEX + 13x115)
Antriebsring nicht enthalten | Drive ring not included

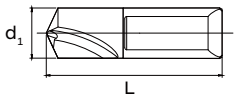
• **Neue Durchmesser** | New Measures

NEW ∅

ILIX NORM

DIN

▸ **Pilotbohrer** | Pilot Drill



04

	Abmessungsbereich Range	d_1	L	MATERIAL Material	BESCHICHTUNG Coating	KÜHLMITTEL Coolant	DHP
A-B	**10x35**	10	35	HSS-Co	TiN	✔	●
C-D-E-F	**12x38**	12	38	HSS-Co	TiN	✔	●
G-H-I-L-M	**16x45**	16	45	HSS-Co	TiN	✔	●
N-O-P-Q	**20x45**	20	45	HSS-Co	TiN	✔	●
R-S-T-U-V-W	**25x56**	25	56	HSS-Co	TiN	✔	●
X-Y	• **30x68**	30	68	HSS-Co	TiN	✔	●

Bestellbeispiel: (DHP + 10x35) | **Ordering example**: (DHP + 10x35) • **Neue Durchmesser** | New Measures

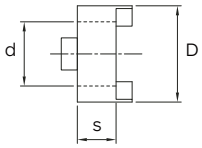
Einstellung des Pilotbohrers auf Seite 181 | Pilot drill adjustment on page 181

NEW ∅

ILIX NORM

DIN

▸ **Antriebsring** | Drive ring



05

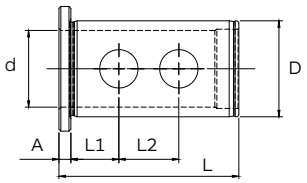
	Abmessungsbereich Range	D	d	s	DHRG
A-B	**28-13**	28	13	10	●
C-D-E	**32-16**	32	16	10	●
F-G-H	**40-22**	40	22	12	●
I-L-M	**48-27**	48	27	12	●
N-O-P	**58-32**	58	32	14	●
Q-R-S-T-U	**70-40**	70	40	14	●
V-W-X-Y	• **80-50**	80	50	16	●

Bestellbeispiel: (DHRG + 28-13) | **Ordering example**: (DHRG + 28-13) • **Neue Durchmesser** | New Measures

ILIX NORM

DIN

▸ **Reduzierbohrbüchsen** | Reducer Drill Sleeves



DHMSH	Abmessungsbereich Range	D	d	L	L1	L2	A	DHMBS
-	**32-20**	32	20	65	20	-	5	●
-	**32-25**	32	25	65	20	20	5	●
-	**40-20**	40	20	75	20	-	5	●
-	**40-25**	40	25	75	20	25	5	●
13x...	**40-32**	40	32	75	20	25	5	●

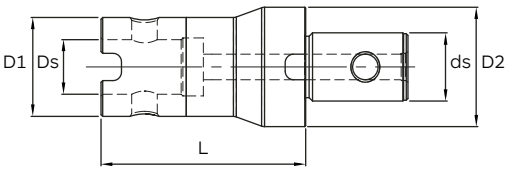
Bestellbeispiel: (DHMBS + 40-32) | **Ordering example**: (DHMBS + 40-32)

NEW ∅

ILIX NORM

DIN

▸ **Reduzierer** | Reducer



	Abmessungsbereich Range	ds	Ds	D1	D2	L	Antriebsring (Ø D1) Drive ring	Antriebsring (Ø D2) Drive ring	DHMRD
C-D-E	**16-13**	16	13	28	32	100	DHRG 28	DHRG 32	●
F-G-H	**22-16**	22	16	32	40	100	DHRG 32	DHRG 40	●
I-L-M	**27-22**	27	22	40	48	100	DHRG 40	DHRG 48	●
N-O-P	**32-13**	32	13	28	58	100	DHRG 28	DHRG 58	●
N-O-P	**32-16**	32	16	32	58	100	DHRG 32	DHRG 58	●
N-O-P	**32-22**	32	22	40	58	100	DHRG 40	DHRG 58	●
N-O-P	**32-27**	32	27	48	58	100	DHRG 48	DHRG 58	●
Q-R-S-T-U	**40-32**	40	32	58	70	100	DHRG 58	DHRG 70	●
V-W-X-Y	• **50-27**	50	27	48	80	80	DHRG 48	DHRG 80	●
V-W-X-Y	• **50-40**	50	40	70	80	150	DHRG 70	DHRG 80	●

Bestellbeispiel: (DHMRD + 16-13) | **Ordering example**: (DHMRD + 16-13)

• **Neue Durchmesser** | New Measures

Antriebsring nicht enthalten | Drive rings not included

ILIX NORM

DIN

▸ Innen und Aussen Patronen | Internal and external cartdriges

06

	Innen Patron. Int. Cartridge	Außen Patron. Ext. Cartridge	Abmessungsbereich Range	Patronenschraube Cartridge scew	Schraube Wendeplatten Screw insert	Wendeplatten Insert	CI-CE
A	CI	CE	**45-50**	VTSM 4X10	VT 2.2X0.45	WCEX 030204..	●
B	CI	CE	**50-55**	VTSM 4X10	VT 2.2X0.45	WCEX 030204..	●
C	CI	CE	**55-60**	VTSM 5X12	VT 2.5X0.45	WCEX 040204..	●
D	CI	CE	**60-65**	VTSM 5X12	VT 3X0.5	WCEX 050308..	●
E	CI	CE	**65-70**	VTSM 5X12	VT 3X0.5	WCEX 050308..	●
F	CI	CE	**70-75**	VTSM 5X12	VT 3X0.5	WCEX 050308..	●
G	CI	CE	**75-80**	VTSM 6X12	VT 3.5X0.6	WCEX 06T308..	●
H	CI	CE	**80-85**	VTSM 6X14	VT 3.5X0.6	WCEX 06T308..	●
I	CI	CE	**85-90**	VTSM 6X16	VT 3.5X0.6	WCEX 06T308..	●
L	CI	CE	**90-95**	VTSM 6X16	VT 3.5X0.6	WCEX 06T308..	●
M	CI	CE	**95-100**	VTSM 6X16	VT 3.5X0.6	WCEX 06T308..	●

Bestellbeispiel: (CI + 45-50) | **Ordering example**: (CI + 45-50)
Wendeschneidplatten nicht enthalten | Insert not included

NEW ∅

ILIX NORM

DIN

▸ Innen und Aussen Patronen | Internal and external cartdriges

06

	Innen Patron. Int. Cartridge	Außen Patron. Ext. Cartridge	Abmessungsbereich Range	Patronenschraube Cartridge scew	Schraube Wendeplatten Screw insert	Wendeplatten Insert	CI-CE
N	CI	CE	**100-105**	VTSM 8X18	VT 3X0.5	WCEX 050308..	●
O	CI	CE	**105-110**	VTSM 8X18	VT 3.5X0.6	WCEX 06T308..	●
P	CI	CE	**110-115**	VTSM 8X18	VT 3.5X0.6	WCEX 06T308..	●
Q	CI	CE	**115-120**	VTSM 8X20	VT 3.5X0.6	WCEX 06T308..	●
R	CI	CE	**120-125**	VTSM 8X25	VT 3.5X0.6	WCEX 06T308..	●
S	CI	CE	**125-130**	VTSM 8X25	VT 3.5X0.6	WCEX 06T308..	●
T	CI	CE	• **130-135**	VTSM 8X25	VT 3.5X0.6	WCEX 06T308..	●
U	CI	CE	• **135-140**	VTSM 8X25	VT 3.5X0.6	WCEX 06T308..	●
V	CI	CE	• **140-150**	VTSM 8X25	VT 4X0.7	WCEX 080408..	●
W	CI	CE	• **150-160**	VTSM 8X25	VT 4X0.7	WCEX 080408..	●
X	CI	CE	• **160-170**	VTSM 8X25	VT 4X0.7	WCEX 080408..	●
Y	CI	CE	• **170-180**	VTSM 8X25	VT 4X0.7	WCEX 080408..	●

Bestellbeispiel: (CI + 100-105) | **Ordering example**: (CI + 100-105)
Wendeschneidplatten nicht enthalten | Insert not included

• **Neue Durchmesser** | New Measures

NEW ∅

ILIX NORM
DIN

▸ ERSATZTEILE | SPARE PARTS (DHMTR)




08 **Befestigungsschraube für Pilotbohrer**
Fixing Screw for Pilot Drill

09 **Klemmbolzen für Pilotbohrer**
Clamping Bolt for Pilot Drill

10 **Einstellschraube für Pilotbohrer**
Adjustment Screw for Pilot Drill

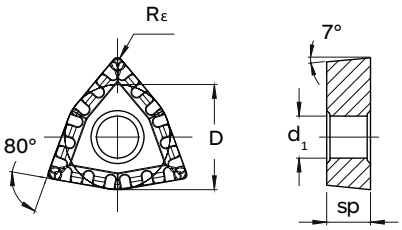
11 **Befestigungsschraube**
Fixation Screw

A	(GASM) 4X8	(GAFM) 6X10	(GARM) 6X10	(GABM) 8X12
B	(GASM) 4X8	(GAFM) 6X10	(GARM) 6X10	(GABM) 8X12
C	(GASM) 4X8	(GAFM) 8X12	(GARM) 8X15	(GABM) 8X12
D	(GASM) 5X8	(GAFM) 8X12	(GARM) 8X15	(GABM) 8X12
E	(GASM) 5X8	(GAFM) 8X12	(GARM) 8X15	(GABM) 8X12
F	(GASM) 5X8	(GAFM) 8X15	(GARM) 8X15	(GABM) 10X15
G	(GASM) 6X10	(GAFM) 10X20	(GARM) 10X16	(GABM) 10X15
H	(GASM) 6X10	(GAFM) 10X20	(GARM) 10X16	(GABM) 10X15
I	(GASM) 6X10	(GAFM) 10X20	(GARM) 10X18	(GABM) 12X18
L	(GASM) 6X10	(GAFM) 10X20	(GARM) 10X18	(GABM) 12X18
M	(GASM) 6X10	(GAFM) 10X20	(GARM) 10X18	(GABM) 12X18
N	(GASM) 6X10	(GAFM) 12X20	(GARM) 12X20	(GABM) 12X20
O	(GASM) 6X10	(GAFM) 12X20	(GARM) 12X20	(GABM) 12X20
P	(GASM) 6X10	(GAFM) 12X20	(GARM) 12X20	(GABM) 12X20
Q	(GASM) 6X10	(GAFM) 12X25	(GARM) 14X20	(GABM) 16X27
R	(GASM) 6X10	(GAFM) 14X25	(GARM) 14X20	(GABM) 16X27
S	(GASM) 6X10	(GAFM) 14X25	(GARM) 14X20	(GABM) 16X27
T	(GASM) 6X10	(GAFM) 14X25	(GARM) 14X20	(GABM) 16X27
U	(GASM) 6X10	(GAFM) 14X25	(GARM) 14X20	(GABM) 16X27
V	(GASM) 6X10	(GAFM) 14X25	(GARM) 14X20	(GABM) 16X27
W	(GASM) 6X10	(GAFM) 14X25	(GARM) 14X20	(GABM) 16X27
X	(GASM) 6X10	• (GAFM) 16X25	(GARM) 14X20	(GABM) 16X27
Y	(GASM) 6X10	• (GAFM) 16X25	(GARM) 14X20	(GABM) 16X27

• **Neue Durchmesser** | New Measures

RECORD INDEX DRILL

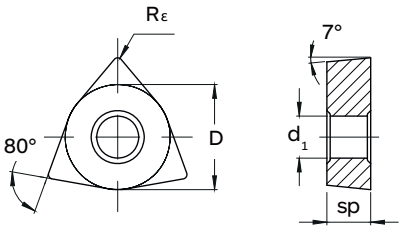
Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills



	MATERIAL | MATERIAL	VHM-HM	VHM-HM
	BESCHICHTUNG | COATING	-	-
	SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
MATERIALGRUPPEN MATERIAL GROUPS	**P** | **Stahl** | Steels	P	P
	M | **Rostfreier Stahl** | Stainless Steels	-	-
	K | **Gusseisen** | Cast Irons	-	-
	N | **Nichteisenmetalle** | Non-ferrous metals	-	-
	S | **HRSA und Titan** | HRSA and Titanium	-	-
	H | **Gehärtete Stähle** | Hardened Steels	-	-

Wendeplatten Schlüssel Insert Code	**D**	**SP**	**Rε**	**d_1**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**AGP 25**	**AGP 35**
WCEX 050308-LC	7,94	3,18	0,8	3,5	VT 3X0.5	KY T8	●	●
WCEX 06T308-LC	9,55	3,97	0,8	4,1	VT 3.5X0.6	KY T15	●	●

Bestellbeispiel: (WCEX 050308-LC + AGP35) | **Ordering example**: (WCEX 050308-LC + AGP35)
Schraube Wendeplatten und Torx-Schlüssel nicht enthalten | Insert Screw and torx key not included



MATERIAL | MATERIAL	VHM-HM	VHM-HM
BESCHICHTUNG | COATING	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	-	-
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

Wendeplatten Schlüssel Insert Code	**D**	**SP**	**Rε**	**d_1**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**AGP 25**	**AGP 35**
WCEX 030204-MC	4,76	1,98	0,4	2,00	VT 2.2X0.45	KY T7	●	●
WCEX 040204-MC	6,35	2,38	0,4	2,85	VT 2.5X0.45	KY T8	●	●
WCEX 050308-MC	7,94	3,18	0,8	3,50	VT 3X0.5	KY T8	●	●
WCEX 06T308-MC	9,55	3,97	0,8	4,10	VT 3.5X0.6	KY T15	●	●
WCEX 080408-MC	12,70	4,76	0,8	5,60	VT 4X0.7	KY T15	●	●

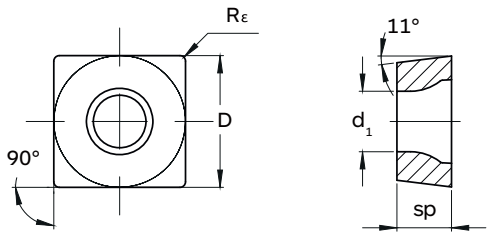
Bestellbeispiel: (WCEX 030204-MC + AGP35) | **Ordering example**: (WCEX 030204-MC + AGP35)
Schraube Wendeplatten und Torx-Schlüssel nicht enthalten | Insert Screw and torx key not included

RECORD INDEX DRILL

Vollhartmetall-Wendeschneidplatten für Wendeschneidplattenbohrer
Solid carbide inserts for indexable drills

NEW **AGP 25**

NEW **AGP 35**



MATERIAL | MATERIAL	VHM-HM	VHM-HM
BESCHICHTUNG | COATING	TiAlN Futura	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

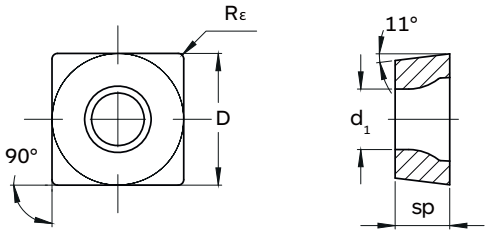
Materialgruppen MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	–	–
S | **HRSA und Titan** | HRSA and Titanium	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–

Wendeplatten Schlüssel Insert Code	**D**	**SP**	**Rε**	**d_1**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**AGP 25**	**AGP 35**
SPKX 060204-MC	6,00	2,38	0,4	2,55	VT 2.2X0.45	KY T7	●	●
SPKX 07T308-MC	7,94	3,97	0,8	2,85	VT 2.5X0.45X6.5	KY T8	●	●
SPKX 090408-MC	9,80	4,30	0,8	4,10	VT 3.5X0.6	KY T15	●	●
SPKX 110408-MC	11,50	4,80	0,8	4,40	VT 4X0.7X11	KY T15	●	●
SPKX 140512-MC	14,30	5,20	1,2	5,75	VT 5X0.8	KY T20	●	●

Bestellbeispiel: (SPKX 060204-MC + AGP35) | **Ordering example**: (SPKX 060204-MC + AGP35)
Schraube Wendeplatten und Torx-Schlüssel nicht enthalten | Insert Screw and torx key not included

NEW



MATERIAL | MATERIAL	VHM-HM	VHM-HM
BESCHICHTUNG | COATING	-	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

Materialgruppen MATERIAL GROUPS

P | **Stahl** | Steels	-	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Irons	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	-
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

Wendeplatten Schlüssel Insert Code	**D**	**SP**	**Rε**	**d_1**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**AGN 010**	**AGU 30**
SPHX 060204-LN	6,00	2,38	0,4	2,55	VT 2.2X0.45	KY T7	●	-
SPKX 060204-MC	6,00	2,38	0,4	2,55	VT 2.2X0.45	KY T7	-	●
SPKX 07T308-MC	7,94	3,97	0,8	2,85	VT 2.5X0.45X6.5	KY T8	-	●
SPKX 090408-MC	9,80	4,30	0,8	4,10	VT 3.5X0.6	KY T15	-	●
SPKX 110408-MC	11,50	4,80	0,8	4,40	VT 4X0.7X11	KY T15	-	●
SPKX 140512-MC	14,30	5,20	1,2	5,75	VT 5X0.8	KY T20	-	●

Bestellbeispiel: (SPKX 060204-MC + AGU30) | **Ordering example**: (SPKX 060204-MC + AGU30)
Schraube Wendeplatten und Torx-Schlüssel nicht enthalten | Insert Screw and torx key not included

WENDESCHNEIDPLATTEN BESCHREIBUNG | INSERT GRADE DESCRIPTION

PVD

Qualität | Grade	Materialgruppen | Materials group	Beschreibung | Description	BESCHICHTUNG | Coating
AGP25	P 10-35 M 10-25 K 10-30	**Beschichtete Sorte auf einem zähen, verschleißfesten Substrat für die allgemeine Bearbeitung.** Coated grade over a tough wear resistance substrate for general purpose machining.	TiALN
AGP35	P 20-40 M 20-30 K 20-40	**Sorte geeignet für Anwendungen mit instabilen Bedingungen. Hervorragende Lösung für Anwendungen mit mittlerer Schnittgeschwindigkeit.** Grade suitable for applications with instability conditions. Excellent solution for medium cutting speed applications.	TiALN
AGU30	P 20-40 M 20-30 K 20-40	**Ähnliche Qualität wie AGP35 mit mehrschichtiger PVD-Beschichtung, die eine verbesserte Verschleißfestigkeit für die allgemeine Bearbeitung bei hohen Schnittgeschwindigkeiten bietet.** Similar quality to AGP35 with multi-layer PVD coating offering improved wear resistance for general machining at high cutting speeds.	TiALN+TiN

UNBESCHICHTET | UNCOATED

Qualität | Grade	Materialgruppen | Materials group	Beschreibung | Description	BESCHICHTUNG | Coating
AGN010	N 01-20	**Unbeschichtete Hartmetall-Mikrokornsorte, die eine gute abrasive Verschleißfestigkeit und Zähigkeit bietet.** Uncoated carbide micro-grain grade combining a good abrasive wear resistance and toughness.	

SORTENEMPFEHLUNG FÜR BOHRSYSTEME
GRADES RECOMMENDATION FOR DRILLING SYSTEMS

Notiz | Note:

Unterschiedliche Platzierungen würden bessere Ergebnisse liefern, wenn sie auf die Bearbeitung von hochlegierten Stählen, rostfreien Stählen und HRSA-Materialien angewendet würden.
Different placements would give better results if applied to machining high alloy steels, stainless steels and HRSA materials.

▸ **MONTAGEMODUS EINFÜGEN** | INSERT MOUNTING MODE

GTR3D-GTR4D

 **Schraube Wendeplatten (x2)** Insert Screw (x2)	 **Torx-Schlüssel** | Torx key

GSQ3D-GTR4D

 **Schraube Wendeplatten (x2)** Insert Screw (x2)	 **Torx-Schlüssel** | Torx key

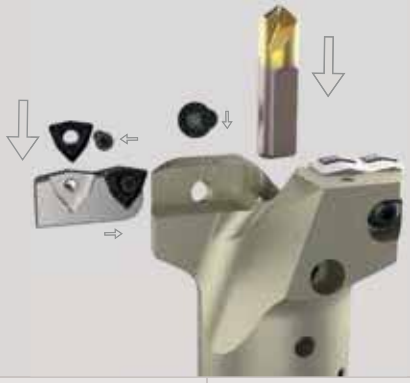
DHTR Ø25-40

 **Schraube Wendeplatten (x2)** Insert Screw (x2)	 **Torx-Schlüssel** | Torx key

DHTR Ø41-45

 **Schraube Wendeplatten (x2)** Insert Screw (x2)	 **Schrauben Patronen (x2)** Cartridge Screw (x2)	 **Torx-Schlüssel** | Torx key

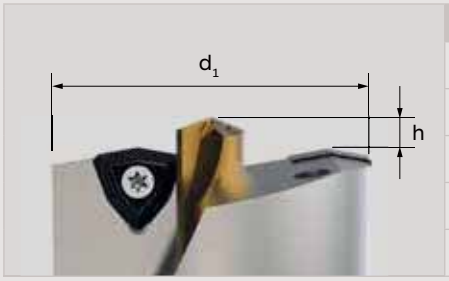
DHMTR - Version mit Doppelpatrone | Double cartridge version



 **Schraube Wendeplatten (x4)** Insert Screw (x4)	 **Patronen (Innen-Außen) (x2)** Cartdridge (Int.-Ext) (x2)	 **Schrauben Patronen (x2)** Cartridge Screw	 **Torx-Schlüssel** | Torx key

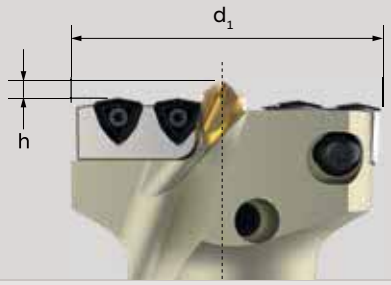
EINSTELLUNG DES PILOTBOHRERS | PILOT DRILL ADJUSTMENT

DHTR



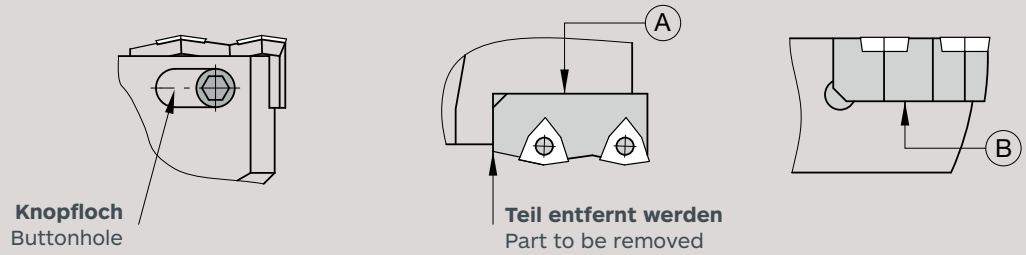
d_1	h (mm)
18-24	2,5
25-30	3,0
31-39	4,0
40-45	4,5

DHMTR



d_1	2xD zu 4xD 2xD to 4xD	4xD zu 6xD 4xD to 6xD	›6xD
	h (mm)	h (mm)	h (mm)
45-55	4.0	4.2	4.4
55-75	5.4	5.6	5.8
75-100	6.5	6.8	7.1
100-120	7.7	8.1	8.5
120-170	9.9	10.3	10.7
170-180	12.2	12.6	13.0

ÄNDERUNG DES DHMTR-BOHRERDURCHMESSERS DURCH ANPASSUNG DER AUSSENPATRONE
DHMTR DRILL DIAMETER CHANGE BY OUTER CARTRIDGE ADJUSTMENT



DE
- Außenpatronen werden bis zur maximal gewählten Größe geliefert.
- Einstellbare Außenpatronen, angepasst an den kleineren Durchmesser durch Entfernen von radialem Material.
- Äußere Patronen kürzen bei 90° zu Flächenkontakt A und B

ENG
- External cartridges are supplied up to the maximum chosen size.
- Adjustable outer cartridges adapted to minor diameter by removing radial material.
- Outer cartridges shorten at 90° to the face contact A and B

LOCHTOLERANZ UND MAXIMALE LOCHGRÖSSE MIT RADIALEM OFFSET
HOLE TOLERANCE AND MAXIMUM HOLE SIZE WITH RADIAL OFFSET

GSQ3D

Ø Bohrer | Drill	**Radiale Anpassung** | Radial Adjust	**Maximales Loch D** | Max Hole D
16	0.50	17.0
17	0.50	18.0
18	0.50	19.0
19	0.50	20.0
20	0.50	21.0
21	0.25	21.5
22	0.50	23.0
23	0.50	24.0
24	0.50	25.0
25	0.50	26.0
26	0.25	26.5
27	0.25	27.5
28	0.50	29.0
29	0.50	30.0
30	0.50	31.0
31	0.25	31.5
32	0.25	32.5
33	0.25	33.5
34	0.50	35.0
35	0.50	36.0
36	0.50	37.0
37	0.50	38.0
38	0.50	39.0
39	0.50	40.0
40	0.25	40.5
41	0.25	41.5
42	0.50	43.0
43	0.50	44.0
44	0.50	45.0
45	0.50	46.0
46	0.50	47.0
47	0.50	48.0
48	0.25	48.5
49	0.25	49.5
50	0.25	50.5

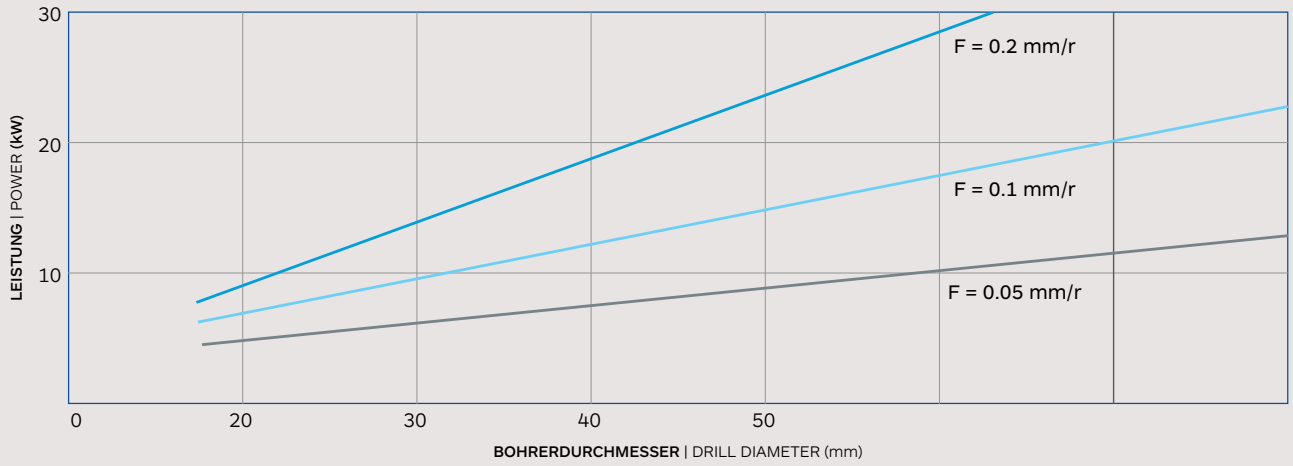
LOCHTOLERANZ UND MAXIMALE LOCHGRÖSSE MIT RADIALEM OFFSET
HOLE TOLERANCE AND MAXIMUM HOLE SIZE WITH RADIAL OFFSET

GSQ4D

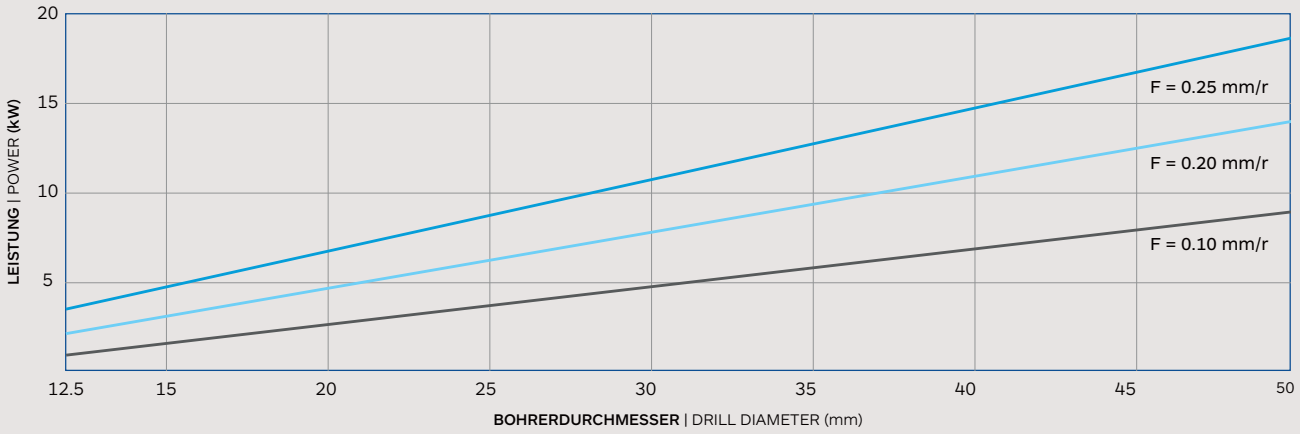
Ø Bohrer | Drill	**Radiale Anpassung** | Radial Adjust	**Maximales Loch D** | Max Hole D
16	0.50	17.0
17	0.50	18.0
18	0.50	19.0
19	0.50	20.0
20	0.50	21.0
21	0.25	21.5
22	0.50	23.0
23	0.50	24.0
24	0.50	25.0
25	0.50	26.0
26	0.25	26.5
27	0.25	27.5
28	0.50	29.0
29	0.50	30.0
30	0.50	31.0
31	0.25	31.5
32	0.25	32.5
33	0.25	33.5
34	0.50	35.0
35	0.50	36.0
36	0.50	37.0
37	0.50	38.0
38	0.50	39.0
39	0.50	40.0
40	0.25	40.5
41	0.25	41.5
42	0.50	43.0
43	0.50	44.0
44	0.50	45.0
45	0.50	46.0
46	0.50	47.0
47	0.50	48.0
48	0.25	48.5
49	0.25	49.5
50	0.25	50.5

▸ **ANFORDERUNGEN AN DIE BOHRLEISTUNG** | DRILLING POWER REQUIREMENTS

GTR



GSQ



DE

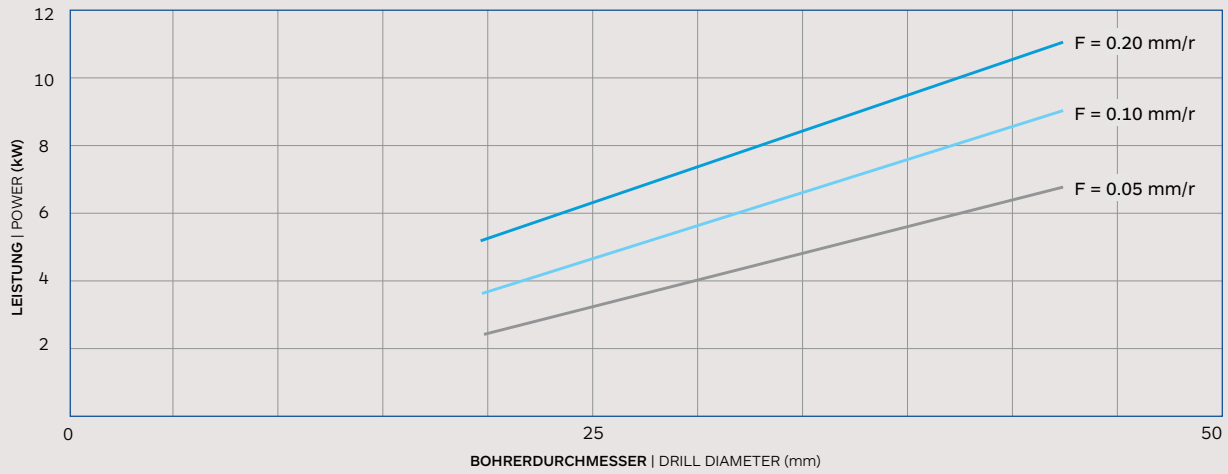
- **Dieses Diagramm basiert auf Bearbeitungserfahrungen mit Stählen mit einer Härte von 200-250 HB und einer Schnittgeschwindigkeit von 100 m/min.**
- **Bei Grau- oder Lamellenguss ist der effektive Leistungsbedarf um etwa 30 % geringer.**

ENG

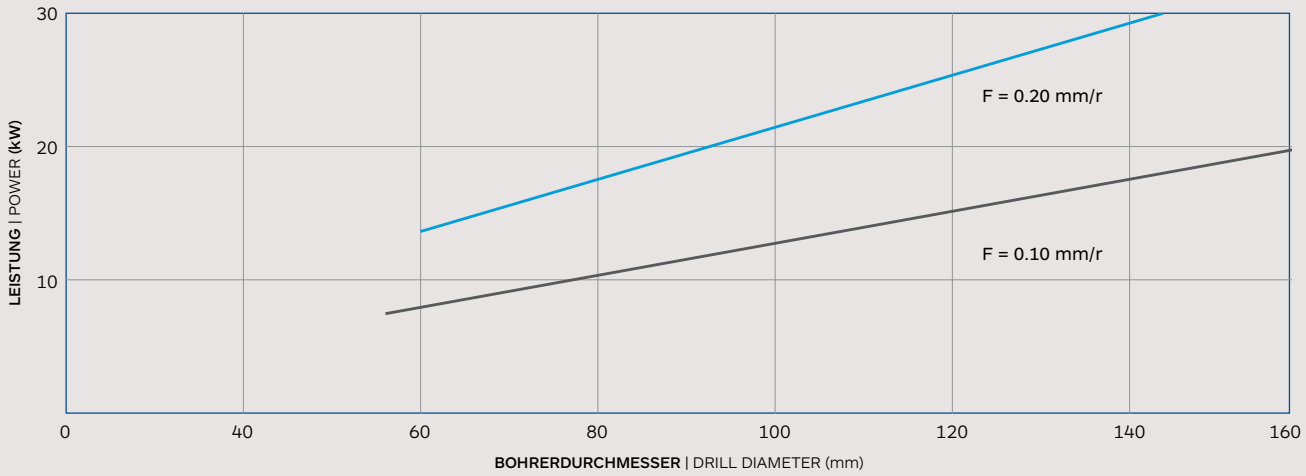
- This chart is based on machining experiences using steels with a hardness of 200-250HB and cutting speed of 100m/min.
- For grey or lamellar cast iron the effective power requirement is around 30% lower.

▸ **ANFORDERUNGEN AN DIE BOHRLEISTUNG** | DRILLING POWER REQUIREMENTS

DHTR



DHMTR



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ENG

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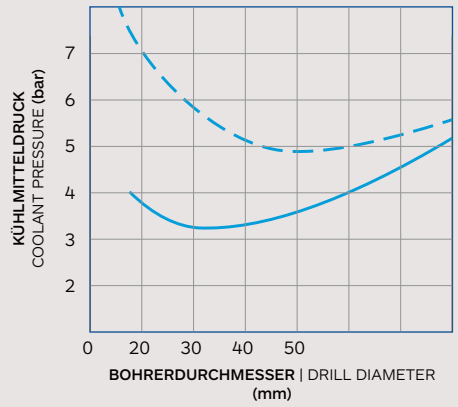
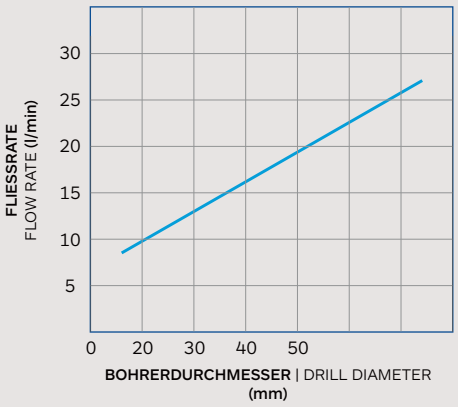
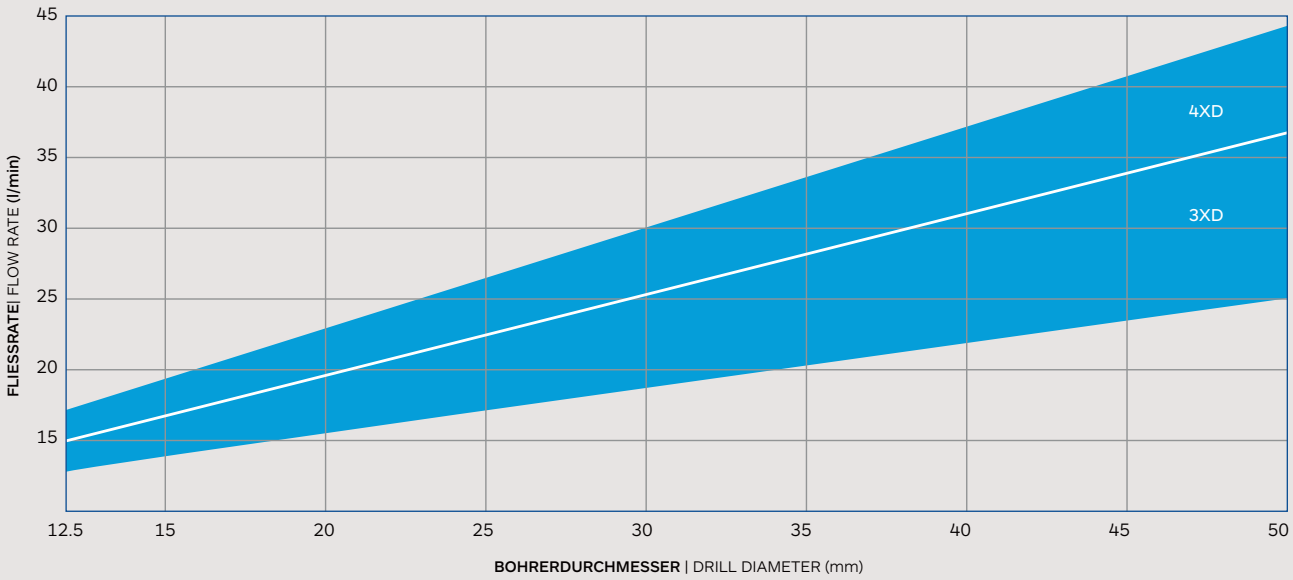
KÜHLMITTELANWENDUNGSTABELLE | COOLANT APPLICATION CHART

GTR





GSQ



DE

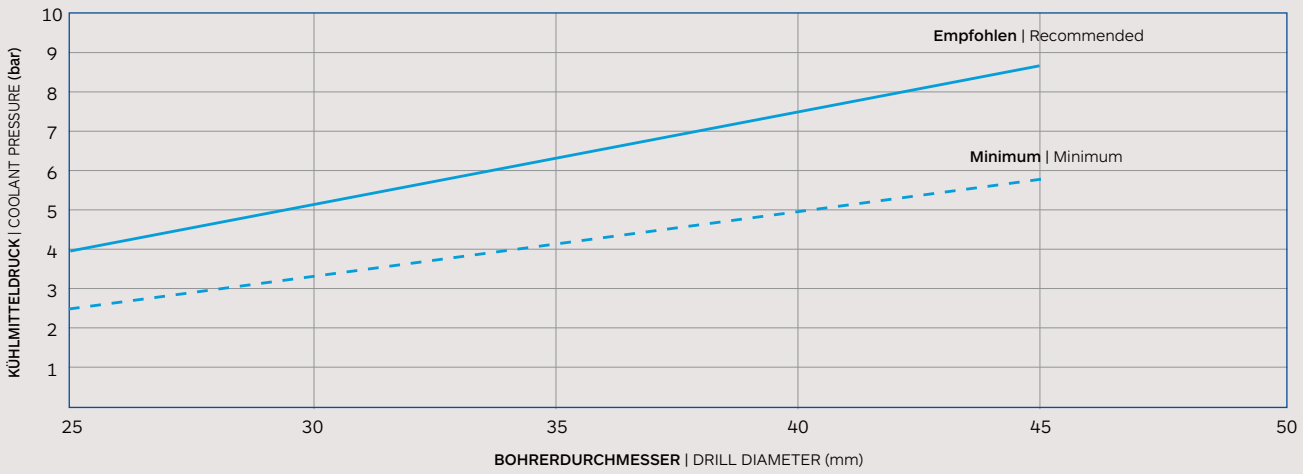
- **Dieses Diagramm basiert auf Bearbeitungserfahrungen mit Stählen mit einer Härte von 200-250 HB und einer Schnittgeschwindigkeit von 100 m/min.**
- **Bei Grau- oder Lamellenguss ist der effektive Leistungsbedarf um etwa 30 % geringer.**

ENG

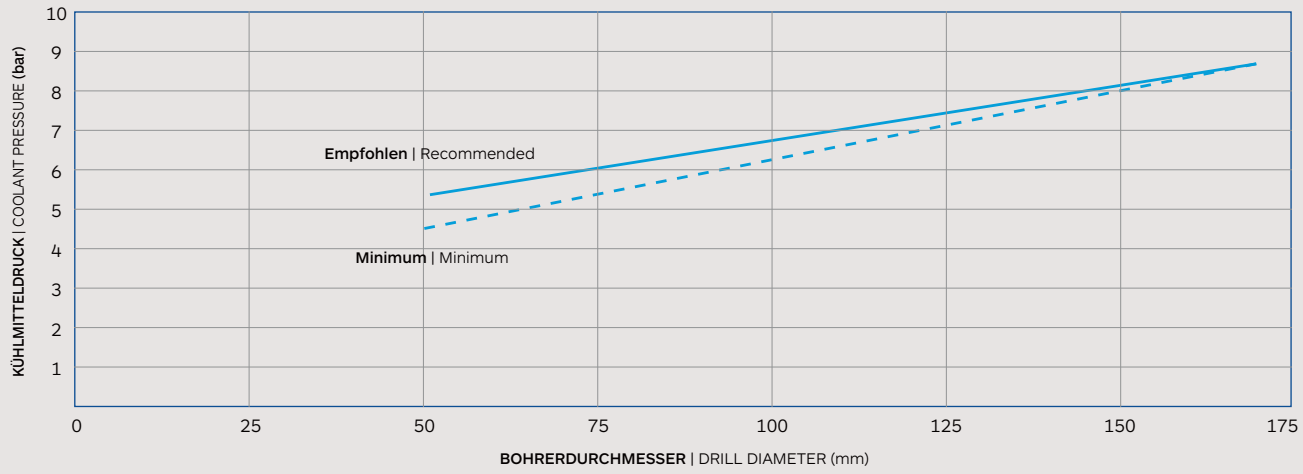
- This chart is based on machining experiences using steels with a hardness of 200-250HB and cutting speed of 100m/min.
- For grey or lamellar cast iron the effective power requirement is around 30% lower.

▸ **KÜHLMITTELANWENDUNGSTABELLE** | COOLANT APPLICATION CHART

DHTR



DHMTR



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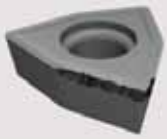
- **Bei Grau- oder Lamellenguss ist der effektive Leistungsbedarf um etwa 30 % geringer.**

ENG

- This chart is based on machining experiences using steels with a hardness of 200-250HB and cutting speed of 100m/min.
- For grey or lamellar cast iron the effective power requirement is around 30% lower.

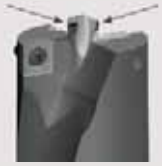
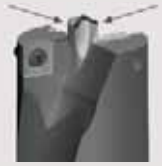
▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

GTR-GSQ

Problem | Problem	**Korrekturmaßnahme**	**Corrective Action**
	**Auf Drehmaschinen:** • Maschinenausrichtung prüfen. • Überprüfen Sie die Spanngenauigkeit. Wenn die Werkzeugspannung nicht verbessert werden kann, reduzieren Sie den Vorschub um 30 %. Zähere Hartmetallsorte für Benutzer. • Zähere Hartmetallsorte benutzen. **RAT:** Die beiden verfügbaren Sorten können für optimale Leistung auf demselben Körper kombiniert werden. **Beispiel**: Verwenden Sie AGP35 in der Innenpatrone und AGP25 in der Außenpatrone.	**On Lathes:** • Check machine alignment. • Check the clamping accuracy. If tool clamping cannot be improved reduce feed by 30%. • User tougher carbide grade. **TIP:** The two available grades can be combined on the same body for optimum performance. **Example:** Use grade AGP35 in the inside pocket with AGP25 in the outside pocket.
Rissbildung an der inneren Schneide | Inner cutting edge cracking		
	• Kühlmitteldruck und Kühlmittelmenge erhöhen (Kühlmittel unterstützt die Spanabfuhr und kühlt die Schneidkanten). • Optimieren Sie die Spankontrolle für eine bestimmte Anwendung.	• Increase coolant pressure and volume (coolant helps support chip evacuation as well as cooling the cutting edges). • Optimize chip control for a given application.
Spanabfuhr nicht optimal | Chip evacuation not optimal		
	• Kühlmitteldruck und -Menge erhöhen. • Verwenden Sie eine verschleißfestere Hartmetallsorte.	• Increase coolant pressure and volume. • Use a more wear – resistant grade.
Übermäßiger Wendeschneidplatten verschleiß | Excessive insert wear		
	• Kühlmitteldruck und -Menge erhöhen. • Spanngenauigkeit (Werkzeug und Werkstück) auf Verbesserungsmöglichkeiten prüfen. **RAT:** • Verwenden Sie eine höhere Schnittgeschwindigkeit mit leichterem Vorschub, um eine bessere Lochqualität zu erzielen.	• Increase coolant pressure and volume. • Check clamping accuracy (tool and workpiece) for possible improvement. **TIP:** • Use higher cutting speed with lighter feed to produce better hole quality.
Schlechte Bohrlochqualität | Poor drill hole quality		

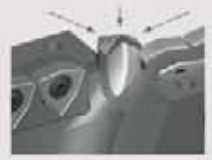
▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

DHTR

Problem | Problem	**Korrekturmaßnahme**	**Corrective Action**
	**Auf Drehmaschinen:** • Stellen Sie sicher, dass das Werkzeug richtig zentriert ist. • Spanngenauigkeit prüfen (Werkzeug und Werkstück). • Schnittgeschwindigkeit reduzieren	**On Lathes:** • Verify that the tool is centered correctly. • Check clamping accuracy (tool and work piece). • Reduce cutting speed
Risse im Pilotbohrer | Pilot drill cracking		
	• Zähere Hartmetallsorte verwenden. • Vorschub um 20 % reduzieren. • Spanngenauigkeit (Werkzeug und Werkstück) auf Verbesserungsmöglichkeiten prüfen.	• Use tougher carbide grade. • Reduce feed by 20%. • Check clamping accuracy (tool and workpiece) for possible improvement.
Risse in Innenwendeschneidplatte | Inner insert cracking		
	• Zähere Hartmetallsorte und/oder stärkere Wendeplattengeometrie verwenden. • Schnittgeschwindigkeit um 20 % reduzieren • Spanngenauigkeit (Werkzeug und Werkstück) auf Verbesserungsmöglichkeiten prüfen.	• Use tougher carbide grade and / or stronger insert geometry. • Reduce cutting speed by 20% • Check clamping accuracy (tool and workpiece) for possible improvement.
Risse in Außenwendeschneidplatte | Outer insert cracking		
	• Beschichteten Hartmetall-Zentrierbohrer verwenden. • Kühlmitteldruck und -Menge erhöhen. • Schnittgeschwindigkeit um 20 % reduzieren.	• Use coated carbide pilot drill. • Increase coolant pressure and volume. • Reduce cutting speed by 20%.
Starker Pilotbohrerverschleiß | Extensive pilot drill wear		
	**Auf Drehmaschinen:** • Verwenden Sie eine verschleißfestere Hartmetallsorte. • Kühlmitteldruck und -Menge erhöhen. • Schnittgeschwindigkeit um 20 % reduzieren.	**On Lathes:** • Use a more wear-resistant carbide grade. • Increase coolant pressure and volume. • Reduce cutting speed by 20%.
Übermäßiger Wendeschneidplatten verschleiß | Excessive insert wear		
	• Optimieren Sie die Spankontrolle für eine bestimmte Anwendung. • Schnittgeschwindigkeit um 20 % erhöhen, Vorschub um 20 % reduzieren.	• Optimize chip control for given application. • Increase cutting speed by 20%, reduce feed by 20%.
Spanbruch nicht optimal | Chip breaking not optimal		
	• Kühlmitteldruck und -Menge erhöhen. • Schnittgeschwindigkeit um 20 % erhöhen.	• Increase coolant pressure and volume. • Increase cutting speed by 20%.
Spanabfuhr nicht optimal, Bohrlochqualität schlecht | Chip evacuation not optimal, Poor drill hole quality		

▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

DHMTR

Problem | Problem	**Korrekturmaßnahme**	**Corrective Action**
	**Auf Drehmaschinen:** • Stellen Sie sicher, dass das Werkzeug richtig zentriert ist. • Spanngenauigkeit prüfen (Werkzeug und Werkstück).	On Lathes: • Verify that the tool is centered correctly. • Check clamping accuracy (tool andworkpiece).
Risse im Pilotbohrer | Pilot drill cracking		
	• Zähere Hartmetallsorte verwenden. • Spanngenauigkeit (Werkzeug und Werkstück) auf Verbesserungsmöglichkeiten prüfen. • Überprüfen Sie den Ölanteil in der Emulsion.	• Use tougher carbide grade. • Check clamping accuracy (tool and workpiece) for possible improvement. • Check the percentage of oil in the emulsion.
Außenwendeschneidplatte | Insert cracking		
	• Beschichteten Pilotbohrer verwenden. • Kühlmitteldruck und -Menge erhöhen. • Schnittgeschwindigkeit um 20 % reduzieren • Verwenden Sie eine verschleißfeste und widerstandsfähige Hartmetallsorte.	• Use coated pilot drill. • Increase coolant pressure and volume. • Reduce cutting speed by 20% • Use wear and resistant carbide grade.
Übermäßiger Wendeschneidplattenverschleiß | Excessive insert wear		
	• Optimieren Sie die Spankontrolle für eine bestimmte Anwendung. • Schnittgeschwindigkeit um 20 % erhöhen, Vorschub um 20 % reduzieren..	• Optimize chip control for given application. • Increase cutting speed by 20%, reduce feed by 20%.
Spanbruch nicht optimal | Chip breaking not optimal		
	• Kühlmitteldruck und -Menge erhöhen. • Schnittgeschwindigkeit um 20 % erhöhen.	• Increase coolant pressure and volume. • Increase cutting speed by 20%.
Spanabfuhr nicht optimal, Bohrlochqualität schlecht | Chip evacuation not optimal, Poor drill hole quality		

WENDEPLATTENBOHRER
INDEXABLE DRILLS

A.02.03

Schnittdaten
Cutting data

Familienprodukt Family product		Wendeschneidplatten Schlüssel Inserts Code	Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

				V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD AG DRILL 501D			**50PHTF**	125	7	85	6	60	5	45	3	30	3	110	6	85	6
			50GMTF	**130**	**7**	**90**	**6**	**65**	**5**	-	-	-	-	-	-	-	-
			50DMTX	-	-	-	-	-	-	**50**	**3**	**40**	**3**	-	-	-	-
			50SMTL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			50CMTF	-	-	-	-	-	-	-	-	-	-	**120**	**6**	**90**	**6**
RECORD AG DRILL 503D			**50GMTF**	**130**	**7**	**90**	**6**	**65**	**5**	-	-	-	-	-	-	-	-
			50DMTX	-	-	-	-	-	-	**50**	**3**	**40**	**3**	-	-	-	-
			50SMTL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			50CMTF	-	-	-	-	-	-	-	-	-	-	**120**	**6**	**90**	**6**
RECORD AG DRILL 505D			**50GMTF**	**125**	**7**	**85**	**6**	**55**	**5**	-	-	-	-	-	-	-	-
			50DMTX	-	-	-	-	-	-	**50**	**3**	**35**	**3**	-	-	-	-
			50SMTL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			50CMTF	-	-	-	-	-	-	-	-	-	-	**120**	**6**	**80**	**6**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub-Nummer** | Feed Number

Vorschub f_n (mm/g) per RECORD AG DRILL 500 | Feed f_n (mm/rev) for RECORD AG DRILL 500

		Ø12	Ø 16	Ø 20
Vorschub-Nummer Feed Number	**1**	0,080	0,100	0,130
	2	0,100	0,130	0,160
	3	0,130	0,160	0,200
	4	0,160	0,200	0,260
	5	0,200	0,260	0,320
	6	0,260	0,320	0,400
	7	0,320	0,400	0,500
	8	0,400	0,500	0,650

Beispiel Schnittdaten: 503D Ø 20 (50GMTF) | Werkstück Materialgruppe P1 | **V_c** = 130 m/min | **f_n= 0,500 mm/U** (Koeffizient f=7)
Cutting data example: 503D Ø 20 (50GMTF) | Material group P1 | **V_c** = 130 m/min | **f_n= 0,500** mm/rev (coefficient f=7)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**	**Wendeschneidplatten Schlüssel** Inserts Code		**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f				
150	7	70	6	30	2	20	2	20	2	-	-	-	-	**50PHTF**			143
-	-	-	-	-	-	-	-	25	2	-	-	-	-	**50GMTF**			
-	-	-	-	**35**	**2**	**25**	**2**	-	-	-	-	-	-	**50DMTX**			
170	**7**	**80**	**6**	-	-	-	-	-	-	-	-	-	-	**50SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50CMTF**			
-	-	-	-	-	-	-	-	25	2	-	-	-	-	**50GMTF**			144
-	-	-	-	**35**	**2**	**25**	**2**	-	-	-	-	-	-	**50DMTX**			
170	**7**	**80**	**6**	-	-	-	-	-	-	-	-	-	-	**50SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50CMTF**			
-	-	-	-	-	-	-	-	20	2	-	-	-	-	**50GMTF**			145
-	-	-	-	**35**	**2**	**25**	**2**	-	-	-	-	-	-	**50DMTX**			
150	**7**	**70**	**6**	-	-	-	-	-	-	-	-	-	-	**50SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50CMTF**			

Ø 26	**Ø32**	**Ø 40**		
0,160	0,180	0,200	**1**	**Vorschub-Nummer** Feed Number
0,200	0,220	0,260	**2**	
0,260	0,290	0,320	**3**	
0,320	0,340	0,400	**4**	
0,400	0,420	0,500	**5**	
0,500	0,550	0,650	**6**	
0,650	0,700	0,800	**7**	
0,800	0,900	1,000	**8**	

Familienprodukt Family product		Wendeschneidplatten Schlüssel Inserts Code	Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

				V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD AG DRILL 507D			**50GMTF**	**120**	**5**	**80**	**4**	**50**	**3**	-	-	-	-	-	-	-	-
			50DMTX	-	-	-	-	-	-	**50**	**2**	**35**	**2**	-	-	-	-
			50SMTL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			50CMTF	-	-	-	-	-	-	-	-	-	-	**120**	**6**	**80**	**5**
RECORD AG DRILL 510D			**50GMTF**	**100**	**5**	**70**	**4**	**50**	**3**	-	-	-	-	-	-	-	-
			50DMTX	-	-	-	-	-	-	**50**	**2**	**35**	**2**	-	-	-	-
			50SMTL	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			50CMTF	-	-	-	-	-	-	-	-	-	-	**100**	**6**	**80**	**5**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub-Nummer** | Feed Number

Vorschub f_n (mm/g) per RECORD AG DRILL 500 | Feed f_n (mm/rev) for RECORD AG DRILL 500

		Ø12	Ø 16	Ø 20
Vorschub-Nummer Feed Number	**1**	0,080	0,100	0,130
	2	0,100	0,130	0,160
	3	0,130	0,160	0,200
	4	0,160	0,200	0,260
	5	0,200	0,260	0,320
	6	0,260	0,320	0,400
	7	0,320	0,400	0,500
	8	0,400	0,500	0,650

Beispiel Schnittdaten: 507D Ø 20 (50GMTF) | Werkstück Materialgruppe P1 | **V_c** = 120 m/min | **f_n= 0,320 mm/U** (Koeffizient f=5)
Cutting data example: 507D Ø 20 (50GMTF) | Material group P1 | **V_c** = 120 m/min | **f_n= 0,320** mm/rev (coefficient f=5)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**	**Wendeschneidplatten Schlüssel** Inserts Code		**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f				
-	-	-	-	-	-	-	-	20	1	-	-	-	-	**50GMTF**			146
-	-	-	-	**35**	**1**	**25**	**1**	-	-	-	-	-	-	**50DMTX**			
150	**6**	**70**	**5**	-	-	-	-	-	-	-	-	-	-	**50SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50CMTF**			
-	-	-	-	-	-	-	-	20	1	-	-	-	-	**50GMTF**			147
-	-	-	-	**35**	**1**	**25**	**1**	-	-	-	-	-	-	**50DMTX**			
150	**6**	**70**	**5**	-	-	-	-	-	-	-	-	-	-	**50SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**50CMTF**			

Ø 26	**Ø32**	**Ø 40**		
0,160	0,180	0,200	**1**	**Vorschub-Nummer** Feed Number
0,200	0,220	0,260	**2**	
0,260	0,290	0,320	**3**	
0,320	0,340	0,400	**4**	
0,400	0,420	0,500	**5**	
0,500	0,550	0,650	**6**	
0,650	0,700	0,800	**7**	
0,800	0,900	1,000	**8**	

Familienprodukt Family product		Wendeschneidplatten Schlüssel Inserts Code	Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

				V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD AG DRILL 603D			**60GMTF**	**125**	**7**	**85**	**6**	**60**	**5**	-	-	-	-	-	-	-	-
			**60DMTX**	-	-	-	-	-	-	**45**	**3**	**35**	**3**	-	-	-	-
			**60SMTL**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			**60CMTF**	-	-	-	-	-	-	-	-	-	-	**115**	**6**	**85**	**6**
RECORD AG DRILL 605D			**60GMTF**	**120**	**7**	**80**	**6**	**50**	**5**	-	-	-	-	-	-	-	-
			**60DMTX**	-	-	-	-	-	-	**45**	**3**	**30**	**3**	-	-	-	-
			**60SMTL**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			**60CMTF**	-	-	-	-	-	-	-	-	-	-	**115**	**6**	**80**	**6**
RECORD AG DRILL 607D			**60GMTF**	**115**	**5**	**75**	**4**	**50**	**3**	-	-	-	-	-	-	-	-
			**60DMTX**	-	-	-	-	-	-	**45**	**2**	**30**	**2**	-	-	-	-
			**60SMTL**	-	-	-	-	-	-	-	-	-	-	-	-	-	-
			**60CMTF**	-	-	-	-	-	-	-	-	-	-	**110**	**6**	**75**	**5**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub-Nummer** | Feed Number

Vorschub f_n (mm/g) per RECORD AG DRILL 600 | Feed f_n (mm/rev) for RECORD AG DRILL 600

		Ø12	Ø 16	Ø 20
Vorschub-Nummer Feed Number	**1**	0,080	0,100	0,130
	2	0,100	0,130	0,160
	3	0,130	0,160	0,200
	4	0,160	0,200	0,260
	5	0,200	0,260	0,320
	6	0,260	0,320	0,400
	7	0,320	0,400	0,500
	8	0,400	0,500	0,650

Beispiel Schnittdaten: 605D Ø 20 (60GMTF) | Werkstück Materialgruppe P1 | **V_c** = 120 m/min | **f_n= 0,500 mm/U** (Koeffizient f=7)
Cutting data example: 605D Ø 20 (60GMTF) | Material group P1 | **V_c** = 120 m/min | **f_n= 0,500** mm/rev (coefficient f=7)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**	**Wendeschneidplatten Schlüssel** Inserts Code		**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen |** Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f				
-	-	-	-	-	-	-	-	20	2	-	-	-	-	**60GMTF**			
-	-	-	-	**30**	**2**	**20**	**2**	-	-	-	-	-	-	**60DMTX**			148
160	**7**	**75**	**6**	-	-	-	-	-	-	-	-	-	-	**60SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**60CMTF**			
-	-	-	-	-	-	-	-	20	2	-	-	-	-	**60GMTF**			
-	-	-	-	**30**	**2**	**20**	**2**	-	-	-	-	-	-	**60DMTX**			149
150	**7**	**70**	**6**	-	-	-	-	-	-	-	-	-	-	**60SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**60CMTF**			
-	-	-	-	-	-	-	-	15	1	-	-	-	-	**60GMTF**			
-	-	-	-	**30**	**1**	**20**	**1**	-	-	-	-	-	-	**60DMTX**			150
150	**6**	**70**	**5**	-	-	-	-	-	-	-	-	-	-	**60SMTL**			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**60CMTF**			

Ø 26	**Ø32**	**Ø 40**		
0,160	0,180	0,200	**1**	**Vorschub-Nummer** Feed Number
0,200	0,220	0,260	**2**	
0,260	0,290	0,320	**3**	
0,320	0,340	0,400	**4**	
0,400	0,420	0,500	**5**	
0,500	0,550	0,650	**6**	
0,650	0,700	0,800	**7**	
0,800	0,900	1,000	**8**	

Familienprodukt Family product		Wendeschneidplatten Schlüssel Inserts Code	Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

				V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD INDEX DRILL GTR3D - GTR4D			**WCEX.LC** AGP25-35	**170**	**5**	-	-	-	-	-	-	-	-	-	-	-	-
			**WCEX.MC** AGP25-35	**170**	**4**	**130**	**4**	**95**	**3**	**85**	**3**	**60**	**3**	**150**	**5**	**110**	**4**
RECORD INDEX DRILL GSQ3D - GSQ4D			**SPKX.MC** AGP25-35	**170**	**5**	**130**	**5**	**95**	**4**	**85**	**3**	**60**	**2**	**150**	**7**	**110**	**5**
			**SPKX.MC** AGU30	**180**	**5**	**150**	**5**	**110**	**4**	**110**	**3**	**80**	**2**	**180**	**7**	**130**	**5**
			**SPHX.LN** AGN010	-	-	-	-	-	-	-	-	-	-	-	-	-	-

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub-Nummer** | Feed Number

Vorschub f_n (mm/g) per RECORD INDEX DRILL GTR.. | Feed f_n (mm/rev) for RECORD INDEX DRILL GTR..

Vorschub-Nummer Feed Number	Ø 16 - 20	Ø 20,5 - 25	Ø 25,5 - 30	Ø 31 - 41	Ø 42 - 50
1	0,04 - 0,06	0,04 - 0,07	0,05 - 0,08	0,06 - 0,10	0,07 - 0,13
2	0,05 - 0,07	0,06 - 0,08	0,07 - 0,09	0,10 - 0,14	0,12 - 0,17
3	0,05 - 0,09	0,06 - 0,12	0,07 - 0,13	0,10 - 0,16	0,12 - 0,20
4	0,06 - 0,10	0,07 - 0,12	0,09 - 0,15	0,11 - 0,18	0,15 - 0,28
5	0,06 - 0,13	0,07 - 0,12	0,08 - 0,18	0,14 - 0,26	0,18 - 0,35
6	0,07 -0,13	0,08 - 0,12	0,10 - 0,18	0,15 - 0,28	0,20 - 0,40

Beispiel Schnittdaten: GTR3D Ø 20 (WCEX.LC) | Werkstück Materialgruppe P1 | **V_c** = 170 m/min | **f_n= 0,13 mm/U** (Koeffizient f=5)
Cutting data example: GTR3D Ø 20 (WCEX.LC) | Working material group P1 | **V_c** = 170 m/min | **f_n= 0,13** mm/rev (coefficient f=5)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**	**Wendeschneidplatten Schlüssel** Inserts Code		**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f				
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**WCEX.LC** AGP25-35			GTR3D **161** GTR4D **163**
200	6	140	4	35	2	30	2	-	-	-	-	-	-	**WCEX.MC** AGP25-35			
-	-	-	-	35	1	30	1	-	-	-	-	-	-	**SPKX.MC** AGP25-35			GSQ3D **162** GSQ4D **164**
-	-	-	-	**35**	**1**	**30**	**1**	-	-	-	-	-	-	**SPKX.MC** AGU30			
250	**7**	**160**	**6**	-	-	-	-	-	-	-	-	-	-	**SPHX.LN** AGN010			

Vorschub f_n (mm/g) per RECORD INDEX DRILL GSQ.. | Feed f_n (mm/rev) for RECORD INDEX DRILL GSQ..

Vorschub-Nummer Feed Number	**Ø 16 - 20**	**Ø 20,5 - 25**	**Ø 25,5 - 30**	**Ø 31 - 41**	**Ø 42 - 50**
1	0,06 - 0,10	0,06 - 0,12	0,07 - 0,13	0,08 - 0,15	0,08 - 0,16
2	0,06 - 0,12	0,08 - 0,15	0,09 - 0,16	0,10 - 0,17	0,11 - 0,19
3	0,06 - 0,14	0,08 -0,18	0,10 - 0,22	0,12 - 0,23	0,14 - 0,24
4	0,08 - 0,14	0,10 - 0,18	0,12 - 0,22	0,12 - 0,24	0,15 - 0,25
5	0,08 - 0,15	0,10 - 0,19	0,12 - 0,23	0,15 - 0,24	0,16 - 0,26
6	0,08 - 0,16	0,10 - 0,20	0,12 - 0,24	0,15 - 0,25	0,17 - 0,26
7	0,09 - 0,17	0,12- 0,20	0,15 - 0,25	0,16 - 0,28	0,18 - 0,30

Beispiel Schnittdaten: GSQ3D Ø 20 (SPKX.MC) | Werkstück Materialgruppe P1 | V_c = 170 m/min | f_n = **0,15 mm/U** (Koeffizient f=5)
Cutting data example: GSQ3D Ø 20 (SPKX.MC) | Working material group P1 | V_c = 170 m/min | f_n = **0,15** mm/rev (coefficient f=5)

Familienprodukt Family product		Wendeschneidplatten Schlüssel Inserts Code	Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

				V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
RECORD INDEX DRILL DHTR			**WCEX.LC** AGP25-35	**130**	**5**	-	-	-	-	-	-	-	-	-	-	-	-
			**WCEX.MC** AGP25-35	**130**	**5**	**100**	**5**	**80**	**4**	**70**	**2**	**60**	**1**	**130**	**6**	**100**	**5**
RECORD INDEX DRILL DHMTR			**WCEX.LC** AGP25-35	**130**	**4**	-	-	-	-	-	-	-	-	-	-	-	-
			**WCEX.MC** AGP25-35	**130**	**4**	**100**	**3**	**80**	**1**	**70**	**2**	**60**	**2**	**130**	**5**	**100**	**4**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub-Nummer** | Feed Number

Vorschub f_n (mm/g) per RECORD INDEX DRILL DHTR | Feed f_n (mm/rev) for RECORD INDEX DRILL DHTR

		Ø 25	Ø 26 - 30	Ø 31 - 40	Ø 41 - 45
Vorschub-Nummer Feed Number	**1**	0,04 - 0,07	0,04 - 0,11	0,06 - 0,12	0,08 - 0,14
	2	0,04 - 0,06	0,06 - 0,12	0,08 - 0,13	0,09 - 0,15
	3	0,04 - 0,06	0,07 - 0,12	0,08 - 0,13	0,09 - 0,15
	4	0,05 - 0,07	0,05 - 0,07	0,06 - 0,08	0,06 - 0,10
	5	0,06 - 0,10	0,07 - 0,11	0,08 - 0,12	0,10 - 0,14
	6	0,07 -0,13	0,07 - 0,15	0,08 - 0,16	0,10 - 0,18

Beispiel Schnittdaten: DHTR Ø 30 (WCEX.LC) | Werkstück Materialgruppe P1 | **V_c** = 130 m/min | **f_n= 0,11 mm/U** (Koeffizient f=5)
Cutting data example: DHTR Ø 30 (WCEX.LC) | Working material group P1 | **V_c** = 130 m/min | **f_n= 0,11** mm/rev (coefficient f=5)

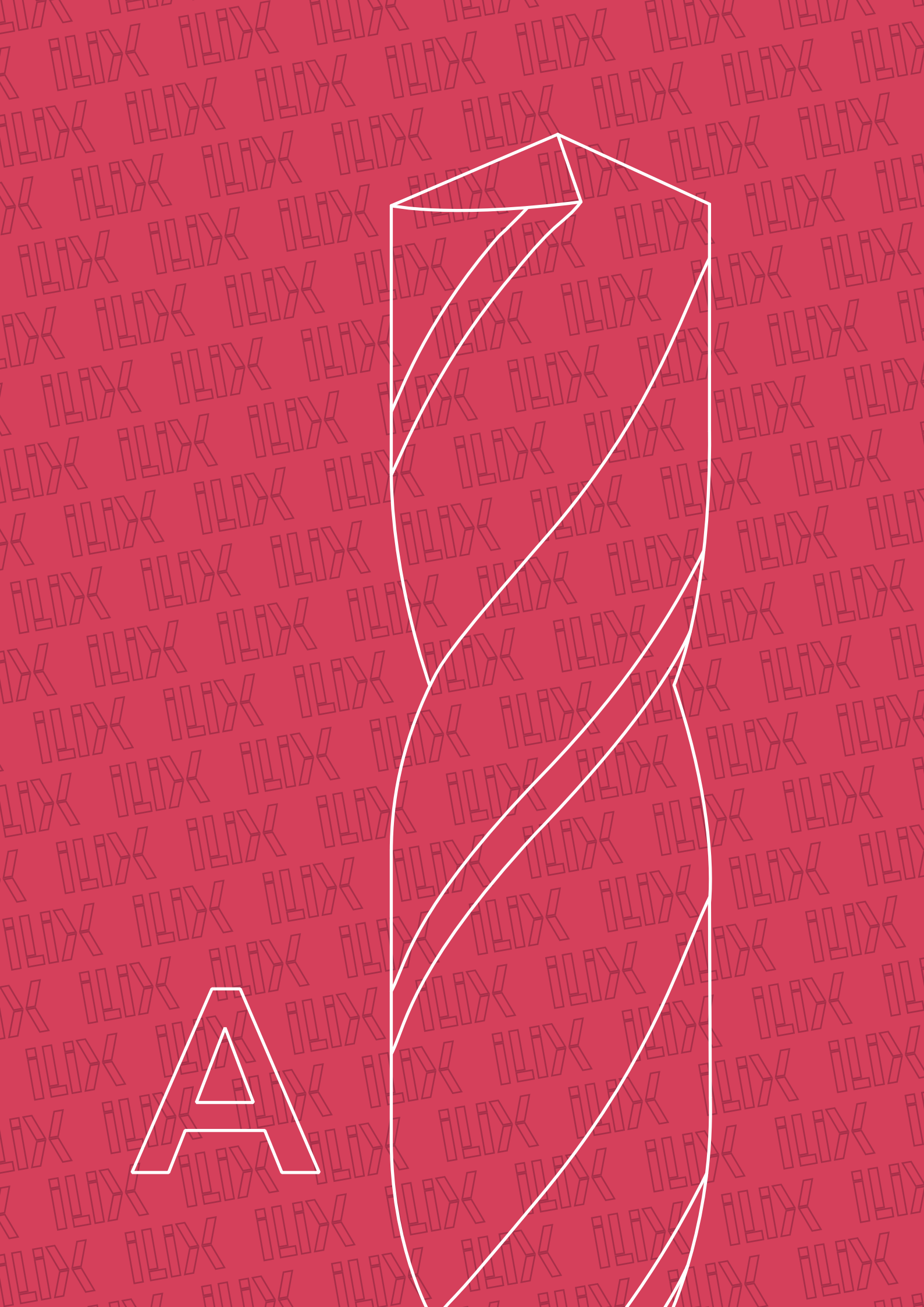
Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**	**Wendeschneidplatten Schlüssel** Inserts Code		**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen |** Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f				
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**WCEX.LC** AGP25-35			**165**
150	5	130	5	35	1	30	1	-	-	-	-	-	-	**WCEX.MC** AGP25-35			
-	-	-	-	-	-	-	-	-	-	-	-	-	-	**WCEX.LC** AGP25-35			**168**
150	4	130	3	30	1	25	1	-	-	-	-	-	-	**WCEX.MC** AGP25-35			

Vorschub f_n (mm/g) per RECORD INDEX DRILL DHMTR | Feed f_n (mm/rev) for RECORD INDEX DRILL DHMTR

		Ø45 -60	**Ø 60-75**	**Ø 75 - 100**	**Ø 100- 105**	**Ø 105 - 150**	**Ø 150 - 180**
Vorschub-Nummer Feed Number	**1**	0,05 - 0,07	0,06 - 0,08	0,06 - 0,10	0,09 - 0,13	0,06 - 0,08	0,06 - 0,10
	2	0,05 - 0,11	0,06 - 0,12	0,08 - 0,14	0,10 - 0,18	0,06 - 0,12	0,08 - 0,14
	3	0,06 - 0,11	0,08 - 0,12	0,10 - 0,14	0,12 - 0,20	0,08 -0,12	0,10 - 0,14
	4	0,06 - 0,15	0,08 - 0,16	0,10 - 0,18	0,12 - 0,22	0,08 - 0,16	0,10 - 0,18
	5	0,07 - 0,15	0,08 - 0,16	0,10 - 0,25	0,12 - 0,26	0,08 - 0,16	0,10 - 0,25

Beispiel Schnittdaten: DHMTR Ø 60 (WCEX.LC) | Werkstück Materialgruppe P1 | V_c = 130 m/min | f_n= **0,15 mm/U** (Koeffizient f=4)
Cutting data example: DHMTR Ø 60 (WCEX.LC) | Working material group P1 | V_c = 130 m/min | f_n= **0,15** mm/rev (coefficient f=4)


A

03

SPIRALBOHRER
TWIST DRILLS

SPIRALBOHRER
TWIST DRILLS

A.03.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

	Beschreibung des Familienprodukts	Family product description

▸ HSS ▸ HSS-Co ▸ **Vollhartmetall** | Solid Carbide

N **p. 207; 211; 214**	**HSS-, HSS-Co- und VHM-Spiralbohrer für allgemeine Zwecke, geeignet zum Bohren von Stählen und Gusseisen.** HSS, HSS-Co and solid carbide drills for general purpose suitable for drilling steels and cast irons.

▸ HSS ▸ HSS-Co

STL **p. 209; 211**	**HSS- und HSS-Co-Spiralbohrer geeignet zum Bohren von Stählen mit Rm < 1000 N/mm² und Gusseisen.** HSS and HSS-Co drills suitable for drilling steels with Rm < 1000 N/mm² and cast irons.

▸ HSS

NP **p. 208**	**Allzweck-HSS-Spiralbohrer, geeignet zum Bohren von Stählen, Gusseisen, Messing und Graphit.** General purpose HSS drills suitable for drilling steels, cast irons, brass and graphite.
NK **p. 208**	**HSS-Doppelspitzenbohrer geeignet zum Bohren von dünnen Stahlplatten, Gusseisen und Aluminium.** HSS double points drills suitable for drilling thin steel plates, cast iron and aluminium.
H **p. 209**	**HSS-Spiralbohrer geeignet zum Bohren von Aluminiumlegierungen und kurzspanenden Nichteisenwerkstoffen.** HSS drills suitable for drilling aluminium alloys and non-ferrous short chips materials.
W **p. 209**	**HSS-Spiralbohrer geeignet zum Bohren von Aluminiumlegierungen und langspanenden NE-Werkstoffen.** HSS drills suitable for drilling aluminium alloys and non-ferrous long-chip materials .

▸ HSS-Co

NS **p. 212**	**HSS-Co-Spiralbohrer geeignet zum Bohren von Stählen, Sphäroguss, Sonderlegierungen und Bronze.** HSS-Co drills suitable for drilling steels, nodular cast iron, special alloys and bronze.

	Beschreibung des Familienprodukts	Family product description

▸ HSS-Co

VA **p. 212**	**HSS-Co-Spiralbohrer geeignet zum Bohren von rostfreien Stählen, Titanlegierungen und NE-Materialien.** HSS-Co drills suitable for drilling stainless steels, Titanium alloys and non-ferrous materials.
RECORD VA **p. 213**	**HSS-Co-Spiralbohrer geeignet zum Bohren von rostfreien Stählen, Titanlegierungen und NE-Materialien.** HSS-Co drills suitable for drilling stainless steels, Titanium alloys and non-ferrous materials.
HD **p. 213**	**HSS-Co-Spiralbohrer geeignet zum Bohren von Stählen mit Rm > 1000 N/mm² und Gusseisen.** HSS-Co drills suitable for drilling steels with Rm > 1000 N/mm² and cast iron.
RECORD GG **p. 214**	**HSS-Co-Spiralbohrer geeignet zum Bohren von Gusseisen.** HSS-Co drills suitable for drilling cast irons.

▸ HSS-Co ▸ Vollhartmetall | Solid Carbide

HM **p. 214**	**DK120 Hartmetallbestückter Spiralbohrer geeignet zum Bohren von Gusseisen.** DK120 carbide tipped drills on the cutting edges suitable for drilling cast irons.
MICRO DRILL **p. 215**	**HSS-Co und Vollhartmetall-Mikrobohrer geeignet zum Bohren tiefer Löcher in Stähle, rostfreie Stähle, Gusseisen und NE-Werkstoffe.** HSS-Co and solid carbide micro drills suitable for drilling deep holes on steels, stainless steels, cast irons and non-ferrous materials.

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
▸ N																	
6156		HSS	≤3xd	1897 DIN	118°	VAP			0,5 ÷ 32	h8					-	-	220
NEW 6156TN		HSS	≤3xd	1897 DIN	118°	TiN			1 ÷ 30	h8					-	-	220
6159		HSS	≤3xd	1897 DIN	118°	VAP			0,5 ÷ 32	h8					-	-	220
6151		HSS	≤8xd	338 DIN	118°	VAP			0,2 ÷ 25,4	h8					-	-	230
6151TN		HSS	≤8xd	338 DIN	118°	TiN			0,5 ÷ 16	h8					-	-	230
6172...	 SET	HSS	≤8xd	338 DIN	118°	VAP			1 ÷ 13	h8					-	-	249
6158		HSS	≤8xd	338 DIN	118°	VAP			0,2 ÷ 20	h8					-	-	242
6106		HSS	≤8xd	338 DIN	118°	VAP			3 ÷ 10	h8					-	-	230
6202		HSS	≤10xd	339 DIN	118°	VAP			1 ÷ 12	h8					-	-	262
6165		HSS	≤12xd	340 DIN	118°	VAP			0,5 ÷ 25	h8					-	-	264
6165TN		HSS	≤12xd	340 DIN	118°	TiN			0,7 ÷ 10	h8					-	-	264
6108		HSS	≤12xd	340 DIN	118°	VAP			3 ÷ 10	h8					-	-	264
6217/1		HSS	≤16xd	1869 1 DIN	118°	VAP			2 ÷ 10	h8					-	-	274

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
▸ N																	
6217/2		HSS	≤22xd	1869 2 DIN	118°	VAP			3 ÷ 10	h8					-	-	278
6217/3		HSS	≤30xd	1869 3 DIN	118°	VAP			3,5 ÷ 10	h8					-	-	279
6168		HSS	≤8xd	345 DIN	118°	VAP			3 ÷ 100	h8					-	-	283
6168TN		HSS	≤8xd	345 DIN	118°	TiN			5 ÷ 30	h8					-	-	283
6176		HSS	≤8xd	346 DIN	118°	VAP			10 ÷ 50	h8					-	-	296
6233		HSS	≤12xd	341 DIN	118°	VAP			5 ÷ 50	h8					-	-	298
NEW **6233TN**		HSS	≤12xd	341 DIN	118°	TiN			5 ÷ 30	h8					-	-	298
6220/1		HSS	≤16xd	1870 1 DIN	118°	VAP			8 ÷ 50	h8					-	-	302
6220/2		HSS	≤22xd	1870 2 DIN	118°	VAP			8 ÷ 50	h8					-	-	304
▸ NP																	
NEW **6152TP**		HSS	≤8xd	338 DIN	130°	TiN TOP			1 ÷ 12	h8		-			-	-	230
▸ NK																	
6109	Nuten kürzer als DIN 1897 Flutes shorter than DIN 1897 	HSS	≤3xd	~1897 DIN	118°	VAP			2 ÷ 10	h8					-	-	220

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
▸ H																	
6186		HSS	≤3xd	1897 DIN	118°	-			0,9 ÷ 22	h8	-	-	-		-	-	220
6187		HSS	≤8xd	338 DIN	118°	-			0,35 ÷ 16	h8	-	-	-		-	-	230
6190		HSS	≤8xd	338 DIN	118°	-			0,4 ÷ 16	h8	-	-	-		-	-	242
6192		HSS	≤12xd	340 DIN	118°	-			1 ÷ 10	h8	-	-	-		-	-	269
▸ W																	
6197		HSS	≤8xd	338 DIN	130°	-			0,5 ÷ 16	h8		-	-		-	-	230
6199		HSS	≤8xd	338 DIN	130°	-			0,5 ÷ 12	h8		-	-		-	-	242
6200		HSS	≤12xd	340 DIN	130°	-			1 ÷ 12	h8		-	-		-	-	269
6201		HSS	≤8xd	345 DIN	130°	-			10 ÷ 32	h8		-	-		-	-	283
▸ STL																	
6210		HSS	≤8xd	338 DIN	130°	F. NIT			1 ÷ 16	h8		-			-	-	242
6210TN		HSS	≤8xd	338 DIN	130°	TiN			1 ÷ 16	h8		-			-	-	242
6210TC		HSS	≤8xd	338 DIN	130°	TiCN			1 ÷ 16	h8		-			-	-	242

▸ STL

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
6209		HSS	≤8xd	338 DIN	130°	F. NIT	↺		1,5 ÷ 12,7	h8					-	-	242
6173		HSS	≤12xd	340 DIN	130°	F. NIT	↻		1 ÷ 12,7	h8		-			-	-	264
6173TN		HSS	≤12xd	340 DIN	130°	TiN	↻		1 ÷ 12	h8		-			-	-	264
6184		HSS	≤12xd	340 DIN	130°	F. NIT	↺		7,5 ÷ 9,5	h8		-			-	-	264
6216/1		HSS	≤16xd	1869 1 DIN	130°	F. NIT	↻		2 ÷ 12,7	h8		-			-	-	274
NEW 6216 TN/1		HSS	≤16xd	1869 1 DIN	130°	TiN	↻		2 ÷ 12	h8		-			-	-	274
6216/2		HSS	≤22xd	1869 2 DIN	130°	F. NIT	↻		3 ÷ 12	h8		-			-	-	278
NEW 6216 TN/2		HSS	≤22xd	1869 2 DIN	130°	TiN	↻		3 ÷ 12	h8		-			-	-	278
6216/3		HSS	≤30xd	1869 3 DIN	130°	F. NIT	↻		3,5 ÷ 12	h8		-			-	-	279
6130		HSS	≤60/70 xd	ILIX NORM DIN	130°	F. NIT	↻		6 ÷ 14	h8					-	-	280
6212		HSS	≤8xd	345 DIN	130°	F. NIT	↻		10 ÷ 30	h8		-			-	-	283
6222		HSS	≤12xd	341 DIN	130°	F. NIT	↻		10 ÷ 31	h8		-			-	-	298
6221/1		HSS	≤16xd	1870 1 DIN	130°	F. NIT	↻		12 ÷ 30	h8		-			-	-	302

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
▸ STL																	
6221/2		HSS	≤22xd	1870 2 DIN	130°	F. NIT	↻		8 ÷ 40	h8		-		-	-	-	304
6150		HSS	≤40xd	ILIX NORM DIN	130°	F. NIT	↻		10 ÷ 22	h8		-			-	-	306
▸ N																	
6153		HSS-Co	≤8xd	338 DIN	118°	VAP	↻		0,3 ÷ 16	h8					-	-	250
6153TN		HSS-Co	≤8xd	338 DIN	118°	TiN	↻		0,3 ÷ 16	h8					-	-	250
6154		HSS-Co 8%	≤8xd	338 DIN	118°	-	↻		0,5 ÷ 16	h8					-	-	250
6166		HSS-Co	≤12xd	340 DIN	118°	VAP	↻		0,5 ÷ 17	h8					-	-	269
▸ STL																	
6131		HSS-Co	≤3xd	1897 DIN	130°	F. NIT	↻		1 ÷ 20	h8		-			-	-	225
6132		HSS-Co	≤3xd	ILIX NORM DIN	130°	-	↺		1 ÷ 16	h8		-			-	-	225
6132TN		HSS-Co	≤3xd	ILIX NORM DIN	130°	TiN	↺		1 ÷ 16	h8		-			-	-	225
6218/1		HSS-Co	≤16xd	1869 1 DIN	130°	F. NIT	↻		2 ÷ 12	h8		-			-	-	274

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
STL																	
6218/2		HSS-Co	≤22xd	1869 2 DIN	130°	F. NIT	↻		3 ÷ 12	h8		-			-	-	278
6219/1		HSS-Co	≤16xd	1870 1 DIN	130°	F. NIT	↻		12 ÷ 30	h8		-			-	-	302
6219/2		HSS-Co	≤22xd	1870 2 DIN	130°	F. NIT	↻		10 ÷ 30	h8		-			-	-	304
NS																	
6246		HSS-Co	≤3xd	1897 DIN	118°	VAP	↻		0,4 ÷ 12	h8						-	220
NEW 6246TN		HSS-Co	≤3xd	1897 DIN	118°	TiN	↻		0,4 ÷ 12	h8						-	220
6247		HSS-Co	≤8xd	338 DIN	118°	VAP	↻		1 ÷ 15	h8						-	250
6240		HSS-Co	≤3xd	ILIX NORM DIN	118°	VAP	↻		10 ÷ 30	h8					-	-	281
6204		HSS-Co	≤8xd	345 DIN	118°	VAP	↻		10 ÷ 32	h8					-	-	293
VA																	
6135		HSS-Co	≤3xd	1897 DIN	130°	-	↻		1 ÷ 12	h8			-			-	225
NEW 6135TX		HSS-Co	≤3xd	1897 DIN	130°	AlCrN	↻		1 ÷ 12	h8			-			-	225
6234		HSS-Co	≤8xd	338 DIN	130°	-	↻		0,3 ÷ 15	h8						-	250

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
VA																	
NEW 6234TX		HSS-Co	≤8xd	338 DIN	130°	AlCrN			0,3 ÷ 15	h8						-	250
6112		HSS-Co	≤12xd	340 DIN	130°	-			1 ÷ 12	h8						-	269
NEW 6112TN		HSS-Co	≤12xd	340 DIN	130°	TiN			1 ÷ 12	h8						-	269
6114		HSS-Co	≤8xd	345 DIN	130°	-			10 ÷ 32	h8						-	293
6116		HSS-Co	≤8xd	346 DIN	130°	-			12 ÷ 29,5	h8						-	296
RECORD VA																	
6140		HSS-Co	≤8xd	338 DIN	130°	VAP			1 ÷ 16	h8						-	256
NEW 6140TX		HSS-Co	≤8xd	338 DIN	130°	AlCrN			1 ÷ 16	h8						-	256
HD																	
6111		HSS-Co	≤8xd	338 DIN	130°	F. NIT			1 ÷ 16	h8		-			-	-	256
6111TN		HSS-Co	≤8xd	338 DIN	130°	TiN			1 ÷ 16	h8		-			-	-	256
6111TC		HSS-Co	≤8xd	338 DIN	130°	TiCN			1 ÷ 16	h8		-			-	-	256
6113		HSS-Co	≤12xd	340 DIN	130°	F. NIT			1 ÷ 12	h8		-			-	-	269

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
▸ HD																	
NEW 6113TN		HSS-Co	≤12xd	340 DIN	130°	TiN			2 ÷ 12	h8		-			-	-	269
6115		HSS-Co	≤8xd	345 DIN	130°	F. NIT			10 ÷ 40	h8					-	-	293
6119		HSS-Co	≤12xd	341 DIN	130°	F. NIT			10 ÷ 31	h8		-			-	-	298
▸ RECORD GG																	
6110TF		HSS-Co	≤8xd	338 DIN	130°	TiAlN FUTURA			4 ÷ 16	h8	-	-		-	-	-	256
▸ HM																	
(DK120 hartmetallbestückte Spiralbohrer | DK120 carbide tipped twist drills)																	
6211		HSS	≤5xd	8037 DIN	118°	-			3 ÷ 16	h8	-	-		-	-		259
6231		HSS	≤5xd	8041 DIN	118°	-			8 ÷ 32	h8	-	-		-	-		282
6120		HSS	≤8xd	338 DIN	118°	-			3 ÷ 13	h8	-	-		-	-		260
▸ N																	
6149		M.D.I. HM	≤3xd	1897 DIN	120°	-		6535 HA	1 ÷ 10	h7						-	225
6214		M.D.I. HM	≤8xd	338 DIN	120°	-		6535 HA	0,6 ÷ 12	h7						-	260

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
KEGELSTIFTBOHRER | TAPER PIN DRILLS **HSS Vaporisiert** | Steam tempered in HSS																	
6501		HSS	-	1898 (A) DIN	118°	VAP			2 ÷ 12	-						-	307
6502		HSS	-	1898 (B) DIN	118°	VAP			5 ÷ 6	-						-	308
MICRO DRILL **(Mikro-Spiralbohrer** | Micro twist drills)																	
6511		HSS-Co	≤5xd	1899 DIN	118°	-			0,05 ÷ 1,45	h5						-	309
6513		HSS-Co	≤5xd	1899 DIN	118°	-			0,08 ÷ 1,40	h5						-	309
6516		M.D.I. HM	≤8xd	ILIX NORM DIN	118°	-		6535 HA	0,10 ÷ 2,95	h7						-	311
6230		M.D.I. HM	≤8xd	ILIX NORM DIN	120°	-		6535 HA	1 ÷ 3	h7						-	313
ZENTRIERBOHRER FORM (A) | CENTRE DRILLS FORM (A) **Fase 60°** | Chamfering 60°																	
6142		HSS	-	328 B.S.	-	-		-	1,19 ÷ 7,94	-						-	320
6290		HSS	-	333 (A) DIN	-	-		-	0,5 ÷ 12,5	-						-	314
6290TN		HSS	-	333 (A) DIN	-	TiN		-	1 ÷ 5	-						-	314
6162	DIN 333A Standardnorm DIN 333A former standard 	HSS	-	333 (A) DIN	-	-		-	0,63 ÷ 6,0	-						-	316

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page

▸ ZENTRIERBOHRER FORM (A) | CENTRE DRILLS FORM (A)

Fase a 60° | Chamfering 60°

6162TN	DIN 333A Standard Norm DIN 333A former standard 	HSS	-	333 (A) DIN	-	TiN	↻	-	0,63 ÷ 6,0	-						-	**316**
6294		HSS	-	333 (A) DIN	-	-	↺	-	0,5 ÷ 6,3	-						-	**314**
6164		HSS	-	B 94.11 M-1979 ANSI	-	-	↻	-	0,64 ÷ 7,94	-						-	**319**
6291		HSS-Co	-	333 (A) DIN	-	-	↻	-	1,6 ÷ 5	-						-	**315**
6299		HSS-Co	-	333 (A) DIN	-	-	↻	-	1 ÷ 5	-						-	**315**
6144		HSS-Co	-	ILIX NORM DIN	-	-	↻	-	0,75 ÷ 5	-						-	**318**
6296		M.D.I. HM	-	333 (A) DIN	-	-	↻	-	0,5 ÷ 6,3	-						-	**315**

▸ ZENTRIERBOHRER FORM (R) | CENTRE DRILLS FORM (R)

Mit Radius | With Radius

6292		HSS	-	333 (R) DIN	-	-	↻	-	0,5 ÷ 12,5	-						-	**314**
6292TN		HSS	-	333 (R) DIN	-	TiN	↻	-	1 ÷ 5	-						-	**314**
6223	DIN 333R Standard Norm DIN 333R former standard 	HSS	-	333 (R) DIN	-	-	↻	-	1 ÷ 4	-						-	**316**
6223TN	DIN 333R Standard Norm DIN 333R former standard 	HSS	-	333 (R) DIN	-	TiN	↻	-	1 ÷ 4	-						-	**316**
6295		HSS	-	333 (R) DIN	-	-	↺	-	1 ÷ 4	-						-	**314**

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page

▸ ZENTRIERBOHRER FORM (R) | CENTRE DRILLS FORM (R)

Mit Radius | With Radius

6160		HSS	-	B 94.11 M-1979 ANSI	-	-	↻	-	0,64 ÷ 4,76	-							319
6293		HSS-Co	-	333 (R) DIN	-	-	↻	-	1,6 ÷ 5	-							315

▸ ZENTRIERBOHRER FORM (B) | CENTRE DRILLS FORM (B)

Mit Schutzfase, Senkfase 60°-120° | With protective bevel, chamfering 60°-120°

6297		HSS	-	333 (B) DIN	-	-	↻	-	1 ÷ 10	-							317
6298B		HSS	-	333 (B) DIN	-	-	↻	-	1 ÷ 6,3	-							317
6289		HSS	-	333 (B) DIN	-	-	↻	-	1,6 ÷ 10	-							317

▸ ZENTRIERBOHRER | SPOT DRILLS

Für CNC-Maschinen | For CNC machines

6148	Spannuten kürzer als DIN 1897 Flutes shorter than DIN 1897 	HSS	-	~1897 DIN	90°	-	↻		4 ÷ 20	h7							321
6148TN	Spannuten kürzer als DIN 1897 Flutes shorter than DIN 1897 	HSS	-	~1897 DIN	90°	TiN	↻		4 ÷ 20	h7							321
6147	Spannuten kürzer als DIN 1897 Flutes shorter than DIN 1897 	HSS	-	~1897 DIN	120°	-	↻		4 ÷ 20	h7							321
6147TN	Spannuten kürzer als DIN 1897 Flutes shorter than DIN 1897 	HSS	-	~1897 DIN	120°	TiN	↻		4 ÷ 20	h7							321
6100	Spannuten kürzer als DIN 1897 Flutes shorter than DIN 1897 	HSS	-	~1897 DIN	120°	-	↻		6 ÷ 20	h7							321
6102		M.D.I. HM	-	ILIX NORM DIN	120°	-	↻		4 ÷ 20	h7							322

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Schnitttiefe Cutting depth	DIN	Spitzenwinkel Point angle	Beschichtung Coating | Treatment	Schnittrichtung Cutting Direction	Schaft Shank	Durchmesserbereich Diameters range	Fertigungstoleranz Manufacturing tolerance	P	M	K	N	S	H	Werkzeugseite Tool page
ZENTRIERBOHRER | SPOT DRILLS **Für CNC-Maschinen** | For CNC machines																	
6102TN		M.D.I. HM	-	ILIX NORM DIN	120°	TiN	↻		4 ÷ 20	h7							322
6103		M.D.I. HM	-	ILIX NORM DIN	90°	-	↻		4 ÷ 20	h7							322
6103TN		M.D.I. HM	-	ILIX NORM DIN	90°	TiN	↻		4 ÷ 20	h7							322
STUFEN-SPIRALBOHRER | STEP DRILLS **Für Zentrierbohrungen nach DIN 332** | For center holes according to DIN 332																	
6249	**Fase a 60°** - Chamfer 60° 	HSS	-	332 DIN	118°	-	↻		M4 ÷ M24	h8						-	323
6250	**Radius** - Radius 	HSS	-	332 DIN	118°	-	↻		M4 ÷ M24	h8						-	323
STUFEN-SPIRALBOHRER | STEP DRILLS **Vaporisiert** | Steam tempered																	
6281	**Fase a 90°** - 90° Countersinking 	HSS	-	8374 DIN	118°	VAP	↻		M3 ÷ M10	h8						-	324
6282	**Fase a 90°** - 90° Countersinking 	HSS	-	8378 DIN	118°	VAP	↻		M3 ÷ M12	h8						-	325
6283	**Fase a 180°** - 180° Countersinking 	HSS	-	8376 DIN	118°	VAP	↻		M3 ÷ M10	h8						-	326
6284	**Fase a 90°** - 90° Countersinking 	HSS	-	8375 DIN	118°	VAP	↻		M5 ÷ M16	h8						-	327
6285	**Fase a 90°** - 90° Countersinking 	HSS	-	8379 DIN	118°	VAP	↻		M8 ÷ M20	h8						-	328
6286	**Fase a 180°** - 180° Countersinking 	HSS	-	8377 DIN	118°	VAP	↻		M5 ÷ M20	h8						-	329

A.03.02

Produktpalette
Products range

1897
DIN

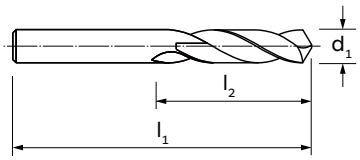
≤3xd

NEW 6156TN

NEW 6246TN

P.331→

A 03



	6156	6156TN	6109	6159	6186	6246	6246TN
MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS	HSS-Co	HSS-Co
TYP | TYPE	N	N	NK	N	H	NS	NS
SPITZENWINKEL | POINT ANGLE	118°	118°	118°	118°	118°	118°	118°
BESCHICHTUNG | COATING	-	TiN	-	-	-	-	TiN
OBERFLÄCHENBEHANDLUNG | SURFACE TREAT.	VAP	-	VAP	VAP	-	VAP	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↺	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

	6156	6156TN	6109	6159	6186	6246	6246TN
P | **Stähle** | Steels	P	P	P	P	-	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	-	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K	-	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6156	6156TN	6109	6159	6186	6246	6246TN
0,400			19	2		-	-	-	-	-	●	-
0,500			20	3		●	-	-	●	-	●	-
0,550			21	3		●	-	-	●	-	-	-
0,600			21	3		●	-	-	●	-	●	-
0,650			22	4		-	-	-	●	-	-	-
0,700			23	4		●	-	-	●	-	●	-
0,750			23	4		●	-	-	●	-	-	-
0,800			24	5		●	-	-	●	-	●	-
0,850			24	5		●	-	-	●	-	-	-
0,900			25	5		●	-	-	●	●	●	-
0,950			25	5		●	-	-	●	-	-	-
1,000			26	6		●	●	-	●	●	●	●
1,050			26	6		●	-	-	●	-	-	
1,100			28	7		●	●	-	●	●	●	●
1,150			28	7		●	-	-	●	-	-	-
1,200			30	8		●	●	-	●	●	●	●
1,250			30	8		●	-	-	●	-	-	-
1,300			30	8		●	●	-	●	●	●	●
1,350			32	9		●	-	-	●	-	-	-
1,400			32	9		●	●	-	●	●	●	●
1,450			32	9		●	-	-	●	-	-	-
1,500			32	9		●	●	-	●	●	●	●
1,550			34	10		●	-	-	●	●	-	-

01/05 →

DIN 1897

Spiralbohrer mit Zylinderschaft, extra kurz | Twist drills with straight shank, stub length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6156	6156TN	6109	6159	6186	6246	6246TN
1,600			34	10	●	●	-	●	●	●	●
1,650			34	10	●	-	-	●	-	-	-
1,700			34	10	●	●	-	●	●	●	●
1,750			36	11	●	-	-	●	●	-	-
1,800			36	11	●	●	-	●	●	●	●
1,850			36	11	●	-	-	●	●	-	-
1,900			36	11	●	●	-	●	●	●	●
1,950			38	12	●	-	-	●	●	-	-
2,000			38	12	●	●	●	●	●	●	●
2,050			38	12	●	-	-	●	●	-	-
2,100			38	12	●	●	●	●	●	●	●
2,150			40	13	●	-	-	●	-	-	-
2,200			40	13	●	●	■	●	●	●	●
2,250			40	13	●	-	-	●	●	-	-
2,300			40	13	●	●	●	●	●	●	●
2,350			40	13	●	-	-	●	●	-	-
2,400			43	14	●	●	●	●	●	●	●
2,450			43	14	●	-	-	●	●	-	-
2,500			43	14	●	●	●	●	●	●	●
2,550			43	14	●	-	-	●	●	-	-
2,600			43	14	●	●	●	●	●	●	●
2,650			43	14	●	-	-	●	-	-	-
2,700			46	16	●	●	●	●	●	●	●
2,750			46	16	●	-	-	●	-	-	-
2,800			46	16	●	●	●	●	●	●	●
2,850			46	16	●	-	-	●	-	-	-
2,900			46	16	●	●	●	●	●	●	●
2,950			46	16	●	-	-	●	●	-	-
3,000			46	16	●	●	●	●	●	●	●
3,100			49	18	●	-	●	●	●	●	-
3,200			49	18	●	●	●	●	●	●	●
3,250			49	18	●	-	-	●	●	-	-
3,300			49	18	●	●	●	●	●	●	●
3,400			52	20	●	●	●	●	●	●	●
3,500			52	20	●	●	●	●	●	●	●
3,600			52	20	●	●	●	●	●	●	●
3,700			52	20	●	●	●	●	●	●	●
3,750			52	20	●	●	-	●	-	-	●
3,800			55	22	●	●	●	●	●	●	●
3,900			55	22	●	●	■	●	●	●	●
3,970	5/32		55	22	●	-	-	-	-	-	-
4,000			55	22	●	●	●	●	●	●	●
4,100			55	22	●	●	●	●	●	●	●
4,200			55	22	●	●	●	●	●	●	●
4,250			55	22	●	-	-	●	●	-	-
4,300			58	24	●	●	●	●	●	●	●
4,394		17	58	24	■	-	-	-	-	-	-
4,400			58	24	●	●	●	●	●	●	●
4,500			58	24	●	●	●	●	●	●	●
4,572		15	58	24	-	-	-	-	-	●	-
4,600			58	24	●	●	●	●	●	●	●
4,700			58	24	●	●	●	●	●	●	●
4,750			58	24	●	-	-	●	-	-	-
4,800			62	26	●	●	●	●	●	●	●
4,900			62	26	●	●	●	●	●	●	●
5,000			62	26	●	●	●	●	●	●	●

02/05 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6156	6156TN	6109	6159	6186	6246	6246TN
5,100			62	26		●	●	●	●	●	●	●
5,200			62	26		●	●	●	●	●	●	●
5,250			62	26		●	-	-	●	-	-	-
5,300			62	26		●	●	●	●	●	●	●
5,400			66	28		●	●	●	●	●	●	●
5,500			66	28		●	●	●	●	●	●	●
5,600			66	28		●	●	●	●	●	●	●
5,700			66	28		●	●	●	●	●	●	●
5,750			66	28		●	●	-	●	-	-	●
5,800			66	28		●	●	●	●	●	●	●
5,900			66	28		●	●	-	●	●	●	●
6,000			66	28		●	●	●	●	●	●	●
6,100			70	31		●	●	●	●	●	●	●
6,200			70	31		●	-	●	●	●	●	-
6,250			70	31		●	●	-	●	-	-	●
6,300			70	31		●	●	●	●	●	●	●
6,400			70	31		●	●	●	●	●	●	●
6,500			70	31		●	●	●	●	●	●	●
6,600			70	31		●	●	■	●	●	●	●
6,700			70	31		●	-	●	●	-	●	-
6,750			74	34		●	●	-	●	●	-	●
6,800			74	34		●	●	●	●	●	●	●
6,900			74	34		●	●	●	●	-	●	●
7,000			74	34		●	●	●	●	●	●	●
7,100			74	34		●	●	-	●	-	●	●
7,200			74	34		●	●	-	●	●	●	●
7,250			74	34		●	-	-	●	●	-	-
7,300			74	34		●	●	-	●	-	●	●
7,400			74	34		●	●	-	●	-	●	●
7,500			74	34		●	●	●	●	●	●	●
7,600			79	37		●	●	-	●	-	●	●
7,700			79	37		●	●	-	●	-	●	●
7,750			79	37		●	-	-	●	-	-	-
7,800			79	37		●	●	-	●	-	●	●
7,900			79	37		●	●	-	●	-	●	●
7,950			79	37		■	-	-	-	-	-	-
8,000			79	37		●	●	●	●	●	●	●
8,100			79	37		●	●	-	●	●	●	●
8,200			79	37		●	●	-	●	●	●	●
8,250			79	37		●	-	-	●	-	-	-
8,300			79	37		●	●	-	●	-	●	●
8,400			79	37		●	●	-	●	●	●	●
8,500			79	37		●	●	●	●	●	●	●
8,600			84	40		●	●	-	●	-	●	●
8,700			84	40		●	●	-	●	-	●	●
8,750			84	40		●	-	-	●	-	-	-
8,800			84	40		●	●	-	●	-	●	●
8,900			84	40		●	●	-	●	-	●	●
9,000			84	40		●	●	●	●	●	●	●
9,100			84	40		●	●	-	●	-	●	●
9,200			84	40		●	●	-	●	●	●	●
9,250			84	40		●	-	-	●	-	-	-
9,300			84	40		●	●	-	●	-	●	●
9,400			84	40		●	●	-	●	-	●	●
9,500			84	40		●	●	●	●	●	●	●
9,600			89	43		●	●	-	●	-	●	●

03/05 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 1897

Spiralbohrer mit Zylinderschaft, extra kurz | Twist drills with straight shank, stub length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6156	6156TN	6109	6159	6186	6246	6246TN
9,700			89	43		●	●	-	●	-	●	●
9,750			89	43		●	-	-	●	-	-	-
9,800			89	43		●	●	-	●	●	●	●
9,900			89	43		●	●	-	●	-	●	●
10,000			89	43		●	●	●	●	●	●	●
10,100			89	43		●	-	-	●	-	-	-
10,200			89	43		●	-	-	●	●	-	-
10,250			89	43		●	-	-	●	-	-	-
10,300			89	43		●	-	-	●	-	-	-
10,400			89	43		●	-	-	●	-	-	-
10,500			89	43		●	●	-	●	●	●	●
10,600			89	43		●	-	-	●	-	-	-
10,700			95	47		●	-	-	●	●	-	-
10,750			95	47		●	-	-	●	-	-	-
10,800			95	47		●	-	-	●	-	-	-
10,900			95	47		●	-	-	●	-	-	-
11,000			95	47		●	●	-	●	●	●	●
11,100			95	47		●	-	-	●	-	-	-
11,200			95	47		●	-	-	●	-	-	-
11,250			95	47		●	-	-	●	-	-	-
11,300			95	47		●	-	-	●	-	-	-
11,400			95	47		●	-	-	●	-	-	-
11,500			95	47		●	●	-	●	●	●	●
11,600			95	47		●	-	-	●	-	-	-
11,700			95	47		●	-	-	●	-	-	-
11,750			95	47		●	-	-	●	-	-	-
11,800			95	47		●	-	-	●	-	-	-
11,900			102	51		●	-	-	●	-	-	-
12,000			102	51		●	●	-	●	●	●	●
12,100			102	51		●	-	-	●	-	-	-
12,200			102	51		●	-	-	●	-	-	-
12,250			102	51		●	-	-	●	-	-	-
12,300			102	51		●	-	-	●	■	-	-
12,400			102	51		●	-	-	●	-	-	-
12,500			102	51		●	●	-	●	●	-	-
12,600			102	51		●	-	-	●	-	-	-
12,700			102	51		●	-	-	●	●	-	-
12,750			102	51		●	-	-	●	-	-	-
12,800			102	51		●	-	-	●	-	-	-
12,900			102	51		●	-	-	●	-	-	-
13,000			102	51		●	●	-	●	●	-	-
13,100			102	51		●	-	-	●	-	-	-
13,200			102	51		●	-	-	●	-	-	-
13,250			107	54		●	-	-	●	-	-	-
13,300			107	54		●	-	-	●	-	-	-
13,400			107	54		●	-	-	●	-	-	-
13,500			107	54		●	●	-	●	●	-	-
13,600			107	54		●	-	-	●	-	-	-
13,700			107	54		●	-	-	●	-	-	-
13,750			107	54		●	-	-	●	-	-	-
13,800			107	54		●	-	-	●	-	-	-
13,900			107	54		●	-	-	●	-	-	-
14,000			107	54		●	●	-	●	●	-	-
14,100			111	56		●	-	-	●	-	-	-
14,200			111	56		●	-	-	●	-	-	-
14,250			111	56		●	-	-	●	-	-	-

04/05 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6156	6156TN	6109	6159	6186	6246	6246TN
14,300			111	56		●	-	-	●	-	-	-
14,400			111	56		●	-	-	●	-	-	-
14,500			111	56		●	●	-	●	●	-	-
14,600			111	56		●	-	-	●	-	-	-
14,700			111	56		●	-	-	●	-	-	-
14,750			111	56		●	-	-	●	-	-	-
14,800			111	56		●	-	-	●	-	-	-
14,900			111	56		●	-	-	●	-	-	-
15,000			111	56		●	●	-	●	●	-	-
15,500			115	58		●	●	-	●	-	-	-
16,000			115	58		●	●	-	●	●	-	-
16,500			115	58		●	●	-	●	-	-	-
17,000			119	60		●	●	-	●	●	-	-
17,500			123	62		●	●	-	●	-	-	-
18,000			123	62		●	●	-	●	●	-	-
18,500			127	64		●	●	-	●	-	-	-
19,000			127	64		●	●	-	●	●	-	-
19,500			131	66		●	●	-	●	-	-	-
20,000			131	66		●	●	-	●	●	-	-
20,500			136	68		●	●	-	●	-	-	-
21,000			136	68		●	●	-	●	■	-	-
21,500			141	70		●	●	-	●	-	-	-
22,000			141	70		●	●	-	●	■	-	-
22,500			146	72		●	●	-	●	-	-	-
23,000			146	72		●	●	-	●	-	-	-
23,500			146	72		●	-	-	●	-	-	-
24,000			151	75		●	●	-	●	-	-	-
24,500			151	75		●	-	-	●	-	-	-
25,000			151	75		●	●	-	●	-	-	-
25,500			156	78		●	-	-	●	-	-	-
26,000			156	78		●	●	-	●	-	-	-
26,500			156	78		●	-	-	-	-	-	-
27,000			162	81		●	●	-	●	-	-	-
27,500			162	81		●	-	-	-	-	-	-
28,000			162	81		●	●	-	●	-	-	-
28,500			168	84		●	-	-	-	-	-	-
29,000			168	84		●	●	-	●	-	-	-
29,500			168	84		●	-	-	-	-	-	-
30,000			168	84		●	●	-	●	-	-	-
31,000			174	87		●	-	-	●	-	-	-
32,000			180	90		●	-	-	●	-	-	-

05/05

■ **Solange der Vorrat reicht** | Till stocks last

DIN 1897

Spiralbohrer mit Zylinderschaft, extra kurz | Twist drills with straight shank, stub length

NEW

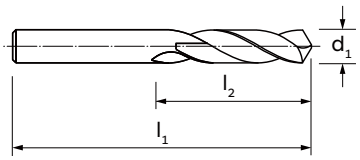
6135TX

1897

DIN

≤3xd

P.331➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	M.D.I.-HM
TYP | TYPE	VA	VA	STL	STL	STL	N
SPITZENWINKEL | POINT ANGLE	130°	130°	130°	130°	130°	120°
BESCHICHTUNG | COATING	-	AlCrN	-	-	TiN	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	F.NIT	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↺	↺	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	-	-	-	M
K | **Gusseisen** | Cast Irons	-	-	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	-	-	-	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6135	6135TX	6131	6132	6132TN	6149
1,000			26	6	●	●	●	●	●	●
1,016		60	26	6	-	-	●	-	-	-
1,041		59	26	6	-	-	●	-	-	-
1,067		58	26	6	-	-	●	-	-	-
1,092		57	26	7	-	-	●	-	-	-
1,100			28	7	■	■	●	●	●	●
1,181		56	30	8	-	-	●	-	-	-
1,191	3/64		30	8	-	-	●	-	-	-
1,200			30	8	●	●	●	●	●	●
1,300			30	8	●	●	●	●	●	●
1,321		55	32	9	-	-	●	-	-	-
1,397		54	32	9	-	-	●	-	-	-
1,400			32	9	●	●	●	●	●	●
1,500			32	9	●	●	●	●	●	●
1,511		53	34	10	-	-	●	-	-	-
1,588	1/16		34	10	-	-	●	-	-	-
1,600			34	10	●	●	●	●	●	●
1,613		52	34	10	-	-	●	-	-	-
1,700			34	10	●	●	●	●	●	●
1,702		51	36	11	-	-	●	-	-	-
1,778		50	36	11	-	-	●	-	-	-
1,800			36	11	■	■	●	●	●	●
1,854		49	36	11	-	-	●	-	-	-

01/05 ➔

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6135	6135TX	6131	6132	6132TN	6149
1,900			36	11		●	●	●	●	●	●
1,930		48	38	12		-	-	●	-	-	-
1,984	5/64		38	12		-	-	●	-	-	-
1,994		47	38	12		-	-	●	-	-	-
2,000			38	12		●	●	●	●	●	●
2,057		46	38	12		-	-	●	-	-	-
2,083		45	38	12		-	-	●	-	-	-
2,100			38	12		-	■	●	●	●	●
2,184		44	40	13		-	-	●	-	-	-
2,200			40	13		●	●	●	●	●	●
2,261		43	40	13		-	-	●	-	-	-
2,300			40	13		●	●	●	●	●	●
2,375		42	43	14		-	-	●	-	-	-
2,383	3/32		43	14		-	-	●	-	-	-
2,400			43	14		●	●	●	●	●	●
2,438		41	43	14		-	-	●	-	-	-
2,489		40	43	14		-	-	●	-	-	-
2,500			43	14		●	●	●	●	●	●
2,527		39	43	14		-	-	●	-	-	-
2,578		38	43	14		-	-	●	-	-	-
2,600			43	14		●	●	●	●	●	●
2,642		37	43	14		-	-	●	-	-	-
2,700			46	16		●	●	●	●	●	●
2,705		36	46	16		-	-	●	-	-	-
2,779	7/64		46	16		-	-	●	-	-	-
2,794		35	46	16		-	-	●	-	-	-
2,800			46	16		●	●	●	●	●	●
2,819		34	46	16		-	-	●	-	-	-
2,870		33	46	16		-	-	●	-	-	-
2,900			46	16		●	●	●	●	●	●
2,946		32	46	16		-	-	●	-	-	-
3,000			46	16		●	●	●	●	●	●
3,048		31	49	18		-	-	●	-	-	-
3,100			49	18		●	●	●	●	●	●
3,175	1/8		49	18		-	-	●	-	-	-
3,200			49	18		●	●	●	●	●	●
3,264		30	49	18		-	-	●	-	-	-
3,300			49	18		●	●	●	●	●	●
3,400			52	20		●	●	●	●	●	●
3,454		29	52	20		-	-	●	-	-	-
3,500			52	20		●	●	●	●	●	●
3,569		28	52	20		-	-	●	-	-	-
3,571	9/64		52	20		-	-	●	-	-	-
3,600			52	20		●	●	●	●	●	●
3,658		27	52	20		-	-	●	-	-	-
3,700			52	20		●	●	●	●	●	●
3,734		26	52	20		-	-	●	-	-	-
3,797		25	55	22		-	-	●	-	-	-
3,800			55	22		■	■	●	●	●	●
3,861		24	55	22		-	-	●	-	-	-
3,900			55	22		●	●	●	●	●	●
3,912		23	55	22		-	-	●	-	-	-
3,970	5/32		55	22		-	-	●	-	-	-
3,988		22	55	22		-	-	●	-	-	-
4,000			55	22		●	●	●	●	●	●
4,039		21	55	22		-	-	●	-	-	-

02/05 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 1897

Spiralbohrer mit Zylinderschaft, extra kurz | Twist drills with straight shank, stub length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6135	6135TX	6131	6132	6132TN	6149
4,089		20	55	22	-	-	●	-	-	-
4,100			55	22	●	●	●	●	●	●
4,200			55	22	●	●	●	●	●	●
4,216		19	55	22	-	-	●	-	-	-
4,300			58	24	●	●	●	●	●	●
4,305		18	58	24	-	-	●	-	-	-
4,366	11/64		58	24	-	-	●	-	-	-
4,394		17	58	24	-	-	●	-	-	-
4,400			58	24	■	■	●	●	●	●
4,496		16	58	24	-	-	●	-	-	-
4,500			58	24	●	●	●	●	●	●
4,572		15	58	24	-	-	●	-	-	-
4,600			58	24	●	●	●	●	●	●
4,623		14	58	24	-	-	●	-	-	-
4,699		13	58	24	-	-	●	-	-	-
4,700			58	24	●	●	●	●	●	●
4,763	3/16		62	26	-	-	●	-	-	-
4,800			62	26	●	●	●	●	●	●
4,801		12	62	26	-	-	●	-	-	-
4,851		11	62	26	-	-	●	-	-	-
4,900			62	26	-	●	●	●	●	●
4,915		10	62	26	-	-	●	-	-	-
4,978		9	62	26	-	-	●	-	-	-
5,000			62	26	●	●	●	●	●	●
5,055		8	62	26	-	-	●	-	-	-
5,100			62	26	●	●	●	●	●	●
5,105		7	62	26	-	-	●	-	-	-
5,159	13/64		62	26	-	-	●	-	-	-
5,182		6	62	26	-	-	●	-	-	-
5,200			62	26	●	●	●	●	●	●
5,220		5	62	26	-	-	●	-	-	-
5,300			62	26	●	■	●	●	●	●
5,309		4	66	28	-	-	●	-	-	-
5,400			66	28	●	●	●	●	●	●
5,410		3	66	28	-	-	●	-	-	-
5,500			66	28	●	■	●	●	●	●
5,556	7/32		66	28	-	-	●	-	-	-
5,600			66	28	●	●	●	●	●	●
5,613		2	66	28	-	-	●	-	-	-
5,700			66	28	●	●	●	●	●	●
5,791		1	66	28	-	-	●	-	-	-
5,800			66	28	●	●	●	●	●	●
5,900			66	28	●	●	●	●	●	●
5,954	15/64		66	28	-	-	●	-	-	-
6,000			66	28	●	●	●	●	●	●
6,100			70	31	●	●	●	●	●	●
6,200			70	31	●	●	●	●	●	●
6,300			70	31	●	●	●	●	●	●
6,350	1/4		70	31	-	-	●	●	●	-
6,400			70	31	●	●	●	●	●	●
6,500			70	31	●	●	●	●	●	●
6,600			70	31	●	●	●	●	●	●
6,700			70	31	●	●	●	●	●	●
6,746	17/64		74	34	-	-	●	-	-	-
6,800			74	34	●	●	●	●	●	●
6,900			74	34	-	-	●	●	●	●

03/05 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6135	6135TX	6131	6132	6132TN	6149
7,000			74	34		●	●	●	●	●	●
7,100			74	34		-	-	●	●	●	●
7,144	9/32		74	34		-	-	●	-	-	-
7,200			74	34		●	●	●	●	●	●
7,300			74	34		-	-	●	●	●	●
7,400			74	34		-	-	●	●	●	●
7,500			74	34		●	●	●	●	●	●
7,541	19/64		79	37		-	-	●	-	-	-
7,600			79	37		-	-	●	●	●	●
7,700			79	37		●	●	●	●	●	●
7,800			79	37		-	-	●	●	●	●
7,900			79	37		●	●	●	●	●	●
7,938	5/16		79	37		-	-	●	-	-	-
8,000			79	37		●	●	●	●	●	●
8,100			79	37		■	■	●	●	●	●
8,200			79	37		●	●	●	●	●	●
8,300			79	37		●	●	●	●	●	●
8,334	21/64		79	37		-	-	●	-	-	-
8,400			79	37		●	●	●	●	●	●
8,500			79	37		●	●	●	●	●	●
8,600			84	40		●	●	●	●	●	●
8,700			84	40		●	●	●	●	●	●
8,733	11/32		84	40		-	-	●	-	-	-
8,800			84	40		●	●	●	●	●	●
8,900			84	40		-	-	●	●	●	●
9,000			84	40		●	●	●	●	●	●
9,100			84	40		-	-	●	●	●	●
9,129	23/64		84	40		-	-	●	-	-	-
9,200			84	40		●	●	●	●	●	●
9,300			84	40		●	●	●	●	●	●
9,400			84	40		-	-	●	●	●	●
9,500			84	40		●	●	●	●	●	●
9,525	3/8		89	43		-	-	●	-	-	-
9,600			89	43		-	-	●	●	●	●
9,700			89	43		-	-	●	●	●	●
9,800			89	43		●	●	●	●	●	●
9,900			89	43		-	-	●	●	●	●
9,921	25/64		89	43		-	-	●	-	-	-
10,000			89	43		●	●	●	●	●	●
10,200			89	43		●	●	●	●	●	-
10,320	13/32		89	43		-	-	●	-	-	-
10,400			89	43		-	-	-	-	-	-
10,500			89	43		●	●	●	●	●	-
10,716	27/64		95	47		-	-	●	-	-	-
10,750			95	47		-	-	-	-	-	-
10,800			95	47		-	-	●	●	●	-
11,000			95	47		●	●	●	●	●	-
11,113	7/16		95	47		-	-	●	-	-	-
11,200			95	47		-	-	●	-	-	-
11,500			95	47		●	●	●	●	●	-
11,509	29/64		95	47		-	-	●	-	-	-
11,800			95	47		-	-	●	-	-	-
11,908	15/32		102	51		-	-	●	-	-	-
12,000			102	51		●	●	●	●	●	-
12,304	31/64		102	51		-	-	●	-	-	-
12,500			102	51		-	-	●	●	●	-

04/05 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 1897

Spiralbohrer mit Zylinderschaft, extra kurz | Twist drills with straight shank, stub length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6135	6135TX	6131	6132	6132TN	6149
12,700			102	51		-	-	-	●	●	-
12,700	1/2		102	51		-	-	●	-	-	-
12,800			102	51		-	-	●	-	-	-
13,000			102	51		-	-	●	●	●	-
13,300			107	54		-	-	●	-	-	-
13,500			107	54		-	-	●	●	●	-
14,000			107	54		-	-	●	●	●	-
14,500			111	56		-	-	●	●	●	-
15,000			111	56		-	-	●	●	●	-
15,300			115	58		-	-	●	-	-	-
15,500			115	58		-	-	●	●	●	-
16,000			115	58		-	-	●	●	●	-
16,500			115	58		-	-	●	-	-	-
17,000			119	60		-	-	●	-	-	-
17,500			123	62		-	-	●	-	-	-
18,000			123	62		-	-	●	-	-	-
18,500			127	64		-	-	●	-	-	-
19,000			127	64		-	-	●	-	-	-
19,500			131	66		-	-	●	-	-	-
20,000			131	66		-	-	●	-	-	-

05/05

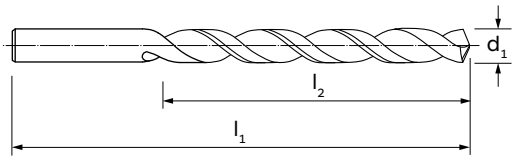
338
DIN

≤8xd

NEW
6152TP

6106

P.331→



	6151	6151TN	6106	6152TP	6187	6197
MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS	HSS
TYP | TYPE	N	N	N	NP	H	W
SPITZENWINKEL | POINT ANGLE	118°	118°	118°	130°	118°	130°
BESCHICHTUNG | COATING	-	TiN	-	TiN Top	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	-	VAP	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

	6151	6151TN	6106	6152TP	6187	6197
P | **Stähle** | Steels	P	P	P	P	-	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6151	6151TN	6106	6152TP	6187	6197
0,200			19	2,5	●	-	-	-	-	-
0,210			19	2,5	●	-	-	-	-	-
0,220			19	2,5	●	-	-	-	-	-
0,230			19	2,5	●	-	-	-	-	-
0,240			19	2,5	●	-	-	-	-	-
0,250			19	3,0	●	-	-	-	-	-
0,260			19	3,0	●	-	-	-	-	-
0,270			19	3,0	●	-	-	-	-	-
0,280			19	3,0	●	-	-	-	-	-
0,290			19	3,0	●	-	-	-	-	-
0,300			19	3,0	●	-	-	-	-	-
0,305		83	19	4,0	●	-	-	-	-	-
0,310			19	4,0	●	-	-	-	-	-
0,318		82	19	4,0	●	-	-	-	-	-
0,320			19	4,0	●	-	-	-	-	-
0,330			19	4,0	●	-	-	-	-	-
0,330		81	19	4,0	●	-	-	-	-	-
0,340			19	4,0	●	-	-	-	-	-
0,343		80	19	4,0	●	-	-	-	-	-
0,350			19	4,0	●	-	-	-	●	-
0,360			19	4,0	●	-	-	-	-	-
0,368		79	19	4,0	●	-	-	-	-	-
0,370			19	4,0	●	-	-	-	-	-

01/12 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6151	6151TN	6106	6152TP	6187	6197
0,380			19	4,0	●	-	-	-	-	-
0,390			20	5,0	●	-	-	-	-	-
0,396	1/64		20	5,0	●	-	-	-	-	-
0,400			20	5,0	●	-	-	-	●	-
0,406		78	20	5,0	●	-	-	-	-	-
0,410			20	5,0	●	-	-	-	-	-
0,420			20	5,0	●	-	-	-	-	-
0,430			20	5,0	●	-	-	-	-	-
0,440			20	5,0	●	-	-	-	-	-
0,450			20	5,0	●	-	-	-	●	-
0,457		77	20	5,0	●	-	-	-	-	-
0,460			20	5,0	●	-	-	-	-	-
0,470			20	5,0	●	-	-	-	-	-
0,480			20	5,0	●	-	-	-	-	-
0,490			22	6,0	●	-	-	-	-	-
0,500			22	6,0	●	●	-	-	●	●
0,508		76	22	6,0	●	-	-	-	-	-
0,510			22	6,0	●	-	-	-	-	-
0,520			22	6,0	●	-	-	-	-	-
0,530			22	6,0	●	-	-	-	-	-
0,533		75	24	7,0	●	-	-	-	-	-
0,540			24	7,0	●	-	-	-	-	-
0,550			24	7,0	●	-	-	-	●	●
0,560			24	7,0	●	-	-	-	-	-
0,570			24	7,0	●	-	-	-	-	-
0,572		74	24	7,0	●	-	-	-	-	-
0,580			24	7,0	●	-	-	-	-	-
0,590			24	7,0	●	-	-	-	-	-
0,600			24	7,0	●	●	-	-	●	●
0,610			26	8,0	●	-	-	-	-	-
0,610		73	26	8,0	●	-	-	-	-	-
0,620			26	8,0	●	-	-	-	-	-
0,630			26	8,0	●	-	-	-	-	-
0,635		72	26	8,0	●	-	-	-	-	-
0,640			26	8,0	●	-	-	-	-	-
0,650			26	8,0	●	-	-	-	●	●
0,660			26	8,0	●	-	-	-	-	-
0,660		71	26	8,0	●	-	-	-	-	-
0,670			26	8,0	●	-	-	-	-	-
0,680			28	9,0	●	-	-	-	-	-
0,690			28	9,0	●	-	-	-	-	-
0,700			28	9,0	●	●	-	-	●	●
0,710			28	9,0	●	-	-	-	-	-
0,711		70	28	9,0	●	-	-	-	-	-
0,720			28	9,0	●	-	-	-	-	-
0,730			28	9,0	●	-	-	-	-	-
0,740			28	9,0	●	-	-	-	-	-
0,742		69	28	9,0	●	-	-	-	-	-
0,750			28	9,0	●	-	-	-	●	●
0,760			30	10,0	●	-	-	-	-	-
0,770			30	10,0	●	-	-	-	-	-
0,780			30	10,0	●	-	-	-	-	-
0,787		68	30	10,0	●	-	-	-	-	-
0,790			30	10,0	●	-	-	-	-	-
0,795	1/32		30	10,0	●	-	-	-	-	-
0,800			30	10,0	●	●	-	-	●	●

02/12 →

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
0,810			30	10,0		●	-	-	-	-	-
0,813		67	30	10,0		●	-	-	-	-	-
0,820			30	10,0		●	-	-	-	-	-
0,830			30	10,0		●	-	-	-	-	-
0,838		66	30	10,0		●	-	-	-	-	-
0,840			30	10,0		●	-	-	-	-	-
0,850			30	10,0		●	-	-	-	●	●
0,860			32	11,0		●	-	-	-	-	-
0,870			32	11,0		●	-	-	-	-	-
0,880			32	11,0		●	-	-	-	-	-
0,889		65	32	11,0		●	-	-	-	-	-
0,890			32	11,0		●	-	-	-	-	-
0,900			32	11,0		●	●	-	-	●	●
0,910			32	11,0		●	-	-	-	-	-
0,914		64	32	11,0		●	-	-	-	-	-
0,920			32	11,0		●	-	-	-	-	-
0,930			32	11,0		●	-	-	-	-	-
0,940			32	11,0		●	-	-	-	-	-
0,940		63	32	11,0		●	-	-	-	-	-
0,950			32	11,0		●	-	-	-	●	●
0,960			34	12,0		●	-	-	-	-	-
0,965		62	34	12,0		●	-	-	-	-	-
0,970			34	12,0		●	-	-	-	-	-
0,980			34	12,0		●	-	-	-	-	-
0,990			34	12,0		●	-	-	-	-	-
0,991		61	34	12,0		●	-	-	-	-	-
1,000			34	12,0		●	●	-	●	●	●
1,010			34	12,0		●	-	-	-	-	-
1,016		60	34	12,0		●	-	-	-	-	-
1,020			34	12,0		●	-	-	-	-	-
1,030			34	12,0		●	-	-	-	-	-
1,040			34	12,0		●	-	-	-	-	-
1,041		59	34	12,0		●	-	-	-	-	-
1,050			34	12,0		●	-	-	-	●	●
1,060			34	12,0		●	-	-	-	-	-
1,067		58	36	14,0		●	-	-	-	-	-
1,070			36	14,0		●	-	-	-	-	-
1,080			36	14,0		●	-	-	-	-	-
1,090			36	14,0		●	-	-	-	-	-
1,092		57	36	14,0		●	-	-	-	-	-
1,100			36	14,0		●	●	-	-	●	●
1,110			36	14,0		●	-	-	-	-	-
1,120			36	14,0		●	-	-	-	-	-
1,130			36	14,0		●	-	-	-	-	-
1,140			36	14,0		●	-	-	-	-	-
1,150			36	14,0		●	-	-	-	●	●
1,160			36	14,0		●	-	-	-	-	-
1,170			36	14,0		●	-	-	-	-	-
1,180			36	14,0		●	-	-	-	-	-
1,181		56	38	16,0		●	-	-	-	-	-
1,190			38	16,0		●	-	-	-	-	-
1,191	3/64		38	16,0		●	-	-	-	-	-
1,200			38	16,0		●	●	-	-	●	●
1,210			38	16,0		●	-	-	-	-	-
1,220			38	16,0		●	-	-	-	-	-
1,230			38	16,0		●	-	-	-	-	-

03/12 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6151	6151TN	6106	6152TP	6187	6197
1,240			38	16,0	●	-	-	-	-	-
1,250			38	16,0	●	-	-	-	●	●
1,260			38	16,0	●	-	-	-	-	-
1,270			38	16,0	●	-	-	-	-	-
1,280			38	16,0	●	-	-	-	-	-
1,290			38	16,0	●	-	-	-	-	-
1,300			38	16,0	●	●	-	-	●	●
1,310			38	16,0	●	-	-	-	-	-
1,320			38	16,0	●	-	-	-	-	-
1,321		55	40	18,0	●	-	-	-	-	-
1,330			40	18,0	●	-	-	-	-	-
1,340			40	18,0	●	-	-	-	-	-
1,350			40	18,0	●	-	-	-	●	●
1,360			40	18,0	●	-	-	-	-	-
1,370			40	18,0	●	-	-	-	-	-
1,380			40	18,0	●	-	-	-	-	-
1,390			40	18,0	●	-	-	-	-	-
1,397		54	40	18,0	●	-	-	-	-	-
1,400			40	18,0	●	●	-	-	●	●
1,410			40	18,0	●	-	-	-	-	-
1,420			40	18,0	●	-	-	-	-	-
1,430			40	18,0	●	-	-	-	-	-
1,440			40	18,0	●	-	-	-	-	-
1,450			40	18,0	●	-	-	-	●	●
1,460			40	18,0	●	-	-	-	-	-
1,470			40	18,0	●	-	-	-	-	-
1,480			40	18,0	●	-	-	-	-	-
1,490			40	16,0	●	-	-	-	-	-
1,500			40	18,0	●	●	-	●	●	●
1,510			43	20,0	●	-	-	-	-	-
1,511		53	43	20,0	●	-	-	-	-	-
1,520			43	20,0	●	-	-	-	-	-
1,530			43	20,0	●	-	-	-	-	-
1,540			43	20,0	●	-	-	-	-	-
1,550			43	20,0	●	-	-	-	●	●
1,560			43	20,0	●	-	-	-	-	-
1,570			43	20,0	●	-	-	-	-	-
1,580			43	20,0	●	-	-	-	-	-
1,588	1/16		43	20,0	●	-	-	-	-	-
1,590			43	20,0	●	-	-	-	-	-
1,600			43	20,0	●	●	-	-	●	●
1,610			43	20,0	●	-	-	-	-	-
1,613		52	43	20,0	●	-	-	-	-	-
1,620			43	20,0	●	-	-	-	-	-
1,630			43	20,0	●	-	-	-	-	-
1,640			43	20,0	●	-	-	-	-	-
1,650			43	20,0	●	-	-	-	●	●
1,660			43	20,0	●	-	-	-	-	-
1,670			43	20,0	●	-	-	-	-	-
1,680			43	20,0	●	-	-	-	-	-
1,690			43	20,0	●	-	-	-	-	-
1,700			43	20,0	●	●	-	-	●	●
1,702		51	46	22,0	●	-	-	-	-	-
1,710			46	22,0	●	-	-	-	-	-
1,720			46	22,0	●	-	-	-	-	-
1,730			46	22,0	●	-	-	-	-	-

04/12 →

A 03

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
1,740			46	22,0		●	-	-	-	-	-
1,750			46	22,0		●	-	-	-	●	●
1,760			46	22,0		●	-	-	-	-	-
1,770			46	22,0		●	-	-	-	-	-
1,778		50	46	22,0		●	-	-	-	-	-
1,780			46	22,0		●	-	-	-	-	-
1,790			46	22,0		●	-	-	-	-	-
1,800			46	22,0		●	●	-	-	●	●
1,810			46	22,0		●	-	-	-	-	-
1,820			46	22,0		●	-	-	-	-	-
1,830			46	22,0		●	-	-	-	-	-
1,840			46	22,0		●	-	-	-	-	-
1,850			46	22,0		●	-	-	-	●	●
1,854		49	46	22,0		●	-	-	-	-	-
1,860			46	22,0		●	-	-	-	-	-
1,870			46	22,0		●	-	-	-	-	-
1,880			46	22,0		●	-	-	-	-	-
1,890			46	22,0		●	-	-	-	-	-
1,900			46	22,0		●	●	-	-	●	●
1,910			49	24,0		●	-	-	-	-	-
1,920			49	24,0		●	-	-	-	-	-
1,930			49	24,0		●	-	-	-	-	-
1,930		48	49	24,0		●	-	-	-	-	-
1,940			49	24,0		●	-	-	-	-	-
1,950			49	24,0		●	-	-	-	●	●
1,960			49	24,0		●	-	-	-	-	-
1,970			49	24,0		●	-	-	-	-	-
1,980			49	24,0		●	-	-	-	-	-
1,984	5/64		49	24,0		●	-	-	-	-	-
1,990			49	24,0		●	-	-	-	-	-
1,994		47	49	24,0		●	-	-	-	-	-
2,000			49	24,0		●	●	-	●	●	●
2,050			49	24,0		●	-	-	-	●	●
2,057		46	49	24,0		●	-	-	-	-	-
2,083		45	49	24,0		●	-	-	-	-	-
2,100			49	24,0		●	●	-	●	●	●
2,150			53	27,0		●	-	-	-	●	●
2,184		44	53	27,0		●	-	-	-	-	-
2,200			53	27,0		●	●	-	●	●	●
2,250			53	27,0		●	-	-	-	●	●
2,261		43	53	27,0		●	-	-	-	-	-
2,300			53	27,0		●	●	-	●	●	●
2,350			53	27,0		●	-	-	-	●	●
2,375		42	57	30,0		●	-	-	-	-	-
2,381	3/32		57	30,0		●	-	-	-	-	-
2,400			57	30,0		●	●	-	●	●	●
2,438		41	57	30,0		●	-	-	-	-	-
2,450			57	30,0		●	-	-	-	●	●
2,489		40	57	30,0		●	-	-	-	-	-
2,500			57	30,0		●	●	-	●	●	●
2,527		39	57	30,0		●	-	-	-	-	-
2,550			57	30,0		●	-	-	-	●	●
2,578		38	57	30,0		●	-	-	-	-	-
2,600			57	30,0		●	●	-	●	●	●
2,642		37	57	30,0		●	-	-	-	-	-
2,650			57	30,0		●	-	-	-	●	●

05/12 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6151	6151TN	6106	6152TP	6187	6197
2,700			61	33,0	●	●	-	●	●	●
2,705		36	61	33,0	●	-	-	-	-	-
2,750			61	33,0	●	-	-	-	●	●
2,779	7/64		61	33,0	●	-	-	-	-	-
2,794		35	61	33,0	●	-	-	-	-	-
2,800			61	33,0	●	●	-	●	●	●
2,819		34	61	33,0	●	-	-	-	-	-
2,850			61	33,0	●	-	-	-	●	●
2,870		33	61	33,0	●	-	-	-	-	-
2,900			61	33,0	●	●	-	●	●	●
2,946		32	61	33,0	●	-	-	-	-	-
2,950			61	33,0	●	-	-	-	●	●
3,000			61	33,0	●	●	●	●	●	●
3,048		31	65	36,0	●	-	-	-	-	-
3,050			65	36,0	●	-	-	-	●	-
3,100			65	36,0	●	●	-	●	●	●
3,150			65	36,0	●	-	-	-	●	-
3,175	1/8		65	36,0	●	-	-	-	-	-
3,200			65	36,0	●	●	●	●	●	●
3,250			65	36,0	●	-	-	-	●	●
3,264		30	65	36,0	●	-	-	-	-	-
3,300			65	36,0	●	●	-	●	●	●
3,350			65	36,0	●	-	-	-	●	-
3,400			70	39,0	●	●	-	●	●	●
3,450			70	39,0	●	-	-	-	●	-
3,454		29	70	39,0	●	-	-	-	-	-
3,500			70	39,0	●	●	●	●	●	●
3,550			70	39,0	●	-	-	-	●	-
3,569		28	70	39,0	●	-	-	-	-	-
3,571	9/64		70	39,0	●	-	-	-	-	-
3,600			70	39,0	●	●	-	●	●	●
3,650			70	39,0	●	-	-	-	●	●
3,658		27	70	39,0	●	-	-	-	-	-
3,700			70	39,0	●	●	-	●	●	●
3,734		26	70	39,0	●	-	-	-	-	-
3,750			70	39,0	●	-	-	-	●	●
3,797		25	75	43,0	●	-	-	-	-	-
3,800			75	43,0	●	●	●	●	●	●
3,850			75	43,0	●	-	-	-	●	-
3,861		24	75	43,0	●	-	-	-	-	-
3,900			75	43,0	●	●	-	●	●	●
3,912		23	75	43,0	●	-	-	-	-	-
3,950			75	43,0	●	-	-	-	●	-
3,970	5/32		75	43,0	●	-	-	-	-	-
3,988		22	75	43,0	●	-	-	-	-	-
4,000			75	43,0	●	●	●	●	●	●
4,039		21	75	43,0	●	-	-	-	-	-
4,050			75	43,0	●	-	-	-	-	-
4,089		20	75	43,0	●	-	-	-	-	-
4,100			75	43,0	●	●	-	●	●	●
4,150			75	43,0	●	-	-	-	-	-
4,200			75	43,0	●	●	●	●	●	●
4,216		19	75	43,0	●	-	-	-	-	-
4,250			75	43,0	●	-	-	-	●	●
4,300			80	47,0	●	●	-	●	●	●
4,305		18	80	47,0	●	-	-	-	-	-

06/12 →

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
4,350			80	47,0		●	-	-	-	-	-
4,366	11/64		80	47,0		●	-	-	-	-	-
4,394		17	80	47,0		●	-	-	-	-	-
4,400			80	47,0		●	●	-	●	●	●
4,450			80	47,0		●	-	-	-	-	-
4,496		16	80	47,0		●	-	-	-	-	-
4,500			80	47,0		●	●	●	●	●	●
4,550			80	47,0		●	-	-	-	-	-
4,572		15	80	47,0		●	-	-	-	-	-
4,600			80	47,0		●	●	-	●	●	●
4,623		14	80	47,0		●	-	-	-	-	-
4,650			80	47,0		●	-	-	-	-	-
4,699		13	80	47,0		●	-	-	-	-	-
4,700			80	47,0		●	●	-	●	●	●
4,750			80	47,0		●	-	-	-	●	●
4,763	3/16		86	52,0		●	-	-	-	-	-
4,800			86	52,0		●	●	●	●	●	●
4,801		12	86	52,0		●	-	-	-	-	-
4,850			86	52,0		●	-	-	-	-	-
4,851		11	86	52,0		●	-	-	-	-	-
4,900			86	52,0		●	●	-	●	●	●
4,915		10	86	52,0		●	-	-	-	-	-
4,950			86	52,0		●	-	-	-	-	-
4,978		9	86	52,0		●	-	-	-	-	-
5,000			86	52,0		●	●	●	●	●	●
5,050			86	52,0		●	-	-	-	-	-
5,055		8	86	52,0		●	-	-	-	-	-
5,100			86	52,0		●	●	-	●	●	●
5,105		7	86	52,0		●	-	-	-	-	-
5,150			86	52,0		●	-	-	-	-	-
5,159	13/64		86	52,0		●	-	-	-	-	-
5,182		6	86	52,0		●	-	-	-	-	-
5,200			86	52,0		●	●	●	●	●	●
5,220		5	86	52,0		●	-	-	-	-	-
5,250			86	52,0		●	-	-	-	●	●
5,300			86	52,0		●	●	-	●	●	●
5,309		4	93	57,0		●	-	-	-	-	-
5,350			93	57,0		●	-	-	-	-	-
5,400			93	57,0		●	●	-	●	●	●
5,410		3	93	57,0		●	-	-	-	-	-
5,450			93	57,0		●	-	-	-	-	-
5,500			93	57,0		●	●	●	●	●	●
5,550			93	57,0		●	-	-	-	-	-
5,558	7/32		93	57,0		●	-	-	-	-	-
5,600			93	57,0		●	●	-	●	●	●
5,613		2	93	57,0		●	-	-	-	-	-
5,650			93	57,0		●	-	-	-	-	-
5,700			93	57,0		●	●	-	●	●	●
5,750			93	57,0		●	-	-	-	●	●
5,791		1	93	57,0		●	-	-	-	-	-
5,800			93	57,0		●	●	●	●	●	●
5,850			93	57,0		●	-	-	-	-	-
5,900			93	57,0		●	●	-	●	●	●
5,944		A	93	57,0		●	-	-	-	-	-
5,950			93	57,0		●	-	-	-	-	-
5,954	15/64		93	57,0		●	-	-	-	-	-

07/12 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
6,000			93	57,0		●	●	●	●	●	●
6,045		B	101	63,0		●	-	-	-	-	-
6,050			101	63,0		●	-	-	-	-	-
6,100			101	63,0		●	●	-	●	●	●
6,147		C	101	63,0		●	-	-	-	-	-
6,150			101	63,0		●	-	-	-	-	-
6,200			101	63,0		●	●	●	●	●	●
6,248		D	101	63,0		●	-	-	-	-	-
6,250			101	63,0		●	-	-	-	●	●
6,300			101	63,0		●	●	-	●	●	●
6,350		E	101	63,0		●	-	-	-	-	-
6,350	1/4		101	63,0		●	-	-	-	-	-
6,400			101	63,0		●	●	-	●	●	●
6,450			101	63,0		●	-	-	-	-	-
6,500			101	63,0		●	●	●	●	●	●
6,528		F	101	63,0		●	-	-	-	-	-
6,550			101	63,0		●	-	-	-	-	-
6,600			101	63,0		●	●	-	●	●	●
6,629		G	101	63,0		●	-	-	-	-	-
6,650			101	63,0		●	-	-	-	-	-
6,700			101	63,0		●	●	-	●	●	●
6,746	17/64		109	69,0		●	-	-	-	-	-
6,750			109	69,0		●	-	-	-	●	●
6,756		H	109	69,0		●	-	-	-	-	-
6,800			109	69,0		●	●	●	●	●	●
6,850			109	69,0		●	-	-	-	-	-
6,900			109	69,0		●	●	-	●	●	●
6,909		I	109	69,0		●	-	-	-	-	-
6,950			109	69,0		●	-	-	-	-	-
7,000			109	69,0		●	●	●	●	●	●
7,036		J	109	69,0		●	-	-	-	-	-
7,050			109	69,0		●	-	-	-	-	-
7,100			109	69,0		●	●	-	●	●	●
7,137		K	109	69,0		●	-	-	-	-	-
7,145	9/32		109	69,0		●	-	-	-	-	-
7,150			109	69,0		●	-	-	-	-	-
7,200			109	69,0		●	●	-	●	●	●
7,250			109	69,0		●	-	-	-	●	●
7,300			109	69,0		●	●	-	●	●	●
7,350			109	69,0		●	-	-	-	-	-
7,366		L	109	69,0		●	-	-	-	-	-
7,400			109	69,0		●	●	-	●	●	●
7,450			109	69,0		●	-	-	-	-	-
7,493		M	109	69,0		●	-	-	-	-	-
7,500			109	69,0		●	●	●	●	●	●
7,541	19/64		117	75,0		●	-	-	-	-	-
7,550			117	75,0		●	-	-	-	-	-
7,600			117	75,0		●	●	-	●	●	●
7,650			117	75,0		●	-	-	-	-	-
7,671		N	117	75,0		●	-	-	-	-	-
7,700			117	75,0		●	●	-	●	●	●
7,750			117	75,0		●	-	-	-	●	●
7,800			117	75,0		●	●	-	●	●	●
7,850			117	75,0		●	-	-	-	-	-
7,900			117	75,0		●	●	-	●	●	●
7,938	5/16		117	75,0		●	-	-	-	-	-

08/12 →

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
7,950			117	75,0		●	-	-	-	-	-
8,000			117	75,0		●	●	●	●	●	●
8,026		O	117	75,0		●	-	-	-	-	-
8,050			117	75,0		●	-	-	-	-	-
8,100			117	75,0		●	●	-	●	●	●
8,150			117	75,0		●	-	-	-	-	-
8,200			117	75,0		●	●	-	●	●	●
8,204		P	117	75,0		●	-	-	-	-	-
8,250			117	75,0		●	-	-	-	●	●
8,300			117	75,0		●	●	-	●	●	●
8,334	21/64		117	75,0		●	-	-	-	-	-
8,350			117	75,0		●	-	-	-	-	-
8,400			117	75,0		●	●	-	●	●	●
8,433		Q	117	75,0		●	-	-	-	-	-
8,450			117	75,0		●	-	-	-	-	-
8,500			117	75,0		●	●	●	●	●	●
8,550			125	81,0		●	-	-	-	-	-
8,600			125	81,0		●	●	-	●	●	●
8,611		R	125	81,0		●	-	-	-	-	-
8,650			125	81,0		●	-	-	-	-	-
8,700			125	81,0		●	●	-	●	●	●
8,731	11/32		125	81,0		●	-	-	-	-	-
8,750			125	81,0		●	-	-	-	●	●
8,800			125	81,0		●	●	-	●	●	●
8,839		S	125	81,0		●	-	-	-	-	-
8,850			125	81,0		●	-	-	-	-	-
8,900			125	81,0		●	●	-	●	●	●
8,950			125	81,0		●	-	-	-	-	-
9,000			125	81,0		●	●	●	●	●	●
9,050			125	81,0		●	-	-	-	-	-
9,093		T	125	81,0		●	-	-	-	-	-
9,100			125	81,0		●	●	-	●	●	●
9,129	23/64		125	81,0		●	-	-	-	-	-
9,150			125	81,0		●	-	-	-	-	-
9,200			125	81,0		●	●	-	●	●	●
9,250			125	81,0		●	-	-	-	●	●
9,300			125	81,0		●	●	-	●	●	●
9,347		U	125	81,0		●	-	-	-	-	-
9,350			125	81,0		●	-	-	-	-	-
9,400			125	81,0		●	●	-	●	●	●
9,450			125	81,0		●	-	-	-	-	-
9,500			125	81,0		●	●	●	●	●	●
9,525	3/8		133	87,0		●	-	-	-	-	-
9,550			133	87,0		●	-	-	-	-	-
9,576		V	133	87,0		●	-	-	-	-	-
9,600			133	87,0		●	●	-	●	●	●
9,650			133	87,0		●	-	-	-	-	-
9,700			133	87,0		●	●	-	●	●	●
9,750			133	87,0		●	-	-	-	●	●
9,800			133	87,0		●	●	-	●	●	●
9,804		W	133	87,0		●	-	-	-	-	-
9,850			133	87,0		●	-	-	-	-	-
9,900			133	87,0		●	●	-	●	●	●
9,921	25/64		133	87,0		●	-	-	-	-	-
9,950			133	87,0		●	-	-	-	-	-
10,000			133	87,0		●	●	●	●	●	●

09/12 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6151	6151TN	6106	6152TP	6187	6197
10,084		X	133	87,0	●	-	-	-	-	-
10,100			133	87,0	●	-	-	●	-	-
10,200			133	87,0	●	●	-	●	-	●
10,250			133	87,0	●	-	-	-	-	-
10,262		Y	133	87,0	●	-	-	-	-	-
10,300			133	87,0	●	-	-	●	-	-
10,320	13/32		133	87,0	●	-	-	-	-	-
10,400			133	87,0	●	-	-	-	-	-
10,490		Z	133	87,0	●	-	-	-	-	-
10,500			133	87,0	●	●	-	●	●	●
10,600			133	87,0	●	-	-	●	-	-
10,700			142	94,0	●	-	-	-	-	-
10,716	27/64		142	94,0	●	-	-	-	-	-
10,750			142	94,0	●	-	-	-	-	-
10,800			142	94,0	●	-	-	●	-	-
10,900			142	94,0	●	-	-	-	-	-
11,000			142	94,0	●	●	-	●	●	●
11,100			142	94,0	●	-	-	-	-	-
11,113	7/16		142	94,0	●	-	-	-	-	-
11,200			142	94,0	●	-	-	-	-	●
11,250			142	94,0	●	-	-	-	-	-
11,300			142	94,0	●	-	-	-	-	●
11,400			142	94,0	●	-	-	-	-	-
11,500			142	94,0	●	●	-	●	●	●
11,509	29/64		142	94,0	●	-	-	-	-	-
11,600			142	94,0	●	-	-	-	-	-
11,700			142	94,0	●	-	-	-	-	-
11,750			142	94,0	●	-	-	-	-	-
11,800			142	94,0	●	-	-	-	-	-
11,900			151	101,0	●	-	-	-	-	-
11,906	15/32		151	101,0	●	-	-	-	-	-
12,000			151	101,0	●	●	-	●	●	●
12,100			151	101,0	●	-	-	-	-	-
12,200			151	101,0	●	-	-	-	-	-
12,250			151	101,0	●	-	-	-	-	-
12,300			151	101,0	●	-	-	-	-	-
12,304	31/64		151	101,0	●	-	-	-	-	-
12,400			151	101,0	●	-	-	-	-	-
12,500			151	101,0	●	●	-	-	●	●
12,600			151	101,0	●	-	-	-	-	-
12,700			151	101,0	●	-	-	-	-	-
12,700	1/2		151	101,0	●	-	-	-	-	-
12,750			151	101,0	●	-	-	-	-	-
12,800			151	101,0	●	-	-	-	-	-
12,900			151	101,0	●	-	-	-	-	-
13,000			151	101,0	●	●	-	-	●	●
13,096	33/64		151	101,0	●	-	-	-	-	-
13,100			151	101,0	●	-	-	-	-	-
13,200			151	101,0	●	-	-	-	-	-
13,250			160	108,0	●	-	-	-	-	-
13,300			160	108,0	●	-	-	-	-	-
13,400			160	108,0	●	-	-	-	-	-
13,495	17/32		160	108,0	●	-	-	-	-	-
13,500			160	108,0	●	●	-	-	-	●
13,600			160	108,0	●	-	-	-	-	-
13,700			160	108,0	●	-	-	-	-	-

10/12 →

A 03

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
13,750			160	108,0		●	-	-	-	-	-
13,800			160	108,0		●	-	-	-	-	-
13,891	35/64		160	108,0		●	-	-	-	-	-
13,900			160	108,0		●	-	-	-	-	-
14,000			160	108,0		●	●	-	-	●	●
14,100			169	114,0		●	-	-	-	-	-
14,200			169	114,0		●	-	-	-	-	-
14,250			169	114,0		●	-	-	-	-	-
14,288	9/16		169	114,0		●	-	-	-	-	-
14,300			169	114,0		●	-	-	-	-	-
14,400			169	114,0		●	-	-	-	-	-
14,500			169	114,0		●	●	-	-	-	●
14,600			169	114,0		●	-	-	-	-	-
14,684	37/64		169	114,0		●	-	-	-	-	-
14,700			169	114,0		●	-	-	-	-	-
14,750			169	114,0		●	-	-	-	-	-
14,800			169	114,0		●	-	-	-	-	-
14,900			169	114,0		●	-	-	-	-	-
15,000			169	114,0		●	●	-	-	●	●
15,083	19/32		178	120,0		●	-	-	-	-	-
15,100			178	120,0		●	-	-	-	-	-
15,200			178	120,0		●	-	-	-	-	-
15,250			178	120,0		●	-	-	-	-	-
15,300			178	120,0		●	-	-	-	-	●
15,400			178	120,0		●	-	-	-	-	-
15,479	39/64		178	120,0		●	-	-	-	-	-
15,500			178	120,0		●	-	-	-	-	●
15,600			178	120,0		●	-	-	-	-	-
15,700			178	120,0		●	-	-	-	-	-
15,750			178	120,0		●	-	-	-	-	-
15,800			178	120,0		●	-	-	-	-	-
15,875	5/8		178	120,0		●	-	-	-	-	-
15,900			178	120,0		●	-	-	-	-	-
16,000			178	120,0		●	●	-	-	●	●
16,100			184	125,0		●	-	-	-	-	-
16,200			184	125,0		●	-	-	-	-	-
16,250			184	125,0		●	-	-	-	-	-
16,271	41/64		184	125,0		●	-	-	-	-	-
16,300			184	125,0		●	-	-	-	-	-
16,400			184	125,0		●	-	-	-	-	-
16,500			184	125,0		●	-	-	-	-	-
16,600			184	125,0		●	-	-	-	-	-
16,670	21/32		184	125,0		●	-	-	-	-	-
16,700			184	125,0		●	-	-	-	-	-
16,750			184	125,0		●	-	-	-	-	-
16,800			184	125,0		●	-	-	-	-	-
16,900			184	125,0		●	-	-	-	-	-
17,000			184	125,0		●	-	-	-	-	-
17,066	43/64		191	130,0		●	-	-	-	-	-
17,250			191	130,0		●	-	-	-	-	-
17,463	11/16		191	130,0		●	-	-	-	-	-
17,500			191	130,0		●	-	-	-	-	-
17,750			191	130,0		●	-	-	-	-	-
17,859	45/64		191	130,0		●	-	-	-	-	-
18,000			191	130,0		●	-	-	-	-	-
18,250			198	135,0		●	-	-	-	-	-

11/12 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6151	6151TN	6106	6152TP	6187	6197
18,258	23/32		198	135,0		●	-	-	-	-	-
18,500			198	135,0		●	-	-	-	-	-
18,654	47/64		198	135,0		●	-	-	-	-	-
18,750			198	135,0		●	-	-	-	-	-
19,000			198	135,0		●	-	-	-	-	-
19,050	3/4		205	140,0		●	-	-	-	-	-
19,250			205	140,0		●	-	-	-	-	-
19,446	49/64		205	140,0		●	-	-	-	-	-
19,500			205	140,0		●	-	-	-	-	-
19,750			205	140,0		●	-	-	-	-	-
19,845	25/32		205	140,0		●	-	-	-	-	-
20,000			205	140,0		●	-	-	-	-	-
20,241	51/64		213	145,0		●	-	-	-	-	-
20,638	13/16		213	145,0		●	-	-	-	-	-
21,000			213	145,0		●	-	-	-	-	-
21,034	53/64		213	145,0		●	-	-	-	-	-
21,433	27/32		221	150,0		●	-	-	-	-	-
21,829	55/64		221	150,0		●	-	-	-	-	-
22,000			221	150,0		●	-	-	-	-	-
22,225	7/9		221	150,0		●	-	-	-	-	-
22,621	57/64		229	155,0		●	-	-	-	-	-
23,000			229	155,0		●	-	-	-	-	-
23,020	29/32		229	155,0		●	-	-	-	-	-
23,416	59/64		229	155,0		●	-	-	-	-	-
23,813	15/16		236	160,0		●	-	-	-	-	-
24,000			236	160,0		●	-	-	-	-	-
24,209	61/64		236	160,0		●	-	-	-	-	-
24,608	31/32		236	160,0		●	-	-	-	-	-
25,000			243	165,0		●	-	-	-	-	-
25,004	63/64		243	165,0		●	-	-	-	-	-
25,400	1		243	165,0		●	-	-	-	-	-

12/12

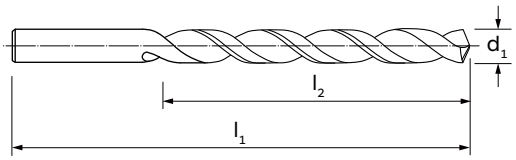
338

DIN

≤8xd

P.331➔

A 03



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS	HSS	HSS
TYP | TYPE	STL	STL	STL	N	H	W	STL
SPITZENWINKEL | POINT ANGLE	130°	130°	130°	118°	118°	130°	130°
BESCHICHTUNG | COATING	-	TiN	TiCN	-	-	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREAT.	F.NIT	-	-	VAP	-	-	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↺	↺	↺	↺

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P	-	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	M	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K	K	-	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6210	6210TN	6210TC	6158	6190	6199	6209
0,200			19	2,5		-	-	-	●	-	-	-
0,250			19	3,0		-	-	-	●	-	-	-
0,300			19	3,0		-	-	-	●	-	-	-
0,350			19	4,0		-	-	-	●	-	-	-
0,400			20	5,0		-	-	-	●	●	-	-
0,450			20	5,0		-	-	-	●	-	-	-
0,500			22	6,0		-	-	-	●	■	●	-
0,550			24	7,0		-	-	-	●	-	-	-
0,600			24	7,0		-	-	-	●	■	●	-
0,650			26	8,0		-	-	-	●	-	-	-
0,700			28	9,0		-	-	-	●	■	■	-
0,750			28	9,0		-	-	-	●	-	-	-
0,800			30	10,0		-	-	-	●	■	●	-
0,850			30	10,0		-	-	-	●	-	-	-
0,900			32	11,0		-	-	-	●	■	●	-
0,950			32	11,0		-	-	-	●	-	-	-
1,000			34	12,0		●	●	●	●	●	●	-
1,016		60	34	12,0		●	●	●	-	-	-	-
1,041		59	34	12,0		●	●	●	-	-	-	-
1,050			34	12,0		-	-	-	●	■	-	-
1,067		58	36	14,0		●	●	●	-	-	-	-
1,092		57	36	14,0		●	●	●	-	-	-	-
1,100			36	14,0		●	●	●	●	■	●	-

01/07 ➔

■ **Solange der Vorrat reicht** | Till stocks last

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6210	6210TN	6210TC	6158	6190	6199	6209
1,150			36	14,0	-	-	-	●	●	-	-
1,181		56	38	16,0	●	●	●	-	-	-	-
1,190			38	16,0	-	-	-	-	-	-	-
1,191	3/64		38	16,0	●	●	●	-	-	-	-
1,200			38	16,0	●	●	●	●	●	●	-
1,250			38	16,0	-	-	-	●	■	●	-
1,300			38	16,0	●	●	●	●	■	●	-
1,321		55	40	18,0	●	●	●	-	-	-	-
1,350			40	18,0	-	-	-	●	■	-	-
1,397		54	40	18,0	●	●	●	-	-	-	-
1,400			40	18,0	●	●	●	●	●	●	-
1,450			40	18,0	-	-	-	●	■	-	-
1,500			40	18,0	●	●	●	●	■	■	●
1,511		53	43	20,0	●	●	●	-	-	-	-
1,550			43	20,0	-	-	-	●	●	-	-
1,588	1/16		43	20,0	●	●	●	-	-	-	●
1,600			43	20,0	●	●	●	●	■	●	●
1,613		52	43	20,0	●	●	●	-	-	-	●
1,650			43	20,0	-	-	-	●	●	-	-
1,700			43	20,0	●	●	●	●	●	●	●
1,702		51	46	22,0	●	●	●	-	-	-	●
1,750			46	22,0	-	-	-	●	■	■	-
1,778		50	46	22,0	●	●	●	-	-	-	●
1,800			46	22,0	●	●	●	●	■	●	●
1,850			46	22,0	-	-	-	●	●	-	-
1,854		49	46	22,0	●	●	●	-	-	-	●
1,900			46	22,0	●	●	●	●	●	●	●
1,930		48	49	24,0	●	●	●	-	-	-	●
1,950			49	24,0	-	-	-	●	●	-	-
1,984	5/64		49	24,0	●	●	●	-	-	-	●
1,994		47	49	24,0	●	●	●	-	-	-	●
2,000			49	24,0	●	●	●	●	●	●	●
2,050			49	24,0	-	-	-	●	●	-	-
2,057		46	49	24,0	●	●	●	-	-	-	●
2,083		45	49	24,0	●	●	●	-	-	-	●
2,100			49	24,0	●	●	●	●	■	●	●
2,150			53	27,0	-	-	-	●	■	-	-
2,184		44	53	27,0	●	●	●	-	-	-	●
2,200			53	27,0	●	●	●	●	■	●	●
2,250			53	27,0	-	-	-	●	■	●	-
2,261		43	53	27,0	●	●	●	-	-	-	●
2,300			53	27,0	●	●	●	●	■	●	●
2,350			53	27,0	-	-	-	●	●	-	-
2,375		42	57	30,0	●	●	●	-	-	-	●
2,381	3/32		57	30,0	●	●	●	-	-	-	●
2,400			57	30,0	●	●	●	●	■	●	●
2,438		41	57	30,0	●	●	●	-	-	-	●
2,450			57	30,0	-	-	-	●	■	-	-
2,489		40	57	30,0	●	●	●	-	-	-	●
2,500			57	30,0	●	●	●	●	●	●	●
2,527		39	57	30,0	●	●	●	-	-	-	●
2,550			57	30,0	-	-	-	●	■	-	-
2,578		38	57	30,0	●	●	●	-	-	-	●
2,600			57	30,0	●	●	●	●	■	●	●
2,642		37	57	30,0	●	●	●	-	-	-	●
2,650			57	30,0	-	-	-	●	■	-	-

02/07 →

■ **Solange der Vorrat reicht** | Till stocks last

A 03

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6210	6210TN	6210TC	6158	6190	6199	6209
2,700			61	33,0		●	●	●	●	■	●	●
2,705		36	61	33,0		●	●	●	-	-	-	●
2,750			61	33,0		-	-	-	●	●	●	-
2,779	7/64		61	33,0		●	●	●	-	-	-	●
2,794		35	61	33,0		●	●	●	-	-	-	●
2,800			61	33,0		●	●	●	●	●	●	●
2,819		34	61	33,0		●	●	●	-	-	-	●
2,850			61	33,0		-	-	-	●	●	-	-
2,870		33	61	33,0		●	●	●	-	-	-	●
2,900			61	33,0		●	●	●	●	■	●	●
2,946		32	61	33,0		●	●	●	-	-	-	●
2,950			61	33,0		-	-	-	●	●	-	-
3,000			61	33,0		●	●	●	●	●	●	●
3,048		31	65	36,0		●	●	●	-	-	-	●
3,050			65	36,0		-	-	-	●	●	-	-
3,100			65	36,0		●	●	●	●	■	●	●
3,150			65	36,0		-	-	-	●	■	-	-
3,175	1/8		65	36,0		●	●	●	-	-	-	●
3,200			65	36,0		●	●	●	●	●	■	●
3,250			65	36,0		-	-	-	●	●	-	-
3,264		30	65	36,0		●	●	●	-	-	-	●
3,300			65	36,0		●	●	●	●	●	■	●
3,350			65	36,0		-	-	-	●	■	-	-
3,400			70	39,0		●	●	●	●	■	●	●
3,450			70	39,0		-	-	-	●	●	-	-
3,454		29	70	39,0		●	●	●	-	-	-	●
3,500			70	39,0		●	●	●	●	●	●	●
3,550			70	39,0		-	-	-	●	■	-	-
3,569		28	70	39,0		●	-	●	-	-	-	●
3,571	9/64		70	39,0		●	●	●	-	-	-	●
3,600			70	39,0		●	●	●	●	■	●	●
3,650			70	39,0		-	-	-	●	●	-	-
3,658		27	70	39,0		●	●	●	-	-	-	●
3,700			70	39,0		●	●	●	●	■	●	●
3,734		26	70	39,0		●	●	●	-	-	-	●
3,750			70	39,0		-	-	-	●	●	-	-
3,797		25	75	43,0		●	●	●	-	-	-	●
3,800			75	43,0		●	●	●	●	■	●	●
3,850			75	43,0		-	-	-	●	■	-	-
3,861		24	75	43,0		●	●	●	-	-	-	●
3,900			75	43,0		●	●	●	●	■	●	●
3,912		23	75	43,0		●	-	-	-	-	-	●
3,950			75	43,0		-	-	-	●	●	-	-
3,970	5/32		75	43,0		●	●	●	-	-	-	●
3,988		22	75	43,0		●	●	●	-	-	-	●
4,000			75	43,0		●	●	●	●	●	■	●
4,039		21	75	43,0		●	●	●	-	-	-	●
4,050			75	43,0		-	-	-	●	-	-	-
4,089		20	75	43,0		●	●	●	-	-	-	●
4,100			75	43,0		●	●	●	●	■	●	●
4,150			75	43,0		-	-	-	●	-	-	-
4,200			75	43,0		●	●	●	●	■	●	●
4,216		19	75	43,0		●	●	●	-	-	-	●
4,250			75	43,0		-	-	-	●	■	-	-
4,300			80	47,0		●	●	●	●	■	●	●
4,305		18	80	47,0		●	●	●	-	-	-	-

03/07 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6210	6210TN	6210TC	6158	6190	6199	6209
4,350			80	47,0		-	-	-	●	-	-	-
4,366	11/64		80	47,0		●	●	●	-	-	-	■
4,394		17	80	47,0		●	●	●	-	-	-	-
4,400			80	47,0		●	●	●	●	■	●	●
4,450			80	47,0		-	-	-	●	-	-	-
4,496		16	80	47,0		●	●	●	-	-	-	-
4,500			80	47,0		●	●	●	●	■	●	●
4,550			80	47,0		-	-	-	-	■	-	-
4,572		15	80	47,0		●	●	●	-	-	-	●
4,600			80	47,0		●	●	●	●	●	●	●
4,623		14	80	47,0		●	●	●	-	-	-	●
4,650			80	47,0		-	-	-	●	-	-	-
4,699		13	80	47,0		●	●	●	-	-	-	●
4,700			80	47,0		●	●	●	●	■	●	●
4,750			80	47,0		-	-	-	●	●	-	-
4,763	3/16		86	52,0		●	●	●	-	-	-	●
4,800			86	52,0		●	●	●	●	■	●	●
4,801		12	86	52,0		●	●	●	-	-	-	-
4,850			86	52,0		-	-	-	●	-	-	-
4,851		11	86	52,0		●	●	●	-	-	-	-
4,900			86	52,0		●	●	●	●	■	●	●
4,915		10	86	52,0		●	●	●	-	-	-	●
4,950			86	52,0		-	-	-	●	-	-	-
4,978		9	86	52,0		●	●	●	-	-	-	-
5,000			86	52,0		●	●	●	●	●	●	●
5,055		8	86	52,0		●	●	●	-	-	-	●
5,100			86	52,0		●	●	●	●	■	-	●
5,105		7	86	52,0		●	●	●	-	-	-	-
5,159	13/64		86	52,0		●	●	●	-	-	-	●
5,182		6	86	52,0		●	●	●	-	-	-	-
5,200			86	52,0		●	●	●	●	●	-	●
5,220		5	86	52,0		●	●	●	-	-	-	-
5,250			86	52,0		-	-	-	●	■	-	-
5,300			86	52,0		●	●	●	●	■	-	●
5,309		4	93	57,0		●	●	●	-	-	-	-
5,350			93	57,0		-	-	-	-	■	-	-
5,400			93	57,0		●	●	●	●	■	-	●
5,410		3	93	57,0		●	●	●	-	-	-	-
5,450			93	57,0		-	-	-	-	■	-	-
5,500			93	57,0		●	●	●	●	■	●	●
5,550			93	57,0		-	-	-	-	■	-	-
5,558	7/32		93	57,0		-	●	●	-	-	-	●
5,600			93	57,0		●	●	●	●	■	-	●
5,613		2	93	57,0		●	●	●	-	-	-	●
5,650			93	57,0		-	-	-	-	■	-	-
5,700			93	57,0		●	●	●	●	●	-	●
5,750			93	57,0		-	-	-	●	●	-	-
5,791		1	93	57,0		●	●	●	-	-	-	-
5,800			93	57,0		●	●	●	●	●	-	●
5,850			93	57,0		-	-	-	-	-	-	-
5,900			93	57,0		●	●	●	●	●	-	●
5,944		A	93	57,0		●	●	●	-	-	-	-
5,954	15/64		93	57,0		●	●	●	-	-	-	●
6,000			93	57,0		●	●	●	●	■	●	●
6,045		B	101	63,0		●	●	●	-	-	-	-
6,100			101	63,0		●	●	●	●	■	-	●

04/07 →

■ **Solange der Vorrat reicht** | Till stocks last

A 03

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6210	6210TN	6210TC	6158	6190	6199	6209
6,147		C	101	63,0		●	●	●	-	-	-	-
6,200			101	63,0		●	●	●	●	■	-	●
6,248		D	101	63,0		●	●	●	-	-	-	-
6,250			101	63,0		-	-	-	●	●	-	-
6,300			101	63,0		●	●	●	●	●	-	●
6,350		E	101	63,0		●	●	●	-	-	-	●
6,400			101	63,0		●	●	●	●	●	-	●
6,500			101	63,0		●	●	●	●	●	●	●
6,528		F	101	63,0		●	●	●	-	-	-	-
6,600			101	63,0		●	●	●	●	●	-	●
6,629		G	101	63,0		●	●	●	-	-	-	-
6,700			101	63,0		●	●	●	●	●	-	●
6,746	17/64		109	69,0		●	●	●	-	-	-	-
6,750			109	69,0		-	-	-	●	●	-	-
6,756		H	109	69,0		●	●	●	-	-	-	-
6,800			109	69,0		●	●	●	●	■	-	●
6,900			109	69,0		●	●	●	●	●	-	●
6,909		I	109	69,0		●	●	●	-	-	-	-
7,000			109	69,0		●	●	●	●	●	■	●
7,036		J	109	69,0		●	●	●	-	-	-	-
7,100			109	69,0		●	●	●	●	■	-	●
7,137		K	109	69,0		●	●	●	-	-	-	-
7,145	9/32		109	69,0		●	●	●	-	-	-	●
7,200			109	69,0		●	●	●	●	●	-	●
7,250			109	69,0		-	-	-	●	-	-	-
7,300			109	69,0		●	●	●	●	●	-	●
7,366		L	109	69,0		●	●	●	-	-	-	-
7,400			109	69,0		●	●	●	●	●	-	●
7,493		M	109	69,0		●	●	●	-	-	-	-
7,500			109	69,0		●	●	●	●	●	●	●
7,541	19/64		117	75,0		●	●	●	-	-	-	-
7,600			117	75,0		●	●	●	●	-	-	●
7,671		N	117	75,0		●	●	●	-	-	-	-
7,700			117	75,0		●	●	●	●	-	-	●
7,750			117	75,0		-	-	-	●	-	-	-
7,800			117	75,0		●	●	●	●	-	-	●
7,900			117	75,0		●	●	●	●	-	-	●
7,938	5/16		117	75,0		●	●	●	-	-	-	-
8,000			117	75,0		●	●	●	●	■	●	●
8,026		O	117	75,0		●	●	●	-	-	-	-
8,100			117	75,0		●	●	●	●	-	-	●
8,200			117	75,0		●	●	●	●	-	-	●
8,204		P	117	75,0		●	●	●	-	-	-	-
8,250			117	75,0		-	-	-	●	-	-	-
8,300			117	75,0		●	●	●	●	-	-	●
8,334	21/64		117	75,0		●	●	●	-	-	-	-
8,400			117	75,0		●	●	●	●	-	-	●
8,433		Q	117	75,0		●	●	●	-	-	-	-
8,500			117	75,0		●	●	●	●	●	●	●
8,600			125	81,0		●	●	●	●	-	-	●
8,611		R	125	81,0		●	●	●	-	-	-	-
8,700			125	81,0		●	●	●	●	-	-	●
8,731	11/32		125	81,0		●	●	●	-	-	-	●
8,750			125	81,0		-	-	-	●	-	-	-
8,800			125	81,0		●	●	●	●	-	-	●
8,839		S	125	81,0		●	●	●	-	-	-	-

05/07 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6210	6210TN	6210TC	6158	6190	6199	6209
8,900			125	81,0		●	●	●	●	-	-	●
9,000			125	81,0		●	●	●	●	■	●	●
9,093		T	125	81,0		●	●	●	-	-	-	-
9,100			125	81,0		●	●	●	●	-	-	●
9,129	23/64		125	81,0		●	●	●	-	-	-	-
9,200			125	81,0		●	●	●	●	-	-	●
9,250			125	81,0		-	-	-	●	-	-	-
9,300			125	81,0		●	●	●	●	-	-	●
9,347		U	125	81,0		●	●	●	-	-	-	-
9,400			125	81,0		●	●	●	●	-	-	●
9,500			125	81,0		●	●	●	●	●	●	●
9,525	3/8		133	87,0		●	●	●	-	-	-	●
9,576		V	133	87,0		●	●	●	-	-	-	-
9,600			133	87,0		●	●	●	●	-	-	●
9,700			133	87,0		●	●	●	●	-	-	●
9,750			133	87,0		-	-	-	●	-	-	-
9,800			133	87,0		●	●	●	●	-	-	●
9,804		W	133	87,0		●	●	●	-	-	-	-
9,900			133	87,0		●	●	●	●	-	-	●
9,921	25/64		133	87,0		●	●	●	-	-	-	-
10,000			133	87,0		●	●	●	●	■	●	●
10,084		X	133	87,0		●	●	●	-	-	-	-
10,100			133	87,0		-	-	-	●	-	-	-
10,200			133	87,0		●	●	●	●	-	-	●
10,250			133	87,0		-	-	-	●	-	-	-
10,262		Y	133	87,0		●	●	●	-	-	-	-
10,300			133	87,0		-	-	-	●	-	-	-
10,320	13/32		133	87,0		●	●	●	-	-	-	●
10,400			133	87,0		-	-	-	●	-	-	-
10,490		Z	133	87,0		●	●	●	-	-	-	-
10,500			133	87,0		●	●	●	●	-	●	●
10,600			133	87,0		-	-	-	●	-	-	●
10,700			142	94,0		-	-	-	■	-	-	-
10,716	27/64		142	94,0		●	●	●	-	-	-	-
10,750			142	94,0		-	-	-	●	-	-	-
10,800			142	94,0		●	●	●	●	-	-	●
10,900			142	94,0		-	-	-	●	-	-	-
11,000			142	94,0		●	●	●	●	●	■	●
11,100			142	94,0		-	-	-	●	-	-	-
11,113	7/16		142	94,0		●	●	●	-	-	-	●
11,200			142	94,0		●	●	●	●	-	-	●
11,250			142	94,0		-	-	-	●	-	-	-
11,300			142	94,0		-	-	-	●	-	-	-
11,400			142	94,0		-	-	-	●	-	-	-
11,500			142	94,0		●	●	●	●	-	●	●
11,509	29/64		142	94,0		●	●	●	-	-	-	-
11,600			142	94,0		-	-	-	●	-	-	-
11,700			142	94,0		-	-	-	●	-	-	-
11,750			142	94,0		-	-	-	●	-	-	-
11,800			142	94,0		●	●	●	●	-	-	●
11,900			151	101,0		-	-	-	●	-	-	●
11,906	15/32		151	101,0		●	●	●	-	-	-	●
12,000			151	101,0		●	●	●	●	●	●	●
12,100			151	101,0		-	-	-	●	-	-	-
12,200			151	101,0		-	-	-	●	-	-	-
12,250			151	101,0		-	-	-	●	-	-	-

06/07 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6210	6210TN	6210TC	6158	6190	6199	6209
12,300			151	101,0		-	-	-	●	-	-	-
12,304	31/64		151	101,0		●	●	●	-	-	-	●
12,400			151	101,0		-	-	-	●	-	-	-
12,500			151	101,0		●	●	●	●	-	-	-
12,600			151	101,0		-	-	-	●	-	-	-
12,700			151	101,0		-	-	-	●	-	-	-
12,700	1/2		151	101,0		●	●	●	-	-	-	●
12,750			151	101,0		-	-	-	●	-	-	-
12,800			151	101,0		-	-	-	●	-	-	-
13,000			151	101,0		●	●	●	●	●	-	-
13,100			151	101,0		●	●	●	●	-	-	-
13,200			151	101,0		-	-	-	●	-	-	-
13,250			160	108,0		-	-	-	●	-	-	-
13,300			160	108,0		●	●	●	●	-	-	-
13,400			160	108,0		-	-	-	●	-	-	-
13,500			160	108,0		●	●	●	●	-	-	-
13,600			160	108,0		-	-	-	●	-	-	-
13,700			160	108,0		-	-	-	●	-	-	-
13,750			160	108,0		-	-	-	●	-	-	-
13,800			160	108,0		-	-	-	●	-	-	-
13,900			160	108,0		-	-	-	●	-	-	-
14,000			160	108,0		●	●	●	●	●	-	-
14,100			169	114,0		-	-	-	●	-	-	-
14,200			169	114,0		-	-	-	●	-	-	-
14,250			169	114,0		-	-	-	●	-	-	-
14,300			169	114,0		-	-	-	●	-	-	-
14,400			169	114,0		-	-	-	●	-	-	-
14,500			169	114,0		●	●	●	●	-	-	-
14,600			169	114,0		-	-	-	●	-	-	-
14,700			169	114,0		-	-	-	●	-	-	-
14,750			169	114,0		-	-	-	●	-	-	-
14,900			169	114,0		-	-	-	●	-	-	-
15,000			169	114,0		●	●	●	●	■	-	-
15,100			178	120,0		●	●	●	-	-	-	-
15,300			178	120,0		●	●	●	-	-	-	-
15,500			178	120,0		●	●	●	●	-	-	-
16,000			178	120,0		●	●	●	●	●	-	-
16,500			184	125,0		-	-	-	●	-	-	-
17,000			184	125,0		-	-	-	●	-	-	-
17,500			191	130,0		-	-	-	●	-	-	-
18,000			191	130,0		-	-	-	●	-	-	-
18,500			198	135,0		-	-	-	●	-	-	-
19,000			198	135,0		-	-	-	●	-	-	-
19,500			205	140,0		-	-	-	●	-	-	-
20,000			205	140,0		-	-	-	●	-	-	-

07/07

■ **Solange der Vorrat reicht** | Till stocks last

DIN 338

Spiralbohrer **SATZ** mit Zylinderschaft, kurz | Twist drills **SET** with straight shank, jobber length

338
DIN

≤8xd

P.331➔

Spiralbohrer Satz (6172)
Twist drills SET (6172)

Spiralbohrer Artikel Nr. (6151)
Twist drills article no (6151)

MATERIAL | MATERIAL	HSS
TYP | TYPE	N
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

SPIRALBOHRER SATZ TYP N IN HSS | Twist drills SET N type in HSS

SATZ
Bestellcode
Order Code

6172

Bestellbeispiel
Ordering example
6172 1-10

Ø 1.5 ÷ 6.5	**Durchmesserschritte um 0.5 mm** Diameter steps by 0.5 mm	**13** **Stücke** | pieces	**2 Stücke** | pieces Ø 3,3 - 4,2 mm
Ø 1.0 ÷ 6.0	**Durchmesserschritte um 0.5 mm** Diameter steps by 0.5 mm	**11** **Stücke** | pieces	-
Ø 1.0 ÷ 5.9	**Durchmesserschritte um 0.1 mm** Diameter steps by 0.1 mm	**50** **Stücke** | pieces	-
Ø 5.1 ÷ 10.0	**Durchmesserschritte um 0.1 mm** Diameter steps by 0.1 mm	**50** **Stücke** | pieces	-
Ø 6.0 ÷ 10.0	**Durchmesserschritte um 0.1 mm** Diameter steps by 0.1 mm	**41** **Stücke** | pieces	-
Ø 1.0 ÷ 10.0	**Durchmesserschritte um 0.5 mm** Diameter steps by 0.5 mm	**19** **Stücke** | pieces	-
Ø 1.0 ÷ 10.5	**Durchmesserschritte um 0.5 mm** Diameter steps by 0.5 mm	**24** **Stücke** | pieces	**4 Stücke** | pieces Ø 3,3 - 4,2 - 6,8 - 10,2 mm
Ø 1.0 ÷ 13.0	**Durchmesserschritte um 0.5 mm** Diameter steps by 0.5 mm	**25** **Stücke** | pieces	-

NEW

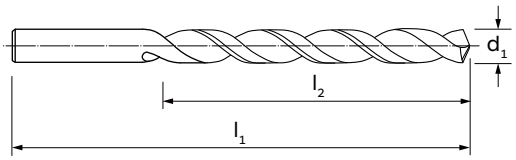
6234TX

338

DIN

≤8xd

P.331➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co 8%	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N	N	NS	VA	VA
SPITZENWINKEL | POINT ANGLE	118°	118°	118°	118°	130°	130°
BESCHICHTUNG | COATING	-	TiN	-	-	-	AlCrN
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	-	-	VAP	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻

MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stähle** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6153	6153TN	6154	6247	6234	6234TX
0,300			19	3	●	-	-	-	●	●
0,350			19	4	-	-	-	-	●	●
0,396	1/64		20	5	-	-	-	-	●	●
0,400			20	5	●	-	-	-	●	●
0,406		78	20	5	-	-	-	-	●	●
0,450			20	5	-	-	-	-	●	●
0,457		77	20	5	-	-	-	-	●	●
0,500			22	6	●	-	●	-	●	●
0,508		76	22	6	-	-	-	-	●	●
0,533		75	24	7	-	-	-	-	●	●
0,550			24	7	-	-	-	-	●	●
0,572		74	24	7	-	-	-	-	●	●
0,600			24	7	●	-	-	-	●	●
0,610		73	26	8	-	-	-	-	●	●
0,635		72	26	8	-	-	-	-	●	●
0,650			26	8	-	-	-	-	●	●
0,660		71	26	8	-	-	-	-	●	●
0,700			28	9	●	-	-	-	●	●
0,711		70	28	9	-	-	-	-	●	●
0,742		69	28	9	-	-	-	-	●	●
0,750			28	9	●	-	-	-	●	●
0,787		68	30	10	-	-	-	-	●	●
0,795	1/32		30	10	-	-	-	-	●	●

01/06 ➔

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6153	6153TN	6154	6247	6234	6234TX
0,800			30	10	●	-	-	-	●	●
0,813		67	30	10	-	-	-	-	●	●
0,838		66	30	10	-	-	-	-	●	●
0,850			30	10	-	-	-	-	●	●
0,889		65	32	11	-	-	-	-	●	●
0,900			32	11	●	-	●	-	●	●
0,914		64	32	11	-	-	-	-	●	●
0,940		63	32	11	-	-	-	-	●	●
0,950			32	11	●	-	-	-	●	●
0,965		62	34	12	-	-	-	-	●	●
0,991		61	34	12	-	-	-	-	●	●
1,000			34	12	●	●	●	●	●	●
1,016		60	34	12	-	-	-	-	●	●
1,041		59	34	12	-	-	-	-	●	●
1,050			34	12	●	-	-	●	●	●
1,067		58	36	14	-	-	-	-	●	●
1,092		57	36	14	-	-	-	-	●	●
1,100			36	14	●	●	●	●	●	●
1,150			36	14	-	-	-	●	●	●
1,181		56	38	16	-	-	-	-	●	●
1,191	3/64		38	16	-	-	-	-	●	●
1,200			38	16	●	●	●	●	●	●
1,250			38	16	●	-	-	●	●	●
1,300			38	16	●	●	●	●	●	●
1,321		55	40	18	-	-	-	-	●	●
1,350			40	18	●	-	-	●	●	●
1,397		54	40	18	-	-	-	-	●	●
1,400			40	18	●	●	●	●	●	●
1,450			40	18	●	-	-	●	●	●
1,500			40	18	●	●	●	●	●	●
1,511		53	43	20	-	-	-	-	●	●
1,550			43	20	●	-	-	●	●	●
1,588	1/16		43	20	-	-	-	-	●	●
1,600			43	20	●	●	●	●	●	●
1,613		52	43	20	-	-	-	-	●	●
1,650			43	20	●	-	-	●	●	●
1,700			43	20	●	●	●	●	●	●
1,702		51	46	22	-	-	-	-	●	●
1,750			46	22	●	-	-	●	●	●
1,778		50	46	22	-	-	-	-	●	●
1,800			46	22	●	●	●	●	●	●
1,850			46	22	●	-	-	●	●	●
1,854		49	46	22	-	-	-	-	●	●
1,900			46	22	●	●	●	●	●	●
1,930		48	49	24	-	-	-	-	●	●
1,950			49	24	●	-	-	●	●	●
1,984	5/64		49	24	-	-	-	-	●	●
1,994		47	49	24	-	-	-	-	●	●
2,000			49	24	●	●	●	●	●	●
2,050			49	24	●	-	-	●	●	●
2,057		46	49	24	-	-	-	-	●	●
2,083		45	49	24	-	-	-	-	●	●
2,100			49	24	●	●	●	●	●	●
2,150			53	27	●	-	-	●	●	●
2,184		44	53	27	-	-	-	-	●	●
2,200			53	27	●	●	●	●	●	●

02/06 →

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6153	6153TN	6154	6247	6234	6234TX
2,250			53	27	●	-	-	●	●	●
2,261		43	53	27	-	-	-	-	●	●
2,300			53	27	●	●	●	●	●	●
2,350			53	27	●	-	-	●	●	●
2,375		42	57	30	-	-	-	-	●	●
2,383	3/32		57	30	-	-	-	-	●	●
2,400			57	30	●	●	●	●	●	●
2,438		41	57	30	-	-	-	-	●	●
2,450			57	30	●	-	-	●	●	●
2,489		40	57	30	-	-	-	-	●	●
2,500			57	30	●	●	●	●	●	●
2,527		39	57	30	-	-	-	-	●	●
2,550			57	30	●	-	-	●	●	●
2,578		38	57	30	-	-	-	-	●	●
2,600			57	30	●	●	●	●	●	●
2,642		37	57	30	-	-	-	-	●	●
2,650			57	30	●	-	-	●	●	●
2,700			61	33	●	●	●	●	●	●
2,705		36	61	33	-	-	-	-	●	●
2,750			61	33	●	-	-	●	●	●
2,779	7/64		61	33	-	-	-	-	●	●
2,794		35	61	33	-	-	-	-	●	●
2,800			61	33	●	●	●	●	●	●
2,819		34	61	33	-	-	-	-	●	●
2,850			61	33	●	-	-	●	●	●
2,870		33	61	33	-	-	-	-	●	●
2,900			61	33	●	●	●	●	●	●
2,946		32	61	33	-	-	-	-	●	●
2,950			61	33	●	-	-	●	●	●
3,000			61	33	●	●	●	●	●	●
3,048		31	65	36	-	-	-	-	●	●
3,100			65	36	●	●	●	●	●	●
3,150			65	36	●	-	-	●	-	-
3,175	1/8		65	36	-	-	-	-	●	●
3,200			65	36	●	●	●	●	●	●
3,264		30	65	36	-	-	-	-	●	●
3,300			65	36	●	●	●	●	●	●
3,400			70	39	●	●	●	●	●	●
3,454		29	70	39	-	-	-	-	●	●
3,500			70	39	●	●	●	●	●	●
3,569		28	70	39	-	-	-	-	●	●
3,571	9/64		70	39	-	-	-	-	●	●
3,600			70	39	●	●	●	●	●	●
3,650			70	39	-	-	-	-	●	●
3,658		27	70	39	-	-	-	-	●	●
3,700			70	39	●	●	●	●	●	●
3,734		26	70	39	-	-	-	-	●	●
3,797		25	75	43	-	-	-	-	●	●
3,800			75	43	●	●	●	●	●	●
3,861		24	75	43	-	-	-	-	●	●
3,900			75	43	●	●	●	●	●	●
3,912		23	75	43	-	-	-	-	●	●
3,970	5/32		75	43	-	-	-	-	●	●
3,988		22	75	43	-	-	-	-	●	●
4,000			75	43	●	●	●	●	●	●
4,039		21	75	43	-	-	-	-	●	●

03/06 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6153	6153TN	6154	6247	6234	6234TX
4,089		20	75	43	-	-	-	-	●	●
4,100			75	43	●	●	●	●	●	●
4,200			75	43	●	●	●	●	●	●
4,216		19	75	43	-	-	-	-	●	●
4,300			80	47	●	●	●	●	●	●
4,305		18	80	47	-	-	-	-	●	●
4,366	11/64		80	47	-	-	-	-	●	●
4,394		17	80	47	-	-	-	-	●	●
4,400			80	47	●	●	●	●	●	●
4,496		16	80	47	-	-	-	-	●	●
4,500			80	47	●	●	●	●	●	●
4,572		15	80	47	-	-	-	-	●	●
4,600			80	47	●	●	●	●	●	●
4,623		14	80	47	-	-	-	-	●	●
4,699		13	80	47	-	-	-	-	●	●
4,700			80	47	●	●	●	●	●	●
4,763	3/16		86	52	-	-	-	-	●	●
4,800			86	52	●	●	●	●	●	●
4,801		12	86	52	-	-	-	-	●	●
4,851		11	86	52	-	-	-	-	●	●
4,900			86	52	●	●	●	●	●	●
4,915		10	86	52	-	-	-	-	●	●
4,978		9	86	52	-	-	-	-	●	●
5,000			86	52	●	●	●	●	●	●
5,055		8	86	52	-	-	-	-	●	●
5,100			86	52	●	●	●	●	●	●
5,105		7	86	52	-	-	-	-	●	●
5,159	13/64		86	52	-	-	-	-	●	●
5,182		6	86	52	-	-	-	-	●	●
5,200			86	52	●	●	●	●	●	●
5,220		5	86	52	-	-	-	-	●	●
5,300			86	52	●	●	●	●	●	●
5,309		4	93	57	-	-	-	-	●	●
5,400			93	57	●	●	●	●	●	●
5,410		3	93	57	-	-	-	-	●	●
5,500			93	57	●	●	●	●	●	●
5,558	7/32		93	57	-	-	-	-	●	●
5,600			93	57	●	●	●	●	●	●
5,613		2	93	57	-	-	-	-	●	●
5,700			93	57	●	●	●	●	●	●
5,791		1	93	57	-	-	-	-	●	●
5,800			93	57	●	●	●	●	●	●
5,900			93	57	●	●	●	●	●	●
5,954	15/64		93	57	-	-	-	-	●	●
6,000			93	57	●	●	●	●	●	●
6,100			101	63	●	●	●	●	●	●
6,200			101	63	●	●	●	●	●	●
6,300			101	63	●	●	●	●	●	●
6,350	1/4		101	63	-	-	-	-	●	●
6,400			101	63	●	●	●	●	●	●
6,500			101	63	●	●	●	●	●	●
6,600			101	63	●	●	●	●	●	●
6,700			101	63	●	●	●	●	●	●
6,746	17/64		109	69	-	-	-	-	●	●
6,800			109	69	●	●	●	●	●	●
6,900			109	69	●	●	●	●	●	●

04/06 →

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6153	6153TN	6154	6247	6234	6234TX
7,000			109	69		●	●	●	●	●	●
7,100			109	69		●	●	●	●	●	●
7,144	9/32		109	69		-	-	-	-	●	●
7,200			109	69		●	●	●	●	●	●
7,300			109	69		●	●	●	●	●	●
7,400			109	69		●	●	●	●	●	●
7,500			109	69		●	●	●	●	●	●
7,541	19/64		117	75		-	-	-	-	●	●
7,600			117	75		●	●	●	●	●	●
7,700			117	75		●	●	●	●	●	●
7,800			117	75		●	●	●	●	●	●
7,900			117	75		●	●	●	●	●	●
7,938	5/16		117	75		-	-	-	-	●	●
8,000			117	75		●	●	●	●	●	●
8,100			117	75		●	●	●	●	●	●
8,200			117	75		●	●	●	●	●	●
8,300			117	75		●	●	●	●	●	●
8,334	21/64		117	75		-	-	-	-	●	●
8,400			117	75		●	●	●	●	●	●
8,500			117	75		●	●	●	●	●	●
8,600			125	81		●	●	●	●	●	●
8,700			125	81		●	●	●	●	●	●
8,733	11/32		125	81		-	-	-	-	●	●
8,800			125	81		●	●	●	●	●	●
8,900			125	81		●	●	●	●	●	●
9,000			125	81		●	●	●	●	●	●
9,100			125	81		●	●	●	●	●	●
9,129	23/64		125	81		-	-	-	-	●	●
9,200			125	81		●	●	●	●	●	●
9,300			125	81		●	●	●	●	●	●
9,400			125	81		●	●	●	●	●	●
9,500			125	81		●	●	●	●	●	●
9,525	3/8		133	87		-	-	-	-	●	●
9,600			133	87		●	●	●	●	●	●
9,700			133	87		●	●	●	●	●	●
9,800			133	87		●	●	●	●	●	●
9,900			133	87		●	●	●	●	●	●
9,921	25/64		133	87		-	-	-	-	●	●
10,000			133	87		●	●	●	●	●	●
10,100			133	87		●	●	-	-	-	-
10,200			133	87		●	●	●	●	●	●
10,300			133	87		●	●	-	-	-	-
10,320	13/32		133	87		-	-	-	-	●	●
10,400			133	87		●	●	-	-	-	-
10,500			133	87		●	●	●	●	●	●
10,600			133	87		●	-	-	-	-	-
10,700			142	94		●	-	-	-	-	-
10,716	27/64		142	94		-	-	-	-	●	●
10,800			142	94		●	●	-	●	-	-
10,900			142	94		●	-	-	-	-	-
11,000			142	94		●	●	●	●	●	●
11,100			142	94		●	-	-	-	-	-
11,113	7/16		142	94		-	-	-	-	●	●
11,200			142	94		●	●	-	-	●	●
11,300			142	94		●	-	-	-	-	-
11,400			142	94		●	-	-	-	-	-

05/06 →

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6153	6153TN	6154	6247	6234	6234TX
11,500			142	94		●	●	●	●	●	●
11,509	29/64		142	94		-	-	-	-	●	●
11,600			142	94		●	-	-	-	-	-
11,700			142	94		●	-	-	-	-	-
11,800			142	94		●	-	-	●	-	-
11,900			151	101		●	-	-	-	-	-
11,906	15/32		151	101		-	-	-	-	●	●
12,000			151	101		●	●	●	●	●	●
12,100			151	101		●	●	-	-	-	-
12,200			151	101		●	-	-	●	-	-
12,300			151	101		●	-	-	-	-	-
12,304	31/64		151	101		-	-	-	-	●	●
12,400			151	101		●	-	-	-	-	-
12,500			151	101		●	●	●	●	●	●
12,600			151	101		●	-	-	-	-	-
12,700	1/2		151	101		●	●	●	-	●	●
12,800			151	101		●	-	-	●	-	-
12,900			151	101		●	-	-	-	-	-
13,000			151	101		●	●	●	●	●	●
13,500			160	108		●	●	●	●	●	●
13,800			160	108		●	-	-	-	-	-
14,000			160	108		●	●	●	●	●	●
14,500			169	114		●	●	-	●	●	●
14,800			169	114		-	-	-	-	-	-
15,000			169	114		●	●	●	●	●	●
15,500			178	120		●	●	●	-	-	-
16,000			178	120		●	●	●	-	-	-

06/06

NEW

6140TX

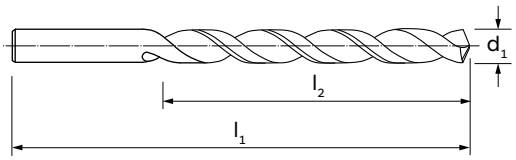
338

DIN

≤8xd

P.331➔

A 03



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	RECORD VA	RECORD VA	RECORD GG	HD	HD	HD
SPITZENWINKEL | POINT ANGLE	130°	130°	130°	130°	130°	130°
BESCHICHTUNG | COATING	-	AlCrN	TiAlN Futura	-	TiN	TiCN
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	-	-	F.NIT	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P	-	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	-	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	-	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6140	6140TX	6110TF	6111	6111TN	6111TC
1,000			34	12	●	●	-	●	●	●
1,100			36	14	●	●	-	●	●	●
1,200			38	16	●	●	-	●	●	●
1,300			38	16	●	●	-	●	●	●
1,400			40	18	●	●	-	●	●	●
1,500			40	18	●	●	-	●	●	●
1,600			43	20	●	●	-	●	●	●
1,700			43	20	●	●	-	●	●	●
1,800			46	22	●	●	-	●	●	●
1,900			46	22	●	●	-	●	●	●
2,000			49	24	●	●	-	●	●	●
2,100			49	24	●	●	-	●	●	●
2,200			53	27	●	●	-	●	●	●
2,300			53	27	●	●	-	●	●	●
2,400			57	30	●	●	-	●	●	●
2,500			57	30	●	●	-	●	●	●
2,600			57	30	●	●	-	●	●	●
2,700			61	33	●	●	-	●	●	●
2,800			61	33	●	●	-	●	●	●
2,900			61	33	●	●	-	●	●	●
3,000			61	33	●	●	-	●	●	●
3,100			65	36	●	●	-	●	●	●
3,200			65	36	●	●	-	●	●	●

01/03 ➔

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6140	6140TX	6110TF	6111	6111TN	6111TC
3,300			65	36	●	●	-	●	●	●
3,400			70	39	●	●	-	●	●	●
3,500			70	39	●	●	-	●	●	●
3,600			70	39	●	●	-	●	●	●
3,700			70	39	●	●	-	●	●	●
3,800			75	43	●	●	-	●	●	●
3,900			75	43	●	●	-	●	●	●
4,000			75	43	●	●	■	●	●	●
4,100			75	43	●	●	■	●	●	●
4,200			75	43	●	●	-	●	●	●
4,300			80	47	●	●	■	●	●	●
4,400			80	47	●	●	■	●	●	●
4,500			80	47	●	●	■	●	●	●
4,600			80	47	●	●	■	●	●	●
4,699		13	80	47	-	-	-	●	-	-
4,700			80	47	●	●	■	●	●	●
4,800			86	52	●	●	■	●	●	●
4,900			86	52	●	●	■	●	●	●
5,000			86	52	●	●	-	●	●	●
5,100			86	52	●	●	-	●	●	●
5,159	13/64		86	52	-	-	-	●	●	●
5,200			86	52	●	●	-	●	●	●
5,300			86	52	●	●	■	●	●	●
5,400			93	57	●	●	■	●	●	●
5,500			93	57	●	●	■	●	●	●
5,600			93	57	●	●	■	●	●	●
5,700			93	57	●	●	■	●	●	●
5,800			93	57	●	●	■	●	●	●
5,900			93	57	●	●	■	●	●	●
6,000			93	57	●	●	■	●	●	●
6,100			101	63	●	●	■	●	●	●
6,200			101	63	●	●	■	●	●	●
6,300			101	63	●	●	■	●	●	●
6,400			101	63	●	●	■	●	●	●
6,500			101	63	●	●	■	●	●	●
6,600			101	63	●	●	■	●	●	●
6,700			101	63	●	●	■	●	●	●
6,800			109	69	●	●	■	●	●	●
6,900			109	69	●	●	-	●	●	●
7,000			109	69	●	●	-	●	●	●
7,100			109	69	●	●	■	●	●	●
7,200			109	69	●	●	■	●	●	●
7,300			109	69	●	●	■	●	●	●
7,400			109	69	●	●	■	●	●	●
7,500			109	69	●	●	■	●	●	●
7,600			117	75	●	●	■	●	●	●
7,700			117	75	●	●	■	●	●	●
7,800			117	75	●	●	■	●	●	●
7,900			117	75	●	●	■	●	●	●
8,000			117	75	●	●	■	●	●	●
8,100			117	75	●	●	■	●	●	●
8,200			117	75	●	●	■	●	●	●
8,300			117	75	●	●	■	●	●	●
8,334	21/64		117	75	-	-	-	●	-	-
8,400			117	75	●	●	■	●	●	●
8,500			117	75	●	●	■	●	●	●

02/03 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6140	6140TX	6110TF	6111	6111TN	6111TC
8,600			125	81		●	●	■	●	●	●
8,700			125	81		●	●	■	●	●	●
8,733	11/32		125	81		-	-	-	●	●	●
8,800			125	81		●	●	■	●	●	●
8,900			125	81		●	●	■	●	●	●
9,000			125	81		●	●	-	●	●	●
9,100			125	81		●	●	■	●	●	●
9,200			125	81		●	●	■	●	●	●
9,300			125	81		●	●	■	●	●	●
9,400			125	81		●	●	■	●	●	●
9,500			125	81		●	●	■	●	●	●
9,600			133	87		●	●	■	●	●	●
9,700			133	87		●	●	■	●	●	●
9,800			133	87		●	●	■	●	●	●
9,900			133	87		●	●	■	●	●	●
10,000			133	87		●	●	■	●	●	●
10,200			133	87		●	●	■	●	●	●
10,500			133	87		●	●	-	●	●	●
10,800			142	94		-	-	-	●	●	●
11,000			142	94		●	●	■	●	●	●
11,200			142	94		●	●	■	●	●	●
11,500			142	94		●	●	-	●	●	●
11,800			142	94		-	-	-	●	●	●
12,000			151	101		●	●	-	●	●	●
12,500			151	101		●	●	-	●	●	●
13,000			151	101		●	●	-	●	●	●
13,100			151	101		-	-	-	●	●	●
13,300			160	108		-	-	-	●	●	●
13,500			160	108		●	●	■	●	●	●
13,800			160	108		-	-	■	-	-	-
14,000			160	108		●	●	-	●	●	●
14,500			169	114		●	●	■	●	●	●
15,000			169	114		●	●	■	●	●	●
15,100			178	120		-	-	-	●	●	●
15,300			178	120		-	-	-	●	●	●
15,500			178	120		●	●	■	●	●	●
16,000			178	120		●	●	■	●	●	●

03/03

■ **Solange der Vorrat reicht** | Till stocks last

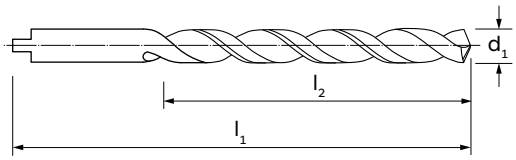
DIN 8037

DK120 Hartmetallbestückter Spiralbohrer, mit Mitnehmerlappen nach DIN 1809
DK120 carbide tipped twist drills, with tang according to DIN 1809

8037
DIN

≤5xd

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	HM
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h8)	l_1	l_2		6211
3,0	50	20		●
3,5	56	25		●
3,8	56	25		●
4,0	56	25		●
4,2	63	28		●
4,5	63	28		●
4,8	63	28		●
5,0	63	28		●
5,2	71	32		●
5,5	71	32		●
5,8	71	32		●
6,0	71	32		●
6,5	71	32		●
6,8	80	40		●
7,0	80	40		●
7,5	80	40		●
8,0	80	40		●
8,5	90	50		●
9,0	90	50		●
9,5	90	50		●
10,0	100	56		●
10,5	100	56		●
11,0	100	56		●

d_1 (h8)	l_1	l_2		6211
11,5	112	63		●
12,0	112	63		●
13,0	112	63		●
14,0	125	71		●
15,0	125	71		●
16,0	140	80		●

* Für Durchmesser unter 3,0 mm siehe Art.-Nr. 6214 auf Seite 260 | For diameters below 3,0 mm please see Ref. 6214 on page 260

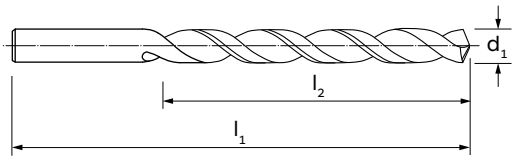
338

DIN

≤8xd

6120

P.331➔



MATERIAL | MATERIAL	M.D.I.-HM	HSS
TYP | TYPE	N	HM
SPITZENWINKEL | POINT ANGLE	120°	118°
BESCHICHTUNG | COATING	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	-
M | **Rostfreier Stahl** | Stainless Steels	M	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	-
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	H

d_1 (h8)	l_1	l_2		6214	6120*
0,6	24	7		●	-
0,7	28	9		●	-
0,8	30	10		●	-
0,9	32	11		●	-
1,0	34	12		●	-
1,1	36	14		●	-
1,2	38	16		●	-
1,3	38	16		●	-
1,4	40	18		●	-
1,5	40	18		●	-
1,6	43	20		●	-
1,7	43	20		●	-
1,8	46	22		●	-
1,9	46	22		●	-
2,0	49	24		●	-
2,1	49	24		●	-
2,2	53	27		●	-
2,3	53	27		●	-
2,4	57	30		●	-
2,5	57	30		●	-
2,6	57	30		●	-
2,7	61	33		●	-
2,8	61	33		●	-

d_1 (h8)	l_1	l_2		6214	6120*
2,9	61	33		●	-
3,0	61	33		●	●
3,1	65	36		●	●
3,2	65	36		●	●
3,3	65	36		●	●
3,4	70	39		●	●
3,5	70	39		●	●
3,6	70	39		●	●
3,7	70	39		●	●
3,8	75	43		●	●
3,9	75	43		●	●
4,0	75	43		●	●
4,1	75	43		●	●
4,2	75	43		●	●
4,3	80	47		●	●
4,4	80	47		●	●
4,5	80	47		●	●
4,6	80	47		●	●
4,7	80	47		●	●
4,8	86	52		●	●
4,9	86	52		●	●
5,0	86	52		●	●
5,1	86	52		●	●

01/02 ➔

* DK120 Hartmetallbestückter Spiralbohrer | DK120 Carbide tipped twist drills

DIN 338

Spiralbohrer mit Zylinderschaft, kurz | Twist drills with straight shank, jobber length

d_1 (h8)	l_1	l_2		6214	6120*
5,2	86	52		●	●
5,3	86	52		●	●
5,4	93	57		●	●
5,5	93	57		●	●
5,6	93	57		●	●
5,7	93	57		●	●
5,8	93	57		●	●
5,9	93	57		●	●
6,0	93	57		●	●
6,1	101	63		●	●
6,2	101	63		●	●
6,3	101	63		●	●
6,4	101	63		●	●
6,5	101	63		●	●
6,6	101	63		●	●
6,7	101	63		●	●
6,8	109	69		●	●
6,9	109	69		●	●
7,0	109	69		●	●
7,1	109	69		●	●
7,2	109	69		●	●
7,3	109	69		●	●
7,4	109	69		●	●
7,5	109	69		●	●
7,6	117	75		●	●
7,7	117	75		●	●
7,8	117	75		●	●
7,9	117	75		●	●
8,0	117	75		●	●
8,1	117	75		●	●
8,2	117	75		●	●
8,3	117	75		●	●
8,4	117	75		●	●
8,5	117	75		●	●
8,6	125	81		●	●
8,7	125	81		●	●
8,8	125	81		●	●
8,9	125	81		●	●
9,0	125	81		●	●
9,1	125	81		●	●

d_1 (h8)	l_1	l_2		6214	6120*
9,2	125	81		●	●
9,3	125	81		●	●
9,4	125	81		●	●
9,5	125	81		●	●
9,6	133	87		●	●
9,7	133	87		●	●
9,8	133	87		●	●
9,9	133	87		●	●
10,0	133	87		●	●
10,1	133	87		–	●
10,2	133	87		●	●
10,3	133	87		–	●
10,4	133	87		–	●
10,5	133	87		●	●
10,6	133	87		–	●
10,7	142	94		–	●
10,8	142	94		●	●
10,9	142	94		–	●
11,0	142	94		●	●
11,1	142	94		–	●
11,2	142	94		●	●
11,3	142	94		–	●
11,4	142	94		–	●
11,5	142	94		●	●
11,6	142	94		–	●
11,7	142	94		–	●
11,8	142	94		●	●
11,9	151	101		–	●
12,0	151	101		●	●
12,1	151	101		–	●
12,2	151	101		–	●
12,3	151	101		–	●
12,4	151	101		–	●
12,5	151	101		–	●
12,6	151	101		–	●
12,7	151	101		–	●
12,8	151	101		–	●
12,9	151	101		–	●
13,0	151	101		–	●

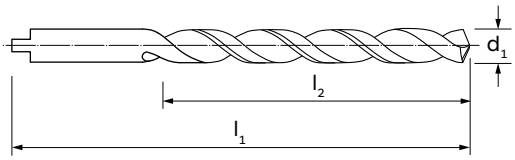
02/02

* DK120 Hartmetallbestückter Spiralbohrer | DK120 Carbide tipped twist drills

339
DIN

≤10xd

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	N
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2			6202
1,0	48	26			●
1,1	50	28			●
1,2	52	30			●
1,3	52	30			■
1,3	52	30			●
1,4	55	33			■
1,4	55	33			●
1,5	55	33			●
1,6	58	35			●
1,7	58	35			●
1,8	62	38			●
1,9	62	38			●
2,0	66	41			●
2,1	66	41			●
2,2	70	44			●
2,3	70	44			●
2,4	70	44			■
2,4	74	47			●
2,5	74	47			●
2,6	74	47			●
2,7	79	51			●
2,8	79	51			■
2,8	79	51			■

d_1 (h8)	l_1	l_2			6202
2,9	79	51			●
3,0	79	51			●
3,1	84	55			●
3,2	84	55			●
3,3	84	55			●
3,4	91	60			●
3,5	91	60			●
3,6	91	60			●
3,7	91	60			●
3,8	96	64			●
3,9	96	64			●
4,0	96	64			●
4,1	96	64			●
4,2	96	64			●
4,3	102	69			●
4,4	102	69			●
4,5	102	69			●
4,6	102	69			●
4,7	102	69			●
4,8	108	74			●
4,9	108	74			●
5,0	108	74			●
5,1	108	74			●

01/02 ➔

Der SPIRALBOHRER ist blank bis Ø3, mit Mitnehmerlappen DIN 1809 ab Ø3 | The drill is blank till Ø3, with tenon DIN 1809 from Ø3
■ **Solange der Vorrat reicht** | Till stocks last

DIN 339

Spiralbohrer zum Bohren in Bohrbuchsen, mit Mitnehmerlappen, lang
Twist drills for drilling with jigs bushings and tang, long length

d_1 (h8)	l_1	l_2			6202
5,2	108	74			●
5,3	108	74			●
5,4	116	80			●
5,5	116	80			●
5,6	116	80			●
5,7	116	80			●
5,8	116	80			●
5,9	116	80			●
6,0	116	80			●
6,1	124	86			●
6,2	124	86			●
6,3	124	86			●
6,4	124	86			●
6,5	124	86			●
6,6	124	86			●
6,7	124	86			●
6,8	133	93			●
6,9	133	93			●
7,0	133	93			●
7,1	133	93			●
7,2	133	93			●
7,3	133	93			●
7,4	133	93			●
7,5	133	93			●
7,6	142	100			●
7,7	142	100			●
7,8	142	100			●
7,9	142	100			●
8,0	142	100			●
8,1	142	100			●
8,2	142	100			●

d_1 (h8)	l_1	l_2			6202
8,3	142	100			●
8,4	142	100			●
8,5	142	100			●
8,6	151	107			●
8,7	151	107			●
8,8	151	107			●
8,9	151	107			●
9,0	151	107			●
9,1	151	107			●
9,2	151	107			●
9,3	151	107			●
9,4	151	107			●
9,5	151	107			●
9,6	162	116			●
9,7	162	116			●
9,8	162	116			●
10,0	162	116			●
10,2	162	116			●
10,5	162	116			●
10,8	173	125			●
11,0	173	125			●
11,5	173	125			●
12,0	184	134			●
10,0	162	116			●
10,2	162	116			●
10,5	162	116			●
10,8	173	125			●
11,0	173	125			●
11,5	173	125			●
12,0	184	134			●

02/02

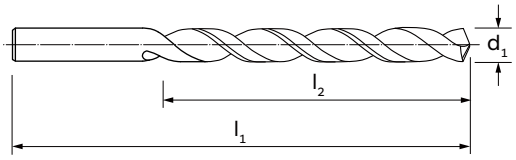
340

DIN

≤12xd

6108

P.331➔



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS	HSS
TYP | TYPE	N	N	N	STL	STL	STL
SPITZENWINKEL | POINT ANGLE	118°	118°	118°	130°	130°	130°
BESCHICHTUNG | COATING	-	TiN	-	-	TiN	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	-	VAP	F.NIT	-	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↺

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1 (h8)	d_1 (")	l_1	l_2	6165	6165TN	6108	6173	6173TN	6184
0,500		32	12	●	-	-	-	-	-
0,600		35	15	●	-	-	-	-	-
0,700		42	21	■	●	-	-	-	-
0,800		46	25	●	-	-	-	-	-
0,900		51	29	●	-	-	-	-	-
1,000		56	33	●	●	-	●	●	-
1,050		56	33	●	-	-	-	-	-
1,100		60	37	●	-	-	●	●	-
1,150		60	37	●	-	-	-	-	-
1,200		65	41	●	-	-	●	●	-
1,250		65	41	●	-	-	-	-	-
1,300		65	41	●	-	-	●	●	-
1,350		70	45	●	-	-	-	-	-
1,400		70	45	●	-	-	●	●	-
1,450		70	45	●	-	-	-	-	-
1,500		70	45	●	●	-	●	●	-
1,550		76	50	●	-	-	-	-	-
1,600		76	50	●	-	-	●	●	-
1,650		76	50	●	-	-	-	-	-
1,700		76	50	●	-	-	●	●	-
1,750		80	53	●	-	-	-	-	-
1,800		80	53	●	-	-	●	●	-
1,850		80	53	●	-	-	-	-	-

01/05 ➔

■ **Solange der Vorrat reicht** | Till stocks last

DIN 340

Spiralbohrer mit Zylinderschaft, lange Länge | Twist drills with straight shank, long length

d_1 (h8)	d_1 (")	l_1	l_2	6165	6165TN	6108	6173	6173TN	6184
1,900		80	53	●	-	-	●	●	-
1,950		85	56	●	-	-	-	-	-
1,984	5/64	85	56	-	-	-	●	-	-
2,000		85	56	●	●	-	●	●	-
2,050		85	56	●	-	-	-	-	-
2,100		85	56	●	-	-	●	●	-
2,150		90	59	●	-	-	-	-	-
2,200		90	59	●	-	-	●	●	-
2,250		90	59	●	-	-	-	-	-
2,300		90	59	●	-	-	●	●	-
2,350		90	59	●	-	-	-	-	-
2,383	3/32	95	62	-	-	-	●	-	-
2,400		95	62	●	-	-	●	●	-
2,450		95	62	●	-	-	-	-	-
2,500		95	62	●	●	-	●	●	-
2,550		95	62	●	-	-	-	-	-
2,600		95	62	●	-	-	●	●	-
2,650		95	62	●	-	-	-	-	-
2,700		100	66	●	-	-	●	●	-
2,750		100	66	●	-	-	-	-	-
2,779	7/64	100	66	-	-	-	●	-	-
2,800		100	66	●	-	-	●	●	-
2,850		100	66	●	-	-	-	-	-
2,900		100	66	●	-	-	●	●	-
2,950		100	66	●	-	-	-	-	-
3,000		100	66	●	●	●	●	●	-
3,050		106	69	●	-	-	-	-	-
3,100		106	69	●	-	-	●	●	-
3,150		106	69	●	-	-	-	-	-
3,175	1/8	106	69	■	-	-	●	-	-
3,200		106	69	●	●	●	●	●	-
3,250		106	69	●	-	-	-	-	-
3,300		106	69	●	●	-	●	●	-
3,350		106	69	●	-	-	-	-	-
3,400		112	73	●	-	-	●	●	-
3,450		112	73	●	-	-	-	-	-
3,500		112	73	●	●	●	●	●	-
3,550		112	73	●	-	-	-	-	-
3,571	9/64	112	73	-	-	-	●	-	-
3,600		112	73	●	-	-	●	●	-
3,650		112	73	●	-	-	-	-	-
3,700		112	73	●	-	-	●	●	-
3,750		112	73	●	-	-	-	-	-
3,800		119	78	●	-	●	●	●	-
3,850		119	78	●	-	-	-	-	-
3,900		119	78	●	-	-	●	●	-
3,950		119	78	●	-	-	-	-	-
3,970	5/32	119	78	-	-	-	●	-	-
4,000		119	78	●	●	●	●	●	-
4,050		119	78	●	-	-	-	-	-
4,100		119	78	●	-	-	●	●	-
4,150		119	78	●	-	-	-	-	-
4,200		119	78	●	●	●	●	●	-
4,250		119	78	●	-	-	-	-	-
4,300		126	82	●	-	-	●	●	-
4,350		126	82	●	-	-	-	-	-

02/05 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	l_1	l_2		6165	6165TN	6108	6173	6173TN	6184
4,366	11/64	126	82		-	-	-	●	-	-
4,400		126	82		●	-	-	●	●	-
4,450		126	82		●	-	-	-	-	-
4,500		126	82		●	●	●	●	●	-
4,550		126	82		●	-	-	-	-	-
4,600		126	82		●	-	-	●	●	-
4,650		126	82		●	-	-	-	-	-
4,700		126	82		●	-	-	●	●	-
4,750		126	82		●	-	-	-	-	-
4,763	3/16	132	87		■	-	-	●	-	-
4,800		132	87		●	-	●	●	●	-
4,850		132	87		●	-	-	-	-	-
4,900		132	87		●	-	-	●	●	-
4,950		132	87		●	-	-	-	-	-
5,000		132	87		●	●	●	●	●	-
5,100		132	87		●	-	-	●	●	-
5,159	13/64	132	87		-	-	-	●	-	-
5,200		132	87		●	-	●	●	●	-
5,250		132	87		●	-	-	-	-	-
5,300		132	87		●	-	-	●	●	-
5,400		139	91		●	-	-	●	●	-
5,500		139	91		●	●	●	●	●	-
5,558	7/62	139	91		-	-	-	●	-	-
5,600		139	91		●	-	-	●	●	-
5,700		139	91		●	-	-	●	●	-
5,750		139	91		●	-	-	-	-	-
5,800		139	91		●	-	●	●	●	-
5,900		139	91		●	-	-	●	●	-
5,954	15/64	139	91		-	-	-	●	-	-
6,000		139	91		●	●	●	●	●	-
6,100		148	97		●	-	-	●	●	-
6,200		148	97		●	-	●	●	●	-
6,250		148	97		●	-	-	-	-	-
6,300		148	97		●	-	-	●	●	-
6,350	1/4	148	97		-	-	-	●	-	-
6,400		148	97		●	-	-	●	●	-
6,500		148	97		●	●	●	●	●	-
6,600		148	97		●	-	-	●	●	-
6,700		148	97		●	-	-	●	●	-
6,746	17/64	156	102		-	-	-	●	-	-
6,750		156	102		●	-	-	-	-	-
6,800		156	102		●	-	●	●	●	-
6,900		156	102		●	-	-	●	●	-
7,000		156	102		●	●	●	●	●	
7,100		156	102		●	-	-	●	●	-
7,145	9/32	156	102		-	-	-	●	-	-
7,200		156	102		●	-	-	●	●	-
7,250		156	102		●	-	-	-	-	-
7,300		156	102		●	-	-	●	●	-
7,400		156	102		●	-	-	●	●	-
7,500		156	102		●	●	●	●	●	■
7,541	19/64	165	109		-	-	-	●	-	-
7,600		165	109		●	-	-	●	●	-
7,700		165	109		●	-	-	●	●	-
7,750		165	109		●	-	-	-	-	-
7,800		165	109		●	-	-	●	●	-

03/05 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 340

Spiralbohrer mit Zylinderschaft, lange Länge | Twist drills with straight shank, long length

d_1 (h8)	d_1 (")	l_1	l_2	6165	6165TN	6108	6173	6173TN	6184
7,900		165	109	●	-	-	●	●	-
7,938	5/16	165	109	-	-	-	●	-	-
8,000		165	109	●	●	●	●	●	-
8,100		165	109	●	-	-	●	-	-
8,200		165	109	●	-	-	●	-	-
8,250		165	109	●	-	-	-	-	-
8,300		165	109	●	-	-	●	-	-
8,334	21/64	165	109	-	-	-	●	-	-
8,400		165	109	●	-	-	●	-	-
8,500		165	109	●	●	●	●	●	
8,600		175	115	●	-	-	●	-	-
8,700		175	115	●	-	-	●	-	-
8,733	11/32	175	115	-	-	-	●	-	-
8,750		175	115	●	-	-	-	-	-
8,800		175	115	●	-	-	●	-	-
8,900		175	115	●	-	-	●	-	-
9,000		175	115	●	●	●	●	●	-
9,100		175	115	●	-	-	●	-	-
9,129	23/64	175	115	-	-	-	●	-	-
9,200		175	115	●	-	-	●	-	-
9,250		175	115	●	-	-	-	-	-
9,300		175	115	●	-	-	●	-	-
9,400		175	115	●	-	-	●	-	-
9,500		175	115	●	-	●	●	●	■
9,525	3/8	184	121	-	-	-	●	-	-
9,600		184	121	●	-	-	●	-	-
9,700		184	121	●	-	-	●	-	-
9,750		184	121	●	-	-	-	-	-
9,800		184	121	●	-	-	●	-	-
9,900		184	121	●	-	-	●	-	-
9,921	25/64	184	121	-	-	-	●	-	-
10,000		184	121	●	●	●	●	●	-
10,100		184	121	●	-	-	-	-	-
10,200		184	121	●	-	-	●	●	-
10,300		184	121	●	-	-	-	-	-
10,320	13/32	184	121	-	-	-	●	-	-
10,400		184	121	●	-	-	-	-	-
10,500		184	121	●	-	-	●	●	-
10,600		184	121	●	-	-	-	-	-
10,700		195	128	●	-	-	-	-	-
10,716	27/64	195	128	-	-	-	●	-	-
10,800		195	128	●	-	-	●	●	-
10,900		195	128	●	-	-	-	-	-
11,000		195	128	●	-	-	●	●	-
11,113	7/16	195	128	-	-	-	●	-	-
11,200		195	128	●	-	-	●	●	-
11,500		195	128	●	-	-	●	●	-
11,509	29/64	195	128	-	-	-	●	-	-
11,800		195	128	●	-	-	●	●	-
11,908	15/32	205	134	■	-	-	●	-	-
12,000		205	134	●	-	-	●	●	-
12,200		205	134	●	-	-	-	-	-
12,304	31/64	205	134	-	-	-	●	-	-
12,500		205	134	●	-	-	-	-	-
12,700	1/14	205	134	-	-	-	●	-	-
12,800		205	134	●	-	-	-	-	-

04/05 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	l_1	l_2		6165	6165TN	6108	6173	6173TN	6184
13,000		205	134		●	-	-	-	-	-
13,200		205	134		●	-	-	-	-	-
13,500		214	140		●	-	-	-	-	-
13,800		214	140		●	-	-	-	-	-
14,000		214	140		●	-	-	-	-	-
14,500		220	144		●	-	-	-	-	-
15,000		220	144		●	-	-	-	-	-
15,500		227	149		●	-	-	-	-	-
16,000		227	149		●	-	-	-	-	-
17,000		235	154		●	-	-	-	-	-
18,000		241	158		●	-	-	-	-	-
19,000		247	162		●	-	-	-	-	-
20,000		254	166		●	-	-	-	-	-
21,000		261	171		●	-	-	-	-	-
22,000		268	176		●	-	-	-	-	-
23,000		275	180		●	-	-	-	-	-
24,000		282	185		●	-	-	-	-	-
25,000		282	185		●	-	-	-	-	-

05/05

DIN 340

Spiralbohrer mit Zylinderschaft, lange Länge | Twist drills with straight shank, long length

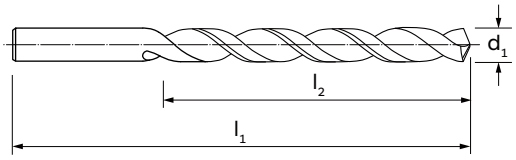
340
DIN

≤12xd

NEW 6112TN

NEW 6113TN

P.331→



MATERIAL | MATERIAL	HSS	HSS	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	H	W	N	VA	VA	HD	HD
SPITZENWINKEL | POINT ANGLE	118°	130°	118°	130°	130°	130°	130°
BESCHICHTUNG | COATING	-	-	-	-	TiN	-	TiN
OBERFLÄCHENBEHANDLUNG | SURFACE TREAT.	-	-	VAP	-	-	F.NIT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	-	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	M	M	M	-	-
K | **Gusseisen** | Cast Irons	-	-	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	-	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	S	S	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-	-

d_1 (h8)	d_1 (")	l_1	l_2	6192	6200	6166	6112	6112TN	6113	6113TN
0,500		32	12	-	-	●	-	-	-	-
0,600		35	15	-	-	●	-	-	-	-
0,700		42	21	-	-	●	-	-	-	-
0,800		46	25	-	-	●	-	-	-	-
0,900		51	29	-	-	●	-	-	-	-
1,000		56	33	●	●	●	●	●	●	-
1,050		56	33	-	-	-	-	-	-	-
1,100		60	37	●	●	●	●	-	●	-
1,150		60	37	-	-	-	-	-	-	-
1,200		65	41	-	●	●	●	-	●	-
1,250		65	41	-	●	●	-	-	-	-
1,300		65	41	-	●	●	●	-	●	-
1,350		70	45	-	-	●	-	-	-	-
1,400		70	45	●	●	●	●	-	●	-
1,450		70	45	-	-	●	-	-	-	-
1,500		70	45	●	●	●	●	●	●	-
1,550		76	50	-	-	●	-	-	-	-
1,600		76	50	●	●	●	●	-	●	-
1,650		76	50	-	-	●	-	-	-	-
1,700		76	50	●	●	●	●	-	●	-
1,750		80	53	-	●	-	-	-	-	-
1,800		80	53	●	●	●	●	-	●	-
1,850		80	53	-	-	-	-	-	-	-

01/05 →

d_1 (h8)	d_1 (")	l_1	l_2		6192	6200	6166	6112	6112TN	6113	6113TN
1,900		80	53		●	●	●	●	-	●	-
1,950		85	56		-	-	●	-	-	-	-
1,984	5/64	85	56		-	-	-	-	-	-	-
2,000		85	56		●	●	●	●	●	●	●
2,050		85	56		-	-	●	-	-	-	-
2,100		85	56		●	●	●	●	-	●	-
2,150		90	59		-	-	-	-	-	-	-
2,200		90	59		●	●	●	●	-	●	●
2,250		90	59		-	●	-	-	-	-	-
2,300		90	59		●	●	●	●	-	●	●
2,350		90	59		-	-	-	-	-	-	-
2,383	3/32	95	62		-	-	-	-	-	-	-
2,400		95	62		●	●	●	●	-	●	●
2,450		95	62		-	-	-	-	-	-	-
2,500		95	62		●	●	●	●	●	●	●
2,550		95	62		-	-	■	-	-	-	-
2,600		95	62		●	●	●	●	-	●	●
2,650		95	62		-	-	-	-	-	-	-
2,700		100	66		●	●	■	●	-	●	●
2,750		100	66		-	●	-	-	-	-	-
2,779	7/64	100	66		-	-	-	-	-	-	-
2,800		100	66		●	●	●	●	-	●	●
2,850		100	66		-	-	-	-	-	-	-
2,900		100	66		●	●	●	●	-	●	●
2,950		100	66		-	-	-	-	-	-	-
3,000		100	66		●	●	●	●	●	●	●
3,050		106	69		-	-	-	-	-	-	-
3,100		106	69		●	●	●	●	-	●	●
3,150		106	69		-	-	●	-	-	-	-
3,175	1/8	106	69		-	-	-	-	-	-	-
3,200		106	69		●	●	●	●	-	●	●
3,250		106	69		-	●	-	-	-	-	-
3,300		106	69		●	●	●	●	-	●	●
3,350		106	69		-	-	-	-	-	-	-
3,400		112	73		●	●	●	●	-	●	●
3,450		112	73		-	-	-	-	-	-	-
3,500		112	73		●	●	●	●	●	●	●
3,550		112	73		-	-	-	-	-	-	-
3,571	9/64	112	73		-	-	-	-	-	-	-
3,600		112	73		-	●	■	●	-	●	●
3,650		112	73		-	-	-	-	-	-	-
3,700		112	73		-	●	●	●	-	●	●
3,750		112	73		-	●	-	-	-	-	-
3,800		119	78		-	●	●	●	-	●	●
3,850		119	78		-	-	-	-	-	-	-
3,900		119	78		-	●	●	●	-	●	●
3,950		119	78		-	-	-	-	-	-	-
3,970	5/32	119	78		-	-	-	-	-	-	-
4,000		119	78		●	●	●	●	●	●	●
4,050		119	78		-	-	-	-	-	-	-
4,100		119	78		-	●	●	●	-	●	●
4,150		119	78		-	-	-	-	-	-	-
4,200		119	78		-	●	●	●	-	●	●
4,250		119	78		-	●	-	-	-	-	-
4,300		126	82		-	●	●	●	-	●	●
4,350		126	82		-	-	-	-	-	-	-

02/05 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 340

Spiralbohrer mit Zylinderschaft, lange Länge | Twist drills with straight shank, long length

d_1 (h8)	d_1 (")	l_1	l_2	6192	6200	6166	6112	6112TN	6113	6113TN
4,366	11/64	126	82	-	-	-	-	-	-	-
4,400		126	82	-	●	●	●	-	●	●
4,450		126	82	-	-	-	-	-	-	-
4,500		126	82	●	●	●	●	●	●	●
4,550		126	82	-	-	-	-	-	-	-
4,600		126	82	-	●	●	●	-	●	●
4,650		126	82	-	-	-	-	-	-	-
4,700		126	82	-	●	●	●	-	●	●
4,750		126	82	-	●	-	-	-	-	-
4,763	3/16	132	87	-	-	-	-	-	-	-
4,800		132	87	-	●	●	●	-	●	●
4,850		132	87	-	-	-	-	-	-	-
4,900		132	87	-	●	●	●	-	●	●
4,950		132	87	-	-	-	-	-	-	-
5,000		132	87	●	●	●	●	●	●	●
5,100		132	87	-	●	●	●	-	●	●
5,159	13/64	132	87	-	-	-	-	-	-	-
5,200		132	87	-	●	●	●	-	●	●
5,250		132	87	-	-	-	-	-	-	-
5,300		132	87	-	●	●	●	-	●	●
5,400		139	91	-	●	-	●	-	●	●
5,500		139	91	●	●	●	●	●	●	●
5,558	7/62	139	91	-	-	-	-	-	-	-
5,600		139	91	-	●	●	●	-	●	●
5,700		139	91	-	●	●	●	-	●	●
5,750		139	91	-	-	-	-	-	-	-
5,800		139	91	-	●	●	●	-	●	●
5,900		139	91	-	●	●	●	-	●	●
5,954	15/64	139	91	-	-	-	-	-	-	-
6,000		139	91	●	●	●	●	●	●	●
6,100		148	97	-	●	●	●	-	●	●
6,200		148	97	-	●	●	●	-	●	●
6,250		148	97	-	-	-	-	-	-	-
6,300		148	97	-	●	●	●	-	●	●
6,350	1/4	148	97	-	-	-	-	-	-	-
6,400		148	97	-	●	●	●	-	●	●
6,500		148	97	●	●	●	●	●	●	●
6,600		148	97	-	●	●	●	-	●	●
6,700		148	97	-	●	●	●	-	●	●
6,746	17/64	156	102	-	-	-	-	-	-	-
6,750		156	102	-	-	-	-	-	-	-
6,800		156	102	-	●	●	●	-	●	●
6,900		156	102	-	●	●	●	-	●	-
7,000		156	102	●	●	●	●	●	●	●
7,100		156	102	-	-	-	●	-	●	-
7,145	9/32	156	102	-	-	-	-	-	-	●
7,200		156	102	-	-	-	●	-	●	●
7,250		156	102	-	■	-	-	-	-	-
7,300		156	102	-	-	●	●	-	●	-
7,400		156	102	-	-	-	●	-	●	-
7,500		156	102	-	●	●	●	●	●	●
7,541	19/64	165	109	-	-	-	-	-	-	-
7,600		165	109	-	-	●	●	-	●	●
7,700		165	109	-	-	●	●	-	●	●
7,750		165	109	-	-	-	-	-	-	-
7,800		165	109	-	-	●	●	-	●	-

03/05 →

■ **Solange der Vorrat reicht** | Till stocks last

d_1 (h8)	d_1 (")	l_1	l_2		6192	6200	6166	6112	6112TN	6113	6113TN
7,900		165	109		-	-	●	●	-	●	-
7,938	5/16	165	109		-	-	-	-	-	-	-
8,000		165	109		●	●	●	●	●	●	●
8,100		165	109		-	-	●	●	-	●	●
8,200		165	109		-	-	●	●	-	●	●
8,250		165	109		-	-	-	-	-	-	-
8,300		165	109		-	-	-	●	-	●	●
8,334	21/64	165	109		-	-	-	-	-	-	-
8,400		165	109		-	-	-	●	-	●	-
8,500		165	109		-	●	●	●	●	●	●
8,600		175	115		-	-	●	●	-	●	-
8,700		175	115		-	-	●	●	-	●	●
8,733	11/32	175	115		-	-	-	-	-	-	-
8,750		175	115		-	-	-	-	-	-	-
8,800		175	115		-	-	●	●	-	●	●
8,900		175	115		-	-	-	●	-	●	-
9,000		175	115		●	●	●	●	●	●	●
9,100		175	115		-	-	●	●	-	●	-
9,129	23/64	175	115		-	-	-	-	-	-	-
9,200		175	115		-	-	●	●	-	●	-
9,250		175	115		-	-	-	-	-	-	-
9,300		175	115		-	-	●	●	-	●	-
9,400		175	115		-	-	-	●	-	●	-
9,500		175	115		-	●	●	●	●	●	●
9,525	3/8	184	121		-	-	-	-	-	-	-
9,600		184	121		-	-	●	●	-	●	●
9,700		184	121		-	-	●	●	-	●	-
9,750		184	121		-	-	-	-	-	-	-
9,800		184	121		-	-	●	●	-	●	●
9,900		184	121		-	-	●	●	-	●	-
9,921	25/64	184	121		-	-	-	-	-	-	-
10,000		184	121		●	●	●	●	●	●	●
10,100		184	121		-	-	●	-	-	-	-
10,200		184	121		-	-	●	●	-	●	●
10,300		184	121		-	-	●	-	-	-	-
10,320	13/32	184	121		-	-	-	-	-	-	-
10,400		184	121		-	-	-	-	-	-	-
10,500		184	121		-	●	●	●	●	●	●
10,600		184	121		-	-	-	-	-	-	-
10,700		195	128		-	-	-	-	-	-	-
10,716	27/64	195	128		-	-	-	-	-	-	-
10,800		195	128		-	-	-	●	-	●	-
10,900		195	128		-	-	-	-	-	-	-
11,000		195	128		-	●	●	●	●	●	●
11,113	7/16	195	128		-	-	-	-	-	-	-
11,200		195	128		-	-	●	●	-	●	-
11,500		195	128		-	●	●	●	-	●	●
11,509	29/64	195	128		-	-	-	-	-	-	-
11,800		195	128		-	-	■	●	-	●	●
11,908	15/32	205	134		-	-	-	-	-	-	-
12,000		205	134		-	●	●	●	●	●	●
12,200		205	134		-	-	-	-	-	-	
12,304	31/64	205	134		-	-	-	-	-	-	
12,500		205	134		-	-	●	-	-	-	
12,700	1/14	205	134		-	-	●	-	-	-	
12,800		205	134		-	-	■	-	-	-	

04/05 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 340

Spiralbohrer mit Zylinderschaft, lange Länge | Twist drills with straight shank, long length

d_1 (h8)	d_1 (")	l_1	l_2		6192	6200	6166	6112	6112TN	6113	6113TN
13,000		205	134		-	-	●	-	-	-	-
13,500		214	140		-	-	●	-	-	-	-
14,000		214	140		-	-	●	-	-	-	-
15,000		220	144		-	-	●	-	-	-	-
16,000		227	149		-	-	●	-	-	-	-
17,000		235	154		-	-	■	-	-	-	-

05/05

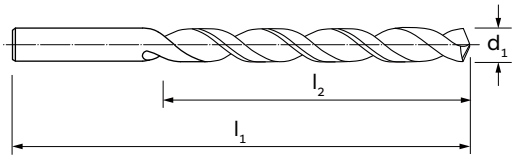
■ **Solange der Vorrat reicht** | Till stocks last

1869 1
DIN

≤16xd

P.331→

NEW
6216TN/1



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS-Co
TYP | TYPE	N	STL	STL	STL
SPITZENWINKEL | POINT ANGLE	118°	130°	130°	130°
BESCHICHTUNG | COATING	-	-	TiN	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	F.NIT	-	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6217/1	6216/1	6216 TN/1	6218/1
2,000			125	85	●	●	●	●
2,100			125	85	●	●	-	●
2,200			135	90	●	●	-	●
2,300			135	90	●	●	-	●
2,383	3/32		140	95	-	●	-	-
2,400			140	95	●	●	-	●
2,489		40	140	95	-	●	-	-
2,500			140	95	●	●	●	●
2,527		39	140	95	-	●	-	-
2,578		38	140	95	-	●	-	-
2,600			140	95	●	●	-	●
2,642		37	140	95	-	●	-	-
2,700			150	100	●	●	-	●
2,705		36	150	100	-	●	-	-
2,779	7/64		150	100	-	●	-	-
2,794		35	150	100	-	●	-	-
2,800			150	100	●	●	-	●
2,819		34	150	100	-	●	-	-
2,870		33	150	100	-	●	-	-
2,900			150	100	●	●	-	●
2,946		32	150	100	-	●	-	-
3,000			150	100	●	●	●	●
3,048		31	155	105	-	●	-	-

01/04 →

DIN 1869-1

Spiralbohrer mit Zylinderschaft, extra lange Länge | Twist drills with straight shank, extra long length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6217/1	6216/1	6216 TN/1	6218/1
3,100			155	105	●	●	–	●
3,175	1/8		155	105	–	●	–	–
3,200			155	105	●	●	–	●
3,264		30	155	105	–	●	–	–
3,300			155	105	●	●	–	●
3,400			165	115	●	●	–	●
3,454		29	165	115	–	●	–	–
3,500			165	115	●	●	●	●
3,569		28	165	115	–	●	–	–
3,571	9/64		165	115	–	●	–	–
3,600			165	115	●	●	–	●
3,658		27	165	115	–	●	–	–
3,700			165	115	●	●	–	●
3,734		26	165	115	–	●	–	–
3,797		25	175	120	–	●	–	–
3,800			175	120	●	●	–	●
3,861		24	175	120	–	●	–	–
3,900			175	120	●	●	–	●
3,912		23	175	120	–	●	–	–
3,970	5/32		175	120	–	●	–	–
3,988		22	175	120	–	●	–	–
4,000			175	120	●	●	●	●
4,039		21	175	120	–	●	–	–
4,089		20	175	120	–	●	–	–
4,100			175	120	●	●	–	●
4,200			175	120	●	●	–	●
4,216		19	175	120	–	●	–	–
4,300			185	125	●	●	–	●
4,305		18	185	125	–	●	–	–
4,366	11/64		185	125	–	●	–	–
4,394		17	185	125	–	●	–	–
4,400			185	125	●	●	–	●
4,496		16	185	125	–	●	–	–
4,500			185	125	●	●	●	●
4,572		15	185	125	–	●	–	–
4,600			185	125	●	●	–	●
4,623		14	185	125	–	●	–	–
4,699		13	185	125	–	●	–	–
4,700			185	125	●	●	–	●
4,763	3/16		195	135	–	●	–	–
4,800			195	135	●	●	–	●
4,801		12	195	135	–	●	–	–
4,851		11	195	135	–	●	–	–
4,900			195	135	●	●	–	●
4,915		10	195	135	–	●	–	–
4,978		9	195	135	–	●	–	–
5,000			195	135	●	●	●	●
5,055		8	195	135	–	●	–	–
5,100			195	135	●	●	–	●
5,105		7	195	135	–	●	–	–
5,159	13/64		195	135	–	●	–	–
5,182		6	195	135	–	●	–	–
5,200			195	135	●	●	–	●
5,220		5	195	135	–	●	–	–
5,300			195	135	●	●	–	●
5,309		4	205	140	–	●	–	–

02/04 →

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2	6217/1	6216/1	6216 TN/1	6218/1
5,400			205	140	●	●	–	●
5,410		3	205	140	–	●	–	–
5,500			205	140	●	●	●	●
5,558	7/32		205	140	–	●	–	–
5,600			205	140	●	●	–	●
5,613		2	205	140	–	●	–	–
5,700			205	140	●	●	–	●
5,791		1	205	140	–	●	–	–
5,800			205	140	●	●	–	●
5,900			205	140	●	●	–	●
5,954	15/64		205	140	–	●	–	–
6,000			205	140	●	●	●	●
6,100			215	150	●	●	–	●
6,200			215	150	●	●	–	●
6,300			215	150	●	●	–	●
6,350	1/4		215	150	–	●	–	–
6,400			215	150	●	●	–	●
6,500			215	150	●	●	●	●
6,600			215	150	●	●	–	●
6,700			215	150	●	●	–	●
6,746	17/64		225	155	–	●	–	–
6,800			225	155	●	●	–	●
6,900			225	155	●	●	–	●
7,000			225	155	●	●	●	●
7,100			225	155	●	●	–	●
7,145	9/32		225	155	–	●	–	–
7,200			225	155	●	●	–	●
7,300			225	155	●	●	–	●
7,400			225	155	●	●	–	●
7,500			225	155	●	●	●	●
7,541	19/64		240	165	–	●	–	–
7,600			240	165	●	●	–	●
7,700			240	165	●	●	–	●
7,800			240	165	●	●	–	●
7,900			240	165	●	●	–	●
7,938	5/16		240	165	–	●	–	–
8,000			240	165	●	●	●	●
8,100			240	165	●	●	–	●
8,200			240	165	●	●	–	●
8,300			240	165	●	●	–	●
8,334	21/64		240	165	–	●	–	–
8,400			240	165	●	●	–	●
8,500			240	165	●	●	●	●
8,600			250	175	●	●	–	●
8,700			250	175	●	●	–	●
8,733	11/32		250	175	–	●	–	–
8,800			250	175	●	●	–	●
8,900			250	175	●	●	–	●
9,000			250	175	●	●	●	●
9,100			250	175	●	●	–	●
9,129	23/64		250	175	–	●	–	–
9,200			250	175	●	●	–	●
9,300			250	175	●	●	–	●
9,400			250	175	●	●	–	●
9,500			250	175	●	●	●	●
9,525	3/8		265	185	–	●	–	–

03/04 →

DIN 1869-1

Spiralbohrer mit Zylinderschaft, extra lange Länge | Twist drills with straight shank, extra long length

d_1 (h8)	d_1 (")	d_1 (No.)	l_1	l_2		6217/1	6216/1	6216 TN/1	6218/1
9,600			265	185		●	●	–	●
9,700			265	185		●	●	–	●
9,800			265	185		●	●	–	●
9,900			265	185		●	●	–	●
9,921	25/64		265	185		–	●	–	–
10,000			265	185		●	●	●	●
10,320	13/32		265	185		–	●	–	–
10,500			265	185		–	●	●	●
10,716	27/64		280	195		–	●	–	–
11,000			280	195		–	●	●	●
11,113	7/16		280	195		–	●	–	–
11,500			280	195		–	●	●	●
11,509	29/64		280	195		–	●	–	–
11,908	15/32		295	205		–	●	–	–
12,000			295	205		–	●	●	●
12,304	31/64		295	205		–	●	–	–
12,700	1/2		295	205		–	●	–	–

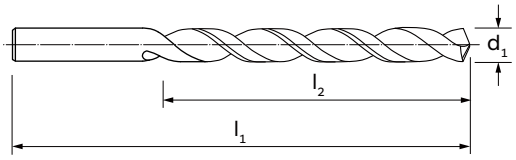
04/04

1869 2
DIN

≤22xd

P.331➔

NEW
6216TN/2



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS-Co
TYP | TYPE	N	STL	STL	STL
SPITZENWINKEL | POINT ANGLE	118°	130°	130°	130°
BESCHICHTUNG | COATING	-	-	TiN	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	F.NIT	-	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1 (h8)	l_1	l_2	6217/2	6216/2	6216 TN/2	6218/2
3,0	190	130	●	●	●	●
3,5	210	145	●	●	●	●
4,0	220	150	●	●	●	●
4,5	235	160	●	●	●	●
5,0	245	170	●	●	●	●
5,5	260	180	●	●	●	●
6,0	260	180	●	●	●	●
6,5	275	190	●	●	●	●
7,0	290	200	●	●	●	●
7,5	290	200	●	●	●	●
8,0	305	210	●	●	●	●
8,5	305	210	●	●	●	●
9,0	320	220	●	●	●	●
9,5	320	220	●	●	●	●
10,0	340	235	●	●	●	●
10,5	340	235	-	●	●	●
11,0	360	250	-	●	●	●
11,5	360	250	-	●	●	●
12,0	380	260	-	●	●	●

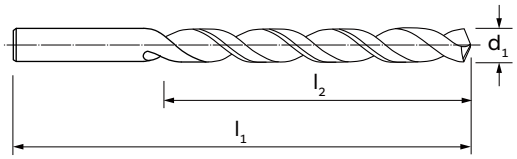
DIN 1869-3

Spiralbohrer mit Zylinderschaft, extra lange Länge | Twist drills with straight shank, extra long length

1869 3
DIN

≤30xd

P.331➔



MATERIAL | MATERIAL	HSS	HSS
TYP | TYPE	N	STL
SPITZENWINKEL | POINT ANGLE	118°	130°
BESCHICHTUNG | COATING	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

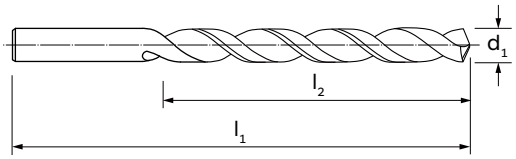
d_1 (h8)	l_1	l_2	6217/3	6216/3
3,5	265	180	●	●
4,0	280	190	●	●
4,5	295	200	●	●
5,0	315	210	●	●
5,5	330	225	●	●
6,0	330	225	●	●
6,5	350	235	●	●
7,0	370	250	●	●
7,5	370	250	●	●
8,0	390	265	●	●
8,5	390	265	●	●
9,0	410	280	●	●
9,5	410	280	●	●
10,0	430	295	●	●
10,5	430	295	-	●
11,0	450	305	-	●
11,5	450	305	-	●
12,0	480	305	-	●

ILIX NORM

DIN

≤60/70 x**d**

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	STL
SPITZENWINKEL | POINT ANGLE	130°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2		6130
6,0	500	400		●
6,5	500	400		●
7,0	500	400		●
8,0	650	550		●
8,0	800	700		●
9,0	650	550		●
10,0	800	700		●
10,0	1000	800		●
11,0	800	700		●
12,0	800	700		●
12,0	1000	800		●
13,0	800	700		●
13,5	800	700		■
13,5	1000	800		■
14,0	800	700		●

d_1 (h8)	l_1	l_2		6130

Bei Bestellung bitte Ø und Gesamtlänge (l1) angeben | When ordering, please state Ø and total length (l1).
Abweichende Ø und Längen entnehmen Sie bitte unserer Kat.-Nr. 6150 mit Morsekegelschaft | For different Ø and lengths please refer to our Cat. 6150 with Morse taper shank.
■ **Solange der Vorrat reicht** | Till stocks last

ILIX NORM

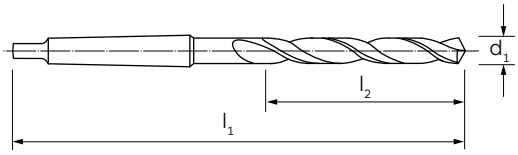
Spiralbohrer mit Morsekegel | Twist drills with taper shank

ILIX NORM

DIN

≤3xd

P.331➔



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	NS
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2			6240
10,00	138	57	1		●
10,50	138	57	1		●
11,00	142	61	1		●
11,50	142	61	1		●
12,00	147	66	1		●
12,50	147	66	1		●
13,00	147	66	1		●
13,50	168	70	2		●
14,00	168	70	2		●
14,50	172	74	2		●
15,00	172	74	2		●
15,50	176	78	2		●
16,00	176	78	2		●
16,50	179	81	2		●
17,00	179	81	2		●
17,50	183	85	2		●
18,00	183	85	2		●
18,50	186	88	2		●
19,00	186	88	2		●
19,50	212	91	3		●
20,00	212	91	3		●
21,00	216	95	3		●
22,00	219	98	3		●

d_1 (h8)	l_1	l_2			6240
23,00	222	101	3		●
24,00	225	104	3		●
25,00	225	104	3		●
26,00	256	107	4		●
27,00	259	110	4		●
28,00	259	110	4		●
29,00	263	114	4		●
30,00	263	114	4		●

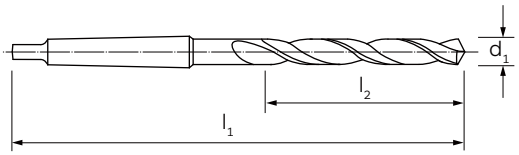
DIN 8041

DK120 Hartmetallbestückter Spiralbohrer mit konischem Schaft
DK120 carbide tipped twist drills with taper shank

8041
DIN

≤5xd

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	HM
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h8)	l_1	l_2		6231
8,0	135	45	1	●
8,5	135	45	1	●
9,0	135	45	1	●
9,5	140	50	1	●
10,0	140	50	1	●
10,5	140	50	1	●
11,0	140	50	1	●
11,5	146	56	1	●
12,0	146	56	1	●
12,5	146	56	1	●
13,0	146	56	1	●
13,5	168	63	2	●
14,0	168	63	2	●
14,5	168	63	2	●
15,0	168	63	2	●
15,5	175	70	2	●
16,0	175	70	2	●
16,5	175	70	2	●
17,0	175	70	2	●
17,5	185	80	2	●
18,0	185	80	2	●
18,5	185	80	2	●
19,0	185	80	2	●

d_1 (h8)	l_1	l_2		6231
19,5	215	90	2	●
20,0	215	90	3	●
21,0	215	90	3	●
22,0	215	90	3	●
22,5	215	90	3	●
23,0	225	100	3	●
24,0	225	100	3	●
25,0	225	100	3	●
26,0	260	110	4	●
27,0	260	110	4	●
28,0	260	110	4	●
29,0	275	125	4	●
30,0	275	125	4	●
31,0	275	125	4	●
32,0	275	125	4	●

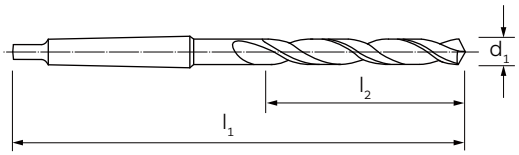
DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

345
DIN

≤8xd

P.331→



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS
TYP | TYPE	N	N	W	STL
SPITZENWINKEL | POINT ANGLE	118°	118°	130°	130°
BESCHICHTUNG | COATING	–	TiN	–	–
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	–	–	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	–	–
K | **Gusseisen** | Cast Irons	K	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

d_1 (h8)	d_1 (")	l_1	l_2		6168	6168TN	6201	6212
3,000		114	33	1	●	–	–	–
3,175	1/8	117	36	1	●	–	–	–
3,250		117	36	1	●	–	–	–
3,500		120	39	1	●	–	–	–
3,571	9/64	120	39	1	●	–	–	–
3,750		120	39	1	●	–	–	–
3,970	5/32	124	43	1	●	–	–	–
4,000		124	43	1	●	–	–	–
4,100		124	43	1	●	–	–	–
4,200		124	43	1	●	–	–	–
4,250		124	43	1	●	–	–	–
4,300		128	47	1	●	–	–	–
4,366	11/64	128	47	1	●	–	–	–
4,400		128	47	1	●	–	–	–
4,500		128	47	1	●	–	–	–
4,600		128	47	1	●	–	–	–
4,700		128	47	1	●	–	–	–
4,750		128	47	1	●	–	–	–
4,763	3/16	133	52	1	●	–	–	–
4,800		133	52	1	●	–	–	–
4,900		133	52	1	●	–	–	–
5,000		133	52	1	●	●	–	–
5,100		133	52	1	●	–	–	–

01/10 →

A 03

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
5,159	13/64	133	52	1	●	–	–	–
5,200		133	52	1	●	–	–	–
5,250		133	52	1	●	–	–	–
5,300		133	52	1	●	–	–	–
5,400		138	57	1	●	–	–	–
5,500		138	57	1	●	–	–	–
5,558	7/32	138	57	1	●	–	–	–
5,600		138	57	1	●	–	–	–
5,700		138	57	1	●	–	–	–
5,750		138	57	1	●	–	–	–
5,800		138	57	1	●	–	–	–
5,900		138	57	1	●	–	–	–
5,954	15/64	138	57	1	●	–	–	–
6,000		138	57	1	●	●	–	–
6,100		144	63	1	●	–	–	–
6,200		144	63	1	●	–	–	–
6,250		144	63	1	●	–	–	–
6,300		144	63	1	●	–	–	–
6,350	4/14	144	63	1	●	–	–	–
6,400		144	63	1	●	–	–	–
6,500		144	63	1	●	●	–	–
6,600		144	63	1	●	–	–	–
6,700		144	63	1	●	–	–	–
6,746	17/64	150	69	1	●	–	–	–
6,750		150	69	1	●	–	–	–
6,800		150	69	1	●	●	–	–
6,900		150	69	1	●	–	–	–
7,000		150	69	1	●	●	–	–
7,100		150	69	1	●	–	–	–
7,145	9/32	150	69	1	●	–	–	–
7,200		150	69	1	●	–	–	–
7,250		150	69	1	●	–	–	–
7,300		150	69	1	●	–	–	–
7,400		150	69	1	●	–	–	–
7,500		150	69	1	●	–	–	–
7,541	19/64	156	75	1	●	–	–	–
7,600		156	75	1	●	–	–	–
7,700		156	75	1	●	–	–	–
7,750		156	75	1	●	–	–	–
7,800		156	75	1	●	–	–	–
7,900		156	75	1	●	–	–	–
7,938	5/16	156	75	1	●	–	–	–
8,000		156	75	1	●	●	–	–
8,100		156	75	1	●	–	–	–
8,200		156	75	1	●	–	–	–
8,250		156	75	1	●	–	–	–
8,300		156	75	1	●	–	–	–
8,334	21/64	156	75	1	●	–	–	–
8,400		156	75	1	●	–	–	–
8,500		156	75	1	●	●	–	–
8,600		162	81	1	●	–	–	–
8,700		162	81	1	●	–	–	–
8,733	11/32	162	81	1	●	–	–	–
8,750		162	81	1	●	–	–	–
8,800		162	81	1	●	–	–	–
8,900		162	81	1	●	–	–	–

02/10 →

DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
9,000		162	81	1	●	●	–	–
9,100		162	81	1	●	–	–	–
9,129	23/64	162	81	1	●	–	–	–
9,200		162	81	1	●	–	–	–
9,250		162	81	1	●	–	–	–
9,300		162	81	1	●	–	–	–
9,400		162	81	1	●	–	–	–
9,500		162	81	1	●	●	–	–
9,525	3/8	168	87	1	●	–	–	–
9,600		168	87	1	●	–	–	–
9,700		168	87	1	●	–	–	–
9,750		168	87	1	●	–	–	–
9,800		168	87	1	●	–	–	–
9,900		168	87	1	●	–	–	–
9,921	25/64	168	87	1	●	–	–	–
10,000		168	87	1	●	●	●	●
10,100		168	87	1	●	–	–	–
10,200		168	87	1	●	●	–	●
10,250		168	87	1	●	–	–	–
10,300		168	87	1	●	–	–	–
10,320	13/32	168	87	1	●	–	–	–
10,400		168	87	1	●	–	–	–
10,500		168	87	1	●	●	–	●
10,600		168	87	1	●	–	–	–
10,700		175	94	1	●	–	–	–
10,716	27/64	175	94	1	●	–	–	–
10,750		175	94	1	●	–	–	–
10,800		175	94	1	●	–	–	●
10,900		175	94	1	●	–	–	–
11,000		175	94	1	●	●	●	●
11,100		175	94	1	●	–	–	–
11,113	7/16	175	94	1	●	–	–	–
11,200		175	94	1	●	–	–	●
11,250		175	94	1	●	–	–	–
11,300		175	94	1	●	–	■	–
11,400		175	94	1	●	–	–	–
11,500		175	94	1	●	●	■	●
11,509	29/64	175	94	1	●	–	–	–
11,600		175	94	1	●	–	–	–
11,700		175	94	1	●	–	–	–
11,750		175	94	1	●	–	–	–
11,800		175	94	1	●	–	–	●
11,900		182	101	1	●	–	–	–
11,908	15/32	182	101	1	●	–	–	–
12,000		182	101	1	●	●	●	●
12,100		182	101	1	●	–	–	–
12,200		182	101	1	●	–	–	●
12,250		182	101	1	●	–	–	–
12,300		182	101	1	●	–	–	–
12,304	31/64	182	101	1	●	–	–	–
12,400		182	101	1	●	–	–	–
12,500		182	101	1	●	●	–	●
12,600		182	101	1	●	–	–	–
12,700		182	101	1	●	–	–	–
12,700	1/2	182	101	1	●	–	–	–
12,750		182	101	1	●	–	–	–

03/10 →

A 03

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
12,800		182	101	1	●	–	–	●
12,900		182	101	1	●	–	–	–
13,000		182	101	1	●	●	●	●
13,096	33/64	182	101	1	●	–	–	–
13,100		182	101	1	●	–	–	–
13,200		182	101	1	●	–	–	●
13,250		189	108	1	●	–	–	–
13,300		189	108	1	●	–	■	–
13,400		189	108	1	●	–	–	–
13,495	17/32	189	108	1	●	–	–	–
13,500		189	108	1	●	●	–	●
13,600		189	108	1	●	–	–	–
13,700		189	108	1	●	–	–	–
13,750		189	108	1	●	–	–	–
13,800		189	108	1	●	–	–	–
13,891	35/64	189	108	1	●	–	–	–
13,900		189	108	1	●	–	–	–
14,000		189	108	1	●	●	●	●
14,100		212	114	2	●	–	–	–
14,200		212	114	2	●	–	–	–
14,250		212	114	2	●	–	–	–
14,288	9/16	212	114	2	●	–	–	–
14,300		212	114	2	●	–	–	–
14,400		212	114	2	●	–	–	–
14,500		212	114	2	●	●	–	●
14,600		212	114	2	●	–	–	–
14,684	37/64	212	114	2	●	–	–	–
14,700		212	114	2	●	–	–	–
14,750		212	114	2	●	–	–	–
14,800		212	114	2	●	–	–	–
14,900		212	114	2	●	–	–	–
15,000		212	114	2	●	●	●	●
15,083	19/32	218	120	2	●	–	–	–
15,100		218	120	2	●	–	–	–
15,200		218	120	2	●	–	–	–
15,250		218	120	2	●	–	–	●
15,300		218	120	2	●	–	–	–
15,400		218	120	2	●	–	–	–
15,479	39/64	218	120	2	●	–	–	–
15,500		218	120	2	●	●	–	●
15,600		218	120	2	●	–	–	–
15,700		218	120	2	●	–	–	–
15,750		218	120	2	●	–	–	–
15,800		218	120	2	●	–	–	–
15,875	5/8	218	120	2	●	–	–	–
15,900		218	120	2	●	–	–	–
16,000		218	120	2	●	●	●	●
16,100		223	125	2	●	–	–	–
16,200		223	125	2	●	–	–	–
16,250		223	125	2	●	–	–	–
16,271	41/64	223	125	2	●	–	–	–
16,300		223	125	2	●	–	–	–
16,400		223	125	2	●	–	–	–
16,500		223	125	2	●	●	–	●
16,600		223	125	2	●	–	–	–
16,670	21/32	223	125	2	●	–	–	–

04/10 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
16,700		223	125	2	●	–	–	–
16,750		223	125	2	●	–	–	–
16,800		223	125	2	●	–	–	–
16,900		223	125	2	●	–	–	–
17,000		223	125	2	●	●	●	●
17,066	43/64	228	130	2	●	–	–	–
17,100		228	130	2	●	–	–	–
17,200		228	130	2	●	–	–	–
17,250		228	130	2	●	–	–	–
17,300		228	130	2	●	–	–	–
17,400		228	130	2	●	–	–	–
17,463	11/16	228	130	2	●	–	–	–
17,500		228	130	2	●	●	–	●
17,600		228	130	2	●	–	–	–
17,700		228	130	2	●	–	–	–
17,750		228	130	2	●	–	–	●
17,800		228	130	2	●	–	–	–
17,859	45/64	228	130	2	●	–	–	–
17,900		228	130	2	●	–	–	–
18,000		228	130	2	●	●	●	●
18,100		233	135	2	●	–	–	–
18,200		233	135	2	●	–	–	–
18,250		233	135	2	●	–	–	–
18,258	23/32	233	135	2	●	–	–	–
18,300		233	135	2	●	–	–	–
18,400		233	135	2	●	–	–	–
18,500		233	135	2	●	●	–	●
18,600		233	135	2	●	–	–	–
18,654	47/64	233	135	2	●	–	–	–
18,700		233	135	2	●	–	–	–
18,750		233	135	2	●	–	–	–
18,800		233	135	2	●	–	–	–
18,900		233	135	2	●	–	–	–
19,000		233	135	2	●	●	●	●
19,050	3/4	238	140	2	●	–	–	–
19,100		238	140	2	●	–	–	–
19,200		238	140	2	●	–	–	–
19,250		238	140	2	●	–	–	–
19,300		238	140	2	●	–	–	–
19,400		238	140	2	●	–	–	–
19,446	49/64	238	140	2	●	–	–	–
19,500		238	140	2	●	●	–	●
19,600		238	140	2	●	–	–	–
19,700		238	140	2	●	–	–	–
19,750		238	140	2	●	–	–	–
19,800		238	140	2	●	–	–	–
19,845	25/32	238	140	2	●	–	–	–
19,900		238	140	2	●	–	–	–
20,000		238	140	2	●	●	●	●
20,100		243	145	2	●	–	–	–
20,200		243	145	2	●	–	–	–
20,241	51/64	243	145	2	●	–	–	–
20,250		243	145	2	●	–	–	–
20,300		243	145	2	●	–	–	–
20,400		243	145	2	●	–	–	–
20,500		243	145	2	●	●	–	●

05/10 →

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
20,600		243	145	2	●	–	–	–
20,638	13/16	243	145	2	●	–	–	–
20,700		243	145	2	●	–	–	–
20,750		243	145	2	●	–	–	–
20,800		243	145	2	●	–	–	–
20,900		243	145	2	●	–	–	–
21,000		243	145	2	●	●	●	●
21,034	53/64	243	145	2	●	–	–	–
21,100		243	145	2	●	–	–	–
21,200		243	145	2	●	–	–	–
21,250		248	150	2	●	–	–	–
21,300		248	150	2	●	–	–	–
21,400		248	150	2	●	–	–	–
21,433	27/32	248	150	2	●	–	–	–
21,500		248	150	2	●	●	–	–
21,600		248	150	2	●	–	–	–
21,700		248	150	2	●	–	–	–
21,750		248	150	2	●	–	–	–
21,800		248	150	2	●	–	–	–
21,829	55/64	248	150	2	●	–	–	–
21,900		248	150	2	●	–	–	–
22,000		248	150	2	●	●	●	●
22,100		248	150	2	●	–	–	–
22,200		248	150	2	●	–	–	–
22,225	7/8	248	150	2	●	–	–	–
22,250		248	150	2	●	–	–	–
22,300		248	150	2	●	–	–	–
22,400		248	150	2	●	–	–	–
22,500		253	155	2	●	●	–	●
22,600		253	155	2	●	–	–	–
22,621	57/64	253	155	2	●	–	–	–
22,700		253	155	2	●	–	–	–
22,750		253	155	2	●	–	–	–
22,800		253	155	2	●	–	–	–
22,900		253	155	2	●	–	–	–
23,000		253	155	2	●	●	●	●
23,020	29/32	253	155	2	●	–	–	–
23,250		276	155	3	●	–	–	–
23,416	59/64	276	155	3	●	–	–	–
23,500		276	155	3	●	–	–	–
23,750		281	160	3	●	–	–	–
23,813	15/16	281	160	3	●	–	–	–
24,000		281	160	3	●	●	●	●
24,209	61/64	281	160	3	●	–	–	–
24,250		281	160	3	●	–	–	–
24,500		281	160	3	●	–	–	●
24,608	31/32	281	160	3	●	–	–	–
24,750		281	160	3	●	–	–	–
25,000		281	160	3	●	●	●	●
25,004	63/64	281	160	3	●	–	–	–
25,250		286	165	3	●	–	–	–
25,400	1	286	165	3	●	–	–	–
25,500		286	165	3	●	–	–	–
25,750		286	165	3	●	–	–	–
25,796	1 1/64	286	165	3	●	–	–	–
26,000		286	165	3	●	●	●	●

06/10 →

DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	d_1 (")	l_1	l_2		6168	6168TN	6201	6212
26,195	1 1/32	286	165	3	●	–	–	–
26,250		286	165	3	●	–	–	–
26,500		286	165	3	●	–	–	–
26,591	1 3/64	291	170	3	●	–	–	–
26,750		291	170	3	●	–	–	–
26,988	1 1/16	291	170	3	●	–	–	–
27,000		291	170	3	●	●	●	●
27,250		291	170	3	●	–	–	–
27,384	1 5/64	291	170	3	●	–	–	–
27,500		291	170	3	●	–	–	–
27,750		291	170	3	●	–	–	–
27,783	1 3/32	291	170	3	●	–	–	–
28,000		291	170	3	●	●	●	●
28,179	1 7/64	296	175	3	●	–	–	–
28,250		296	175	3	●	–	–	–
28,500		296	175	3	●	–	–	–
28,575	1 1/8	296	175	3	●	–	–	–
28,750		296	175	3	●	–	–	–
28,971	1 9/64	296	175	3	●	–	–	–
29,000		296	175	3	●	●	●	●
29,250		296	175	3	●	–	–	–
29,370	1 5/32	296	175	3	●	–	–	–
29,500		296	175	3	●	–	–	–
29,750		296	175	3	●	–	–	–
29,766	1 11/64	296	175	3	●	–	–	–
30,000		296	175	3	●	●	●	●
30,163	1 3/16	301	180	3	●	–	–	–
30,250		301	180	3	●	–	–	–
30,500		301	180	3	●	–	–	–
30,559	1 13/64	301	180	3	●	–	–	–
30,750		301	180	3	●	–	–	–
30,958	1 7/32	301	180	3	●	–	–	–
31,000		301	180	3	●	–	●	–
31,250		301	180	3	●	–	–	–
31,354	1 15/64	301	180	3	●	–	–	–
31,500		301	180	3	●	–	–	–
31,750		306	185	3	●	–	–	–
31,750	1 1/4	306	185	3	●	–	–	–
32,000		334	185	4	●	–	●	–
32,146	1 17/64	334	185	4	●	–	–	–
32,500		334	185	4	●	–	–	–
32,545	1 9/32	334	185	4	●	–	–	–
32,941	1 19/64	334	185	4	●	–	–	–
33,000		334	185	4	●	–	–	–
33,338	1 5/16	334	185	4	●	–	–	–
33,500		334	185	4	●	–	–	–
33,734	1 21/64	339	190	4	●	–	–	–
34,000		339	190	4	●	–	–	–
34,133	1 11/32	339	190	4	●	–	–	–
34,500		339	190	4	●	–	–	–
34,529	1 23/64	339	190	4	●	–	–	–
34,925	1 3/8	339	190	4	●	–	–	–
35,000		339	190	4	●	–	–	–
35,321	1 25/64	339	190	4	●	–	–	–
35,500		339	190	4	●	–	–	–
35,720	1 13/32	344	195	4	●	–	–	–

07/10 →

A 03

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
36,000		344	195	4	●	–	–	–
36,116	1 27/64	344	195	4	●	–	–	–
36,500		344	195	4	●	–	–	–
36,513	1 7/16	344	195	4	●	–	–	–
36,909	1 29/64	344	195	4	●	–	–	–
37,000		344	195	4	●	–	–	–
37,308	1 15/32	344	195	4	●	–	–	–
37,500		344	195	4	●	–	–	–
37,704	1 31/64	349	200	4	●	–	–	–
38,000		349	200	4	●	–	–	–
38,100	1 1/2	349	200	4	●	–	–	–
38,496	1 33/64	349	200	4	●	–	–	–
38,500		349	200	4	●	–	–	–
38,895	1 17/32	349	200	4	●	–	–	–
39,000		349	200	4	●	–	–	–
39,291	1 35/64	349	200	4	●	–	–	–
39,500		349	200	4	●	–	–	–
39,688	1 9/16	349	200	4	●	–	–	–
40,000		349	200	4	●	–	–	–
40,084	1 37/64	354	205	4	●	–	–	–
40,483	1 19/32	354	205	4	●	–	–	–
40,500		354	205	4	●	–	–	–
40,879	1 39/64	354	205	4	●	–	–	–
41,000		354	205	4	●	–	–	–
41,275	1 5/8	354	205	4	●	–	–	–
41,500		354	205	4	●	–	–	–
41,671	1 41/64	354	205	4	●	–	–	–
42,000		354	205	4	●	–	–	–
42,070	1 21/32	354	205	4	●	–	–	–
42,466	1 43/64	354	205	4	●	–	–	–
42,500		354	205	4	●	–	–	–
42,863	1 11/16	359	210	4	●	–	–	–
43,000		359	210	4	●	–	–	–
43,259	1 45/64	359	210	4	●	–	–	–
43,500		359	210	4	●	–	–	–
43,658	1 23/32	359	210	4	●	–	–	–
44,000		359	210	4	●	–	–	–
44,054	1 47/64	359	210	4	●	–	–	–
44,450	1 3/4	359	210	4	●	–	–	–
44,500		359	210	4	●	–	–	–
45,000		359	210	4	●	–	–	–
45,245	1 25/32	364	215	4	●	–	–	–
45,500		364	215	4	●	–	–	–
46,000		364	215	4	●	–	–	–
46,038	1 13/16	364	215	4	●	–	–	–
46,500		364	215	4	●	–	–	–
46,833	1 27/32	364	215	4	●	–	–	–
47,000		364	215	4	●	–	–	–
47,500		364	215	4	●	–	–	–
47,625	1 7/8	369	220	4	●	–	–	–
48,000		369	220	4	●	–	–	–
48,420	1 29/32	369	220	4	●	–	–	–
48,500		369	220	4	●	–	–	–
49,000		369	220	4	●	–	–	–
49,213	1 15/16	369	220	4	●	–	–	–
49,500		369	220	4	●	–	–	–

08/10 →

DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	d_1 (“)	l_1	l_2		6168	6168TN	6201	6212
50,000		369	220	4	●	–	–	–
50,008	1 31/32	374	225	4	●	–	–	–
50,500		374	225	4	●	–	–	–
50,800	2	374	225	4	●	–	–	–
51,000		412	225	5	●	–	–	–
51,500		412	225	5	●	–	–	–
51,595	2 1/32	412	225	5	●	–	–	–
52,000		412	225	5	●	–	–	–
52,388	2 1/16	412	225	5	●	–	–	–
52,500		412	225	5	●	–	–	–
53,000		412	225	5	●	–	–	–
53,183	2 3/32	417	230	5	●	–	–	–
53,500		417	230	5	●	–	–	–
53,975	2 1/8	417	230	5	●	–	–	–
54,000		417	230	5	●	–	–	–
54,500		417	230	5	●	–	–	–
54,770	2 5/32	417	230	5	●	–	–	–
55,000		417	230	5	●	–	–	–
55,500		417	230	5	●	–	–	–
55,563	2 3/16	417	230	5	●	–	–	–
56,000		417	230	5	●	–	–	–
56,358	2 7/32	422	235	5	●	–	–	–
56,500		422	235	5	●	–	–	–
57,000		422	235	5	●	–	–	–
57,150	2 1/4	422	235	5	●	–	–	–
57,500		422	235	5	●	–	–	–
58,000		422	235	5	●	–	–	–
58,500		422	235	5	●	–	–	–
58,738	2 5/16	422	235	5	●	–	–	–
59,000		422	235	5	●	–	–	–
59,500		422	235	5	●	–	–	–
60,000		422	235	5	●	–	–	–
60,325	2 3/8	427	240	5	●	–	–	–
61,000		427	240	5	●	–	–	–
61,913	2 7/16	427	240	5	●	–	–	–
62,000		427	240	5	●	–	–	–
63,000		427	240	5	●	–	–	–
63,500	2 1/2	432	245	5	●	–	–	–
64,000		432	245	5	●	–	–	–
65,000		432	245	5	●	–	–	–
65,088	2 9/16	432	245	5	●	–	–	–
66,000		432	245	5	●	–	–	–
66,675	2 5/8	432	245	5	●	–	–	–
67,000		432	245	5	●	–	–	–
68,000		437	250	5	●	–	–	–
68,263	2 11/16	437	250	5	●	–	–	–
69,000		437	250	5	●	–	–	–
69,850	2 3/4	437	250	5	●	–	–	–
70,000		437	250	5	●	–	–	–
71,000		437	250	5	●	–	–	–
72,000		442	255	5	●	–	–	–
73,000		442	255	5	●	–	–	–
74,000		442	255	5	●	–	–	–
75,000		442	255	5	●	–	–	–
76,000		447	260	5	●	–	–	–
77,000		514	260	6	●	–	–	–

09/10 →

d_1 (h8)	d_1 (“)	l_1	l_2			6168	6168TN	6201	6212
78,000		514	260	6		●	–	–	–
79,000		514	260	6		●	–	–	–
80,000		514	260	6		●	–	–	–
81,000		519	265	6		●	–	–	–
82,000		519	265	6		●	–	–	–
83,000		519	265	6		●	–	–	–
84,000		519	265	6		●	–	–	–
85,000		519	265	6		●	–	–	–
86,000		524	270	6		●	–	–	–
90,000		524	270	6		●	–	–	–
95,000		529	275	6		●	–	–	–
100,000		534	280	6		●	–	–	–
									10/10

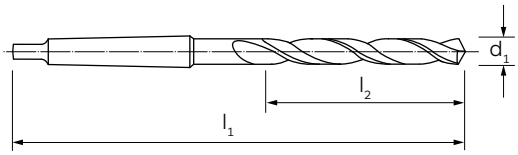
DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

345
DIN

≤8xd

P.331→



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	VA	HD	NS
SPITZENWINKEL | POINT ANGLE	130°	130°	118°
BESCHICHTUNG | COATING	-	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	F.NIT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1 (h8)	l_1	l_2		6114	6115	6204
10,00	168	87	1	●	●	●
10,20	168	87	1	●	●	●
10,50	168	87	1	●	●	●
10,80	175	94	1	●	●	●
11,00	175	94	1	●	●	●
11,20	175	94	1	●	●	●
11,50	175	94	1	●	●	●
11,80	175	94	1	●	●	●
12,00	182	101	1	●	●	●
12,20	182	101	1	●	●	●
12,50	182	101	1	●	●	●
12,80	182	101	1	●	●	●
13,00	182	101	1	●	●	●
13,20	182	101	1	●	●	●
13,50	189	108	1	●	●	●
13,80	189	108	1	●	●	●
14,00	189	108	1	●	●	●
14,25	212	114	2	●	●	●
14,50	212	114	2	●	●	●
14,75	212	114	2	●	●	●
15,00	212	114	2	●	●	●
15,25	218	120	2	●	●	●
15,50	218	120	2	●	●	●

01/03 →

d_1 (h8)	l_1	l_2		6114	6115	6204
15,75	218	120	2	●	●	●
16,00	218	120	2	●	●	●
16,25	223	125	2	●	●	●
16,50	223	125	2	●	●	●
16,75	223	125	2	●	●	●
17,00	223	125	2	●	●	●
17,25	228	130	2	●	●	●
17,50	228	130	2	●	●	●
17,75	228	130	2	●	●	●
18,00	228	130	2	●	●	●
18,25	233	135	2	●	●	●
18,50	233	135	2	●	●	●
18,75	233	135	2	●	●	●
19,00	233	135	2	●	●	●
19,25	238	140	2	●	●	●
19,50	238	140	2	●	●	●
19,75	238	140	2	●	●	●
20,00	238	140	2	●	●	●
20,25	243	145	2	●	●	●
20,50	243	145	2	●	●	●
20,75	243	145	2	●	●	●
21,00	243	145	2	●	●	●
21,25	248	150	2	●	●	●
21,50	248	150	2	●	●	●
21,75	248	150	2	●	●	●
22,00	248	150	2	●	●	●
22,25	248	150	2	●	●	●
22,50	253	155	2	●	●	●
22,75	253	155	2	●	●	●
23,00	253	155	2	●	●	●
23,50	276	155	3	●	●	●
24,00	281	160	3	●	●	●
24,50	281	160	3	●	●	●
25,00	281	160	3	●	●	●
25,50	286	165	3	●	●	●
26,00	286	165	3	●	●	●
26,50	286	165	3	●	●	●
27,00	291	170	3	●	●	●
27,50	291	170	3	●	●	●
28,00	291	170	3	●	●	●
28,50	296	175	3	●	●	●
29,00	296	175	3	●	●	●
29,50	296	175	3	●	●	●
30,00	296	175	3	●	●	●
30,50	301	180	3	●	●	●
31,00	301	180	3	●	●	●
31,50	301	180	3	●	–	●
32,00	334	185	4	●	●	●
32,50	334	185	4	–	●	–
33,00	334	185	4	–	●	–
33,50	334	185	4	–	●	–
34,00	339	190	4	–	●	–
34,50	339	190	4	–	●	–
36,00	344	195	4	–	●	–
37,00	344	195	4	–	●	–
37,50	344	195	4	–	■	–

02/03 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 345

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	l_1	l_2			6114	6115	6204
38,00	349	200	4		–	●	–
39,00	349	200	4		–	●	–
40,00	349	200	4		–	●	–

03/03

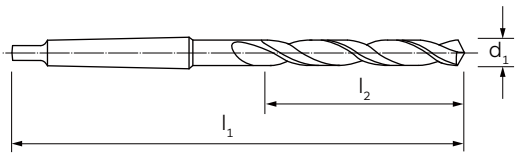
■ **Solange der Vorrat reicht** | Till stocks last

346
DIN

≤8xd

P.331→

A 03



MATERIAL | MATERIAL	HSS	HSS-Co
TYP | TYPE	N	VA
SPITZENWINKEL | POINT ANGLE	118°	130°
BESCHICHTUNG | COATING	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (h8)	l_1	l_2		6176	6116
10,00	185	87	2	●	-
10,50	185	87	2	●	-
11,00	192	94	2	●	-
11,50	192	94	2	●	-
11,80	192	94	2	●	-
12,00	199	101	2	●	●
12,20	199	101	2	●	-
12,50	199	101	2	●	●
12,80	199	101	2	●	■
13,00	199	101	2	●	●
13,20	199	101	2	●	-
13,50	206	108	2	●	●
13,75	206	108	2	●	-
13,80	206	108	2	●	-
14,00	206	108	2	●	●
17,00	246	125	3	●	-
17,50	251	130	3	●	-
18,00	251	130	3	●	-
18,50	256	135	3	●	-
18,75	256	135	3	●	-
19,00	256	135	3	●	-
19,25	261	140	3	●	-
19,50	261	140	3	●	-

d_1 (h8)	l_1	l_2		6176	6116
19,75	261	140	3	●	-
20,00	261	140	3	●	●
20,25	266	145	3	●	-
20,50	266	145	3	●	-
20,75	266	145	3	●	-
21,00	266	145	3	●	●
21,25	271	150	3	●	-
21,50	271	150	3	●	-
21,75	271	150	3	●	-
22,00	271	150	3	●	●
22,25	271	150	3	●	-
22,50	276	155	3	●	-
22,75	276	155	3	●	-
23,00	276	155	3	●	●
26,00	314	165	4	●	-
26,50	314	165	4	●	-
27,00	319	170	4	●	-
27,50	319	170	4	●	-
28,00	319	170	4	●	-
28,50	324	175	4	●	■
29,00	324	175	4	●	-
29,50	324	175	4	●	■
30,00	324	175	4	●	-

01/02 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 346

Spiralbohrer mit großem Morsekegel | Twist drills with oversize taper shank

d_1 (h8)	l_1	l_2		6176	6116
30,50	329	180	4	●	–
31,00	329	180	4	●	–
31,50	329	180	4	●	–
41,00	329	205	5	●	–
42,00	329	205	5	●	–
43,00	397	210	5	●	–
44,00	397	210	5	●	–

d_1 (h8)	l_1	l_2		6176	6116
45,00	397	210	5	●	–
46,00	402	215	5	●	–
47,00	402	215	5	●	–
48,00	407	220	5	●	–
49,00	407	220	5	●	–
50,00	407	220	5	●	–

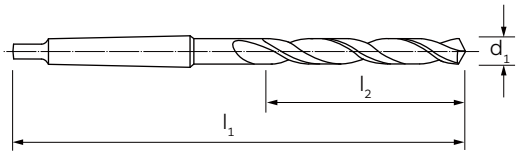
02/02

341
DIN

≤12xd

P.331→

NEW
6233TN



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS-Co
TYP | TYPE	N	N	STL	HD
SPITZENWINKEL | POINT ANGLE	118°	118°	130°	130°
BESCHICHTUNG | COATING	-	TiN	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	-	F.NIT	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1 (h8)	l_1	l_2		6233	6233TN	6222	6119
5,00	155	74	1	●	●	-	-
5,50	161	80	1	●	●	-	-
6,00	161	80	1	●	●	-	-
6,50	167	86	1	●	●	-	-
6,80	174	93	1	●	●	-	-
7,00	174	93	1	●	●	-	-
7,50	174	93	1	●	●	-	-
8,00	181	100	1	●	●	-	-
8,10	181	100	1	●	●	-	-
8,20	181	100	1	●	●	-	-
8,25	181	100	1	●	●	-	-
8,30	181	100	1	●	●	-	-
8,40	181	100	1	●	●	-	-
8,50	181	100	1	●	●	-	-
8,60	188	107	1	●	●	-	-
8,70	188	107	1	●	●	-	-
8,75	188	107	1	●	●	-	-
8,80	188	107	1	●	●	-	-
8,90	188	107	1	●	●	-	-
9,00	188	107	1	●	●	-	-
9,10	188	107	1	●	●	-	-
9,20	188	107	1	●	●	-	-
9,25	188	107	1	●	●	-	-

01/04 →

DIN 341

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	l_1	l_2		6233	6233TN	6222	6119
9,30	188	107	1	●	●	–	–
9,40	188	107	1	●	●	–	–
9,50	188	107	1	●	●	–	–
9,60	197	116	1	●	●	–	–
9,70	197	116	1	●	●	–	–
9,75	197	116	1	●	●	–	–
9,80	197	116	1	●	●	–	–
9,90	197	116	1	●	●	–	–
10,00	197	116	1	●	●	●	●
10,10	197	116	1	●	●	–	–
10,20	197	116	1	●	●	●	–
10,25	197	116	1	●	●	–	–
10,30	197	116	1	●	●	–	–
10,40	197	116	1	●	●	–	–
10,50	197	116	1	●	●	●	●
10,60	197	116	1	●	●	–	–
10,70	206	125	1	●	●	–	–
10,75	206	125	1	●	●	–	–
10,80	206	125	1	●	●	●	–
10,90	206	125	1	●	●	–	–
11,00	206	125	1	●	●	●	●
11,10	206	125	1	●	●	–	–
11,20	206	125	1	●	●	●	–
11,25	206	125	1	●	●	–	–
11,30	206	125	1	●	●	–	–
11,40	206	125	1	●	●	–	–
11,50	206	125	1	●	●	●	●
11,60	206	125	1	●	●	–	–
11,70	206	125	1	●	●	–	–
11,75	206	125	1	●	●	–	–
11,80	206	125	1	●	●	●	–
11,90	215	134	1	●	●	–	–
12,00	215	134	1	●	●	●	●
12,10	215	134	1	●	●	–	–
12,20	215	134	1	●	●	●	–
12,25	215	134	1	●	●	–	–
12,30	215	134	1	●	●	–	–
12,40	215	134	1	●	●	–	–
12,50	215	134	1	●	●	●	●
12,60	215	134	1	●	●	–	–
12,70	215	134	1	●	●	–	–
12,75	215	134	1	●	●	■	–
12,80	215	134	1	●	●	●	–
12,90	215	134	1	●	●	–	–
13,00	215	134	1	●	●	●	●
13,10	215	134	1	●	●	–	–
13,20	215	134	1	●	●	●	–
13,25	223	142	1	●	●	–	–
13,50	223	142	1	●	●	●	●
13,75	223	142	1	●	●	–	–
13,80	223	142	1	●	●	●	–
13,90	223	142	1	●	●	–	–
14,00	223	142	1	●	●	●	●
14,25	245	147	2	●	●	●	–
14,50	245	147	2	●	●	●	–
14,75	245	147	2	●	●	●	–

02/04 →

■ **Solange der Vorrat reicht** | Till stocks last

A 03

d_1 (h8)	l_1	l_2		6233	6233TN	6222	6119
15,00	245	147	2	●	●	●	●
15,25	251	153	2	●	●	●	–
15,50	251	153	2	●	●	●	–
15,75	251	153	2	●	●	●	–
16,00	251	153	2	●	●	●	●
16,25	257	159	2	●	●	●	–
16,50	257	159	2	●	●	●	–
16,75	257	159	2	●	●	●	–
17,00	257	159	2	●	●	●	●
17,25	263	165	2	●	●	●	–
17,50	263	165	2	●	●	●	–
17,75	263	165	2	●	●	●	–
18,00	263	165	2	●	●	●	●
18,25	269	171	2	●	●	●	–
18,50	269	171	2	●	●	●	–
18,75	269	171	2	●	●	●	–
19,00	269	171	2	●	●	●	●
19,25	275	177	2	●	●	●	–
19,50	275	177	2	●	●	●	–
19,75	275	177	2	●	●	●	–
20,00	275	177	2	●	●	●	●
20,25	282	184	2	●	●	–	–
20,50	282	184	2	●	●	●	–
20,75	282	184	2	●	●	–	–
21,00	282	184	2	●	●	●	●
21,25	289	191	2	●	●	–	–
21,50	289	191	2	●	●	●	–
21,75	289	191	2	●	●	–	–
22,00	289	191	2	●	●	●	●
22,25	289	191	2	●	●	–	–
22,50	296	198	2	●	●	●	–
22,75	296	198	2	●	●	–	–
23,00	296	198	2	●	●	●	●
23,50	319	198	3	●	●	●	–
24,00	327	206	3	●	●	●	●
24,50	327	206	3	●	●	●	–
25,00	327	206	3	●	●	●	●
25,50	335	214	3	●	●	–	–
26,00	335	214	3	●	●	●	●
26,50	335	214	3	●	●	–	–
27,00	343	222	3	●	●	●	●
27,50	343	222	3	●	●	–	–
28,00	343	222	3	●	●	●	●
28,50	351	230	3	●	●	■	–
29,00	351	230	3	●	●	●	●
29,50	351	230	3	●	●	–	–
30,00	351	230	3	●	●	●	●
30,50	360	239	3	●	–	–	–
31,00	360	239	3	●	–	●	●
31,50	360	239	3	●	–	–	–
32,00	397	248	4	●	–	–	–
32,50	397	248	4	●	–	–	–
33,00	397	248	4	●	–	–	–
33,50	397	248	4	●	–	–	–
34,00	406	257	4	●	–	–	–
34,50	406	257	4	●	–	–	–

03/04 →

■ **Solange der Vorrat reicht** | Till stocks last

DIN 341

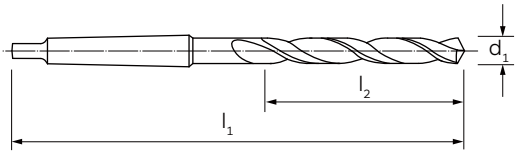
Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	l_1	l_2		6233	6233TN	6222	6119
35,00	406	257	4	●	–	–	–
35,50	406	257	4	●	–	–	–
36,00	416	267	4	●	–	–	–
36,50	416	267	4	●	–	–	–
37,00	416	267	4	●	–	–	–
37,50	416	267	4	●	–	–	–
38,00	426	277	4	●	–	–	–
38,50	426	277	4	●	–	–	–
39,00	426	277	4	●	–	–	–
39,50	426	277	4	●	–	–	–
40,00	426	277	4	●	–	–	–
41,00	436	287	4	●	–	–	–
42,00	436	287	4	●	–	–	–
43,00	447	298	4	●	–	–	–
44,00	447	298	4	●	–	–	–
45,00	447	298	4	●	–	–	–
46,00	459	310	4	●	–	–	–
47,00	459	310	4	●	–	–	–
48,00	470	321	4	●	–	–	–
49,00	470	321	4	●	–	–	–
50,00	470	321	4	●	–	–	–

1870 1
DIN

≤16xd

P.331➔



	6220/1	6221/1	6219/1
MATERIAL | MATERIAL	HSS	HSS	HSS-Co
TYP | TYPE	N	STL	STL
SPITZENWINKEL | POINT ANGLE	118°	130°	130°
BESCHICHTUNG | COATING	-	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	F.NIT	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

	6220/1	6221/1	6219/1
P | **Stähle** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	-	-
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1 (h8)	l_1	l_2		6220/1	6221/1	6219/1
8,00	265	165	1	●	-	-
8,50	265	165	1	●	-	-
9,00	275	175	1	●	-	-
9,50	275	175	1	●	-	-
10,00	285	185	1	●	-	-
10,50	285	185	1	●	-	-
11,00	300	195	1	●	-	-
11,50	300	195	1	●	-	-
12,00	310	205	1	●	●	●
12,50	310	205	1	●	●	●
13,00	310	205	1	●	●	●
13,50	325	220	1	●	●	●
14,00	325	220	1	●	●	●
14,50	340	220	2	●	●	●
15,00	340	220	2	●	●	●
15,50	355	230	2	●	●	●
16,00	355	230	2	●	●	●
16,50	355	230	2	●	●	●
17,00	355	230	2	●	●	●
17,50	370	245	2	●	●	●
18,00	370	245	2	●	●	●
18,50	370	245	2	●	●	●
19,00	370	245	2	●	●	●

01/02 ➔

■ **Solange der Vorrat reicht** | Till stocks last

DIN 1870/1

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	l_1	l_2		6220/1	6221/1	6219/1
19,50	385	260	2	●	●	●
20,00	385	260	2	●	●	●
20,50	385	260	2	●	–	–
21,00	385	260	2	●	●	●
21,50	405	270	2	●	–	–
22,00	405	270	2	●	●	●
22,50	405	270	2	●	–	–
23,00	405	270	2	●	●	●
23,50	425	270	3	●	–	–
24,00	440	290	3	●	●	●
24,50	440	290	3	●	–	–
25,00	440	290	3	●	●	●
25,50	440	290	3	●	–	–
26,00	440	290	3	●	●	●
26,50	440	290	3	●	–	–
27,00	460	305	3	●	●	●
28,00	460	305	3	●	●	●
29,00	460	305	3	●	●	●
29,50	460	305	3	●	–	–
30,00	460	305	3	●	●	●
31,00	480	320	3	●	–	–
32,00	505	320	4	●	–	–
33,00	505	320	4	●	–	–
34,00	530	340	4	●	–	–
35,00	530	340	4	●	–	–
36,00	530	340	4	●	–	–
37,00	530	340	4	●	–	–
38,00	555	360	4	●	–	–
39,00	555	360	4	●	–	–
40,00	555	360	4	●	–	–
41,00	555	360	4	●	–	–
42,00	555	360	4	●	–	–
45,00	585	385	4	●	–	–
48,00	605	405	4	●	–	–
50,00	605	405	4	●	–	–

02/02

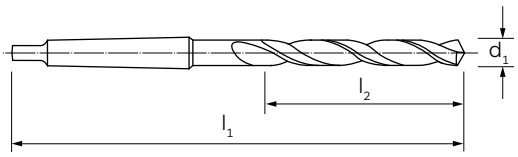
1870 2

DIN

≤22xd

P.331➔

A 03



MATERIAL | MATERIAL	HSS	HSS	HSS-Co
TYP | TYPE	N	STL	STL
SPITZENWINKEL | POINT ANGLE	118°	130°	130°
BESCHICHTUNG | COATING	-	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP	F.NIT	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	-	-
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1 (h8)	l_1	l_2		6220/2	6221/2	6219/2
8,00	330	210	1	●	●	-
8,50	330	210	1	●	●	-
9,00	345	220	1	●	●	-
9,50	345	220	1	●	-	-
10,00	360	235	1	●	●	●
10,50	360	235	1	●	●	●
11,00	375	250	1	●	●	●
11,50	375	250	1	●	●	●
12,00	395	260	1	●	●	●
12,50	395	260	1	●	●	●
13,00	395	260	1	●	●	●
13,50	410	275	1	●	●	●
14,00	410	275	1	●	●	●
14,50	425	275	2	●	●	●
15,00	425	275	2	●	●	●
15,50	445	295	2	●	●	●
16,00	445	295	2	●	●	●
16,50	445	295	2	●	●	●
17,00	445	295	2	●	●	●
17,50	465	310	2	●	●	●
18,00	465	310	2	●	●	●
18,50	465	310	2	●	●	●
19,00	465	310	2	●	●	●

01/02 ➔

DIN 1870/2

Spiralbohrer mit Morsekegel | Twist drills with taper shank

d_1 (h8)	l_1	l_2		6220/2	6221/2	6219/2
19,50	490	325	2	●	●	●
20,00	490	325	2	●	●	●
20,50	490	325	2	●	–	■
21,00	490	325	2	●	●	●
21,50	515	345	2	●	–	–
22,00	515	345	2	●	●	●
22,50	515	345	2	●	–	–
23,00	515	345	2	●	●	●
23,50	535	345	3	●	–	–
24,00	555	365	3	●	●	●
24,50	555	365	3	●	–	–
25,00	555	365	3	●	●	●
25,50	555	365	3	●	–	–
26,00	555	365	3	●	●	●
26,50	555	365	3	●	–	–
27,00	580	385	3	●	●	●
27,50	580	385	3	■	–	–
28,00	580	385	3	●	●	●
28,50	580	385	3	■	–	–
29,00	580	385	3	●	●	●
29,50	580	385	3	●	–	–
30,00	580	385	3	●	●	●
31,00	610	410	3	●	●	–
32,00	635	410	4	●	●	–
33,00	635	410	4	●	●	–
34,00	665	430	4	●	●	–
35,00	665	430	4	●	●	–
36,00	665	430	4	●	–	–
37,00	665	430	4	●	–	–
38,00	695	460	4	●	●	–
39,00	695	460	4	●	–	–
40,00	695	460	4	●	●	–
41,00	695	460	4	●	–	–
42,00	695	460	4	●	–	–
45,00	735	490	4	●	–	–
48,00	765	510	4	●	–	–
50,00	765	510	4	●	–	–

02/02

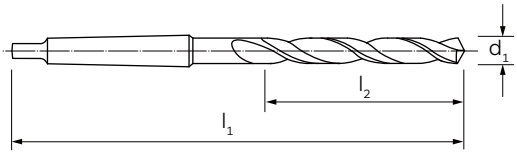
■ **Solange der Vorrat reicht** | Till stocks last

ILIX NORM

DIN

≤40xd

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	STL
SPITZENWINKEL | POINT ANGLE	130°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	F.NIT
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h8)	l_1	l_2			6150
10	**500**	410	1		●
11	**500**	410	1		●
12	**500**	410	1		●
13	**500**	410	1		●
14	**500**	410	1		●
14	**600**	490	1		●
14	**750**	640	1		●
14	**1000**	840	2		●
15	**600**	490	2		●
15	**750**	640	2		●
15	**1000**	840	2		●
16	**600**	490	2		●
16	**750**	640	2		●
16	**1000**	840	2		●
18	**600**	490	2		●
18	**750**	640	2		●
18	**1000**	840	2		●
20	**600**	490	2		●
21	**600**	490	2		●
22	**600**	490	2		●

d_1 (h8)	l_1	l_2			6150

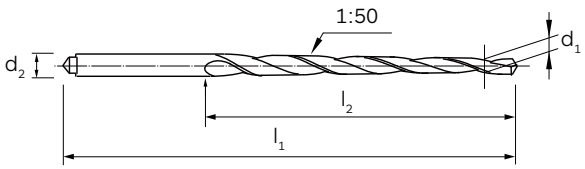
Bei Bestellung bitte Ø und Gesamtlänge l_1 angeben | When ordering, please state Ø and total length l_1

DIN 1898 (A)

Stiftlochbohrer, Kegel 1 : 50 zum Bohren von Kegellöchern gem. nach DIN 1 und DIN 7978
Taper pin drills, taper 1 : 50 for drilling taper holes acc. to DIN 1 and DIN 7978

1898
(A)
DIN

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	N
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	d_2	l_1	l_2		6501
2,00	3,15	86	52		●
3,00	4,00	100	63		●
4,00	5,00	112	74		●
5,00	6,30	122	81		●
5,50	8,00	160	114		●
6,00	8,00	160	114		●
8,00	10,00	207	157		●
10,00	12,50	245	190		●
12,00	16,00	290	220		●

d_1	d_2	l_1	l_2		6501

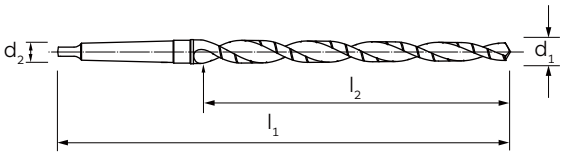
DIN 1898 (B)

Stiftlochbohrer, Kegel 1 : 50 zum Bohren von Kegellöchern gem. nach DIN 1 und DIN 7978
Taper pin drills, taper 1 : 50 for drilling taper holes acc. to DIN 1 and DIN 7978

1898 (B)

DIN

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	N
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	d_2	l_1	l_2			6502
5	6,30	155	81	1		■
6	8,00	187	108	1		■

d_1	d_2	l_1	l_2			6502

■ **Solange der Vorrat reicht** | Till stocks last

DIN 1899

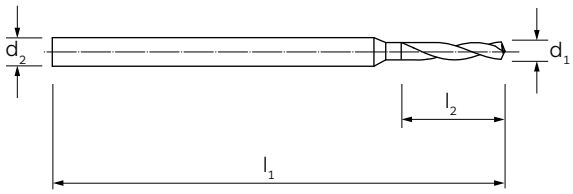
Kleinstbohrer | Micro Drills

1899
DIN

≤5xd

P.331➔

Bohrdurchmessertoleranzen | Drill diameter tolerances
Ø (0,05-1,00) = +0 / - 0,004 mm
Ø (1,05-1,45) = +0 / - 0,005 mm



MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	N	N
SPITZENWINKEL | POINT ANGLE	118°	118°
BESCHICHTUNG | COATING	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↺

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (h5)	l_1	l_2	d_2 (h7)	6511	6513
0,05	25	0,4	1,0	●	-
0,06	25	0,4	1,0	●	-
0,07	25	0,5	1,0	●	-
0,08	25	0,5	1,0	●	■
0,09	25	0,5	1,0	●	-
0,10	25	0,5	1,0	●	-
0,11	25	0,5	1,0	●	■
0,12	25	0,5	1,0	●	-
0,13	25	0,8	1,0	●	●
0,14	25	0,8	1,0	●	●
0,15	25	0,8	1,0	●	●
0,16	25	1,1	1,0	●	●
0,17	25	1,1	1,0	●	●
0,18	25	1,1	1,0	●	●
0,19	25	1,1	1,0	●	●
0,20	25	1,5	1,0	●	●
0,21	25	1,5	1,0	●	●
0,22	25	1,5	1,0	●	●
0,23	25	1,5	1,0	●	●
0,24	25	1,5	1,0	●	●
0,25	25	1,9	1,0	●	●
0,26	25	1,9	1,0	●	●
0,27	25	1,9	1,0	●	●

d_1 (h5)	l_1	l_2	d_2 (h7)	6511	6513
0,28	25	1,9	1,0	●	●
0,29	25	1,9	1,0	●	●
0,30	25	1,9	1,0	●	●
0,31	25	2,4	1,0	●	●
0,32	25	2,4	1,0	●	●
0,33	25	2,4	1,0	●	●
0,34	25	2,4	1,0	●	●
0,35	25	2,4	1,0	●	●
0,36	25	2,4	1,0	●	●
0,37	25	2,4	1,0	●	●
0,38	25	2,4	1,0	●	●
0,39	25	3,0	1,0	●	●
0,40	25	3,0	1,0	●	●
0,41	25	3,0	1,0	●	●
0,42	25	3,0	1,0	●	●
0,43	25	3,0	1,0	●	●
0,44	25	3,0	1,0	●	●
0,45	25	3,0	1,0	●	●
0,46	25	3,0	1,0	●	●
0,47	25	3,0	1,0	●	●
0,48	25	3,0	1,0	●	●
0,49	25	3,4	1,0	●	●
0,50	25	3,4	1,0	●	●

01/02 ➔

■ **Solange der Vorrat reicht** | Till stocks last

A 03

d_1 (h5)	l_1	l_2	d_2 (h7)	6511	6513
0,51	25	3,4	1,0	●	●
0,52	25	3,4	1,0	●	●
0,53	25	3,4	1,0	●	●
0,54	25	3,9	1,0	●	●
0,55	25	3,9	1,0	●	●
0,56	25	3,9	1,0	●	●
0,57	25	3,9	1,0	●	●
0,58	25	3,9	1,0	●	●
0,59	25	3,9	1,0	●	●
0,60	25	3,9	1,0	●	●
0,61	25	4,2	1,0	●	●
0,62	25	4,2	1,0	●	●
0,63	25	4,2	1,0	●	●
0,64	25	4,2	1,0	●	●
0,65	25	4,2	1,0	●	●
0,66	25	4,2	1,0	●	●
0,67	25	4,2	1,0	●	●
0,68	25	4,8	1,0	●	●
0,69	25	4,8	1,0	●	●
0,70	25	4,8	1,0	●	●
0,71	25	4,8	1,0	●	●
0,72	25	4,8	1,0	●	●
0,73	25	4,8	1,0	●	●
0,74	25	4,8	1,0	●	●
0,75	25	4,8	1,0	●	●
0,76	25	5,3	1,0	●	●
0,77	25	5,3	1,0	●	●
0,78	25	5,3	1,0	●	●
0,79	25	5,3	1,0	●	●
0,80	25	5,3	1,5	●	●

d_1 (h5)	l_1	l_2	d_2 (h7)	6511	6513
0,81	25	5,3	1,5	●	●
0,82	25	5,3	1,5	●	●
0,83	25	5,3	1,5	●	●
0,84	25	5,3	1,5	●	●
0,85	25	5,3	1,5	●	●
0,86	25	6,0	1,5	●	●
0,87	25	6,0	1,5	●	●
0,88	25	6,0	1,5	●	●
0,89	25	6,0	1,5	●	●
0,90	25	6,0	1,5	●	●
0,91	25	6,0	1,5	●	●
0,92	25	6,0	1,5	●	●
0,93	25	6,0	1,5	●	●
0,94	25	6,0	1,5	●	●
0,95	25	6,0	1,5	●	●
0,96	25	6,8	1,5	●	●
0,97	25	6,8	1,5	●	●
0,98	25	6,8	1,5	●	●
0,99	25	6,8	1,5	●	●
1,00	25	6,8	1,5	●	●
1,05	25	6,8	1,5	●	●
1,10	25	7,6	1,5	●	●
1,15	25	7,6	1,5	●	●
1,20	25	8,5	1,5	●	●
1,25	25	8,5	1,5	●	●
1,30	25	8,5	1,5	●	●
1,35	25	9,5	1,5	●	●
1,40	25	9,5	1,5	●	●
1,45	25	9,5	1,5	●	–

02/02

■ **Solange der Vorrat reicht** | Till stocks last

ILIX NORM

Kleinstbohrer | Micro Drills

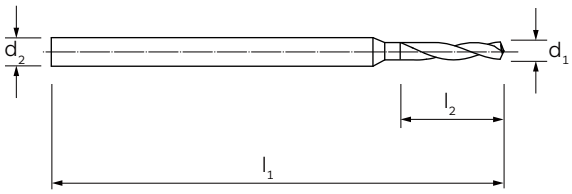
ILIX NORM
DIN

≤8xd

6535 HA

P.331→

Bohrdurchmessertoleranzen | Drill diameter tolerances
Ø (0,10-1,00) = +0 / - 0,004 mm
Ø (1,05-2,95) = +0 / - 0,005 mm



MATERIAL | MATERIAL	M.D.I.-HM
TYP | TYPE	N
SPITZENWINKEL | POINT ANGLE	118°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	d_2 (h6)		6516
0,10	30	0,6	1,0		●
0,11	30	0,6	1,0		●
0,12	30	0,6	1,0		●
0,13	30	0,8	1,0		●
0,14	30	0,8	1,0		●
0,15	30	0,8	1,0		●
0,16	30	1,0	1,0		●
0,17	30	1,0	1,0		●
0,18	30	1,0	1,0		●
0,19	30	1,0	1,0		●
0,20	30	1,0	1,0		●
0,21	30	1,0	1,0		●
0,22	30	1,0	1,0		●
0,23	30	1,0	1,0		●
0,24	30	1,0	1,0		●
0,25	30	1,0	1,0		●
0,26	30	1,0	1,0		●
0,27	30	1,0	1,0		●
0,28	30	1,0	1,0		●
0,29	30	1,0	1,0		●
0,30	30	1,5	1,0		●
0,31	30	1,5	1,0		●
0,32	30	1,5	1,0		●

d_1 (h7)	l_1	l_2	d_2 (h6)		6516
0,33	30	1,5	1,0		●
0,34	30	1,5	1,0		●
0,35	30	1,5	1,0		●
0,36	30	1,5	1,0		●
0,37	30	1,5	1,0		●
0,38	30	1,5	1,0		●
0,39	30	1,5	1,0		●
0,40	30	2,0	1,0		●
0,41	30	2,0	1,0		●
0,42	30	2,0	1,0		●
0,43	30	2,0	1,0		●
0,44	30	2,0	1,0		●
0,45	30	3,5	1,0		●
0,46	30	3,5	1,0		●
0,47	30	3,5	1,0		●
0,48	30	3,5	1,0		●
0,49	30	4,0	1,0		●
0,50	30	4,0	1,0		●
0,51	30	4,0	1,0		●
0,52	30	4,0	1,0		●
0,53	30	4,0	1,0		●
0,54	30	4,5	1,0		●
0,55	30	4,5	1,0		●

01/02 →

A 03

d_1 (h7)	l_1	l_2	d_2 (h6)		6516
0,56	30	4,5	1,0		●
0,57	30	4,5	1,0		●
0,58	30	4,5	1,0		●
0,59	30	4,5	1,0		●
0,60	30	4,5	1,0		●
0,61	30	5,0	1,0		●
0,62	30	5,0	1,0		●
0,63	30	5,0	1,0		●
0,64	30	5,0	1,0		●
0,65	30	5,0	1,0		●
0,66	30	5,0	1,0		●
0,67	30	5,0	1,0		●
0,68	30	5,5	1,0		●
0,69	30	5,6	1,0		●
0,70	30	5,6	1,0		●
0,71	30	5,6	1,0		●
0,72	30	5,6	1,0		●
0,73	30	5,6	1,0		●
0,74	30	5,6	1,0		●
0,75	30	5,6	1,0		●
0,76	30	6,5	1,0		●
0,77	30	6,5	1,0		●
0,78	30	6,5	1,0		●
0,79	30	6,5	1,0		●
0,80	30	6,5	1,5		●
0,81	30	6,5	1,5		●
0,82	30	6,5	1,5		●
0,83	30	6,5	1,5		●
0,84	30	6,5	1,5		●
0,85	30	6,5	1,5		●
0,86	30	7,0	1,5		●
0,87	30	7,0	1,5		●
0,88	30	7,0	1,5		●
0,89	30	7,0	1,5		●
0,90	30	7,0	1,5		●
0,91	30	7,0	1,5		●
0,92	30	7,0	1,5		●
0,93	30	7,0	1,5		●
0,94	30	7,0	1,5		●
0,95	30	7,0	1,5		●
0,96	30	8,0	1,5		●
0,97	30	8,0	1,5		●

d_1 (h7)	l_1	l_2	d_2 (h6)		6516
0,98	30	8,0	1,5		●
0,99	30	8,0	1,5		●
1,00	30	9,0	1,5		●
1,05	30	9,0	1,5		●
1,10	30	9,0	1,5		●
1,15	30	9,0	1,5		●
1,20	30	10,0	1,5		●
1,25	30	10,0	1,5		●
1,30	30	10,0	1,5		●
1,35	30	11,5	1,5		●
1,40	30	11,5	1,5		●
1,45	30	11,5	1,5		●
1,50	38	12,0	2,0		●
1,55	38	12,0	2,0		●
1,60	38	12,0	2,0		●
1,65	38	12,0	2,0		●
1,70	38	12,0	2,0		●
1,75	38	12,0	2,0		●
1,80	38	12,0	2,0		●
1,85	38	12,0	2,0		●
1,90	38	12,0	2,0		●
1,95	38	12,0	2,0		●
2,00	38	12,0	3,0		●
2,05	38	12,0	3,0		●
2,10	38	12,0	3,0		●
2,15	38	12,0	3,0		●
2,20	38	12,0	3,0		●
2,25	38	12,0	3,0		●
2,30	38	12,0	3,0		●
2,35	38	12,0	3,0		●
2,40	38	12,0	3,0		●
2,45	38	12,0	3,0		●
2,50	38	12,0	3,0		●
2,55	38	12,0	3,0		●
2,60	38	12,0	3,0		●
2,65	38	12,0	3,0		●
2,70	38	12,0	3,0		●
2,75	38	12,0	3,0		●
2,80	38	12,0	3,0		●
2,85	38	12,0	3,0		●
2,90	38	12,0	3,0		●
2,95	38	12,0	3,0		●

02/02

ILIX NORM

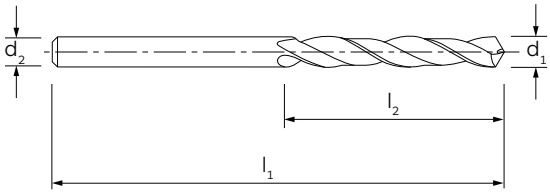
Kleinstbohrer zum Bohren von Leiterplatten, Hartkunststoffen
Micro drills for drilling printed circuit boards, hard plastics

ILIX NORM
DIN

≤8xd

6535 HA

P.331➔



A 03

MATERIAL | MATERIAL	M.D.I.-HM
TYP | TYPE	N
SPITZENWINKEL | POINT ANGLE	120°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (h7)	l_1	l_2	d_2 (h6)		6230
1,0	30	11,0	1,0		●
1,1	30	11,0	1,1		●
1,2	30	13,0	1,2		●
1,3	30	13,0	1,3		●
1,4	30	13,0	1,4		●
1,5	30	13,0	1,5		●
1,6	40	17,5	1,6		●
1,7	40	17,5	1,7		●
1,8	40	17,5	1,8		●
1,9	40	17,5	1,9		●
2,0	40	17,5	2,0		●
2,5	40	17,5	2,5		●
3,0	45	20,0	3,0		●

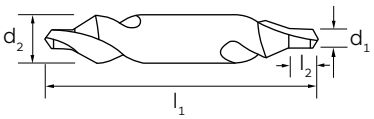
d_1 (h7)	l_1	l_2	d_2 (h6)		6230

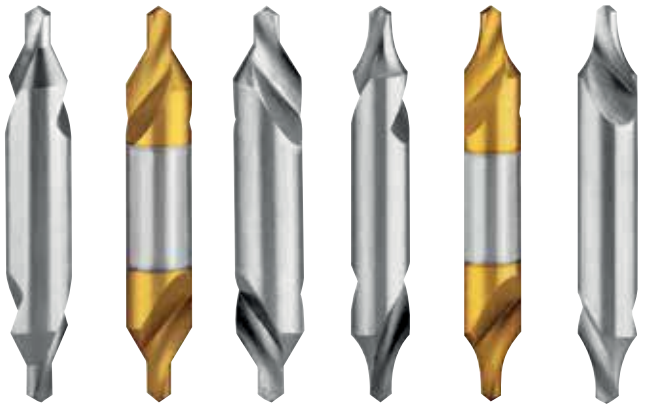
333 (A) DIN

333 (R) DIN

P.331➔

A 03





MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS	HSS
TYP | TYPE	A	A	A	R	R	R
SENKWINKEL | COUNTERSINKING ANGLE	60°	60°	60°	-	-	-
BESCHICHTUNG | COATING	-	TiN	-	-	TiN	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↺	↺	↻	↺	↺	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **Leghe Resistenti al Cal. e Titanio** | HRSA and Titanium	S	S	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1	d_2	l_1	l_2	6290	6290TN	6294	6292	6292TN	6295
0,50*	3,15	20,0	0,6-0,9	●	-	●	●	-	-
0,80*	3,15	20,0	1,0-1,3	●	-	●	●	-	●
1,00	3,15	31,5	1,3-1,7	●	●	●	●	●	●
1,25	3,15	31,5	1,6-2,0	●	●	●	●	●	●
1,60	4,00	35,5	2,0-2,6	●	●	●	●	●	●
2,00	5,00	40,0	2,5-3,1	●	●	●	●	●	●
2,50	6,30	45,0	3,1-3,8	●	●	●	●	●	●
3,15	8,00	50,0	3,9-4,6	●	●	●	●	●	●
4,00	10,00	56,0	5,0-5,9	●	●	●	●	●	●
5,00	12,50	63,0	6,3-7,2	●	●	●	●	●	-
6,30	16,00	71,0	8,0-8,9	●	-	●	●	-	-
8,00	20,00	80,0	10,1-11,1	●	-	-	●	-	-
10,00	25,00	100,0	10,1-11,1	●	-	-	●	-	-
12,50	31,50	125,0	16,5-17,5	●	-	-	●	-	-

* **Einseitig** | Single end

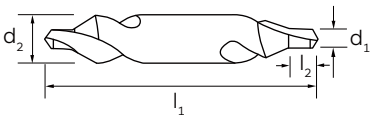
DIN 333 (A) - 333 (R)

Zentrierbohrer | Centre drills

333 (A) DIN

333 (R) DIN

P.331➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	M.D.I.-HM
TYP | TYPE	A	A	R	A
SENKWINKEL | COUNTERSINKING ANGLE	60°	60°	-	60°
BESCHICHTUNG | COATING	-	-	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

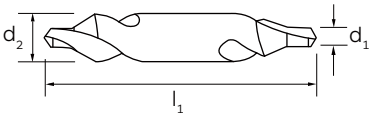
d_1	d_2	l_1	l_2	6299	6291	6293	6296
0,50*	3,15	20,0	0,6-0,9	-	-	-	●
0,80*	3,15	20,0	1,0-1,3	-	-	-	●
1,00	3,15	31,5	1,3-1,7	●	-	-	●
1,25	3,15	31,5	1,6-2,0	●	-	-	●
1,60	4,00	35,5	2,0-2,6	●	●	●	●
2,00	5,00	40,0	2,5-3,1	●	●	●	●
2,50	6,30	45,0	3,1-3,8	●	●	●	●
3,15	8,00	50,0	3,9-4,6	●	●	●	●
4,00	10,00	56,0	5,0-5,9	●	●	●	●
5,00	12,50	63,0	6,3-7,2	●	●	●	●
6,30	16,00	71,0	8,0-8,9	-	-	-	●

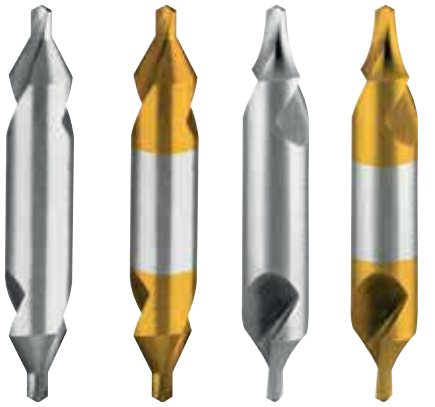
* **Einseitig** | Single end

333 (A) DIN

333 (R) DIN

P.331➔





MATERIAL | MATERIAL	HSS	HSS	HSS	HSS
TYP | TYPE	A	A	R	R
SENKWINKEL | COUNTERSINKING ANGLE	60°	60°	-	-
BESCHICHTUNG | COATING	-	TiN	-	TiN
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	d_2	l_1	6162	6162TN	6223	6223TN
0,63	**3,15**	25,0	●	●	-	-
0,75	**3,50**	35,0	●	●	-	-
1,00	**4,00**	35,5	●	●	●	●
1,50	**5,00**	40,0	●	●	●	●
1,60	**5,00**	40,0	●	●	-	-
2,00	**6,00**	45,0	●	●	●	●
2,00	**6,30**	45,0	●	●	-	-
2,50	**8,00**	50,0	●	●	●	●
3,00	**8,00**	50,0	●	●	-	-
3,00	**10,00**	56,0	●	●	●	●
3,15	**10,00**	56,0	●	●	-	-
4,00	**12,00**	66,0	●	●	●	●
5,00	**14,00**	69,0	●	●	-	-
6,00	**18,00**	76,0	●	●	-	-

Bei Bestellung bitte immer angeben (d_1) - (d_2) | When ordering please always state (d1) - (d2)

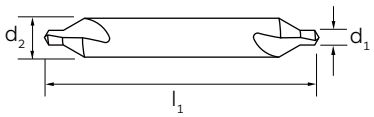
DIN 333 (B)

Zentrierbohrer mit Schutzfase | Centre drills with protective bevel

333 (B)

DIN

P.331➔



MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	B	B	B
SENKWINKEL | COUNTERSINKING ANGLE	60-120°	60-120°	60-120°
BESCHICHTUNG | COATING	-	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↺	↻	↺

MATERIALGRUPPEN MATERIAL GROUPS

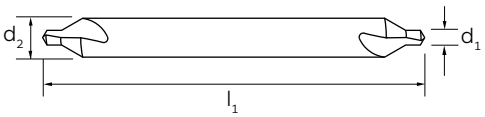
P | **Stähle** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1	d_2	l_1	6297	6298B	6289
1,00	4,00	35,5	●	●	-
1,25	5,00	40,0	●	●	-
1,60	6,30	45,0	●	●	●
2,00	8,00	50,0	●	●	●
2,50	10,00	55,0	●	●	●
3,15	11,20	60,0	●	●	●
4,00	14,00	67,0	●	●	●
5,00	18,00	75,0	●	●	●
6,30	20,00	80,0	●	●	●
8,00	25,00	100,0	●	-	●
10,00	31,50	125,0	●	-	●

ILIX NORM

DIN

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	A
SENKWINKEL | COUNTERSINKING ANGLE	60°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	d_2	l_1	6144
0,75	**3,5**	60	●
0,75	**3,5**	120	●
1,00	**4,0**	60	●
1,00	**4,0**	100	●
1,00	**4,0**	120	●
1,50	**5,0**	60	●
1,50	**5,0**	100	●
1,50	**5,0**	120	●
1,60	**5,0**	120	●
2,00	**5,0**	200	●
2,00	**6,0**	80	●
2,00	**6,0**	100	●
2,00	**6,0**	120	●
2,50	**6,3**	200	●
2,50	**8,0**	80	●
2,50	**8,0**	100	●
2,50	**8,0**	120	●
3,00	**8,0**	80	●
3,00	**8,0**	100	●
3,00	**8,0**	120	●
3,00	**10,0**	100	●
3,00	**10,0**	120	●
3,15	**8,0**	200	●

d_1	d_2	l_1	6144
3,15	**10,0**	120	●
4,00	**10,0**	100	●
4,00	**10,0**	120	●
4,00	**10,0**	200	●
4,00	**12,0**	100	●
4,00	**12,0**	120	●
5,00	**12,0**	100	●
5,00	**14,0**	120	●

Bei Bestellung bitte immer angeben (d_1) - (d_2) | When ordering please always state (d1) - (d2)

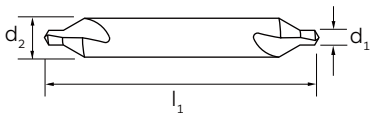
ANSI B 94.11 M-1979

Zentrierbohrer nach amerikanischem Standard | Centre drills with American standards

B 94.11 M-1979

ANSI

P.331➔



MATERIAL | MATERIAL	HSS	HSS
TYP | TYPE	A	R
SENKWINKEL | COUNTERSINKING ANGLE	60°	-
BESCHICHTUNG | COATING	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

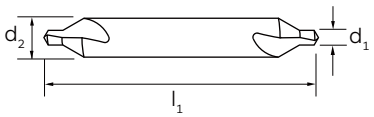
P | **Stähle** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

Größe Size	d_1 "	d_1 mm	d_2 "	d_2 mm	l_1 "	l_1 mm		6164	6160
00	.025	0,64	1/8	3,18	1 7/32	31		●	●
0	1/32	0,79	1/8	3,18	1 7/32	31		●	●
1	3/64	1,19	1/8	3,18	1 1/4	32		●	●
2	5/64	1,98	3/16	4,76	1 7/8	48		●	●
3	7/64	2,78	1/4	6,35	2	51		●	●
4	1/8	3,18	5/16	7,94	2 1/8	54		●	●
5	3/16	4,76	7/16	11,11	2 3/4	70		●	●
6	7/32	5,56	1/2	12,7	3	76		●	-
7	1/4	6,35	5/8	15,88	3 1/4	83		●	-
8	5/16	7,94	3/4	19,05	3 1/2	89		●	-

328

B.S.

P.331➔



MATERIAL | MATERIAL	HSS
TYP | TYPE	A
SENKWINKEL | COUNTERSINKING ANGLE	60°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

Größe Size	**d_1 "**	**d_1 mm**	**d_2 "**	**d_2 mm**	**l_1 "**	**l_1 mm**	**6142**
1	3/64	1,19	1/8	3,18	1 1/2	38,0	●
2	1/16	1,59	3/16	4,76	1 3/4	44,5	●
3	3/32	2,38	1/4	6,35	2 1/64	51,2	●
4	1/8	3,18	5/16	7,94	2 1/4	63,5	●
5	3/16	4,76	7/16	11,11	2 1/2	63,5	●
6	1/4	6,35	5/8	15,88	3	76,0	●
7	5/16	7,94	3/4	19,05	3 1/2	89,0	●

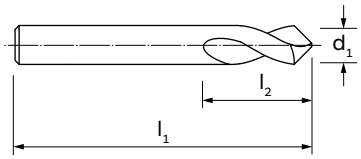
~DIN 1897

CNC-Anbohrer mit Zylinderschaft | CNC spotting drills with straight shank

~1897
DIN

≤3xd

P.331➔



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS
TYP | TYPE	-	-	-	-	-
SPITZENWINKEL | POINT ANGLE	120°	120°	90°	90°	120°
BESCHICHTUNG | COATING	-	TiN	-	TiN	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-

d_1 (h7)	l_1	l_2	6147	6147TN	6148	6148TN	6100
4	55	18	●	●	●	●	-
5	62	21	●	●	●	●	-
6	66	22	●	●	●	●	●
8	79	30	●	●	●	●	●
10	89	34	●	●	●	●	●
12	102	41	●	●	●	●	●
16	115	46	●	●	●	●	●
20	131	53	●	●	●	●	●

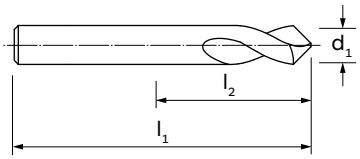
* **6147-6147TN-6148-6148TN**: Spannuten kürzer als DIN 1897 | Flutes shorter the DIN 1897

ILIX NORM

DIN

≤3xd

P.331➔



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
TYP | TYPE	-	-	-	-
SPITZENWINKEL | POINT ANGLE	120°	120°	90°	90°
BESCHICHTUNG | COATING	-	TiN	-	TiN
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	H	H	H	H

d_1 (h7)	l_1	l_2	6102	6102TN	6103	6103TN
4	40	10	●	●	●	●
5	50	13	●	●	●	●
6	50	16	●	●	●	●
8	60	20	●	●	●	●
10	70	22	●	●	●	●
12	70	22	●	●	●	●
14	75	25	●	●	●	●
16	75	25	●	●	●	●
20	95	28	●	●	●	●

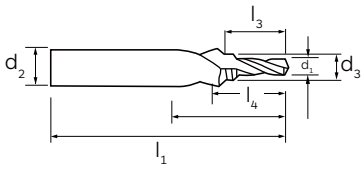
DIN 332

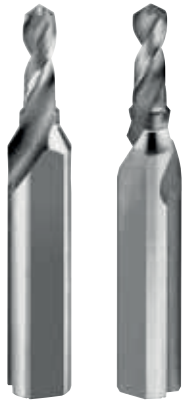
Stufenbohrer für Zentrierbohrungen | Step drills

332

DIN

P.331➔





MATERIAL | MATERIAL	HSS	HSS
TYP | TYPE	D	DR
SENKWINKEL | COUNTERSINKING ANGLE	60°	-
BESCHICHTUNG | COATING	-	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

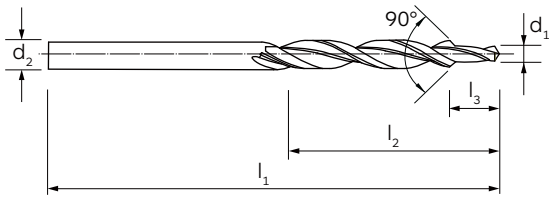
P | **Stähle** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

Für Gewinde-Ø For thread Ø	d_1 h8	d_2 h7	d_3 h8	l_1	l_2	l_3	**Flächengröße** Flat size	l_4	l_4	**Radius** Radius	6249	6250
									6250			
M 4	3,3	8,0	4,3	63	23	11,0	6,75	12,60	12,6	4,0	●	●
M 5	4,2	10,0	5,3	67	27	13,0	8,45	15,15	15,2	6,0	●	●
M 6	5,0	12,5	6,4	71	33	16,0	10,45	18,90	18,9	8,0	●	●
M 8	6,8	14,0	8,4	88	41	19,5	12,50	23,00	23,0	10,0	●	●
M 10	8,5	16,0	10,5	94	47	23,0	14,85	27,70	27,7	16,0	●	●
M 12	10,2	20,0	13,0	105	59	28,0	18,45	34,50	34,5	20,0	●	●
M 16	14,0	25,0	17,0	132	67	33,0	23,40	41,30	41,3	25,0	●	●
M 20	17,5	31,5	21,0	145	77	38,0	29,35	48,35	48,4	31,5	●	●
M 24	21,0	40,0	25,0	160	90	45,0	36,50	57,00	57,0	40,0	●	●

8374

DIN

P.331➔



MATERIAL | MATERIAL	HSS
SPITZENWINKEL | POINT ANGLE	118°
SENKWINKEL | COUNTERSINKING ANGLE	90°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

Bestellcode Order code	**Für Gewinde** For threading	d_2 (h9) x d_1 (h8)	l_1	l_2	l_3		**6281**
FORM A (feine Ausführung) **| FORM A** (fine grade)							
6281 - 3	M 3	6,0 x 3,2	93	57	9		●
6281 - 4	M 4	8,0 x 4,3	117	75	11		●
6281 - 5	M 5	10,0 x 5,3	133	87	13		●
6281 - 6	M 6	11,5 x 6,4	142	94	15		●
6281 - 8	M 8	15,0 x 8,4	169	114	19		●
6281 - 10	M 10	19,0 x 10,5	198	135	23		●
FORM B (mittlere Ausführung) **| FORM B** (medium grade)							
6281 - 3x6.6x3.4	M 3	6,6 x 3,4	101	63	9		●
6281 - 4x9x4.5	M 4	9,0 x 4,5	125	81	11		●

FORM A, FEINE AUSFÜHRUNG:
Für Durchgangsbohrungen gem. nach DIN-ISO 273 und Senklöcher nach DIN 74, Teil 1 für Schrauben nach DIN 963 – 964 – 965 – 966 – 7513 (F und G) – 7516 (D und E)

FORM A, FINE GRADE:
For clearance holes acc. to DIN-ISO 273 and counterisink holes according to DIN 74, part 1 for screws according to DIN 963 – 964 – 965 – 966 – 7513 (F and G) – 7516 (D and E)

FORM B, MITTLERE AUSFÜHRUNG:
Für Durchgangsbohrungen gem. nach DIN-ISO 273 und Senkbohrungen nach DIN 74, Teil 1. Für Schrauben nach DIN 7991

FORM B, MEDIUM GRADE:
For clearance holes acc. to DIN-ISO 273 and counterisink holes according to DIN 74, part 1. For screws according to DIN 7991

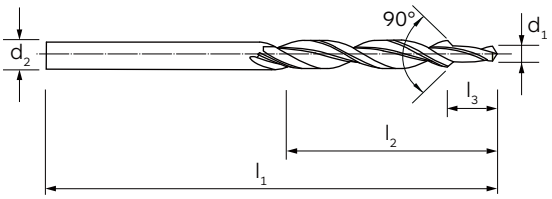
DIN 8378

Stufenbohrer für Senkkopfschrauben (90°) | Step drills for countersunk head screws (90°)

8378

DIN

P.331➔



MATERIAL | MATERIAL	HSS
SPITZENWINKEL | POINT ANGLE	118°
SENKWINKEL | COUNTERSINKING ANGLE	90°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

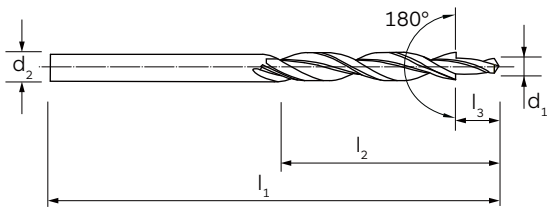
Bestellcode Order code	**Für Gewinde** For threading	d_2 (h9)	x	d_1 (h8)	l_1	l_2	l_3	**6282**
6282 - 3	M 3	3,4	x	2,5	70	39	8,8	●
6282 - 4	M 4	4,5	x	3,3	80	47	11,4	●
6282 - 5	M 5	5,5	x	4,2	93	57	13,6	●
6282 - 6	M 6	6,6	x	5,0	101	63	16,5	●
6282 - 8	M 8	9,0	x	6,8	125	81	21,0	●
6282 - 10	M 10	11,0	x	8,5	142	94	25,5	●
6282 - 12x13.5	M 12	13,5	x	10,2	160	108	30,0	●

Zum Bohren von Kernlochbohrungen gem. DIN 336, Teil 1 und Senkungen entsprechend Durchgangsbohrungen gem. nach DIN-ISO 273
For drilling tapping size holes acc. to DIN 336, part 1 and counterbores corresponding to through holes acc. to DIN-ISO 273

8376

DIN

P.331➔



MATERIAL | MATERIAL	HSS
SPITZENWINKEL | POINT ANGLE	118°
SENKWINKEL | COUNTERSINKING ANGLE	180°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

Bestellcode Order code	**Für Gewinde** For threading	d_2 (h9)	x	d_1 (h8)	l_1	l_2	l_3		**6283**
FORM A (feine Ausführung) **| FORM A** (fine grade)									
6283 - 3x6x3.2	M 3	6,0	x	3,2	93	57	9		●
FORM H, J, K, H 3, J 3, K 3 (mittlere Ausführung) **| FORM H, J, K, H 3, J 3, K 3** (medium grade)									
6283 - 3	M 3	6,0	x	3,4	93	57	9		●
6283 - 4	M 4	8,0	x	4,5	117	75	11		●
6283 - 5	M 5	10,0	x	5,5	133	87	13		●
6283 - 6	M 6	11,0	x	6,6	142	94	15		●
6283 - 8	M 8	15,0	x	9,0	169	114	19		●
6283 - 10	M 10	18,0	x	11,0	191	130	23		●

FORM H, J, K, H 3, J 3, K 3, MITTLERE AUSFÜHRUNG:
Für Durchgangsbohrungen gem. nach DIN-ISO 273 und Senkung nach DIN 74, Teil 2, für Schrauben nach DIN 84 – 912 – 6912 – 7513 - 7984

FORM H, J, K, H 3, J 3, K 3, MEDIUM GRADE:
For through holes acc. to DIN-ISO 273 and socket screwheads countersinks according to DIN 74, part 2, for screws to DIN 84 – 912 – 6912 – 7513 - 7984

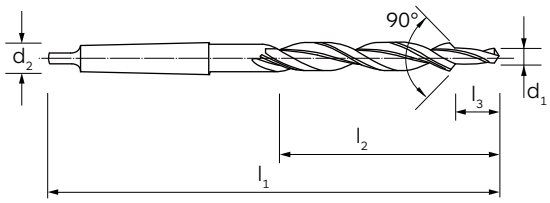
DIN 8375

Stufenbohrer für Senkkopfschrauben (90°) | Step drills for countersunk head screws (90°)

8375

DIN

P.331➔



MATERIAL | MATERIAL	HSS
SPITZENWINKEL | POINT ANGLE	118°
SENKWINKEL | COUNTERSINKING ANGLE	90°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

Bestellcode Order code	**Für Gewinde** For threading	d_2 (h9)	x	d_1 (h8)	l_1	l_2	l_3			**6284**
FORM A (feine Ausführung) | **FORM A** (fine grade)										
6284 - 6x11x6.4	M 6	11,0	x	6,4	175	94	15	1		■
6284 - 6x11.5x6.4	M 6	11,5	x	6,4	175	94	15	1		●
6284 - 8x15x8.4	M 8	15,0	x	8,4	212	114	19	2		●
6284 - 10x19x10.5	M 10	19,0	x	10,5	233	135	23	2		●
6284 - 12x23x13	M 12	23,0	x	13,0	253	155	27	2		●
6284 - 14x26x15	M 14	26,0	x	15,0	286	165	31	3		●
6284 - 16x30x17	M 16	30,0	x	17,0	296	175	35	3		●
FORM B (mittlere Ausführung) | **FORM B** (medium grade)										
6284 - 12x26x14	M 12	26,0	X	14,0	286	165	27	3		●
6284 - 14x29x16	M 14	29,0	X	16,0	296	175	31	3		●
FORM A - B | FORM A - B										
6284 - 5x11x5.5	M 5	11,0	X	5,5	175	94	13	1		●
6284 - 6x13x6.6	M6	13,0	X	6,6	182	101	15	1		●
6284 - 8x17.2x9	M 8	17,2	X	9,0	228	130	19	2		●
6284 - 10x21.5x11	M 10	21,5	X	11,0	248	150	23	2		●

FORM A, FEINE AUSFÜHRUNG:
Für Durchgangsbohrungen gem. nach DIN-ISO 273 und Senklöcher nach DIN 74, Teil 1 für Schrauben nach DIN 963 – 964 – 965 – 966 – 7513 (F und G) – 7516 (D und E)

FORM A, FINE GRADE:
For clearance holes acc. to DIN-ISO 273 and counterisink holes according to DIN 74, part 1 for screws according to DIN 963 – 964 – 965 – 966 – 7513 (F and G) – 7516 (D and E)

FORM B, MITTLERE AUSFÜHRUNG:
Für Durchgangsbohrungen gem. nach DIN-ISO 273 und Senkbohrungen nach DIN 74, Teil 1. Für Schrauben nach DIN 7991

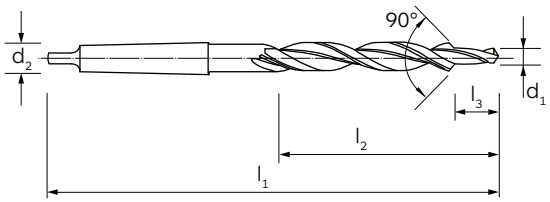
FORM B, MEDIUM GRADE:
For clearance holes acc. to DIN-ISO 273 and counterisink holes according to DIN 74, part 1. For screws according to DIN 7991

■ **Solange der Vorrat reicht** | Till stocks last

8379

DIN

P.331➔



MATERIAL | MATERIAL	HSS
SPITZENWINKEL | POINT ANGLE	118°
SENKWINKEL | COUNTERSINKING ANGLE	90°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

Bestellcode Order code	**Für Gewinde** For threading	d_2 (h9)	x	d_1 (h8)	l_1	l_2	l_3			**6285**
6285 - 8	M 8	9,0	X	6,8	162	81	21,0	1		●
6285 - 10	M 10	11,0	X	8,5	175	94	25,5	1		●
6285 - 12X13.5	M 12	13,5	X	10,2	189	108	30,0	1		●
6285 - 14X15.5	M 14	15,5	X	12,0	218	120	34,5	2		●
6285 - 16X17.5	M 16	17,5	X	14,0	228	130	38,5	2		●
6285 - 18	M 18	20,0	X	15,5	238	140	43,5	2		●
6285 - 20	M 20	22,0	X	17,5	248	150	47,5	2		●

Zum Bohren von Kernlochbohrungen gem. DIN 336, Teil 1 und Senkungen entsprechend Durchgangsbohrungen gem. nach DIN-ISO 273
For drilling tapping size holes acc. to DIN 336, part 1 and counterbores corresponding to through holes acc. to DIN-ISO 273

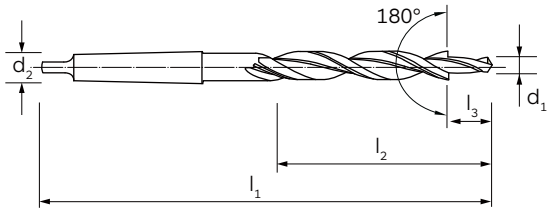
DIN 8377

Stufenbohrer für Zylinderkopfschrauben (180°) | Step drills for cylindrical head screws (180°)

8377

DIN

P.331➔



MATERIAL | MATERIAL	HSS
SPITZENWINKEL | POINT ANGLE	118°
SENKWINKEL | COUNTERSINKING ANGLE	180°
BESCHICHTUNG | COATING	-
OBERFLÄCHENBEHANDLUNG | SURFACE TREATMENT	VAP
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stähle** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

Bestellcode Order code	**Für Gewinde** For threading	d_2 (h9)	x	d_1 (h8)	l_1	l_2	l_3			**6286**
FORM A (feine Ausführung) **| FORM A** (fine grade)										
6286 · 6x11x6.4	M 6	11	x	6,4	175	94	15	1		●
6286 · 8x15x8.4	M 8	15	x	8,4	212	114	19	2		●
6286 · 10x18x10.5	M 10	18	x	10,5	228	130	23	2		●
6286 · 12x20x13	M 12	20	x	13,0	238	140	27	2		●
6286 · 14x24x15	M 14	24	x	15,0	281	160	31	3		●
6286 · 16x26x17	M 16	26	x	17,0	186	165	35	3		●
FORM H, J, K (mittlere Ausführung) **| FORM H, J, K** (medium grade)										
6286 · 5x10x5.5	M 5	10	x	5,5	168	87	13	1		■
6286 · 6x11x6.6	M 6	11	x	6,6	175	94	15	1		●
6286 · 8x15x9	M 8	15	x	9,0	212	114	19	2		●
6286 · 10x18x11	M 10	18	x	11,0	228	130	23	2		●
6286 · 12x20x13.5	M 12	20	x	13,5	238	140	27	2		●
6286 · 14x24x15.5	M 14	24	x	15,5	281	160	31	3		●
6286 · 16x26x17.5	M 16	26	x	17,5	286	165	35	3		●
6286 · 18x30x20	M 18	30	x	20,0	296	175	39	3		●
6286 · 20x33x22	M 20	33	x	22,0	334	185	43	4		●

FORM H, J, K, MITTLERE AUSFÜHRUNG:
Für Durchgangsbohrungen gem. DIN–ISO 273 und Senkung gem. nach DIN 74, Teil 2 für Schrauben nach DIN 84 – 7513 – 7984 – 6912 – 912

FORM H, J, K, MEDIUM GRADE:
for through holes acc. to DIN–ISO 273 and socket screwhead countersinks acc. to DIN 74, part 2 for screws to DIN 84 – 7513 – 7984 – 6912 – 912

A.03.03

Schnittdaten
Cutting data

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
N	6156		25	10	20	9	10	8	10	5	-	-	25	10	15	9
	6156TN		25	10	20	9	10	8	10	5	-	-	25	10	15	9
	6159		25	10	20	9	10	8	10	5	-	-	25	10	15	9
	6151		25	9	20	8	10	7	8	5	-	-	20	8	10	7
	6151TN		25	9	20	8	10	7	8	5	-	-	20	8	10	7
	6158		25	9	20	8	10	7	8	5	-	-	20	8	10	7
	6106		25	9	20	8	10	7	8	5	-	-	20	8	10	7
	6202		20	8	15	7	7	6	6	4	-	-	15	7	7	6
	6165		20	8	15	7	7	6	6	4	-	-	15	7	7	6
	6165TN		23	8	20	7	10	6	8	4	-	-	20	8	10	6
	6108		20	8	15	7	7	6	6	4	-	-	18	8	7	7

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6156TN Ø 5 | Werkstück Materialgruppe P1 | V_c = 25 m/min | f_n = **0,093 mm/U** (Koeffizient f=10)
Cutting data example: 6156TN Ø 5 | Working material group P1 | V_c = 25 m/min | f_n = **0,093** mm/rev (coefficient f=10)

SCHNITTDATEN | CUTTING DATA

Spiralbohrer | Twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		
V_c f	V_c f	V_c f	V_c f	V_c f	V_c f	V_c f			
37 12	32 9	- -	- -	- -	- -	- -		**6156**	220
37 12	32 9	- -	- -	- -	- -	- -		**6156TN**	220
37 12	32 9	- -	- -	- -	- -	- -		**6159**	220
35 10	30 8	- -	- -	- -	- -	- -		**6151**	230
35 10	30 8	- -	- -	- -	- -	- -		**6151TN**	230
35 10	30 8	- -	- -	- -	- -	- -		**6158**	242
35 10	30 8	- -	- -	- -	- -	- -		**6106**	230
30 10	25 7	- -	- -	- -	- -	- -		**6202**	262
30 10	25 7	- -	- -	- -	- -	- -		**6165**	264
35 10	30 7	- -	- -	- -	- -	- -		**6165TN**	264
30 10	25 7	- -	- -	- -	- -	- -		**6108**	264

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
N	6217/1		20	7	13	6	6	5	4	4	-	-	13	6	7	5
	6217/2		19	7	12	6	5	5	3	4	-	-	12	6	6	5
	6217/3		18	7	11	6	4	5	3	3	-	-	11	7	5	5
	6168		25	8	20	7	10	6	8	4	-	-	17	8	10	7
	6168TN		28	9	23	8	-	7	10	5	-	-	20	9	12	8
	6176		25	8	20	7	10	6	8	4	-	-	17	8	10	7
	6233		20	7	15	6	8	5	6	3	-	-	17	8	8	7
	6233TN		20	7	15	6	8	5	6	3	-	-	17	8	8	7
	6220/1		18	7	10	6	6	5	4	3	-	-	15	7	7	5
	6220/2		15	6	8	5	5	4	3	2	-	-	13	6	6	4
	6153		30	9	25	8	15	7	10	5	-	-	30	8	15	7

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6217/1 Ø 5 | Werkstück Materialgruppe P1 | V_c = 20 m/min | f_n= **0,062 mm/U** (Koeffizient f=7)
Cutting data example: 6217/1 Ø 5 | Working material group P1 | V_c = 20 m/min | f_n= **0,062** mm/rev (coefficient f=7)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
28	6	21	5	-	-	-	-	-	-	-	-	-	-		**6217/1**	274
27	6	20	5	-	-	-	-	-	-	-	-	-	-		**6217/2**	278
26	9	19	5	-	-	-	-	-	-	-	-	-	-		**6217/3**	279
30	10	25	7	-	-	-	-	-	-	-	-	-	-		**6168**	283
35	10	28	8	-	-	-	-	-	-	-	-	-	-		**6168TN**	283
30	10	25	7	-	-	-	-	-	-	-	-	-	-		**6176**	296
35	9	25	7	-	-	-	-	-	-	-	-	-	-		**6233**	298
35	9	25	7	-	-	-	-	-	-	-	-	-	-		**6233TN**	298
35	8	17	6	-	-	-	-	-	-	-	-	-	-		**6220/1**	302
30	7	14	5	-	-	-	-	-	-	-	-	-	-		**6220/2**	304
40	10	33	8	-	-	-	-	-	-	-	-	-	-		**6153**	250

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

			Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Familienprodukt Family product	Werkzeugcode Tool Code															
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
N	6153TN		32	9	28	8	17	7	13	5	-	-	30	9	15	8
N	6154		32	9	28	8	17	7	13	5	-	-	30	9	15	8
N	6166		28	8	23	7	13	6	10	4	-	-	30	7	15	6
N	6149		65	8	50	6	30	5	25	4	15	4	70	8	55	7
N	6214		65	8	50	6	30	5	25	4	15	4	70	8	55	7
NP	6152TP		35	16	25	16	13	9	10	8	8	7	36	20	27	20
NK	6109		25	10	20	9	10	8	10	5	-	-	25	10	15	9
H	6186		-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	6187		-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	6190		-	-	-	-	-	-	-	-	-	-	-	-	-	-
H	6192		-	-	-	-	-	-	-	-	-	-	-	-	-	-

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6153TN Ø 5 | Werkstück Materialgruppe P1 | V_c = 32 m/min | f_n = **0,086 mm/U** (Koeffizient f=9)
Cutting data example: 6153TN Ø 5 | Working material group P1 | V_c = 32 m/min | f_n = **0,086** mm/rev (coefficient f=9)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
45	10	38	8	-	-	-	-	-	-	-	-	-	-		**6153TN**	250
45	10	38	8	-	-	-	-	-	-	-	-	-	-		**6154**	250
38	9	34	7	-	-	-	-	-	-	-	-	-	-		**6166**	269
120	**9**	80	6	15	4	15	4	-	-	-	-	-	-		**6149**	225
120	**9**	80	6	15	4	15	4	-	-	-	-	-	-		**6214**	260
70	**20**	**35**	**9**	-	-	-	-	-	-	-	-	-	-		**6152TP**	230
37	**12**	**32**	**9**	-	-	-	-	-	-	-	-	-	-		**6109**	220
50	**10**	**50**	**10**	-	-	-	-	-	-	-	-	-	-		**6186**	220
50	**10**	**40**	**10**	-	-	-	-	-	-	-	-	-	-		**6187**	230
50	**10**	**40**	**10**	-	-	-	-	-	-	-	-	-	-		**6190**	242
45	**10**	**35**	**10**	-	-	-	-	-	-	-	-	-	-		**6192**	269

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
W	6197		30	9	-	-	-	-	-	-	-	-	-	-	-	-
W	6199		30	10	-	-	-	-	-	-	-	-	-	-	-	-
W	6200		25	9	-	-	-	-	-	-	-	-	-	-	-	-
W	6201		30	9	-	-	-	-	-	-	-	-	-	-	-	-
STL	6210		**25**	**8**	**20**	**7**	**10**	**6**	-	-	-	-	**30**	**7**	**15**	**6**
STL	6210TN		**28**	**8**	**22**	**7**	**12**	**6**	-	-	-	-	**32**	**9**	**18**	**7**
STL	6210TC		**28**	**8**	**22**	**7**	**12**	**6**	-	-	-	-	**32**	**9**	**18**	**7**
STL	6209		**30**	**8**	**25**	**7**	**15**	**6**	8	5	-	-	**30**	**7**	**15**	**6**
STL	6173		**25**	**8**	**20**	**7**	**12**	**6**	-	-	-	-	**25**	**7**	**10**	**6**
STL	6173TN		**30**	**8**	**25**	**7**	**15**	**6**	-	-	-	-	**27**	**7**	**12**	**6**
STL	6184		**25**	**8**	**20**	**7**	**12**	**6**	-	-	-	-	**25**	**7**	**10**	**6**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6197 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,086 mm/U** (Koeffizient f=9)
Cutting data example: 6197 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n = **0,086** mm/rev (coefficient f=9)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	Nicht eisenhaltige Materialien Non ferrous materials	Titan und Titanlegierungen Titanium and Titanium alloys	HRSA Hitzebeständige Legierungen Heat resistant alloys	Gehärtete Stähle Hardened steels 38/48 HRC	Gehärtete Stähle Hardened steels 48/58 HRC	Gehärtete Stähle Hardened steels 58/68 HRC		Werkzeugcode Tool Code	Pagina Katalog Catalogue page
N1	N2	S1	S2	H1	H2	H3	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
50	**10**	**40**	**10**	-	-	-	-	-	-	-	-	-	-		**6197**	230
50	**10**	**40**	**10**	-	-	-	-	-	-	-	-	-	-		**6199**	242
45	**9**	**35**	**9**	-	-	-	-	-	-	-	-	-	-		**6200**	269
40	**10**	**35**	**8**	-	-	-	-	-	-	-	-	-	-		**6201**	283
35	10	30	8	-	-	-	-	-	-	-	-	-	-		**6210**	242
40	10	35	8	-	-	-	-	-	-	-	-	-	-		**6210TN**	242
40	10	35	8	-	-	-	-	-	-	-	-	-	-		**6210TC**	242
35	10	30	8	-	-	-	-	-	-	-	-	-	-		**6209**	242
30	10	25	7	-	-	-	-	-	-	-	-	-	-		**6173**	264
35	10	30	7	-	-	-	-	-	-	-	-	-	-		**6173TN**	264
30	10	25	7	-	-	-	-	-	-	-	-	-	-		**6184**	264

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
	6216/1		22	7	16	6	10	5	-	-	-	-	20	7	10	5
	6216TN/1		22	7	16	6	10	5	-	-	-	-	20	7	10	5
	6216/2		21	7	16	6	12	9	-	-	-	-	20	6	10	4
	6216TN/2		21	7	16	6	12	9	-	-	-	-	20	6	10	4
	6216/3		20	8	16	7	9	6	-	-	-	-	20	5	10	3
STL	6130		14	6	9	5	4	4	5	-	-	-	18	5	9	3
	6212		28	9	23	8	18	7	-	-	-	-	25	8	15	6
	6222		25	8	-	-	-	-	-	-	-	-	-	-	-	-
	6221/1		20	7	12	6	8	5	-	-	-	-	20	7	12	6
	6221/2		17	6	9	5	6	4	-	-	-	-	13	7	8	6
	6150		20	7	15	6	11	5	-	-	-	-	13	7	8	6

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6216/1 Ø 5 | Werkstück Materialgruppe P1 | V_c = 22 m/min | f_n= **0,062 mm/U** (Koeffizient f=7)
Cutting data example: 6216/1 Ø 5 | Working material group P1 | V_c = 22 m/min | f_n= **0,062** mm/rev (coefficient f=7)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
30	6	25	5	-	-	-	-	-	-	-	-	-	-	-		**6216/1**	274
30	6	25	5	-	-	-	-	-	-	-	-	-	-	-		**6216TN/1**	274
30	6	22	5	-	-	-	-	-	-	-	-	-	-	-		**6216/2**	278
30	6	22	5	-	-	-	-	-	-	-	-	-	-	-		**6216TN/2**	278
30	10	25	7	-	-	-	-	-	-	-	-	-	-	-		**6216/3**	279
20	6	20	5	-	-	-	-	-	-	-	-	-	-	-		**6130**	280
35	10	25	8	-	-	-	-	-	-	-	-	-	-	-		**6212**	283
30	10	25	7	-	-	-	-	-	-	-	-	-	-	-		**6222**	298
37	8	20	6	-	-	-	-	-	-	-	-	-	-	-		**6221/1**	302
33	7	16	5	-	-	-	-	-	-	-	-	-	-	-		**6221/2**	304
28	6	21	5	-	-	-	-	-	-	-	-	-	-	-		**6150**	306

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
STL	6131		30	9	25	8	15	7	-	-	-	-	30	8	20	7
	6132		30	9	25	8	15	7	-	-	-	-	30	8	20	7
	6132TN		35	10	30	9	20	8	-	-	-	-	32	8	22	7
	6218/1		23	8	18	7	14	6	-	-	-	-	25	7	15	6
	6218/2		21	8	21	7	12	6	-	-	-	-	23	-	20	6
	6219/1		22	8	15	7	10	6	-	-	-	-	25	7	15	6
	6219/2		20	7	13	6	8	4	-	-	-	-	15	7	10	6
NS	6246		30	10	25	9	15	7	12	6	-	-	25	8	15	7
	6246TN		30	10	25	9	15	7	12	6	-	-	25	8	15	7
	6247		33	9	22	8	12	6	10	5	-	-	25	7	15	6
	6240		30	9	25	8	15	6	10	5	-	-	25	8	15	6

V_c: **Schnittgeschwindigkeit (m/min)** | cutting speed (m/min) **f**: **Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6131 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,086 mm/U** (Koeffizient f=9)
Cutting data example: 6131 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n =0,086 mm/rev (coefficient f=9)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
40	10	35	8	-	-	-	-	-	-	-	-	-	-		**6131**	225
40	10	35	8	-	-	-	-	-	-	-	-	-	-		**6132**	225
33	12	27	9	-	-	-	-	-	-	-	-	-	-		**6132TN**	225
30	10	25	7	-	-	-	-	-	-	-	-	-	-		**6218/1**	274
35	10	30	7	-	-	-	-	-	-	-	-	-	-		**6218/2**	278
40	9	22	7	-	-	-	-	-	-	-	-	-	-		**6219/1**	302
37	8	20	6	-	-	-	-	-	-	-	-	-	-		**6219/2**	304
40	**12**	**35**	**9**	7	4	-	-	-	-	-	-	-	-		**6246**	220
40	**12**	**35**	**9**	7	4	-	-	-	-	-	-	-	-		**6246TN**	220
35	**10**	**30**	**8**	7	3	5	2	-	-	-	-	-	-		**6247**	250
40	**10**	**30**	**8**	-	-	-	-	-	-	-	-	-	-		**6240**	281

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
NS	**6204**		**30**	**9**	**25**	**8**	**15**	**6**	10	5	-	-	**25**	**7**	**15**	**6**
VA	**6135**		30	9	25	8	-	-	**15**	**6**	**10**	**4**	-	-	-	-
	6135TX		35	9	27	8	-	-	**17**	**5**	**12**	**4**	-	-	-	-
	6234		33	9	22	8	-	-	**13**	**5**	**10**	**4**	25	7	-	-
	6234TX		35	9	25	8	-	-	**15**	**5**	**12**	**4**	25	7	-	-
	6112		29	8	18	7	-	-	**9**	**4**	**6**	**3**	20	7	-	-
	6112TN		29	8	18	7	-	-	**9**	**4**	**6**	**3**	20	7	-	-
	6114		33	9	22	8	-	-	**13**	**5**	**10**	**4**	25	8	-	-
	6116		33	8	22	7	-	-	**13**	**5**	**10**	**4**	25	8	-	-
RECORD VA	**6140**		33	9	22	8	-	-	**15**	**5**	**12**	**4**	25	7	-	-
	6140TX		35	9	25	8	-	-	**16**	**5**	**14**	**4**	25	7	-	-

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6204 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,086 mm/U** (Koeffizient f=9)
Cutting data example: 6204 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n =0,086 mm/rev (coefficient f=9)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	Nicht eisenhaltige Materialien Non ferrous materials	Titan und Titanlegierungen Titanium and Titanium alloys	HRSA Hitzebeständige Legierungen Heat resistant alloys	Gehärtete Stähle Hardened steels 38/48 HRC	Gehärtete Stähle Hardened steels 48/58 HRC	Gehärtete Stähle Hardened steels 58/68 HRC		Werkzeugcode Tool Code	Pagina Katalog Catalogue page
N1	N2	S1	S2	H1	H2	H3	Materialgruppen | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
-	-	30	8	-	-	-	-	-	-	-	-	-	-		**6204**	293
45	**10**	**35**	**8**	**8**	**4**	**5**	**3**	-	-	-	-	-	-		**6135**	225
47	**10**	**37**	**8**	**8**	**4**	**5**	**3**	-	-	-	-	-	-		**6135TX**	225
40	**10**	**33**	**8**	**8**	**4**	**5**	**3**	-	-	-	-	-	-		**6234**	250
42	**10**	**35**	**8**	**8**	**4**	**5**	**3**	-	-	-	-	-	-		**6234TX**	250
35	**10**	**29**	**7**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6112**	269
35	**10**	**29**	**7**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6112TN**	269
40	**10**	**33**	**8**	**8**	**4**	**5**	**3**	-	-	-	-	-	-		**6114**	293
40	**10**	**33**	**7**	**8**	**4**	**5**	**3**	-	-	-	-	-	-		**6116**	296
42	**10**	**35**	**8**	**8**	**4**	**6**	**3**	-	-	-	-	-	-		**6140**	256
45	**10**	**37**	**8**	**9**	**4**	**7**	**3**	-	-	-	-	-	-		**6140TX**	256

Ø 10	Ø 12	Ø 15	Ø 20	Ø 25	Ø 30	Ø 40	Ø 50		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
	6111		33	10	25	9	20	8	-	-	-	-	35	10	20	8
	6111TN		35	10	30	9	22	8	-	-	-	-	37	10	22	8
	6111TC		35	10	30	9	22	8	-	-	-	-	37	10	22	8
HD	6113		30	9	25	8	15	7	-	-	-	-	30	9	15	7
	6113TN		30	9	25	8	15	7	-	-	-	-	30	9	15	7
	6115		30	9	25	8	20	7	10	-	8	-	35	10	20	8
	6119		28	9	23	8	19	7	-	-	-	-	-	-	-	-
RECORD GG	6110TF		-	-	-	-	-	-	-	-	-	-	45	10	35	10

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6111 Ø 5 | Werkstück Materialgruppe P1 | V_c = 33 m/min | f_n = **0,093 mm/U** (Koeffizient f=10)
Cutting data example: 6111 Ø 5 | Working material group P1 | V_c = 33 m/min | f_n =0,093 mm/rev (coefficient f=10)

SCHNITTDATEN | CUTTING DATA

Spiralbohrer | Twist drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		
V_c f	V_c f	V_c f	V_c f	V_c f	V_c f	V_c f			
30 12	25 9	- -	- -	- -	- -	- -		**6111**	256
33 12	27 9	- -	- -	- -	- -	- -		**6111TN**	256
33 12	27 9	- -	- -	- -	- -	- -		**6111TC**	256
30 10	25 8	- -	- -	- -	- -	- -		**6113**	269
30 10	25 8	- -	- -	- -	- -	- -		**6113TN**	269
40 10	30 8	- -	- -	- -	- -	- -		**6115**	293
35 11	28 8	- -	- -	- -	- -	- -		**6119**	298
- -	- -	- -	- -	- -	- -	- -		**6110TF**	256

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
HM	6120		-	-	-	-	-	-	-	-	-	-	35	9	27	8
	6211		-	-	-	-	-	-	-	-	-	-	35	9	27	8
	6231		-	-	-	-	-	-	-	-	-	-	35	9	-	-
Kegelstiftbohrer Taper pin drills	6501		30	8	27	7	15	6	10	4	8	3	30	8	25	7
	6502		30	8	27	7	15	6	10	4	8	3	30	8	25	7

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6501 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,076 mm/U** (Koeffizient f=8)
Cutting data example: 6501 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n = **0,076** mm/rev (coefficient f=8)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
-	-	-	-	-	-	-	-	10	3	8	2	-	-		**6120**	260
-	-	-	-	-	-	-	-	10	3	8	2	-	-		**6211**	259
-	-	-	-	-	-	-	-	10	3	8	2	-	-		**6231**	282
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6501**	307
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6502**	308

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

			Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Familienprodukt Family product	Werkzeugcode Tool Code															
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
MICRO DRILL	**6511**		**20**	**6**	**15**	**4**	**12**	**3**	15	3	10	2	**25**	**6**	**18**	**4**
	6513		**20**	**6**	**15**	**4**	**12**	**3**	15	3	10	2	**25**	**6**	**18**	**4**
	6516		**50**	**7**	**40**	**5**	**25**	**4**	25	3	25	3	**70**	**7**	**50**	**5**
	6230		**50**	**7**	**40**	**5**	**25**	**4**	25	3	25	3	**70**	**7**	**50**	**5**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Vorschub-Nummer Feed Number	Ø 0,1	Ø 0,25	Ø 0,5	Ø 0,8	Ø 1	Ø 1,25
1	0,002	0,003	0,004	0,005	0,006	0,010
2	0,003	0,004	0,007	0,009	0,011	0,015
3	0,004	0,008	0,010	0,012	0,015	0,020
4	0,005	0,010	0,012	0,015	0,020	0,025
5	0,006	0,010	0,015	0,018	0,025	0,030
6	0,070	0,012	0,018	0,020	0,030	0,040
7	0,008	0,015	0,020	0,030	0,040	0,050
8	0,010	0,020	0,030	0,040	0,055	0,075
9	0,010	0,020	0,040	0,050	0,070	0,085

Beispiel Schnittdaten: 6511 Ø 1 | Werkstück Materialgruppe P1 | V_c = 20 m/min | f_n = **0,030 mm/U** (Koeffizient f=6)
Cutting data example: 6511 Ø 1 | Working material group P1 | V_c = 20 m/min | f_n = **0,030** mm/rev (coefficient f=6)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
40	6	25	4	-	-	-	-	-	-	-	-	-	-		**6511**	309
40	6	25	4	-	-	-	-	-	-	-	-	-	-		**6513**	309
120	7	60	5	20	2	15	2	-	-	-	-	-	-		**6516**	311
120	7	60	5	20	2	15	2	-	-	-	-	-	-		**6230**	313

Ø 1,5	**Ø 2**	**Ø 2,25**	**Ø 2,5**	**Ø 3**		
0,015	0,020	0,023	0,025	0,030	**1**	**Vorschub-Nummer** Feed Number
0,020	0,025	0,028	0,030	0,035	**2**	
0,025	0,030	0,033	0,036	0,040	**3**	
0,030	0,033	0,036	0,040	0,050	**4**	
0,033	0,036	0,040	0,050	0,080	**5**	
0,045	0,050	0,070	0,080	0,100	**6**	
0,060	0,080	0,085	0,090	0,120	**7**	
0,090	0,100	0,110	0,125	0,140	**8**	
0,100	0,110	0,120	0,140	0,160	**9**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
Zentrierbohrer Center drills	6142		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6290		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6290TN		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6162		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6162TN		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6294		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6164		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6291		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6299		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6144		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6296		45	7	35	6	30	5	28	4	20	3	40	6	35	5

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6142 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,042 mm/U** (Koeffizient f=5)
Cutting data example: 6142 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n = **0,042** mm/rev (coefficient f=5)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6142**	320
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6290**	314
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6290TN**	314
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6162**	316
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6162TN**	316
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6294**	314
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6164**	319
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6291**	315
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6299**	315
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6144**	318
100	**7**	**90**	**6**	**12**	**3**	**10**	**2**	10	2	-	-	-	-		**6296**	315

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
Zentrierbohrer Center drills	**6292**		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6292TN		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6223		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6223TN		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6295		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6160		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6293		35	6	25	5	18	4	15	4	12	3	27	5	23	4
	6297		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6298B		30	5	20	4	12	3	10	3	8	2	25	4	20	3
	6289		30	5	20	4	12	3	10	3	8	2	25	4	20	3

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6292 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,042 mm/U** (Koeffizient f=5)
Cutting data example: 6292 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n = **0,042** mm/rev (coefficient f=5)

SCHNITTDATEN | CUTTING DATA

Zentrierbohrer | Center drills

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6292**	314
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6292TN**	314
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6223**	316
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6223TN**	316
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6295**	314
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6160**	319
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6293**	315
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6297**	317
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6298B**	317
50	**5**	**40**	**5**	**4**	**3**	**2**	**2**	-	-	-	-	-	-		**6289**	317

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic	Rostfreier Stahl Austenitisch Stainless steel Austenitic	Graues Gusseisen Grey cast iron	Sphäroguss Nodular cast iron
Materialgruppen | Materials Group			P1	P2	P3	M1	M2	K1	K2

			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
Zentrierbohrer für CNC-Maschinen Spot drills for CNC machines	**6148**		32	6	25	5	18	4	15	4	12	3	30	5	25	4
	6148TN		35	6	27	5	20	4	17	4	14	3	32	5	27	4
	6147		32	6	25	5	18	4	15	4	12	3	30	5	25	4
	6147TN		35	6	27	5	20	4	17	4	14	3	32	5	27	4
	6100		32	6	25	5	18	4	15	4	12	3	30	5	25	4
	6102		50	7	30	6	25	5	23	5	20	4	40	6	30	5
	6102TN		55	7	35	6	28	5	25	5	22	4	43	6	33	5
	6103		50	7	30	6	25	5	23	5	20	4	40	6	30	5
	6103TN		55	7	35	6	28	5	25	5	22	4	43	6	33	5

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

		Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
Kennzahl Coefficient Number	**1**	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
	2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
	3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
	4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
	5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
	6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
	7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
	8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
	9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
	10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
	12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
	16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
	20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6148TN Ø 5 | Werkstück Materialgruppe P1 | V_c = 35 m/min | f_n = **0,052 mm/U** (Koeffizient f=6)
Cutting data example: 6148TN Ø 5 | Working material group P1 | V_c = 35 m/min | f_n = **0,052** mm/rev (coefficient f=6)

SCHNITTDATEN | CUTTING DATA

Zentrierbohrer für CNC-Maschinen | Spot drills for CNC machines

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6148**	321
58	**6**	**47**	**5**	**6**	**3**	**4**	**2**	-	-	-	-	-	-		**6148TN**	321
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6147**	321
58	**6**	**47**	**5**	**6**	**3**	**4**	**2**	-	-	-	-	-	-		**6147TN**	321
55	**6**	**45**	**5**	**5**	**3**	**3**	**2**	-	-	-	-	-	-		**6100**	321
70	**7**	**60**	**6**	**8**	**4**	**6**	**3**	-	-	-	-	-	-		**6102**	322
75	**7**	**65**	**6**	**9**	**4**	**7**	**3**	-	-	-	-	-	-		**6102TN**	322
70	**7**	**60**	**6**	**8**	**4**	**6**	**3**	-	-	-	-	-	-		**6103**	322
75	**7**	**65**	**6**	**9**	**4**	**7**	**3**	-	-	-	-	-	-		**6103TN**	322

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Familienprodukt Family product	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
Stufen-SPIRALBOHRER Step drills	6249		30	6	22	5	15	4	12	4	9	3	25	5	20	4
	6250		30	6	22	5	15	4	12	4	9	3	25	5	20	4
Stufen-SPIRALBOHRER Step drills	6281		30	8	27	7	15	6	10	4	8	3	30	8	25	7
	6282		30	8	27	7	15	6	10	4	8	3	30	8	25	7
	6283		30	8	27	7	15	6	10	4	8	3	30	8	25	7
	6284		30	8	27	7	15	6	10	4	8	3	30	8	25	7
	6285		30	8	27	7	15	6	10	4	8	3	30	8	25	7
	6286		30	8	27	7	15	6	10	4	8	3	30	8	25	7

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6249 Ø 5 | Werkstück Materialgruppe P1 | V_c = 30 m/min | f_n = **0,052 mm/U** (Koeffizient f=6)
Cutting data example: 6249 Ø 5 | Working material group P1 | V_c = 30 m/min | f_n = **0,052** mm/rev (coefficient f=6)

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Pagina Katalog** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
50	**6**	**40**	**5**	-	-	-	-	-	-	-	-	-	-		**6249**	323
50	**6**	**40**	**5**	-	-	-	-	-	-	-	-	-	-		**6250**	323

40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6281**	324
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6282**	325
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6283**	326
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6284**	327
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6285**	328
40	**9**	**33**	**8**	**5**	**3**	**2**	**2**	-	-	-	-	-	-		**6286**	329

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

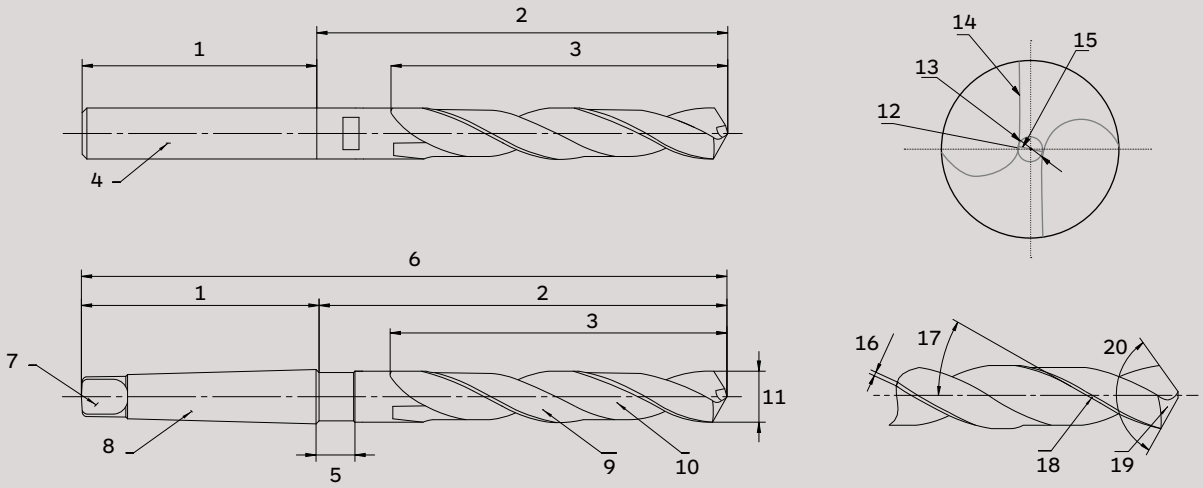
▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

04

TECHNISCHE ANLEITUNG
TECHNICAL GUIDE

A.04.01

▸ **BOHRER-BESCHREIBUNG** | DRILL NOMENCLATURE

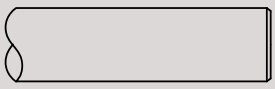


Zeichenerklärung | Legend:

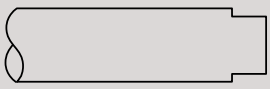
1	**Schaftlänge**	Shank length
2	**Körper Länge**	Body length
3	**Nutenlänge**	Flute length
4	**Zylindrischer Schaft**	Cylindrical shank
5	**Halseinstich**	Neck
6	**Gesamtlänge**	Total length
7	**Austreiblappen**	Tang
8	**Konischer Schaft**	Conical shank
9	**Fase**	Land
10	**Spannute**	Flute

11	**Bohrdurchmesser**	Drill diameter
12	**Kern**	Core
13	**Kerndicke**	Core thickness
14	**Hauptschneide**	Main cutting edge
15	**Schneidecke**	Chisel edge
16	**Stegbreite**	Margin width
17	**Spiralwinkel**	Helix angle
18	**Steg**	Margin
19	**Freiwinkel**	Flank face
20	**Spitzenwinkel**	Rake angle

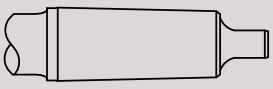
▸ **SCHAFT TYP** | SHANKS TYPE



Zylindrisch · Cylindrical



Mit Mitnehmerlappen
With tang



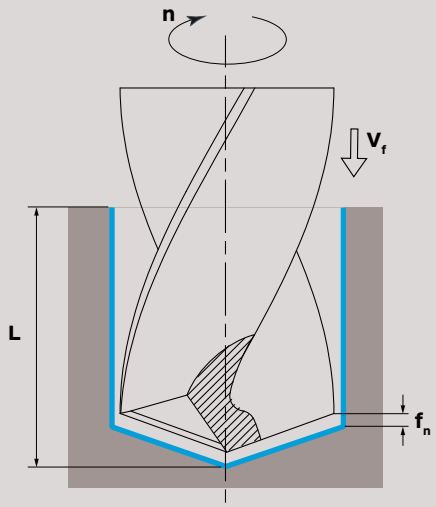
Morsekegel · Morse cone

Zylindrisch (HA) · Cylindrical (HA)

Whistle Notch (HE)

Weldon (HB)

▸ **BERECHNUNGSFORMELN ZUM BOHREN** | CALCULATION FORMULAS FOR DRILLING



Formel | Formulas:

Schnittgeschwindigkeit (m/min)
Cutting Speed (m/min)

$$V_c = \frac{D \cdot \pi \cdot n}{1000}$$

Spindeldrehzahl (U/min)
Spindle Speed (rpm)

$$n = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$$

Vorschubgeschwindigkeit (mm/min)
Feed rate (mm/min)

$$V_f = f_n \cdot n$$

Vorschub pro Umdrehung (mm/U)
Feed per revolution (mm/rev)

$$f_n = \frac{V_f}{n}$$

Spanentfernungsrate (cm³/min)
Chip Removal rate (cm³/min)

$$Q = \frac{D \cdot f_n \cdot V_c}{4}$$

Bearbeitungszeit (s)
Machining time (s)

$$T_s = \frac{L \cdot 60(s)}{V_f}$$

Nettoleistung der Spindel (Kw)
Spindle net power (Kw)

$$P_c = \frac{f_n \cdot V_c \cdot D \cdot K_c}{240 \cdot 10^3}$$

Drehmoment (Nm)
Torque (Nm)

$$M_c = \frac{P_c \cdot 30 \cdot 10^3}{\pi \cdot n}$$

Vorschubkraft (n)
Feed force (n)

$$F_f = 0{,}5 \cdot K_c \cdot \frac{D}{2} \cdot f_n \cdot \sin K_r$$

Zeichenerklärung | Legend:

D	**Bohrerdurchmesser**	Cutting diameter
L	**Bohrtiefe**	Drilling depth
K_c	**Spezifische Schnittkraft (Siehe Seite 364)**	Specific cutting force (See page 364)

K_r	**Steigungswinkel** Normalerweise betrachten wir 90° als Wert, der 1 entspricht.	**Lead angle.** Usually we consider 90° it's value, equivalent to 1.

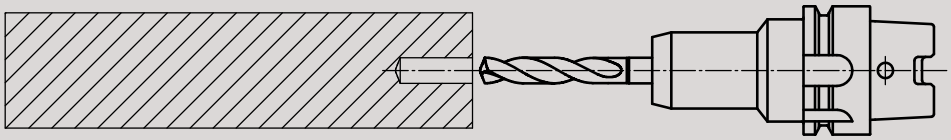
K_c-WERTE ABHÄNGIG VOM ZU BEARBEITENDEN BAUTEIL
K_C VALUES DEPENDING ON THE COMPONENT TO BE MACHINED

Materialien | Materials	**Materialangaben** | Material details	**Härte** | Hardness	K_c
Kohlenstoffstahl Carbon steel	C=0,15	125 HB	**1900**
	C=0,35	150 HB	**1900**
	C=0,70	200 HB	**1900**
Niedrig legierter Stahl Low-alloyed steel	**Geglüht** | Annealed	180 HB	**2100**
	Zurückgewonnen | Reclaimed	300 HB	**2700**
Hoch legierter Stahl High-Alloyed Steel	**Geglüht** | Annealed	200 HB	**2600**
	Zurückgewonnen | Reclaimed	325 HB	**3900**
Gussteile aus Stahl Steel castings	**Unlegiert** | Unalloyed	180 HB	**2000**
	Niedrig legiert | Low-alloyed	200 HB	**2500**
	Hoch legiert | High-alloyed	225 HB	**2700**
	Mangan 12 % | Manganese 12%	250HB	**3600**
Rostfreier Stahl Stainless Steel	**Ferritisch/Martensitisch** | Ferritic/Martensitic	200 HB	**2300**
	Austenitisch | Austenitic	180 HB	**2450**
Gehärteter Stahl | Hardened Steel	-	50-65 HRC	**4500**
Temperguss Malleable Cast Iron	**Kurzspanent** | Short chip	130	**1100**
	Langspanent | Long chip	230	**1100**
Grauguss Gray Cast Iron	**Niedriger Widerstand** | Low resistance	180	**1100**
	Hoher Widerstand | High resistance	260	**1500**
Sphäroguss GS Nodular Cast Iron GS	**Ferritisch** | Ferritic	160	**1100**
	Perlitisch | Perlitic	250	**1800**
Lamellen Gusseisen Chilled cast iron	-	400	**3000**
Elektrolytisches Kupfer Electrolytic copper	-	100	**1750**
Bronze/Messing-Legierungen Bronze/brass alloys	**Bleigebunden** | Lead-bound	110	**700**
	Messing/Rotguss | Brass/Red brass	90	**750**
	Bronze/Phosphor | Bronze/ Phosphor	100	**1750**
Aluminiumlegierungen | Aluminium alloys	**Nicht wärmebehandelt** | Not heat-treatable	75	**750**

DE
- **Die angegebenen K_c (N/mm²)-Werte dienen als Anhaltspunkt.**
- **Der K_c (N/mm²) hängt nicht nur vom Material, sondern auch vom Spanwinkel und dem Vorschub pro Umdrehung ab.**

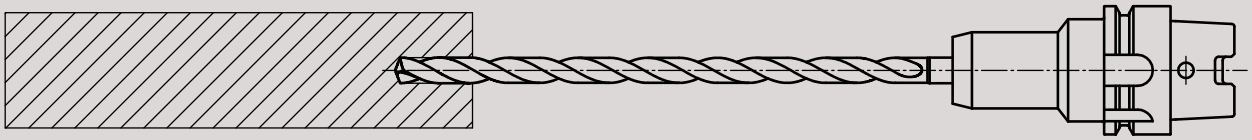
ENG
- The specified K_c (N/mm²) values are intended as a reference.
- The K_c (N/mm²) depends not only on the material, but also on the rake angle and the feed per revolution.

▸ TIEFLOCH STRATEGIEN | DEEP HOLE STRATEGIES



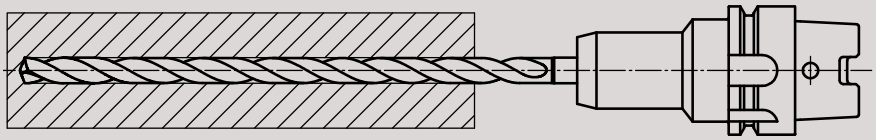
1 PILOTBOHRER | Pilot drill

- **Wählen Sie einen für das zu bearbeitende Material geeigneten Pilotbohrer mit Spanwinkel und höherer Toleranz als der Tieflochbohrer.**
  Select pilot drill suitable for the material to be machined with a rake angle and higher tolerance than the deep hole drill.
- **Mindesttiefe der Pilotbohrung 1,5 x D.**
  Minimum depth of pilot hole 1.5 x D.



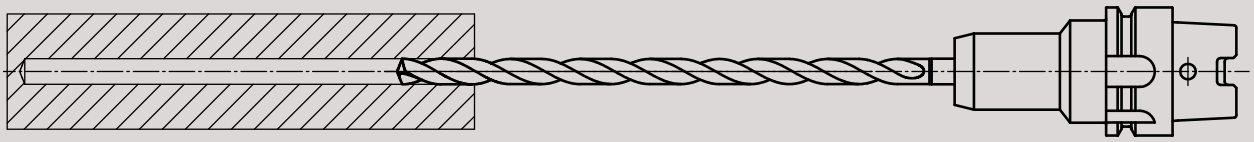
2 BOHREINTRITT IN PILOTBOHRUNG | DRILL ENTRY INTO PILOT HOLE

- **Stellen Sie in der Einlaufphase des Tieflochbohrers eine niedrige Spindeldrehzahl (n=300 U/MIN) und eine reduzierte Bohrgeschwindigkeit (V_f= 500 mm/min) ein.**
  In the input phase of the deep hole drill, set a low spindle speed (n=300 REV/MIN) and a penetratrion rate reduced (V_f= 500 mm/min).
- **Wenn Sie sich dem Grund der Pilotbohrung nähern, stoppen Sie die Eindringgeschwindigkeit und erhöhen Sie die in der Schnittdatentabelle empfohlene Spindeldrehzahl und starten Sie die innere Kühlmittelzufuhr.**
  When approaching the bottom of the pilot hole, stop the penetration rate and increase the spindle speed recommended in the cutting data table and start the internal coolant.



3 TIEFLOCHBOHRER | Deep hole drill

- **Erhöhen Sie die Eindringgeschwindigkeit, bis die empfohlene Schnittdatentabelle erreicht ist.**
  Increase the penetration rate until the recommended cutting data table is reached.
- **Stufenloses Bohren bis zur gewünschten Tiefe.**
  Drilling to the desired depth without steps.
- **Reduzieren Sie bei Durchgangslöchern die Eindringgeschwindigkeit beim Austritt um 50 %, um die Gefahr von Bruch und Absplittern zu vermeiden.**
  In the case of through holes, reduce the penetration rate by 50% during exit to avoid the risk of breakage and chipping.



4 BOHRER ZURÜCK ZIEHEN | DRILL SPRING BACK

- **Ziehen Sie den Bohrer bis zur Tiefe des Pilotlochs heraus, indem Sie die Drehzahl auf etwa 300 U/min reduzieren.**
  Extract the drill to the depth of the pilot hole by reducing the speed to about 300 rev/min.
- **Kühlflüssigkeit abschalten und mit einer Eindringgeschwindigkeit von (V_f= 1000 U/min) aus der Bohrung austreten.**
  Switch off the coolant and exit the hole with a penetration rate of (V_f= 1000 rev/min).

▸ **Fehlerbehebung** | Troubleshooting

Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
BOHRERBRUCH Drill breakage	**Verwendung eines abgenutzten Bohrers.** Use of a worn out drill.	**Überprüfen Sie den Verschleiß des Bohrers und ersetzen Sie ihn durch einen Neuen.** Check the drill wear and replace it with the new one.
	Eindringgeschwindigkeit ist zu hoch. Penetration rate is too high.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Schlechte Spanabfuhr. Poor chip evacuation.	**Wählen Sie den richtigen Bohrer aus.** Select the correct drill.
	Schneidengeometrie ist nicht korrekt für die Art des Werkstücks. Cutting geometry is not correct for the kind of workpiece.	
	Werkstück ist während des Bohrens nicht stabil. Workpiece is not stable during the drilling.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
VERSCHLEISS AN DER HAUPTSCHNEIDE Wear on main cutting edge	**Schnittgeschwindigkeit ist zu niedrig.** Cutting speed is too low.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Eindringgeschwindigkeit ist zu hoch. Penetration rate is too high.	
	Der Rundlauf ist während der Bearbeitung zu hoch. Run-out is too high during the processing.	**Überprüfen und reduzieren Sie den Rundlauf des Bohrers.** Check and reduce the run-out of the drill.
	Zu wenig Kühlmittel. Insufficient coolant.	**Kühlmitteldruck erhöhen.** Increase the coolant pressure.
VERSCHLEISS AN DER HAUPTSCHNEIDE Wear on chisel cutting edge	**Schnittgeschwindigkeit ist zu niedrig.** Cutting speed is too low.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Eindringgeschwindigkeit ist zu hoch Penetration rate is too high.	
	Siehe Kapitel „Schnittdaten“ im Katalog. Run-out is too high during the processing.	**Überprüfen und reduzieren Sie den Rundlauf des Bohrers.** Check and reduce the run-out of the drill.
ABSPLITTERNDE Chipping	**Verwendung eines abgenutzten Bohrers.** Use of a worn out drill.	**Überprüfen Sie den Verschleiß des Bohrers und ersetzen Sie ihn durch einen Neuen.** Check the wear drill and replace it with a new one
	Der Rundlauf ist während der Bearbeitung zu hoch. Run-out is too high during the processing.	**Überprüfen und reduzieren Sie den Rundlauf des Bohrers.** Check and reduce the run-out of the drill.
	Zu wenig Kühlmittel. Insufficient coolant.	**Kühlmitteldruck erhöhen.** Increase the coolant pressure.
	Werkstück ist während des Bohrens nicht stabil. Workpiece is not stable during the drilling.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Eindringgeschwindigkeit ist zu hoch. Penetration rate is too high.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
AUFGEBAUTE SCHNEIDKANTE Built-up cutting edge	**Schnittgeschwindigkeit ist zu niedrig.** Cutting speed is too low.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Schnitttemperatur ist zu niedrig. Cutting temperature is too low.	
	Ohne Beschichtung bohren. Drill without coating.	**Wählen Sie einen Bohrer mit der richtigen Beschichtung für die Art des Werkstücks.** Select a drill with the correct coating for the kind of workpiece.

▸ **Fehlerbehebung** | Troubleshooting

Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
ÜBERGROSSES LOCH Oversized hole	**Der Rundlauf ist während der Bearbeitung zu hoch.** Run-out is too high during the processing.	**Überprüfen und reduzieren Sie den Rundlauf des Bohrers.** Check and reduce the run-out of the drill.
	Unzureichende Kühlmittelmenge. Insufficient coolant quantity.	**Kühlmitteldruck erhöhen.** Increase the coolant pressure.
	Das Spannsystem ist während des Bohrens nicht stabil. The clamping system is not stable during the drilling.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Schlechte Spanabfuhr. Poor chip evacuation.	**Wählen Sie den richtigen Bohrer aus.** Select the correct drill.
SCHLECHTER LANGER SPAN Bad/long chip	**Die Eindringgeschwindigkeit ist zu niedrig.** Penetration rate is too low.	**Siehe Kapitel „Schnittdaten" im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Falscher Bohrer für die Art des Werkstücks. Wrong drill for the kind of workpiece.	**Wählen Sie den richtigen Bohrer aus.** Select the correct drill.
AUSTRITT GRAT Exit burrs	**Eindringgeschwindigkeit ist zu hoch.** Penetration rate is too high.	**Siehe Kapitel „Schnittdaten" im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Verwendung eines abgenutzten Bohrers. Use of the worn out drill.	**Überprüfen Sie den Verschleiß des Bohrers und ersetzen Sie ihn durch einen Neuen.** Check the wear drill and replace it with the new one.
SCHLECHTE OBERFLÄCHEN Bad surface finishing	**Schlechte Spanabfuhr.** Poor chip evacuation.	**Wählen Sie den richtigen Bohrer aus.** Select the correct drill.
	Eindringgeschwindigkeit ist zu hoch. Penetration rate is too high.	**Siehe Kapitel „Schnittdaten" im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Unzureichende Kühlmittelmenge. Insufficient coolant quantity.	**Kühlmitteldruck erhöhen.** Increase the collant pressure.
	Das Spannsystem ist während des Bohrens nicht stabil. Clamping system is not stable during the drilling.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Bohrüberhang ist zu hoch. Drill overhang is too high.	**Reduzieren Sie den Bohrüberstand.** Reduce the drill overhang.

B

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HOCHLEISTUNGS-GEWINDEBOHRER
HIGH PERFORMANCE TAPS

HOCHLEISTUNGS-GEWINDEBOHRER
HIGH PERFORMANCE TAPS

B.01.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

	Beschreibung des Familienprodukts	Family product description

▸ HSS-Co-PM

NEW MULTI RAPID PRO p. 374	**HSS-Co-PM-Gewindebohrer für die Bearbeitung von Durchgangslöcher in Stahl, Edelstahl, Gusseisen und Aluminiumlegierungen.** HSS-Co-PM taps for machining steel, stainless steel, cast iron and Aluminium alloy through holes.
NEW MULTI PRO p. 374	**HSS-Co-PM-Gewindebohrer für die Bearbeitung von Sacklöcher in Stahl, Edelstahl, Gusseisen und Aluminiumlegierungen.** HSS-Co-PM taps for machining steel, stainless steel, cast iron and Aluminium alloy blind holes.
MULTI RAPID VA p. 374	**HSS-Co-PM Gewindebohrer zur Bearbeitung von Durchgangslöcher in Edelstahl.** HSS-Co-PM taps for machining stainless steel through holes.
MULTI VA p. 374	**HSS-Co-PM Gewindebohrer zur Bearbeitung von Sacklöcher in Edelstahl.** HSS-Co-PM taps for machining stainless steel blind holes.
MULTI RAPID HD p. 375	**HSS-Co-PM-Gewindebohrer für die Bearbeitung von Durchgangsklöcher in Stahl- und Gusseisen.** HSS-Co-PM taps for machining steel and cast iron through holes.
MULTI HD p. 375	**HSS-Co-PM Gewindebohrer zur Bearbeitung von Sacklöcher in Stahl und Gusseisen.** HSS-Co-PM taps for machining steel and cast iron blind holes.
MULTI RAPID HD i p. 376	**HSS-Co-PM Gewindebohrer mit axialer Innenkühlung für die Bearbeitung von Stahl, ferritischem Edelstahl und Gusseisen für Durchgangsbohrungen.** HSS-Co-PM taps with axial internal coolant for machining steel, ferritic stainless steel and cast iron through holes.
MULTI HD i p. 376	**HSS-Co-PM Gewindebohrer mit radialer Innenkühlung zur Bearbeitung von Sacklöcher in Stahl, ferritischem Edelstahl und Gusseisen.** HSS-Co-PM taps with radial internal coolant for machining steel, ferritic stainless steel and cast iron blind holes.
SINCRO ILIX i p. 376	**HSS-Co-PM Gewindebohrer mit axialer oder radialer Innenkühlung für die Bearbeitung von Durchgangs- und Sacklöcher in Stahl und Gusseisen, speziell für synchronisiertes Gewindebohren.** HSS-Co-PM taps with axial or radial internal coolant for machining steel and cast iron through and blind holes, specific for synchronized tapping.
MULTI GG p. 377	**HSS-Co-PM Gewindebohrer zur Bearbeitung von Durchgangs- und Sacklöcher in Gusseisen.** HSS-Co-PM taps for machining cast iron through and blind holes.

	Beschreibung des Familienprodukts	Family product description

▸ HSS-Co-PM

MULTI GG i p. 377	**HSS-Co-PM Gewindebohrer mit radialer Innenkühlung zur Bearbeitung von Gusseisen für Durchgangs- und Sacklöcher.** HSS-Co-PM taps with radial internal coolant for machining cast iron, through and blind holes.
T BLACK p. 378	**Konische Gewindebohrer aus HSS-Co-PM zur Bearbeitung von Sacklöcher in Stahl, Edelstahl, Gusseisen und NE-Materialien.** HSS-Co-PM tapered taps for machining steel, stainless steel, cast iron and non-ferrous material blind holes.
VR i 15° p. 378	**Kegelige Gewindebohrer aus HSS-Co-PM mit axialer Innenkühlung zur Bearbeitung allgemeiner Sacklöcher.** HSS-Co-PM tapered taps with axial internal coolant for machining general purpose blind holes.
Ti p. 378	**HSS-Co-PM Gewindebohrer für die Bearbeitung von Durchgangs- und Sacklöcher in Titanlegierungen.** HSS-Co-PM taps for machining Titanium alloy, through and blind holes.
Ni p. 379	**HSS-Co-PM Gewindebohrer zur Bearbeitung von Nickellegierungen, Durchgangs- und Sacklöcher.** HSS-Co-PM taps for machining Nickel alloy, through and blind holes.

▸ HSS-Co-PM ▸ Vollhartmetall | Solid Carbide

MULTI TP p. 380	**Vollhartmetall- und HSS-Co-PM-Gewindebohrer zur Bearbeitung von Durchgangs- und Sacklöcher in gehärtetem Stahl.** Solid carbide and HSS-Co-PM taps for machining hardened steel through and blind holes.

▸ Vollhartmetall | Solid Carbide

N p. 381	**Vollhartmetall-Gewindebohrer für die Bearbeitung von Gusseisen und Aluminiumlegierungen, Durchgangs- und Sacklöcher.** Solid carbide taps for machining cast iron and Aluminium alloy, through and blind holes.
N 15° p. 381	**Vollhartmetall-Gewindebohrer für die Bearbeitung von Gusseisen und Aluminiumlegierungen, Sacklöcher.** Solid carbide taps for machining cast iron and Aluminium alloy, blind holes.

	Beschreibung des Familienprodukts	Family product description

▸ **Vollhartmetall** | Solid Carbide

N i 15° **p. 381**	**Vollhartmetall-Gewindebohrer mit axialer Innenkühlung zur Bearbeitung von Sacklöcher in Gusseisen und Aluminiumlegierungen.** Solid carbide taps with axial internal coolant for machining cast iron and Aluminium alloy blind holes.
GG i **p. 381**	**Vollhartmetall-Gewindebohrer mit axialer Innenkühlung zur Bearbeitung von Durchgangs- und Sacklöcher in Gusseisen.** Solid carbide taps with axial internal coolant for machining cast iron through and blind holes.

B 01

▸ HSS-Co

NEW **FORMER S EVO** **p. 382**	**HSS-Co-Gewindeformer mit Schmiernuten für die Bearbeitung allgemeiner Anwendungen in allen Werkstoffen mit Zugfestigkeit <1200 N/mm², Durchgangs- und Sacklöcher.** HSS-Co cold forming taps with coolant grooves for machining general purpose applications in all materials with tensile strength <1200 N/mm², through and blind holes.

▸ HSS-Co-PM

FORMER S PM **p. 382**	**HSS-Co-PM Gewindeformer zur Bearbeitung von allgemeinen Anwendungen in allen Werkstoffen mit Zugfestigkeit <1200 N/mm², Durchgangs- und Sacklöcher.** HSS-Co-PM cold forming taps for machining general purpose applications in all materials with tensile strength <1200 N/mm², through and blind holes.
FORMER S i PM **p. 382**	**HSS-Co-PM Gewindeformer mit Schmiernuten, axialer und radialer Innenkühlung zur Bearbeitung universeller Anwendungen in allen Werkstoffen mit Zugfestigkeit < 1200 N/mm², Durchgangs- und Sacklöcher.** HSS-Co-PM cold forming taps with coolant grooves, axial and radial internal coolant for machining general purpose applications in all materials with tensile strength < 1200 N/mm², through and blind holes.

▸ **Vollhartmetall** | Solid Carbide

FORMER MDI **p. 382**	**Vollhartmetall-Gewindeformer mit axialer Innenkühlung für die Bearbeitung von Durchgangs- und Sacklöcher in Stahl, Edelstahl und Aluminiumlegierungen.** Solid carbide cold forming taps with axial internal coolant for machining steel, stainless steel and Aluminium alloy through and blind holes.

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MULTI RAPID PRO																	
NEW 6780TC		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	B 3,5-5	TiCN PLUS	3 ÷ 10					-	-	385
NEW 6781TC		HSS-Co PM	M DIN 13	376 DIN		0°	6HX	B 3,5-5	TiCN PLUS	12 ÷ 20					-	-	386
MULTI PRO																	
NEW 6782TC		HSS-Co PM	M DIN 13	371 DIN		45°	6HX	C 2-3	TiCN PLUS	3 ÷ 10					-	-	385
NEW 6783TC		HSS-Co PM	M DIN 13	376 DIN		45°	6HX	C 2-3	TiCN PLUS	12 ÷ 20					-	-	386
MULTI RAPID VA																	
6773TC		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	B 4-5	TiCN	3 ÷ 10					-	-	388
6778TC		HSS-Co PM	M DIN 13	376 DIN		0°	6HX	B 4-5	TiCN	12 ÷ 20					-	-	389
6984TC		HSS-Co PM	MF DIN 13	374 DIN		0°	6HX	B 4-5	TiCN	8 ÷ 20					-	-	390
6986TC		HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	TiCN	nr.6 ÷ 3/8					-	-	391
6988TC		HSS-Co PM	UNF	2184 -1 DIN		0°	2BX	B 4-5	TiCN	nr.6 ÷ 3/8					-	-	392
MULTI VA																	
6774TC		HSS-Co PM	M DIN 13	371 DIN		50°	6HX	C 2,5-3	TiCN	3 ÷ 10					-	-	388

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
MULTI VA																	
6779TC		HSS-Co PM	M DIN 13	376 DIN		50°	6HX	C 2,5-3	TiCN	12 ÷ 20					-	-	389
6985TC		HSS-Co PM	MF DIN 13	374 DIN		50°	6HX	C 2,5-3	TiCN	8 ÷ 20					-	-	390
6987TC		HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		50°	2BX	C 2,5-3	TiCN	nr.6 ÷ 3/8					-	-	391
6989TC		HSS-Co PM	UNF	2184 -1 DIN		50°	2BX	C 2,5-3	TiCN	nr.6 ÷ 3/8					-	-	392
MULTI RAPID HD																	
6750TN		HSS-Co PM	M DIN 13	371 DIN		0°	6H	B 4-5	TiN	3 ÷ 10		-			-	-	394
6751TN		HSS-Co PM	M DIN 13	376 DIN		0°	6H	B 4-5	TiN	12 ÷ 20		-			-	-	395
6752TN		HSS-Co PM	MF DIN 13	374 DIN		0°	6H	B 4-5	TiN	8 ÷ 20		-			-	-	396
6993TN		HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	TiN	nr.6 ÷ 3/8		-			-	-	397
6995TN		HSS-Co PM	UNF	2184 -1 DIN		0°	2B	B 4-5	TiN	nr.6 ÷ 3/8		-			-	-	398
MULTI HD																	
6755TN		HSS-Co PM	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiN	3 ÷ 10		-			-	-	394
6756TN		HSS-Co PM	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiN	12 ÷ 20		-			-	-	395

B 01

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MULTI HD

6757TN		HSS-Co PM	MF DIN 13	374 DIN		40°	6H	C 2,5-3	TiN	8 ÷ 20		-			-	-	396
6994TN		HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiN	nr.6 ÷ 3/8		-			-	-	397
6996TN		HSS-Co PM	UNF	2184 -1 DIN		40°	2B	C 2,5-3	TiN	nr.6 ÷ 5/16		-			-	-	398

▸ MULTI RAPID HD i

(mit radialer Innenkühlung | with radial internal coolant)

6753TC		HSS-Co PM	M DIN 13	371 DIN		0°	6H	B 4-5	TiCN	6 ÷ 10					-	-	400
6758TN		HSS-Co PM	M DIN 13	376 DIN		0°	6H	B 4-5	TiN	12 ÷ 20					-	-	401
6758TC		HSS-Co PM	M DIN 13	376 DIN		0°	6H	B 4-5	TiCN	12 ÷ 20					-	-	401

▸ MULTI HD i

(mit axialer Innenkühlung | with axial internal coolant)

6772TC		HSS-Co PM	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiCN	6 ÷ 10					-	-	400
6777TN		HSS-Co PM	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiN	12 ÷ 20					-	-	402
6777TC		HSS-Co PM	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiCN	12 ÷ 20					-	-	402

▸ SINCRO ILIX i

(mit Innenkühlung | with internal coolant)

NEW 6975HL	radialer Innenkühlung Radial coolant 	HSS-Co PM	M DIN 13	371 DIN		0°	6HX	B 4-5	TiAlN HL EVO	5 ÷ 10						-	404

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Dralliwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
SINCRO ILIX i (mit Innenkühlung | with internal coolant)																	
6971TN	Axialer Innenkühlung Axial coolant	HSS-Co PM	M DIN 13	371 DIN		15°	6HX	C 2-3	TiN	6 ÷ 10						-	404
NEW 6973HL	Radialer Innenkühlung Radial coolant	HSS-Co PM	M DIN 13	371 DIN		40°	6HX	C 2-3	TiAlN HL EVO	5 ÷ 10						-	404
NEW 6976HL	Radialer Innenkühlung Radial coolant	HSS-Co PM	M DIN 13	376 DIN		0°	6HX	B 4-5	TiAlN HL EVO	12 ÷ 16						-	405
6972TN	Axialer Innenkühlung Axial coolant	HSS-Co PM	M DIN 13	376 DIN		15°	6HX	C 2-3	TiN	12 ÷ 20						-	405
NEW 6974HL	Axialer Innenkühlung Axial coolant	HSS-Co PM	M DIN 13	376 DIN		40°	6HX	C 2-3	TiAlN HL EVO	12 ÷ 20						-	405
NEW 6978HL	Radialer Innenkühlung Radial coolant	HSS-Co PM	MF DIN 13	374 DIN		0°	6H	B 4-5	TiAlN HL EVO	8 ÷ 20						-	406
NEW 6977HL	Axialer Innenkühlung Axial coolant	HSS-Co PM	MF DIN 13	374 DIN		40°	6H	C 2-3	TiAlN HL EVO	8 ÷ 20						-	406
MULTI GG																	
6964		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	C 2-3	NIT	3 ÷ 8	-	-		-	-	-	408
6965		HSS-Co PM	M DIN 13	376 DIN		0°	6HX	C 2-3	NIT	12 ÷ 30	-	-		-	-	-	409
6966		HSS-Co PM	MF DIN 13	374 DIN		0°	6HX	C 2-3	NIT	8 ÷ 18	-	-		-	-	-	410
MULTI GG i (mit radialer Innenkühlung | with internal radiant coolant)																	
NEW 6967TC		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	C 2,5-3	TiCN	6 ÷ 10	-	-		-	-	-	412

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
T BLACK (Gewindeteil nach hinten verjüngt TiCN-TOP | back tapered TiCN TOP)																	
6668TB		HSS-Co PM	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiCN TOP	4 ÷ 10						-	414
6669TB		HSS-Co PM	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiCN TOP	12 ÷ 24						-	415
6830TB		HSS-Co PM	MF DIN 13	374 DIN		40°	6H	C 2,5-3	TiCN TOP	8 ÷ 20						-	416
6831TB		HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiCN TOP	nr.6 ÷ 3/8						-	417
6832TB		HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiCN TOP	7/16 ÷ 1						-	418
6833TB		HSS-Co PM	UNF ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiCN TOP	nr.6 ÷ 3/8						-	419
6834TB		HSS-Co PM	UNF ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiCN TOP	7/16 ÷ 1						-	420
6835TB		HSS-Co PM	G (BSP) DIN EN ISO 228	5156 DIN		40°	-	C 2,5-3	TiCN TOP	1/8 ÷ 1						-	421
VR i 15° (Gewindeteil nach hinten verjüngt mit axialer Innenkühlung | back tapered with axial internal coolant)																	
6601TN		HSS-Co PM	M DIN 13	371 DIN		15°	6HX	C 2,5-3	TiN	6 ÷ 10			-			-	423
Ti																	
6683		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	B 4-5	NIT	3 ÷ 10			-			-	425
6684		HSS-Co PM	M DIN 13	371 DIN		15°	6HX	C 2,5-3	NIT	3 ÷ 10			-			-	426

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
▸ Ti																	
6825		HSS-Co PM	M DIN 13	376 DIN		0°	6HX	B 4-5	NIT	12 ÷ 20		-			-		427
6826		HSS-Co PM	M DIN 13	376 DIN		15°	6HX	C 2,5-3	NIT	12 ÷ 20		-			-		428
6828		HSS-Co PM	MF DIN 13	374 DIN		0°	6HX	B 4-5	NIT	8 ÷ 20		-			-		429
6829		HSS-Co PM	MF DIN 13	374 DIN		15°	6HX	C 2,5-3	NIT	8 ÷ 20		-			-		430
▸ Ni																	
6892		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	B 4-5	-	2 ÷ 10	-		-	-		-	432
6682		HSS-Co PM	M DIN 13	371 DIN		0°	6HX	B 2,5-3	-	4 ÷ 10	-		-	-		-	433
6894		HSS-Co PM	M DIN 13	371 DIN		22°	6HX	C 2,5-3	-	3 ÷ 10	-		-	-		-	434
6893		HSS-Co PM	M DIN 13	376 DIN		0°	6HX	B 4-5	-	12 ÷ 20	-		-	-		-	435
6948		HSS-Co PM	M DIN 13	376 DIN		22°	6HX	C 2,5-3	-	12 ÷ 20	-		-	-		-	436
6906		HSS-Co PM	MJ	371 DIN		10°	4HX	C 2,5-3	-	3 ÷ 10	-		-	-		-	437
6869	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	nr.2 ÷ 3/8	-		-	-		-	438
6990	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		22°	2BX	C 2,5-3	-	nr.4 ÷ 3/8	-		-	-		-	439

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ Ni

6897	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376 	HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	1/2 ÷ 3/4	-		-	-		-	440
6997	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376 	HSS-Co PM	UNC ASME B.1.1	2184 -1 DIN		22°	2BX	C 2,5-3	-	7/16 ÷ 5/8	-		-	-		-	441
6998	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co PM	UNJC ASME B.1.1	2184 -1 DIN		10°	3BX	C 2,5-3	-	nr.6 ÷ 3/8	-		-	-		-	442
6844	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co PM	UNF ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	nr.2 ÷ 3/8	-		-	-		-	443
6928	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co PM	UNF ASME B.1.1	2184 -1 DIN		22°	2BX	C 2,5-3	-	nr.6 ÷ 3/8	-		-	-		-	444
6845	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376 	HSS-Co PM	UNF ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	7/16 ÷ 3/4	-		-	-		-	445
6929	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376 	HSS-Co PM	UNF ASME B.1.1	2184 -1 DIN		22°	2BX	C 2,5-3	-	7/16 ÷ 3/8	-		-	-		-	446
6907	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co PM	UNJF ASME B1.15	2184 -1 DIN		10°	3BX	C 2,5-3	-	nr.6 ÷ 3/8	-		-	-		-	447

▸ MULTI TP

NEW **6645TF**		HSS-Co PM	M DIN 13	371 DIN		0°	6H	A 6-8	TiAlN FUTURA	6 ÷ 10	-	-		-	-		449
6770TC	Axialer Innenkühlung ≥M6 Axial coolant hole ≥M6 	M.D.I. HM	M DIN 13	~371 ~376 DIN		0°	6HX	▪ 3-4	TiCN	4 ÷ 12	-	-		-	-		450
NEW ♻ **6770NX**	Axialer Innenkühlung ≥M6 Axial coolant hole ≥M6 	M.D.I. HM	M DIN 13	~371 ~376 DIN		0°	6HX	▪ 3-4	TiSiN PLUS	4 ÷ 12	-	-		-	-		451

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N																	
(Gerade Nuten | Straight flutes)																	
6771	Innenkühlung ≥M6 Coolant hole ≥M6	M.D.I. HM	M DIN 13	~371 DIN		0°	6HX	C 2,5-3	-	4 ÷ 10		-			-		**453**
N 15°																	
(Spiralnuten | Spiral flutes)																	
6736	Innenkühlung ≥M6 Coolant hole ≥M6	M.D.I. HM	M DIN 13	~371 DIN		15°	6HX	C 2,5-3	-	4 ÷ 10		-			-		**453**
N i 15°																	
(Spiralnuten mit axialer Innenkühlung | Spiral flutes with axial internal coolant)																	
6762	Innenkühlung ≥M6 Coolant hole ≥M6	M.D.I. HM	M DIN 13	~371 DIN		15°	6HX	C 2,5-3	-	5 ÷ 10		-			-		**454**
6765		M.D.I. HM	M DIN 13	~376 DIN		15°	6HX	C 2,5-3	-	12		-			-		**455**
6767		M.D.I. HM	MF DIN 13	~374 DIN		15°	6HX	C 2,5-3	-	8 ÷ 10		-			-		**456**
GG i																	
(Gerade Nuten mit axialer Innenkühlung | Straight flutes with axial internal coolant)																	
6760	Innenkühlung ≥M6 Coolant hole ≥M6	M.D.I. HM	M DIN 13	~371 DIN		0°	6HX	C 2,5-3	-	5 ÷ 10	-	-			-	-	**457**

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ FORMER S EVO
(Gewindeformer mit Kühlnuten | Cold forming taps with coolant grooves)

NEW 6803TC		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2-3	TiCN PLUS	3 ÷ 16			-			-	459
NEW 6804TC		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2-3	TiCN PLUS	3 ÷ 16			-			-	460
NEW 6805TC		HSS-Co	MF DIN 13	2174 DIN		-	6HX	C 2-3	TiCN PLUS	8 ÷ 16			-			-	461

▸ FORMER S PM
(Gewindeformer mit Kühlnuten | Cold forming taps with coolant grooves)

6800TF		HSS-Co PM	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiAlN FUTURA	3 ÷ 10			-			-	463

▸ FORMER S i PM
Gewindeformer mit Schmiernuten und Kühlmittelbohrungen
Cold forming taps with coolant grooves and coolant holes

6801TN	Axialer Innenkühlung Axial coolant 	HSS-Co PM	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	6 ÷ 10			-			-	464
6969TN	Radialer Innenkühlung Radial coolant 	HSS-Co PM	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	5 ÷ 10			-			-	465

▸ FORMER MDI
(Gewindeformer mit Kühlmittelbohrungen | Cold forming taps with coolant holes)

6788	Axialer Innenkühlung ≥M6 Axial coolant ≥M6 	M.D.I. HM	M DIN 13	2174 DIN		-	6HX	C 2,5-3	-	4 ÷ 10			-			-	467

HOCHLEISTUNGS-GEWINDEBOHRER
HIGH PERFORMANCE TAPS

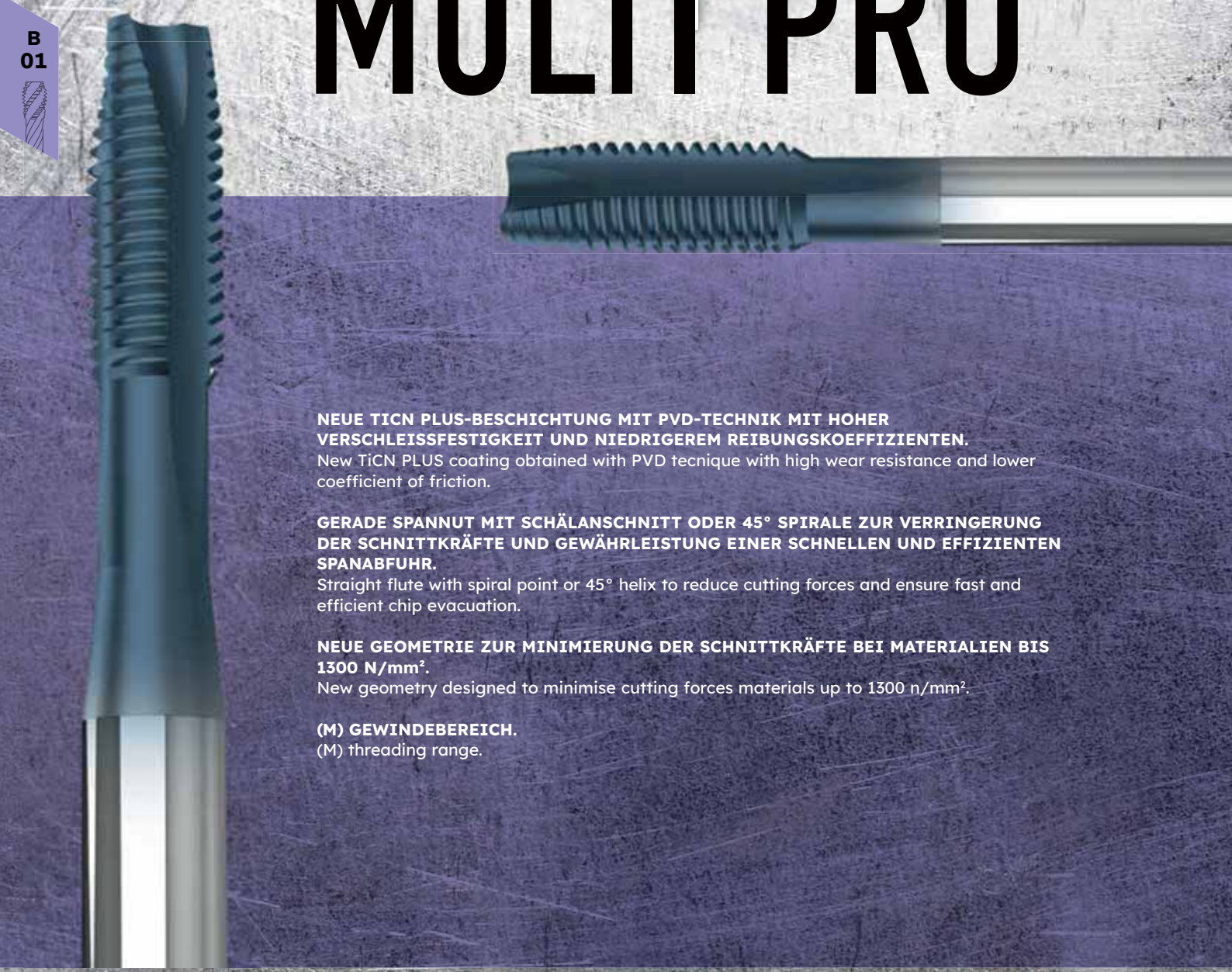
B.01.02

Produktpalette
Products range

Die HSS-Co-PM-Gewindebohrer der Serien Multi Rapid Pro und Multi Pro wurden entwickelt, um eine höhere Produktivität bei Stählen, rostfreien Stählen, Gusseisen und Aluminiumlegierungen zu gewährleisten. Die neu entwickelten Geometrien garantieren eine hervorragende Spankontrolle.

The HSS-Co-PM taps of the MULTI RAPID PRO and multi pro series are designed to guarantee greater productivity on steels, stainless steels, cast irons and Aluminium alloys. The newly developed geometries guarantee excellent swarf control.

Multi Rapid Pro
MULTI PRO



NEUE TICN PLUS-BESCHICHTUNG MIT PVD-TECHNIK MIT HOHER VERSCHLEISSFESTIGKEIT UND NIEDRIGEREM REIBUNGSKOEFFIZIENTEN.
New TiCN PLUS coating obtained with PVD tecnique with high wear resistance and lower coefficient of friction.

GERADE SPANNUT MIT SCHÄLANSCHNITT ODER 45° SPIRALE ZUR VERRINGERUNG DER SCHNITTKRÄFTE UND GEWÄHRLEISTUNG EINER SCHNELLEN UND EFFIZIENTEN SPANABFUHR.
Straight flute with spiral point or 45° helix to reduce cutting forces and ensure fast and efficient chip evacuation.

NEUE GEOMETRIE ZUR MINIMIERUNG DER SCHNITTKRÄFTE BEI MATERIALIEN BIS 1300 N/mm².
New geometry designed to minimise cutting forces materials up to 1300 n/mm².

(M) GEWINDEBEREICH.
(M) threading range.

ILIX® PRECISION

MULTI RAPID PRO - MULTI PRO

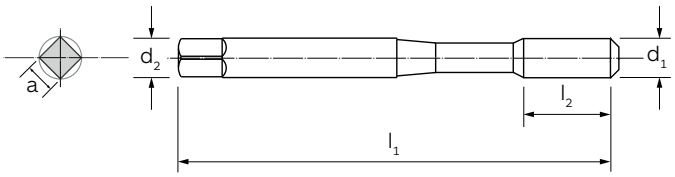
Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

NEW

M
DIN 13

371
DIN

P. 470



B 01

	Multi Rapid PRO	Multi PRO
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Plus	TiCN Plus
DRALLWINKEL | HELIX ANGLE	0°	45°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/3,5-5	C/2-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P		l_1	l_2 6780TC	l_2 6782TC	d_2 (h9)	a (h12)	6780TC	6782TC
3	0,50	2,5	56	11	5	3,5	2,7	●	●
4	0,70	3,3	63	13	7	4,5	3,4	●	●
5	0,80	4,2	70	16	8	6,0	4,9	●	●
6	1,00	5,0	80	19	10	6,0	4,9	●	●
8	1,25	6,8	90	22	13	8,0	6,2	●	●
10	1,50	8,5	100	24	15	10,0	8,0	●	●

MULTI RAPID PRO - MULTI PRO

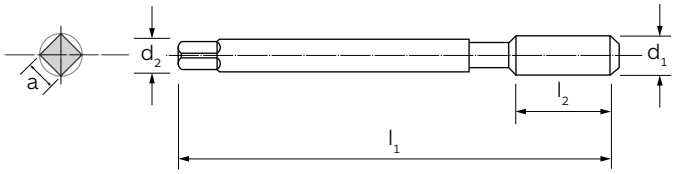
Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

NEW

M
DIN 13

376
DIN

P. 470



MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Plus	TiCN Plus
DRALLWINKEL | HELIX ANGLE	0°	45°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/3,5-5	C/2-3
LOCHTYP | HOLE TYPE		

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P		l_1	l_2 6781XC	l_2 6783XC	d_2 (h9)	a (h12)	6781TC	6783TC
12	1,75	10,2	110	28	18	9	7	●	●
14	2,00	12,0	110	30	20	11	9	●	●
16	2,00	14,0	110	32	20	12	9	●	●
18	2,00	15,5	125	34	25	14	11	●	●
20	2,50	17,5	140	34	25	16	12	●	●

Die HSS-Co-PM Gewindebohrer der Serien Multi Rapid VA und Multi VA sind für höhere Produktivität bei rostfreien Stählen ausgelegt. Die neu entwickelten Geometrien garantieren eine hervorragende Spankontrolle.

The HSS-Co-PM taps of the Multi Rapid VA and Multi VA series are designed for higher productivity on stainless steels. The newly developed geometries guarantee excellent chip control.

Multi Rapid VA

MULTI VA

TiCN-BESCHICHTUNG, DIE PVD-TECHNIK MIT HOHER VERSCHLEISSFESTIGKEIT UND GERINGER HAFTUNG BEI STÄHLEN MIT NIEDRIGEM KOHLENSTOFFGEHALT.
TiCN coating obtained with PVD tecnique with high wear resistance and low adhesion on low carbon steels.

GERADE SPANNUT MIT SCHÄLANSCHNITT ODER 50° SPIRALE ZUR REDUZIERUNG DER SCHNITTKRÄFTE UND GEWÄHRLEISTUNG EINER SCHNELLEN UND EFFIZIENTEN SPANABFUHR.
Straight flute with spiral point or 50° helix to reduce cutting forces and ensure fast and efficient chip evacuation.

SPEZIELLE SCHNEIDENGEOMETRIE FÜR MATERIALIEN MIT HOHEM CHROMGEHALT.
Specific cutting geometry for materials with high chromium content.

GEEIGNET FÜR SYNCHRON GEWINDESCHNEIDVORGÄNGE.
Suitable for rigid tapping operations.

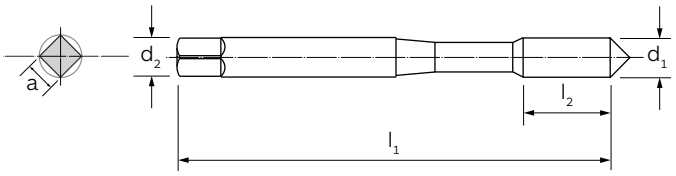
(M-MF-UNC-UNF) GEWINDEBEREICHE.
(M-MF-UNC-UNF) threading ranges.

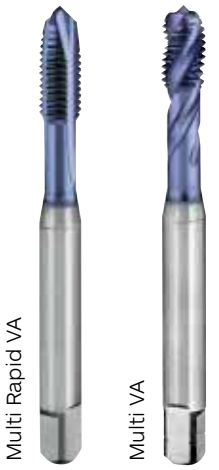
ILIX® PRECISION

MULTI RAPID VA - MULTI VA

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

M DIN 13 | **371** DIN | P. 470





B 01

	Multi Rapid VA	Multi VA
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN	TiCN
DRALLWINKEL | HELIX ANGLE	0°	50°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		

MATERIALGRUPPEN MATERIAL GROUPS

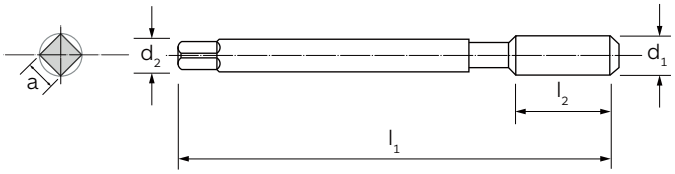
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

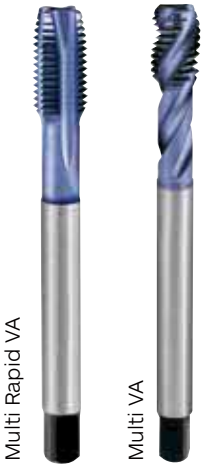
d_1	P		l_1	l_2 6773TC	l_2 6774TC	d_2 (h9)	a (h12)		6773TC	6774TC
3	0,50	2,5	56	11	5	3,5	2,7		●	●
4	0,70	3,3	63	13	7	4,5	3,4		●	●
5	0,80	4,2	70	16	8	6,0	4,9		●	●
6	1,00	5,0	80	19	10	6,0	4,9		●	●
8	1,25	6,8	90	22	12	8,0	6,2		●	●
10	1,50	8,5	100	24	14	10,0	8,0		●	●

MULTI RAPID VA - MULTI VA

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

M	376	
DIN 13	DIN	P. 470





	Multi Rapid VA	Multi VA
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN	TiCN
DRALLWINKEL | HELIX ANGLE	0°	50°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 01

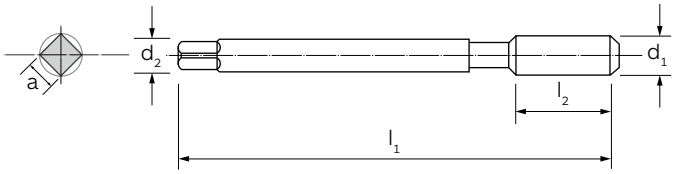
d_1	P		l_1	l_2 6778TC	l_2 6779TC	d_2 (h9)	a (h12)	6778TC	6779TC
12	1,75	10,2	110	29	16	9	7	●	●
14	2,00	12,0	110	30	20	11	9	■	●
16	2,00	14,0	110	32	20	12	9	●	●
20	2,50	14,0	110	32	20	12	9	●	●

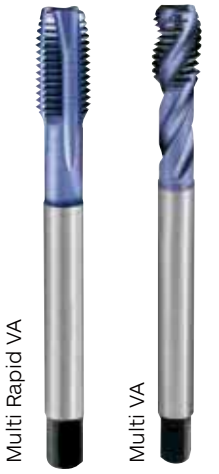
■ **So lange der Vorrat reicht** | Till stocks last.

MULTI RAPID VA - MULTI VA

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

MF DIN 13 | **374** DIN | P. 470





B 01

	Multi Rapid VA	Multi VA
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN	TiCN
DRALLWINKEL | HELIX ANGLE	0°	50°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P		l_1	l_2 6984TC	l_2 6985TC	d_2 (h9)	a (h12)	6984TC	6985TC
8	**1,0**	7,0	90	22	12	6	4,9	●	●
10	**1,0**	9,0	90	20	14	7	5,5	●	●
12	**1,5**	10,5	100	22	16	9	7,0	●	●
16	**1,5**	14,5	100	22	20	12	9,0	●	●
20	**1,5**	18,5	125	25	25	16	12	●	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

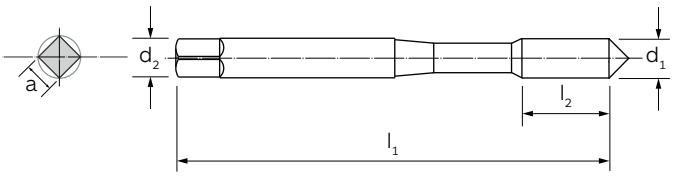
MULTI RAPID VA - MULTI VA

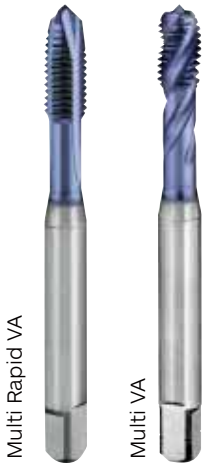
Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNC
ASME B.1.1

2184 -1
DIN

P. 470





	Multi Rapid VA	Multi VA
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN	TiCN
DRALLWINKEL | HELIX ANGLE	0°	50°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2BX	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	Steigung/1" Tpi		l_1	l_2 6986TC	l_2 6987TC	d_2 (h9)	a (h12)	6986TC	6987TC
nr. **6**	**32**	2,85	56	13	6	4,0	3,0	●	●
nr. **8**	**32**	3,50	63	13	7	4,5	3,4	●	●
nr. **10**	**24**	3,90	70	16	8	6,0	4,9	●	●
1/4	20	5,10	80	17	10	7,0	5,5	●	●
5/16	18	6,60	90	20	12	8,0	6,2	●	●
3/8	16	8,00	90	20	12	10,0	8,0	●	●

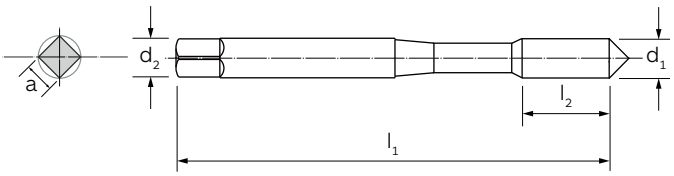
MULTI RAPID VA - MULTI VA

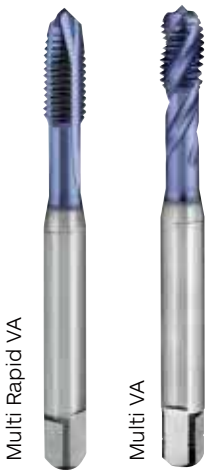
Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNF

2184 -1
DIN

P. 470





	Multi Rapid VA	Multi VA
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN	TiCN
DRALLWINKEL | HELIX ANGLE	0°	50°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2BX	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	Steigung/1" Tpi		l_1	l_2 6988TC	l_2 6989TC	d_2 (h9)	a (h12)		6988TC	6989TC
nr. **6**	**40**	2,95	56	12	6	4,0	2,1		■	■
nr. **8**	**36**	3,50	63	14	7	4,5	2,1		■	■
nr. **10**	**32**	4,10	70	14	8	6,0	2,7		■	●
1/4	28	5,50	80	16	10	7,0	3,4		-	●
5/16	24	6,90	90	18	12	8,0	4,9		■	●
3/8	24	8,50	90	20	12	10,0	7,0		■	●

■ **So lange der Vorrat reicht** | Till stocks last

Die HSS-Co-PM-Gewindebohrer der Serien Multi Rapid und Multi HD sind für mehr Stabilität und Zuverlässigkeit bei Materialien mit einer Zugfestigkeit von über 800 N/mm² ausgelegt.

The HSS-Co-PM taps of the Multi Rapid and Multi HD series are designed for greater stability and reliability on materials with tensile strength above 800 N/mm².

Multi Rapid HD

MULTI HD

DIE MIT PVD-TECHNIK HERGESTELLTE TIN-BESCHICHTUNG BIETET EINE HERVORRAGENDE VERSCHLEISSFESTIGKEIT UND SPANABFUHR.
TiN coating obtained with PVD tecnique provides excellent wear resistance and chip smoothness.

GERADE SPANNUT MIT SCHÄLANSCHNITT ODER 40° SPIRALE ZUR REDUZIERUNG DER SCHNITTKRÄFTE UND GEWÄHRLEISTUNG EINER SCHNELLEN UND EFFIZIENTEN SPANABFUHR.
Straight flute with spiral point or 40° helix to reduce cutting forces and ensure fast and efficient chip evacuation.

SPEZIELLE SCHNEIDENGEOMETRIE ZUM GEWINDESCHNEIDEN VON HOCHFESTEM STAHL.
Specific cutting geometry for tapping of high-strength steel.

GEEIGNET FÜR SYNCHRON GEWINDESCHNEIDVORGÄNGE.
Suitable for rigid tapping operations.

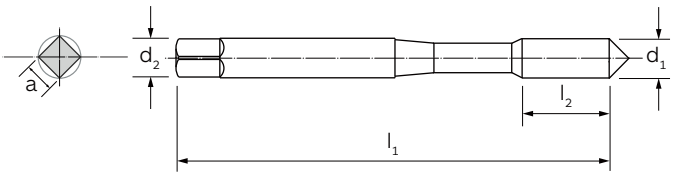
(M-MF-UNC-UNF) GEWINDEBEREICHE.
(M-MF-UNC-UNF) threading ranges.

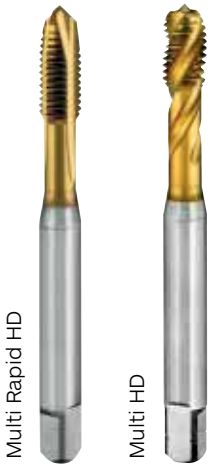
ILIX® PRECISION

MULTI RAPID HD - MULTI HD

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

M DIN 13 | **371** DIN | P. 470





B 01

MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiN	TiN
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		

MATERIALGRUPPEN MATERIAL GROUPS

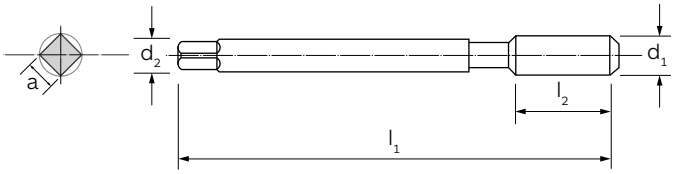
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

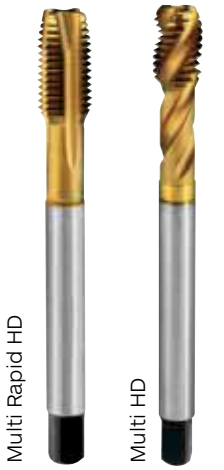
d_1	P		l_1	l_2 6750TN	l_2 6755TN	d_2 (h9)	a (h12)	6750TN	6755TN
3	0,50	2,5	56	11	5	3,5	2,7	●	●
4	0,70	3,3	63	13	7	4,5	3,4	●	●
5	0,80	4,2	70	16	8	6,0	4,9	●	●
6	1,00	5,0	80	19	10	6,0	4,9	●	●
8	1,25	6,8	90	22	12	8,0	6,2	●	●
10	1,50	8,5	100	24	14	10,0	8,0	●	●

MULTI RAPID HD - MULTI HD

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

M	376	
DIN 13	DIN	P. 470





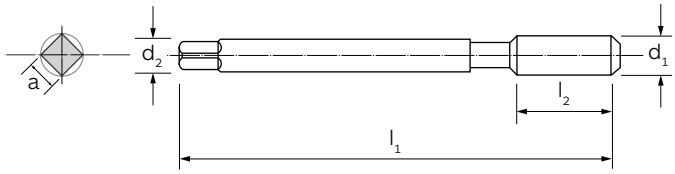
	Multi Rapid HD	Multi HD
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiN	TiN
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

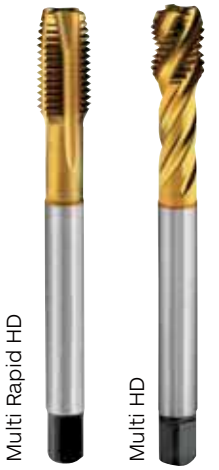
d_1	P		l_1	l_2 6751TN	l_2 6756TN	d_2 (h9)	a (h12)	6751TN	6756TN
12	1,8	10,2	110	29	16	9	7	●	●
14	2,0	12,0	110	30	20	11	9	●	●
16	2,0	14,0	110	32	20	12	9	●	●
18	2,5	15,5	125	34	24	14	11	●	●
20	2,5	17,5	140	34	25	16	12	●	●

MF
DIN 13

374
DIN

P. 470





B 01

MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiN	TiN
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P		l_1	l_2 6752TN	l_2 6757TN	d_2 (h9)	a (h12)	6752TN	6757TN
8	**1,0**	7,0	90	22	12	6	4,9	●	●
10	**1,0**	9,0	90	20	14	7	5,5	●	●
12	**1,5**	10,5	100	22	16	9	7,0	●	●
14	**1,5**	12,5	100	22	20	11	9,0	●	●
16	**1,5**	14,5	100	22	20	12	9,0	●	●
18	**1,5**	16,5	110	25	25	14	11,0	●	●
20	**1,5**	18,5	125	25	25	16	12,0	●	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

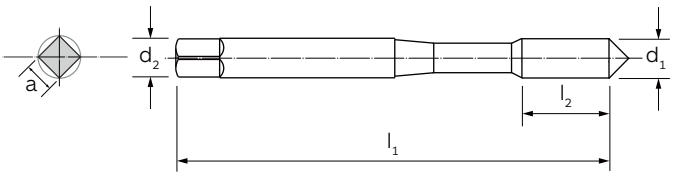
MULTI RAPID HD - MULTI HD

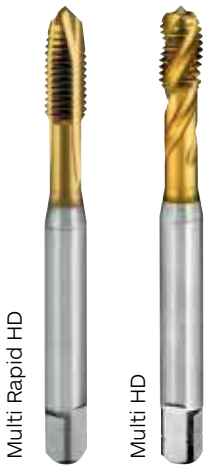
Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNC
ASME B.1.1

2184 -1
DIN

P. 470





	Multi Rapid HD	Multi HD
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiN	TiN
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	Steigung/1" Tpi		l_1	l_2 6993TN	l_2 6994TN	d_2 (h9)	a (h12)	6993TN	6994TN
nr. **6**	**32**	2,85	56	13	6	4,0	3,0	●	●
nr. **8**	**32**	3,50	63	13	7	4,5	3,4	●	●
nr. **10**	**24**	3,90	70	16	8	6,0	4,9	●	●
1/4	20	5,10	80	17	10	7,0	5,5	-	●
5/16	18	6,60	90	20	12	8,0	6,2	●	●
3/8	16	8,00	90	20	12	10,0	8,0	●	●

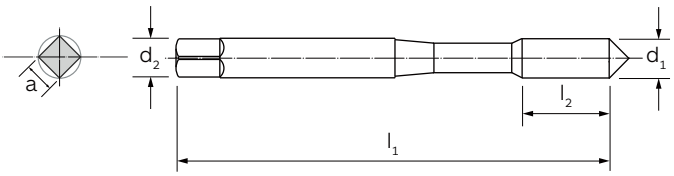
MULTI RAPID HD - MULTI HD

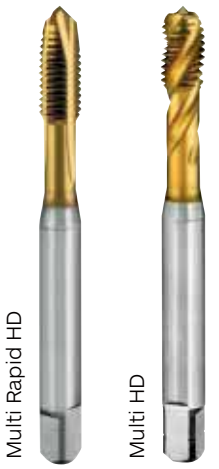
Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNF

2184 -1
DIN

P. 470





B 01

	Multi Rapid HD	Multi HD
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiN	TiN
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	Steigung/1" Tpi		l_1	l_2 6995TN	l_2 6996TN	d_2 (h9)	a (h12)	6995TN	6996TN
nr. **6**	**40**	2,95	56	12	6	4,0	2,1	●	●
nr. **8**	**36**	3,50	63	14	7	4,5	2,1	●	●
nr. **10**	**32**	4,10	70	14	8	6,0	2,7	●	-
1/4	28	5,50	80	16	10	7,0	3,4	●	-
5/16	24	6,90	90	18	12	8,0	4,9	●	●
3/8	24	8,50	90	20	12	10,0	7,0	●	-

Die HSS-Co-PM-Gewindebohrer der Serien Multi Rapid hd i und Multi HD i sind so konzipiert, dass sie dank der Innenkühlung, die eine bessere Spanabfuhr und Temperaturkontrolle in den Schnittzonen verbessert, einen hervorragenden Stabilitätsprozess garantieren.

The HSS-Co-PM taps of the Multi Rapid HD i and Multi HD i series are designed to guarantee an excellent stability process thanks to the internal coolant, which improves better chip evacuation and temperature control in the cutting zones.

Multi Rapid HD i

MULTI HD i

MIT PVD-TECHNIK HERGESTELLTE TIN- UND TICN-BESCHICHTUNGEN BIETEN EINE HERVORRAGENDE VERSCHLEISSFESTIGKEIT UND SPANABFUHR.
TiN and TiCN coatings obtained with PVD tecnique provides excellent wear resistance and chip smoothness.

GERADE NUTEN MIT SCHÄLANSCHNITT ODER 40° SPIRALE ZUR REDUZIERUNG DER SCHNITTKRÄFTE UND GEWÄHRLEISTUNG EINER SCHNELLEN UND EFFEKTIVEN SPANABFUHR.
Straight flute with spiral point or 40° helix to reduce cutting forces and ensure fast and effective chip evacuation.

SPEZIELLE SCHNEIDE ZUM GEWINDESCHNEIDEN VON HOCHFESTEN STÄHLEN UND GUSSEISEN
Specific cutting edge for tapping of high-strength steels and cast irons

GEEIGNET FÜR SYNCHRON GEWINDESCHNEIDVORGÄNGE.
Suitable for rigid tapping operations.

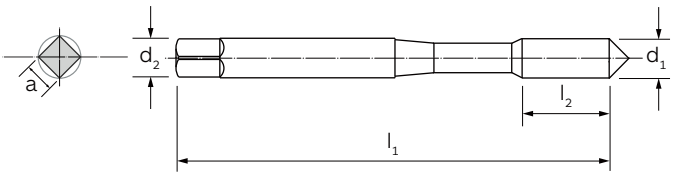
(M) GEWINDEBEREICH.
(M) threading range.

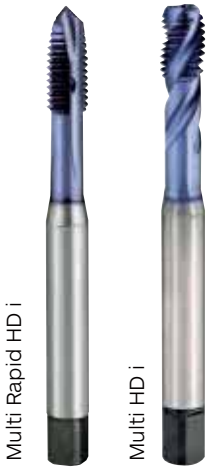
ILIX® PRECISION

MULTI RAPID HD i - MULTI HD i

Maschinengewindebohrer mit verstärktem Schaft und Innenkühlung
Machine taps with reinforced shank and internal coolant

M	371	R	A	P. 470	P. 472
DIN 13	DIN			6753TC	6772TC





B 01

	Multi Rapid HD i	Multi HD i
MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN	TiCN
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	R	A
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6753TC	6772TC
6	1,00	5,0	80	19	6	4,9	●	●
8	1,25	6,8	90	22	8	6,2	●	●
10	1,50	8,5	100	24	10	8,0	●	●

MULTI RAPID HD i

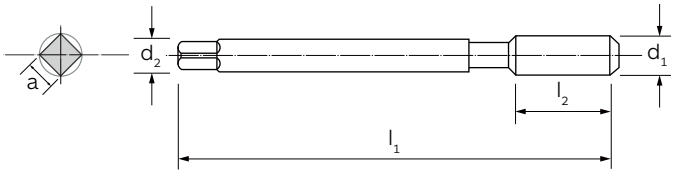
Maschinengewindebohrer mit reduziertem Schaft und Innenkühlung
Machine taps with reduced shank and internal coolant

M
DIN 13

376
DIN

R

P. 470



	MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
	BESCHICHTUNG | COATING	TiN	TiCN
	DRALLWINKEL | HELIX ANGLE	0°	0°
	SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
	INNENKÜHLUNG | INTERNAL COOLANT	R	R
	TOLERANZ | TOLERANCE	6H	6H
	ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5
	LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN / MATERIAL GROUPS	**P** | **Stahl** | Steels	P	P
	M | **Rostfreier Stahl** | Stainless Steels	M	M
	K | **Gusseisen** | Cast Irons	K	K
	N | **Nichteisenmetalle** | Non-ferrous metals	N	N
	S | **HRSA und Titan** | HRSA and Titanium	-	-
	H | **Gehärtete Stähle** | Hardened Steels	-	-

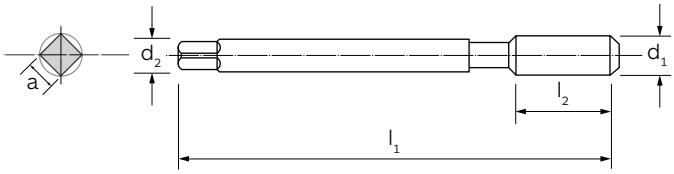
d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6758TN	6758TC
12	1,75	10,2	110	29	9	7	●	●
14	2,00	12,0	110	30	11	9	●	●
16	2,00	14,0	110	32	12	9	●	●
18	2,50	15,5	125	34	14	11	●	●
20	2,50	17,5	140	34	16	12	●	●

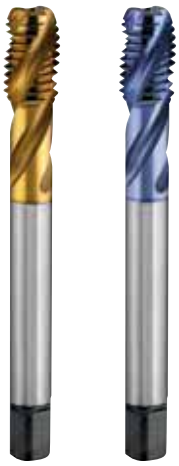
M
DIN 13

376
DIN

A

P. 472





MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiN	TiCN
DRALLWINKEL | HELIX ANGLE	40°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6777TN	6777TC
12	1,75	10,2	110	16	9	7	●	●
14	2,00	12,0	110	20	11	9	●	●
16	2,00	14,0	110	20	12	9	●	●
18	2,50	15,5	125	24	14	11	●	●
20	2,50	17,5	140	25	16	12	●	●

Die HSS-CO-PM Gewindebohrer der Sincro Ilix i Serie werden mit h6 Spannschafttoleranzen passend für sincro Werkzeugspannsysteme gefertigt und sind sowohl mit axialen als auch mit radialen Kühlmittelbohrungen versehen.

The HSS-CO-PM taps of the Sincro Ilix i series are manufactured with h6 clamping shank tolerances suitable for sincro tool clamping systems and are provided with both axial and radial coolant holes.

SINCRO ILIX i

MIT PVD-TECHNIK HERGESTELLTE TIN- UND TIALN-BESCHICHTUNGEN BIETEN EINE SEHR GUTE VERSCHLEISSFESTIGKEIT UND EINEN SEHR GUTEN SPANFLUSS.
TiN and TiaIN coatings obtained with PVD tecnique provides very good wear resistance and chip flow.

GERADE NUTEN MIT SCHÄLANSCHNITT ODER 15° - 40° SPIRALE FÜR EINE GROSSE AUSWAHL JE NACH MATERIAL UND ART DER BOHRUNG.
Straight flute with spiral point or 15° - 40° helix for a wide choice depending on the material and type of hole.

GEEIGNET FÜR NIEDRIG- BIS HOCHLEGIERTEN STAHL SOWIE GRAU- UND SPHÄROGUSS.
Suitable for low to high-alloy steel and grey and nodular cast irons.

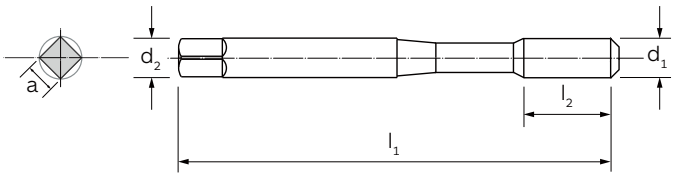
GEEIGNET FÜR SYNCHRONES GEWINDESCHNEIDEN.
Suitable for synchronous tapping.

(M-MF) GEWINDEBEREICHE.
(M-MF) threading ranges.

ILIX® PRECISION

NEW 6975HL | NEW 6973HL | M DIN 13 | 371 DIN | R | A | SINCRO h6

P. 472



MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiAlN HL EVO	TiN	TiAlN HL EVO
DRALLWINKEL | HELIX ANGLE	0°	15°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	R	A	A
TOLERANZ | TOLERANCE	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2-3	C/2-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1	P		l_1	l_2	d_2 (h6)	a (h12)	6975HL	6971TN	6973HL
5	0,80	4,2	70	10	6	4,9	●	-	●
6	1,00	5,0	80	11	6	4,9	●	■	●
8	1,25	6,8	90	20	8	6,2	●	■	●
10	1,50	8,5	100	22	10	8,0	●	■	●

■ **So lange der Vorrat reicht** | Till stocks last

SINCRO ILIX i

Maschinengewindebohrer mit reduziertem Schaft und Innenkühlung
Machine taps with reduced shank and internal coolant

NEW
6976HL

NEW
6974HL

M
DIN 13

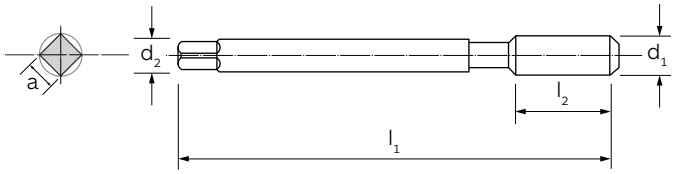
376
DIN

SINCRO h6

R

A

P. 472



MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiAlN HL EVO	TiN	TiAlN HL EVO
DRALLWINKEL | HELIX ANGLE	0°	15°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	R	A	A
TOLERANZ | TOLERANCE	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2-3	C/2-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 01

d_1	P		l_1	l_2	d_2 (h6)	a (h12)	6976HL	6972TN	6974HL
12	1,75	10,2	110	21	9	7	●	■	●
16	2,00	14,0	110	24	12	9	●	■	●
20	2,50	17,5	140	30	16	12	-	■	●

SINCRO ILIX i

Maschinengewindebohrer mit reduziertem Schaft und Innenkühlung
Machine taps with reduced shank and internal coolant

NEW

MF
DIN 13

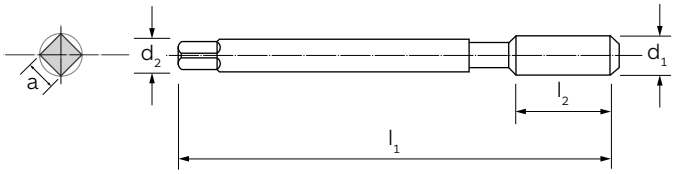
374
DIN

SINCRO h6

R

A

P. 472



MATERIAL | MATERIAL	HSS-Co-PM	HSS-Co-PM
BESCHICHTUNG | COATING	TiAlN HL EVO	TiAlN HL EVO
DRALLWINKEL | HELIX ANGLE	0°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	R	A
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Iron	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–

d_1	P		l_1	l_2 6978HL	l_2 6977HL	d_2 (h6)	a (h12)			6978HL	6977HL
8	**1,00**	7,0	90	10	12	6	4,9			●	●
10	**1,00**	9,0	90	10	12	8	6,2			●	●
10	**1,25**	8,8	100	13	15	8	6,2			-	●
12	**1,00**	10,8	100	10	12	10	8,0			●	-
12	**1,50**	10,5	100	15	18	10	8,0			●	●
14	**1,00**	13,0	100	10	12	12	9,0			-	●
14	**1,50**	12,5	100	15	18	12	9,0			●	●
16	**1,00**	15,0	100	10	12	12	9,0			-	●
16	**1,50**	14,5	100	15	18	12	9,0			●	●
18	**1,50**	16,5	110	15	18	14	11,0			-	-
20	**1,50**	18,5	125	15	18	16	12,0			●	●

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)

Die HSS-Co-PM-Gewindebohrer der Multi GG-Serie sind speziell für das Hochgeschwindigkeits-Gewindebohren in allen Gusseisen konzipiert, gerade Spannuten sorgen für eine hohe Torsionsfestigkeit während des Schneidvorgangs.

The HSS-Co-PM taps of the Multi GG series are specifically designed for high-speed tapping on all cast irons, straight flutes provide greate torsional strength during the cutting process.

MULTI GG

DIE OBERFLÄCHENBEHANDLUNG DURCH NITRIEREN BIETET EINE HERVORRAGENDE VERSCHLEISSFESTIGKEIT MIT ODER OHNE KÜHLMITTEL.
Nitriding surface treatment offers excellent wear resistance with or wituout coolant.

GEEIGNET FÜR GRAU- UND SPHÄROGUSS.
Suitable for grey and nodular cast irons.

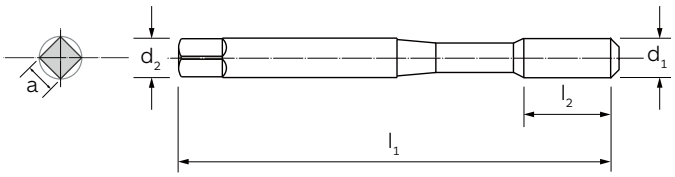
(M-MF) GEWINDEBEREICHE.
(M-MF) threading ranges.

ILIX® PRECISION

M
DIN 13

371
DIN

P. 472



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

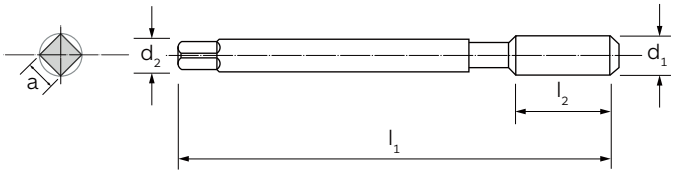
P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6964
3,0	0,50	2,5	56	11	3,5	2,7		●
3,5	0,60	2,9	56	13	4,0	3,0		●
4,0	0,70	3,3	63	13	4,5	3,4		●
5,0	0,80	4,2	70	15	6,0	4,9		●
6,0	1,00	5,0	80	16	6,0	4,9		●
7,0	1,00	6,0	80	17	7,0	5,5		●
8,0	1,25	6,8	90	18	8,0	6,2		●

MULTI GG

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

M	376	
DIN 13	DIN	P. 472



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

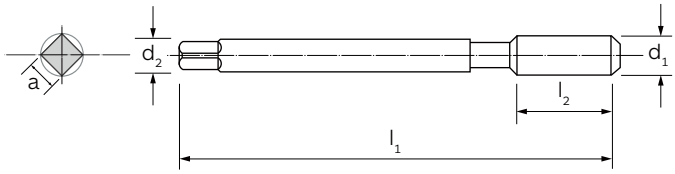
P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6965
12	1,75	10,2	110	24	9	7,0	●
14	2,00	12,0	110	26	11	9,0	●
16	2,00	14,0	110	28	12	9,0	●
18	2,50	15,5	125	34	14	11,0	●
20	2,50	17,5	140	32	16	12,0	●
22	2,50	19,5	140	34	18	14,5	●
24	3,00	21,0	160	38	18	14,5	●
27	3,00	24,0	160	38	20	16,0	●
30	3,50	26,5	180	45	22	18,0	●

MF
DIN 13

374
DIN

P. 472



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	–
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6966
8	**1,00**	7,0	90	18	6	4,9	●
9	**1,00**	8,0	90	18	7	5,5	●
10	**1,00**	9,0	90	15	7	5,5	●
10	**1,25**	8,8	100	20	7	5,5	●
12	**1,50**	10,5	100	18	9	7,0	●
14	**1,50**	12,5	100	20	11	9,0	●
16	**1,50**	14,5	100	20	12	9,0	●
18	**1,50**	16,5	110	22	14	11,0	●

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)

HSS-Co-PM-Gewindebohrer der Multi GG i-Serie wurden speziell für das Hochgeschwindigkeits-Gewindebohren für alle Gusseisentypen entwickelt, die geraden Spannuten bieten einen besseren Torsionswiderstand während des Schneidvorgangs, außerdem unterstützt die innere Kühlmittelzufuhr die Spanabfuhr und kontrolliert die Temperatur in der Schnittzone.

HSS-Co-PM taps Multi GG i series are specifically engineered for high speed tapping on all cast irons type, the straight flutes offer a better torsional-resistance during the cutting process, furthermore the internal coolant helps the chip evacuation and controls temperature in the cutting zone.

MULTI GG i

DIE MIT PVD-TECHNIK HERGESTELLTE TICN-BESCHICHTUNG BIETET EINE HÖHERE VERSCHLEISSFESTIGKEIT AUF SEHR ABRASIVEN GUSSEISEN.
TiCN coating obtained with PVD tecnique provides a higher wear resistance on very abrasive cast irons.

GEEIGNET FÜR GRAU- UND SPHÄROGUSS.
Suitable for grey and nodular cast irons.

(M) GEWINDEBEREICH.
(M) threading range.

ILIX® PRECISION

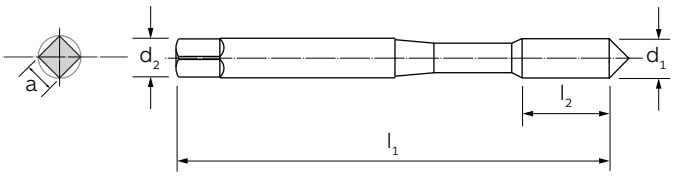
NEW

M
DIN 13

371
DIN

R

P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	R
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6967TC
6	1,00	5,0	80	19	6	4,9	●
8	1,25	6,8	90	22	8	6,2	●
10	1,50	8,5	100	24	10	8,0	●

T-BLACK-Gewindebohrer der HSS-Co-PM-Serie garantieren maximale Effizienz beim Gewindebohren dank der innovativen Geometrie und der TiCN-TOP-Beschichtung, die eine erhöhte Verschleißfestigkeit und einen niedrigen Reibungskoeffizienten während der Bearbeitung bieten.

HSS-Co-PM series T-BLACK taps guarantee maximum efficiency in tapping processes thanks to the innovative geometry and TiCN TOP coating offering increased wear resistance and a low coefficient of friction during machining.

T-BLACK

MIT PVD-TECHNIK HERGESTELLTE TICN TOP-BESCHICHTUNGEN BIETEN EINE SEHR GUTE VERSCHLEISSFESTIGKEIT UND EINEN SEHR GUTEN SPANFLUSS.
TiCN TOP coatings obtained with PVD tecnique provide very gool wear resistance and chip flow.

GEWINDEVERJÜNGUNG DES GEWINDEBOHRER ZUR REDUZIERUNG DES DREHMOMENTS, REIBUNG BEIM SCHNEIDVORGANG UND IN DER UMKEHRPHASE.
Back tapering to reduce the formation of chips at the end of the tap, decreasing the torque in the reversal phase.

SPIRALWINKEL 40° REDUZIERT DIE SCHNITTKRÄFTE UND SORGT FÜR EINE SCHNELLE UND EFFIZIENTE SPANABFUHR.
Helix angle 40° reduces cutting forces and provides a fast and efficient chip evacuation.

GEEIGNET FÜR NIEDRIG- UND HOCHLEGIERTE STÄHLE UND EDELSTÄHLE.
Suitable for low and high-alloy steels and stainless steels.

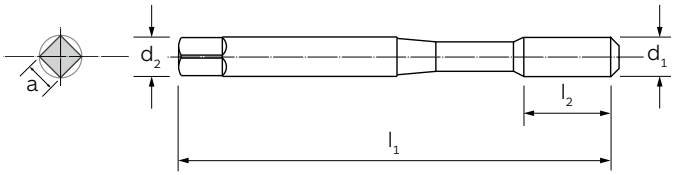
(M-MF-UNC-UNF-G) GEWINDEBEREICHE.
(M-MF-UNC-UNF-G) threading ranges.

ILIX® PRECISION

M
DIN 13

371
DIN

P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

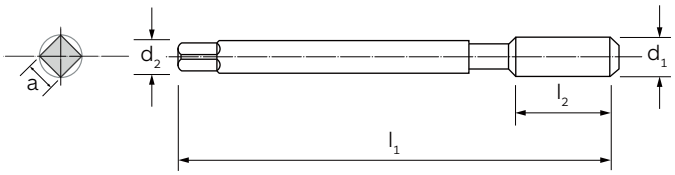
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6668TB
4	0,70	3,3	63	7	4,5	3,4	●
5	0,80	4,2	70	8	6,0	4,9	●
6	1,00	5,0	80	10	6,0	4,9	●
8	1,25	6,8	90	12	8,0	6,2	●
10	1,50	8,5	100	14	10,0	8,0	●

T-BLACK

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

M	376	
DIN 13	DIN	P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

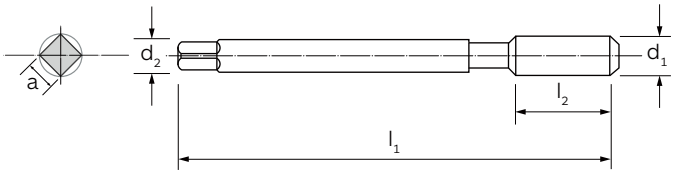
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6669TB
12	1,75	10,2	110	16	9	7,0	●
14	2,00	12,0	110	20	11	9,0	●
16	2,00	14,0	110	20	12	9,0	●
18	2,50	15,5	125	24	14	11,0	●
20	2,50	17,5	140	25	16	12,0	●
24	3,00	21,0	160	30	18	14,5	●

MF
DIN 13

374
DIN

P. 472



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6830TB
8	**1,00**	7,0	90	12	6,0	4,9		●
9	**1,00**	8,0	90	12	7,0	5,5		●
10	**1,00**	9,0	90	14	7,0	5,5		●
10	**1,25**	8,8	100	14	7,0	5,5		●
11	**1,00**	10,0	90	14	8,0	6,2		●
12	**1,00**	11,0	100	16	9,0	7,0		●
12	**1,25**	10,8	100	16	9,0	7,0		●
12	**1,50**	10,5	100	16	9,0	7,0		●
14	**1,50**	12,5	100	20	11,0	9,0		●
16	**1,50**	14,5	100	20	12,0	9,0		●
18	**1,50**	16,5	110	25	14,0	11,0		●
20	**1,50**	19,0	125	25	16,0	12,0		●

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

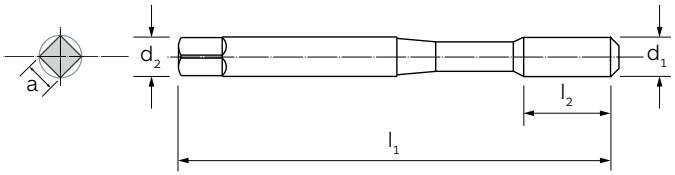
T-BLACK

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNC
ASME B.1.1

2184 -1
DIN

P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

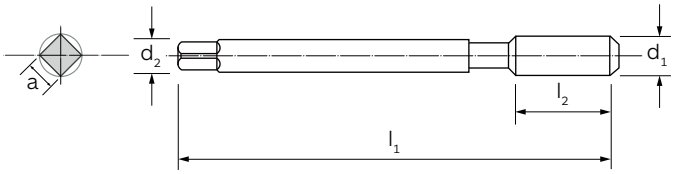
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)			6831TB
nr. **6**	**32**	2,85	56	6	4,0	3,0			●
nr. **8**	**32**	3,50	63	7	4,5	3,4			●
nr. **10**	**24**	3,90	70	8	6,0	4,9			●
1/4	20	5,10	80	10	7,0	5,5			●
5/16	18	6,60	90	12	8,0	6,2			●
3/8	16	8,00	90	12	10,0	8,0			●

Maschinengewindebohrer mit reduziertem Schaft, Abmessungen allgemein wie DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNC
ASME B.1.1

2184 -1
DIN

P. 472



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)			6832TB
7/16	14	9,40	100	24	8	6,2			●
1/2	13	10,80	110	29	9	7,0			●
5/8	11	13,50	110	32	12	9,0			●
3/4	10	16,50	125	34	14	11,0			●
7/8	9	19,50	140	34	18	14,5			●
1"	8	22,25	160	38	18	14,5			●

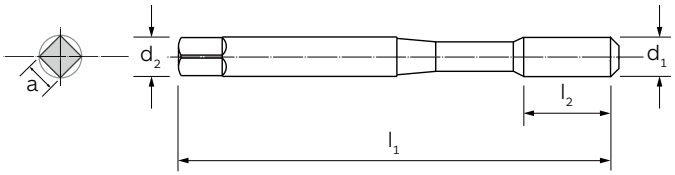
T-BLACK

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNF

2184 -1
DIN

P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)			6833TB
nr. **6**	**40**	2,95	56	6	4,0	2,1			●
nr. **8**	**36**	3,50	63	7	4,5	2,1			●
nr. **10**	**32**	4,10	70	8	6,0	2,7			●
nr. **12**	**28**	4,70	80	10	6,0	3,0			■
1/4	28	5,50	80	10	7,0	3,4			●
5/16	24	6,90	90	12	8,0	4,9			●
3/8	24	8,50	90	12	10,0	7,0			●

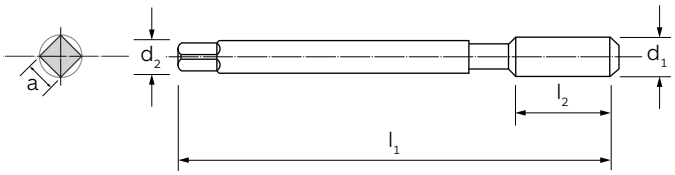
■ **So lange der Vorrat reicht** | Till stocks last

Maschinengewindebohrer mit reduziertem Schaft, Abmessungen allgemein wie DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNF

2184 -1
DIN

P. 472



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)			6834TB
7/16	20	9,90	90	14	8	6,2			●
1/2	20	11,50	100	16	9	7,0			●
9/16	18	12,90	100	20	11	9,0			●
5/8	18	14,50	100	20	12	9,0			●
3/4	16	17,50	110	25	14	11,0			●
7/8	14	20,40	125	25	18	14,5			●
1"	12	23,25	140	25	18	14,5			●

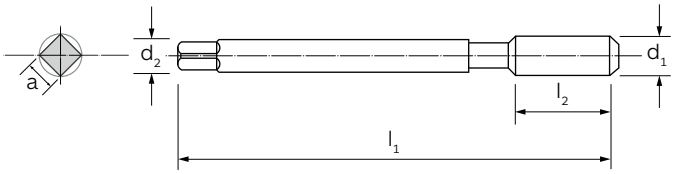
T-BLACK

Maschinengewindebohrer mit reduziertem Schaft, nach DIN 259 und DIN-ISO 228
Machine taps with reduced shank, as DIN 259 and DIN ISO 228

G (BSP) — DIN EN ISO 228

5156 — DIN

P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiCN Top
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)			6835TB
1/8	28	8,80	90	14	7	5,5			●
1/4	19	11,80	100	20	11	9,0			●
3/8	19	15,25	100	20	12	9,0			●
1/2	14	19,00	125	25	16	12,0			●
3/4	14	24,50	140	28	20	16,0			●
7/8	14	28,25	150	28	22	18,0			■
1"	11	30,75	160	30	25	20,0			●

■ **So lange der Vorrat reicht** | Till stocks last

HSS-Co-PM Kegelgewindebohrer mit axialer Innenkühlung zur Bearbeitung von Sacklöchern für den universellen Einsatz.

HSS-Co-PM tapered taps with axial internal coolant for machining of blind holes for universal application.

VR i 15°

B
01

DIE MIT PVD-TECHNIK HERGESTELLTE TIN-BESCHICHTUNG BIETET EINE HERVORRAGENDE VERSCHLEISSFESTIGKEIT UND SPANABFUHR.
TiN coating obtained with PVD tecnique provides excellent wear resistance and chip smoothness.

GEWINDEVERJÜNGUNG DES GEWINDEBOHRER ZUR REDUZIERUNG DES DREHMOMENTS, REIBUNG BEIM SCHNEIDVORGANG UND IN DER UMKEHRPHASE.
Back tapering to reduce the formation of chips at the end of the tap, decreasing the torque in the reversal phase.

SPIRALWINKEL 15° ZUR REDUZIERUNG DER SCHNITTKRÄFTE UND GEWÄHRLEISTUNG EINER SCHNELLEN UND EFFIZIENTEN SPANABFUHR.
Helix angle 15° to reduce cutting forces and ensure fast and efficient chip evacuation.

(M) GEWINDEBEREICH.
(M) threading range.

ILIX® PRECISION

VR i 15°

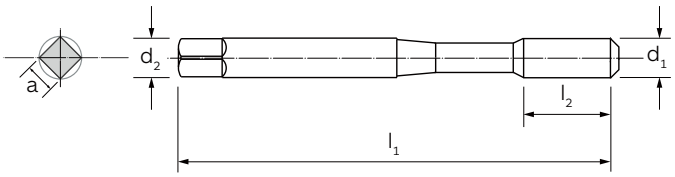
Maschinengewindebohrer mit verstärktem Schaft und Innenkühlung
Machine taps with reinforced shank and internal coolant

M | **DIN 13**

371 | **DIN**

A

P. 472



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiN
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h6)	a (h12)	6601TN
6	1,00	5,0	80	6	6	4,9	●
8	1,25	6,8	90	8	8	6,2	●
10	1,50	8,5	100	10	10	8,0	●

Ti HSS-Co-PM-Gewindebohrer wurden speziell für das Gewindeschneiden von Titan und Titanlegierungen für die Luft- und Raumfahrt und die biomedizinische Industrie entwickelt.

Ti HSS-Co-PM taps are specifically engineered for tapping Titanium and Titanium alloys for aerospace and biomedical industry.

Ti

NITRIERTE OBERFLÄCHENBEHANDLUNG ZUR REDUZIERUNG DER REIBUNGSWERTE.
Nitrated surface treatment in order to reduce the friction rates.

SCHNEIDENWINKEL 15° FÜR EINEN WEICHEN SCHNITT, UM DIE TEMPERATUR AN DER SCHNEIDE ZU REDUZIEREN.
Flute angle 15° for a soft cut, to reduce the temperature on the cutting edge.

SEHR GENAUE TOLERANZEN, TYPISCH FÜR DIE LUFT- UND RAUMFAHRTINDUSTRIE.
Very precise tolerances typical of the aerospace industry.

GEEIGNET FÜR TITAN UND TITANLEGIERUNGEN.
Suitable for Titanium and Titanium alloys.

(M-MF) GEWINDEBEREICHE.
(M-MF) threading ranges.

ILIX® PRECISION

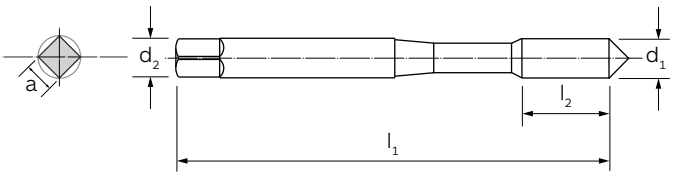
Ti

Maschinengewindebohrer mit verstärktem Schaft für Titanlegierungen
Machine taps with reinforced shank for Titanium alloys

M
DIN 13

371
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

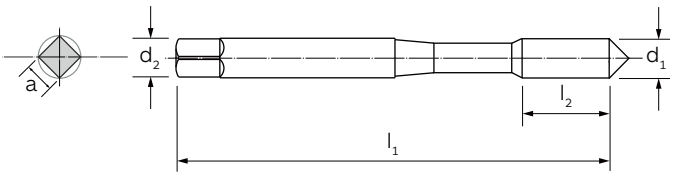
MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6683
3,0	0,50	2,5	56	11	3,5	2,7	●
3,5	0,60	2,9	56	13	4,0	3,0	●
4,0	0,70	3,3	63	13	4,5	3,4	●
5,0	0,80	4,2	70	16	6,0	4,9	●
6,0	1,00	5,0	80	19	6,0	4,9	●
7,0	1,00	6,0	80	19	7,0	5,5	●
8,0	1,25	6,8	90	22	8,0	6,2	●
10,0	1,50	8,5	100	24	10,0	8,0	●

Maschinengewindebohrer mit verstärktem Schaft für Titanlegierungen
Machine taps with reinforced shank for Titanium alloys

M DIN 13 | **371** DIN | P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6684
3,0	0,50	2,5	56	5	3,5	2,7	●
3,5	0,60	2,9	56	6	4,0	3,0	●
4,0	0,70	3,3	63	7	4,5	3,4	●
5,0	0,80	4,2	70	8	6,0	4,9	●
6,0	1,00	5,0	80	10	6,0	4,9	●
7,0	1,00	6,0	80	10	7,0	5,5	●
8,0	1,25	6,8	90	12	8,0	6,2	●
10,0	1,50	8,5	100	14	100	8,0	●

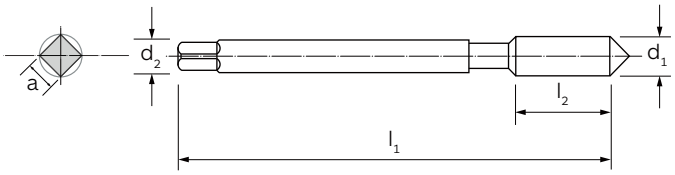
Ti

Maschinengewindebohrer mit reduziertem Schaft für Titanlegierungen
Machine taps with reduced shank for Titanium alloys

M
DIN 13

376
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

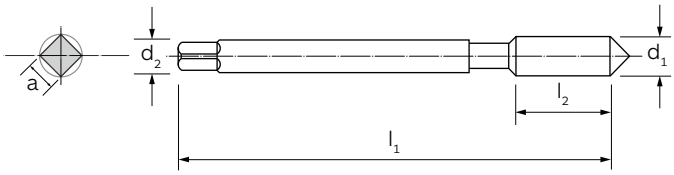
MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6825
12	1,75	10,2	110	29	9	7	●
16	2,00	14,0	110	32	12	9	●
20	2,50	17,5	140	34	16	12	●

Maschinengewindebohrer mit reduziertem Schaft für Titanlegierungen
Machine taps with reduced shank for Titanium alloys

M DIN 13 | **376** DIN | P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6826
12	1,75	10,2	110	29	9	7	●
16	2,00	14,0	110	32	12	9	●
20	2,50	17,5	140	34	16	12	●

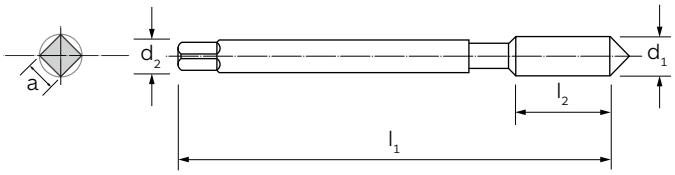
Ti

Maschinengewindebohrer mit reduziertem Schaft für Titanlegierungen
Machine taps with reduced shank for Titanium alloys

MF
DIN 13

374
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6828
8	**1,00**	7,0	90	22	6	4,9	●
10	**1,00**	9,0	90	20	7	5,5	●
12	**1,00**	11,0	100	22	9	7,0	●
12	**1,50**	10,5	100	22	9	7,0	●
14	**1,50**	12,5	100	22	11	9,0	●
16	**1,50**	14,5	100	22	12	9,0	●
18	**1,50**	16,5	110	25	14	11,0	●
20	**1,50**	18,5	125	25	16	12,0	●

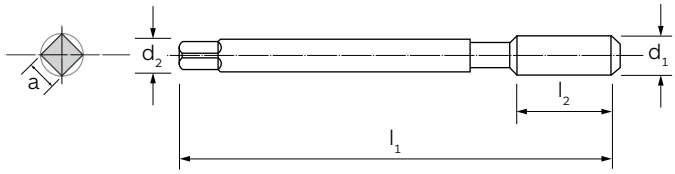
Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

Maschinengewindebohrer mit reduziertem Schaft für Titanlegierungen
Machine taps with reduced shank for Titanium alloys

MF DIN 13

374 DIN

P. 474



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	NIT
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6829
8	**1,00**	7,0	90	22	6	4,9	●
10	**1,00**	9,0	90	20	7	5,5	●
12	**1,50**	10,5	100	22	9	7,0	●
14	**1,50**	12,5	100	22	11	9,0	●
16	**1,50**	14,5	100	22	12	9,0	●
18	**1,50**	16,5	110	25	14	11,0	●
20	**1,50**	18,5	125	25	16	120	●

Ni-HSS-Co-PM-Gewindebohrer wurden speziell für das Gewindeschneiden von Nickellegierungen in der Luft- und Raumfahrt- und Energieindustrie entwickelt.

Ni HSS-Co-PM taps are specifically engineered for tapping Nickel alloys in aerospace and energy industry.

Ni

GELÄPPTE OBERFLÄCHE REDUZIERT DIE REIBUNG.
Lapping surface treatment reduces the friction rates.

SEHR GENAUE TOLERANZEN, TYPISCH FÜR DIE LUFT- UND RAUMFAHRTINDUSTRIE.
Very precise tolerances typical of the aerospace industry.

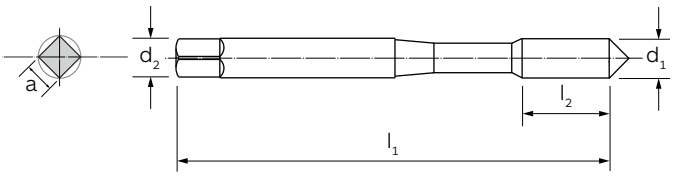
GEEIGNET FÜR NICKEL, NICKELLEGIERUNGEN, INCONEL UND HASTELLOY.
Suitable for Nickel, Nickel alloy, Inconel and Hastelloy.

(M-MJ-UNC-UNJC-UNF-UNJF) GEWINDEBEREICHE.
(M-MJ-UNC-UNJC-UNF-UNJF) threading ranges.

M
DIN 13

371
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

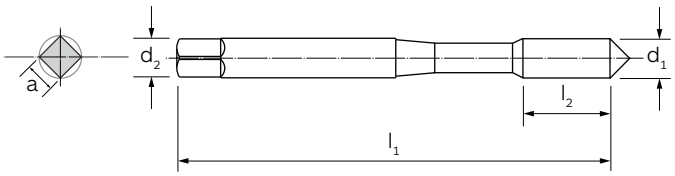
P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6892
2,0	0,40	1,6	45	8	2,8	2,1	●
2,5	0,45	2,1	50	9	2,8	2,1	●
3,0	0,50	2,5	56	11	3,5	2,7	●
4,0	0,70	3,3	63	13	4,5	3,4	●
5,0	0,80	4,2	70	16	6,0	4,9	●
6,0	1,00	5,0	80	19	6,0	4,9	●
8,0	1,25	6,8	90	22	8,0	6,2	●
10,0	1,50	8,5	100	24	10,0	8,0	●

Ni

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

M	371		
DIN 13	DIN		P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

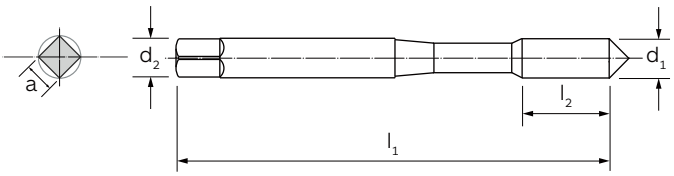
P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6682
4	0,70	3,3	63	13	4,5	3,4	■
5	0,80	4,2	70	16	6,0	4,9	■
6	1,00	5,0	80	19	6,0	4,9	■
8	1,25	6,8	90	22	8,0	6,2	■
10	1,50	8,5	100	24	10,0	8,0	■

M
DIN 13

371
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	–
DRALLWINKEL | HELIX ANGLE	22°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	–
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	–
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	–

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6894
3	0,50	2,5	56	11	3,5	2,7		●
3,5*	0,60	2,9	56	13	4,0	3,0		■
4	0,70	3,3	63	13	4,5	3,4		●
5	0,80	4,2	70	16	6,0	4,9		●
6	1,00	5,0	80	19	6,0	4,9		●
8	1,25	6,8	90	22	8,0	6,2		●
10	1,50	8,5	100	24	10,0	8,0		●

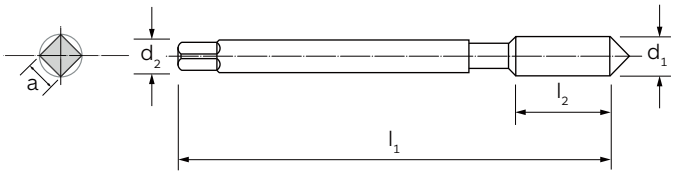
*** Bitte Bestellcode 6895 (3.5) angeben** | Please state order code 6895 (3.5)

■ **So lange der Vorrat reicht** | Till stocks last

M
DIN 13

376
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

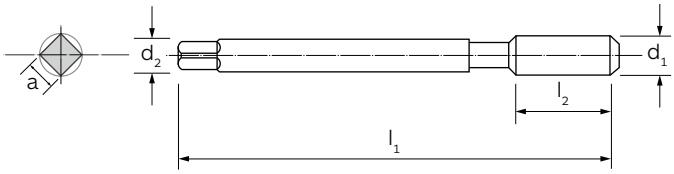
P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6893
12	1,75	10,2	110	29	9	7	●
16	2,00	14,0	110	32	12	9	●
20	2,50	17,5	140	34	16	12	●

M
DIN 13

376
DIN

P. 474



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	22°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

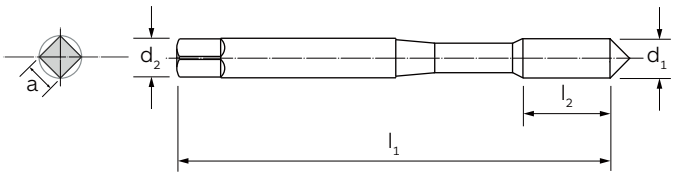
P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6948
12	1,75	10,2	110	29	9	7		●
16	2,00	14,0	110	32	12	9		●
20	4,50	17,5	140	34	16	12		●

MJ

371
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	10°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	4HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6906
3	**0,50**	2,6	56	11	3,5	2,7	●
4	**0,70**	3,4	63	13	4,5	3,4	●
5	**0,80**	4,3	70	15	6,0	4,9	●
6	**1,00**	5,1	80	17	6,0	4,9	●
8	**1,00**	7,1	90	17	8,0	6,2	●
8	**1,25**	6,9	90	20	8,0	6,2	●
10	**1,25**	8,9	100	18	10,0	8,0	●
10	**1,50**	8,6	100	22	10,0	8,0	●

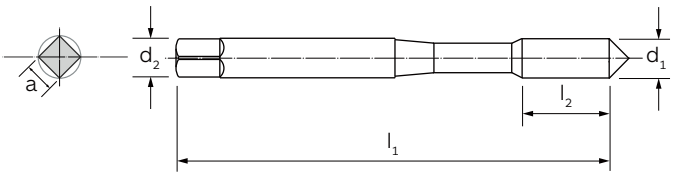
Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNC
ASME B.1.1

2184 -1
DIN

P. 474



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6869
nr. **2**	**56**	1,85	45,0	9	2,8	2,1	●
nr. **3**	**48**	2,10	50,0	9	2,8	2,1	●
nr. **5**	**40**	2,65	56,0	11	3,5	2,7	●
nr. **6**	**32**	2,85	56,0	13	4,0	3,0	●
nr. **8**	**32**	3,50	63,0	13	4,5	3,4	●
nr. **10**	**24**	3,90	70,0	16	6,0	4,9	●
nr. **12**	**24**	4,50	80,0	17	6,0	4,9	●
5/16	18	6,60	90,0	20	8,0	6,2	●
3/8	16	8,00	100,0	20	10,0	8,0	●

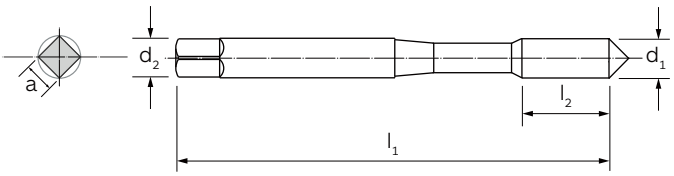
Ni

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNC
ASME B.1.1

2184 -1
DIN

P. 474



B 01

MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	22°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

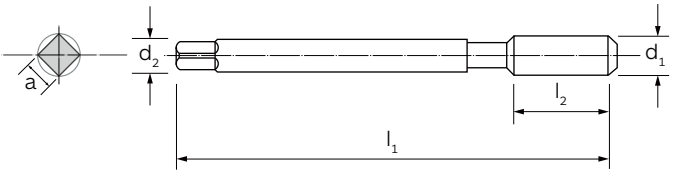
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6990
nr. **4**	**40**	2,35	56	11	3,5	2,7	●
nr. **6**	**32**	2,85	56	13	4	3	●
nr. **8**	**32**	3,5	63	13	4,5	3,4	●
nr. **10**	**24**	3,9	70	16	6	4,9	●
nr. **12**	**24**	4,5	80	17	6	4,9	●
1/4	20	5,1	80	17	7	5,5	●
5/16	18	6,6	90	20	8	6,2	●
3/8	16	8	100	20	10	8	●

Maschinengewindebohrer mit reduziertem Schaft, Abmessungen allgemein wie DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNC
ASME B.1.1

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6897
1/2	13	10,8	110	16	9	7	●
5/8	11	13,5	110	20	12	9	●
3/4	10	16,5	125	25	14	11	●

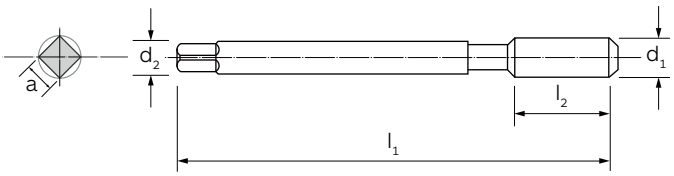
Ni

Maschinengewindebohrer mit reduziertem Schaft, Abmessungen allgemein wie DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNC
ASME B.1.1

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	22°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

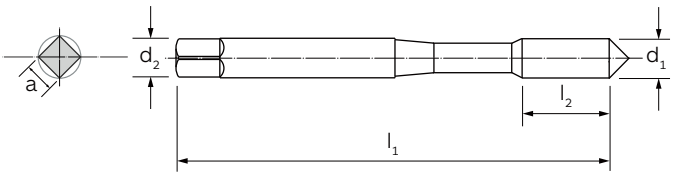
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6997
7/16	14	6,50	100	18	6	4,9	●
1/2	13	10,80	110	22	9	7,0	●
5/8	11	13,50	110	28	12	9,0	●

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNJC
ASME B.1.1

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	10°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	3BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6998
nr. **6**	**32**	2,75	56	11	4,0	3,0		●
nr. **8**	**32**	3,50	63	12	4,5	3,4		●
nr. **10**	**24**	3,80	70	14	6,0	4,9		●
nr. **12**	**24**	3,80	70	14	6,0	4,9		●
1/4	20	5,10	80	16	6,0	4,9		●
5/16	18	6,50	90	18	8,0	6,2		●
3/8	16	7,90	100	20	10,0	8,0		●

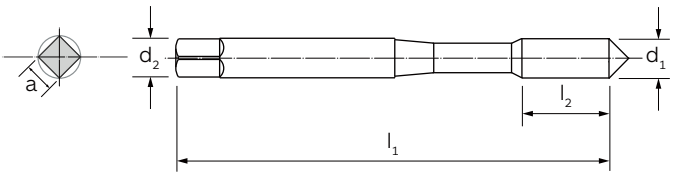
Ni

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNF

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

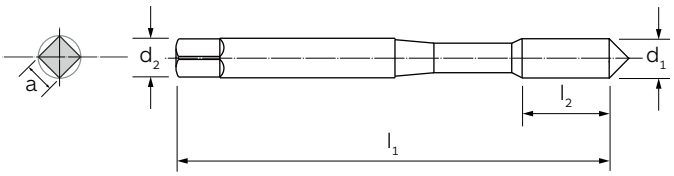
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6844
nr. **2**	**64**	1,90	45	9	2,8	2,1	●
nr. **3**	**56**	2,15	50	9	2,8	2,1	●
nr. **4**	**48**	2,40	56	11	3,5	2,7	●
nr. **5**	**44**	2,70	56	11	3,5	2,7	●
nr. **6**	**40**	2,95	56	13	4,0	3,0	●
nr. **8**	**36**	3,50	63	13	4,5	3,4	●
nr. **10**	**32**	4,10	70	14	6,0	4,9	●
nr. **12**	**28**	4,70	80	17	6,0	4,9	●
1/4	28	5,50	80	18	7,0	5,5	●
5/16	24	6,90	90	22	8,0	6,2	●
3/8	24	8,50	100	22	10,0	7,0	●

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNF

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	22°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6928
nr. **6**	40	2,95	56	13	4	3,0		●
nr. **8**	36	3,50	63	13	4,5	3,4		●
nr. **10**	32	4,10	70	14	6	4,9		●
nr. **12**	28	4,70	80	14	6	4,9		●
1/4	28	5,50	80	16	7	5,5		●
5/16	24	6,90	90	22	8	6,2		●
3/8	24	8,50	100	22	10	8,0		●

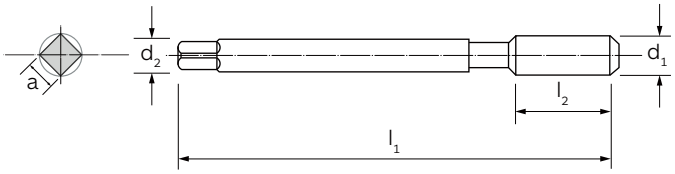
Ni

Maschinengewindebohrer mit reduziertem Schaft, Abmessungen allgemein wie DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNF

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

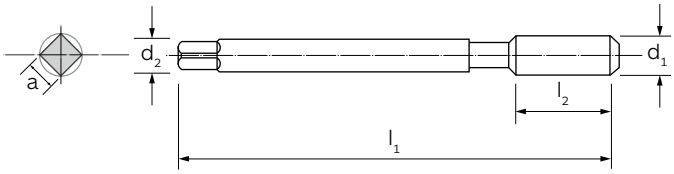
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6845
7/16	20	9,9	100	22	8	6,2	●
1/2	20	11,5	100	22	9	7,0	●
5/8	18	14,5	100	22	12	9,0	●
3/4	16	17,5	110	25	14	11,0	●

Maschinengewindebohrer mit reduziertem Schaft, Abmessungen allgemein wie DIN 376
Machine taps with reduced shank, dimensions generally as DIN 376

UNF

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	–
DRALLWINKEL | HELIX ANGLE	22°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	–
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	–
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	–

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6929
7/16	20	9,9	100	14	8	6,2		●
1/2	20	11,5	110	18	9	7,0		●
5/8	18	14,5	110	20	12	9,0		●

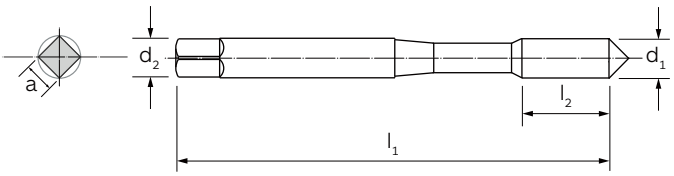
Ni - MULTI AERO

Maschinengewindebohrer mit verstärktem Schaft, Abmessungen allgemein wie DIN 371
Machine taps with reinforced shank, dimensions generally as DIN 371

UNJF
ASME B1.15

2184 -1
DIN

P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	3BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6907
nr. **6**	**40**	3,00	56	12	4,0	3,0	●
nr. **8**	**36**	3,55	63	13	4,5	3,4	●
nr. **10**	**32**	4,15	70	15	6,0	4,9	●
1/4	28	5,55	80	17	7,0	5,5	●
5/16	24	7,00	90	17	8,0	6,2	●
3/8	24	8,60	90	18	10,0	8,0	●

Multi TP Gewindebohrer aus Vollhartmetall und HSS-CO-PM geeignet für die Bearbeitung von Werkstoffen mit Härten über 50 HRC.

Multi TP taps made of solid carbide and HSS-CO-PM suitable for machining materials with hardnesses above 50 HRC.

MULTI TP

TIALN, TICN UND TISIN PLUS-BESCHICHTUNGEN, DIE MIT PVD-TECHNIK HERGESTELLT WERDEN, BIETEN EINE HÖHERE ZÄHIGKEIT UND VERSCHLEISSFESTIGKEIT BEI GEHÄRTETEN STÄHLEN
TiAlN, TiCN E TiSiN PLUS coating obtained with PVD tecnique provide higher tenacity and wear resistance on hardened steels

SPEZIELL ENTWICKELTE SCHNEIDENGEOMETRIE ZUR REDUZIERUNG DER SCHNITTREIBUNG UND GEWÄHRLEISTUNG EINER HERVORRAGENDEN STANDZEIT AUCH BEI HOHEN DREHZAHLEN.
Specially designed cutting geometry to reduce cutting friction and ensure excellent tap life even at high speeds.

(M) GEWINDEBEREICH.
(M) threading range.

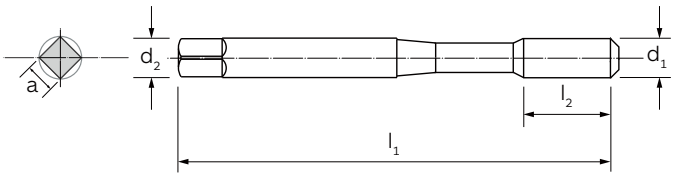
ILIX® PRECISION

MULTI TP

Maschinengewindebohrer mit verstärktem Schaft
Machine taps with reinforced shank

NEW

M	371	50	
DIN 13	DIN	HRC	P. 474



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	–
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/6-8
LOCHTYP | HOLE TYPE	

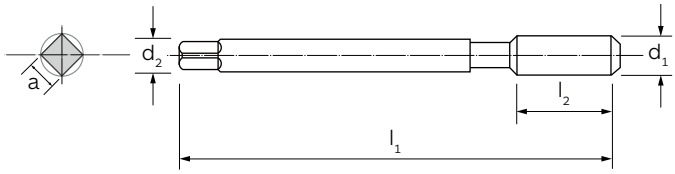
MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	H

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6645TF
6	1,00	5,0	80	17	6,0	4,9	●
8	1,25	6,8	90	20	8,0	6,2	●
10	1,50	8,5	100	22	10,0	8,0	●

Verwenden Sie für Bohrarbeiten an der gleichen Art von Material den Bohrer 6014NX auf Seite 66 | For drilling operations on the same type of material, use drill 6014NX on page 66

M	~371	~376	52-58	P. 474
DIN 13	DIN	DIN	HRC	



B 01

MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	./3-4
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	H

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6770TC
4	0,70	3,3	63	13	4,5	3,4	●
5	0,80	4,2	70	15	6,0	4,9	●
6	1,00	5,0	80	17	6,0	4,9	●
8	1,25	6,8	90	20	8,0	6,2	●
10	1,50	8,5	100	22	10,0	8,0	●
12	1,75	10,2	110	24	9,0	9,0	●

Axialer Innenkühlung Ø ≥M6 | Axial coolant Ø ≥M6

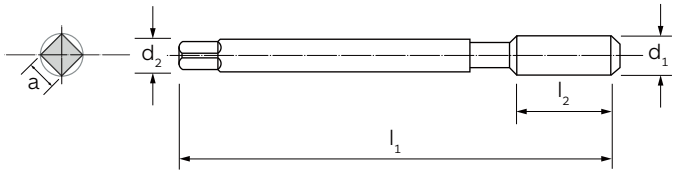
Verwenden Sie für Bohrarbeiten an der gleichen Art von Material den Bohrer 6014NX auf Seite 66 | For drilling operations on the same type of material, use drill 6014NX on page 66

MULTI TP

Maschinengewindebohrer ähnlich DIN 371/DIN376 mit Innenkühlung
Machine taps, similar to DIN 371/DIN376 with internal coolant

NEW

M	~371	~376	52-58	P. 474
DIN 13	DIN	DIN	HRC	



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiSiN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	./3-4
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	H

B 01

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6770NX
4	0,70	3,3	63	13	4,5	3,4	●
5	0,80	4,2	70	15	6,0	4,9	●
6	1,00	5,0	80	17	6,0	4,9	●
8	1,25	6,8	90	20	8,0	6,2	●
10	1,50	8,5	100	22	10,0	8,0	●
12	1,75	10,2	110	24	9,0	9,0	●

Axialer Innenkühlung Ø ≥M6 | Axial coolant Ø ≥M6

Verwenden Sie für Bohrarbeiten an der gleichen Art von Material den Bohrer 6014NX auf Seite 66 | For drilling operations on the same type of material, use drill 6014NX on page 66

ILIX-Vollhartmetall-Gewindebohrer wurden entwickelt, um die Standzeit des Werkzeugs zu erhöhen und die Zykluszeit zu verkürzen.

ILIX solid carbide taps are designed to increase tool life and decrease cycle time. Especially when tapping abrasive materials, the performance of an HM tap are clearly superior to those of an HSS tap.

VHM-Gewindebohrer
SOLID CARBIDE TAPS

SCHÄLANSCHNITT ODER 15° SPIRALE FÜR EINE GROSSE AUSWAHL JE NACH MATERIAL UND ART DER BOHRUNG.
Spiral point or 15° helix for a wide choice depending on the material and type of hole.

AXIALE INNENKÜHLUNG FÜR BESSERE SPANABFUHR.
Axial internal coolant for better chip evacuation.

DIE BLANKE OBERFLÄCHE HÄLT DIE SCHNEIDKANTEN SCHARF UND SORGT FÜR EINE LÄNGERE LEBENSDAUER DES WERKZEUGS BEIM GEWINDESCHNEIDEN VON ABRASIVEN MATERIALIEN.
Bright finishing keeps cutting edges sharp ensuring longer tool life when tapping abrasive materials.

GEEIGNET FÜR GUSSEISEN UND ALUMINIUM MIT HOHEM SILIZIUMGEHALT
Suitable for cast irons and aluminum with high silicon content

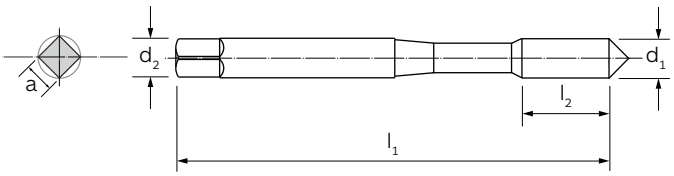
(M-MF) GEWINDEBEREICHE.
(M-MF) threading ranges.

ILIX® PRECISION

N - N 15°

Vollhartmetall-Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Solid carbide machine taps with reinforced shank, similar to DIN 371

M	~371	
DIN 13	DIN	P. 474



	N	N 15°
MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	-
DRALLWINKEL | HELIX ANGLE	0°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	H	H

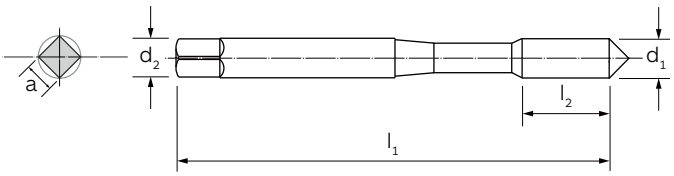
B 01

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6771	6736
4	0,70	3,3	63	13	4,5	3,4	●	●
5	0,80	4,2	70	16	6,0	4,9	●	●
***6**	1,00	5,0	80	19	6,0	4,9	●	●
***8**	1,25	6,8	90	22	8,0	6,2	●	●
***10**	1,50	8,5	100	24	100	8,0	●	●

*** Innere Kühlmittelzufuhr für Durchmesser 6-8-10** | Internal coolant for diameters 6-8-10

Vollhartmetall-Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371 mit Innenkühlung
Solid carbide machine taps with reinforced shank, similar to DIN 371 with internal coolant

M	~371	A	
DIN 13	DIN		P. 476



B 01

MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

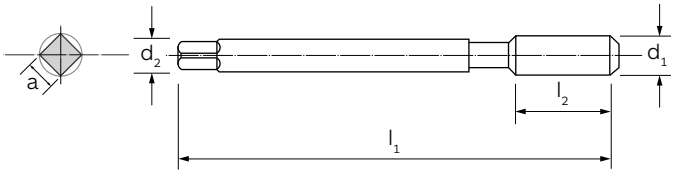
d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6762
5	0,80	4,2	70	16	6	4,9		●
***6**	1,00	5,0	80	19	6	4,9		●
***8**	1,25	6,8	90	22	8	6,2		●
***10**	1,50	8,5	100	24	10	8,0		●

* **Innere Kühlmittelzufuhr für Durchmesser 6-8-10** | Internal coolant for diameters 6-8-10 ■ **So lange der Vorrat reicht** | Till stocks last

N i 15°

Vollhartmetall-Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 376 mit Innenkühlung
Solid carbide machine taps with reduced shank, similar to DIN 376 with internal coolant

M	~376	A	
DIN 13	DIN		P. 476



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

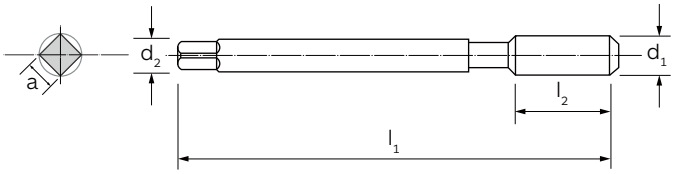
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6765
12	1,75	10,2	110	29	9	7	●

N i 15°

Vollhartmetall-Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 374 mit Innenkühlung
Solid carbide machine taps with reduced shank, similar to DIN 374 with internal coolant

MF DIN 13 | **~374** DIN | **A** | P. 476



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6767
8	**1**	7	90	18	8	6,2		●
10	**1**	9	100	18	10	7,0		●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

GG i

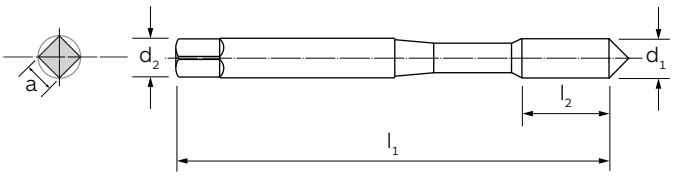
Vollhartmetall-Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371 mit Innenkühlung
Solid carbide machine taps with reinforced shank, similar to DIN 371 with internal coolant

M
DIN 13

~371
DIN

A

P. 476



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6760
5	0,80	4,2	70	16	6	4,9	●
6	1,00	5,0	80	19	6	4,9	●
8	1,25	6,8	90	22	8	6,2	●
10	1,50	8,5	100	24	10	8,0	●

HSS-Co-Gewindeformer mit neuer EVO-Technologie sorgen für hohe Produktivität und verbesserte Gewindequalität durch hohe Verschleiß- und Hitzebeständigkeit.

HSS-Co cold forming taps with new EVO technology ensure high productivity and improved thread quality due to high wear and heat resistance.

FORMER S EVO

MIT PVD-TECHNIK HERGESTELLTE TICN PLUS-BESCHICHTUNGEN BIETEN VERSCHLEISSFESTIGKEIT UND VERRINGERN DEN REIBUNGSKOEFFIZIENTEN.
TiCN PLUS coatings obtained with PVD tecnique provides wear resistance and decreases the coefficient of friction.

BREITE SCHMIERNUTEN ZUR OPTIMIERUNG DER ÄUSSEREN KÜHLMITTELZUFUHR.
Wide grooves to optimise external coolant supply.

UNIVERSELL EINSETZBAR IN ALLEN VERFORMBAREN MATERIALIEN BIS 1200 n/mm2.
Universal use in all rollable materials up to 1200 n/mm².

INNOVATIVE ANSCHNITTGEOMETRIE ZUR MINIMIERUNG DES ANZUGSDREHMOMENTS.
Innovative chamfer geometry to minimise tightening torque.

ERHÖHTE PROZESSSICHERHEIT UND STANDZEITEN.
Increased process reliability and tool life.

(M-MF) GEWINDEBEREICHE.
(M-MF) threading ranges.

ILIX® PRECISION

FORMER S EVO

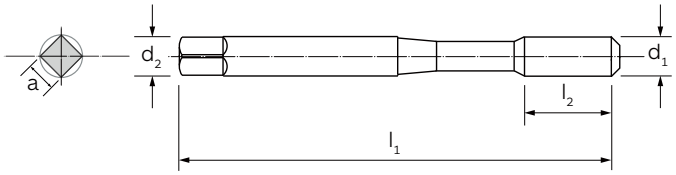
Gewindeformer | Cold forming taps

NEW

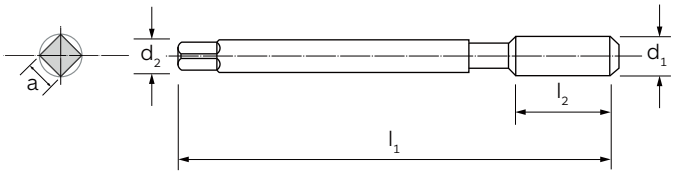
M
DIN 13

2174
DIN

P. 476



Typ | TYPE **(1)**



Typ | TYPE **(2)**

B 01

MATERIAL | MATERIAL	HSS-Co
BESCHICHTUNG | COATING	TiCN Plus
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

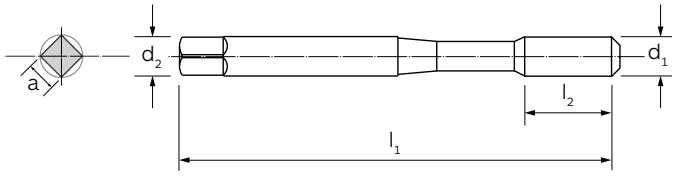
d_1	P		l_1	l_2	d_2 (h9)	a (h12)	Typ Type		6803TC
3	0,50	2,80	56	11	3,5	2,7	1		●
4	0,70	3,70	63	13	4,5	3,4	1		●
5	0,80	4,65	70	16	6,0	4,9	1		●
6	1,00	5,55	80	19	6,0	4,9	1		●
8	1,25	7,40	90	22	8,0	6,2	1		●
10	1,50	9,30	100	24	10,0	8,0	1		●
12	1,75	11,20	110	28	9,0	7,0	2		●
14	2,00	13,10	110	30	11,0	9,0	2		●
16	2,00	15,10	110	32	12,0	9,0	2		●

NEW

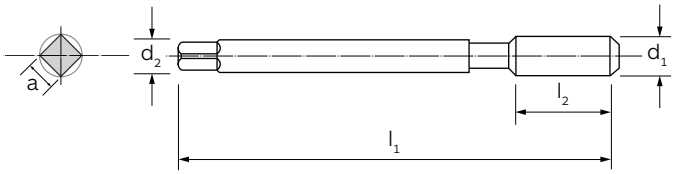
M
DIN 13

2174
DIN

P. 476



Typ | TYPE **(1)**



Typ | TYPE **(2)**

B 01

MATERIAL | MATERIAL	HSS-Co
BESCHICHTUNG | COATING	TiCN Plus
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6GX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	Typ Type		6804TC
3	0,50	2,80	56	11	3,5	2,7	1		●
4	0,70	3,70	63	13	4,5	3,4	1		●
5	0,80	4,65	70	16	6,0	4,9	1		●
6	1,00	5,55	80	19	6,0	4,9	1		●
8	1,25	7,40	90	22	8,0	6,2	1		●
10	1,50	9,30	100	24	10,0	8,0	1		●
12	1,75	11,20	110	28	9,0	7,0	2		●
14	2,00	13,10	100	22	12,0	9,0	2		●
16	2,00	15,10	110	32	12,0	9,0	2		●

FORMER S EVO

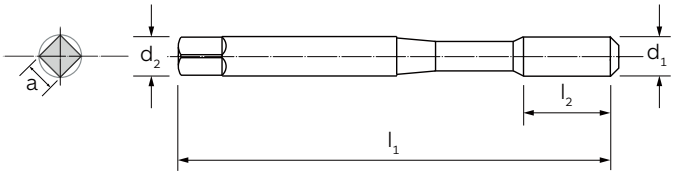
Gewindeformer | Cold forming taps

NEW

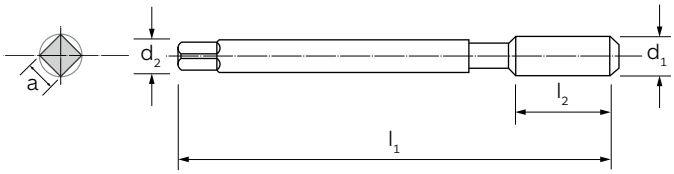
MF
DIN 13

2174
DIN

P. 476



Typ | TYPE **(1)**



Typ | TYPE **(2)**

B 01

MATERIAL | MATERIAL	HSS-Co
BESCHICHTUNG | COATING	TiCN Plus
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	Typ Type		6805TC
8	**1,00**	7,55	90	22	8,0	6,2	1		●
10	**1,00**	9,55	90	20	8,0	8,0	2		●
10	**1,25**	9,40	90	20	8,0	8,0	2		●
12	**1,25**	11,40	100	22	9,0	7,0	2		●
12	**1,50**	11,30	100	22	9,0	7,0	2		●
14	**1,50**	13,30	100	22	11,0	9,0	2		●
16	**1,50**	15,30	100	22	12,0	9,0	2		●

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)

FORMER S PM u. FORMER S i PM HSS-Co-PM Gewindeformer sind für den Hochgeschwindigkeitseinsatz ausgelegt. Wie die Gewindeformer EVO sorgen sie für eine hohe Produktivität und eine bessere Gewindequalität dank einer hohen Verschleiß- und Hitzebeständigkeit.

FORMER S PM e FORMER S i PM HSS-Co-PM cold forming taps are designed for high-speed use. As for the EVO former, they ensure high productivity and better threading quality thanks to a high resistance to wear and heat.

FORMER S PM
FORMER S i PM

MIT PVD-TECHNIK HERGESTELLTE TIN- ODER TIALN-BESCHICHTUNGEN BIETEN EINE HERVORRAGENDE VERSCHLEISSFESTIGKEIT.
TiN or TiAlN coatings cobtained with PVD tecnique provide excellent wear resistance.

AXIALE UND RADIALE INTERNE SCHMIERBOHRUNGEN.
Axial and radial internal lubrication holes.

UNIVERSELL EINSETZBAR IN ALLEN UMFORMMATERIALIEN BIS 1200 n/mm².
Universal use in all forming materials up to 1200 n/mm².

BESSERE OBERFLÄCHENQUALITÄT AM GEWINDE.
Better surface quality on thread.

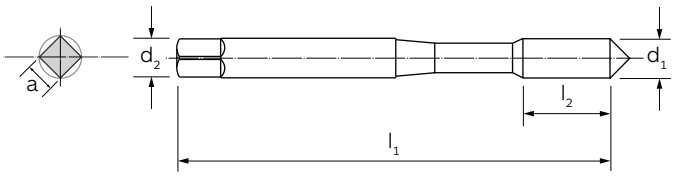
(M) GEWINDEBEREICH.
(M) threading range.

ILIX® PRECISION

FORMER S PM

Gewindeformer mit verstärktem Schaft
Cold forming taps with reinforced shank

M	2174	
DIN 13	DIN	P. 476



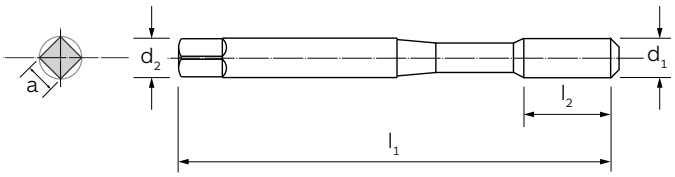
MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6800TF
3	0,50	2,8	56	11	3,5	2,7	●
4	0,70	3,7	63	13	4,5	3,4	●
5	0,80	4,6	70	16	6,0	4,9	●
6	1,00	5,5	80	19	6,0	4,9	●
8	1,25	7,4	90	22	8,0	6,2	●
10	1,50	9,3	100	24	10,0	8,0	●

M DIN 13 | **2174** DIN | **A** | P. 476



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6801TN
6	1,00	5,5	80	19	6	4,9		●
8	1,25	7,4	90	22	8	6,2		●
10	1,50	9,3	100	24	10	8,0		●

FORMER S i PM

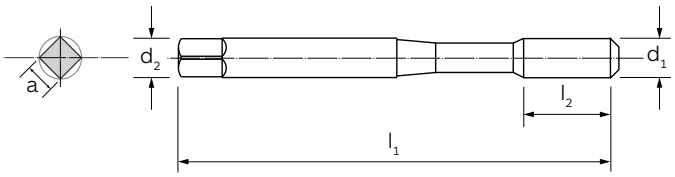
Gewindeformer mit verstärktem Schaft und Innenkühlung
Cold forming taps with reinforced shank and internal coolant

M
DIN 13

2174
DIN

R

P. 476



MATERIAL | MATERIAL	HSS-Co-PM
BESCHICHTUNG | COATING	TiN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	R
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6969TN
5	0,80	4,6	70	16	6	4,9	●
6	1,00	5,5	80	19	6	4,9	●
8	1,25	7,4	90	22	8	6,2	●
10	1,50	9,3	100	24	10	8,0	●

Vollhartmetall-Gewindeformer sind darauf ausgelegt, Bearbeitungszeiten bei optimierter Leistung auch unter mechanischer und thermischer Belastung zu reduzieren. Dieser Werkzeugtyp ermöglicht ein präzises Gewinde ohne Span zu erzeugen.

Solid carbide cold forming taps are designed to reduce machining times with optimised performance even under mechanical and thermal stress. This tool type allows precise threading with excellent chip-free tolerance.

FORMER MDI
SOLID CARBIDE FORMER

GEEIGNET ZUM UMFORMEN VON STAHL (700 N/mm²), ALUMINIUMLEGIERUNGEN UND MESSING.
Suitable for forming steel (700 n/mm²), Aluminium alloys and Brass.

HÖHERE SCHNITTGESCHWINDIGKEIT ALS GEWINDEBOHRER FORMER S PM UND FORMER S PM I.
Higher cutting speed than taps FORMER S PM and FORMER S PM i.

BESSERE OBERFLÄCHENQUALITÄT AM GEWINDE.
Better surface quality on thread.

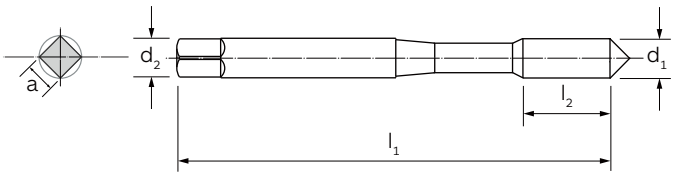
(M) GEWINDEBEREICH.
(M) threading range.

ILIX® PRECISION

FORMER MDI

Gewindeformer mit verstärktem Schaft und Innenkühlung
Cold forming taps with reinforced shank and internal coolant

M	2174	A	
DIN 13	DIN		P. 476



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
TOLERANZ | TOLERANCE	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6788
4	0,70	3,7	63	13	4,5	3,4	●
5	0,80	4,6	70	16	6,0	4,9	●
6	1,00	5,5	80	19	6,0	4,9	●
8	1,25	7,4	90	18	8,0	6,2	●
10	1,50	9,3	100	20	10,0	8,0	●

Axialer Innenkühlung Ø ≥M6 | Axial coolant Ø ≥M6

HOCHLEISTUNGS-GEWINDEBOHRER
HIGH PERFORMANCE TAPS

B.01.03

Schnittdaten
Cutting data

Gewindetiefe Threading depth		**M**	**MF**	**MJ**	**UNC**	**UNF**	**UNJC**	**UNJF**	**BSP/G**
		Gewindeprofile | Threading profiles							
MULTI RAPID PRO									
≤3.0 xD		6780TC	-	-	-	-	-	-	-
		6781TC	-	-	-	-	-	-	-
MULTI PRO									
≤3.0 xD		6782TC	-	-	-	-	-	-	-
		6783TC	-	-	-	-	-	-	-
MULTI RAPID VA									
≤3.0 xD		6773TC	-	-	6986TC	6988TC	-	-	-
		6778TC	6984TC	-	-	-	-	-	-
MULTI VA									
≤3.0 xD		6774TC	6985TC	-	6987TC	6989TC	-	-	-
		6779TC	-	-	-	-	-	-	-
MULTI RAPID HD									
≤3.0 xD		6750TN	-	-	6993TN	6995TN	-	-	-
		6751TN	6752TN	-	-	-	-	-	-
MULTI HD									
≤3.0 xD		6755TN	-	-	6994TN	6996TN	-	-	-
		6756TN	6757TN	-	-	-	-	-	-
MULTI RAPID HD i									
≤3.0 xD		6753TC	-	-	-	-	-	-	-
		6758TN	-	-	-	-	-	-	-
		6758TC	-	-	-	-	-	-	-

SCHNITTDATEN | CUTTING DATA

Hochleistungs-Gewindebohrer | High performance taps

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
30	**20**	**10**	**12**	**7**	**30**	**15**	**45**	**30**	-	-	-	-	-
30	**20**	**10**	**12**	**7**	**30**	**15**	**45**	**30**	-	-	-	-	-
30	**20**	**10**	**12**	**7**	**30**	**15**	**45**	**30**	-	-	-	-	-
30	**20**	**10**	**12**	**7**	**30**	**15**	**45**	**30**	-	-	-	-	-
30	25	-	**17**	**13**	-	20	-	15	-	-	-	-	-
30	25	-	**17**	**13**	-	20	-	15	-	-	-	-	-
30	25	-	**17**	**13**	-	20	-	15	-	-	-	-	-
30	25	-	**17**	**13**	-	20	-	15	-	-	-	-	-
35	**25**	**15**	-	-	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	-	-	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	-	-	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	-	-	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	**13**	10	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	**13**	10	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	**13**	10	**30**	**20**	-	25	-	-	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**MJ**	**UNC**	**UNF**	**UNJC**	**UNJF**	**BSP/G**
		Gewindeprofile | Threading profiles							
▸ MULTI HD i									
≤3.0 xD		6772TC	-	-	-	-	-	-	-
		6777TN	-	-	-	-	-	-	-
		6777TC	-	-	-	-	-	-	-
▸ SINCRO ILIX i									
≤3.0 xD		6975HL	-	-	-	-	-	-	-
≤2.0 xD		6971TN	-	-	-	-	-	-	-
		6973HL	-	-	-	-	-	-	-
≤3.0 xD		6976HL	-	-	-	-	-	-	-
≤2.0 xD		6972TN	-	-	-	-	-	-	-
		6974HL	-	-	-	-	-	-	-
≤3.0 xD		-	6978TN	-	-	-	-	-	-
≤2.0 xD		-	6977TN	-	-	-	-	-	-
▸ MULTI GG									
≤3.0 xD		6964	-	-	-	-	-	-	-
		6965	6966	-	-	-	-	-	-
▸ MULTI GG i									
≤3.0 xD		6967TC	-	-	-	-	-	-	-
▸ T BLACK									
≤3.0 xD		6668TB	-	-	6831TB	6833TB	-	-	-
		6669TB	6830TB	-	6832TB	6834TB	-	-	6835TB
▸ VR i 15°									
≤2.0 xD		6601TN	-	-	-	-	-	-	-

Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm² P1	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm² P2	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm² P3	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic M1	Rostfreier Stahl Austenitisch Stainless steel Austenitic M2	Graues Gusseisen Grey cast iron K1	Sphäroguss Nodular cast iron K2	Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys N1	Nicht eisenhaltige Materialien Non ferrous materials N2	Titan und Titanlegierungen Titanium and Titanium alloys S1	HRSA Hitzebeständige Legierungen Heat resistant alloys S2	Gehärtete Stähle Hardened steels 38/48 HRC H1	Gehärtete Stähle Hardened steels 48/58 HRC H2	Gehärtete Stähle Hardened steels 58/68 HRC H3
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
35	**25**	**15**	**13**	10	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	**13**	10	**30**	**20**	-	25	-	-	-	-	-
35	**25**	**15**	**13**	10	**30**	**20**	-	25	-	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
40	**35**	**25**	15	10	**35**	**25**	38	30	4	-	-	-	-
-	-	-	-	-	**35**	**25**	-	-	-	-	-	-	-
-	-	-	-	-	**35**	**25**	-	-	-	-	-	-	-
-	-	-	-	-	**40**	**30**	-	-	-	-	-	-	-
35	**30**	**20**	**10**	**7**	-	**30**	**30**	**20**	2	2	-	-	-
35	**30**	**20**	**10**	**7**	-	**30**	**30**	**20**	2	2	-	-	-
40	**30**	**25**	**15**	**10**	-	-	40	25	**3**	**2**	-	-	-

B 01

▸ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

B 01

Gewindetiefe Threading depth		**M**	**MF**	**MJ**	**UNC**	**UNF**	**UNJC**	**UNJF**	**BSP/G**
		Gewindeprofile | Threading profiles							
▸ Ti									
≤2.0 xD		6683	-	-	-	-	-	-	-
		6684	-	-	-	-	-	-	-
		6825	6828	-	-	-	-	-	-
		6826	-	-	-	-	-	-	-
		-	6829	-	-	-	-	-	-
▸ Ni									
≤2.0 xD		6892	-	-	6869	6844	-	-	-
		6682	-	-	-	-	-	-	-
		6894	-	6906	6990	6928	6998	6907	-
		6893	-	-	6897	6845	-	-	-
		6948	-	-	6997	6929	-	-	-
▸ MULTI TP									
≤1.5 xD		6645TF	-	-	-	-	-	-	-
		6770TC	-	-	-	-	-	-	-
		6770NX	-	-	-	-	-	-	-
▸ N									
≤2.0 xD		6771	-	-	-	-	-	-	-
▸ N 15°									
≤1.5 xD		6736	-	-	-	-	-	-	-

SCHNITTDATEN | CUTTING DATA

Hochleistungs-Gewindebohrer | High performance taps

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

-	-	10	-	8	-	-	-	13	**7**	4	-	-	-
-	-	10	-	8	-	-	-	13	**7**	4	-	-	-
-	-	10	-	8	-	-	-	13	**7**	4	-	-	-
-	-	10	-	8	-	-	-	13	**7**	4	-	-	-
-	-	10	-	8	-	-	-	13	**7**	4	-	-	-
-	-	-	-	7	-	-	-	-	7	**6**	-	-	-
-	-	-	-	7	-	-	-	-	7	**6**	-	-	-
-	-	-	-	7	-	-	-	-	7	**6**	-	-	-
-	-	-	-	7	-	-	-	-	7	**6**	-	-	-
-	-	-	-	7	-	-	-	-	7	**6**	-	-	-
-	-	-	-	-	30	-	-	-	-	-	**5**	**3**	-
-	-	-	-	-	35	-	-	-	-	-	**6**	**4**	**2**
-	-	-	-	-	40	-	-	-	-	-	**8**	**6**	**3**
-	-	6	-	-	**35**	-	**40**	**40**	-	-	5	-	-
-	-	6	-	-	**35**	-	**40**	**40**	-	-	5	-	-

B 01

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**MJ**	**UNC**	**UNF**	**UNJC**	**UNJF**	**BSP/G**
		Gewindeprofile | Threading profiles							
▸ N i 15°									
≤1.5 xD		6762	6767	-	-	-	-	-	-
		6765	-	-	-	-	-	-	-
▸ GG i									
≤3.0 xD		6760	-	-	-	-	-	-	-
▸ FORMER S EVO									
≤2.0 xD		6803TC	-	-	-	-	-	-	-
		6804TC	-	-	-	-	-	-	-
		-	6805TC	-	-	-	-	-	-
▸ FORMER S PM									
≤2.0 xD		6800TF	-	-	-	-	-	-	-
▸ FORMER S i PM									
≤2.0 xD		6801TN	-	-	-	-	-	-	-
		6969TN	-	-	-	-	-	-	-
▸ FORMER MDI									
≤2.0 xD		6788	-	-	-	-	-	-	-

SCHNITTDATEN | CUTTING DATA

Hochleistungs-Gewindebohrer | High performance taps

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
-	-	7	-	-	**40**	-	**50**	**50**	-	-	5	-	-
-	-	7	-	-	**40**	-	**50**	**50**	-	-	5	-	-
-	-	-	-	-	**40**	-	50	50	-	-	-	-	-
35	**20**	**10**	**10**	**5**	-	-	**50**	**25**	-	-	-	-	-
35	**20**	**10**	**10**	**5**	-	-	**50**	**25**	-	-	-	-	-
35	**20**	**10**	**10**	**5**	-	-	**50**	**25**	-	-	-	-	-
35	**20**	**12**	**13**	**8**	-	-	**40**	**25**	-	-	-	-	-
40	**23**	**13**	**15**	**10**	-	-	**45**	**25**	-	-	-	-	-
40	**23**	**13**	**15**	**10**	-	-	**45**	**25**	-	-	-	-	-
30	**20**	**10**	**20**	**10**	-	-	**30**	**20**	-	-	-	-	-

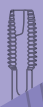
B 01

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

B

02

GEWINDEBOHRER
TAPS



B.02.01

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GEWINDEBOHRER
TAPS

B.02.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

	Beschreibung des Familienprodukts	Family product description

▸ HSS ▸ HSS-Co

N p. 485, 489, 493	**HSS-Co Handgewindebohrer und Maschinengewindebohrer mit gerader Nute für Durchgangs- und Sacklöcher in Stahl, Aluminium und Nichteisenmetallen.** HSS-Co straight flute hand taps and machine taps for steel, Aluminium and non ferrous materials through and blind holes.
VA p. 487, 490 500	**HSS-Co Hand- und Maschinengewindebohrer mit Schälanschnitt für Durchgangslöcher aus Edelstahl, Aluminiumlegierungen und NE-Materialien.** HSS-Co spiral pointed hand and machine taps for stainless steel, Aluminium alloy and non ferrous materials through holes.

▸ HSS-Co

RAPID p. 489, 491	**HSS-Co-Maschinengewindebohrer mit gerader Spannute und Schälanschnitt, für Stahl mit Zugfestigkeit bis 1000 N/mm² und Aluminiumlegierung mit Silizium < 12 % Durchgangslöcher.** HSS-Co machine taps with straight flute and spiral pointed, for steel with tensile strength up to 1000 N/mm² and Aluminium alloy with silicon < 12% through holes.
RAPID 2 p. 493	**HSS-Co-Maschinen-Gewindebohrer mit gerader Spannute und Schälanschnitt, zwei Schneiden für Aluminium mit Zugfestigkeit bis 800 N/mm² und NE-Werkstoffen Durchgangslöcher.** HSS-Co machine taps with straight flute and spiral pointed, two cutting edges for Aluminium with tensile strength up to 800 N/mm² and non ferrous materials through holes.
N SX p. 495	**HSS-Co Maschinen-Gewindebohrer, Linksgewinde mit gerader Spannute für Stahl, Aluminium und NE-Werkstoffe Durchgangs- und Sacklöcher.** HSS-Co machine taps, left hand thread with straight flute for steel, Aluminium and non ferrous materials through and blind holes.
N 15° p. 489, 497	**HSS-Co Maschinengewindebohrer mit 15°-Spiralwinkel, für Stahl bis 1000 N/mm² und Aluminiumlegierung mit Silizium <12% Sacklöchern.** HSS-Co machine taps with 15° flute, for steel up to 1000 N/mm² and Aluminium alloy with silicon <12% blind holes.
NL 15° p. 495	**HSS-Co-Maschinen-Gewindebohrer mit 15°-Spiralwinkel links, rechtsschneidend, für Stahl bis 1000 N/mm², Aluminium und langspanenden Sphäroguss Durchgangslöcher.** HSS-Co machine taps with 15° left flute, right cutting, for steel up to 1000 N/mm², Aluminium and long chip nodular cast iron through holes.
N 40° p. 489, 497	**HSS-Co Maschinengewindebohrer mit 40°-Spiralwinkel, für Stahl bis 1000 N/mm² und Aluminiumlegierung mit Silizium <12% Sacklöchern.** HSS-Co machine taps with 40° flute, for steel up to 1000 N/mm² and Aluminium alloy with silicon <12% blind holes.
N SX 40° p. 500	**HSS-Co Maschinengewindebohrer, Linksgewinde mit 40° -Spiralwinkel für Stahl, Aluminium und NE-Werkstoffe Durchgangs- und Sacklöcher.** HSS-Co machine taps, left hand thread with 40° flute for steel, Aluminium and non ferrous materials through and blind holes.

Beschreibung des Familienprodukts | Family product description

▸ HSS-Co

VA 15° p. 490, 502	**HSS-Co-Maschinengewindebohrer mit 15°-Spiralwinkel, für Sacklöcher in Edelstahl, Aluminiumlegierungen und NE-Werkstoffen.** HSS-Co machine taps with 15° flute, for stainless steel, Aluminium alloy and non ferrous materials blind holes.
VA i 15° p. 502	**HSS-Co-Maschinengewindebohrer mit 15°-Spiralwinkel, mit axialer Innenkühlung für Sacklöcher in Edelstahl, Aluminiumlegierungen und NE-Werkstoffen.** HSS-Co machine taps with 15° flute, with axial internal coolant for stainless steel, Aluminium alloy and non ferrous materials blind holes.
VA 35° p. 503	**HSS-Co-Maschinengewindebohrer mit 35°-Spiralwinkel, für Sacklöcher in Edelstahl, Aluminiumlegierungen und NE-Materialien.** HSS-Co machine taps with 35° flute, for stainless steel, Aluminium alloy and non ferrous materials blind holes.
VR 35° p. 504	**HSS-Co-Maschinengewindebohrer mit 35°-Spiralwinkel, Gewindeteil verjüngt, für Edelstahl-Sacklöcher.** HSS-Co machine taps with 35° flute tapered, for stainless steel blind holes.
VR 50° p. 505	**HSS-Co-Maschinengewindebohrer mit 50°-Spiralwinkel, Gewindeteil verjüngt, für Edelstahl-Sacklöcher.** HSS-Co machine taps with 50° flute tapereds, for stainless steel blind holes.
HD p. 506	**HSS-Co Maschinengewindebohrer mit gerader Spannut für legierten und gehärteten Stahl mit Zugfestigkeit bis 1300 N/mm² Durchgangs- und Sacklöcher.** HSS-Co machine taps with straight flute for alloy and hardened steel with tensile strenght up to 1300 N/mm² through and blind holes.
HD 15° p. 507	**HSS-Co Maschinengewindebohrer mit 15°-Spiralwinkel für legierten und gehärteten Stahl mit einer Zugfestigkeit bis 1300 N/mm² Sacklöcher.** HSS-Co machine taps with 15° flute for alloy and hardened steel with tensile strenght up to 1300 N/mm² blind holes.
HD 40° p. 508	**HSS-Co Maschinengewindebohrer mit 40° -Spiralwinkel für legierten und gehärteten Stahl mit einer Zugfestigkeit bis 1300 N/mm² Sacklöcher.** HSS-Co machine taps with 40° flute for alloy and hardened steel with tensile strenght up to 1300 N/mm² blind holes.
HR 40° p. 508	**HSS-Co-Maschinengewindebohrer mit 40°-Spiralwinkel,Gewindeteil verjüngt, für legierten und gehärteten Stahl mit einer Zugfestigkeit bis 1300 N/mm² Sacklöcher.** HSS-Co machine taps with 40° flute tapered, for alloy and hardened steel with tensile strenght up to 1300 N/mm² blind holes.
GG p. 509	**HSS-Co Maschinengewindebohrer mit gerader Spannut für Grauguss, Sphäroguss und hitzebeständige Werkstoffe Durchgangs- und Sacklöcher.** HSS-Co machine taps with straight flute for grey cast iron, nodular cast iron and heat-resistant materials through and blind holes.

	Beschreibung des Familienprodukts	Family product description

▸ HSS-Co

MULTI GG i p. 509	**HSS-Co-Maschinengewindebohrer mit gerader Spannut, mit axialer Innenkühlung, für Grauguss, Sphäroguss und hitzebeständige Werkstoffe Durchgangs- und Sacklöcher.** HSS-Co machine taps with straight flute, with axial internal coolant, for grey cast iron, nodular cast iron and heat-resistant materials through and blind holes.
AZ p. 490, 510	**HSS-Co Maschinengewindebohrer mit ausgeklingten Zähne für Aluminium und NE-Werkstoffe Durchgangs- und Sacklöcher.** HSS-Co machine taps with alternating cutting edges for Aluminium and non ferrous materials through and blind holes.
AZ 35° p. 510	**HSS-Co-Maschinen-Gewindebohrer mit 35°-Spiralwinkel, ausgeklingten Zähne für Sacklöcher in Aluminium und NE-Werkstoffen.** HSS-Co machine taps with 35° flute angle alternating cutting edges for Aluminium and non ferrous materials blind holes.
ALU p. 511	**HSS-Co-Maschinengewindebohrer mit gerader Spannut für Durchgangslöcher in Aluminium und Nichteisenmetallen.** HSS-Co machine taps with straight flute for Aluminium and non ferrous materials through holes.
ALU 45° p. 511	**HSS-Co Maschinengewindebohrer mit 45° Spiralwinkel für Sacklöcher in Aluminium und NE-Werkstoffen.** HSS-Co machine taps with 45° flute angle for Aluminium and non ferrous materials blind holes.
BAK p. 512	**HSS-Co-Maschinengewindebohrer mit gerader Spannut für Bakelit-Durchgangs- und Sacklöcher.** HSS-Co machine taps with straight flute for bakelite through and blind holes.
ULTRA p. 512	**HSS-Co-Maschinengewindebohrer mit gerader Spannut geeignet für eine Gewindetiefe von bis zu 1xD.** HSS-Co machine taps with straight flute with depth up to 1xD on sheet metal through holes.
ULTRA S p. 512	**HSS-Co-Maschinengewindebohrer mit gerader Spannut geeignet für eine Gewindetiefe von bis zu 1,5xD.** HSS-Co machine taps with straight flute with depth up to 1,5xD on sheet metal through holes
Ti p. 488	**HSS-Co-Handgewindebohrer für Durchgangs- und Sacklöcher aus Titanlegierung.** HSS-Co hand taps for Titanium alloy through and blind holes.
MS p. 490	**HSS-Co Maschinengewindebohrer mit gerader Spannut für Durchgangs- und Sacklöcher in Messing.** HSS-Co machine taps with straight flute for brass through and blind holes.

	Beschreibung des Familienprodukts	Family product description

▸ HSS-Co

EG (M) **p. 512**	**HSS-Co Maschinengewindebohrer für Drahtgewindeeinsätze (Helicoil) für Durchgangslöcher in Stahl und Aluminiumlegierungen.** HSS-Co machine taps for wire thread inserts (Helicoil) for steel and Aluminium alloys through holes.
EG (M) 40° **p. 513**	**HSS-Co Maschinengewindebohrer für Drahtgewindeeinsätze (Helicoil) mit 40° Spiralwinkel für Sacklöcher in Stahl und Aluminiumlegierungen.** HSS-Co machine taps for wire thread inserts (Helicoil) with 40° flute angle for steel and Aluminium alloys blind holes.
TR **p. 488, 514**	**HSS-Co Hand- und Maschinengewindebohrer mit Trapezgewinde zur Bearbeitung für allgemeine Anwendungen Durchgangs- und Sacklöcher.** HSS-Co hand and machine taps with trapezoidail thread for machining for general purpose applications through and blind holes.

▸ HSS-Co

FORMER **p. 514**	**HSS-Co-Gewindeformer zur Bearbeitung allgemeiner Anwendungen in allen Werkstoffen mit Zugfestigkeit ≥ 10 % e Rm ≤ 1000 N/mm², Durchgangs- und Sacklöcher.** HSS-Co cold forming taps for machining general purpose applications in all materials with tensile strenght ≥ 10% e Rm ≤ 1000 N/mm², through and blind holes.
FORMER S **p. 515**	**HSS-Co-Gewindeformer mit Schmiernute zur Bearbeitung allgemeiner Anwendungen in allen Werkstoffen mit Zugfestigkeit ≥ 10 % e Rm ≤ 1000 N/mm², Durchgangs- und Sacklöcher.** HSS-Co cold forming taps with oil grooves for machining general purpose applications in all materials with tensile strenght ≥ 10% e Rm ≤ 1000 N/mm², through and blind holes.

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N (**Handgewindebohrer** | hand taps)																	
6615	 SET	HSS	M DIN 13	352 DIN		0°	6H	-	-	1 ÷ 68						-	520
6615P		HSS	M DIN 13	352 DIN		0°	6H	A 5-6	-	1 ÷ 68						-	520
6615S		HSS	M DIN 13	352 DIN		0°	6H	D 3-4	-	1 ÷ 68						-	520
6615T		HSS	M DIN 13	352 DIN		0°	6H	C 2,5-3	-	1 ÷ 68						-	520
6618	 SET	HSS	M DIN 13	352 DIN		0°	6H	-	-	3 ÷ 20						-	520
6618P	Schnittrichtung links Left cutting direction 	HSS	M DIN 13	352 DIN		0°	6H	A 5-6	-	3 ÷ 20						-	520
6618S	Schnittrichtung links Left cutting direction 	HSS	M DIN 13	352 DIN		0°	6H	D 3-4	-	3 ÷ 20						-	520
6618T	Schnittrichtung links Left cutting direction 	HSS	M DIN 13	352 DIN		0°	6H	C 2,5-3	-	3 ÷ 20						-	520
6633	 SET	HSS	MF DIN 13	2181 DIN		0°	6H	-	-	2 ÷ 52						-	568
6633P		HSS	MF DIN 13	2181 DIN		0°	6H	A 5-6	-	2 ÷ 52						-	568
6633T		HSS	MF DIN 13	2181 DIN		0°	6H	C 2,5-3	-	2 ÷ 52						-	568

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N (Handgewindebohrer | hand taps)																	
6775	 SET	HSS	UNC ASME B.1.1	2184 2 DIN		0°	2B	-	-	nr.1-64 ÷ 2"						-	585
6775P		HSS	UNC ASME B.1.1	2184 2 DIN		0°	2B	A 5-6	-	nr.1-64 ÷ 2"						-	585
6775S		HSS	UNC ASME B.1.1	2184 2 DIN		0°	2B	D 3-4	-	nr.1-64 ÷ 2"						-	585
6775T		HSS	UNC ASME B.1.1	2184 2 DIN		0°	2B	C 2,5-3	-	nr.1-64 ÷ 2"						-	585
6776	 SET	HSS	UNF ASME B.1.1	2184 2 DIN		0°	2B	-	-	nr.1-72 ÷ 1 1/2						-	595
6776P		HSS	UNF ASME B.1.1	2184 2 DIN		0°	2B	A 5-6	-	nr.1-72 ÷ 1 1/2						-	595
6776T		HSS	UNF ASME B.1.1	2184 2 DIN		0°	2B	C 2,5-3	-	nr.1-72 ÷ 1 1/2						-	595
6603	 SET	HSS	BSW DIN 11	~352 DIN		0°	-	-	-	1/16 ÷ 2"						-	605
6603P		HSS	BSW DIN 11	2184 2 DIN		0°	-	A 5-6	-	1/16 ÷ 2"						-	605
6603S		HSS	BSW DIN 11	2184 2 DIN		0°	-	D 3-4	-	1/16 ÷ 2"						-	605
6603T		HSS	BSW DIN 11	2184 2 DIN		0°	-	C 2,5-3	-	1/16 ÷ 2"						-	605

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N (**Handgewindebohrer** | hand taps)																	
6627	 SET	HSS	G (BSP) DIN EN ISO 228	2184 2 DIN		0°	-	-	-	1/8 ÷ 2"						-	609
6627P		HSS	G (BSP) DIN EN ISO 228	2184 2 DIN		0°	-	A 5-6	-	1/8 ÷ 2"						-	609
6627T		HSS	G (BSP) DIN EN ISO 228	2184 2 DIN		0°	-	C 2,5-3	-	1/8 ÷ 2"						-	609
N (**Handgewindebohrer Satz** | hand taps SET)																	
6608 3/12		Hand-Gewindebohrer,dreiteilige Sätze in Metallkassete. Hand taps SET, series in set of 3 pieces in metal cases															
		HSS	M DIN 13	352 DIN		0°	6H	-	-	3 ÷ 12						-	524
6609 3/12		Hand-Gewindebohrer,dreiteilige Sätze und Kernlochbohrer nach DIN 338. Hand taps SET, series in set of 3 pieces and twist drills for tap drill hole according to DIN 338.															
		HSS	M DIN 13	352 DIN		0°	6H	-	-	3 ÷ 12						-	525
VA (**Handgewindebohrer** | hand taps)																	
6614	 SET	HSS-Co	M DIN 13	352 DIN		0°	6HX	-	-	2 ÷ 20		-				-	521
6614P		HSS-Co	M DIN 13	352 DIN		0°	6HX	A 5-6	-	2 ÷ 20		-				-	521
6614S		HSS-Co	M DIN 13	352 DIN		0°	6HX	D 3-4	-	2 ÷ 20		-				-	521
6614T		HSS-Co	M DIN 13	352 DIN		0°	6HX	C 2,5-3	-	2 ÷ 20		-				-	521

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
Ti (Handgewindebohrer | hand taps)																	
6625	 SET	HSS-Co	M DIN 13	352 DIN		0°	6HX	-	NIT	2 ÷ 20	-		-	-		-	521
6625P		HSS-Co	M DIN 13	352 DIN		0°	6HX	A 5-6	NIT	2 ÷ 20	-		-	-		-	521
6625S		HSS-Co	M DIN 13	352 DIN		0°	6HX	D 3-4	NIT	2 ÷ 20	-		-	-		-	521
6625T		HSS-Co	M DIN 13	352 DIN		0°	6HX	C 2,5-3	NIT	2 ÷ 20	-		-	-		-	521
TR (Handgewindebohrer | hand taps)																	
6937	 SET	HSS-Co	TR	103 DIN		0°	7H	-	-	10 ÷ 30		-			-	-	628
6937P		HSS-Co	TR	103 DIN		0°	7H	A 5-6	-	10 ÷ 30		-			-	-	628
6937S		HSS-Co	TR	103 DIN		0°	7H	D 3-4	-	20		-			-	-	628
6937T		HSS-Co	TR	103 DIN		0°	7H	C 2,5-3	-	10 ÷ 30		-			-	-	628

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
RAPID (Kurzer Maschinengewindebohrer | Short machine taps)																	
6679		HSS-Co	M DIN 13	352 DIN		0°	6H	B 4-5	-	2 ÷ 20					-	-	526
N (Kurzer Maschinengewindebohrer | Short machine taps)																	
6678		HSS-Co	M DIN 13	352 DIN		0°	6H	C 2,5-3	-	2 ÷ 20		-			-	-	526
6899		HSS-Co	MF DIN 13	2181 DIN		0°	6H	C 2,5-3	-	6 ÷ 20		-			-	-	570
6858		HSS-Co	G (BSP) DIN EN ISO 228	5157 DIN		0°	-	C 2,5-3	-	1/16 ÷ 1 1/4		-			-	-	610
N 15° (Kurzer Maschinengewindebohrer | Short machine taps)																	
6659		HSS-Co	M DIN 13	352 DIN		15°	6H	C 2,5-3	-	3 ÷ 20		-			-	-	526
6656		HSS-Co	MF DIN 13	2181 DIN		15°	6H	C 2,5-3	-	5 ÷ 18		-			-	-	570
6905		HSS-Co	G (BSP) DIN EN ISO 228	5157 DIN		15°	ISO 228 +0,1	E 1-2	-	1/4 ÷ 3/4		-			-	-	610
N 40° (Kurzer Maschinengewindebohrer | Short machine taps)																	
6639		HSS-Co	M DIN 13	352 DIN		40°	6H	C 2,5-3	-	3 ÷ 20		-			-	-	526
6604		HSS-Co	M DIN 13	352 DIN		40°	6H	E 1,5-2	-	3 ÷ 24		-			-	-	526
66046G		HSS-Co	M DIN 13	352 DIN		40°	6G	C 2,5-3	-	3 ÷ 12		-			-	-	526

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
VA																	
(Kurzer Maschinengewindebohrer | Short machine taps)																	
6857		HSS-Co	G (BSP) DIN EN ISO 228	5157 DIN		0°	-	C 2,5-3	-	1/16 ÷ 1 1/2		-			-		611
VA 15°																	
(Kurzer Maschinengewindebohrer | Short machine taps)																	
6648		HSS-Co	M DIN 13	352 DIN		15°	6HX	C 2,5-3	-	3 ÷ 16		-			-		527
6612		HSS-Co	M DIN 13	352 DIN		15°	6HX	E 1,5-2	-	3 ÷ 16		-			-		527
6951		HSS-Co	G (BSP) DIN EN ISO 228	5157 DIN		15°	-	E 1-2	-	1/16 ÷ 1"		-			-		610
MS																	
(Kurzer Maschinengewindebohrer | Short machine taps)																	
6624		HSS-Co	M DIN 13	352 DIN		0°	6H	E 1,5-2	-	2 ÷ 12	-	-	-		-	-	527
6724		HSS-Co	MF DIN 13	2181 DIN		0°	6H	C 2,5-3	-	4 ÷ 12	-	-	-		-	-	570
6913		HSS-Co	G (BSP) DIN EN ISO 228	5157 DIN		0°	ISO 228 +0,1	E 1,5-2	-	1/16 ÷ 1 1/2	-	-	-		-	-	610
AZ																	
(Kurzer Maschinengewindebohrer | Short machine taps)																	
6621		HSS-Co	M DIN 13	352 DIN		0°	6H	C 2,5-3	-	3 ÷ 16		-			-		527
6613		HSS-Co	M DIN 13	352 DIN		0°	6H	B 4-5	-	3 ÷ 16		-			-		527

B 02

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
RAPID (**Maschinengewindebohrer** | Machine taps)																	
6707		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	-	2 ÷ 10					-	-	536
6707VP		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	VAP	2 ÷ 10					-	-	536
67076G		HSS-Co	M DIN 13	371 DIN		0°	6G	B 4-5	-	2 ÷ 10					-	-	536
6707TN*		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	TiN	2 ÷ 10					-	-	537
67074H		HSS-Co	M DIN 13	371 DIN		0°	4H	B 4-5	-	2 ÷ 10					-	-	536
67077G		HSS-Co	M DIN 13	371 DIN		0°	7G	B 4-5	-	2 ÷ 10					-	-	536
6707TC		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	TiCN	2 ÷ 10					-	-	537
6711		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	-	2 ÷ 52					-	-	554
6711VP		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	VAP	2 ÷ 52					-	-	554
67116G		HSS-Co	M DIN 13	376 DIN		0°	6G	B 4-5	-	2 ÷ 36					-	-	554
6711TN		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	TiN	6 ÷ 30					-	-	554
6711TC		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	TiCN	6 ÷ 30					-	-	555
67117G		HSS-Co	M DIN 13	376 DIN		0°	7G	B 4-5	-	12 ÷ 24					-	-	555

B 02

* Für **6G**-Toleranz Bestellcode **6707TN (6G)** | For **6G** tolerance, order code **6707TN (6G)**

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ RAPID

(Maschinengewindebohrer | Machine taps)

6730		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	-	3 ÷ 52				-	-	580
6730VP		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	VAP	3 ÷ 52				-	-	580
6730TN		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	TiN	3 ÷ 52				-	-	580
6730TC		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	TiCN	3 ÷ 52				-	-	580
6690		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	nr.1-64 ÷ 3/8				-	-	588
66903B		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	3B	B 4-5	-	nr.4-40 ÷ 3/8				-	-	588
6690TN		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	TiN	nr.16-4 ÷ 3/8				-	-	588
6693		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	7/16 ÷ 2"				-	-	594
66933B		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	3B	B 4-5	-	7/16 ÷ 2"				-	-	594
6607		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	nr.2-64 ÷ 3/8				-	-	598
66073B		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	3B	B 4-5	-	nr.8-36 ÷ 3/8				-	-	598
6607TN		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	TiN	nr.2-64 ÷ 3/8				-	-	598
6687		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	7/16 ÷ 1 1/2				-	-	602

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
RAPID (Maschinengewindebohrer | Machine taps)																	
66873B		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	3B	B 4-5	-	7/16 ÷ 1 1/2					-	-	602
6697	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co	BSW DIN 11	2184 -1 DIN		0°	-	B 4-5	-	1/8 ÷ 5/16					-	-	606
6636	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376 	HSS-Co	BSW DIN 11	2184 -1 DIN		0°	-	B 4-5	-	7/16 ÷ 1"					-	-	607
6704		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	B 4-5	-	1/8 ÷ 2"					-	-	616
6704VP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	B 4-5	VAP	1/8 ÷ 2"					-	-	616
6704TN		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	B 4-5	TiN	1/8 ÷ 2"					-	-	616
6673		HSS-Co	Rp (BSPP) ISO 7-1	5156 DIN		0°	-	B 4-5	-	1/16 ÷ 2"					-	-	608
6710		HSS-Co	PG	40432 DIN		0°	-	B 4-5	-	7 ÷ 48					-	-	622
RAPID 2 (Maschinengewindebohrer | Machine taps)																	
6640		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	-	2 ÷ 10					-	-	537
66406G		HSS-Co	M DIN 13	371 DIN		0°	6G	B 4-5	-	2 ÷ 10					-	-	537
N (Maschinengewindebohrer | Machine taps)																	
6706		HSS-Co	M DIN 13	371 DIN		0°	6H	C 2,5-3	-	1 ÷ 10					-	-	528

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N (Maschinengewindebohrer | Machine taps)																	
6706TN		HSS-Co	M DIN 13	371 DIN		0°	6H	C 2,5-3	TiN	1 ÷ 10		-			-	-	528
6705		HSS-Co	M DIN 13	376 DIN		0°	6H	C 2,5-3	-	2 ÷ 52		-			-	-	546
6705TN		HSS-Co	M DIN 13	376 DIN		0°	6H	C 2,5-3	TiN	2 ÷ 33		-			-	-	546
6726		HSS-Co	MF DIN 13	374 DIN		0°	6H	C 2,5-3	-	3 ÷ 52		-			-	-	572
6726TN		HSS-Co	MF DIN 13	374 DIN		0°	6H	C 2,5-3	TiN	3 ÷ 52		-			-	-	572
6726TC		HSS-Co	MF DIN 13	374 DIN		0°	6H	C 2,5-3	TiCN	3 ÷ 52		-			-	-	572
6823		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	C 2,5-3	-	nr.3-48 ÷ 5/16		-			-	-	586
6824		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	C 2,5-3	-	7/16 ÷ 1"		-			-	-	592
6838		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	C 2,5-3	-	nr.1-72 ÷ 3/8		-			-	-	596
6839		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	C 2,5-3	-	7/16 ÷ 1 1/2		-			-	-	600
6699		HSS-Co	BSW DIN 11	2184 -1 DIN		0°	-	C 2,5-3	-	1/8 ÷ 3/8		-			-	-	606
6610		HSS-Co	NPT ASME B1.20.1	~2181 DIN		0°	-	C 2,5-3	-	1/16 ÷ 2"		-			-	-	619
6611		HSS-Co	NPTF ANSI B1.20.3	~2181 DIN		0°	-	C 2,5-3	-	1/16 ÷ 1 1/2		-			-	-	619

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N (Maschinengewindebohrer | Machine taps)																	
6915		HSS-Co	PG	40432 DIN		0°	-	C 2,5-3	-	7 ÷ 48		-			-	-	622
6914		HSS-Co	PG	40432 DIN		0°	-	D 4-5	-	7 ÷ 36		-			-	-	623
6790		HSS-Co	RC BSPT	5156 DIN		0°	-	C 2,5-3	-	1/8 ÷ 1"		-			-	-	618
N SX (Maschinengewindebohrer, Linksgewinde | Machine taps, left hand thread)																	
6712		HSS-Co	M DIN 13	371 DIN		0°	6H	C 2,5-3	-	3 ÷ 10		-			-	-	528
6859		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	-	3 ÷ 10		-			-	-	537
6715		HSS-Co	M DIN 13	376 DIN		0°	6H	C 2,5-3	-	12 ÷ 24		-			-	-	546
6860		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	-	12 ÷ 20		-			-	-	555
6863		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	-	8 ÷ 20		-			-	-	580
NL 15° (Maschinengewindebohrer, Rechtsgewinde, Linksspiralgenutet 15° | Machine taps, right hand thread, left 15° flute)																	
6727		HSS-Co	M DIN 13	371 DIN		15°	6H	D 4-5	-	3 ÷ 10		-		-	-	-	539
6740		HSS-Co	M DIN 13	376 DIN		15°	6H	B 4-5	-	12 ÷ 20		-		-	-	-	558
6741		HSS-Co	MF DIN 13	374 DIN		15°	6H	B 4-5	-	8 ÷ 20		-		-	-	-	580

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
N 15° (**Maschinengewindebohrer** | Machine taps)																	
6657		HSS-Co	M DIN 13	371 DIN		15°	6H	C 2,5-3	-	2 ÷ 10		-			-	-	528
66576G		HSS-Co	M DIN 13	371 DIN		15°	6G	C 2,5-3	-	2 ÷ 10		-			-	-	528
6657TN		HSS-Co	M DIN 13	371 DIN		15°	6H	C 2,5-3	TiN	2,3 ÷ 10					-	-	529
6657TC		HSS-Co	M DIN 13	371 DIN		15°	6H	C 2,5-3	TiCN	2,5 ÷ 10					-	-	529
6902		HSS-Co	M DIN 13	371 DIN		15°	6H +0,1	C 2,5-3	-	3 ÷ 10		-			-	-	529
6658		HSS-Co	M DIN 13	376 DIN		15°	6H	C 2,5-3	-	8 ÷ 30		-			-	-	546
6658TC		HSS-Co	M DIN 13	376 DIN		15°	6H	C 2,5-3	TiCN	12 ÷ 30					-	-	546
6664		HSS-Co	MF DIN 13	374 DIN		15°	6H	C 2,5-3	-	8 ÷ 30		-			-	-	572
6664TN		HSS-Co	MF DIN 13	374 DIN		15°	6H	C 2,5-3	TiN	8 ÷ 30					-	-	572
6904		HSS-Co	MF DIN 13	374 DIN		15°	6H +0,1	E 1-2	-	20 ÷ 24		-			-	-	572
6696		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		15°	2B	C 2,5-3	-	nr. 3-48 ÷ 5/16		-			-	-	586
6728		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		15°	2B	C 2,5-3	-	7/16 ÷ 1/8		-			-	-	592
6719		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		15°	2B	C 2,5-3	-	nr. 5-44 ÷ 3/8		-			-	-	596

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N 15° (Maschinengewindebohrer | Machine taps)																	
6729		HSS-Co	UNF ASME B.1.1	2184-1 DIN		15°	2B	C 2,5-3	-	7/16 ÷ 1"		-			-	-	600
6665		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		15°	-	C 2,5-3	-	1/8 ÷ 1"		-			-	-	613
6675		HSS-Co	Rp (BSPP) ISO 7-1	5156 DIN		15°	-	C 2,5-3	-	1/8 ÷ 1"		-			-	-	608
N 40° (Maschinengewindebohrer | Machine taps)																	
6644		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	-	2 ÷ 10		-			-	-	530
6644VP		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	VAP	2 ÷ 10		-			-	-	530
66446G		HSS-Co	M DIN 13	371 DIN		40°	6G	C 2,5-3	-	2 ÷ 10		-			-	-	530
6644TN*		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiN	2 ÷ 10		-			-	-	531
66447G		HSS-Co	M DIN 13	371 DIN		40°	7G	C 2,5-3	-	2 ÷ 10		-			-	-	530
6644TC		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiCN	2 ÷ 10		-			-	-	531
6867		HSS-Co	M DIN 13	371 DIN		40°	6H	E 1,5-2	-	3 ÷ 10		-			-	-	531
6638		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	-	3 ÷ 36		-			-	-	547
6638VP		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	VAP	3 ÷ 30		-			-	-	547

B 02

* Für **6G**-Toleranz Bestellcode **6644TN (6G)** | For **6G** tolerance, order code **6644TN (6G)**

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N 40° (Maschinengewindebohrer | Machine taps)																	
66386G		HSS-Co	M DIN 13	376 DIN		40°	6G	C 2,5-3	-	3 ÷ 30		-			-	-	547
66387G		HSS-Co	M DIN 13	376 DIN		40°	7G	C 2,5-3	-	8 ÷ 24		-			-	-	547
6638TN		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiN	12 ÷ 20					-	-	547
6638TC		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiCN	12 ÷ 20					-	-	547
6868		HSS-Co	M DIN 13	376 DIN		40°	6H	E 1,5-2	-	12 ÷ 20		-			-	-	547
6652		HSS-Co	MF DIN 13	374 DIN		40°	6H	C 2,5-3	-	3 ÷ 30		-			-	-	573
6652VP		HSS-Co	MF DIN 13	374 DIN		40°	6H	C 2,5-3	VAP	3 ÷ 30		-			-	-	573
6652TN		HSS-Co	MF DIN 13	374 DIN		40°	6H	C 2,5-3	TiN	3 ÷ 30					-	-	573
6652TC		HSS-Co	MF DIN 13	374 DIN		40°	6H	C 2,5-3	TiCN	3 ÷ 30					-	-	573
6877		HSS-Co	MF DIN 13	374 DIN		40°	6H	E 1-2	-	6 ÷ 20		-			-	-	573
6691		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	-	nr. 2-56 ÷ 5/16		-			-	-	586
66913B		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		40°	3B	C 2,5-3	-	nr. 2-56 ÷ 3/8		-			-	-	586
6691TN		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiN	nr. 2-56 ÷ 5/16					-	-	586

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N 40° (**Maschinengewindebohrer** | Machine taps)																	
6694		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	-	7/16 ÷ 1"		-			-	-	592
66943B		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		40°	3B	C 2,5-3	-	7/16 ÷ 1"		-			-	-	592
6680		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	-	nr. 5-44 ÷ 5/16		-			-	-	596
66803B		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		40°	3B	C 2,5-3	-	nr. 5-44 ÷ 3/8		-			-	-	596
6680TN		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	TiN	nr. 5-44 ÷ 5/16		-			-	-	596
6688		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		40°	2B	C 2,5-3	-	7/16 ÷ 1"		-			-	-	600
66883B		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		40°	3B	C 2,5-3	-	7/16 ÷ 1"		-			-	-	600
6836		HSS-Co	BSW DIN 11	2184 -1 DIN		40°	-	C 2,5-3	-	1/8 ÷ 5/16		-			-	-	606
6837		HSS-Co	BSW DIN 11	2184 -1 DIN		40°	-	C 2,5-3	-	7/16 ÷ 1"		-			-	-	607
6703		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		40°	-	C 2,5-3	-	1/16 ÷ 1"		-			-	-	613
6703VP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		40°	-	C 2,5-3	VAP	1/16 ÷ 1"		-			-	-	613
6703TN		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		40°	-	C 2,5-3	TiN	1/16 ÷ 1"		-			-	-	613

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N SX 40° (Maschinengewindebohrer, Linksgewinde | Machine taps, left hand thread)																	
6861		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	-	3 ÷ 10		-			-	-	531
6862		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	-	12 ÷ 20		-			-	-	547
6864		HSS-Co	MF DIN 13	374 DIN		40°	6H	C 2,5-3	-	8 ÷ 20		-			-	-	573
VA (Maschinengewindebohrer | Machine taps)																	
6646		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	-	2 ÷ 10			-			-	540
NEW 6646XP		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	AlCrN TOP	3 ÷ 10			-			-	540
6646VP		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	VAP	2 ÷ 10			-			-	540
6646TN		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	TiN	2 ÷ 10			-			-	540
66466G		HSS-Co	M DIN 13	371 DIN		0°	6GX	B 4-5	-	2 ÷ 10			-			-	541
6647		HSS-Co	M DIN 13	376 DIN		0°	6HX	B 4-5	-	12 ÷ 30			-			-	558
6647VP		HSS-Co	M DIN 13	376 DIN		0°	6HX	B 4-5	VAP	12 ÷ 30			-			-	558
NEW 6647XP		HSS-Co	M DIN 13	376 DIN		0°	6HX	B 4-5	AlCrN TOP	12 ÷ 30			-			-	558
66476G		HSS-Co	M DIN 13	376 DIN		0°	6GX	B 4-5	-	12 ÷ 16			-			-	559

▸ VA

(Maschinengewindebohrer | Machine taps)

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
6663		HSS-Co	MF DIN 13	374 DIN		0°	6HX	B 4-5	-	8 ÷ 27		-				-	**581**
6663VP		HSS-Co	MF DIN 13	374 DIN		0°	6HX	B 4-5	VAP	8 ÷ 30		-				-	**581**
66636G		HSS-Co	MF DIN 13	374 DIN		0°	6GX	B 4-5	-	8 ÷ 24		-				-	**581**
6663TN		HSS-Co	MF DIN 13	374 DIN		0°	6HX	B 4-5	TiN	8 ÷ 30		-				-	**581**
NEW **6663XP**		HSS-Co	MF DIN 13	374 DIN		0°	6HX	B 4-5	AlCrN TOP	8 ÷ 24		-				-	**581**
6739		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	nr.2-56 ÷ 3/8		-				-	**589**
6739VP		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	VAP	nr.2-56 ÷ 3/8		-				-	**589**
NEW **6739XP**		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	AlCrN TOP	nr.2-56 ÷ 3/8		-				-	**589**
6749		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	1/2 ÷ 1"		-				-	**594**
6749VP		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	VAP	1/2 ÷ 1"		-				-	**594**
6718		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	nr.2-64 ÷ 3/8		-				-	**598**
6718VP		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	VAP	nr.2-64 ÷ 3/8		-				-	**598**
6797		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2BX	B 4-5	-	7/16 ÷ 3/4		-				-	**602**

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
VA (Maschinengewindebohrer | Machine taps)																	
6700		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	B 4-5	-	1/16 ÷ 1"			-			-	616
6700VP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	B 4-5	VAP	1/16 ÷ 1"			-			-	616
NEW 6700XP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	2BX	B 4-5	AlCrN TOP	1/16 ÷ 1"			-			-	616
VA 15° (Maschinengewindebohrer | Machine taps)																	
6654		HSS-Co	M DIN 13	371 DIN		15°	6HX	C 2,5-3	-	2 ÷ 10			-			-	532
6654VP		HSS-Co	M DIN 13	371 DIN		15°	6HX	C 2,5-3	VAP	2 ÷ 10			-			-	532
NEW 6654XP		HSS-Co	M DIN 13	371 DIN		15°	6HX	C 2,5-3	AlCrN TOP	2 ÷ 10			-			-	532
NEW 6634VP		HSS-Co	M DIN 13	376 DIN		15°	6HX	C 2,5-3	VAP	12 ÷ 24			-			-	550
6671		HSS-Co	MF DIN 13	374 DIN		15°	6H	D 3,5	-	8 ÷ 30			-			-	576
6716		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		15°	-	C 2,5-3	-	1/16 ÷ 1"			-			-	614
VA i 15° (Maschinengewindebohrer mit axialer Innenkühlung | Machine taps with axial internal coolant)																	
NEW 6620XP		HSS-Co	M DIN 13	371 DIN		15°	6HX	C 2,5-3	AlCrN TOP	6 ÷ 10			-			-	532
NEW 6605XP		HSS-Co	M DIN 13	376 DIN		15°	6HX	C 2,5-3	AlCrN TOP	12 ÷ 20			-			-	550

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
VA i 15° (Maschinengewindebohrer mit axialer Innenkühlung | Machine taps with axial internal coolant)																	
NEW 6626XP		HSS-Co	MF DIN 13	374 DIN		15°	6HX	C 2,5-3	AlCrN TOP	8 ÷ 24			-			-	576
VA 35° (Maschinengewindebohrer | Machine taps)																	
6655		HSS-Co	MF DIN 13	374 DIN		35°	6HX	C 2,5-3	-	8 ÷ 30			-			-	576
6655VP		HSS-Co	MF DIN 13	374 DIN		35°	6HX	C 2,5-3	VAP	8 ÷ 30			-			-	576
NEW 6655XP		HSS-Co	MF DIN 13	374 DIN		35°	6HX	C 2,5-3	AlCrN TOP	8 ÷ 30			-			-	576
66556G		HSS-Co	MF DIN 13	374 DIN		35°	6GX	C 2,5-3	-	8 ÷ 20			-			-	577
6735		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	-	nr.6-32 ÷ 5/16			-			-	587
6735VP		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	VAP	nr.6-32 ÷ 5/16			-			-	587
NEW 6735XP		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	AlCrN TOP	nr.6-32 ÷ 5/16			-			-	587
6754		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	-	1/2 ÷ 1"			-			-	592
6754VP		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	VAP	1/2 ÷ 1"			-			-	593
6794		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	-	nr.10-32 ÷ 3/8			-			-	597
6794VP		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		35°	2BX	C 2,5-3	VAP	nr.10-32 ÷ 3/8			-			-	597

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
VA 35° (Maschinengewindebohrer | Machine taps)																	
6796		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		35°	2B	C 2,5-3	-	7/16 ÷ 3/4			-			-	601
6945VP		HSS-Co	UN-8 ASME B.1.1	2184 -1 DIN		35°	2B	C 2,5-3	VAP	1 1/8 ÷ 1 1/2			-			-	604
6701		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		35°	-	C 2,5-3	-	1/8 ÷ 1"			-			-	614
6701VP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		35°	-	C 2,5-3	VAP	1/8 ÷ 1"			-			-	614
NEW 6701XP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		35°	-	C 2,5-3	AlCrN TOP	1/8 ÷ 1"			-			-	614
VR 35° (Maschinengewindebohrer mit verjüngtem Gewindeteil. | Back tapered machine taps)																	
6661		HSS-Co	M DIN 13	371 DIN		35°	6HX	C 2,5-3	-	2 ÷ 10			-	-	-	-	532
6661VP		HSS-Co	M DIN 13	371 DIN		35°	6HX	C 2,5-3	VAP	2 ÷ 10			-	-	-	-	533
66616G		HSS-Co	M DIN 13	371 DIN		35°	6G	C 2,5-3	-	2 ÷ 10			-	-	-	-	533
6661TN		HSS-Co	M DIN 13	371 DIN		35°	6HX	C 2,5-3	TiN	2 ÷ 10			-	-	-	-	533
NEW 6661XP		HSS-Co	M DIN 13	371 DIN		35°	6HX	C 2,5-3	AlCrN TOP	2 ÷ 10			-	-	-	-	533
6662		HSS-Co	M DIN 13	376 DIN		35°	6HX	C 2,5-3	-	12 ÷ 24			-	-	-	-	550
6662VP		HSS-Co	M DIN 13	376 DIN		35°	6HX	C 2,5-3	VAP	12 ÷ 24			-	-	-	-	550

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
VR 35° (Maschinengewindebohrer mit verjüngtem Gewindeteil. | Back tapered machine taps)																	
NEW 6662XP		HSS-Co	M DIN 13	376 DIN		35°	6HX	C 2,5-3	AlCrN TOP	12 ÷ 24			-	-	-	-	551
66626G		HSS-Co	M DIN 13	376 DIN		35°	6GX	C 2,5-3	-	12 ÷ 16			-	-	-	-	551
VR 50° (Maschinengewindebohrer mit verjüngtem Gewindeteil. | Back tapered machine taps)																	
6850VP		HSS-Co	M DIN 13	371 DIN		50°	6HX	C 2,5-3	VAP	2 ÷ 10			-	-	-	-	533
6850TN		HSS-Co	M DIN 13	371 DIN		50°	6HX	C 2,5-3	TiN	2 ÷ 10			-	-	-	-	533
6851VP		HSS-Co	M DIN 13	376 DIN		50°	6HX	C 2,5-3	VAP	12 ÷ 24			-	-	-	-	551
6851TN		HSS-Co	M DIN 13	376 DIN		50°	6HX	C 2,5-3	TiN	12 ÷ 24			-	-	-	-	551
6852VP		HSS-Co	UNC ASME B.1.1	2181 DIN		50°	2BX	C 2,5-3	VAP	nr.6-32 ÷ 3/8			-	-	-	-	587
6853VP		HSS-Co	UNC ASME B.1.1	2181 DIN		50°	2BX	C 2,5-3	VAP	1/2 ÷ 1"			-	-	-	-	593
6854VP		HSS-Co	UNF ASME B.1.1	2181 DIN		50°	2BX	C 2,5-3	VAP	nr.10-32 ÷ 3/8			-	-	-	-	597
6855VP		HSS-Co	UNF ASME B.1.1	2181 DIN		50°	2BX	C 2,5-3	VAP	7/16 ÷ 3/4			-	-	-	-	601
6856VP		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		50°	-	C 2,5-3	VAP	1/8 ÷ 1"			-	-	-	-	615

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
HD (Maschinengewindebohrer | Machine taps)																	
6870		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	-	2 ÷ 10		-		-	-	-	541
6870TF		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	TiAlN FUTURA	2 ÷ 10		-		-	-	-	541
6871		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	-	12 ÷ 30		-		-	-	-	559
6871TF		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	TiAlN FUTURA	12 ÷ 30		-		-	-	-	559
6872		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	-	6 ÷ 24		-		-	-	-	581
NEW 6872TF		HSS-Co	MF DIN 13	374 DIN		0°	6H	B 4-5	TiAlN FUTURA	6 ÷ 24		-		-	-	-	581
6873		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	nr.2-56 ÷ 5/16		-		-	-	-	588
6874		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	7/16 ÷ 1"		-		-	-	-	594
6875		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	nr.2-64 ÷ 3/8		-		-	-	-	598
6876		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	-	7/16 ÷ 1"		-		-	-	-	602
6912		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	C 2,5-3	-	1/8 ÷ 2"		-		-	-	-	612
6912TN		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	C 2,5-3	TiN	1/8 ÷ 2"		-		-	-	-	612
6917		HSS-Co	NPT ASME B1.20.1	~371 DIN		0°	-	C 2,5-3	-	1/16 ÷ 1/4		-		-	-	-	620

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
HD (Maschinengewindebohrer | Machine taps)																	
6917TN		HSS-Co	NPT ASME B1.20.1	~371 DIN		0°	-	C 2,5-3	TiN	1/16 ÷ 1/4		-		-	-	-	620
6918		HSS-Co	NPT ASME B1.20.1	~374 DIN		0°	-	C 2,5-3	-	3/8 ÷ 1 1/2		-		-	-	-	621
6923		HSS-Co	NPTF ANSI B1.20.3	~371 DIN		0°	-	C 2,5-3	-	1/16 ÷ 1/4		-		-	-	-	620
6924		HSS-Co	NPTF ANSI B1.20.3	~374 DIN		0°	-	C 2,5-3	-	3/8 ÷ 1 1/2		-		-	-	-	621
HD 15° (Maschinengewindebohrer | Machine taps)																	
6878		HSS-Co	M DIN 13	371 DIN		15°	6H	C 2,5-3	-	3 ÷ 10		-		-	-	-	529
NEW 6878HL		HSS-Co	M DIN 13	371 DIN		15°	6H	C 2,5-3	TiAlN HL EVO	3 ÷ 10		-		-	-	-	529
6879		HSS-Co	M DIN 13	376 DIN		15°	6H	C 2,5-3	-	12 ÷ 30		-		-	-	-	552
NEW 6879HL		HSS-Co	M DIN 13	376 DIN		15°	6H	C 2,5-3	TiAlN HL EVO	12 ÷ 30		-		-	-	-	553
6880		HSS-Co	MF DIN 13	374 DIN		15°	6H	C 2,5-3	-	6 ÷ 24		-		-	-	-	577
NEW 6880HL		HSS-Co	MF DIN 13	374 DIN		15°	6H	C 2,5-3	TiAlN HL EVO	6 ÷ 24		-		-	-	-	577
6866		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		15°	2B	C 2,5-3	-	7/16 ÷ 1"		-		-	-	-	593
6848		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		15°	2B	C 2,5-3	-	nr.5-44 ÷ 3/8		-		-	-	-	597

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
HD 15° **(Maschinengewindebohrer** | Machine taps)																	
6849		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		15°	2B	C 2,5-3	-	7/16 ÷ 1"		-		-	-	-	601
HD 40° **(Maschinengewindebohrer** | Machine taps)																	
6666		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	-	3 ÷ 10		-		-	-	-	535
66666G		HSS-Co	M DIN 13	371 DIN		40°	6G	C 2,5-3	-	3 ÷ 10		-		-	-	-	535
66664H		HSS-Co	M DIN 13	371 DIN		40°	4H	C 2,5-3	-	3 ÷ 10		-		-	-	-	535
6666TF		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiAlN FUTURA	3 ÷ 10		-		-	-	-	535
6667		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	-	3 ÷ 20		-		-	-	-	553
6667TN		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiN	3 ÷ 20		-		-	-	-	553
6667TF		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiAlN FUTURA	3 ÷ 20		-		-	-	-	553
HR 40° **(Maschinengewindebohrer mit verjüngtem Gewindeteil.** | Back tapered machine taps)																	
6681		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	-	3 ÷ 10		-	-	-	-	-	535
6681TF		HSS-Co	M DIN 13	371 DIN		40°	6H	C 2,5-3	TiAlN FUTURA	3 ÷ 10		-	-	-	-	-	535
6689		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	-	12 ÷ 20		-	-	-	-	-	553

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
HR 40° **(Maschinengewindebohrer mit verjüngtem Gewindeteil.** | Back tapered machine taps)																	
6689TF		HSS-Co	M DIN 13	376 DIN		40°	6H	C 2,5-3	TiAlN FUTURA	12 ÷ 20		-	-	-	-	-	553
GG **(Maschinengewindebohrer** | Machine taps)																	
6631		HSS-Co	M DIN 13	371 DIN		0°	6HX	C 2,5-3	NIT	3 ÷ 10	-	-			-	-	534
6631TF		HSS-Co	M DIN 13	371 DIN		0°	6HX	C 2,5-3	TiAlN FUTURA	3 ÷ 10	-	-			-	-	534
6632		HSS-Co	M DIN 13	376 DIN		0°	6HX	C 2,5-3	NIT	6 ÷ 30	-	-			-	-	552
6632TF		HSS-Co	M DIN 13	376 DIN		0°	6HX	C 2,5-3	TiAlN FUTURA	6 ÷ 30	-	-			-	-	552
6653		HSS-Co	MF DIN 13	374 DIN		0°	6HX	C 2,5-3	NIT	8 ÷ 24	-	-			-	-	577
6708		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	C 2,5-3	NIT	1/16 ÷ 2"	-	-			-	-	615
6708TF		HSS-Co	G (BSP) DIN EN ISO 228	5156 DIN		0°	-	C 2,5-3	TiAlN FUTURA	1/16 ÷ 2"	-	-			-	-	615
6674		HSS-Co	Rp (BSPP) ISO 7-1	5157 DIN		0°	-	C 2,5-3	NIT	1/8 ÷ 2"	-	-			-	-	608
MULTI GG i **(Maschinengewindebohrer mit Innenkühlung** | Machine taps with internal coolant)																	
6629		HSS-Co	M DIN 13	371 DIN		0°	6HX	C 2,5-3	NIT	5 ÷ 10	-	-			-	-	534
6629TC		HSS-Co	M DIN 13	371 DIN		0°	6HX	C 2,5-3	TiCN	5 ÷ 10	-	-			-	-	534

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MULTI GG i																	
(Maschinengewindebohrer mit Innenkühlung | Machine taps with internal coolant)																	
6637		HSS-Co	M DIN 13	376 DIN		0°	6HX	C 2,5-3	NIT	12 ÷ 20			■	■			552
6637TC		HSS-Co	M DIN 13	376 DIN		0°	6HX	C 2,5-3	TiCN	12 ÷ 20			■	■			552
AZ																	
(Maschinengewindebohrer | Machine taps)																	
6820		HSS-Co	M DIN 13	371 DIN		0°	6H	C 2,5-3	-	2 ÷ 10				■			528
6616		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	-	2 ÷ 10				■			539
6821		HSS-Co	M DIN 13	376 DIN		0°	6H	C 2,5-3	-	6 ÷ 16				■			546
6617		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	-	12 ÷ 20				■			558
6916		HSS-Co	NPT ASME B1.20.1	~371 DIN		0°	-	C 2,5-3	-	1/16 ÷ 3/4				■			619
6919		HSS-Co	NPT ASME B1.20.1	~371 DIN		0°	-	C 2,5-3	-	1/16 ÷ 1/4				■			620
6920		HSS-Co	NPT ASME B1.20.1	~376 DIN		0°	-	C 2,5-3	-	3/8 ÷ 1 1/2				■			621
AZ 35°																	
(Maschinengewindebohrer | Machine taps)																	
6921		HSS-Co	NPT ASME B1.20.1	~371 DIN		35°	-	C 2,5-3	-	1/16 ÷ 1/4				■			620
6921TN		HSS-Co	NPT ASME B1.20.1	~371 DIN		35°	-	C 2,5-3	TiN	1/16 ÷ 1/4				■			620

B 02

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
AZ 35° (Maschinengewindebohrer | Machine taps)																	
6922		HSS-Co	NPT ASME B1.20.1	~376 DIN		35°	-	C 2,5-3	-	3/8 ÷ 1 1/4			-		-	-	621
6925		HSS-Co	NPTF ANSI B1.20.3	~374 DIN		35°	-	C 2,5-3	-	1/16 ÷ 1/4			-		-	-	621
6926		HSS-Co	NPTF ANSI B1.20.3	~374 DIN		35°	-	C 2,5-3	-	3/8 ÷ 1 1/2			-		-	-	621
ALU (Maschinengewindebohrer | Machine taps)																	
6641		HSS-Co	M DIN 13	371 DIN		0°	6H	B 4-5	-	2 ÷ 10	-	-	-		-	-	541
6642		HSS-Co	M DIN 13	376 DIN		0°	6H	B 4-5	-	12 ÷ 20	-	-	-		-	-	559
ALU 45° (Maschinengewindebohrer | Machine taps)																	
6643		HSS-Co	M DIN 13	371 DIN		45°	6H	C 2,5-3	-	2 ÷ 10	-	-	-		-	-	534
6651		HSS-Co	M DIN 13	376 DIN		45°	6HX	C 2,5-3	-	8 ÷ 20	-	-	-		-	-	552
6731		HSS-Co	MF DIN 13	374 DIN		45°	6H	C 2,5-3	-	8 ÷ 20	-	-	-		-	-	577
6732		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		45°	2B	C 2,5-3	-	nr.4-40 ÷ 3/8	-	-	-		-	-	587
6733		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		45°	2B	C 2,5-3	-	1/2	-	-	-		-	-	593
6628		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		45°	2B	C 2,5-3	-	nr.10-32 ÷ 3/8	-	-	-		-	-	597

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
ALU 45°																	
(Maschinengewindebohrer | Machine taps)																	
6734		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		45°	2B	C 2,5-3	-	nr.10-32 ÷ 3/8	-	-	-		-	-	**601**
BAK																	
(Maschinengewindebohrer | Machine taps)																	
6670		HSS-Co	M DIN 13	371 DIN		0°	6HX	E 1,5-2	NIT	2,3 ÷ 10	-	-	-		-	-	**534**
ULTRA																	
(Maschinengewindebohrer | Machine taps)																	
6606		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	NIT	2 ÷ 10			-		-	-	**538**
66066G		HSS-Co	M DIN 13	371 DIN		0°	6GX	B 4-5	NIT	2 ÷ 10			-		-	-	**538**
6737		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		0°	2B	B 4-5	NIT	nr.1-64 ÷ 3/8			-		-	-	**589**
ULTRA S																	
(Maschinengewindebohrer | Machine taps)																	
6649		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	NIT	2 ÷ 10			-		-	-	**538**
66496G		HSS-Co	M DIN 13	371 DIN		0°	6GX	B 4-5	NIT	2,2 ÷ 10			-		-	-	**538**
6649TN		HSS-Co	M DIN 13	371 DIN		0°	6HX	B 4-5	TiN	2 ÷ 7			-		-	-	**539**
EG (M)																	
(Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil] | Machine taps for wire thread inserts [Helicoil])																	
6908	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371 	HSS-Co	M DIN 13	8140 -2 DIN		0°	6H MOD.	B 4-5	-	3 ÷ 8		-	-		-	-	**625**

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
EG (M)																	
(Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil] | Machine taps for wire thread inserts [Helicoil])																	
6909	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376	HSS-Co	M DIN 13	8140 -2 DIN		0°	6H MOD.	B 4-5	-	10 ÷ 16		-	-		-	-	627
EG (M) 40°																	
(Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil] | Machine taps for wire thread inserts [Helicoil])																	
6910	Ähnliche Abmessungen wie DIN 371 Similar dimensions to DIN 371	HSS-Co	M DIN 13	8140 -2 DIN		40°	6H MOD.	C 2,5-3	-	3 ÷ 8		-	-		-	-	624
6911	Ähnliche Abmessungen wie DIN 376 Similar dimensions to DIN 376	HSS-Co	M DIN 13	8140 -2 DIN		40°	6H MOD.	C 2,5-3	-	10 ÷ 16		-	-		-	-	626
N																	
(Maschinengewindebohrer mit langem Schaft | Machine taps with long shank)																	
6672		HSS-Co	M DIN 13	ILIX NORM DIN		0°	6H	B 4-5	-	3 ÷ 14		-			-	-	562
N																	
(Maschinengewindebohrer mit extra langem Schaft | Machine taps with extra long shank)																	
6692		HSS-Co	M DIN 13	ILIX NORM DIN		0°	6H	B 4-5	-	3 ÷ 8		-			-	-	564
6695		HSS-Co	M DIN 13	ILIX NORM DIN		0°	6H	B 4-5	-	8 ÷ 20		-			-	-	565
N 30°																	
(Maschinengewindebohrer mit extra langem Schaft | Machine taps with extra long shank)																	
NEW Tech **6840**		HSS-Co	M DIN 13	ILIX NORM DIN		30°	6H	C 2,5-3	-	3 ÷ 8		-			-	-	566
NEW Tech **6841**		HSS-Co	M DIN 13	ILIX NORM DIN		30°	6H	C 2,5-3	-	8 ÷ 20		-			-	-	567

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
N (Mutter-Maschinengewindebohrer | Machine nut taps)																	
6660		HSS-Co	M DIN 13	357 DIN 13		0°	6H	A 6-8	-	3 ÷ 30		-			-	-	563
TR (Trapez Maschinengewindebohrer | Trapezoidal machine taps)																	
6938		HSS-Co	TR	103 DIN		0°	7H	2/3 x l_2	-	10 ÷ 36		-			-	-	629
6939	Schnittrichtung links Left cutting direction 	HSS-Co	TR	103 DIN		0°	7H	2/3 x l_2	-	10 ÷ 36		-			-	-	629
FORMER (Gewindeformer | Cold forming taps)																	
6722		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	1 ÷ 10			-		-	-	543
6722BL		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	-	1 ÷ 10			-		-	-	543
6722TN		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	1 ÷ 10			-		-	-	543
6722TF		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiAlN FUTURA	1 ÷ 10			-		-	-	543
6622		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	NIT	2 ÷ 10			-		-	-	542
6622BL		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	-	2 ÷ 10			-		-	-	542
6622TN		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	TiN	2 ÷ 10			-		-	-	542

B 02

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
6723		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	12 ÷ 16			-		-	-	560
6723TN		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	12 ÷ 16			-		-	-	560
6623		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	12 ÷ 16			-		-	-	560
6623TN		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	12 ÷ 16			-		-	-	560
6721		HSS-Co	MF DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	8 ÷ 16			-		-	-	584
67216G		HSS-Co	MF DIN 13	2174 DIN		-	6GX	C 2,5-3	NIT	8 ÷ 16			-		-	-	584
6738		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	NIT	nr.2-56 ÷ 3/8			-		-	-	590
6747		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	NIT	nr.4-48 ÷ 3/8			-		-	-	599
6702		HSS-Co	G (BSP) DIN EN ISO 228	2189 DIN		-	2BX	B 4-5	NIT	1/16 ÷ 1/2			-		-	-	617

▸ FORMER

(Gewindeformer | Cold forming taps)

▸ FORMER S

(Gewindeformer mit Kühlnuten | Cold forming taps with coolant grooves)

6709		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	3 ÷ 10			-		-	-	544
6709TN		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	3 ÷ 10			-		-	-	544

B 02

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Gewinde typ Thread Type	DIN	Lochtyp Hole type	Drallwinkel Helix angle	Toleranz Tolerance	Anschnittform Chamfer Form	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ FORMER S

(Gewindeformer mit Kühlnuten | Cold forming taps with coolant grooves)

6709TF		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiAlN FUTURA	3 ÷ 10			-			-	545
6808		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	NIT	3 ÷ 10			-			-	544
6808BL		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	-	3 ÷ 10			-			-	544
6808TN		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	TiN	3 ÷ 10			-			-	545
6819		HSS-Co	M DIN 13	2174 DIN		-	7GX	C 2,5-3	NIT	8 ÷ 10			-			-	545
6725		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	12 ÷ 16			-			-	561
6725TN		HSS-Co	M DIN 13	2174 DIN		-	6HX	C 2,5-3	TiN	12 ÷ 16			-			-	561
6809		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	NIT	12 ÷ 16			-			-	561
6809TN		HSS-Co	M DIN 13	2174 DIN		-	6GX	C 2,5-3	TiN	12 ÷ 16			-			-	561
6720		HSS-Co	MF DIN 13	2174 DIN		-	6HX	C 2,5-3	NIT	8 ÷ 16			-			-	584
67206G		HSS-Co	MF DIN 13	2174 DIN		-	6GX	C 2,5-3	NIT	8 ÷ 16			-			-	584
6802		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	NIT	nr.5-40 ÷ 3/8			-			-	590
NEW 6811TN		HSS-Co	UNC ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	TiN	1/2 ÷ 3/4			-			-	591

B 02

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**DIN**	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Toleranz** Tolerance	**Anschnittform** Chamfer Form	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
FORMER S																	
(Gewindeformer mit Kühlnuten | Cold forming taps with coolant grooves)																	
6815		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	NIT	nr.8-36 ÷ 5/16			-		-	-	**599**
NEW **6815TN**		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	TiN	nr.5-44 ÷ 3/8			-		-	-	**599**
6816		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	NIT	1/2 ÷ 5/8			-		-	-	**603**
NEW **6816TN**		HSS-Co	UNF ASME B.1.1	2184 -1 DIN		-	2BX	C 2,5-3	TiN	7/16 ÷ 5/8			-		-	-	**603**
6818		HSS-Co	G (BSP) DIN EN ISO 228	2189 DIN		-	-	C 2,5-3	NIT	3/8			-		-	-	**617**
NEW **6818TN**		HSS-Co	G (BSP) DIN EN ISO 228	2189 DIN		-	-	C 2,5-3	TiN	1/16 ÷ 1/2			-		-	-	**617**

GEWINDEBOHRER
TAPS

B.02.02

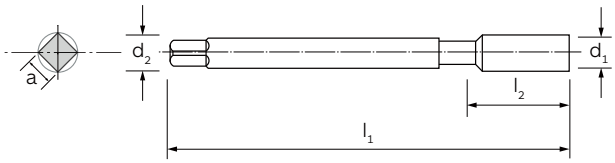
Produktpalette
Products range

M - DIN 352

Hand-Gewindebohrer, dreiteiliger Satz bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

M — DIN 13

352 — DIN



MATERIAL | MATERIAL	HSS	HSS	HSS	HSS	HSS	HSS
TYP | TYPE	N	N	N	N	N	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	–	–	–	–	–	–
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↺	↺	↺
INNENKÜHLUNG | INTERNAL COOLANT	–	–	–	–	–	–
TOLERANZ | TOLERANCE	6H	6H	6H	6H	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	D/3-4	C/2,5-3	A/5-6	D/3-4	C/2,5-3
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–	–	–

B 02

d_1	P		l_1	l_2	d_2 (h9**)	a (h12)	6615P	6615S	6615T	6618P	6618S	6618T
							6615 (Satz | Set)			**6618** (Satz | Set)		
							6615P	6615S	6615T	6615	6618P	6618S	6618T	6618
1,0	0,25	0,75	32	5,5	2,5	2,1	●	●	●	●	–	–	–	–
1,1	0,25	0,85	32	5,5	2,5	2,1	●	●	●	●	–	–	–	–
1,2	0,25	0,95	32	5,5	2,5	2,1	●	●	●	●	–	–	–	–
1,4	0,30	1,10	32	7,0	2,5	2,1	●	●	●	●	–	–	–	–
1,6	0,35	1,25	32	8,0	2,5	2,1	●	●	●	●	–	–	–	–
1,7*	0,35	1,30	32	8,0	2,5	2,1	●	●	●	●	–	–	–	–
1,8	0,35	1,45	32	8,0	2,5	2,1	●	●	●	●	–	–	–	–
2,0	0,40	1,60	36	8,0	2,8	2,1	●	●	●	●	–	–	–	–
2,2	0,45	1,75	36	9,0	2,8	2,1	●	●	●	●	–	–	–	–
2,3*	0,40	1,90	36	9,0	2,8	2,1	●	●	●	●	–	–	–	–
2,5	0,45	2,05	40	9,0	2,8	2,1	●	●	●	●	–	–	–	–
2,6*	0,45	2,10	40	9,0	2,8	2,1	●	●	●	●	–	–	–	–
3,0	0,50	2,50	40	11,0	3,5	2,7	●	●	●	●	●	●	●	●
3,0*	0,60	2,40	40	11,0	3,5	2,7	–	■	–	–	–	–	–	–
3,5	0,60	2,90	45	13,0	4,0	3,0	●	■	●	●	–	–	■	■
4,0	0,70	3,30	45	13,0	4,5	3,4	●	●	●	●	●	●	●	●
4*	**0,75**	3,25	45	13,0	4,5	3,4	■	–	■	■	–	–	–	–
4,5	0,75	3,70	50	16,0	6,0	4,9	●	●	●	●	–	–	–	–
5,0	0,80	4,20	50	16,0	6,0	4,9	●	●	●	●	●	●	●	●
5*	0,90	4,10	50	16,0	6,0	4,9	■	–	–	–	–	–	–	–
6,0	1,00	5,00	50	19,0	6,0	4,9	●	●	●	●	●	●	●	●
7,0	1,00	6,00	50	19,0	6,0	4,9	●	●	●	●	●	●	●	●
8,0	1,25	6,80	56	22,0	6,0	4,9	●	●	●	●	●	●	●	●
9,0	1,25	7,80	63	22,0	7,0	5,5	●	●	●	●	–	–	–	–

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last
**** Schafttoleranz des 1. und 2. Gewindebohrers h 12** | Shank tolerance of 1st and 2nd tap h 12

M - DIN 352

Hand-Gewindebohrer, dreiteiliger Satz bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

6614P	6614S	6614T	6625P	6625S	6625T						
6614 (Satz | Set)			**6625** (Satz | Set)								
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VA	VA	VA	Ti	Ti	Ti	**TYP** | TYPE					
–	–	–	NIT	NIT	NIT	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
0°	0°	0°	0°	0°	0°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6HX	6HX	6HX	6HX	6HX	6HX	**TOLERANZ** | TOLERANCE					
A/5-6	D/3-4	C/2,5-3	A/5-6	D/3-4	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
						LOCHTYP | HOLE TYPE					
P	P	P	–	–	–	**P** | **Stahl** | Steels					
M	M	M	M	M	M	**M** | **Rostfreier Stahl** | Stainless Steels					
–	–	–	–	–	–	**K** | **Gusseisen** | Cast Irons					
N	N	N	–	–	–	**N** | **Nichteisenmetalle** | Non-ferrous metals					
S	S	S	S	S	S	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					

MATERIALGRUPPEN MATERIAL GROUPS

B 02

6614P	6614S	6614T	6614	6625P	6625S	6625T	6625		d_1	P		l_1	l_2
–	–	–	–	–	–	–	–		**1,0**	0,25	0,75	32	5,5
–	–	–	–	–	–	–	–		**1,1**	0,25	0,85	32	5,5
–	–	–	–	–	–	–	–		**1,2**	0,25	0,95	32	5,5
–	–	–	–	–	–	–	–		**1,4**	0,30	1,10	32	7,0
–	–	–	–	–	–	–	–		**1,6**	0,35	1,25	32	8,0
–	–	–	–	–	–	–	–		**1,7***	0,35	1,30	32	8,0
–	–	–	–	–	–	–	–		**1,8**	0,35	1,45	32	8,0
●	●	●	●	●	●	●	●		**2,0**	0,40	1,60	36	8,0
–	–	■	■	■	■	■	■		**2,2**	0,45	1,75	36	9,0
■	■	■	■	–	–	■	■		**2,3***	0,40	1,90	36	9,0
●	●	●	●	●	●	●	●		**2,5**	0,45	2,05	40	9,0
–	–	■	■	■	–	■	–		**2,6***	0,45	2,10	40	9,0
●	●	●	●	●	●	●	●		**3,0**	0,50	2,50	40	11,0
–	–	–	■	–	–	–	–		**3,0***	0,60	2,40	40	11,0
–	■	■	–	■	■	■	■		**3,5**	0,60	2,90	45	13,0
●	●	●	●	●	●	●	●		**4,0**	0,70	3,30	45	13,0
–	–	–	–	–	–	–	–		**4***	0,75	3,25	45	13,0
–	–	–	–	–	–	–	–		**4,5**	0,75	3,70	50	16,0
●	●	●	●	●	●	●	●		**5,0**	0,80	4,20	50	16,0
■	–	–	–	–	–	–	–		**5***	0,90	4,10	50	16,0
●	●	●	●	●	●	●	●		**6,0**	1,00	5,00	50	19,0
●	●	●	●	–	–	■	–		**7,0**	1,00	6,00	50	19,0
●	●	●	●	●	●	●	●		**8,0**	1,25	6,80	56	22,0
–	–	–	–	–	–	–	–		**9,0**	1,25	7,80	63	22,0

01/02

■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 352

Hand-Gewindebohrer, dreiteiliger Satz bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

d_1	P		l_1	l_2	d_2 (h9**)	a (h12)	6615P	6615S	6615T		6618P	6618S	6618T	
							6615 (Satz | Set)				**6618** (Satz | Set)			
							6615P	6615S	6615T	6615	6618P	6618S	6618T	6618
10,0	1,50	8,50	70	24,0	7,0	6,2	●	●	●	●	●	●	●	●
11,0	1,50	9,50	70	24,0	8,0	5,5	●	●	●	●	–	–	–	–
12,0	1,75	10,20	75	29,0	9,0	7,0	●	●	●	●	●	●	●	●
14,0	2,00	12,00	80	30,0	11,0	9,0	●	●	●	●	●	●	●	●
16,0	2,00	14,00	80	32,0	12,0	9,0	●	●	●	●	●	●	●	●
18,0	2,50	15,50	95	40,0	14,0	11,0	●	●	●	●	–	■	■	–
20,0	2,50	17,50	95	40,0	16,0	12,0	●	●	●	●	●	●	●	●
22,0	2,50	19,50	100	40,0	18,0	14,5	●	●	●	●	–	–	–	–
24,0	3,00	21,00	110	50,0	18,0	14,5	●	●	●	●	–	–	–	–
27,0	3,00	24,00	110	50,0	20,0	16,0	●	●	●	●	–	–	–	–
30,0	3,50	26,50	125	56,0	22,0	18,0	●	●	●	●	–	–	–	–
33,0	3,50	29,50	125	56,0	25,0	20,0	●	●	●	●	–	–	–	–
36,0	4,00	32,00	150	63,0	28,0	22,0	●	●	●	●	–	–	–	–
39,0	4,00	35,00	150	63,0	32,0	24,0	●	●	●	●	–	–	–	–
42,0	4,50	37,50	150	63,0	32,0	24,0	●	●	●	●	–	–	–	–
45,0	4,50	40,50	160	70,0	36,0	29,0	●	●	●	●	–	–	–	–
48,0	5,00	43,00	180	75,0	36,0	29,0	●	●	●	●	–	–	–	–
52,0	5,00	47,00	180	75,0	40,0	32,0	●	●	●	●	–	–	–	–
56,0	5,50	50,50	200	85,0	45,0	35,0	●	●	●	●	–	–	–	–
60,0	5,50	54,50	200	85,0	45,0	35,0	●	●	●	●	–	–	–	–
64,0	6,00	58,00	220	90,0	50,0	39,0	●	●	●	●	–	–	–	–
68,0	6,00	62,00	220	90,0	50,0	29,0	●	●	●	●	–	–	–	–

02/02

** **Schafttoleranz des 1. und 2. Gewindebohrers h 12** | Shank tolerance of 1st and 2nd tap h 12

■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 352

Hand-Gewindebohrer, dreiteiliger Satz bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

6614P	6614S	6614T	6625P	6625S	6625T		d_1	P		l_1	l_2
6614 (Satz | Set)			**6625** (Satz | Set)								
6614P	6614S	6614T	6614	6625P	6625S	6625T	6625						
●	●	●	●	●	●	●	●		**10,0**	1,50	8,50	70	24,0
–	–	–	–	–	–	–	–		**11,0**	1,50	9,50	70	24,0
●	●	●	●	●	●	●	●		**12,0**	1,75	10,20	75	29,0
●	●	●	●	●	●	●	●		**14,0**	2,00	12,00	80	30,0
●	●	●	●	●	●	●	●		**16,0**	2,00	14,00	80	32,0
●	●	●	●	●	●	●	●		**18,0**	2,50	15,50	95	40,0
●	●	●	●	●	●	●	●		**20,0**	2,50	17,50	95	40,0
–	–	–	–	–	–	–	–		**22,0**	2,50	19,50	100	40,0
–	–	–	–	–	–	–	–		**24,0**	3,00	21,00	110	50,0
–	–	–	–	–	–	–	–		**27,0**	3,00	24,00	110	50,0
–	–	–	–	–	–	–	–		**30,0**	3,50	26,50	125	56,0
–	–	–	–	–	–	–	–		**33,0**	3,50	29,50	125	56,0
–	–	–	–	–	–	–	–		**36,0**	4,00	32,00	150	63,0
–	–	–	–	–	–	–	–		**39,0**	4,00	35,00	150	63,0
–	–	–	–	–	–	–	–		**42,0**	4,50	37,50	150	63,0
–	–	–	–	–	–	–	–		**45,0**	4,50	40,50	160	70,0
–	–	–	–	–	–	–	–		**48,0**	5,00	43,00	180	75,0
–	–	–	–	–	–	–	–		**52,0**	5,00	47,00	180	75,0
–	–	–	–	–	–	–	–		**56,0**	5,50	50,50	200	85,0
–	–	–	–	–	–	–	–		**60,0**	5,50	54,50	200	85,0
–	–	–	–	–	–	–	–		**64,0**	6,00	58,00	220	90,0
–	–	–	–	–	–	–	–		**68,0**	6,00	62,00	220	90,0

02/02

M DIN 13 | **352** DIN

MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	N	N	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	D/3-4	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

HAND-GEWINDEBOHRER SATZ
Hand Taps SET

		6615P	6615S	6615T
M 3	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
M 4	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
M 5	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
M 6	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
M 8	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
M 10	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
M 12	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●

6608-3/12

SATZ-Bestellcode
SET Order Code

Metallkassette | Metal Case

M - DIN 352

Hand-Gewindebohrer, dreiteiliger Satz und Spiralbohrer nach DIN 338 für Kernbohrung
Hand taps SET, series in set of 3 pieces and twist drills for tap drill hole according to DIN 338

M	352
DIN 13	DIN

MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	N	N	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	D/3-4	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

HAND-GEWINDEBOHRER SATZ UND SPIRALBOHRER FÜR KERNBOHRUNG
Hand Taps SET and twist drills for tap drill hole

6615P	6615S	6615T

6151

6609-3/12

Codice d'ordine SET
SET Order Code

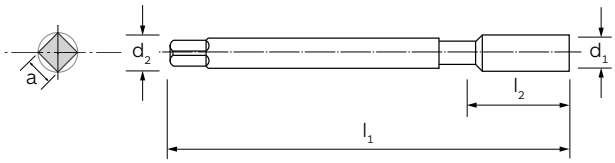
Cassetta metallica | Metal Case

M 3	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
2,5	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			
M 4	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
3,3	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			
M 5	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
4,2	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			
M 6	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
5,0	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			
M 8	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
6,8	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			
M 10	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
8,5	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			
M 12	Vorschneider (V) Mittelschneider (M) Fertigschneider (F) Taper (P) - Plug (S) - Bottom (T)	●	●	●
10,2	**Bohrer 6151 - DIN 338 für Gewindebohrer** | Twist drills 6151 - DIN 338 for tap drill			

M
DIN 13

352
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	N 40°	N 40°	N 40°	Rapid
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	-	-	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	15°	40°	40°	40°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H	6H	6G	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	E/1,5-2	E/1,5-2	B/4-5
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1	P		l_1	l_2	l_2 (N 40°)	d_2 (h9)	a (h12)	6678	6659	6639	6604	66046G	6679
2,0	0,40	1,60	36	8	-	2,8	2,1	●	-	-	-	-	●
2,2	0,45	1,75	36	9	-	2,8	2,1	●	-	-	-	-	●
2,3*	0,40	1,90	36	9	-	2,8	2,1	●	-	-	-	-	●
2,5	0,45	2,05	40	9	-	2,8	2,1	●	-	-	-	-	●
2,6*	0,45	2,10	40	9	-	2,8	2,1	●	-	-	-	-	●
3,0	0,50	2,50	40	11	5	3,5	2,7	●	●	●	●	●	●
3,5	0,60	2,90	45	13	6	4,0	3,0	●	●	●	-	-	■
4,0	0,70	3,30	45	13	7	4,5	3,4	●	●	●	●	●	●
5,0	0,80	4,20	50	16	8	6,0	4,9	●	●	●	●	●	●
6,0	1,00	5,00	50	19	10	6,0	4,9	●	●	●	●	●	●
7,0	1,00	6,00	50	19	10	6,0	4,9	-	●	●	-	-	■
8,0	1,25	6,80	56	22	12	6,0	4,9	●	●	●	●	●	●
10,0	1,50	8,50	70	24	14	7,0	5,5	●	●	●	●	●	●
12,0	1,75	10,20	75	29	16	9,0	7,0	●	●	●	●	●	●
14,0	2,00	12,00	80	30	20	11,0	9,0	●	●	●	-	-	●
16,0	2,00	14,00	80	32	20	12,0	9,0	●	●	●	●	-	●
18,0	2,50	15,50	95	40	25	14,0	11,0	●	●	●	-	-	●
20,0	2,50	17,50	95	40	25	16,0	12,0	●	●	●	●	-	●
24,0	3,00	21,00	110	38	30	18,0	14,5	-	-	-	●	-	-

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

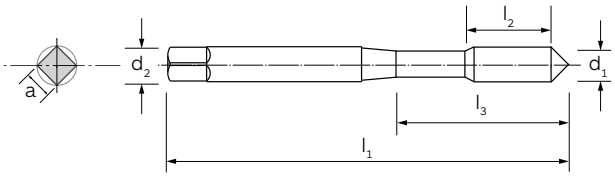
M - DIN 352

Kurzer Maschinengewindebohrer | Short machine taps

6613	6621	6648	6612	6624		d_1	P		l_1	l_2
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
AZ	AZ	VA 15°	VA 15°	MS	**TYP** | TYPE					
–	–	–	–	–	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
0°	0°	15°	15°	0°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6H	6H	6HX	6HX	6H	**TOLERANZ** | TOLERANCE					
B/4-5	C/2,5-3	C/2,5-3	E/1,5-2	E/1,5-2	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
					LOCHTYP | HOLE TYPE					
P	P	P	P	–	**P** | **Stahl** | Steels					
M	M	M	M	–	**M** | **Rostfreier Stahl** | Stainless Steels					
–	–	–	–	–	**K** | **Gusseisen** | Cast Irons					
N	N	N	N	N	**N** | **Nichteisenmetalle** | Non-ferrous metals					
–	–	S	S	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
–	–	–	–	●		**2,0**	0,40	1,60	36	8
–	–	–	–	●		**2,2**	0,45	1,75	36	9
–	–	–	–	●		**2,3***	0,40	1,90	36	9
–	–	–	–	●		**2,5**	0,45	2,05	40	9
–	–	–	–	●		**2,6***	0,45	2,10	40	9
●	●	●	●	●		**3,0**	0,50	2,50	40	11
–	–	●	–	●		**3,5**	0,60	2,90	45	13
●	●	●	●	●		**4,0**	0,70	3,30	45	13
●	●	●	●	●		**5,0**	0,80	4,20	50	16
●	●	●	●	●		**6,0**	1,00	5,00	50	19
–	–	–	–	●		**7,0**	1,00	6,00	50	19
●	●	●	●	●		**8,0**	1,25	6,80	56	22
●	●	●	●	●		**10,0**	1,50	8,50	70	24
●	●	●	●	●		**12,0**	1,75	10,20	75	29
–	–	●	–	–		**14,0**	2,00	12,00	80	30
●	●	●	●	–		**16,0**	2,00	14,00	80	32
–	–	–	–	–		**18,0**	2,50	15,50	95	40
–	–	–	–	–		**20,0**	2,50	17,50	95	40
–	–	–	–	–		**24,0**	3,00	21,00	110	38

NEW

6878HL	M	371	
	DIN 13	DIN	P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N	N	AZ	N 15°	N 15°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	TiN	-	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↺	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H	6H	6H	6G
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	M	-	-
K | **Gusseisen** | Cast Irons	K	K	K	-	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

B 02

d_1	P		l_1	l_2	l_3	d_2 (h9)	a (h12)	6706	6706TN	6712	6820	6657	66576G
1,0	0,25	0,75	40	-	5,5	2,5	2,1	●	●	-	-	-	-
1,1	0,25	0,85	40	-	5,5	2,5	2,1	●	●	-	-	-	-
1,2	0,25	0,95	40	-	5,5	2,5	2,1	●	●	-	-	-	-
1,4	0,30	1,10	40	-	7	2,5	2,1	●	●	-	-	-	-
1,6	0,35	1,25	40	-	8	2,5	2,1	●	●	-	-	-	-
1,7*	0,35	1,30	40	-	8	2,5	2,1	●	●	-	-	-	-
1,8	0,35	1,45	40	-	8	2,5	2,1	●	●	-	-	-	-
2,0	0,40	1,60	45	4	8	2,8	2,1	●	●	-	●	●	●
2,2	0,45	1,75	45	4	9	2,8	2,1	●	-	-	-	-	-
2,3*	0,40	1,90	45	4	9	2,8	2,1	●	●	-	-	■	-
2,5	0,45	2,05	50	4	9	2,8	2,1	●	●	-	-	●	●
2,6*	0,45	2,10	50	4	9	2,8	2,1	●	●	-	-	●	-
3,0	0,50	2,50	56	5	11	3,5	2,7	●	●	●	●	●	●
3*	0,60	2,40	56	5	11	3,5	2,7	●	-	-	-	-	-
3,5	0,60	2,90	56	6	13	4,0	3,0	●	●	-	-	●	●
4,0	0,70	3,30	63	7	13	4,5	3,4	●	●	●	●	●	●
4*	0,75	3,25	63	7	13	4,5	3,4	●	-	-	-	-	-
5,0	0,80	4,20	70	8	16	6,0	4,9	●	●	●	●	●	●
5*	0,90	4,10	70	8	16	6,0	4,9	■	-	-	-	-	-
6,0	1,00	5,00	80	10	19	6,0	4,9	●	●	●	●	●	●
7,0	1,00	6,00	80	10	19	7,0	5,5	●	●	-	-	●	-
8,0	1,25	6,80	90	12	22	8,0	6,2	●	●	●	●	●	●
9,0	1,25	7,80	90	12	22	9,0	7,0	●	●	-	-	-	-
10,0	1,50	8,50	100	14	24	10,0	8,0	●	●	●	●	●	●

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

6657TN	6657TC	6902	6878	6878HL		MATERIAL | MATERIAL
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co		
N 15°	N 15°	N 15°	HD 15°	HD 15°		TYP | TYPE
TiN	TiCN	–	–	TiAlN HL EVO		BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT
15°	15°	15°	15°	15°		DRALLWINKEL | HELIX ANGLE
↻	↻	↻	↻	↻		SCHNITTRICHTUNG | CUTTING DIRECTION
–	–	–	–	–		INNENKÜHLUNG | INTERNAL COOLANT
6H	6H	6H+0,1	6H	6H		TOLERANZ | TOLERANCE
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3		ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS
						LOCHTYP | HOLE TYPE
P	P	P	P	P		P | Stahl | Steels
M	M	–	–	–		M | Rostfreier Stahl | Stainless Steels
K	K	K	K	K		K | Gusseisen | Cast Irons
N	N	N	–	–		N | Nichteisenmetalle | Non-ferrous metals
–	–	–	–	–		S | HRSA und Titan | HRSA and Titanium
–	–	–	–	–		H | Gehärtete Stähle | Hardened Steels

MATERIALGRUPPEN
MATERIAL GROUPS

B 02

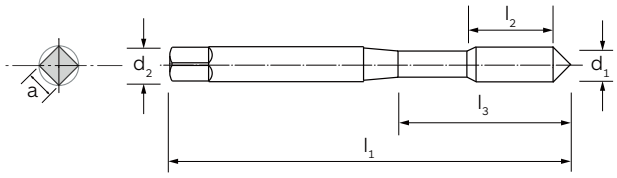
6657TN	6657TC	6902	6878	6878HL		d_1	P		l_1	l_2
–	–	–	–	–		**1,0**	0,25	0,75	40	-
–	–	–	–	–		**1,1**	0,25	0,85	40	-
–	–	–	–	–		**1,2**	0,25	0,95	40	-
–	–	–	–	–		**1,4**	0,30	1,10	40	-
–	–	–	–	–		**1,6**	0,35	1,25	40	-
–	–	–	–	–		**1,7***	0,35	1,30	40	-
–	–	–	–	–		**1,8**	0,35	1,45	40	-
–	–	–	–	–		**2,0**	0,40	1,60	45	4
–	–	–	–	–		**2,2**	0,45	1,75	45	4
■	–	–	–	–		**2,3***	0,40	1,90	45	4
–	■	–	–	–		**2,5**	0,45	2,05	50	4
–	■	–	–	–		**2,6***	0,45	2,10	50	4
●	●	●	■	■		**3,0**	0,50	2,50	56	5
–	–	–	–	–		**3***	0,60	2,40	56	5
–	–	–	–	–		**3,5**	0,60	2,90	56	6
●	●	●	●	●		**4,0**	0,70	3,30	63	7
–	–	–	–	–		**4***	0,75	3,25	63	7
●	●	●	●	●		**5,0**	0,80	4,20	70	8
–	–	–	–	–		**5***	0,90	4,10	70	8
●	●	●	●	●		**6,0**	1,00	5,00	80	10
–	–	–	–	–		**7,0**	1,00	6,00	80	10
●	●	●	●	●		**8,0**	1,25	6,80	90	12
–	–	–	–	–		**9,0**	1,25	7,80	90	12
●	●	●	●	●		**10,0**	1,50	8,50	100	14

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

371
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N 40°	N 40°	N 40°	N 40°	N 40°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	–	VAP	–	TiN	–
DRALLWINKEL | HELIX ANGLE	40°	40°	40°	40°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	–	–	–	–	–
TOLERANZ | TOLERANCE	6H	6H	6G	6G	7G
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN / MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	M	–
K | **Gusseisen** | Cast Irons	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–	–

B 02

d_1	P		l_1	l_2	l_3	d_2 (h9)	a (h12)	6644	6644VP	66446G	6644TN (6G)**	66447G
1,0	0,25	0,75	40	-	5,5	2,5	2,1	–	–	–	–	–
1,1	0,25	0,85	40	-	5,5	2,5	2,1	–	–	–	–	–
1,2	0,25	0,95	40	-	5,5	2,5	2,1	–	–	–	–	–
1,4	0,30	1,10	40	-	7	2,5	2,1	–	–	–	–	–
1,6	0,35	1,25	40	-	8	2,5	2,1	–	–	–	–	–
1,7*	0,35	1,30	40	-	8	2,5	2,1	–	–	–	–	–
1,8	0,35	1,45	40	-	8	2,5	2,1	–	–	–	–	–
2,0	0,40	1,60	45	4,0	8	2,8	2,1	●	●	●	●	●
2,2	0,45	1,75	45	4,0	9	2,8	2,1	●	●	–	–	–
2,3*	0,40	1,90	45	4,0	9	2,8	2,1	●	●	–	–	–
2,5	0,45	2,05	50	4,0	9	2,8	2,1	●	●	●	●	●
2,6*	0,45	2,10	50	4,0	9	2,8	2,1	●	●	–	–	–
3,0	0,50	2,50	56	5,0	11	3,5	2,7	●	●	●	●	●
3*	0,60	2,40	56	5,0	11	3,5	2,7	–	–	–	–	–
3,5	0,60	2,90	56	6,0	13	4,0	3,0	●	●	●	●	–
4,0	0,70	3,30	63	7,0	13	4,5	3,4	●	●	●	●	●
4*	0,75	3,25	63	7,0	13	4,5	3,4	–	–	–	–	–
5,0	0,80	4,20	70	8,0	16	6,0	4,9	●	●	●	●	●
5*	0,90	4,10	70	8,0	16	6,0	4,9	–	–	–	–	–
6,0	1,00	5,00	80	10,0	19	6,0	4,9	●	●	●	●	●
7,0	1,00	6,00	80	10,0	19	7,0	5,5	●	●	●	●	–
8,0	1,25	6,80	90	12,0	22	8,0	6,2	●	●	●	●	●
9,0	1,25	7,80	90	12,0	22	9,0	7,0	●	–	–	–	–
10,0	1,50	8,50	100	14,0	24	10,0	8,0	●	●	●	●	●

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. **** Für 6G-Toleranz Bestellcode 6707TN (6G)** | For **6G** tolerance, order code **6644TN (6G)**

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

6644TN	6644TC	6867	6861		MATERIAL | MATERIAL
HSS-Co	HSS-Co	HSS-Co	HSS-Co		
N 40°	N 40°	N 40°	N SX 40°		TYP | TYPE
TiN	TiCN	-	-		BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT
40°	40°	40°	40°		DRALLWINKEL | HELIX ANGLE
↻	↻	↻	↺		SCHNITTRICHTUNG | CUTTING DIRECTION
-	-	-	-		INNENKÜHLUNG | INTERNAL COOLANT
6H	6H	6H	6H		TOLERANZ | TOLERANCE
C/2,5-3	C/2,5-3	E/1,5-2	C/2,5-3		ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS
					LOCHTYP | HOLE TYPE
P	P	P	P		P | Stahl | Steels
M	M	-	-		M | Rostfreier Stahl | Stainless Steels
K	K	K	K		K | Gusseisen | Cast Irons
N	N	N	N		N | Nichteisenmetalle | Non-ferrous metals
-	-	-	-		S | HRSA und Titan | HRSA and Titanium
-	-	-	-		H | Gehärtete Stähle | Hardened Steels

MATERIALGRUPPEN
MATERIAL GROUPS

B 02

6644TN	6644TC	6867	6861		d_1	P		l_1	l_2
-	-	-	-		**1,0**	0,25	0,75	40	-
-	-	-	-		**1,1**	0,25	0,85	40	-
-	-	-	-		**1,2**	0,25	0,95	40	-
-	-	-	-		**1,4**	0,30	1,10	40	-
-	-	-	-		**1,6**	0,35	1,25	40	-
-	-	-	-		**1,7***	0,35	1,30	40	-
-	-	-	-		**1,8**	0,35	1,45	40	-
●	●	-	-		**2,0**	0,40	1,60	45	4,0
-	-	-	-		**2,2**	0,45	1,75	45	4,0
-	-	-	-		**2,3***	0,40	1,90	45	4,0
●	●	-	-		**2,5**	0,45	2,05	50	4,0
-	-	-	-		**2,6***	0,45	2,10	50	4,0
●	●	●	●		**3,0**	0,50	2,50	56	5,0
-	-	-	-		**3***	0,60	2,40	56	5,0
●	●	-	-		**3,5**	0,60	2,90	56	6,0
●	●	●	●		**4,0**	0,70	3,30	63	7,0
-	-	-	-		**4***	0,75	3,25	63	7,0
●	●	●	●		**5,0**	0,80	4,20	70	8,0
-	-	-	-		**5***	0,90	4,10	70	8,0
●	●	●	●		**6,0**	1,00	5,00	80	10,0
●	-	-	-		**7,0**	1,00	6,00	80	10,0
●	●	●	●		**8,0**	1,25	6,80	90	12,0
-	-	-	-		**9,0**	1,25	7,80	90	12,0
●	●	●	●		**10,0**	1,50	8,50	100	14,0

NEW

....XP

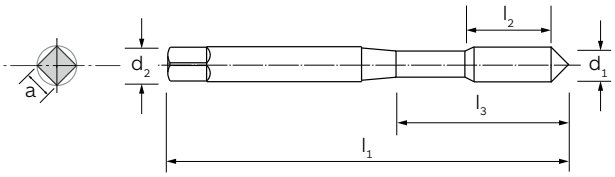
M

DIN 13

371

DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	VA 15°	VA 15°	VA 15°	VA i 15°	VR 35°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	VAP	AlCrN TOP	AlCrN TOP	-
DRALLWINKEL | HELIX ANGLE	15°	15°	15°	15°	35°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	A	-
TOLERANZ | TOLERANCE	6HX	6HX	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	-
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-

B 02

d_1	P		l_1	l_2	l_3	d_2 (h9)	a (h12)	6654	6654VP	6654XP	6620XP	6661
2,0	0,40	1,60	45	4	8	2,8	2,1	●	●	●	-	●
2,2	0,45	1,75	45	4	9	2,8	2,1	●	●	-	-	●
2,3*	0,40	1,90	45	4	9	2,8	2,1	●	●	-	-	●
2,5	0,45	2,05	50	4	9	2,8	2,1	●	●	-	-	●
2,6*	0,45	2,10	50	4	9	2,8	2,1	●	●	-	-	●
3,0	0,50	2,50	56	5	11	3,5	2,7	●	●	●	-	●
3,5	0,60	2,90	56	6	13	4,0	3,0	●	●	-	-	■
4,0	0,70	3,30	63	7	13	4,5	3,4	●	●	●	-	●
5,0	0,80	4,20	70	8	16	6,0	4,9	●	●	●	-	●
6,0	1,00	5,00	80	10	19	6,0	4,9	●	●	●	●	●
7,0	1,00	6,00	80	10	19	7,0	5,5	●	●	■	-	●
8,0	1,25	6,80	90	12	22	8,0	6,2	●	●	●	●	●
10,0	1,50	8,50	100	14	24	10,0	8,0	●	●	●	●	●

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last
Kat.Nr.6661 mit konischem Gewindeteil ab M 3, außer Ø7 mm | Cat.-No. 6661 with back tapered from M 3 onwards, except M 7

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

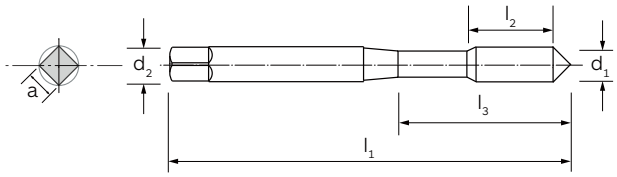
6661VP	66616G	6661TN	6661XP	6850VP	6850TN		d_1	P		l_1	l_2
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VR 35°	VR 35°	VR 35°	VR 35°	VR 50°	VR 50°	**TYP** | TYPE					
VAP	–	TiN	AlCrN TOP	VAP	TiN	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
35°	35°	35°	35°	50°	50°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6HX	6G	6HX	6HX	6HX	6HX	**TOLERANZ** | TOLERANCE					
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
						LOCHTYP | HOLE TYPE					
P	P	P	P	P	P	**P** | **Stahl** | Steels					
M	M	M	M	M	M	**M** | **Rostfreier Stahl** | Stainless Steels					
–	–	–	–	–	–	**K** | **Gusseisen** | Cast Irons					
–	–	–	–	–	–	**N** | **Nichteisenmetalle** | Non-ferrous metals					
–	–	–	–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
●	●	●	●	●	●		**2,0**	0,40	1,60	45	4
■	–	●	–	–	–		**2,2**	0,45	1,75	45	4
■	–	●	–	–	–		**2,3***	0,40	1,90	45	4
●	●	●	●	–	–		**2,5**	0,45	2,05	50	4
–	–	●	–	–	–		**2,6***	0,45	2,10	50	4
●	●	●	●	●	●		**3,0**	0,50	2,50	56	5
■	–	■	–	–	–		**3,5**	0,60	2,90	56	6
●	●	●	●	●	●		**4,0**	0,70	3,30	63	7
●	●	●	●	●	●		**5,0**	0,80	4,20	70	8
●	●	●	●	●	●		**6,0**	1,00	5,00	80	10
●	–	●	–	–	–		**7,0**	1,00	6,00	80	10
●	●	●	●	●	●		**8,0**	1,25	6,80	90	12
●	●	●	●	●	●		**10,0**	1,50	8,50	100	14

■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

371
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	GG	GG	MULTI GG i	MULTI GG i	ALU 45°	BAK
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	NIT	TiAlN Futura	NIT	TiCN	-	NIT
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	45°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	A	A	-	-
TOLERANZ | TOLERANCE	6HX	6HX	6HX	6HX	6H	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	E/1,5-2
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN MATERIAL GROUPS						
P | **Stahl** | Steels	-	-	-	-	-	-
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

B 02

d_1	P		l_1	l_2	l_3	d_2 (h9)	a (h12)	6631	6631TF	6629	6629TC	6643	6670
2,0	0,40	1,60	45	4	8	2,8	2,1	-	-	-	-	●	-
2,2	0,45	1,75	45	4	9	2,8	2,1	-	-	-	-	■	-
2,3*	0,40	1,90	45	4	9	2,8	2,1	-	-	-	-	-	■
2,5	0,45	2,05	50	4	9	2,8	2,1	-	-	-	-	●	-
2,6*	0,45	2,10	50	4	9	2,8	2,1	-	-	-	-	●	-
3,0	0,50	2,50	56	5	11	3,5	2,7	●	●	-	-	●	●
3,5	0,60	2,90	56	6	13	4,0	3,0	■	■	-	-	●	●
4,0	0,70	3,30	63	7	13	4,5	3,4	●	●	-	-	●	●
5,0	0,80	4,20	70	8	16	6,0	4,9	●	●	●	●	●	●
6,0	1,00	5,00	80	10	19	6,0	4,9	●	●	●	●	●	●
7,0	1,00	6,00	80	10	19	7,0	5,5	●	●	-	-	-	■
8,0	1,25	6,80	90	12	22	8,0	6,2	●	●	●	●	●	●
10,0	1,50	8,50	100	14	24	10,0	8,0	●	●	●	●	●	●

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

6666	66666G	66664H	6666TF	6681	6681TF
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
HD 40°	HD 40°	HD 40°	HD 40°	HR 40°	HR 40°
–	–	–	TiAlN Futura	–	TiAlN Futura
40°	40°	40°	40°	40°	40°
↻	↻	↻	↻	↻	↻
–	–	–	–	–	–
6H	6G	4H	6H	6H	6H
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
P	P	P	P	P	P
–	–	–	–	–	–
K	K	K	K	–	–
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

S | **HRSA und Titan** | HRSA and Titanium

H | **Gehärtete Stähle** | Hardened Steels

B 02

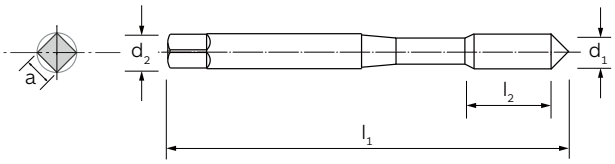
6666	66666G	66664H	6666TF	6681	6681TF		d_1	P		l_1	l_2
–	–	–	–	–	–		**2,0**	0,40	1,60	45	4
–	–	–	–	–	–		**2,2**	0,45	1,75	45	4
–	–	–	–	–	–		**2,3***	0,40	1,90	45	4
–	–	–	–	–	–		**2,5**	0,45	2,05	50	4
–	–	–	–	–	–		**2,6***	0,45	2,10	50	4
●	●	●	●	●	●		**3,0**	0,50	2,50	56	5
●	●	●	●	–	–		**3,5**	0,60	2,90	56	6
●	●	●	●	●	●		**4,0**	0,70	3,30	63	7
●	●	●	●	●	●		**5,0**	0,80	4,20	70	8
●	●	●	●	●	●		**6,0**	1,00	5,00	80	10
●	■	■	–	–	–		**7,0**	1,00	6,00	80	10
●	●	●	●	●	●		**8,0**	1,25	6,80	90	12
●	●	●	●	●	●		**10,0**	1,50	8,50	100	14

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

371
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Rapid	Rapid	Rapid	Rapid	Rapid	Rapid
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	VAP	-	TiN	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6G	6G	4H	7G
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6707	6707VP	67076G	6707TN (6G)**	67074H	67077G
2,0	0,40	1,60	45	8	2,8	2,1		●	●	●	●	●	●
2,2	0,45	1,75	45	9	2,8	2,1		●	●	●	●	■	●
2,3*	0,40	1,90	45	9	2,8	2,1		●	●	-	-	-	-
2,5	0,45	2,05	50	9	2,8	2,1		●	●	●	●	●	●
2,6*	0,45	2,10	50	9	2,8	2,1		●	●	-	-	-	-
3,0	0,50	2,50	56	11	3,5	2,7		●	●	●	●	●	●
3*	0,60	2,40	56	11	3,5	2,7		■	-	■	-	-	-
3,5	0,60	2,90	56	13	4,0	3,0		●	●	●	●	●	-
4,0	0,70	3,30	63	13	4,5	3,4		●	●	●	●	●	●
4*	0,75	3,25	63	13	4,5	3,4		■	-	-	-	-	-
5,0	0,80	4,20	70	16	6,0	4,9		●	●	●	●	●	●
6,0	1,00	5,00	80	19	6,0	4,9		●	●	●	●	●	●
7,0	1,00	6,00	80	19	7,0	5,5		●	●	●	●	●	-
8,0	1,25	6,80	90	22	8,0	6,2		●	●	●	●	●	●
9,0	1,25	7,80	90	22	9,0	7,0		●	●	-	-	-	-
10,0	1,50	8,50	100	24	10,0	8,0		●	●	●	●	●	●

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. **** Für Toleranz 6G Bestellnummer 6707TN (6G)** | For **6G** tolerance, order code **6707TN (6G)**
■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

6707TN	6707TC	6640	66406G	6859
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
Rapid	Rapid	Rapid 2	Rapid 2	N SX
TiN	TiCN	–	–	–
0°	0°	0°	0°	0°
↻	↻	↻	↻	↺
–	–	–	–	–
6H	6H	6H	6G	6H
B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
P	P	–	–	P
M	M	–	–	–
K	K	–	–	K
N	N	N	N	N
–	–	–	–	–
–	–	–	–	–

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

S | **HRSA und Titan** | HRSA and Titanium

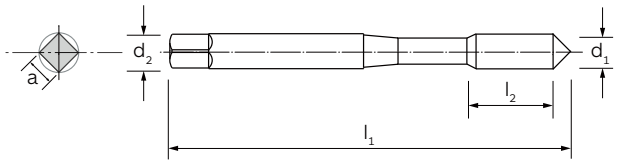
H | **Gehärtete Stähle** | Hardened Steels

6707TN	6707TC	6640	66406G	6859	d_1	P		l_1	l_2
●	●	●	●	–	**2,0**	0,40	1,60	45	8
–	–	●	●	–	**2,2**	0,45	1,75	45	9
–	–	●	–	–	**2,3***	0,40	1,90	45	9
●	●	●	●	–	**2,5**	0,45	2,05	50	9
–	–	●	–	–	**2,6***	0,45	2,10	50	9
●	●	●	●	●	**3,0**	0,50	2,50	56	11
–	–	–	–	–	**3***	0,60	2,40	56	11
●	●	●	●	–	**3,5**	0,60	2,90	56	13
●	●	●	●	●	**4,0**	0,70	3,30	63	13
–	–	–	–	–	**4***	0,75	3,25	63	13
●	●	●	●	●	**5,0**	0,80	4,20	70	16
●	●	●	●	●	**6,0**	1,00	5,00	80	19
●	–	●	●	–	**7,0**	1,00	6,00	80	19
●	●	●	●	●	**8,0**	1,25	6,80	90	22
–	–	–	–	–	**9,0**	1,25	7,80	90	22
●	●	●	●	●	**10,0**	1,50	8,50	100	24

M
DIN 13

371
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Ultra	Ultra	Ultra-S	Ultra-S
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	NIT	NIT	NIT	NIT
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	6HX	6GX	6HX	6GX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6606	66066G	6649	66496G
2,0	0,40	1,60	45	8	2,8	2,1	●	●	■	-
2,2	0,45	1,75	45	9	2,8	2,1	●	●	■	■
2,3*	0,40	1,90	45	9	2,8	2,1	●	-	■	-
2,5	0,45	2,05	50	9	2,8	2,1	●	●	■	■
2,6*	0,45	2,10	50	9	2,8	2,1	●	-	■	-
3,0	0,50	2,50	56	11	3,5	2,7	●	●	■	■
3,5	0,60	2,90	56	13	4,0	3,0	●	●	-	■
4,0	0,70	3,30	63	13	4,5	3,4	●	●	■	■
4*	0,75	3,25	63	13	4,5	3,4	■	-	-	-
5,0	0,80	4,20	70	16	6,0	4,9	●	●	■	■
6,0	1,00	5,00	80	19	6,0	4,9	●	●	■	■
7,0	1,00	6,00	80	19	7,0	5,5	-	-	■	■
8,0	1,25	6,80	90	22	8,0	6,2	●	●	■	■
9,0	1,25	7,80	90	22	9,0	7,0	■	-	■	-
10,0	1,50	8,50	100	24	10,0	8,0	●	●	■	■

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL
Ultra-S	AZ	NL 15°	**TYP** | TYPE
TiN	–	–	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT
0°	0°	15°	**DRALLWINKEL** | HELIX ANGLE
↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION
–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT
6HX	6H	6H	**TOLERANZ** | TOLERANCE
B/4-5	B/4-5	D/4-5	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS
			LOCHTYP | HOLE TYPE
P	P	P	**P** | **Stahl** | Steels
M	M	–	**M** | **Rostfreier Stahl** | Stainless Steels
–	–	K	**K** | **Gusseisen** | Cast Irons
N	N	–	**N** | **Nichteisenmetalle** | Non-ferrous metals
–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium
–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels

MATERIALGRUPPEN MATERIAL GROUPS

B 02

6649TN	6616	6727	d_1	P		l_1	l_2
■	●	–	**2,0**	0,40	1,60	45	8
–	●	–	**2,2**	0,45	1,75	45	9
–	●	–	**2,3***	0,40	1,90	45	9
–	●	–	**2,5**	0,45	2,05	50	9
–	●	–	**2,6***	0,45	2,10	50	9
■	●	●	**3,0**	0,50	2,50	56	11
–	●	■	**3,5**	0,60	2,90	56	13
■	●	●	**4,0**	0,70	3,30	63	13
–	–	–	**4***	0,75	3,25	63	13
■	●	●	**5,0**	0,80	4,20	70	16
■	●	●	**6,0**	1,00	5,00	80	19
■	●	–	**7,0**	1,00	6,00	80	19
–	●	●	**8,0**	1,25	6,80	90	22
–	–	–	**9,0**	1,25	7,80	90	22
–	●	●	**10,0**	1,50	8,50	100	24

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

NEW

6646XP

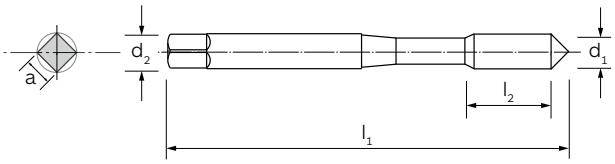
M

DIN 13

371

DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	VA	VA	VA	VA
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	AlCrN TOP	VAP	TiN
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	6HX	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6646	6646XP	6646VP	6646TN
2,0	0,40	1,60	45	8	2,8	2,1	●	-	●	●
2,2	0,45	1,75	45	9	2,8	2,1	●	-	●	●
2,3*	0,40	1,90	45	9	2,8	2,1	●	-	-	●
2,5	0,45	2,05	50	9	2,8	2,1	●	-	●	●
2,6*	0,45	2,10	50	9	2,8	2,1	●	-	-	●
3,0	0,50	2,50	56	11	3,5	2,7	●	●	●	●
3,5	0,60	2,90	56	13	4,0	3,0	●	-	●	●
4,0	0,70	3,30	63	13	4,5	3,4	●	●	●	●
5,0	0,80	4,20	70	16	6,0	4,9	●	●	●	●
6,0	1,00	5,00	80	19	6,0	4,9	●	●	●	●
7,0	1,00	6,00	80	19	7,0	5,5	●	●	●	●
8,0	1,25	6,80	90	22	8,0	6,2	●	●	●	●
10,0	1,50	8,50	100	24	10,0	8,0	●	●	●	●

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 371

Maschinengewindebohrer mit verstärktem Schaft | Machine taps with reinforced shank

66466G	6641	6870	6870TF		d_1	P		l_1	l_2
HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VA	ALU	HD	HD	**TYP** | TYPE					
–	–	–	TiAlN Futura	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
0°	0°	0°	0°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6GX	6H	6H	6H	**TOLERANZ** | TOLERANCE					
B/4-5	B/4-5	B/4-5	B/4-5	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
				LOCHTYP | HOLE TYPE					
P	–	P	P	**P** | **Stahl** | Steels					
M	–	–	–	**M** | **Rostfreier Stahl** | Stainless Steels					
–	–	K	K	**K** | **Gusseisen** | Cast Irons					
N	N	–	–	**N** | **Nichteisenmetalle** | Non-ferrous metals					
S	–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
●	●	●	●		**2,0**	0,40	1,60	45	8
■	●	■	■		**2,2**	0,45	1,75	45	9
–	●	–	–		**2,3***	0,40	1,90	45	9
●	●	●	●		**2,5**	0,45	2,05	50	9
–	–	–	–		**2,6***	0,45	2,10	50	9
●	●	●	●		**3,0**	0,50	2,50	56	11
–	●	–	–		**3,5**	0,60	2,90	56	13
●	●	●	●		**4,0**	0,70	3,30	63	13
●	●	●	●		**5,0**	0,80	4,20	70	16
●	●	●	●		**6,0**	1,00	5,00	80	19
–	■	■	■		**7,0**	1,00	6,00	80	19
●	●	●	●		**8,0**	1,25	6,80	90	22
●	●	●	●		**10,0**	1,50	8,50	100	24

MATERIALGRUPPEN MATERIAL GROUPS

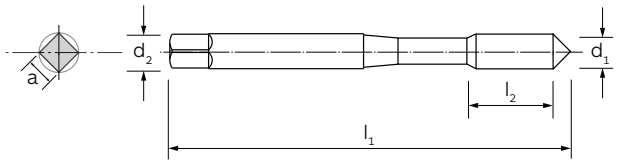
B 02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

2174
DIN

P. 650



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	FORMER	FORMER	FORMER
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	NIT	-	TiN
DRALLWINKEL | HELIX ANGLE	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	6GX	6GX	6GX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN / MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6622	6622BL	6622TN
1,1**	0,25	0,98	40	6	2,5	2,1	-	-	-
1,7*	0,35	1,55	40	8	2,5	2,1	-	-	-
1,8	0,35	1,65	40	8	2,5	2,1	-	-	-
2,0	0,40	1,80	45	8	2,8	2,1	●	●	●
2,2	0,45	2,00	45	9	2,8	2,1	-	-	-
2,3*	0,40	2,10	45	9	2,8	2,1	-	-	-
2,5	0,45	2,30	50	9	2,8	2,1	●	●	●
3,0	0,50	2,75	56	11	3,5	2,7	●	●	●
3,5	0,60	3,20	56	13	4,0	3,0	●	●	●
4,0	0,70	3,65	63	13	4,5	3,4	●	●	●
5,0	0,80	4,60	70	16	6,0	4,9	●	●	●
6,0	1,00	5,50	80	19	6,0	4,9	●	●	●
8,0	1,25	7,40	90	22	8,0	6,2	●	●	●
10,0	1,50	9,30	100	24	10,0	8,0	●	●	●

* **Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last
** **Toleranz 5H** | Tolerance 5H

M - DIN 2174

Maschinen-Gewindeformer mit verstärktem Schaft | Cold forming machine taps with reinforced shank

6722	6722BL	6722TF	6722TN
HSS-Co	HSS-Co	HSS-Co	HSS-Co
FORMER	FORMER	FORMER	FORMER
NIT	-	TiAlN Futura	TiN
-	-	-	-
↻	↻	↻	↻
-	-	-	-
6HX	6HX	6HX	6HX
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
P	P	P	P
M	M	M	M
-	-	-	-
N	N	N	N
-	-	-	-
-	-	-	-

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN / MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

S | **HRSA und Titan** | HRSA and Titanium

H | **Gehärtete Stähle** | Hardened Steels

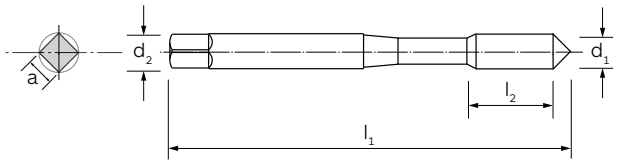
6722	6722BL	6722TF	6722TN	d_1	P		l_1	l_2
■	■	■	■	**1,1****	0,25	0,98	40	6
■	-	■	-	**1,7***	0,35	1,55	40	8
■	■	■	■	**1,8**	0,35	1,65	40	8
●	●	●	●	**2,0**	0,40	1,80	45	8
-	-	■	■	**2,2**	0,45	2,00	45	9
■	-	-	-	**2,3***	0,40	2,10	45	9
●	●	●	●	**2,5**	0,45	2,30	50	9
●	●	●	●	**3,0**	0,50	2,75	56	11
●	●	●	●	**3,5**	0,60	3,20	56	13
●	●	●	●	**4,0**	0,70	3,65	63	13
●	●	●	●	**5,0**	0,80	4,60	70	16
●	●	●	●	**6,0**	1,00	5,50	80	19
●	●	●	●	**8,0**	1,25	7,40	90	22
●	●	●	●	**10,0**	1,50	9,30	100	24

* **Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last
** **Toleranz 5H** | Tolerance 5H

M - DIN 2174

Maschinen-Gewindeformer mit verstärktem Schaft und Schmiernuten.
Cold forming machine taps with reinforced shank and coolant grooves

M	2174	
DIN 13	DIN	P. 650



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	FORMER S	FORMER S	FORMER S	FORMER S
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	NIT	NIT	-	TiN
DRALLWINKEL | HELIX ANGLE	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	6HX	6GX	6GX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6709	6808	6808BL	6709TN
3,0	0,50	2,75	56	11	3,5	2,7	●	●	●	●
3,5	0,60	3,20	56	13	4,0	3,0	-	●	●	■
4,0	0,70	3,65	63	13	4,5	3,4	●	●	●	●
5,0	0,80	4,60	70	16	6,0	4,9	●	●	●	●
6,0	1,00	5,50	80	19	6,0	4,9	●	●	●	●
7,0	1,00	6,50	80	19	7,0	5,5	●	-	-	●
8,0	1,25	7,40	90	22	8,0	6,2	●	●	●	●
10,0	1,50	9,30	100	24	10,0	8,0	●	●	●	●

M - DIN 2174

Maschinen-Gewindeformer mit verstärktem Schaft und Schmiernuten.
Cold forming machine taps with reinforced shank and coolant grooves

6808TN	6709TF	6819		d_1	P		l_1	l_2
HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
FORMER S	FORMER S	FORMER S	**TYP** | TYPE					
TiN	TiAlN Futura	NIT	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
–	–	–	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6GX	6HX	7GX	**TOLERANZ** | TOLERANCE					
C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
			LOCHTYP | HOLE TYPE					
P	P	P	**P** | **Stahl** | Steels					
M	M	M	**M** | **Rostfreier Stahl** | Stainless Steels					
–	–	–	**K** | **Gusseisen** | Cast Irons					
N	N	N	**N** | **Nichteisenmetalle** | Non-ferrous metals					
–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
●	●	–		**3,0**	0,50	2,75	56	11
●	–	–		**3,5**	0,60	3,20	56	13
●	●	–		**4,0**	0,70	3,65	63	13
●	●	–		**5,0**	0,80	4,60	70	16
●	●	–		**6,0**	1,00	5,50	80	19
–	●	–		**7,0**	1,00	6,50	80	19
●	●	■		**8,0**	1,25	7,40	90	22
●	●	■		**10,0**	1,50	9,30	100	24

MATERIALGRUPPEN
MATERIAL GROUPS

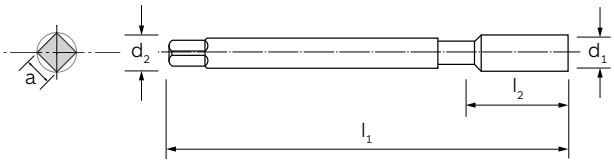
B
02

■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

376
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N	N SX	AZ	N 15°	N 15°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	TiN	-	-	-	TiCN
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↺	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H	6H	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	M	-	M
K | **Gusseisen** | Cast Irons	K	K	K	-	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1	P		l_1	l_2	l_2 (N 40°)	d_2 (h9)	a (h12)	6705	6705TN	6715	6821	6658	6658TC
2,0	0,40	1,60	45	8	-	1,4	-	●	●	-	-	-	-
2,2	0,45	1,75	45	9	-	1,6	-	■	-	-	-	-	-
2,3*	0,40	1,90	45	9	-	1,6	-	■	-	-	-	-	-
2,5	0,45	2,05	50	9	-	1,8	-	●	●	-	-	-	-
2,6*	0,45	2,10	50	9	4	1,8	-	●	●	-	-	-	-
3,0	0,50	2,50	56	11	5	2,2	-	●	●	-	-	-	-
3,5	0,60	2,90	56	13	6	2,5	2,1	●	●	-	-	-	-
4,0	0,70	3,30	63	13	7	2,8	2,1	●	●	-	-	-	-
5,0	0,80	4,20	70	16	8	3,5	2,7	●	●	-	-	-	-
6,0	1,00	5,00	80	19	10	4,5	3,4	●	●	-	●	-	-
7,0	1,00	6,00	80	19	10	5,5	4,3	●	●	-	-	-	-
8,0	1,25	6,80	90	22	12	6,0	4,9	●	●	-	●	●	-
9,0	1,25	7,80	90	22	19	7,0	5,5	●	●	-	-	-	-
10,0	1,50	8,50	100	24	14	7,0	5,5	●	●	-	●	●	-
12,0	1,75	10,20	110	29	16	9,0	7,0	●	●	●	●	●	●
14,0	2,00	12,00	110	30	20	11,0	9,0	●	●	●	-	●	●
16,0	2,00	14,00	110	32	20	12,0	9,0	●	●	●	●	●	●
18,0	2,50	15,50	125	34	24	14,0	11,0	●	●	●	-	●	●
20,0	2,50	17,50	140	34	25	16,0	12,0	●	●	●	-	●	●
22,0	2,50	19,50	140	34	25	18,0	14,5	●	●	●	-	●	■
24,0	3,00	21,00	160	38	30	18,0	14,5	●	●	●	-	●	-
27,0	3,00	24,00	160	38	30	20,0	16,0	●	●	-	-	●	■
30,0	3,50	26,50	180	45	35	22,0	18,0	●	●	-	-	●	■
33,0	3,50	29,50	180	50	-	25,0	20,0	●	■	-	-	-	-
36,0	4,00	32,00	200	56	-	28,0	22,0	●	-	-	-	-	-

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 376

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
N 40°	N 40°	N 40°	N 40°	N 40°	N 40°	N 40°	N SX 40°
-	VAP	-	-	TiN	TiCN	-	-
40°	40°	40°	40°	40°	40°	40°	40°
↻	↻	↻	↻	↻	↻	↻	↺
-	-	-	-	-	-	-	-
6H	6H	6G	7G	6H	6H	6H	6H
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	E/1,5-2	C/2,5-3
P	P	P	P	P	P	P	P
-	-	-	-	M	M	-	-
K	K	K	K	K	K	K	K
N	N	N	N	N	N	N	N
-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-

MATERIAL | MATERIAL
TYP | TYPE
RIV./ TRAT. | COATING/ TREAT.
DRALLWINKEL | HELIX ANGLE
DIR. TAGLIO | CUTTING DIRECTION
LUB. INT. | INTERNAL COOLANT
TOLERANZ | TOLERANCE
F./FIL. D'IMB. | CHAM. FORM/THRE.
LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS
P | **Stahl** | Steels
M | **Acciaio Inoss.** | Stainless Steel
K | **Gusseisen** | Cast Irons
N | **Metalli n.f.** | Non ferrous metals
S | **HRSA e Titanio** | HRSA and Tit.
H | **Stahl Temp.** | Hardened Steels

B 02

6638	6638VP	66386G	66387G	6638TN	6638TC	6868	6862	d_1	P		l_1	l_2 (N 40°)
-	-	-	-	-	-	-	-	**2,0**	0,40	1,60	45	-
-	-	-	-	-	-	-	-	**2,2**	0,45	1,75	45	-
-	-	-	-	-	-	-	-	**2,3***	0,40	1,90	45	-
-	-	-	-	-	-	-	-	**2,5**	0,45	2,05	50	-
-	-	-	-	-	-	-	-	**2,6***	0,45	2,10	50	4
●	●	●	-	-	-	-	-	**3,0**	0,50	2,50	56	5
■	■	-	-	-	-	-	-	**3,5**	0,60	2,90	56	6
●	●	●	-	-	-	-	-	**4,0**	0,70	3,30	63	7
●	●	●	-	-	-	-	-	**5,0**	0,80	4,20	70	8
●	●	●	-	-	-	-	-	**6,0**	1,00	5,00	80	10
●	-	-	-	-	-	-	-	**7,0**	1,00	6,00	80	10
●	●	●	●	-	-	-	-	**8,0**	1,25	6,80	90	12
●	■	-	-	-	-	-	-	**9,0**	1,25	7,80	90	19
●	●	●	●	-	-	-	-	**10,0**	1,50	8,50	100	14
●	●	●	●	●	●	●	●	**12,0**	1,75	10,20	110	16
●	●	●	-	●	●	●	●	**14,0**	2,00	12,00	110	20
●	●	●	●	●	●	●	●	**16,0**	2,00	14,00	110	20
●	●	●	-	●	●	●	-	**18,0**	2,50	15,50	125	24
●	●	●	●	●	●	●	●	**20,0**	2,50	17,50	140	25
●	●	●	-	-	-	-	-	**22,0**	2,50	19,50	140	25
●	●	●	●	-	-	-	-	**24,0**	3,00	21,00	160	30
●	●	-	-	-	-	-	-	**27,0**	3,00	24,00	160	30
●	●	■	-	-	-	-	-	**30,0**	3,50	26,50	180	35
●	-	-	-	-	-	-	-	**33,0**	3,50	29,50	180	-
●	-	-	-	-	-	-	-	**36,0**	4,00	32,00	200	-

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

d_1	P		l_1	l_2	l_2 (N 40°)	d_2 (h9)	a (h12)	6705	6705TN	6715	6821	6658	6658TC
39,0	4,00	35,00	200	60	-	32,0	24,0	●	–	–	–	–	–
42,0	4,50	37,50	200	60	-	32,0	24,0	●	–	–	–	–	–
45,0	4,50	40,50	220	65	-	36,0	29,0	●	–	–	–	–	–
48,0	5,00	43,00	250	70	-	36,0	29,0	●	–	–	–	–	–
52,0	5,00	47,00	250	70	-	40,0	32,0	●	–	–	–	–	–

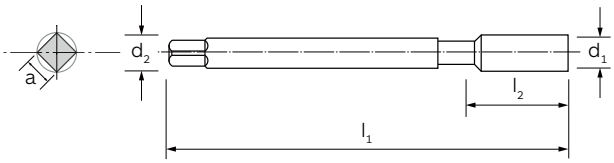
02/02

M - DIN 376

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6638	6638VP	66386G	66387G	6638TN	6638TC	6868	6862	d_1	P		l_1	l_2 (N 40°)
-	-	-	-	-	-	-	-	**39,0**	4,00	35,00	200	-
-	-	-	-	-	-	-	-	**42,0**	4,50	37,50	200	-
-	-	-	-	-	-	-	-	**45,0**	4,50	40,50	220	-
-	-	-	-	-	-	-	-	**48,0**	5,00	43,00	250	-
-	-	-	-	-	-	-	-	**52,0**	5,00	47,00	250	-

NEW	NEW	M	376	
6634VP	....XP	DIN 13	DIN	P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	VA 15°	VA i 15°	VR 35°	VR 35°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	VAP	AlCrN TOP	-	VAP
DRALLWINKEL | HELIX ANGLE	15°	15°	35°	35°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	A	-	-
TOLERANZ | TOLERANCE	6HX	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	-	-
S | **HRSA und Titan** | HRSA and Titanium	S	S	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	P		l_1	l_2	l_2 (35/50°)	d_2 (h9)	a (h12)	6634VP	6605XP	6662	6662VP
12	1,75	10,2	110	29	16	9	7,0	●	●	●	●
14	2,00	12,0	110	30	20	11	9,0	-	●	●	●
16	2,00	14,0	110	32	20	12	9,0	●	●	●	●
18	2,50	15,5	125	34	24	14	11,0	●	-	●	●
20	2,50	17,5	140	34	25	16	12,0	●	●	●	●
22	2,50	19,5	140	34	25	18	14,5	●	-	●	●
24	3,00	21,0	160	38	30	18	14,5	●	-	●	●

M - DIN 376

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6662XP	66626G	6851VP	6851TN
HSS-Co	HSS-Co	HSS-Co	HSS-Co
VR 35°	VR 35°	VR 50°	VR 50°
AlCrN TOP	-	VAP	TiN
35°	35°	50°	50°
↻	↻	↻	↻
-	-	-	-
6HX	6GX	6HX	6HX
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
P	P	P	P
M	M	M	M
-	-	-	-
-	-	-	-
-	-	-	-
-	-	-	-

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

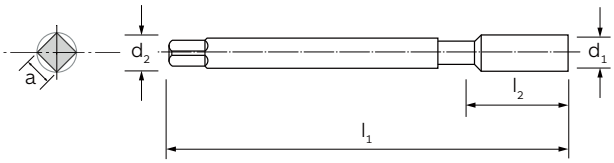
S | **HRSA und Titan** | HRSA and Titanium

H | **Gehärtete Stähle** | Hardened Steels

B 02

6662XP	66626G	6851VP	6851TN	d_1	P		l_1	l_2 (VR 35/50°)
●	●	●	●	**12**	1,75	10,2	110	16
●	●	●	●	**14**	2,00	12,0	110	20
●	●	●	●	**16**	2,00	14,0	110	20
-	-	●	●	**18**	2,50	15,5	125	24
●	-	●	●	**20**	2,50	17,5	140	25
●	-	-	-	**22**	2,50	19,5	140	25
●	-	●	●	**24**	3,00	21,0	160	30

NEW	M	376	
6879HL	DIN 13	DIN	P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	GG	GG	MULTI GG i	MULTI GG i	ALU 45°	HD 15°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	NIT	TiAlN Futura	NIT	TiCN	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	45°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	A	A	-	-
TOLERANZ | TOLERANCE	6HX	6HX	6HX	6HX	6HX	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN MATERIAL GROUPS						
P | **Stahl** | Steels	-	-	-	-	-	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	-
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1	P		l_1	l_2	l_2 (40/45°)	d_2 (h9)	a (h12)	6632	6632TF	6637	6637TC	6651	6879
3,0	0,50	2,5	56	11	5	2,2	-	-	-	-	-	-	-
3,5	0,60	2,9	56	13	6	2,5	2,1	-	-	-	-	-	-
4,0	0,70	3,3	63	13	7	2,8	2,1	-	-	-	-	-	-
5,0	0,80	4,2	70	16	8	3,5	2,7	-	-	-	-	-	-
6,0	1,00	5,0	80	19	10	4,5	3,4	●	●	-	-	-	-
7,0	1,00	6,0	80	19	10	5,5	4,3	●	●	-	-	-	-
8,0	1,25	6,8	90	22	12	6,0	4,9	●	●	-	-	●	-
10,0	1,50	8,5	100	24	14	7,0	5,5	●	●	-	-	●	-
12,0	1,75	10,2	110	29	16	9,0	7,0	●	●	●	●	●	●
14,0	2,00	12,0	110	30	20	11,0	9,0	●	●	-	-	●	●
16,0	2,00	14,0	110	32	20	12,0	9,0	●	●	●	●	●	●
18,0	2,50	15,5	125	34	24	14,0	11,0	●	●	●	●	■	●
20,0	2,50	17,5	140	34	25	16,0	12,0	●	●	●	●	●	●
22,0	2,50	19,5	140	34	25	18,0	14,5	■	-	-	-	-	●
24,0	3,00	21,0	160	38	30	18,0	14,5	●	●	-	-	-	●
27,0	3,00	24,0	160	38	30	20,0	16,0	●	●	-	-	-	■
30,0	3,50	26,5	180	45	35	22,0	18,0	●	●	-	-	-	■

■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 376

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6879HL	6667	6667TN	6667TF	6689	6689TF
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
HD 15°	HD 40°	HD 40°	HD 40°	HR 40°	HR 40°
TiAlN HL EVO	–	TiN	TiAlN Futura	–	TiAlN Futura
15°	40°	40°	40°	40°	40°
↻	↻	↻	↻	↻	↻
–	–	–	–	–	–
6H	6H	6H	6H	6H	6H
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
P	P	P	P	P	P
–	–	–	–	–	–
K	K	K	K	–	–
–	–	–	–	–	–
–	–	–	–	–	–
–	–	–	–	–	–

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

S | **HRSA und Titan** | HRSA and Titanium

H | **Gehärtete Stähle** | Hardened Steels

B 02

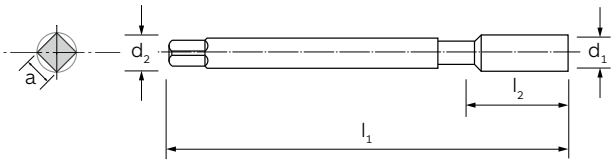
6879HL	6667	6667TN	6667TF	6689	6689TF		d_1	P		l_1	l_2 (40/45°)
–	●	●	●	–	–		**3,0**	0,50	2,5	56	5
–	●	●	●	–	–		**3,5**	0,60	2,9	56	6
–	●	●	●	–	–		**4,0**	0,70	3,3	63	7
–	●	●	●	–	–		**5,0**	0,80	4,2	70	8
–	●	●	●	–	–		**6,0**	1,00	5,0	80	10
–	■	●	■	–	–		**7,0**	1,00	6,0	80	10
–	●	●	●	–	–		**8,0**	1,25	6,8	90	12
–	●	●	●	–	–		**10,0**	1,50	8,5	100	14
●	●	●	●	●	●		**12,0**	1,75	10,2	110	16
●	●	●	●	●	●		**14,0**	2,00	12,0	110	20
●	●	●	●	●	●		**16,0**	2,00	14,0	110	20
●	●	●	●	●	●		**18,0**	2,50	15,5	125	24
●	●	●	●	●	●		**20,0**	2,50	17,5	140	25
●	–	–	–	–	–		**22,0**	2,50	19,5	140	25
●	●	–	–	–	–		**24,0**	3,00	21,0	160	30
■	–	–	–	–	–		**27,0**	3,00	24,0	160	30
■	–	–	–	–	–		**30,0**	3,50	26,5	180	35

■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

376
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Rapid	Rapid	Rapid	Rapid
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	VAP	-	TiN
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6G	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6711	6711VP	67116G	6711TN
2,0	0,40	1,60	45	8	1,4	-	●	●	●	-
2,2	0,45	1,75	45	9	1,6	-	●	■	-	-
2,3*	0,40	1,90	45	9	1,6	-	●	■	-	-
2,5	0,45	2,05	50	9	1,8	-	●	●	●	-
2,6*	0,45	2,10	50	9	1,8	-	●	-	-	-
3,0	0,50	2,50	56	11	2,2	-	●	●	●	-
3,5	0,60	2,90	56	13	2,5	2,1	●	●	●	-
4,0	0,70	3,30	63	13	2,8	2,1	●	●	●	-
5,0	0,80	4,20	70	16	3,5	2,7	●	●	●	-
6,0	1,00	5,00	80	19	4,5	3,4	●	●	●	●
7,0	1,00	6,00	80	19	5,5	4,3	●	●	-	-
8,0	1,25	6,80	90	22	6,0	4,9	●	●	●	●
9,0	1,25	7,80	90	22	7,0	5,5	●	●	-	-
10,0	1,50	8,50	100	24	7,0	5,5	●	●	●	●
12,0	1,75	10,20	110	29	9,0	7,0	●	●	●	●
14,0	2,00	12,00	110	30	11,0	9,0	●	●	●	●
16,0	2,00	14,00	110	32	12,0	9,0	●	●	●	●
18,0	2,50	15,50	125	34	14,0	11,0	●	●	●	●
20,0	2,50	17,50	140	34	16,0	12,0	●	●	●	●
22,0	2,50	19,50	140	34	18,0	14,5	●	●	●	-
24,0	3,00	21,00	160	38	18,0	14,5	●	●	●	●
27,0	3,00	24,00	160	38	20,0	16,0	●	●	■	-
30,0	3,50	26,50	180	45	22,0	18,0	●	●	-	●
33,0	3,50	29,50	180	50	25,0	20,0	●	●	-	-
36,0	4,00	32,00	200	56	28,0	22,0	●	●	■	-

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

M - DIN 376

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6711TC	67117G	6860
HSS-Co	HSS-Co	HSS-Co
Rapid	Rapid	N SX
TiCN	–	–
0°	0°	0°
↻	↻	↺
–	–	–
6H	7G	6H
B/4-5	B/4-5	B/4-5
P	P	P
M	M	–
K	K	K
N	N	N
–	–	–
–	–	–

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

S | **HRSA und Titan** | HRSA and Titanium

H | **Gehärtete Stähle** | Hardened Steels

B 02

6711TC	67117G	6860	d_1	P		l_1	l_2
–	–	–	**2,0**	0,40	1,60	45	8
–	–	–	**2,2**	0,45	1,75	45	9
–	–	–	**2,3***	0,40	1,90	45	9
–	–	–	**2,5**	0,45	2,05	50	9
–	–	–	**2,6***	0,45	2,10	50	9
–	–	–	**3,0**	0,50	2,50	56	11
–	–	–	**3,5**	0,60	2,90	56	13
–	–	–	**4,0**	0,70	3,30	63	13
–	–	–	**5,0**	0,80	4,20	70	16
●	–	–	**6,0**	1,00	5,00	80	19
–	–	–	**7,0**	1,00	6,00	80	19
●	–	–	**8,0**	1,25	6,80	90	22
–	–	–	**9,0**	1,25	7,80	90	22
●	–	–	**10,0**	1,50	8,50	100	24
●	●	●	**12,0**	1,75	10,20	110	29
●	–	●	**14,0**	2,00	12,00	110	30
●	●	●	**16,0**	2,00	14,00	110	32
●	–	●	**18,0**	2,50	15,50	125	34
●	●	●	**20,0**	2,50	17,50	140	34
–	–	–	**22,0**	2,50	19,50	140	34
●	●	–	**24,0**	3,00	21,00	160	38
–	–	–	**27,0**	3,00	24,00	160	38
●	–	–	**30,0**	3,50	26,50	180	45
–	–	–	**33,0**	3,50	29,50	180	50
–	–	–	**36,0**	4,00	32,00	200	56

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard. ■ **Solange der Vorrat reicht** | Till stocks last

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6711	6711VP	67116G	6711TN
39,0	4,00	35,00	200	60	32,0	24,0		●	-	-	-
42,0	4,50	37,50	200	60	32,0	24,0		●	-	-	-
45,0	4,50	40,50	220	65	36,0	29,0		●	■	-	-
48,0	5,00	43,00	250	70	36,0	29,0		●	-	-	-
52,0	5,00	47,00	250	70	40,0	32,0		●	■	-	-

02/02

M - DIN 376

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6711TC	67117G	6860		d_1	P		l_1	l_2
-	-	-		**39,0**	4,00	35,00	200	60
-	-	-		**42,0**	4,50	37,50	200	60
-	-	-		**45,0**	4,50	40,50	220	65
-	-	-		**48,0**	5,00	43,00	250	70
-	-	-		**52,0**	5,00	47,00	250	70

02/02

NEW

6647XP

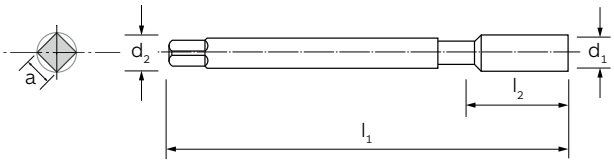
M

DIN 13

376

DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	AZ	NL 15°	VA	VA	VA
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	–	–	–	VAP	AlCrN TOP
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	–	–	–	–	–
TOLERANZ | TOLERANCE	6H	6H	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	–	M	M	M
K | **Gusseisen** | Cast Irons	–	K	–	–	–
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	–	–	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–	–

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6617	6740	6647	6647VP	6647XP
12	1,75	10,20	110	29	9,0	7,0	●	●	●	●	●
14	2,00	12,00	110	30	11,0	9,0	●	●	●	●	●
16	2,00	14,00	110	32	12,0	9,0	●	●	●	●	●
18	2,50	15,50	125	34	14,0	11,0	–	●	●	●	●
20	2,50	17,50	140	34	16,0	12,0	●	●	●	●	●
22	2,50	19,50	140	34	18,0	14,5	–	–	●	●	●
24	3,00	21,00	160	38	18,0	14,5	–	–	●	●	●
27	3,00	24,00	160	38	20,0	16,0	–	–	●	●	●
30	3,50	26,50	180	45	22,0	18,0	–	–	●	●	●

M - DIN 376

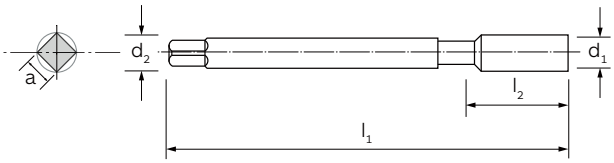
Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

66476G	6871	6871TF	6642		d_1	P		l_1	l_2
HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VA	HD	HD	ALU	**TYP** | TYPE					
–	–	TiAlN Futura	–	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
0°	0°	0°	0°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6GX	6H	6H	6H	**TOLERANZ** | TOLERANCE					
B/4-5	B/4-5	B/4-5	B/4-5	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
				LOCHTYP | HOLE TYPE					
P	P	P	–	**P** | **Stahl** | Steels					
M	–	–	–	**M** | **Rostfreier Stahl** | Stainless Steels					
–	K	K	–	**K** | **Gusseisen** | Cast Irons					
N	–	–	N	**N** | **Nichteisenmetalle** | Non-ferrous metals					
S	–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
●	●	●	●		**12**	1,75	10,20	110	29
●	●	●	–		**14**	2,00	12,00	110	30
●	●	●	●		**16**	2,00	14,00	110	32
–	●	●	■		**18**	2,50	15,50	125	34
–	●	●	–		**20**	2,50	17,50	140	34
–	–	–	–		**22**	2,50	19,50	140	34
–	●	●	–		**24**	3,00	21,00	160	38
–	●	●	–		**27**	3,00	24,00	160	38
–	●	●	–		**30**	3,50	26,50	180	45

■ **Solange der Vorrat reicht** | Till stocks last

Maschinen-Gewindeformer mit reduziertem Schaft, ohne Schmiernuten
Cold forming machine taps with reduced shank, without coolant grooves

M DIN 13 | **2174** DIN | P. 650



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	FORMER	FORMER	FORMER	FORMER
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	NIT	NIT	TiN	TiN
DRALLWINKEL | HELIX ANGLE	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	6HX	6GX	6HX	6GX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6723	6623	6723TN	6623TN
12	1,75	11,2	110	29	9	7	●	●	●	●
14	2,00	13,0	110	30	11	9	●	●	●	●
16	2,00	15,0	110	32	12	9	●	●	●	●

M - DIN 2174

Maschinen-Gewindeformer mit reduziertem Schaft, mit Schmiernuten
Cold forming machine taps with reduced shank, with coolant grooves

HSS-Co	HSS-Co	HSS-Co	HSS-Co
FORMER S	FORMER S	FORMER S	FORMER S
NIT	NIT	TiN	TiN
-	-	-	-
↻	↻	↻	↻
-	-	-	-
6HX	6GX	6HX	6GX
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
P	P	P	P
M	M	M	M
-	-	-	-
N	N	N	N
-	-	-	-
-	-	-	-

MATERIAL | MATERIAL
TYP | TYPE
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT
DRALLWINKEL | HELIX ANGLE
SCHNITTRICHTUNG | CUTTING DIRECTION
INNENKÜHLUNG | INTERNAL COOLANT
TOLERANZ | TOLERANCE
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS
LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels
M | **Rostfreier Stahl** | Stainless Steels
K | **Gusseisen** | Cast Irons
N | **Nichteisenmetalle** | Non-ferrous metals
S | **HRSA und Titan** | HRSA and Titanium
H | **Gehärtete Stähle** | Hardened Steels

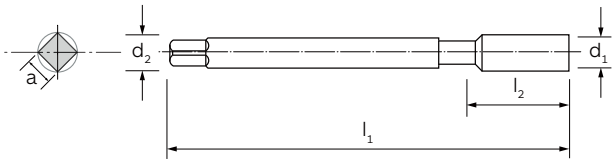
B 02

6725	6809	6725TN	6809TN		d_1	P		l_1	l_2
●	●	●	●		**12**	1,75	11,2	110	29
●	●	●	●		**14**	2,00	13,0	110	30
●	●	●	●		**16**	2,00	15,0	110	32

M
DIN 13

ILIX NORM
DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

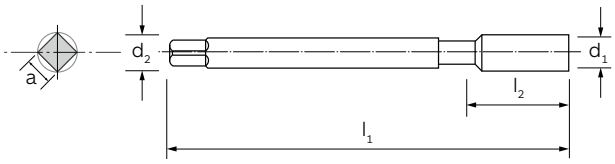
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6672
3	0,50	2,5	70	18	2,2	-	●
4	0,70	3,3	90	22	2,8	2,1	●
5	0,80	4,2	100	24	3,5	2,7	●
6	1,00	5,0	110	25	4,5	3,4	●
7	1,00	6,0	110	25	5,5	4,3	●
8	1,25	6,8	125	28	6,0	4,9	●
10	1,50	8,5	140	30	7,0	5,5	●
12	1,75	10,2	180	35	9,0	7,0	●
14	2,00	12,0	200	35	11,0	9,0	●

M - DIN 357

Mutter-Maschinengewindebohrer mit extra langem Anschnitt, gerader Schaft
Machine nut taps with extra long chamfer, straight shank

M	357	
DIN 13	DIN 13	P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/6-8
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

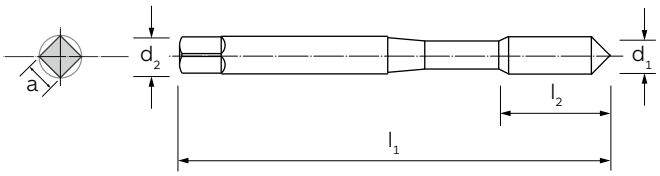
d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6660
3,0	0,50	2,5	70	22	2,2	-	●
3,5	0,60	2,9	80	25	2,5	2,1	■
4,0	0,70	3,3	90	25	2,8	2,1	●
5,0	0,80	4,2	100	28	3,5	2,7	●
6,0	1,00	5,0	110	32	4,5	3,4	●
8,0	1,25	6,8	125	40	6,0	4,9	●
10,0	1,50	8,5	140	45	7,0	5,5	●
12,0	1,75	10,2	180	50	9,0	7,0	●
16,0	2,00	14,0	200	63	12,0	9,0	●
27,0	3,00	24,0	315	90	20,0	16,0	■
30,0	3,50	26,5	315	100	22,0	18,0	■

■ **Solange der Vorrat reicht** | Till stocks last

M
DIN 13

ILIX NORM
DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6692
3	0,50	2,5	100	11	3,5	2,7	●
4	0,70	3,3	120	13	4,5	3,4	●
5	0,80	4,2	140	15	6,0	4,9	●
6	1,00	5,0	160	17	6,0	4,9	●
8	1,25	6,8	180	20	8,0	6,2	●

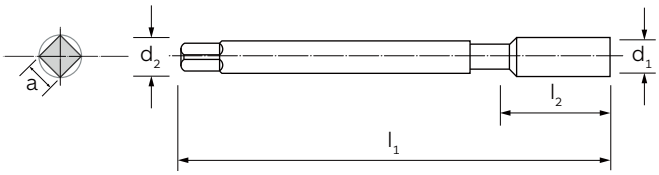
M - ILIX NORM

Maschinengewindebohrer mit extra langem Schaft | Machine taps with extra long shank

M
DIN 13

ILIX NORM
DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6695
8	1,25	6,8	180	20	6,0	4,9	●
10	1,50	8,5	200	22	7,0	5,5	●
12	1,75	10,2	224	24	9,0	7,0	●
14	2,00	12,0	224	26	11,0	9,0	●
16	2,00	14,0	224	27	12,0	9,0	●
18	2,50	15,5	250	30	14,0	11,0	●
20	2,50	17,5	280	32	16,0	12,0	●

NEW TECH

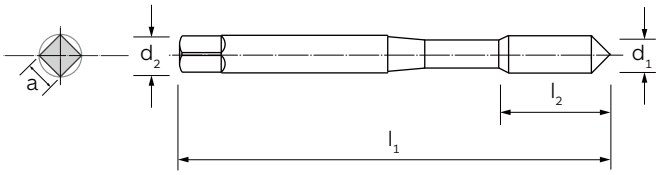
M

DIN 13

ILIX NORM

DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N 30°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-
DRALLWINKEL | HELIX ANGLE	30°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6840
3	0,50	2,5	100	11	3,5	2,7	●
4	0,70	3,3	120	13	4,5	3,4	●
5	0,80	4,2	140	15	6,0	4,9	●
6	1,00	5,0	160	17	6,0	4,9	●
8	1,25	6,8	180	20	8,0	6,2	●

M - ILIX NORM

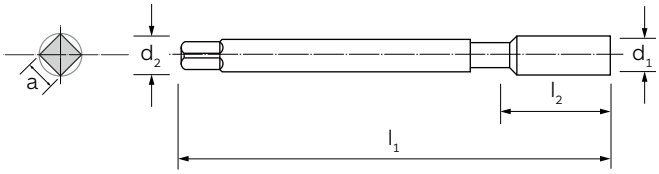
Maschinengewindebohrer mit extra langem Schaft | Machine taps with extra long shank

NEW TECH

M
DIN 13

ILIX NORM
DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N 30°
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-
DRALLWINKEL | HELIX ANGLE	30°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

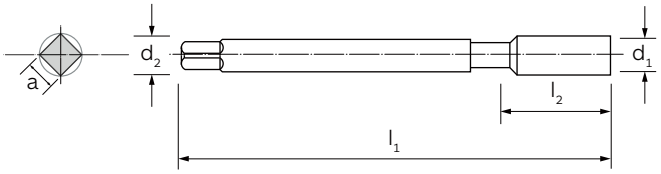
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6841
8	1,25	6,8	180	20	6	4,9	●
10	1,50	8,5	200	22	7	4,9	●
12	1,75	10,2	224	24	9	7,0	●
14	2,00	12,0	224	26	11	9,0	●
16	2,00	14,0	224	27	12	9,0	●
18	2,50	15,5	250	30	14	11,0	●
20	2,50	17,5	280	32	16	12,0	●

MF - DIN 2181

Hand-Gewindebohrer, zweiteiliger Satz , bestehend aus Vorschneider (V) und Fertigschneider (F)
Hand taps, series in set of 2 pieces, consisting of taper (P) and bottom (T)

MF DIN 13 | **2181** DIN



MATERIAL | MATERIAL	HSS	HSS
TYP | TYPE	N	N
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6633P	6633T	6633 (Satz | Set)
2,0	**0,25**	1,8	36	8	2,8	2,1	●	●	●
2,2	**0,25**	2,0	36	9	2,8	2,1	●	●	●
2,3*	**0,25**	2,1	36	9	2,8	2,1	●	●	●
2,5	**0,35**	2,2	40	9	2,8	2,1	●	●	●
2,6	**0,35**	2,3	40	9	2,8	2,1	●	●	●
3,0	**0,35**	2,7	40	9	3,5	2,7	●	●	●
3,5	**0,35**	3,2	45	10	4,0	3,0	●	●	●
4,0	**0,50**	3,5	45	10	4,5	3,4	●	●	●
5,0	**0,50**	4,5	50	12	6,0	4,9	●	●	●
6,0	**0,50**	5,5	50	14	6,0	4,9	●	●	●
6,0	**0,75**	5,2	50	14	6,0	4,9	●	●	●
7,0	**0,75**	6,2	50	14	6,0	4,9	●	●	●
8,0	**0,50**	7,5	50	19	6,0	4,9	●	●	●
8,0	**0,75**	7,2	50	19	6,0	4,9	●	●	●
8,0	**1,00**	7,0	56	22	6,0	4,9	●	●	●
9,0	**1,00**	8,0	63	22	7,0	5,5	●	●	●
10,0	**0,75**	9,2	63	20	7,0	5,5	●	●	●
10,0	**1,00**	9,0	63	20	7,0	5,5	●	●	●
10,0	**1,25**	8,8	70	24	7,0	5,5	●	●	●
11,0	**1,00**	10,0	63	20	8,0	6,2	●	●	●
12,0	**1,00**	11,0	70	22	9,0	7,0	●	●	●
12,0	**1,25**	10,8	70	22	9,0	7,0	●	●	●
12,0	**1,50**	10,5	70	22	9,0	7,0	●	●	●
14,0	**1,00**	13,0	70	22	11,0	9,0	●	●	●

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard.
Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

MF - DIN 2181

Hand-Gewindebohrer, zweiteiliger Satz , bestehend aus Vorschneider (V) und Fertigschneider (F)
Hand taps, series in set of 2 pieces, consisting of taper (P) and bottom (T)

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6633P	6633T
							6633 (Satz | Set)	
							6633P	6633T	6633
14,0	**1,25***	12,8	70	22	11,0	9,0	●	●	●
14,0	**1,50**	12,5	70	22	11,0	9,0	●	●	●
15,0	**1,00**	14,0	70	22	12,0	9,0	●	●	●
15,0	**1,50**	13,5	70	22	12,0	9,0	●	●	●
16,0	**1,00**	15,0	70	22	12,0	9,0	●	●	●
16,0	**1,50**	14,5	70	22	12,0	9,0	●	●	●
18,0	**1,00**	17,0	80	22	14,0	11,0	●	●	●
18,0	**1,50**	16,5	80	22	14,0	11,0	●	●	●
18,0	**2,00**	16,0	80	22	14,0	11,0	●	●	●
20,0	**1,00**	19,0	80	22	16,0	12,0	●	●	●
20,0	**1,50**	18,5	80	22	16,0	12,0	●	●	●
20,0	**2,00**	18,0	80	22	16,0	12,0	●	●	●
22,0	**1,00**	21,0	80	22	18,0	14,5	●	●	●
22,0	**1,50**	20,5	80	22	18,0	14,5	●	●	●
22,0	**2,00**	20,0	80	22	18,0	14,5	●	●	●
24,0	**1,00**	23,0	90	22	18,0	14,5	●	●	●
24,0	**1,50**	22,5	90	22	18,0	14,5	●	●	●
24,0	**2,00**	22,0	90	22	18,0	14,5	●	●	●
26,0	**1,50**	24,5	90	22	18,0	14,5	●	●	●
27,0	**1,50**	25,5	90	22	20,0	16,0	●	●	●
27,0	**2,00**	25,0	90	22	20,0	16,0	●	●	●
28,0	**1,50**	26,5	90	22	20,0	16,0	●	●	●
30,0	**1,00**	29,0	90	22	22,0	18,0	●	●	●
30,0	**1,50**	28,5	90	22	22,0	18,0	●	●	●
30,0	**2,00**	28,0	90	22	22,0	18,0	●	●	●
32,0	**1,50**	30,5	90	22	22,0	18,0	●	●	●
33,0	**1,50**	31,5	100	25	25,0	20,0	●	●	●
34,0	**1,50**	32,5	100	25	28,0	22,0	●	●	●
35,0	**1,50**	33,5	100	25	25,0	20,0	●	●	●
36,0	**1,50**	34,5	100	25	28,0	22,0	●	●	●
36,0	**3,00**	33,0	125	40	28,0	22,0	●	●	●
38,0	**1,50**	36,5	100	25	28,0	22,0	●	●	●
40,0	**1,50**	38,5	110	25	32,0	24,0	●	●	●
42,0	**1,50**	40,5	110	25	32,0	24,0	●	●	●
45,0	**1,50**	43,5	110	25	36,0	29,0	●	●	●
48,0	**1,50**	46,5	140	40	36,0	29,0	●	●	●
48,0	**2,00**	46,0	140	40	36,0	29,0	●	●	●
48,0	**3,00**	45,0	140	40	36,0	29,0	●	●	●
50,0	**1,50**	48,5	140	40	36,0	29,0	●	●	●
52,0	**1,50**	50,5	140	40	40,0	32,0	●	●	●

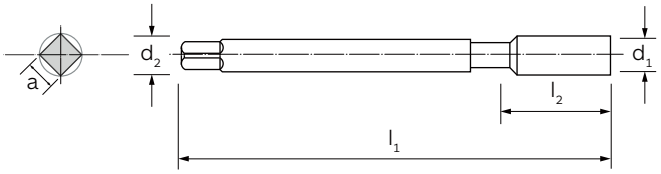
02/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard.
Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

MF
DIN 13

2181
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	MS
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	15°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	-
M | **Rostfreier Stahl** | Stainless Steels	-	-	-
K | **Gusseisen** | Cast Irons	K	K	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6899	6656	6724
4	**0,50**	3,5	45	10	4,5	3,4	-	-	●
5	**0,50**	4,5	50	12	6,0	4,9	-	●	●
6	**0,50**	5,5	56	14	6,0	4,9	●	●	●
6	**0,75**	5,2	56	14	6,0	4,9	●	-	●
7	**0,75**	6,2	56	14	6,0	4,9	-	-	●
8	**0,50**	7,5	56	18	6,0	4,9	●	●	●
8	**0,75**	7,2	56	18	6,0	4,9	●	●	●
8	**1,00**	7,0	63	22	6,0	4,9	●	-	●
9	**1,00**	8,0	63	22	6,0	4,9	●	-	●
10	**0,75**	9,2	63	20	7,0	5,5	●	-	●
10	**1,00**	9,0	63	20	7,0	5,5	●	●	●
10	**1,25**	8,8	70	24	7,0	5,5	●	-	●
11	**1,00**	10,0	63	20	8,0	6,2	-	-	●
12	**1,00**	11,0	70	22	9,0	7,0	●	●	●
12	**1,25**	10,8	70	22	9,0	7,0	●	-	●
12	**1,50**	10,5	70	22	9,0	7,0	●	●	●
14	**1,00**	10,5	70	22	11,0	9,0	●	-	-
14	**1,25**	10,5	70	22	11,0	9,0	●	-	-
14	**1,50**	12,5	70	22	11,0	9,0	●	●	-
16	**1,00**	12,5	70	22	11,0	9,0	●	-	-
16	**1,50**	14,5	70	22	11,0	9,0	●	●	-
18	**1,00**	14,5	80	22	14,0	11,0	●	-	-
18	**1,50**	16,5	80	22	14,0	11,0	●	●	-
18	**2,00**	16,5	80	22	14,0	11,0	●	-	-
20	**1,00**	16,5	80	22	16,0	12,0	●	-	-

01/02

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

DIN 2181

Kurzer Maschinengewindebohrer | Short machine taps

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6899	6656	6724
20	**1,50**	18,5	80	22	16,0	12,0		●	-	-
20	**2,00**	18,5	80	22	16,0	12,0		●	-	-

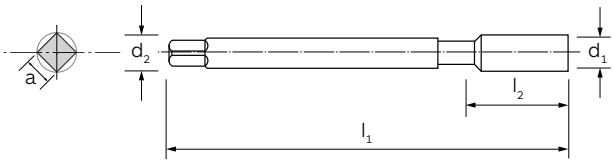
02/02

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

MF
DIN 13

374
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N	N	N 15°	N 15°	N 15°
BESCHICHTUNG | COATING	-	TiN	TiCN	-	TiN	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	15°	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H	6H	6H	6H+0,1
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	E/1-2
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	M	-
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

B 02

d_1	P		l_1	l_2	l_2 (40°)	d_2 (h9)	a (h12)	6726	6726TN	6726TC	6664	6664TN	6904
3,0	**0,35**	2,65	56	9	5	2,2	-	●	●	●	-	-	-
3,5	**0,35**	3,15	56	10	6	2,5	2,1	●	●	●	-	-	-
4,0	**0,50**	3,50	63	10	7	2,8	2,1	●	●	●	-	-	-
5,0	**0,50**	4,50	70	12	8	3,5	2,7	●	●	●	-	-	-
6,0	**0,50**	5,50	80	14	10	4,5	3,4	●	●	●	-	-	-
6,0	**0,75**	5,20	80	14	10	4,5	3,4	●	●	●	-	-	-
7,0	**0,75**	6,20	80	14	10	5,5	4,3	●	●	●	-	-	-
8,0	**0,50**	7,50	80	19	12	6,0	4,9	●	●	●	-	-	-
8,0	**0,75**	7,20	80	19	12	6,0	4,9	●	●	●	●	●	-
8,0	**1,00**	7,00	90	22	12	6,0	4,9	●	●	●	●	●	-
9,0	**1,00**	8,00	90	22	12	7,0	5,5	●	●	●	-	-	-
10,0	**0,75**	9,20	90	20	14	7,0	5,5	●	●	●	-	-	-
10,0	**1,00**	9,00	90	20	14	7,0	5,5	●	●	●	●	●	-
10,0	**1,25**	8,80	100	24	14	7,0	5,5	●	●	●	●	●	-
11,0	**1,00**	10,00	90	20	14	8,0	6,2	●	●	●	-	-	-
12,0	**1,00**	11,00	100	22	16	9,0	7,0	●	●	●	●	●	-
12,0	**1,25**	10,80	100	22	16	9,0	7,0	●	●	●	-	-	-
12,0	**1,50**	10,50	100	22	16	9,0	7,0	●	●	●	●	●	-
14,0	**1,00**	13,00	100	22	20	11,0	9,0	●	●	●	-	-	-
14,0*	**1,25**	12,80	100	22	20	11,0	9,0	●	●	●	-	-	-
14,0	**1,50**	12,50	100	22	20	11,0	9,0	●	●	●	●	●	-
15,0	**1,00**	14,00	100	22	20	12,0	9,0	●	●	●	-	-	-
15,0	**1,50**	13,50	100	22	20	12,0	9,0	●	●	●	-	-	-
16,0	**1,00**	15,00	100	22	20	12,0	9,0	●	●	●	-	-	-
16,0	**1,50**	14,50	100	22	20	12,0	9,0	●	●	●	●	●	-

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard.
Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MF - DIN 374

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6864	6652	6652VP	6652TN	6652TC	6877	**MATERIAL** | MATERIAL
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	
N SX 40°	N 40°	N 40°	N 40°	N 40°	N 40°	**TYP** | TYPE
–	–	VAP	TiN	TiCN	–	**BESCHICHTUNG** | COATING
40°	40°	40°	40°	40°	40°	**DRALLWINKEL** | HELIX ANGLE
↻	↺	↺	↺	↺	↺	**SCHNITTRICHTUNG** | CUTTING DIRECTION
–	–	–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT
6H	6H	6H	6H	6H	6H	**TOLERANZ** | TOLERANCE
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	E/1-2	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS
						LOCHTYP | HOLE TYPE
P	P	P	P	P	P	**P** | **Stahl** | Steels
–	–	–	M	M	–	**M** | **Rostfreier Stahl** | Stainless Steels
K	K	K	K	K	K	**K** | **Gusseisen** | Cast Irons
N	N	N	N	N	N	**N** | **Nichteisenmetalle** | Non-ferrous metals
–	–	–	–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium
–	–	–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels

MATERIALGRUPPEN MATERIAL GROUPS

B 02

6864	6652	6652VP	6652TN	6652TC	6877		d_1	P		l_1	l_2 (40°)
–	●	●	●	●	–		**3,0**	**0,35**	2,65	56	5
–	●	●	●	●	–		**3,5**	**0,35**	3,15	56	6
–	●	●	●	●	–		**4,0**	**0,50**	3,50	63	7
–	●	●	●	●	–		**5,0**	**0,50**	4,50	70	8
–	●	●	●	●	–		**6,0**	**0,50**	5,50	80	10
–	●	●	●	●	●		**6,0**	**0,75**	5,20	80	10
–	–	–	–	–	–		**7,0**	**0,75**	6,20	80	10
–	–	–	–	–	–		**8,0**	**0,50**	7,50	80	12
–	●	●	●	●	●		**8,0**	**0,75**	7,20	80	12
●	●	●	●	●	●		**8,0**	**1,00**	7,00	90	12
–	–	–	–	–	–		**9,0**	**1,00**	8,00	90	12
–	–	–	–	–	–		**10,0**	**0,75**	9,20	90	14
●	●	●	●	●	●		**10,0**	**1,00**	9,00	90	14
–	●	●	●	●	–		**10,0**	**1,25**	8,80	100	14
–	–	–	–	–	–		**11,0**	**1,00**	10,00	90	14
●	●	●	●	●	●		**12,0**	**1,00**	11,00	100	16
–	–	–	–	–	–		**12,0**	**1,25**	10,80	100	16
●	●	●	●	●	●		**12,0**	**1,50**	10,50	100	16
–	–	–	–	–	–		**14,0**	**1,00**	13,00	100	20
–	–	–	–	–	–		**14,0**	**1,25***	12,80	100	20
●	●	●	●	●	●		**14,0**	**1,50**	12,50	100	20
–	–	–	–	–	–		**15,0**	**1,00**	14,00	100	20
–	–	–	–	–	–		**15,0**	**1,50**	13,50	100	20
–	–	–	–	–	–		**16,0**	**1,00**	15,00	100	20
●	●	●	●	●	●		**16,0**	**1,50**	14,50	100	20

01/02

d_1	P		l_1	l_2	l_2 (40°)	d_2 (h9)	a (h12)	6726	6726TN	6726TC	6664	6664TN	6904
18,0	**1,00**	17,00	110	25	25	14,0	11,0	●	●	●	-	-	-
18,0	**1,50**	16,50	110	25	25	14,0	11,0	●	●	●	●	●	-
18,0	**2,00**	16,00	125	34	25	14,0	11,0	●	●	●	-	-	-
20,0	**1,00**	19,00	125	25	25	16,0	12,0	●	●	●	-	-	●
20,0	**1,50**	18,50	125	25	25	16,0	12,0	●	●	●	●	●	-
20,0	**2,00**	18,00	140	34	25	16,0	12,0	●	●	●	-	-	-
22,0	**1,00**	21,00	125	25	25	18,0	14,5	●	●	●	-	-	-
22,0	**1,50**	20,50	125	25	25	18,0	14,5	●	●	●	●	●	-
22,0	**2,00**	20,00	140	34	25	18,0	14,5	●	●	●	-	-	-
24,0	**1,00**	23,00	140	28	28	18,0	14,5	●	●	●	-	-	●
24,0	**1,50**	22,50	140	28	28	18,0	14,5	●	●	●	●	●	-
24,0	**2,00**	22,00	140	28	28	18,0	14,5	●	●	●	-	-	-
26,0	**1,50**	24,50	140	28	28	18,0	14,5	●	●	●	●	●	-
27,0	**1,50**	25,50	140	28	28	20,0	16,0	●	●	●	-	-	-
27,0	**2,00**	25,00	140	28	28	20,0	16,0	●	●	●	-	-	-
28,0	**1,50**	26,50	140	28	28	20,0	16,0	●	●	●	-	-	-
30,0	**1,00**	29,00	150	28	28	22,0	18,0	●	●	●	-	-	-
30,0	**1,50**	28,50	150	28	28	22,0	18,0	●	●	●	●	●	-
30,0	**2,00**	28,00	150	28	28	22,0	18,0	●	●	●	-	■	-
32,0	**1,50**	30,50	150	28	-	22,0	18,0	●	●	●	-	-	-
33,0	**1,50**	31,50	160	30	-	25,0	20,0	●	●	●	-	-	-
34,0	**1,50**	32,50	170	30	-	28,0	22,0	●	●	●	-	-	-
35,0	**1,50**	33,50	170	30	-	28,0	22,0	●	●	●	-	-	-
36,0	**1,50**	34,50	170	30	-	28,0	22,0	●	●	●	-	-	-
38,0	**1,50**	36,50	170	30	-	28,0	22,0	●	●	●	-	-	-
40,0	**1,50**	38,50	170	30	-	32,0	24,0	●	●	●	-	-	-
42,0	**1,50**	40,50	170	30	-	32,0	24,0	●	●	●	-	-	-
45,0	**1,50**	43,50	180	32	-	36,0	29,0	●	●	●	-	-	-
48,0	**1,50**	46,50	190	32	-	36,0	29,0	●	●	●	-	-	-
50,0	**1,50**	48,50	190	32	-	36,0	29,0	●	●	●	-	-	-
52,0	**1,50**	50,50	190	32	-	40,0	32,0	●	●	●	-	-	-

02/02

■ **Solange der Vorrat reicht** | Till stocks last

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

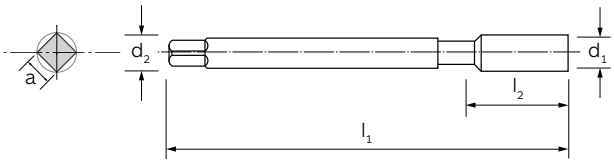
MF - DIN 374

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6864	6652	6652VP	6652TN	6652TC	6877		d_1	P		l_1	l_2 (40°)
–	–	–	–	–	–		**18,0**	**1,00**	17,00	110	25
●	●	●	●	●	●		**18,0**	**1,50**	16,50	110	25
–	–	–	–	–	–		**18,0**	**2,00**	16,00	125	25
–	–	–	–	–	–		**20,0**	**1,00**	19,00	125	25
●	●	●	●	●	●		**20,0**	**1,50**	18,50	125	25
–	–	–	–	–	–		**20,0**	**2,00**	18,00	140	25
–	–	–	–	–	–		**22,0**	**1,00**	21,00	125	25
–	●	●	●	●	–		**22,0**	**1,50**	20,50	125	25
–	–	–	–	–	–		**22,0**	**2,00**	20,00	140	25
–	–	–	–	–	–		**24,0**	**1,00**	23,00	140	28
–	●	●	●	●	–		**24,0**	**1,50**	22,50	140	28
–	–	–	–	–	–		**24,0**	**2,00**	22,00	140	28
–	●	●	●	●	–		**26,0**	**1,50**	24,50	140	28
–	●	●	●	●	–		**27,0**	**1,50**	25,50	140	28
–	●	–	●	●	–		**27,0**	**2,00**	25,00	140	28
–	●	●	●	●	–		**28,0**	**1,50**	26,50	140	28
–	–	–	–	–	–		**30,0**	**1,00**	29,00	150	28
–	●	●	●	●	–		**30,0**	**1,50**	28,50	150	28
–	●	–	●	●	–		**30,0**	**2,00**	28,00	150	28
–	–	–	–	–	–		**32,0**	**1,50**	30,50	150	-
–	–	–	–	–	–		**33,0**	**1,50**	31,50	160	-
–	–	–	–	–	–		**34,0**	**1,50**	32,50	170	-
–	–	–	–	–	–		**35,0**	**1,50**	33,50	170	-
–	–	–	–	–	–		**36,0**	**1,50**	34,50	170	-
–	–	–	–	–	–		**38,0**	**1,50**	36,50	170	-
–	–	–	–	–	–		**40,0**	**1,50**	38,50	170	-
–	–	–	–	–	–		**42,0**	**1,50**	40,50	170	-
–	–	–	–	–	–		**45,0**	**1,50**	43,50	180	-
–	–	–	–	–	–		**48,0**	**1,50**	46,50	190	-
–	–	–	–	–	–		**50,0**	**1,50**	48,50	190	-
–	–	–	–	–	–		**52,0**	**1,50**	50,50	190	-

02/02

NEW	NEW	MF	374	
....XP	6880HL	DIN 13	DIN	P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	VA 15°	VA i 15°	VA 35°	VA 35°	VA 35°
BESCHICHTUNG | COATING	–	AlCrN TOP	–	VAP	AlCrN TOP
DRALLWINKEL | HELIX ANGLE	15°	15°	35°	35°	35°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	–	A	–	–	–
TOLERANZ | TOLERANCE	6H	6H	6HX	6HX	6HX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	D/3,5	C/2-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M
K | **Gusseisen** | Cast Irons	–	–	–	–	–
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–	–

B 02

d_1	P		l_1	l_2	l_2 (35-45°)	d_2 (h9)	a (h12)		6671	6626XP	6655	6655VP	6655XP
3,0	**0,35**	2,65	56	9	5	2,2	-		–	–	–	–	–
3,5	**0,35**	3,15	56	10	6	2,5	2,1		–	–	–	–	–
4,0	**0,50**	3,50	63	10	7	2,8	2,1		–	–	–	–	–
5,0	**0,50**	4,50	70	12	8	3,5	2,7		–	–	–	–	–
6,0	**0,50**	5,50	80	14	10	4,5	3,4		–	–	–	–	–
6,0	**0,75**	5,20	80	14	10	4,5	3,4		–	–	–	–	–
7,0	**0,75**	6,20	80	14	10	5,5	4,3		–	–	–	–	–
8,0	**0,50**	7,50	80	19	12	6,0	4,9		–	–	–	–	–
8,0	**0,75**	7,20	80	19	12	6,0	4,9		–	–	–	–	–
8,0	**1,00**	7,00	90	22	12	6,0	4,9		●	●	●	●	●
9,0	**1,00**	8,00	90	22	12	7,0	5,5		–	–	–	–	–
10,0	**0,75**	9,20	90	20	14	7,0	5,5		–	–	–	–	–
10,0	**1,00**	9,00	90	20	14	7,0	5,5		●	●	●	●	●
10,0	**1,25**	8,80	100	24	14	7,0	5,5		●	●	●	–	●
11,0	**1,00**	10,00	90	20	14	8,0	6,2		–	–	–	–	–
12,0	**1,00**	11,00	100	22	16	9,0	7,0		●	●	●	●	●
12,0	**1,25**	10,80	100	22	16	9,0	7,0		●	●	–	–	–
12,0	**1,50**	10,50	100	22	16	9,0	7,0		●	●	●	●	●
14,0	**1,00**	13,00	100	22	20	11,0	9,0		–	–	–	–	–
14,0*	**1,25**	12,80	100	22	20	11,0	9,0		–	–	–	–	–
14,0	**1,50**	12,50	100	22	20	11,0	9,0		●	●	●	●	–
15,0	**1,00**	14,00	100	22	20	12,0	9,0		–	–	–	–	–
15,0	**1,50**	13,50	100	22	20	12,0	9,0		–	–	–	–	–
16,0	**1,00**	15,00	100	22	20	12,0	9,0		–	–	–	–	–
16,0	**1,50**	14,50	100	22	20	12,0	9,0		●	●	●	●	●

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard.
Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MF - DIN 374

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

66556G	6653	6880	6880HL	6731		d_1	P		l_1	l_2 (35-45°)
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VA 35°	GG	HD 15°	HD 15°	ALU 45°	**TYP** | TYPE					
–	NIT	–	TiAlN HL EVO	–	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
35°	0°	15°	15°	45°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
6GX	6HX	6H	6H	6H	**TOLERANZ** | TOLERANCE					
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
					LOCHTYP | HOLE TYPE					
P	–	P	P	–	**P** | **Stahl** | Steels					
M	–	–	–	–	**M** | **Rostfreier Stahl** | Stainless Steels					
–	K	K	K	–	**K** | **Gusseisen** | Cast Irons					
N	N	–	–	N	**N** | **Nichteisenmetalle** | Non-ferrous metals					
S	–	–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
–	–	–	–	–		**3,0**	**0,35**	2,65	56	5
–	–	–	–	–		**3,5**	**0,35**	3,15	56	6
–	–	–	–	–		**4,0**	**0,50**	3,50	63	7
–	–	–	–	–		**5,0**	**0,50**	4,50	70	8
–	–	–	–	–		**6,0**	**0,50**	5,50	80	10
–	–	●	●	–		**6,0**	**0,75**	5,20	80	10
–	–	–	–	–		**7,0**	**0,75**	6,20	80	10
–	–	–	–	–		**8,0**	**0,50**	7,50	80	12
–	–	–	–	–		**8,0**	**0,75**	7,20	80	12
●	●	●	●	●		**8,0**	**1,00**	7,00	90	12
–	■	–	–	–		**9,0**	**1,00**	8,00	90	12
–	–	–	–	–		**10,0**	**0,75**	9,20	90	14
●	●	●	●	●		**10,0**	**1,00**	9,00	90	14
–	–	–	–	■		**10,0**	**1,25**	8,80	100	14
–	–	–	–	–		**11,0**	**1,00**	10,00	90	14
–	–	●	●	●		**12,0**	**1,00**	11,00	100	16
–	–	–	–	–		**12,0**	**1,25**	10,80	100	16
●	●	●	●	●		**12,0**	**1,50**	10,50	100	16
–	–	–	–	–		**14,0**	**1,00**	13,00	100	20
–	–	–	–	–		**14,0**	**1,25***	12,80	100	20
●	●	●	●	●		**14,0**	**1,50**	12,50	100	20
–	–	–	–	–		**15,0**	**1,00**	14,00	100	20
–	–	–	–	–		**15,0**	**1,50**	13,50	100	20
–	–	–	–	–		**16,0**	**1,00**	15,00	100	20
●	●	●	●	●		**16,0**	**1,50**	14,50	100	20

01/02

■ **Solange der Vorrat reicht** | Till stocks last

d_1	P		l_1	l_2	l_2 (35-45°)	d_2 (h9)	a (h12)		6671	6626XP	6655	6655VP	6655XP
18,0	**1,00**	17,00	110	25	25	14,0	11,0		–	–	–	–	–
18,0	**1,50**	16,50	110	25	25	14,0	11,0		●	●	●	●	–
20,0	**1,50**	18,50	125	25	25	16,0	12,0		●	●	●	●	●
20,0	**2,00**	18,00	140	34	25	16,0	12,0		–	–	–	–	–
22,0	**1,00**	21,00	125	25	25	18,0	14,5		–	–	–	–	–
22,0	**1,50**	20,50	125	25	25	18,0	14,5		●	●	●	●	–
22,0	**2,00**	20,00	140	34	25	18,0	14,5		–	–	–	–	–
24,0	**1,00**	23,00	140	28	28	18,0	14,5		–	–	–	–	–
24,0	**1,50**	22,50	140	28	28	18,0	14,5		●	●	●	●	●
24,0	**2,00**	22,00	140	28	28	18,0	14,5		–	–	–	–	–
26,0	**1,50**	24,50	140	28	28	18,0	14,5		■	–	–	–	–
27,0	**1,50**	25,50	140	28	28	20,0	16,0		■	–	●	■	●
27,0	**2,00**	25,00	140	28	28	20,0	16,0		–	–	●	–	–
28,0	**1,50**	26,50	140	28	28	20,0	16,0		■	–	●	■	●
30,0	**1,00**	29,00	150	28	28	22,0	18,0		–	–	–	–	–
30,0	**1,50**	28,50	150	28	28	22,0	18,0		■	–	●	■	●
30,0	**2,00**	28,00	150	28	28	22,0	18,0		–	–	●	■	–

02/02

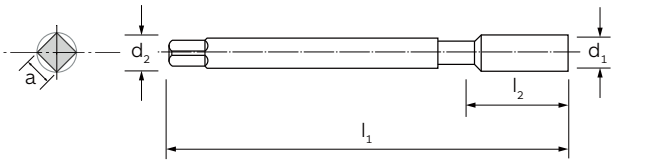
■ **Solange der Vorrat reicht** | Till stocks last

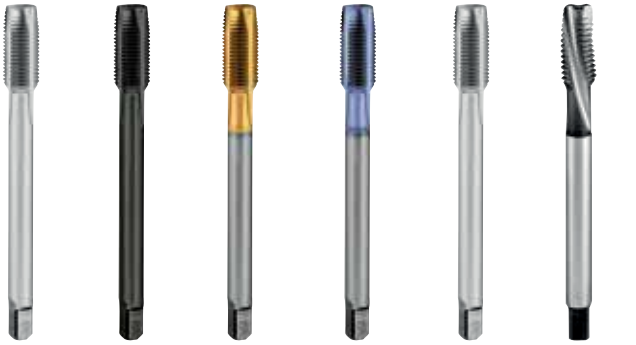
MF - DIN 374

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

66556G	6653	6880	6880HL	6731		d_1	P		l_1	l_2 (35-45°)
–	–	–	–	–		**18,0**	**1,00**	17,00	110	25
●	●	●	●	●		**18,0**	**1,50**	16,50	110	25
●	●	●	●	●		**20,0**	**1,50**	18,50	125	25
–	–	–	–	–		**20,0**	**2,00**	18,00	140	25
–	–	–	–	–		**22,0**	**1,00**	21,00	125	25
–	●	●	●	–		**22,0**	**1,50**	20,50	125	25
–	–	–	–	–		**22,0**	**2,00**	20,00	140	25
–	–	–	–	–		**24,0**	**1,00**	23,00	140	28
–	●	●	●	–		**24,0**	**1,50**	22,50	140	28
–	–	–	–	–		**24,0**	**2,00**	22,00	140	28
–	–	–	–	–		**26,0**	**1,50**	24,50	140	28
–	–	–	–	–		**27,0**	**1,50**	25,50	140	28
–	–	–	–	–		**27,0**	**2,00**	25,00	140	28
–	–	–	–	–		**28,0**	**1,50**	26,50	140	28
–	–	–	–	–		**30,0**	**1,00**	29,00	150	28
–	–	–	–	–		**30,0**	**1,50**	28,50	150	28
–	–	–	–	–		**30,0**	**2,00**	28,00	150	28

NEW	NEW	MF	374	
6663XP	6872TF	DIN 13	DIN	P. 632→





MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Rapid	Rapid	Rapid	Rapid	N SX	NL 15°
BESCHICHTUNG | COATING	-	VAP	TiN	TiCN	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↺	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	6H	6H	6H	6H	6H	6H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	-
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6730	6730VP	6730TN	6730TC	6863	6741
3,0	0,35	2,65	56	9	2,2	-	●	●	●	●	-	-
3,5	0,35	3,15	56	10	2,5	2,1	●	●	●	●	-	-
4,0	0,50	3,50	63	10	2,8	2,1	●	●	●	●	-	-
5,0	0,50	4,50	70	12	3,5	2,7	●	●	●	●	-	-
6,0	0,50	5,50	80	14	4,5	3,4	●	●	●	●	-	-
6,0	0,75	5,20	80	14	4,5	3,4	●	●	●	●	-	-
7,0	0,75	6,20	80	14	5,5	4,3	●	●	●	●	-	-
8,0	0,50	7,50	80	19	6,0	4,9	●	●	●	●	-	-
8,0	0,75	7,20	80	19	6,0	4,9	●	●	●	●	-	●
8,0	1,00	7,00	90	22	6,0	4,9	●	●	●	●	●	●
9,0	1,00	8,00	90	22	7,0	5,5	●	●	●	●	-	-
10,0	0,75	9,20	90	20	7,0	5,5	●	●	●	●	-	-
10,0	1,00	9,00	90	20	7,0	5,5	●	●	●	●	●	●
10,0	1,25	8,80	100	24	7,0	5,5	●	●	●	●	-	-
11,0	1,00	10,00	90	20	8,0	6,2	●	●	●	●	-	-
12,0	1,00	11,00	100	22	9,0	7,0	●	●	●	●	●	●
12,0	1,25	10,80	100	22	9,0	7,0	●	●	●	●	-	-
12,0	1,50	10,50	100	22	9,0	7,0	●	●	●	●	●	●
14,0	1,00	13,00	100	22	11,0	9,0	●	●	●	●	-	-
14,0	1,25*	12,80	100	22	11,0	9,0	●	●	●	●	-	-
14,0	1,50	12,50	100	22	11,0	9,0	●	●	●	●	●	●
15,0	1,00	14,00	100	22	12,0	9,0	●	●	●	●	-	-
15,0	1,50	13,50	100	22	12,0	9,0	●	●	●	●	-	-
16,0	1,00	15,00	100	22	12,0	9,0	●	●	●	●	-	-
16,0	1,50	14,50	100	22	12,0	9,0	●	●	●	●	●	●

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard.

MF - DIN 374

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6663	6663VP	66636G	6663TN	6663XP	6872	6872TF
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
VA	VA	VA	VA	VA	HD	HD
–	VAP	–	TiN	AlCrN TOP	–	TiAlN Futura
0°	0°	0°	0°	0°	0°	0°
↻	↻	↻	↻	↻	↻	↻
–	–	–	–	–	–	–
6HX	6HX	6GX	6HX	6HX	6H	6H
B/4-5	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
P	P	P	P	P	P	P
M	M	M	M	M	–	–
–	–	–	–	–	K	K
N	N	N	N	N	–	–
S	S	S	S	S	–	–
–	–	–	–	–	–	–

MATERIAL | MATERIAL

TYP | TYPE

BESCHICHTUNG | COATING

DRALLWINKEL | HELIX ANGLE

SCHNITTRICHTUNG | CUTTING DIRECTION

INNENKÜHLUNG | INTERNAL COOLANT

TOLERANZ | TOLERANCE

FORMA/FILETTI D'IMB. | CHAMFER FORM/THRE.

LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels

M | **Rostfreier Stahl** | Stainless Steels

K | **Gusseisen** | Cast Irons

N | **Nichteisenmetalle** | Non-ferrous metals

S | **Leghe res. al calore e Tit.** | HRSA and Titanium

H | **Gehärtete Stähle** | Hardened Steels

B 02

6663	6663VP	66636G	6663TN	6663XP	6872	6872TF	d_1	P		l_1	l_2
–	–	–	–	–	–	–	**3,0**	0,35	2,65	56	9
–	–	–	–	–	–	–	**3,5**	0,35	3,15	56	10
–	–	–	–	–	–	–	**4,0**	0,50	3,50	63	10
–	–	–	–	–	–	–	**5,0**	0,50	4,50	70	12
–	–	–	–	–	–	–	**6,0**	0,50	5,50	80	14
–	–	–	–	–	●	●	**6,0**	0,75	5,20	80	14
–	–	–	–	–	–	–	**7,0**	0,75	6,20	80	14
–	–	–	–	–	–	–	**8,0**	0,50	7,50	80	19
–	–	–	–	–	●	●	**8,0**	0,75	7,20	80	19
●	●	●	●	●	●	●	**8,0**	1,00	7,00	90	22
–	–	–	–	–	–	–	**9,0**	1,00	8,00	90	22
–	–	–	–	–	–	–	**10,0**	0,75	9,20	90	20
●	●	●	●	●	●	●	**10,0**	1,00	9,00	90	20
●	●	–	●	●	–	–	**10,0**	1,25	8,80	100	24
–	–	–	–	–	–	–	**11,0**	1,00	10,00	90	20
●	●	●	●	●	●	●	**12,0**	1,00	11,00	100	22
–	–	–	–	–	–	–	**12,0**	1,25	10,80	100	22
●	●	●	●	●	●	●	**12,0**	1,50	10,50	100	22
–	–	–	–	–	–	–	**14,0**	1,00	13,00	100	22
–	–	–	–	–	–	–	**14,0**	1,25*	12,80	100	22
●	●	●	●	●	●	●	**14,0**	1,50	12,50	100	22
–	–	–	–	–	–	–	**15,0**	1,00	14,00	100	22
–	–	–	–	–	–	–	**15,0**	1,50	13,50	100	22
–	–	–	–	–	–	–	**16,0**	1,00	15,00	100	22
●	●	●	●	●	●	●	**16,0**	1,50	14,50	100	22

01/02

*** Diese Größen sind nicht ISO-Standard** | These sizes are not ISO standard.

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6730	6730VP	6730TN	6730TC	6863	6741
18,0	1,00	16,50	110	25	14,0	11,0		●	●	●	●	-	-
18,0	1,50	16,50	110	25	14,0	11,0		●	●	●	●	●	●
18,0	2,00	16,00	125	34	14,0	11,0		●	●	●	●	-	-
20,0	1,00	19,00	125	25	16,0	12,0		●	●	●	●	-	-
20,0	1,50	18,50	125	25	16,0	12,0		●	●	●	●	●	●
20,0	2,00	18,00	140	34	16,0	12,0		●	●	●	●	-	-
22,0	1,00	21,00	125	25	18,0	14,5		●	●	●	●	-	-
22,0	1,50	20,50	125	25	18,0	14,5		●	●	●	●	-	-
22,0	2,00	20,00	140	34	18,0	14,5		●	●	●	●	-	-
24,0	1,00	23,00	140	28	18,0	14,5		●	●	●	●	-	-
24,0	1,50	22,50	140	28	18,0	14,5		●	●	●	●	-	-
24,0	2,00	22,00	140	28	18,0	14,5		●	●	●	●	-	-
26,0	1,50	24,50	140	28	18,0	14,5		●	●	●	●	-	-
27,0	1,50	25,50	140	28	20,0	16,0		●	●	●	●	-	-
27,0	2,00	25,00	140	28	20,0	16,0		●	●	●	●	-	-
28,0	1,50	26,50	140	28	20,0	16,0		●	●	●	●	-	-
30,0	1,00	29,00	150	28	22,0	18,0		●	●	●	●	-	-
30,0	1,50	28,50	150	28	22,0	18,0		●	●	●	●	-	-
30,0	2,00	28,00	150	28	22,0	18,0		●	●	●	●	-	-
32,0	1,50	30,50	150	28	22,0	18,0		●	●	●	●	-	-
33,0	1,50	31,50	160	30	25,0	20,0		●	●	●	●	-	-
34,0	1,50	32,50	170	30	28,0	22,0		●	●	●	●	-	-
35,0	1,50	33,50	170	30	28,0	22,0		●	●	●	●	-	-
36,0	1,50	34,50	170	30	28,0	22,0		●	●	●	●	-	-
38,0	1,50	36,50	170	30	28,0	22,0		●	●	●	●	-	-
40,0	1,50	38,50	170	30	32,0	24,0		●	●	●	●	-	-
42,0	1,50	40,50	170	30	32,0	24,0		●	●	●	●	-	-
45,0	1,50	43,50	180	32	36,0	29,0		●	●	●	●	-	-
48,0	1,50	46,50	190	32	36,0	29,0		●	●	●	●	-	-
50,0	1,50	48,50	190	32	36,0	29,0		●	●	●	●	-	-
52,0	1,50	50,50	190	32	40,0	32,0		●	●	●	●	-	-

02/02

MF - DIN 374

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

6663	6663VP	66636G	6663TN	6663XP	6872	6872TF		d_1	P		l_1	l_2
–	–	–	–	–	–	–		**18,0**	1,00	16,50	110	25
●	●	–	●	●	●	●		**18,0**	1,50	16,50	110	25
–	–	–	–	–	–	–		**18,0**	2,00	16,00	125	34
–	–	–	–	–	–	–		**20,0**	1,00	19,00	125	25
●	●	●	●	●	●	●		**20,0**	1,50	18,50	125	25
●	●	–	●	–	–	–		**20,0**	2,00	18,00	140	34
–	–	–	–	–	–	–		**22,0**	1,00	21,00	125	25
●	●	–	●	–	●	●		**22,0**	1,50	20,50	125	25
●	●	–	●	–	–	–		**22,0**	2,00	20,00	140	34
–	–	–	–	–	–	–		**24,0**	1,00	23,00	140	28
●	●	●	●	●	●	●		**24,0**	1,50	22,50	140	28
●	●	–	●	–	–	–		**24,0**	2,00	22,00	140	28
●	●	–	–	–	–	–		**26,0**	1,50	24,50	140	28
●	●	–	■	–	–	–		**27,0**	1,50	25,50	140	28
●	●	–	■	–	–	–		**27,0**	2,00	25,00	140	28
–	–	–	–	–	–	–		**28,0**	1,50	26,50	140	28
–	–	–	–	–	–	–		**30,0**	1,00	29,00	150	28
–	●	–	–	–	–	–		**30,0**	1,50	28,50	150	28
–	●	–	■	–	–	–		**30,0**	2,00	28,00	150	28
–	–	–	–	–	–	–		**32,0**	1,50	30,50	150	28
–	–	–	–	–	–	–		**33,0**	1,50	31,50	160	30
–	–	–	–	–	–	–		**34,0**	1,50	32,50	170	30
–	–	–	–	–	–	–		**35,0**	1,50	33,50	170	30
–	–	–	–	–	–	–		**36,0**	1,50	34,50	170	30
–	–	–	–	–	–	–		**38,0**	1,50	36,50	170	30
–	–	–	–	–	–	–		**40,0**	1,50	38,50	170	30
–	–	–	–	–	–	–		**42,0**	1,50	40,50	170	30
–	–	–	–	–	–	–		**45,0**	1,50	43,50	180	32
–	–	–	–	–	–	–		**48,0**	1,50	46,50	190	32
–	–	–	–	–	–	–		**50,0**	1,50	48,50	190	32
–	–	–	–	–	–	–		**52,0**	1,50	50,50	190	32

■ **Solange der Vorrat reicht** | Till stocks last

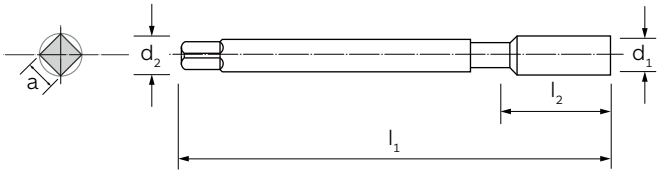
02/02

B 02

MF | **DIN 13**

2174 | **DIN**

P. 650



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	FORMER	FORMER	FORMER S	FORMER S
BESCHICHTUNG | COATING	NIT	NIT	NIT	NIT
DRALLWINKEL | HELIX ANGLE	-	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	6HX	6GX	6HX	6GX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6721	67216G	6720	67206G
8,0	**1,00**	7,5	90	22	6	4,9		●	●	●	●
10,0	**1,00**	9,5	90	20	7	5,5		●	●	●	●
10,0	**1,25**	9,4	100	24	7	5,5		●	●	●	●
12,0	**1,00**	11,5	100	22	9	7,0		●	●	●	●
12,0	**1,50**	11,3	100	22	9	7,0		●	●	●	●
14,0	**1,50**	13,3	100	22	11	9,0		●	●	●	●
16,0	**1,00**	15,5	100	22	12	9,0		●	●	●	●
16,0	**1,50**	15,3	100	22	12	9,0		●	●	●	●

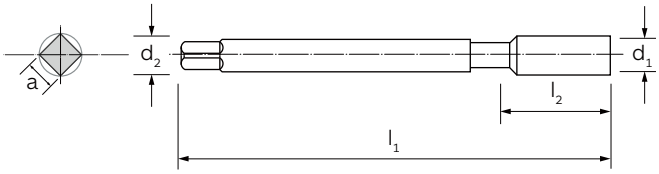
Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

UNC - DIN 2184-2

Hand-Gewindebohrer, dreiteiliger Satz bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

UNC — ASME B.1.1

2184 2 — DIN



MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	N	N	N
BESCHICHTUNG | COATING	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	2B	2B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	D/3-4	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9*)	a (h12)	6775P	6775S	6775T	6775 (Satz | Set)
nr. **1**	**64**	1,55	36	8	2,8	2,1	●	●	●	●
nr. **2**	**56**	1,85	36	9	2,8	2,1	●	●	●	●
nr. **3**	**48**	2,10	40	9	2,8	2,1	●	●	●	●
nr. **4**	**40**	2,35	40	11	3,5	2,7	●	●	●	●
nr. **5**	**40**	2,65	40	11	3,5	2,7	●	●	●	●
nr. **6**	**32**	2,85	45	13	4,0	3,0	●	●	●	●
nr. **8**	**32**	3,50	45	13	4,5	3,4	●	●	●	●
nr. **10**	**24**	3,90	50	16	6,0	4,9	●	●	●	●
nr. **12**	**24**	4,50	50	17	6,0	4,9	●	●	●	●
1/4	20	5,10	50	19	6,0	4,9	●	●	●	●
5/16	18	6,60	56	22	6,0	4,9	●	●	●	●
3/8	16	8,00	63	22	7,0	5,5	●	●	●	●
7/16	14	9,40	70	24	8,0	6,2	●	●	●	●
1/2	13	10,80	75	29	9,0	7,0	●	●	●	●
9/16	12	12,20	80	30	11,0	9,0	●	●	●	●
5/8	11	13,50	80	32	12,0	9,0	●	●	●	●
3/4	10	16,50	95	40	14,0	11,0	●	●	●	●
7/8	9	19,50	100	40	18,0	14,5	●	●	●	●
1"	8	22,25	110	50	18,0	14,5	●	●	●	●
1 1/8	7	25,00	125	56	22,0	18,0	●	●	●	●
1 1/4	7	28,00	125	56	22,0	18,0	●	●	●	●
1 3/8	6	30,75	150	63	28,0	22,0	●	●	●	●
1 1/2	6	34,00	150	63	32,0	24,0	●	●	●	●
1 3/4	5	39,50	160	70	36,0	29,0	●	●	●	●
2"	4 1/2	45,00	180	75	40,0	32,0	●	●	●	●

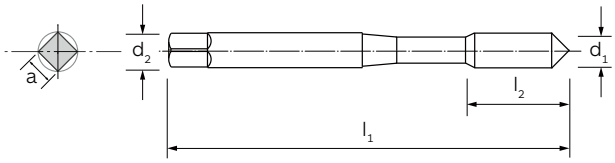
* **Schafttoleranz des 1. und 2. Gewindebohrers h 12** | Shank tolerance of 1st and 2nd tap h 12

UNC - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

NEW

6735XP | **UNC** ASME B.1.1 | **2184 -1** DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	N 40°	N 40°	N 40°
BESCHICHTUNG | COATING	-	-	-	-	TiN
DRALLWINKEL | HELIX ANGLE	0°	15°	40°	40°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-
TOLERANZ | TOLERANCE	2B	2B	2B	3B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	l_2 (35-40 50°)	d_2 (h9)	a (h12)		6823	6696	6691	66913B	6691TN
nr. **2**	**56**	1,85	45	9	4	2,8	2,1		-	-	●	●	●
nr. **3**	**48**	2,10	50	9	4	2,8	2,1		●	●	●	●	●
nr. **4**	**40**	2,35	56	11	5	3,5	2,7		●	●	●	●	●
nr. **5**	**40**	2,65	56	11	5	3,5	2,7		●	●	●	●	●
nr. **6**	**32**	2,85	56	13	6	4,0	3,0		●	●	●	●	●
nr. **8**	**32**	3,50	63	13	7	4,5	3,4		●	●	●	●	●
nr. **10**	**24**	3,90	70	16	8	6,0	4,9		●	●	●	●	●
nr. **12**	**24**	4,50	80	17	10	6,0	4,9		●	●	●	●	●
1/4	20	5,10	80	17	10	6,0	4,9		●	●	●	●	●
5/16	18	6,60	90	20	12	8,0	6,2		●	●	●	●	●
3/8	16	8,00	90	20	12	10,0	8,0		-	-	-	●	-

UNC - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

6735	6735VP	6735XP	6852VP	6732		d1	Steigung/1" Tpi		l1	l2 (35-40 50°)
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VA 35°	VA 35°	VA 35°	VR 50°	ALU 45°	**TYP** | TYPE					
–	VAP	AlCrN TOP	VAP	–	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
35°	35°	35°	50°	45°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
–	–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT					
2BX	2BX	2BX	2BX	2B	**TOLERANZ** | TOLERANCE					
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
					LOCHTYP | HOLE TYPE					
P	P	P	P	–	**P** | **Stahl** | Steels					
M	M	M	M	–	**M** | **Rostfreier Stahl** | Stainless Steels					
–	–	–	–	–	**K** | **Gusseisen** | Cast Irons					
N	N	N	–	N	**N** | **Nichteisenmetalle** | Non-ferrous metals					
S	S	S	–	–	**S** | **HRSA und Titan** | HRSA and Titanium					
–	–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels					
–	–	–	–	–		nr. **2**	**56**	1,85	45	4
–	–	–	–	–		nr. **3**	**48**	2,10	50	4
–	–	–	–	●		nr. **4**	**40**	2,35	56	5
–	–	–	–	●		nr. **5**	**40**	2,65	56	5
●	●	●	●	●		nr. **6**	**32**	2,85	56	6
●	●	●	●	●		nr. **8**	**32**	3,50	63	7
●	●	●	●	●		nr. **10**	**24**	3,90	70	8
●	●	●	●	●		nr. **12**	**24**	4,50	80	10
●	●	●	●	●		**1/4**	20	5,10	80	10
●	●	●	●	●		**5/16**	18	6,60	90	12
–	–	–	●	●		**3/8**	16	8,00	90	12

MATERIALGRUPPEN
MATERIAL GROUPS

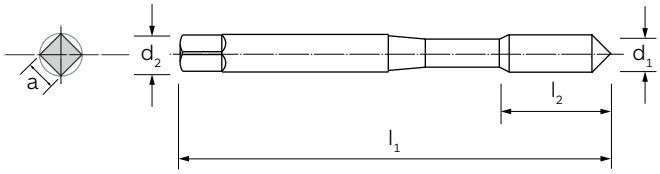
B 02

UNC - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

NEW

6739XP | UNC ASME B.1.1 | 2184 -1 DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	HD	Rapid	Rapid	Rapid
BESCHICHTUNG | COATING	-	-	-	TiN
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	2B	2B	3B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	-	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

B 02

	d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6873	6690	66903B	6690TN
nr. **1**	**64**	1,55	45	8	2,8	2,1	-	●	-	●
nr. **2**	**56**	1,85	45	9	2,8	2,1	●	●	-	●
nr. **3**	**48**	2,10	50	9	2,8	2,1	●	●	-	●
nr. **4**	**40**	2,35	56	11	3,5	2,7	●	●	●	●
nr. **5**	**40**	2,65	56	11	3,5	2,7	●	●	-	●
nr. **6**	**32**	2,85	56	13	4,0	3,0	●	●	●	●
nr. **8**	**32**	3,50	63	13	4,5	3,4	●	●	●	●
nr. **10**	**24**	3,90	70	16	6,0	4,9	●	●	●	●
nr. **12**	**24**	4,50	80	17	6,0	4,9	●	●	-	●
1/4	20	5,10	80	17	6,0	4,9	●	●	●	●
5/16	18	6,60	90	20	8,0	6,2	●	●	-	●
3/8	16	8,00	90	20	10,0	8,0	-	●	●	●

UNC - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

6737	6739	6739VP	6739XP	MATERIALGRUPPEN / MATERIAL GROUPS
HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL
Ultra	VA	VA	VA	**TYP** | TYPE
NIT	-	VAP	AlCrN TOP	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT
0°	0°	0°	0°	**DRALLWINKEL** | HELIX ANGLE
↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION
-	-	-	-	**INNENKÜHLUNG** | INTERNAL COOLANT
2B	2BX	2BX	2BX	**TOLERANZ** | TOLERANCE
B/4-5	B/4-5	B/4-5	B/4-5	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS
				LOCHTYP | HOLE TYPE
P	P	P	P	**P** | **Stahl** | Steels
M	M	M	M	**M** | **Rostfreier Stahl** | Stainless Steels
-	-	-	-	**K** | **Gusseisen** | Cast Irons
N	N	N	N	**N** | **Nichteisenmetalle** | Non-ferrous metals
-	S	S	S	**S** | **HRSA und Titan** | HRSA and Titanium
-	-	-	-	**H** | **Gehärtete Stähle** | Hardened Steels

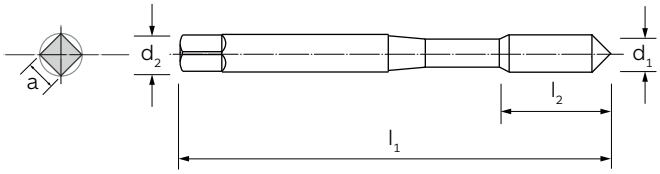
6737	6739	6739VP	6739XP		d_1	Steigung/1" Tpi		l_1	l_2
●	-	-	-	nr.	**1**	**64**	1,55	45	8
●	●	●	●	nr.	**2**	**56**	1,85	45	9
●	●	●	●	nr.	**3**	**48**	2,10	50	9
●	●	●	●	nr.	**4**	**40**	2,35	56	11
●	●	●	●	nr.	**5**	**40**	2,65	56	11
●	●	●	●	nr.	**6**	**32**	2,85	56	13
●	●	●	●	nr.	**8**	**32**	3,50	63	13
●	●	●	●	nr.	**10**	**24**	3,90	70	16
●	●	●	●	nr.	**12**	**24**	4,50	80	17
●	●	●	●		**1/4**	20	5,10	80	17
●	●	●	●		**5/16**	18	6,60	90	20
●	●	●	●		**3/8**	16	8,00	90	20

UNC - DIN 2184/1

Maschinen-Gewindeformer mit verstärktem Schaft, ähnlich DIN 371
Cold forming machine taps with reinforced shank, similar to DIN 371

UNC | **2184 -1** | P. 650

ASME B.1.1 | DIN



MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	FORMER	FORMER S
BESCHICHTUNG | COATING	NIT	NIT
DRALLWINKEL | HELIX ANGLE	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2BX	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6738	6802
nr. **2**	**56**	1,95	45	9	2,8	2,1	●	-
nr. **3**	**48**	2,30	50	9	2,8	2,1	●	-
nr. **4**	**40**	2,55	56	11	3,5	2,7	●	-
nr. **5**	**40**	2,85	56	11	3,5	2,7	●	●
nr. **6**	**32**	3,10	63	13	4,0	3,0	●	●
nr. **8**	**32**	3,80	70	13	4,5	3,4	●	●
nr. **10**	**24**	4,30	70	16	6,0	4,9	●	●
nr. **12**	**24**	5,00	80	19	6,0	4,9	●	●
1/4	20	5,75	80	19	6,0	4,9	●	●
5/16	18	7,25	90	22	8,0	6,2	●	●
3/8	16	8,70	90	22	10,0	8,0	●	●

UNC - DIN 2184/1

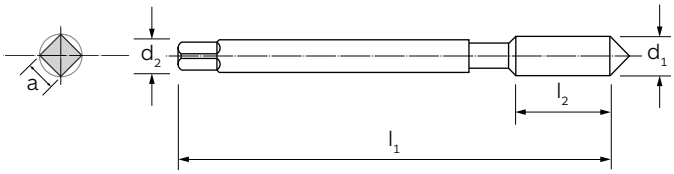
Maschinen-Gewindeformer mit reduziertem Schaft
Cold forming machine taps with reduced shank

NEW

UNC
ASME B.1.1

2184 -1
DIN

P. 650



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	FORMER S
BESCHICHTUNG | COATING	TiN
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6811TN
1/2	13	11,80	110	25	9	7,0		●
9/16	12	13,30	110	28	11	9,0		●
5/8	11	14,85	110	30	12	9,0		●
3/4	10	17,90	125	33	14	11,0		●

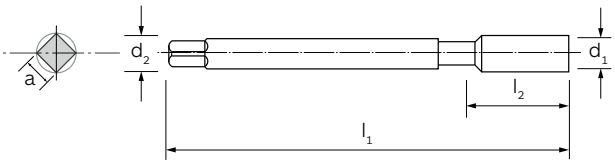
UNC - DIN 2184/1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 376
Machine taps with reduced shank, similar to DIN 376

UNC | ASME B.1.1

2184 -1 | DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	N 40°	N 40°	VA 35°
BESCHICHTUNG | COATING	-	-	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	15°	40°	40°	35°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-
TOLERANZ | TOLERANCE	2B	2B	2B	3B	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K	K	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	l_2 (35-40 50°)	d_2 (h9)	a (h12)	6824	6728	6694	66943B	6754
7/16	14	9,40	100	14	24	8	6,2	●	●	●	●	-
1/2	13	10,80	110	16	29	9	7,0	●	●	●	●	●
9/16	12	12,20	110	20	30	11	9,0	-	-	●	●	-
5/8	11	13,50	110	20	32	12	9,0	●	●	●	●	●
3/4	10	16,50	125	25	34	14	11,0	●	●	●	●	●
7/8	9	19,50	140	25	34	18	14,5	●	●	●	●	-
1"	8	22,25	160	30	38	18	14,5	●	●	●	●	●

UNC - DIN 2184/1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 376
Machine taps with reduced shank, similar to DIN 376

6754VP	6853VP	6866	6733	MATERIAL | MATERIAL
HSS-Co	HSS-Co	HSS-Co	HSS-Co	
VA 35°	VR 50°	HD 15°	ALU 45°	**TYP** | TYPE
VAP	VAP	-	-	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT
35°	50°	15°	45°	**DRALLWINKEL** | HELIX ANGLE
↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION
-	-	-	-	**INNENKÜHLUNG** | INTERNAL COOLANT
2BX	2BX	2B	2B	**TOLERANZ** | TOLERANCE
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS
				LOCHTYP | HOLE TYPE
P	P	P	-	**P** | **Stahl** | Steels
M	M	-	-	**M** | **Rostfreier Stahl** | Stainless Steels
-	-	K	-	**K** | **Gusseisen** | Cast Irons
N	-	-	N	**N** | **Nichteisenmetalle** | Non-ferrous metals
S	-	-	-	**S** | **HRSA und Titan** | HRSA and Titanium
-	-	-	-	**H** | **Gehärtete Stähle** | Hardened Steels

MATERIALGRUPPEN
MATERIAL GROUPS

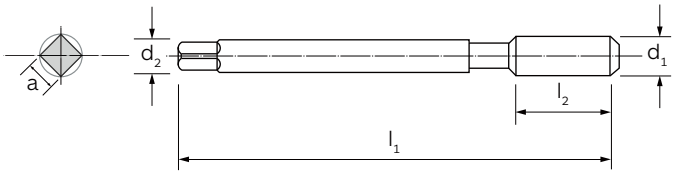
6754VP	6853VP	6866	6733	d_1	Steigung/1" Tpi		l_1	l_2 (35-40 50°)
-	-	●	-	**7/16**	14	9,40	100	24
●	●	●	●	**1/2**	13	10,80	110	29
-	-	-	-	**9/16**	12	12,20	110	30
●	●	●	-	**5/8**	11	13,50	110	32
●	●	●	-	**3/4**	10	16,50	125	34
-	-	●	-	**7/8**	9	19,50	140	34
●	●	●	-	**1"**	8	22,25	160	38

UNC - DIN 2184/1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 376
Machine taps with reduced shank, similar to DIN 376

UNC | **2184 -1**

ASME B.1.1 | DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	HD	Rapid	Rapid	VA	VA
BESCHICHTUNG | COATING	-	-	-	-	VAP
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-
TOLERANZ | TOLERANCE	2B	2B	3B	2BX	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	-	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6874	6693	66933B	6749	6749VP
7/16	14	9,40	100	14	8	6,2	●	●	●	-	-
1/2	13	10,80	110	16	9	7,0	●	●	●	●	●
9/16	12	12,20	110	20	11	9,0	●	●	●	-	-
5/8	11	13,50	110	20	12	9,0	●	●	●	●	●
3/4	10	16,50	125	25	14	11,0	●	●	●	●	●
7/8	9	19,50	140	25	18	14,5	●	●	●	●	●
1"	8	22,25	160	30	18	14,5	●	●	●	●	●
1 1/8	7	25,00	180	-	22	18,0	-	●	●	-	-
1 1/4	7	28,00	180	-	22	18,0	-	●	●	-	-
1 3/8	6	30,75	200	-	28	22,0	-	●	●	-	-
1 1/2	6	34,00	200	-	32	24,0	-	●	●	-	-
1 3/4	5	39,50	220	-	36	29,0	-	●	●	-	-
2"	5	45,00	250	-	40	32,0	-	●	●	-	-

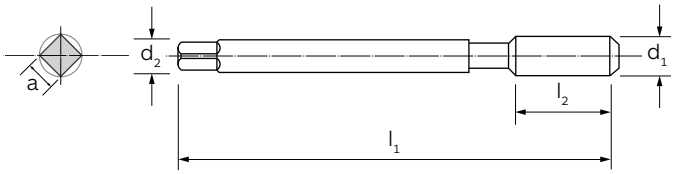
UNF - DIN 2184/2

Hand-Gewindebohrer, zweiteiliger Satz , bestehend aus Vorschneider (V) und Fertigschneider (F)
Hand taps, series in set of 2 pieces, consisting of taper (P) and bottom (T)

UNF

2184 2
DIN

P. 632➔



MATERIAL | MATERIAL	HSS	HSS
TYP | TYPE	N	N
BESCHICHTUNG | COATING	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

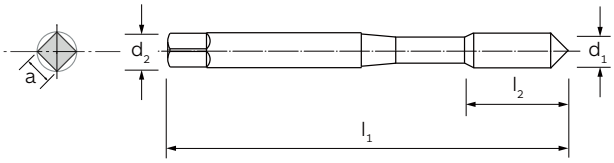
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9*)	a (h12)	6776P	6776T
							6776 (Satz | Set)	
nr. **1**	**72**	1,55	45	8	2,8	2,1	●	●
nr. **2**	**64**	1,85	45	9	2,8	2,1	●	●
nr. **3**	**56**	2,15	40	9	2,8	2,1	●	●
nr. **4**	**48**	2,40	40	11	3,5	2,7	●	●
nr. **5**	**44**	2,70	40	11	3,5	2,7	●	●
nr. **6**	**40**	2,95	45	13	4,0	3,0	●	●
nr. **8**	**36**	3,50	45	13	4,5	3,4	●	●
nr. **10**	**32**	4,10	50	12	6,0	4,9	●	●
nr. **12**	**28**	4,70	50	17	6,0	4,9	●	●
1/4	28	5,50	50	14	6,0	4,9	●	●
5/16	24	6,90	56	22	6,0	4,9	●	●
3/8	24	8,50	63	22	7,0	5,5	●	●
7/16	20	9,90	63	20	8,0	6,2	●	●
1/2	20	11,50	70	22	9,0	7,0	●	●
9/16	18	12,90	70	22	11,0	9,0	●	●
5/8	18	14,50	70	22	12,0	9,0	●	●
3/4	16	17,50	80	22	14,0	11,0	●	●
7/8	14	20,40	80	22	18,0	14,5	●	●
1	12	23,25	90	22	18,0	14,5	●	●
1 1/8	12	26,50	90	22	22,0	18,0	●	●
1 1/4	12	29,50	90	22	22,0	18,0	●	●
1 3/8	12	32,75	125	40	28,0	22,0	●	●
1 1/2	12	36,00	125	40	32,0	24,0	●	●

* **Schafttoleranz des 1. und 2. Gewindebohrers h 12** | Shank tolerance of 1st and 2nd tap h 12

UNF - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

UNF | **2184 -1** DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	N 40°	N 40°	N 40°
BESCHICHTUNG | COATING	-	-	-	-	TiN
DRALLWINKEL | HELIX ANGLE	0°	15°	40°	40°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-
TOLERANZ | TOLERANCE	2B	2B	2B	3B	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE					
MATERIALGRUPPEN MATERIAL GROUPS					
P | **Stahl** | Steels	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	l_2 (35-40 50°)	d_2 (h9)	a (h12)		6838	6719	6680	66803B	6680TN
nr. **1**	**72**	1,55	45	8	-	3	2,1		●	-	-	-	-
nr. **2**	**64**	1,85	45	9	-	3	2,1		●	-	-	-	-
nr. **3**	**56**	2,15	50	9	-	3	2,1		●	-	-	-	-
nr. **4**	**48**	2,40	56	11	-	4	2,7		●	-	-	-	-
nr. **5**	**44**	2,70	56	11	5	4	2,7		●	●	●	●	●
nr. **6**	**40**	2,95	56	13	6	4	2,1		●	●	●	●	●
nr. **8**	**36**	3,50	63	13	7	5	2,1		●	●	●	●	●
nr. **10**	**32**	4,10	70	12	8	6	2,7		●	●	●	●	●
nr. **12**	**28**	4,70	80	17	10	6	3,0		●	●	●	●	●
1/4	28	5,50	80	14	10	7	3,4		●	●	●	●	●
5/16	24	6,90	90	22	12	8	4,9		●	●	●	●	●
3/8	24	8,50	90	22	12	10	7,0		●	●	-	●	-

UNF - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

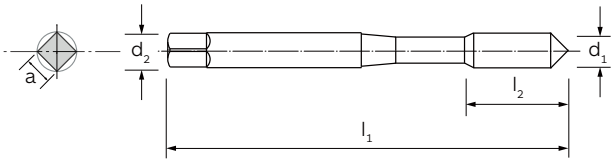
6794	6794VP	6854VP	6848	6628		d_1	Steigung/1" Tpi		l_1	l_2 (35-40 50°)
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	**MATERIAL** | MATERIAL					
VA 35°	VA 35°	VR 50°	HD 15°	ALU 45°	**TYP** | TYPE					
-	VAP	VAP	-	-	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT					
35°	35°	50°	15°	45°	**DRALLWINKEL** | HELIX ANGLE					
↻	↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION					
-	-	-	-	-	**INNENKÜHLUNG** | INTERNAL COOLANT					
2BX	2BX	2BX	2B	2B	**TOLERANZ** | TOLERANCE					
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS					
					LOCHTYP | HOLE TYPE					
P	P	P	P	-	**P** | **Stahl** | Steels					
M	M	M	-	-	**M** | **Rostfreier Stahl** | Stainless Steels					
-	-	-	K	-	**K** | **Gusseisen** | Cast Irons					
N	N	-	-	N	**N** | **Nichteisenmetalle** | Non-ferrous metals					
S	S	-	-	-	**S** | **HRSA und Titan** | HRSA and Titanium					
-	-	-	-	-	**H** | **Gehärtete Stähle** | Hardened Steels					
-	-	-	-	-		nr. **1**	**72**	1,55	45	-
-	-	-	-	-		nr. **2**	**64**	1,85	45	-
-	-	-	-	-		nr. **3**	**56**	2,15	50	-
-	-	-	-	-		nr. **4**	**48**	2,40	56	-
-	-	-	●	-		nr. **5**	**44**	2,70	56	5
-	-	-	●	-		nr. **6**	**40**	2,95	56	6
-	-	-	●	-		nr. **8**	**36**	3,50	63	7
●	●	●	●	■		nr. **10**	**32**	4,10	70	8
-	-	-	●	-		nr. **12**	**28**	4,70	80	10
●	●	●	●	■		**1/4**	28	5,50	80	10
●	●	●	●	-		**5/16**	24	6,90	90	12
●	●	●	●	■		**3/8**	24	8,50	90	12

■ **Solange der Vorrat reicht** | Till stocks last

UNF - DIN 2184/1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

UNF | **2184 -1** DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Rapid	Rapid	Rapid	VA	VA	HD
BESCHICHTUNG | COATING	-	-	TiN	-	VAP	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	2B	3B	2B	2BX	2BX	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M	-
K | **Gusseisen** | Cast Irons	K	K	K	-	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	-
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	S	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

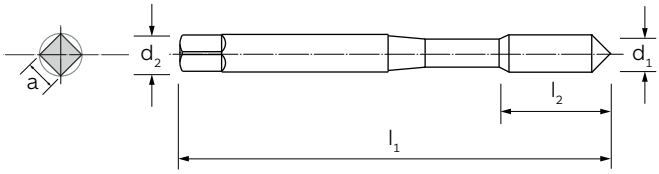
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6607	66073B	6607TN	6718	6718VP	6875
nr. **2**	**64**	1,85	45	9	2,8	2,1	●	-	●	●	●	●
nr. **3**	**56**	2,15	50	9	2,8	2,1	●	-	●	●	●	-
nr. **4**	**48**	2,40	56	11	3,5	2,7	●	-	●	●	●	●
nr. **5**	**44**	2,70	56	11	3,5	2,7	●	-	●	●	●	●
nr. **6**	**40**	2,95	56	13	4,0	3,0	●	-	●	●	●	●
nr. **8**	**36**	3,50	63	13	4,5	3,4	●	■	●	●	●	●
nr. **10**	**32**	4,10	70	12	6,0	4,9	●	■	●	●	●	●
nr. **12**	**28**	4,70	80	17	6,0	4,9	●	-	●	●	●	-
1/4	28	5,50	80	14	7,0	5,5	●	■	●	●	●	●
5/16	24	6,90	90	22	8,0	6,2	●	■	●	●	●	●
3/8	24	8,50	90	22	10,0	7,0	●	■	●	●	●	●

UNF - DIN 2184/1

Maschinen-Gewindeformer mit verstärktem Schaft
Cold forming machine taps with reinforced shank

NEW | **UNF** | **2184 -1** | **P. 650**

6815TN | | DIN |



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	FORMER	FORMER S	FORMER S
BESCHICHTUNG | COATING	NIT	NIT	TiN
DRALLWINKEL | HELIX ANGLE	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	2BX	2BX	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

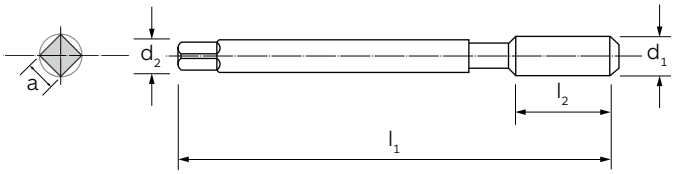
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6747	6815	6815TN
nr. **4**	**48**	2,60	56	11	3,5	2,7	●	-	-
nr. **5**	**44**	2,90	56	11	3,5	2,7	●	-	●
nr. **6**	**40**	3,20	56	13	4,0	2,1	-	-	-
nr. **8**	**36**	3,80	63	13	4,5	3,4	●	■	●
nr. **10**	**32**	4,45	70	16	6,0	4,9	●	-	●
nr. **12**	**28**	5,05	80	19	6,0	4,9	●	-	●
1/4	28	5,90	80	19	7,0	5,5	●	-	●
5/16	24	7,40	90	22	8,0	6,2	●	■	●
3/8	24	9,00	90	22	10,0	7,0	●	-	●

■ **Solange der Vorrat reicht** | Till stocks last

UNF - DIN 2184/1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 374
Machine taps with reduced shank, similar to DIN 374

UNF | **2184 -1** DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	N 40°	N 40°
BESCHICHTUNG | COATING	-	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	15°	40°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	2B	2B	2B	3B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	l_2 (35-40 50°)	d_2 (h9)	a (h12)	6839	6729	6688	66883B
nr. **10**	**32**	4,45	70	16	-	6,0	4,9	-	-	-	-
5/16	24	7,40	90	22	-	8,0	6,2	-	-	-	-
3/8	24	9,00	90	22	-	10,0	7,0	-	-	-	-
7/16	20	9,90	90	20	14	8,0	6,2	●	●	●	●
1/2	20	11,50	100	22	16	9,0	7,0	●	●	●	●
9/16	18	12,90	100	22	20	11,0	9,0	●	●	●	●
5/8	18	14,50	100	22	20	12,0	9,0	●	-	●	●
3/4	16	17,50	110	25	25	14,0	11,0	●	●	●	●
7/8	14	20,40	125	25	25	18,0	14,5	●	-	●	●
1"	12	23,25	140	28	25	18,0	14,5	●	●	●	●
1 1/8	12	26,50	150	28	26	22,0	15,0	●	-	-	-
1 1/4	12	29,50	150	28	27	22,0	15,5	●	-	-	-
1 1/2	12	30,60	170	30	28	28,0	16,5	●	-	-	-

UNF - DIN 2184/1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 374
Machine taps with reduced shank, similar to DIN 374




6796	6855VP	6849	6734	MATERIAL | MATERIAL
HSS-Co	HSS-Co	HSS-Co	HSS-Co	
VA 35°	VR 50°	HD 15°	ALU 45°	**TYP** | TYPE
–	VAP	–	–	**BESCHICHTUNG/BEHANDLUNG** | COATING/ TREATMENT
35°	50°	15°	45°	**DRALLWINKEL** | HELIX ANGLE
↻	↻	↻	↻	**SCHNITTRICHTUNG** | CUTTING DIRECTION
–	–	–	–	**INNENKÜHLUNG** | INTERNAL COOLANT
2B	2BX	2B	2B	**TOLERANZ** | TOLERANCE
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	**ANSCHNITTFORM/GEWINDE** | CHAMFER FORM/THREADS
				LOCHTYP | HOLE TYPE
P	P	P	–	**P** | **Stahl** | Steels
M	M	–	–	**M** | **Rostfreier Stahl** | Stainless Steels
–	–	K	–	**K** | **Gusseisen** | Cast Irons
N	–	–	N	**N** | **Nichteisenmetalle** | Non-ferrous metals
S	–	–	–	**S** | **HRSA und Titan** | HRSA and Titanium
–	–	–	–	**H** | **Gehärtete Stähle** | Hardened Steels

MATERIALGRUPPEN MATERIAL GROUPS

B 02

					d_1	Steigung/1" Tpi		l_1	l_2 (35-40 50°)
–	–	–	■		nr. **10**	**32**	4,45	70	-
–	–	–	■		**5/16**	24	7,40	90	-
–	–	–	■		**3/8**	24	9,00	90	-
●	●	●	–		**7/16**	20	9,90	90	14
●	●	●	–		**1/2**	20	11,50	100	16
●	●	●	–		**9/16**	18	12,90	100	20
●	●	–	–		**5/8**	18	14,50	100	20
●	●	●	–		**3/4**	16	17,50	110	25
–	–	–	–		**7/8**	14	20,40	125	25
–	–	●	–		**1"**	12	23,25	140	25
–	–	–	–		**1 1/8**	12	26,50	150	26
–	–	–	–		**1 1/4**	12	29,50	150	27
–	–	–	–		**1 1/2**	12	30,60	170	28

■ **Solange der Vorrat reicht** | Till stocks last

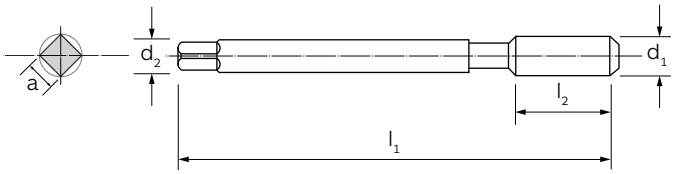
UNF - DIN 2184/1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 374
Machine taps with reduced shank, similar to DIN 374

UNF

2184 -1
DIN

P. 632➔



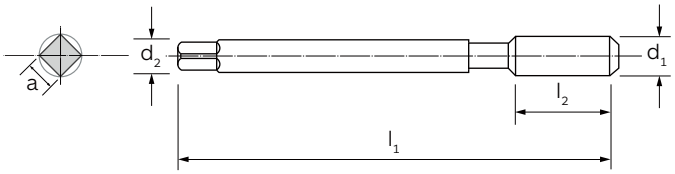
MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Rapid	Rapid	VA	HD
BESCHICHTUNG | COATING	-	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	2B	3B	2BX	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	-
K | **Gusseisen** | Cast Irons	K	K	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	-
S | **HRSA und Titan** | HRSA and Titanium	-	-	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6687	66873B	6797	6876
7/16	20	9,90	90	20	8	6,2		●	●	●	●
1/2	20	11,50	100	22	9	7,0		●	●	●	●
9/16	18	12,90	100	22	11	9,0		●	●	-	●
5/8	18	14,50	100	22	12	9,0		●	●	●	●
3/4	16	17,50	110	25	14	11,0		●	●	●	●
7/8	14	20,40	125	25	18	14,5		●	●	-	●
1"	12	23,25	140	28	18	14,5		●	●	-	●
1 1/8	12	26,50	150	28	22	18,0		●	●	-	-
1 1/4	12	29,50	150	28	22	18,0		●	●	-	-
1 3/8	12	32,75	170	30	28	22,0		●	●	-	-
1 1/2	12	36,00	170	30	32	24,0		●	●	-	-

UNF - DIN 2184/1

Maschinen-Gewindeformer mit reduziertem Schaft, ähnlich DIN 374
Cold forming machine taps with reduced shank, similar to DIN 374

NEW 6816TN | **UNF** | **2184 -1** DIN | P. 650



MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	FORMER S	FORMER S
BESCHICHTUNG | COATING	NIT	TiN
DRALLWINKEL | HELIX ANGLE	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	2BX	2BX
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6816	6816TN
7/16	20	10,5	90	20	8	6,2	-	●
1/2	20	12,10	100	22	9	7,0	■	●
5/8	18	15,20	100	22	12	9,0	■	●

■ **Solange der Vorrat reicht** | Till stocks last

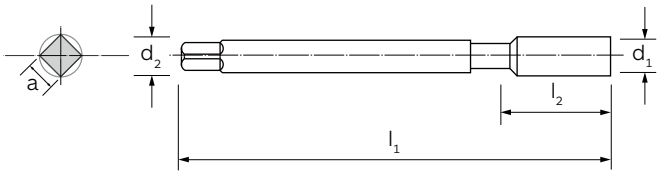
UN-8 - DIN 2184-1

Maschinengewindebohrer mit reduziertem Schaft | Machine taps with reduced shank

UN-8
ASME B.1.1

2184 -1
DIN

P. 640



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	VA 35°
BESCHICHTUNG | COATING	VAP
DRALLWINKEL | HELIX ANGLE	35°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	2B
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

B 02

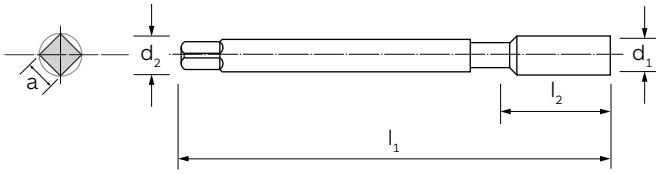
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6945VP
1 1/8	8	25,40	180	40	22	18	●
1 1/4	8	28,60	180	40	22	18	●
1 3/8	8	31,75	200	50	28	22	●
1 1/2	8	35,00	200	50	28	22	●

BSW - DIN 2184-2

Hand-Gewindebohrer, dreiteiliger Satz bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

BSW — DIN 11

2184 2 — DIN



MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	N	N	N
BESCHICHTUNG | COATING	–	–	–
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	–	–	–
TOLERANZ | TOLERANCE	–	–	–
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	D/3-4	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–	–

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9*)	a (h12)	6603P	6603S	6603T	6603 (Satz | Set)
1/16	60	1,20	32	8	2,5	2,1	●	●	●	●
3/32	48	1,90	40	9	2,8	2,1	●	●	●	●
1/8	40	2,50	40	11	3,5	2,7	●	●	●	●
5/32	32	3,20	45	13	4,5	3,4	●	●	●	●
3/16	24	3,60	50	16	6,0	4,9	●	●	●	●
7/32	24	4,50	50	17	6,0	4,9	●	●	●	●
1/4	20	5,10	50	19	6,0	4,9	●	●	●	●
5/16	18	6,50	56	22	6,0	4,9	●	●	●	●
3/8	16	7,90	63	22	7,0	5,5	●	●	●	●
7/16	14	9,30	70	24	8,0	6,2	●	●	●	●
1/2	12	10,50	75	29	9,0	7,0	●	●	●	●
9/16	12	12,00	80	30	11,0	9,0	●	●	●	●
5/8	11	13,50	80	32	12,0	9,0	●	●	●	●
3/4	10	16,50	95	40	14,0	11,0	●	●	●	●
7/8	9	19,25	100	40	18,0	14,5	●	●	●	●
1"	8	22,00	110	50	18,0	14,5	●	●	●	●
1 1/8	7	24,75	125	56	22,0	18,0	●	●	●	●
1 1/4	7	28,00	125	56	22,0	18,0	●	●	●	●
1 3/8	6	30,50	150	63	28,0	22,0	●	●	●	●
1 1/2	6	33,50	150	63	32,0	24,0	●	●	●	●
1 5/8	5	35,50	150	63	32,0	24,0	●	●	●	●
1 3/4	5	39,00	160	70	36,0	29,0	●	●	●	●
2"	4,5	44,50	180	75	40,0	32,0	●	●	●	●

*** Schafttoleranz des 1. und 2. Gewindebohrers h 12** | Shank tolerance of 1st and 2nd tap h 12

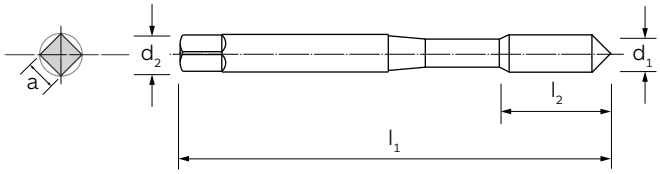
BSW - DIN 2184-1

Maschinengewindebohrer mit verstärktem Schaft, ähnlich DIN 371
Machine taps with reinforced shank, similar to DIN 371

BSW DIN 11

2184 -1 DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 40°	Rapid
BESCHICHTUNG | COATING	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	40°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	-	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	B/4-5
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6699	6836	6697
1/8	40	2,5	56	11	3,5	2,7	●	●	●
5/32	32	3,2	63	13	4,5	3,4	●	●	●
3/16	24	3,6	70	16	6,0	4,9	●	●	●
1/4	20	5,1	80	17	7,0	5,5	●	●	●
5/16	18	6,5	90	20	8,0	6,2	●	●	●
3/8	16	7,9	90	20	9,0	7,0	●	-	-

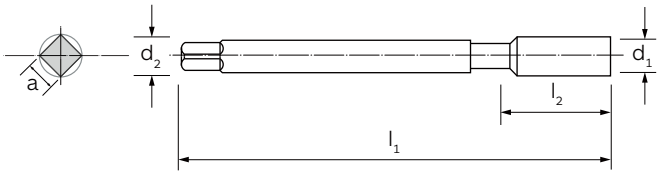
BSW - DIN 2184-1

Maschinengewindebohrer mit reduziertem Schaft, ähnlich DIN 376
Machine taps with reduced shank, similar to DIN 376

BSW
DIN 11

2184 -1
DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	N 40°	Rapid
BESCHICHTUNG | COATING	-	-
DRALLWINKEL | HELIX ANGLE	40°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	B/4-5
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

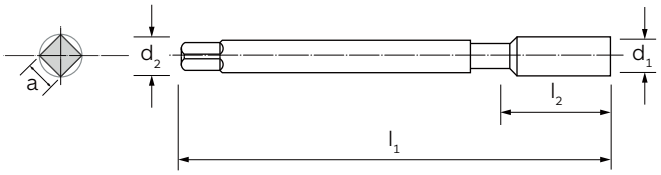
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6837	6636
7/16	14	9,30	100	24	8	6,2	●	●
1/2	12	10,50	110	29	9	7,0	●	●
9/16	12	12,00	110	30	11	9,0	●	●
5/8	11	13,50	110	32	12	9,0	●	●
3/4	10	16,50	125	34	14	11,0	●	●
7/8	9	19,25	140	34	18	14,5	●	●
1"	8	22,00	160	38	18	14,5	●	●

RP - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft
Machine taps with reduced shank

Rp (BSPP) | **5156** | P. 632➔

ISO 7-1 | DIN



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N 15°	GG	Rapid
BESCHICHTUNG | COATING	-	NIT	-
DRALLWINKEL | HELIX ANGLE	15°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	-	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	B/4-5
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	-	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

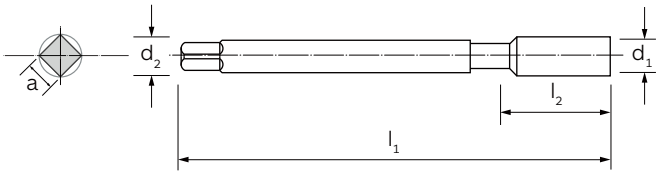
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6675	6674	6673
1/16	28	6,60	90	22	6	4,9	-	-	●
1/8	28	8,60	90	20	7	5,5	●	●	●
1/4	19	11,50	100	22	11	9,0	●	●	●
3/8	19	15,00	100	22	12	9,0	●	●	●
1/2	14	18,75	125	25	16	12,0	●	●	●
3/4	14	24,25	140	28	20	16,0	●	●	●
1"	11	30,25	160	30	25	20,0	●	●	●
1 1/4	11	39,00	170	30	32	24,0	-	●	●
1 1/2	11	45,00	190	32	36	29,0	-	●	●
2"	11	56,50	190	32	45	35,0	-	●	●

G (BSP) - DIN 5157

Hand-Gewindebohrer, zweiteiliger Satz , bestehend aus Vorschneider (V) und Fertigschneider (F)
Hand taps, series in set of 2 pieces, consisting of taper (P) and bottom (T)

G (BSP) — DIN EN ISO 228

5157 — DIN



MATERIAL | MATERIAL	HSS	HSS
TYP | TYPE	N	N
BESCHICHTUNG | COATING	–	–
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↺	↺
INNENKÜHLUNG | INTERNAL COOLANT	–	–
TOLERANZ | TOLERANCE	–	–
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–

B 02

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6627P	6627T
							6627 (Satz | Set)	
1/8	28	8,80	63	20	7	5,5	●	●
1/4	19	11,80	70	22	11	9,0	●	●
3/8	19	15,25	70	22	12	9,0	●	●
1/2	14	19,00	80	22	16	12,0	●	●
5/8	14	21,00	80	22	18	14,5	●	●
3/4	14	24,50	90	22	20	16,0	●	●
7/8	14	28,25	90	22	22	18,0	●	●
1"	11	30,75	100	25	25	20,0	●	●
1 1/8	11	35,50	125	40	28	22,0	●	●
1 1/4	11	39,50	125	40	32	24,0	●	●
1 3/8	11	42,00	125	40	36	29,0	●	●
1 1/2	11	45,00	140	40	36	29,0	●	●
1 3/4	11	51,00	140	40	40	32,0	●	●
2"	11	57,00	160	40	45	35,0	●	●

*** Schafttoleranz des 1. und 2. Gewindebohrers h 12** | Shank tolerance of 1st and 2nd tap h 12

■ **Solange der Vorrat reicht** | Till stocks last

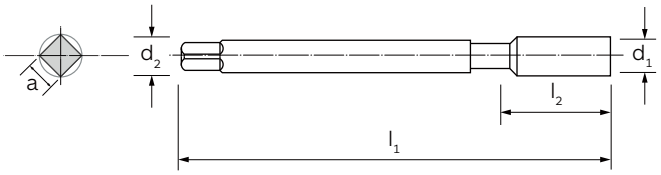
G (BSP) - DIN 5157

Kurzer Maschinengewindebohrer mit reduziertem Schaft nach DIN 259 und DIN-ISO 228
Short machine taps with reduced shank, as per DIN 259 e DIN-ISO 228

G (BSP) — DIN EN ISO 228

5157 — DIN

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N 15°	MS	VA 15°
BESCHICHTUNG | COATING	-	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	15°	0°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	-	-	ISO 228+0,1	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	E/1-2	E/1,5-2	E/1-2
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	-	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	M
K | **Gusseisen** | Cast Irons	K	K	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6858	6905	6913	6951
1/16	28	6,80	56	22	6	4,9		●	-	●	●
1/8	28	8,80	63	20	7	5,5		●	-	●	●
1/4	19	11,80	70	22	11	9,0		●	●	●	●
3/8	19	15,25	70	22	12	9,0		●	●	●	●
1/2	14	19,00	80	22	16	12,0		●	●	●	●
5/8	14	21,00	80	22	18	14,5		●	-	●	●
3/4	14	24,50	90	22	20	16,0		●	●	●	●
7/8	14	28,25	90	22	22	18,0		●	-	●	●
1"	11	30,75	100	25	25	20,0		●	-	●	●
1 1/8	11	35,50	125	40	28	22,0		-	-	●	-
1 1/4	11	39,50	125	40	32	24,0		●	-	●	-
1 3/8	11	42,00	125	40	36	29,0		-	-	●	-
1 1/2	11	45,00	140	40	36	29,0		-	-	●	-

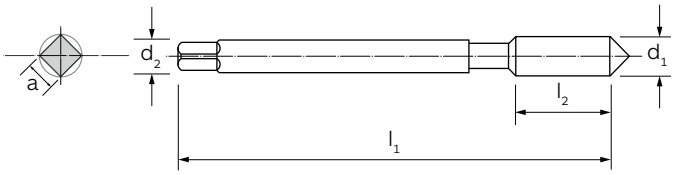
G (BSP) - DIN 5157

Kurzer Maschinengewindebohrer mit reduziertem Schaft nach DIN 259 und DIN-ISO 228
Short machine taps with reduced shank, as per DIN 259 e DIN-ISO 228

G (BSP) — DIN EN ISO 228

5157 — DIN

P. 632



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	VA
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6857
1/16	28	6,80	56	22	6	4,9	●
1/8	28	8,80	63	20	7	5,5	●
1/4	19	11,80	70	22	11	9,0	●
3/8	19	15,25	70	22	12	9,0	●
1/2	14	19,00	80	22	16	12,0	●
3/4	14	24,50	90	22	20	16,0	●
1"	11	30,75	100	25	25	20,0	●
1 1/4	11	39,50	125	40	32	24,0	●
1 1/2	11	45,00	140	40	36	29,0	●

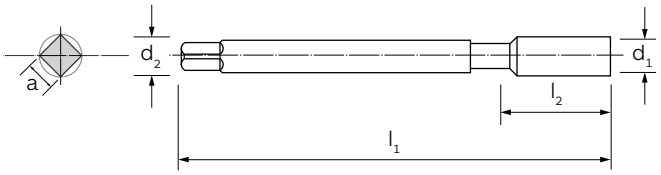
G (BSP) - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft, nach DIN 259 und DIN-ISO 228
Machine taps with reduced shank, as per DIN 259 e DIN-ISO 228

G (BSP) — DIN EN ISO 228

5156 — DIN

P. 642



	6912	6912TN
MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	HD	HD
BESCHICHTUNG | COATING	-	TiN
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	-	-
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6912	6912TN
1/8	28	8,80	90	20	7	5,5	●	●
1/4	19	11,80	100	22	11	9,0	●	●
3/8	19	15,25	100	22	12	9,0	●	●
1/2	14	19,00	125	25	16	12,0	●	●
5/8	14	21,00	125	25	18	14,5	■	■
3/4	14	24,50	140	28	20	16,0	●	●
7/8	14	28,25	150	28	22	18,0	■	■
1"	11	30,75	160	30	25	20,0	●	●
2"	11	57,00	220	40	45	35,0	■	■

■ **Solange der Vorrat reicht** | Till stocks last

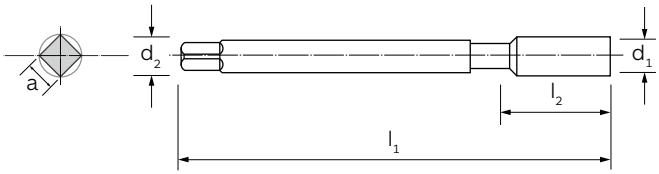
G (BSP) - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft, nach DIN 259 und DIN-ISO 228
Machine taps with reduced shank, as per DIN 259 e DIN-ISO 228

G (BSP) — DIN EN ISO 228

5156 — DIN

P. 632➔



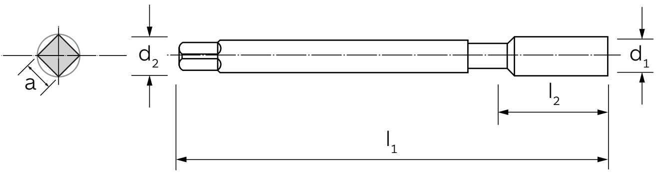
MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N 15°	N 40°	N 40°	N 40°
BESCHICHTUNG | COATING	-	-	VAP	TiN
DRALLWINKEL | HELIX ANGLE	15°	40°	40°	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-
TOLERANZ | TOLERANCE	-	-	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)		6665	6703	6703VP	6703TN
1/16	28	6,80	90	12	6	4,9		-	●	●	●
1/8	28	8,80	90	14	7	5,5		●	●	●	●
1/4	19	11,80	100	20	11	9,0		●	●	●	●
3/8	19	15,25	100	20	12	9,0		●	●	●	●
1/2	14	19,00	125	25	16	12,0		●	●	●	●
5/8	14	21,00	125	25	18	14,5		●	●	●	●
3/4	14	24,50	140	28	20	16,0		●	●	●	●
7/8	14	28,25	150	28	22	18,0		●	●	●	●
1"	11	30,75	160	30	25	20,0		●	●	●	●

G (BSP) - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft, nach DIN 259 und DIN-ISO 228
Machine taps with reduced shank, as per DIN 259 e DIN-ISO 228

NEW	G (BSP)	5156	
6701XP	DIN EN ISO 228	DIN	P. 632→



	6716	6701	6701VP	6701XP
MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	VA 15°	VA 35°	VA 35°	VA 35°
BESCHICHTUNG | COATING	–	–	VAP	AlCrN TOP
DRALLWINKEL | HELIX ANGLE	15°	35°	35°	35°
SCHNITTRICHTUNG | CUTTING DIRECTION				
INNENKÜHLUNG | INTERNAL COOLANT	–	–	–	–
TOLERANZ | TOLERANCE	–	–	–	–
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	–	–	–	–
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

d_1	Steigung/1" Tpi		l_1	l_2	l_2 (35-40 50°)	d_2 (h9)	a (h12)		6716	6701	6701VP	6701XP
1/16	28	6,80	90	22	12	6	4,9		●	–	–	–
1/8	28	8,80	90	20	14	7	5,5		●	●	●	●
1/4	19	11,80	100	22	20	11	9,0		●	●	●	●
3/8	19	15,25	100	22	20	12	9,0		●	●	●	●
1/2	14	19,00	125	25	25	16	12,0		●	●	●	●
5/8	14	21,00	125	25	25	18	14,5		●	●	●	●
3/4	14	24,50	140	28	28	20	16,0		●	●	●	●
7/8	14	28,25	150	28	28	22	18,0		●	●	●	●
1"	11	30,75	160	30	30	25	20,0		●	●	●	●
1 1/8	11	35,50	170	30	30	28	22,0		–	–	–	–
1 1/4	11	39,50	170	30	30	32	24,0		–	–	–	–
1 3/8	11	42,00	180	32	32	36	29,0		–	–	–	–
1 1/2	11	45,00	190	32	32	36	29,0		–	–	–	–
1 3/4	11	51,00	190	32	32	40	32,0		–	–	–	–
2"	11	57,00	220	40	36	45	35,0		–	–	–	–

G (BSP) - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft, nach DIN 259 und DIN-ISO 228
Machine taps with reduced shank, as per DIN 259 e DIN-ISO 228



6856VP	6708	6708TF
HSS-Co	HSS-Co	HSS-Co
VR 50°	GG	GG
VAP	NIT	TiAlN Futura
50°	0°	0°
↻	↻	↻
-	-	-
-	-	-
C/2,5-3	C/2,5-3	C/2,5-3
P	-	-
M	K	K
-	-	-
-	N	N
-	-	-
-	-	-

MATERIAL | MATERIAL
TYP | TYPE
BESCHICHTUNG/BEHANDLUNG | COATING/ TREATMENT
DRALLWINKEL | HELIX ANGLE
SCHNITTRICHTUNG | CUTTING DIRECTION
INNENKÜHLUNG | INTERNAL COOLANT
TOLERANZ | TOLERANCE
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS
LOCHTYP | HOLE TYPE

MATERIALGRUPPEN MATERIAL GROUPS

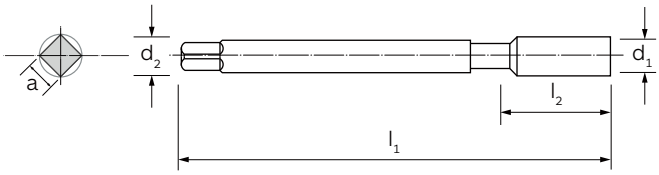
P | **Stahl** | Steels
M | **Rostfreier Stahl** | Stainless Steels
K | **Gusseisen** | Cast Irons
N | **Nichteisenmetalle** | Non-ferrous metals
S | **HRSA und Titan** | HRSA and Titanium
H | **Gehärtete Stähle** | Hardened Steels

6856VP	6708	6708TF	d_1	Steigung/1" Tpi		l_1	l_2 (35-40 50°)
-	●	●	**1/16**	28	6,80	90	12
●	●	●	**1/8**	28	8,80	90	14
●	●	●	**1/4**	19	11,80	100	20
●	●	●	**3/8**	19	15,25	100	20
●	●	●	**1/2**	14	19,00	125	25
-	●	●	**5/8**	14	21,00	125	25
●	●	●	**3/4**	14	24,50	140	28
-	●	●	**7/8**	14	28,25	150	28
●	●	●	**1"**	11	30,75	160	30
-	●	●	**1 1/8**	11	35,50	170	30
-	●	●	**1 1/4**	11	39,50	170	30
-	●	●	**1 3/8**	11	42,00	180	32
-	●	●	**1 1/2**	11	45,00	190	32
-	●	●	**1 3/4**	11	51,00	190	32
-	●	●	**2"**	11	57,00	220	36

G (BSP) - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft, nach DIN 259 und DIN-ISO 228
Machine taps with reduced shank, as per DIN 259 e DIN-ISO 228

NEW	G (BSP)	5156	
6700XP	DIN EN ISO 228	DIN	P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	Rapid	Rapid	Rapid	VA	VA	VA
BESCHICHTUNG | COATING	-	VAP	TiN	-	VAP	AlCrN TOP
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-	-	-	-
TOLERANZ | TOLERANCE	-	-	-	-	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5	B/4-5
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-	-	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6704	6704VP	6704TN	6700	6700VP	6700XP
1/16	28	6,80	90	22	6	4,9	-	-	-	●	●	●
1/8	28	8,80	90	20	7	5,5	●	●	●	●	●	●
1/4	19	11,80	100	22	11	9,0	●	●	●	●	●	●
3/8	19	15,25	100	22	12	9,0	●	●	●	●	●	●
1/2	14	20,10	125	25	16	12,0	●	●	●	●	●	●
5/8	14	21,00	125	25	18	14,5	●	●	●	●	●	●
3/4	14	24,50	140	28	20	16,0	●	●	●	●	●	●
7/8	14	28,25	150	28	22	18,0	●	●	●	●	●	●
1"	11	30,75	160	30	25	20,0	●	●	●	●	●	●
1 1/8	11	35,50	170	30	28	22,0	●	●	●	-	-	-
1 1/4	11	39,50	170	30	32	24,0	●	●	●	-	-	-
1 1/2	11	45,00	190	32	36	29,0	●	●	●	-	-	-
1 3/4	11	51,00	190	32	40	32,0	●	●	●	-	-	-
2"	11	57,00	220	40	45	35,0	●	●	●	-	-	-

G (BSP) - DIN 2189

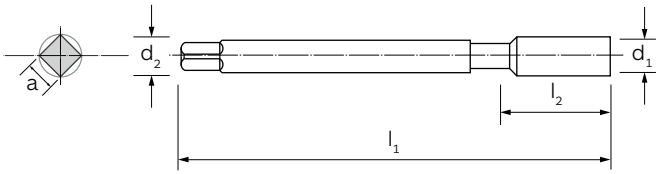
Maschinen-Gewindeformer mit reduziertem Schaft
Cold forming machine taps with reduced shank

NEW
6818TN

G
(BSP)
DIN EN ISO 228

2189
DIN

P. 650



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	FORMER	FORMER S	FORMER S
BESCHICHTUNG | COATING	NIT	NIT	TiN
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	-	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	-	-	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

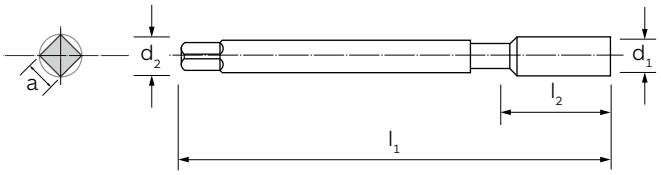
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6702	6818	6818TN
1/16	28	6,80	90	22	6	4,9	●	-	●
1/8	28	8,80	90	20	7	5,5	●	-	●
1/4	19	11,80	100	22	11	9,0	●	-	●
3/8	19	15,25	100	22	12	9,0	●	■	●
1/2	14	20,10	125	25	16	12,0	●	-	●

■ **Solange der Vorrat reicht** | Till stocks last

RC - DIN 5156

Maschinengewindebohrer mit reduziertem Schaft, Kegel 1:16
Machine taps with reduced shank, taper 1:16

RC BSPT | **5156** DIN | P. 636



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

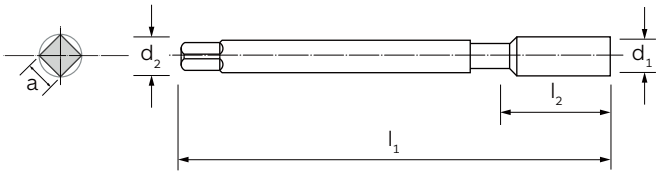
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6790
1/8	28	8,2	90	13	10	8	●
1/4	19	11,0	100	20	14	11	●
3/8	19	14,0	110	20	14	11	●
1/2	14	18,0	140	25	16	12	●
3/4	14	23,5	150	26	20	16	●
1"	11	29,5	170	32	25	20	●

NPT/NPTF - ILIX NORM

Maschinengewindebohrer, Kegel 1:16, Flankenwinkel 60° ähnlich DIN 2181
Machine taps, taper 1:16, included angle 60° similar to DIN 2181

NPT | ASME B1.20.1 | **NPTF** | ANSI B1.20.3 | **ILIX NORM** | DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N	AZ/VA
BESCHICHTUNG | COATING	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	-	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	M
K | **Gusseisen** | Cast Irons	K	K	-
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

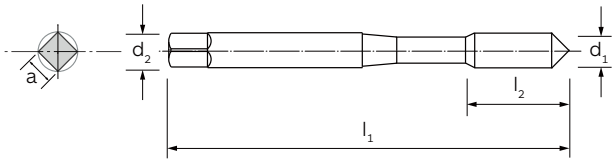
d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6610	6611	6916
1/16	27	6,20	56	14	6	4,9	●	●	●
1/8	27	8,50	63	15	7	5,5	●	●	●
1/4	18	11,10	70	21	11	9,0	●	●	●
3/8	18	14,50	70	21	12	9,0	●	●	●
1/2	14	17,75	80	27	16	12,0	●	●	●
3/4	14	23,00	100	27	20	16,0	●	●	●
1"	11,5	29,00	110	32	25	20,0	●	●	-
1 1/4	11,5	38,00	125	33	32	24,0	●	●	-
1 1/2	11,5	44,00	140	33	36	29,0	●	●	-
2"	11,5	56,00	160	33	45	35,0	●	-	-

Kegelreibhale für NPT/NPTF Gewinde auf der Seite 835 | Taper pin reamer for NPT/NPTF thread on the page 835

NPT/NPTF - ILIX NORM

Maschinengewindebohrer, Kegel 1:16, Flankenwinkel 60° ähnlich DIN 371
Machine taps, taper 1:16, included angle 60° similar to DIN 371

NPT ASME B1.20.1 | **NPTF** ANSI B1.20.3 | **ILIX NORM** DIN | P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	HD	HD	HD	AZ	AZ 35°	AZ 35°
BESCHICHTUNG | COATING	–	TiN	–	–	–	TiN
DRALLWINKEL | HELIX ANGLE	0°	0°	0°	0°	35°	35°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	–	–	–	–	–	–
TOLERANZ | TOLERANCE	–	–	–	–	–	–
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3
LOCHTYP | HOLE TYPE						
MATERIALGRUPPEN / MATERIAL GROUPS						
P | **Stahl** | Steels	P	P	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	–	–	–
N | **Nichteisenmetalle** | Non-ferrous metals	–	–	–	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–	–	–

d_1	Steigung/1" Tpi		l_1	l_2	d_2 (h9)	a (h12)	6917	6917TN	6923	6919	6921	6921TN
1/16	27	6,3	90	13	8	6,2	●	●	●	●	●	●
1/8	27	8,5	90	13	10	8,0	●	●	●	●	●	●
1/4	18	11,1	100	20	14	11,0	●	●	●	●	●	●
3/8	18	15,0	110	20	14	11,0	–	–	–	–	–	–
1/2	14	18,0	140	25	16	12,0	–	–	–	–	–	–
3/4	14	23,0	150	26	20	16,0	–	–	–	–	–	–
1"	11,5	29,0	170	32	25	20,0	–	–	–	–	–	–
1 1/4	11,5	38,0	190	34	32	24,0	–	–	–	–	–	–
1 1/2	11,5	44,0	200	34	36	29,0	–	–	–	–	–	–

Kegelreibhale für NPT/NPTF Gewinde auf der Seite 835 | Taper pin reamer for NPT/NPTF thread on the page 835

NPT/NPTF - ILIX NORM

Maschinengewindebohrer, Kegel 1:16, Flankenwinkel 60° ähnlich DIN 371
Machine taps, taper 1:16, included angle 60° similar to DIN 371

6925	6918	6924	6920	6922	6926		d1	Steigung/1" Tpi		l1	l2
HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	HSS-Co	MATERIAL | MATERIAL					
AZ 35°	HD	HD	AZ	AZ 35°	AZ 35°	TYP | TYPE					
–	–	–	–	–	–	BESCHICHTUNG | COATING					
35°	0°	0°	0°	35°	35°	DRALLWINKEL | HELIX ANGLE					
↻	↻	↻	↻	↻	↻	SCHNITTRICHTUNG | CUTTING DIRECTION					
–	–	–	–	–	–	INNENKÜHLUNG | INTERNAL COOLANT					
–	–	–	–	–	–	TOLERANZ | TOLERANCE					
C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	C/2,5-3	ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS					
						LOCHTYP | HOLE TYPE					
P	P	P	P	P	P	P | Stahl | Steels					
M	–	–	M	M	M	M | Rostfreier Stahl | Stainless Steels					
–	K	K	–	–	–	K | Gusseisen | Cast Irons					
N	–	–	N	N	N	N | Nichteisenmetalle | Non-ferrous metals					
–	–	–	–	–	–	S | HRSA und Titan | HRSA and Titanium					
–	–	–	–	–	–	H | Gehärtete Stähle | Hardened Steels					
●	–	–	–	–	–		1/16	27	6,3	90	13
●	–	–	–	–	–		1/8	27	8,5	90	13
●	–	–	–	–	–		1/4	18	11,1	100	20
–	●	●	●	●	●		3/8	18	15,0	110	20
–	●	●	●	●	●		1/2	14	18,0	140	25
–	●	●	●	●	●		3/4	14	23,0	150	26
–	●	●	●	●	●		1"	11,5	29,0	170	32
–	●	●	●	●	●		1 1/4	11,5	38,0	190	34
–	●	●	●	–	●		1 1/2	11,5	44,0	200	34

MATERIALGRUPPEN
MATERIAL GROUPS

B 02

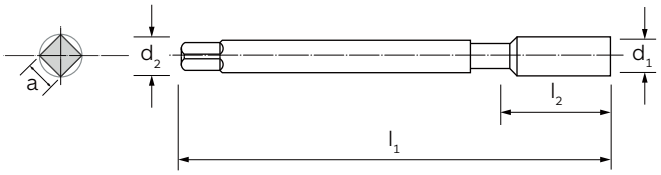
Kegelreibhale für NPT/NPTF Gewinde auf der Seite 835 | Taper pin reamer for NPT/NPTF thread on the page 835

PG - DIN 40432

Maschinengewindebohrer für Stahlrohrgewinde, Flankenwinkel 80° an Maschinen- und Elektrowerkzeugen
Machine taps for steel conduit pipe thread, included angle 80° on machine and power tools

PG | **40432** | **DIN**

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	N	Rapid
BESCHICHTUNG | COATING	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	-	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3	B/4-5
LOCHTYP | HOLE TYPE		

MATERIALGRUPPEN MATERIAL GROUPS

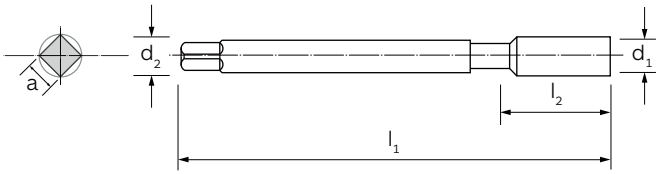
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

Größe Size	d_1	**Steigung/1"** Tpi		l_1	l_2	d_2 (h9)	**a** (h12)	**6915**	**6710**
7,0	12,5	20	11,50	70	22	9	7,0	●	●
9,0	15,2	18	14,00	70	22	12	9,0	●	●
11,0	18,6	18	17,25	80	22	14	11,0	●	●
13,5	20,4	18	19,00	80	22	16	12,0	●	●
16,0	22,5	18	21,25	80	22	18	14,5	●	●
21,0	28,3	16	27,00	90	22	22	18,0	●	●
29,0	37,0	16	35,50	100	25	28	22,0	●	●
36,0	47,0	16	45,50	140	40	36	29,0	●	●
42,0	54,0	16	52,50	140	40	40	32,0	●	●
48,0	59,3	16	58,00	160	40	45	35,0	●	●

PG - DIN 40433

Maschinengewindebohrer für Stahlrohrgewinde, Flankenwinkel 80° an Maschinen- und Elektrowerkzeugen
Machine taps for steel conduit pipe thread, included angle 80° on machine and power tools

PG | **40433** DIN | P. 636



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	-
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	D/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

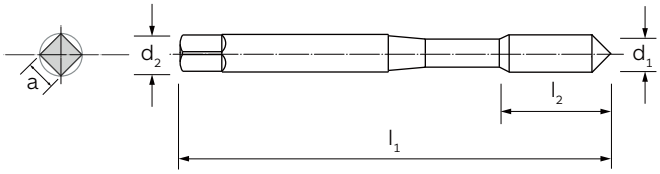
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

Größe Size	d_1	**Steigung/1"** Tpi		l_1	l_2	d_2 (h9)	**a** (h12)	**6914**
7,0	12,5	20	11,50	100	20	9	7,0	●
9,0	15,2	18	14,00	100	20	12	9,0	●
11,0	18,6	18	17,25	110	22	14	11,0	●
13,5	20,4	18	19,00	125	22	16	12,0	●
16,0	22,5	18	21,25	125	25	18	14,5	●
21,0	28,3	16	27,00	150	28	22	18,0	●
29,0	37,0	16	35,50	170	28	28	22,0	●
36,0	47,0	16	45,50	190	32	36	29,0	●

EG (M) - DIN 8140 - Helicoil

Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil]), ähnlich DIN 371
Machine taps for wire thread inserts [Helicoil]), similar to DIN 371

EG (M) | **8140** DIN | P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N 40°
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H MOD.
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)		6910
3	0,50	3,2	63	5	4,5	3,4		●
4	0,70	4,2	70	7	6,0	4,9		●
5	0,80	5,2	80	8	6,0	4,9		●
6	1,00	6,3	90	10	8,0	6,2		●
8	1,25	8,4	100	12	10,0	8,0		●

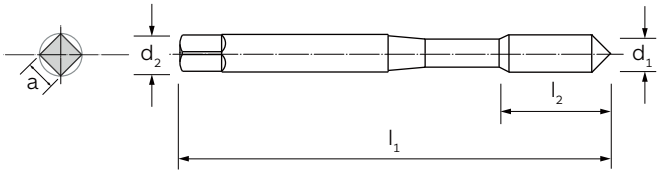
EG (M) - DIN 8140 - Helicoil

Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil]), ähnlich DIN 371
Machine taps for wire thread inserts [Helicoil]), similar to DIN 371

EG (M)

8140
DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H MOD.
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6908
3	0,50	3,2	63	10	4,5	3,4	●
4	0,70	4,2	70	12	6,0	4,9	●
5	0,80	5,2	80	13	6,0	4,9	●
6	1,00	6,3	90	17	8,0	6,2	●
8	1,25	8,4	100	18	10,0	8,0	●

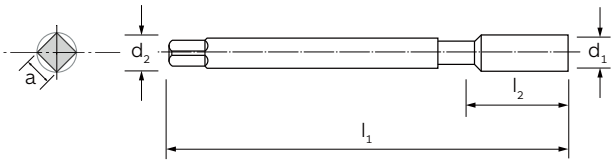
EG (M) 40° - DIN 8140 - Helicoil

Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil]), ähnlich DIN 376
Machine taps for wire thread inserts [Helicoil]), similar to DIN 376

EG (M) 40°

8140
DIN

P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N 40°
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	40°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H MOD.
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	C/2,5-3
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

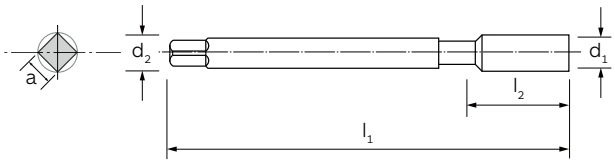
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6911
10	1,50	10,5	110	14	9	7	●
12	1,75	12,5	110	16	11	9	●
16	2,00	16,5	125	20	14	11	●

EG (M) - DIN 8140 - Helicoil

Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil]), ähnlich DIN 376
Machine taps for wire thread inserts [Helicoil]), similar to DIN 376

EG (M) | **8140** DIN | P. 648



MATERIAL | MATERIAL	HSS-Co
TYP | TYPE	N
BESCHICHTUNG | COATING	-
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
TOLERANZ | TOLERANCE	6H MOD.
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	B/4-5
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

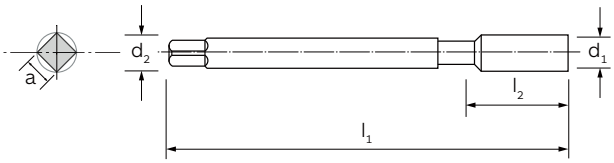
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6909
10	1,50	10,5	100	22	9	7	●
12	1,75	12,5	110	26	11	9	●
16	2,00	16,5	125	20	14	11	●

TR - DIN 103

Trapez-Handgewindebohrer, Serie im 3er-Satz, bestehend aus Vorschneider (V), Mittelschneider (M) und Fertigschneider (F)
Trapezoidal Hand taps, series in set of 3 pieces, consisting of taper (P), plug (S) and bottom (T)

TR **103**
DIN



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
TYP | TYPE	N	N	N
BESCHICHTUNG | COATING	-	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-	-
TOLERANZ | TOLERANCE	7H	7H	7H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	A/5-6	D/3-4	C/2,5-3
LOCHTYP | HOLE TYPE			
MATERIALGRUPPEN MATERIAL GROUPS			
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-	-
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

B 02

d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6937P	6937S	6937T	6937
							6937 (Satz | Set)			
10	2	8,20	110	70	7,1	5,6	●	-	●	●
12	3	9,25	160	102	8,0	6,3	●	-	●	●
14	3	11,25	160	102	9,0	7,1	●	-	●	●
16	4	12,25	220	136	11,2	9,0	●	-	●	●
18	4	14,25	220	136	12,5	10,0	●	-	●	●
20	4	16,25	220	136	14,0	11,2	●	■	●	●
22	5	17,25	275	166	16,0	12,5	●	-	●	●
24	5	19,25	275	166	16,0	12,5	●	-	●	●
26	5	21,25	290	170	18,0	14,0	●	-	●	●
28	5	23,25	290	170	18,0	14,0	●	-	●	●
30	6	24,25	345	200	22,4	18,0	●	-	●	●

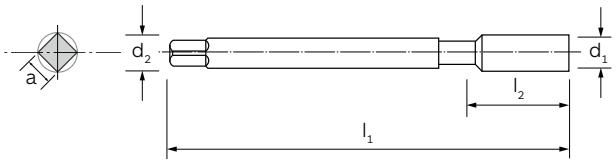
■ **Solange der Vorrat reicht** | Till stocks last

TR - DIN 103

Trapez Maschinengewindebohrer | Trapezoidal machine taps

TR | **103** | **DIN**

P. 632➔



MATERIAL | MATERIAL	HSS-Co	HSS-Co
TYP | TYPE	N	N SX
BESCHICHTUNG | COATING	-	-
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↺
INNENKÜHLUNG | INTERNAL COOLANT	-	-
TOLERANZ | TOLERANCE	7H	7H
ANSCHNITTFORM/GEWINDE | CHAMFER FORM/THREADS	2/3 x l_2	2/3 x l_2
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	-
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

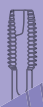
d_1	P		l_1	l_2	d_2 (h9)	a (h12)	6938	6939
10	2	8,20	116	76	7,1	5,6	●	●
12	2	10,20	126	76	8,0	6,3	●	●
12	**3**	9,25	175	115	8,0	6,3	●	●
14	2	12,20	126	76	9,0	7,1	●	●
14	**3**	11,25	175	115	9,0	7,1	●	●
16	4	12,25	235	150	11,2	9,0	●	●
18	4	14,25	235	150	12,5	10,0	●	●
20	4	16,25	235	150	14,0	11,2	●	●
22	5	17,25	290	180	16,0	12,5	●	●
24	5	19,25	290	180	16,0	12,5	●	●
26	5	21,25	300	180	18,0	14,0	●	●
28	5	23,25	300	180	18,0	14,0	●	●
30	6	24,25	380	235	22,4	18,0	●	●
32	6	26,25	380	235	22,4	18,0	●	●
34	6	28,25	390	240	25,0	20,0	●	●
36	6	30,25	390	240	25,0	20,0	●	●

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d1) and pitch (P)

GEWINDEBOHRER
TAPS

B.02.03

Schnittdaten
Cutting data



Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **RAPID** (Kurzer Maschinengewindebohrer | Short machine taps)												
≤1.5 xD		6679	-	-	-	-	-	-	-	-	-	-
▸ **N** (Kurzer Maschinengewindebohrer | Short machine taps)												
≤1.5 xD		6678	6899	-	-	-	6858	-	-	-	-	-
		6659	6656	-	-	-	-	-	-	-	-	-
		6639	-	-	-	-	-	-	-	-	-	-
		6604	-	-	-	-	-	-	-	-	-	-
		66046G	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	6905	-	-	-	-	-
▸ **VA** (Kurzer Maschinengewindebohrer | Short machine taps)												
≤1.5 xD		-	-	-	-	-	6857	-	-	-	-	-
▸ **VA 15°** (Kurzer Maschinengewindebohrer | Short machine taps)												
≤1.5 xD		6648	-	-	-	-	-	-	-	-	-	-
		6612	-	-	-	-	6951	-	-	-	-	-
▸ **MS** (Kurzer Maschinengewindebohrer | Short machine taps)												
≤1.5 xD		6624	-	-	-	-	6913	-	-	-	-	-
		6724	-	-	-	-	-	-	-	-	-	-
▸ **AZ** (Kurzer Maschinengewindebohrer | Short machine taps)												
≤1.5 xD		6621	-	-	-	-	-	-	-	-	-	-
		6613	-	-	-	-	-	-	-	-	-	-

B 02

SCHNITTDATEN | CUTTING DATA

Gewindebohrer | Taps

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2	H3
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
13	8	5	5	-	8	4	**13**	**8**	-	-	-	-	-
-	**9**	**5**	-	-	9	-	13	9	-	-	-	-	-
-	**9**	**5**	-	-	9	-	13	9	-	-	-	-	-
-	**9**	**5**	-	-	9	-	13	9	-	-	-	-	-
-	**9**	**5**	-	-	9	-	13	9	-	-	-	-	-
-	**9**	**5**	-	-	9	-	13	9	-	-	-	-	-
-	**9**	**5**	-	-	9	-	13	9	-	-	-	-	-
13	-	-	**5**	**4**	-	-	-	**9**	2	1	-	-	-
13	-	-	**5**	**4**	-	-	-	**9**	2	1	-	-	-
13	-	-	**5**	**4**	-	-	-	**9**	2	1	-	-	-
-	-	-	-	-	-	-	-	**9**	-	-	-	-	-
-	-	-	-	-	-	-	-	**9**	-	-	-	-	-
13	-	-	5	-	-	-	**13**	**9**	-	-	-	-	-
13	-	-	5	-	-	-	**13**	**9**	-	-	-	-	-

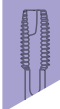
B 02

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **RAPID** (**Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		6707 67076G 67074H 67077G	-	6690 66903B	6607 66073B	-	-	-	-	6697	-	-
		6707TN	-	6690TN	6607TN	-	-	-	-	-	-	-
		6707TC	-	-	-	-	-	-	-	-	-	-
		6707VP	-	-	-	-	-	-	-	-	-	-
		6711 67116G 67117G	6730	6693 66933B	6687 66873B	-	6704	6673	-	6636	-	-
		6711TN	6730TN	-	-	-	6704TN	-	-	-	-	-
		6711TC	6730TC	-	-	-	-	-	-	-	-	-
		6711VP	6730VP	-	-	-	6704VP	-	-	-	-	-
		-	-	-	-	6710	-	-	-	-	-	-
▸ **RAPID 2** (**Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		6640 66406G	-	-	-	-	-	-	-	-	-	-
▸ **N** (**Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		6706	-	6823	6838	-	-	-	-	6699	-	-
		6706TN	-	-	-	-	-	-	-	-	-	-
		6706TC	-	-	-	-	-	-	-	-	-	-
		6705	6726	6824	6839	-	-	-	-	-	-	-
		6705TN	6726TN	-	-	-	-	-	-	-	-	-

B 02

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
15	**10**	**6**	6	-	10	5	**15**	**10**	-	-	-	-	-
18	**13**	**8**	10	7	13	8	**20**	**15**	-	-	-	-	-
18	**13**	**8**	10	7	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	6	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	6	-	10	5	**15**	**10**	-	-	-	-	-
18	**13**	**8**	10	7	13	8	**20**	**15**	-	-	-	-	-
18	**13**	**8**	10	7	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	6	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	6	-	10	5	**15**	**10**	-	-	-	-	-
-	-	-	-	-	-	-	**15**	**13**	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
18	**13**	**8**	-	-	13	-	20	15	-	-	-	-	-
18	**13**	**8**	-	-	13	-	20	15	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
18	**13**	**8**	-	-	13	-	20	15	-	-	-	-	-



▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **N (Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		6705TC	6726TC	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	6610	6611
		-	-	-	-	-	-	-	6790	-	-	-
		-	-	-	-	6915	-	-	-	-	-	-
		-	-	-	-	6914	-	-	-	-	-	-
▸ **N SX (Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		6712	-	-	-	-	-	-	-	-	-	-
		6859	-	-	-	-	-	-	-	-	-	-
		6715	-	-	-	-	-	-	-	-	-	-
		6860	6863	-	-	-	-	-	-	-	-	-
▸ **NL 15° (Maschinengewindebohrer** | Machine taps)												
≤1.5 xD		6727	-	-	-	-	-	-	-	-	-	-
		6740	6741	-	-	-	-	-	-	-	-	-
▸ **N 15° (Maschinengewindebohrer** | Machine taps)												
≤1.5 xD		6657 66576G 6902	-	6696	6719	-	-	-	-	-	-	-
		6657TN	-	-	-	-	-	-	-	-	-	-
		6657TC	-	-	-	-	-	-	-	-	-	-
		6658	6664	6728	6729	-	6665	6675	-	-	-	-
		6658TN	6664TN	-	-	-	-	-	-	-	-	-
		6658TC	6664TC	-	-	-	-	-	-	-	-	-
		-	6904	-	-	-	-	-	-	-	-	-

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm² P1	Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm² P2	Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm² P3	Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic M1	Rostfreier Stahl Austenitisch Stainless steel Austenitic M2	Graues Gusseisen Grey cast iron K1	Sphäroguss Nodular cast iron K2	Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys N1	Nicht eisenhaltige Materialien Non ferrous materials N2	Titan und Titanlegierungen Titanium and Titanium alloys S1	HRSA Hitzebeständige Legierungen Heat resistant alloys S2	Gehärtete Stähle Hardened steels 38/48 HRC H1	Gehärtete Stähle Hardened steels 48/58 HRC H2	Gehärtete Stähle Hardened steels 58/68 HRC H3
18	**13**	**8**	-	-	13	-	20	15	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	10	-	15	10	-				
15	**10**	**6**	-	-	10	-	15	10	-	-	-	-	-
15	**10**	**6**	-	-	**10**	**5**	-	-	-	-	-	-	-
15	**10**	**6**	-	-	**10**	**5**	-	-	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-				

▸ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		M	MF	UNC	UNF	Pg 8-UN	G (BSP)	Rp (BSPP)	Rc (BSPT)	BSW	NPT	NPTF
		Gewindeprofile | Threading profiles										
N 15° (Maschinengewindebohrer | Machine taps)												
≤1.5 xD		6658TC	6664TC	-	-	-	-	-	-	-	-	-
		-	6904	-	-	-	-	-	-	-	-	-
N 40° (Maschinengewindebohrer | Machine taps)												
≤2.5 xD		6644 66446G 66447G	-	6691 66913B	6680 66803B	-	-	-	-	6836	-	-
		6644TN	-	6691TN	6680TN	-	-	-	-	-	-	-
		6644TC	-	-	-	-	-	-	-	-	-	-
		6644VP	-	-	-	-	-	-	-	-	-	-
≤2.5 xD		6638 66386G 66387G	6652	6694 66943B	6688 66883B	-	6703	-	-	6837	-	-
		6638TN	6652TN	-	-	-	6703TN	-	-	-	-	-
		6638TC	6652TC	-	-	-	6703VP	-	-	-	-	-
		6638VP	6652VP	-	-	-	-	-	-	-	-	-
		6867	-	-	-	-	-	-	-	-	-	-
		6868	6877	-	-	-	-	-	-	-	-	-
N SX 40° (Maschinengewindebohrer | Machine taps)												
≤2.5 xD		6861	-	-	-	-	-	-	-	-	-	-
		6862	6864	-	-	-	-	-	-	-	-	-
VA (Maschinengewindebohrer | Machine taps)												
≤2.0 xD		6646 66466G	-	6739	6718	-	-	-	-	-	-	-
		6647 66476G	6663 66636G	6749	6797	-	6700	-	-	-	-	-

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-				
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
18	**13**	**8**	8	5	13	8	**20**	**15**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	-	-	**6**	**5**	-	-	-	**10**	3	2	-	-	-
15	-	-	**6**	**5**	-	-	-	**10**	3	2	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **VA (Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		6646TN	-	-	-	-	-	-	-	-	-	-
		-	6663TN	-	-	-	-	-	-	-	-	-
		6646XP	-	6739XP	-	-	-	-	-	-	-	-
		6647XP	6663XP	-	-	-	6700XP	-	-	-	-	-
		6646VP	-	6739VP	6718VP	-	-	-	-	-	-	-
		6647VP	6663VP	6749VP	-	-	6700VP	-	-	-	-	-
▸ **VA 15° (Maschinengewindebohrer** | Machine taps)												
≤1.5 xD		6654	-	-	-	-	-	-	-	-	-	-
		-	6671	-	-	-	6716	-	-	-	-	-
		6654XP	-	-	-	-	-	-	-	-	-	-
		6654VP	-	-	-	-	-	-	-	-	-	-
		6634VP										
▸ **VA i 15° (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		6620XP	-	-	-	-	-	-	-	-	-	-
		6605XP	6626XP	-	-	-	-	-	-	-	-	-
▸ **VA 35° (Maschinengewindebohrer** | Machine taps)												
≤2.0 xD		-	6655 66556G	6754	6796	-	6701	-	-	-	-	-
		-	-	6735	6794	-	-	-	-	-	-	-
		-	6655XP	-	-	-	6701XP	-	-	-	-	-
		-	6655VP	6754VP	-	6945VP	6701VP	-	-	-	-	-
		-	-	6735VP	6794VP	-	-	-	-	-	-	-
		6654VP	-	-	-	-	-	-	-	-	-	-

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

18	-	-	**10**	**7**	-	-	-	**15**	5	4	-	-	-
18	-	-	**10**	**7**	-	-	-	**15**	5	4	-	-	-
18	-	-	**10**	**7**	-	-	-	**15**	5	4	-	-	-
18	-	-	**10**	**7**	-	-	-	**15**	5	4	-	-	-
15	-	-	**6**	**5**	-	-	-	**10**	3	2	-	-	-
15	-	-	**6**	**5**	-	-	-	**10**	3	2	-	-	-
13	-	-	**10**	**8**	-	-	-	**11**	3	2	-	-	-
13	-	-	**10**	**8**	-	-	-	**11**	3	2	-	-	-
15	-	-	**12**	**10**	-	-	-	**13**	5	4	-	-	-
13	-	-	**10**	**8**	-	-	-	**11**	3	2	-	-	-
15	-	-	**12**	**10**	-	-	-	**13**	5	4	-	-	-
17	15	-	**15**	**10**	-	-	-	**15**	6	5	-	-	-
17	15	-	**15**	**10**	-	-	-	**15**	6	5	-	-	-
13	-	-	10	8	-	-	-	**11**	3	2	-	-	-
13	-	-	10	8	-	-	-	**11**	3	2	-	-	-
15	-	-	12	8	-	-	-	**13**	5	4	-	-	-
13	-	-	10	8	-	-	-	**11**	3	2	-	-	-
13	-	-	10	8	-	-	-	**11**	3	2	-	-	-
13	-	-	10	8	-	-	-	**11**	3	2	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										

▸ VR 35° (Maschinengewindebohrer | Machine taps)

≤2.0 xD		6661 66616G	-	-	-	-	-	-	-	-	-	-
		6662 66626G	-	-	-	-	-	-	-	-	-	-
		6661TN	-	-	-	-	-	-	-	-	-	-
		6661XP	-	-	-	-	-	-	-	-	-	-
		6662XP	-	-	-	-	-	-	-	-	-	-
		6662VP	-	-	-	-	-	-	-	-	-	-
		6661VP	-	-	-	-	-	-	-	-	-	-

▸ VR 50° (Maschinengewindebohrer | Machine taps)

≤3.0 xD		6850TN	-	-	-	-	-	-	-	-	-	-
		6851TN	-	-	-	-	-	-	-	-	-	-
		6850VP	-	6852VP	6854VP	-	-	-	-	-	-	-
		6851VP	-	6853VP	6855VP	-	6856VP	-	-	-	-	-

▸ HD (Maschinengewindebohrer | Machine taps)

≤2.0 xD		6870	-	6873	6875	-	-	-	-	-	-	-
		6871	6872	6874	6876	-	6912	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	6917	6923
		-	-	-	-	-	-	-	-	-	6918	6924
		6870TF	6872TF	-	-	-	-	-	-	-	-	-
		6871TF	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	6912TN	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	6917TN	-

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

13	-	-	**10**	**8**	-	-	-	-	-	-	-	-	-
13	-	-	**10**	**8**	-	-	-	-	-	-	-	-	-
15	-	-	**12**	**8**	-	-	-	-	-	-	-	-	-
15	-	-	**12**	**8**	-	-	-	-	-	-	-	-	-
15	-	-	**12**	**8**	-	-	-	-	-	-	-	-	-
13	-	-	**10**	**8**	-	-	-	-	-	-	-	-	-
13	-	-	**10**	**8**	-	-	-	-	-	-	-	-	-

13	-	-	**10**	**8**	-	-	-	-	-	-	-	-	-
13	-	-	**10**	**8**	-	-	-	-	-	-	-	-	-
15	-	-	**12**	**10**	-	-	-	-	-	-	-	-	-
15	-	-	**12**	**10**	-	-	-	-	-	-	-	-	-

15	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
15	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
15	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
15	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
18	**13**	**8**	-	-	-	10	-	-	-	-	-	-	-
18	**13**	**8**	-	-	-	10	-	-	-	-	-	-	-
18	**13**	**8**	-	-	-	10	-	-	-	-	-	-	-
18	**13**	**8**	-	-	-	10	-	-	-	-	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		M	MF	UNC	UNF	Pg 8-UN	G (BSP)	Rp (BSPP)	Rc (BSPT)	BSW	NPT	NPTF
		Gewindeprofile | Threading profiles										
HD 15° (Maschinengewindebohrer | Machine taps)												
≤1.5 xD		6878	-	6865	6848	-	-	-	-	-	-	-
		6879	6880	6866	6849	-	-	-	-	-	-	-
		6878HL	-	-	-	-	-	-	-	-	-	-
		6879HL	6880HL	-	-	-	-	-	-	-	-	-
HD 40° (Maschinengewindebohrer | Machine taps)												
≤2.5 xD		6666 66666G 66664H	-	-	-	-	-	-	-	-	-	-
		6667	-	-	-	-	-	-	-	-	-	-
		6666TF	-	-	-	-	-	-	-	-	-	-
		6667TF	-	-	-	-	-	-	-	-	-	-
		6667TN	-	-	-	-	-	-	-	-	-	-
HR 40° (Maschinengewindebohrer | Machine taps)												
≤2.5 xD		6681	-	-	-	-	-	-	-	-	-	-
		6689	-	-	-	-	-	-	-	-	-	-
		6681TF	-	-	-	-	-	-	-	-	-	-
		6689TF	-	-	-	-	-	-	-	-	-	-
GG (Maschinengewindebohrer | Machine taps)												
≤2.5 xD		6631TF	-	-	-	-	-	-	-	-	-	-
		6632TF	-	-	-	-	6708TF	-	-	-	-	-
		6631	-	-	-	-	-	-	-	-	-	-
		6632	6653	-	-	-	6708	6674	-	-	-	-

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	P2	P3	M1	M2	K1	K2	N1	N2	S1	S2	H1	H2	H3

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

13	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
13	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
15	**12**	**8**	-	-	-	10	-	-	-	-	-	-	-
15	**12**	**8**	-	-	-	10	-	-	-	-	-	-	-
13	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
13	**10**	**6**	-	-	-	10	-	-	-	-	-	-	-
15	**12**	**8**	-	-	-	10	-	-	-	-	-	-	-
15	**12**	**8**	-	-	-	10	-	-	-	-	-	-	-
15	**12**	**8**	-	-	-	10	-	-	-	-	-	-	-
13	**10**	**8**	-	-	-	-	-	-	-	-	-	-	-
13	**10**	**8**	-	-	-	-	-	-	-	-	-	-	-
15	**12**	**10**	-	-	-	-	-	-	-	-	-	-	-
15	**12**	**10**	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	**30**	**25**	25	-	-	-	-	-	-
-	-	-	-	-	**30**	**25**	25	-	-	-	-	-	-
-	-	-	-	-	**25**	**20**	25	-	-	-	-	-	-
-	-	-	-	-	**25**	**20**	25	-	-	-	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **MULTI GG I (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		6629TC	-	-	-	-	-	-	-	-	-	-
		6637TC	-	-	-	-	-	-	-	-	-	-
		6637	-	-	-	-	-	-	-	-	-	-
		6629	-	-	-	-	-	-	-	-	-	-
▸ **AZ (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		6820	-	-	-	-	-	-	-	-	-	-
		6616	-	-	-	-	-	-	-	-	-	-
		6821	-	-	-	-	-	-	-	-	6919	6920
		6617	-	-	-	-	-	-	-	-	-	-
		-	-	-	-	-	-	-	-	-	6916	-
▸ **AZ 35° (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		-	-	-	-	-	-	-	-	-	6921	6925
		-	-	-	-	-	-	-	-	-	6922	6926
		-	-	-	-	-	-	-	-	-	6921TN	-
▸ **ALU (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		6641	-	-	-	-	-	-	-	-	-	-
		6642	-	-	-	-	-	-	-	-	-	-
▸ **ALU 45° (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		6643	-	6732	6628	-	-	-	-	-	-	-
		6651	6731	6733	6734	-	-	-	-	-	-	-
▸ **BAK (Maschinengewindebohrer** | Machine taps)												
≤2.5 xD		6670	-	-	-	-	-	-	-	-	-	-

B 02

SCHNITTDATEN | CUTTING DATA

Gewindebohrer | Taps

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)													
-	-	-	-	-	**35**	**30**	30	-	-	-	-	-	-
-	-	-	-	-	**35**	**30**	30	-	-	-	-	-	-
-	-	-	-	-	**32**	**27**	30	-	-	-	-	-	-
-	-	-	-	-	**32**	**27**	30	-	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
15	-	-	6	-	-	-	**15**	**10**	-	-	-	-	-
18	-	-	10	-	-	-	**20**	**15**	-	-	-	-	-
-	-	-	-	-	-	-	**25**	**15**	-	-	-	-	-
-	-	-	-	-	-	-	**25**	**15**	-	-	-	-	-
-	-	-	-	-	-	-	**25**	**15**	-	-	-	-	-
-	-	-	-	-	-	-	**25**	**15**	-	-	-	-	-
-	-	-	-	-	-	-	-	**15**	-	-	-	-	-

B 02

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**Pg** **8-UN**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **ULTRA** (**Maschinengewindebohrer** | Machine taps)												
≤1.0 xD		6606 66066G	-	-	-	-	-	-	-	-	-	-
		-	-	6737	-	-	-	-	-	-	-	-
▸ **ULTRA S** (**Maschinengewindebohrer** | Machine taps)												
≤1.5 xD		6649 66496G	-	-	-	-	-	-	-	-	-	-
		6649TN	-	-	-	-	-	-	-	-	-	-
▸ **EG (M)** (**Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil]** | Machine taps for wire thread inserts [Helicoil])												
≤2.0 xD		6908	-	-	-	-	-	-	-	-	-	-
		6909	-	-	-	-	-	-	-	-	-	-
▸ **EG (M) 40°** (**Maschinengewindebohrer für Drahtgewindeeinsätze [Helicoil]** | Machine taps for wire thread inserts [Helicoil])												
≤2.0 xD		6910	-	-	-	-	-	-	-	-	-	-
		6911	-	-	-	-	-	-	-	-	-	-
▸ **N** (**Maschinengewindebohrer mit langem Schaft** | Machine taps with long shank)												
≤3.0 xD		6672	-	-	-	-	-	-	-	-	-	-
▸ **N** (**Maschinengewindebohrer mit extra langem Schaft** | Machine taps with extra long shank)												
≤3.0 xD		6692	-	-	-	-	-	-	-	-	-	-
		6695	-	-	-	-	-	-	-	-	-	-
▸ **N 30°** (**Maschinengewindebohrer mit extra langem Schaft** | Machine taps with extra long shank)												
≤3.0 xD		6840	-	-	-	-	-	-	-	-	-	-
		6841	-	-	-	-	-	-	-	-	-	-
▸ **N 40°** (**Mutter-Maschinengewindebohrer** | Machine nut taps)												
≤3.0 xD		6660	-	-	-	-	-	-	-	-	-	-

SCHNITTDATEN | CUTTING DATA

Gewindebohrer | Taps

Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

15	-	-	**12**	-	-	-	**20**	-	-	-	-	-	-
15	-	-	**12**	-	-	-	**20**	-	-	-	-	-	-
15	-	-	**12**	-	-	-	**20**	-	-	-	-	-	-
18	-	-	**15**	-	-	-	**25**	-	-	-	-	-	-
15	8	5	-	-	-	-	**18**	**12**	-	-	-	-	-
15	8	5	-	-	-	-	**18**	**12**	-	-	-	-	-
15	8	5	-	-	-	-	**18**	**12**	-	-	-	-	-
15	8	5	-	-	-	-	**18**	**12**	-	-	-	-	-
-	**7**	**4**	-	-	7	-	10	7	-	-	-	-	-
-	**7**	**4**	-	-	7	-	10	7	-	-	-	-	-
-	**7**	**4**	-	-	7	-	10	7	-	-	-	-	-
10	**7**	**4**	-	-	7	5	**10**	**7**	-	-	-	-	-
10	**7**	**4**	-	-	7	5	**10**	**7**	-	-	-	-	-
10	**7**	**4**	-	-	7	5	**10**	**7**	-	-	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Gewindetiefe Threading depth		**M**	**MF**	**UNC**	**UNF**	**TR**	**G** (BSP)	**Rp** (BSPP)	**Rc** (BSPT)	**BSW**	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles										
▸ **TR** (**Trapez Maschinengewindebohrer** | Trapezoidal machine taps)												
≤1.5 xD		-	-	-	-	6938	-	-	-	-	-	-
		-	-	-	-	6939	-	-	-	-	-	-
▸ **FORMER** (**Gewindeformer** | Cold forming machine taps)												
≤2.0 xD		6722BL 6622BL	-	-	-	-	-	-	-	-	-	-
		6722TF	-	-	-	-	-	-	-	-	-	-
		6722TN 6622TN	-	-	-	-	-	-	-	-	-	-
		6722 6622	-	6738	6747	-	-	-	-	-	-	-
≤2.0 xD		6723TN 6623TN	-	-	-	-	-	-	-	-	-	-
		6723 6623	6721 67216G	-	-	-	6702	-	-	-	-	-
▸ **FORMER S** (**Gewindeformer mit Kühlnuten** | Cold forming machine taps with coolant groove)												
≤2.0 xD		6808BL	-	-	-	-	-	-	-	-	-	-
		6709TF	-	-	-	-	-	-	-	-	-	-
		6709TN 6808TN 6815TN	-	-	-	-	-	-	-	-	-	-
≤2.0 xD		6709 6808 6819	-	6802	6815	-	-	-	-	-	-	-
		6725 6809	6720 67206G	-	6816	-	6818	-	-	-	-	-
		6725TN 6809TN 6811TN	-	-	6816TN	-	6818TN	-	-	-	-	-

B 02

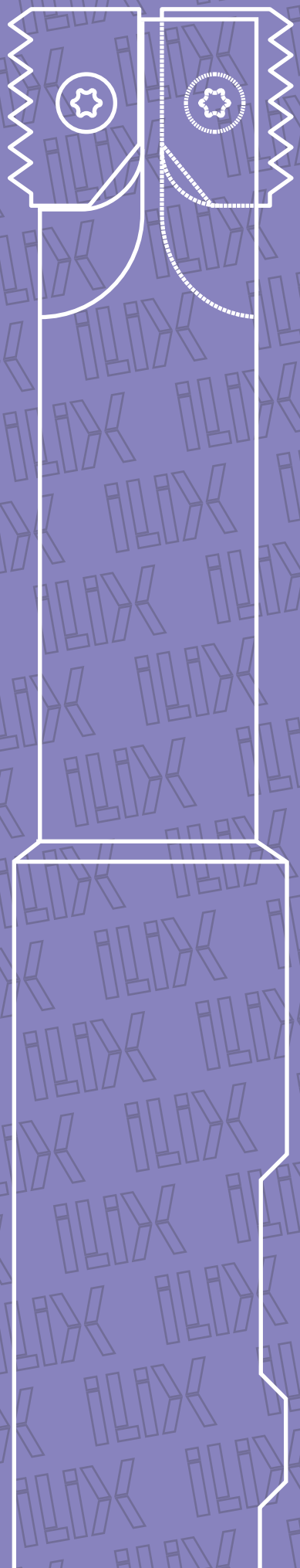
Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min)

15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
15	**10**	**6**	-	-	10	5	**15**	**10**	-	-	-	-	-
13	**11**	-	**8**	-	-	-	**20**	**18**	-	-	-	-	-
15	**13**	-	**10**	-	-	-	**25**	**22**	-	-	-	-	-
15	**13**	-	**10**	-	-	-	**25**	**22**	-	-	-	-	-
13	**11**	-	**8**	-	-	-	**20**	**18**	-	-	-	-	-
15	**13**	-	**10**	-	-	-	**25**	**22**	-	-	-	-	-
13	**11**	-	**8**	-	-	-	**20**	**18**	-	-	-	-	-
15	**13**	-	**10**	-	-	-	**25**	**22**	-	-	-	-	-
17	**15**	-	**12**	-	-	-	**30**	**25**	-	-	-	-	-
17	**15**	-	**12**	-	-	-	**30**	**25**	-	-	-	-	-
15	**13**	-	**10**	-	-	-	**25**	**22**	-	-	-	-	-
15	**13**	-	**10**	-	-	-	**25**	**22**	-	-	-	-	-
17	**15**	-	**12**	-	-	-	**30**	**25**	-	-	-	-	-

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

B



03

GEWINDEFRÄSER
THREAD MILLING CUTTERS

B.03.01

B.03.02

B.03.03

GEWINDEFRÄSER
THREAD MILLING CUTTERS

B.03.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

	Beschreibung des Familienprodukts	Family product description

▸ **Vollhartmetall** | Solid Carbide

TPH p. 657	**Vollhartmetall-Gewindefräser zum Gewindefräsen von gehärtetem Stahl bis 63 HRC, Durchgangs- und Sacklöcher.** Solid carbide thread milling cutters for threading tempered steel up to 63 HRC, through and blind holes.
MICRO UNO p. 657	**Vollhartmetall-Mikro-Gewindefräser mit Einzelzahnkranz zum Gewindefräsen von Durchgangs- und Sacklöchern, für universelle Anwendungen.** Solid carbide micro thread milling cutters with single ring of teeth for threading through and blind holes, for general purpose applications.
NEW **MICRO TRE** p. 657	**Vollhartmetall-Mikro-Gewindefräser mit drei Zahnkränzen zum Gewindefräsen von Durchgangs- und Sacklöchern, für universelle Anwendungen.** Solid carbide micro thread milling cutters with three rings of teeth for threading through and blind holes, for general purpose applications.
NEW **MICRO TRE TPH** p. 657	**Vollhartmetall-Mikro-Gewindefräser mit drei Zahnkränzen zum Gewindefräsen von gehärtetem Stahl bis 63 HRC Durchgangs- und Sacklöcher.** **S**olid carbide micro thread milling cutters with three rings of teeth for threading tempered steel up to 63 HRC through and blind holes.
NEW **MICRO TRE MULTI DTM** p. 658	**Vollhartmetall-Mikro-Gewindefräser mit drei Zahnkränzen zum Bohren und Gewinden von Durchgangs- und Sacklöchern für allgemeine Anwendungen.** Solid carbide micro thread milling cutters with three rings of teeth for drilling and threading of through and blind holes, for general purpose applications.
NEW **MULTI TM HP** p. 658	**VHM-Gewindefräser mit ungleicher Steigung und axialer Innenkühlung zum Gewinden von Durchgangs- und Sacklöchern, für universelle Anwendungen.** Solid carbide thread milling cutters with unequal pitch and axial internal coolant for threading through and blind holes, for general purpose applications.
MULTI TM 27° p. 658	
MULTI TM 15° p. 659	**VHM-Gewindefräser mit axialer Innenkühlung für universelle Anwendungen.** Solid carbide thread milling cutters with axial internal coolant for general purpose applications.
MULTI TM p. 660	
MULTI TM AERO 27° p. 659	**Vollhartmetall-Gewindefräser mit axialer Innenkühlung, speziell für die Luft- und Raumfahrtindustrie.** Solid carbide thread milling cutters with axial internal coolant, specific for aerospace industry.

Beschreibung des Familienprodukts | Family product description

▸ Vollhartmetall | Solid Carbide

MULTI CTM 27° p. 660	**VHM-Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindefräsen von Durchgangs- und Sacklöchern, für universelle Anwendungen.**
MULTI CTM p. 661	Solid carbide multifunction thread milling cutters with axial internal coolant for chamfering and threading through and blind holes, for general purpose applications.
MULTI DTM p. 662	**VHM-Multifunktions-Gewindefräser mit zwei oder drei Zähnen, axialer Innenkühlung zum Bohren, Gewinden und Fasen von kurzspanenden Werkstoffen.** Solid carbide multifunction thread milling cutters with two or three teeth with axial internal coolant for drilling, threading and chamfering of short chip materials.

▸ Vollhartmetall | Solid Carbide

MULTI TMI p. 666	**Wendeschneidplatten-Gewindefräser mit einem oder zwei Zähnen zum Gewinden von Durchgangs- und Sacklöchern, für universelle Anwendungen.** Indexable thread milling cutters with one or two teeth for threading through and blind holes, for general purpose applications.

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
TPH																	
Gewindefräser | Thread milling cutters																	
NEW 7015XD		M.D.I. HM	M DIN 13	1.5xD		0°	-	INT	TiAlSiN	4 ÷ 12	-	-	-	-	-		671
NEW 7016XD		M.D.I. HM	M DIN 13	2xD		0°	-	INT	TiAlSiN	4 ÷ 12	-	-	-	-	-		672
MICRO UNO																	
Mikro-Gewindefräser mit einfachem Zahnkranz | Micro thread milling cutters with single ring of teeth																	
7081		M.D.I. HM	M DIN 13	2xD		-	-	INT	-	1 ÷ 3,5		-	-			-	673
7081TC		M.D.I. HM	M DIN 13	2xD		-	-	INT	TiCN	1 ÷ 3,5					-	-	673
7082		M.D.I. HM	M DIN 13	3xD		-	-	INT	-	1 ÷ 3,5		-	-			-	674
7082TC		M.D.I. HM	M DIN 13	3xD		-	-	INT	TiCN	1 ÷ 3,5					-	-	674
MICRO TRE																	
Mikro-Gewindefräser mit drei Zahnkränzen | Micro thread milling cutters with three rings of teeth																	
7083TF	Innenkühlung ≥M4 Internal coolant ≥M4 	M.D.I. HM	M DIN 13	3xD		-	A	INT	TiAlN FUTURA	1,2 ÷ 6						-	675
NEW 7084XC	Innenkühlung ≥M4 Internal coolant ≥M4 	M.D.I. HM	M DIN 13	3xD		-	A	INT	TiAlCrN	1,2 ÷ 18-20						-	676
MICRO TRE TPH																	
Mikro-Gewindefräser mit drei Zahnkränzen | Micro thread milling cutters with three rings of teeth																	
NEW 7085XD		M.D.I. HM	M DIN 13	2xD		-	-	INT	TiAlSiN	2 ÷ 8	-	-	-	-	-		677

B 03

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MICRO TRE MULTI DTM																	
Mikrobohr-Gewindefräser mit drei Zahnkränzen, linksschneidend																	
Micro drill thread milling cutters with three rings of teeth, left hand cutting																	
NEW 7086XD		M.D.I. HM	M/MF DIN 13	2.5xD		-	-	INT	TiAlSiN	2 ÷ 16	-	-	-	-	-		678
MULTI TM HP																	
Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant																	
NEW 7018XF		M.D.I. HM	M DIN 13	2xD		-	A	INT	AlTiN	3 ÷ 14						-	679
NEW 7019XF		M.D.I. HM	M/MF DIN 13	2.5xD		-	A	INT	AlTiN	12 ÷ 20						-	680
MULTI TM 27°																	
Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant																	
7001		M.D.I. HM	M DIN 13	2xD		27°	A	INT	-	6 ÷ 18-20		-	-			-	681
NEW 7001TC		M.D.I. HM	M DIN 13	2xD		27°	A	INT	TiCN	6 ÷ 18-20					-	-	681
7003		M.D.I. HM	MF DIN 13	2xD		27°	A	INT	-	6 ÷ 12		-	-			-	683
NEW 7003TC		M.D.I. HM	MF DIN 13	2xD		27°	A	INT	TiCN	6 ÷ 12					-	-	683
NEW 7007TC		M.D.I. HM	UNC ASME B.1.1	2xD		27°	A	INT	TiCN	1/4 ÷ 1/2					-	-	684
NEW 7009TC		M.D.I. HM	UNF ASME B.1.1	2xD		27°	A	INT	TiCN	1/4 ÷ 1/2					-	-	685
7005		M.D.I. HM	G (BSP) DIN EN ISO 228	2xD		27°	A	INT	-	1/8 ÷ 3/8		-	-			-	687
NEW 7005TC		M.D.I. HM	G (BSP) DIN EN ISO 228	2xD		27°	A	INT	TiCN	1/8 ÷ 3/8					-	-	687

B 03

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MULTI TM 27°																	
Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant																	
7010		M.D.I. HM	NPT ASME B1.20.1	-		27°	A	INT	-	1/8 ÷ 1/2		-	-			-	688
NEW 7010TC		M.D.I. HM	NPT ASME B1.20.1	-		27°	A	INT	TiCN	1/8 ÷ 1/2					-	-	688
7012		M.D.I. HM	NPTF ANSI B1.20.3	-		27°	A	INT	-	1/8 ÷ 1/2		-	-			-	689
NEW 7012TC		M.D.I. HM	NPTF ANSI B1.20.3	-		27°	A	INT	TiCN	1/8 ÷ 1/2					-	-	689
MULTI TM AERO 27°																	
Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant																	
NEW 7013TC		M.D.I. HM	MJ	2xD		27°	A	INT	TiCN	4 ÷ 12		-	-			-	682
NEW 7014TC		M.D.I. HM	UNJF ASME B1.15	2xD		27°	A	INT	TiCN	nr.10-32 ÷ 1/2		-	-			-	686
MULTI TM 15°																	
Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant																	
7020		M.D.I. HM	M/MF DIN 13	-		15°	A	INT	-	8 ÷ 20		-	-			-	690
NEW 7020TC		M.D.I. HM	M/MF DIN 13	-		15°	A	INT	TiCN	8 ÷ 20					-	-	690
NEW 7027TC		M.D.I. HM	UN ASME B1.1	-		15°	A	INT	TiCN	10-24 ÷ 20-8					-	-	691
7024		M.D.I. HM	G (BSP) DIN EN ISO 228	-		15°	A	INT + EXT	-	10-19 ÷ 20-11		-	-			-	692
NEW 7024TC		M.D.I. HM	G (BSP) DIN EN ISO 228	-		15°	A	INT + EXT	TiCN	10-19 ÷ 20-11					-	-	692

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MULTI TM 15°

Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant

7030		M.D.I. HM	NPT ASME B1.20.1	-		15°	A	INT	-	14,5-14 ÷ 18,5-11,5		-	-			-	693
NEW 7030TC		M.D.I. HM	NPT ASME B1.20.1	-		15°	A	INT	TiCN	14,5-14 ÷ 18,5-11,5					-	-	693
7032		M.D.I. HM	NPTF ANSI B1.20.3	-		15°	A	INT	-	14,5-14 ÷ 18,5-11,5		-	-			-	694
NEW 7032TC		M.D.I. HM	NPTF ANSI B1.20.3	-		15°	A	INT	TiCN	14,5-14 ÷ 18,5-11,5					-	-	694

▸ MULTI TM

Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant

6930		M.D.I. HM	M DIN 13	-		0°	A	INT	-	16 ÷ 20		-	-			-	695
6930TF		M.D.I. HM	M DIN 13	-		0°	A	INT	TiAlN FUTURA	10 ÷ 20					-	-	695
6931		M.D.I. HM	M DIN 13	-		0°	A	EXT	-	16 ÷ 20		-	-			-	696
6931TF		M.D.I. HM	M DIN 13	-		0°	A	EXT	TiAlN FUTURA	16 ÷ 20					-	-	696
6932		M.D.I. HM	G (BSP) DIN EN ISO 228	-		0°	A	INT	-	20-14		-	-			-	697
6932TF		M.D.I. HM	G (BSP) DIN EN ISO 228	-		0°	A	INT	TiAlN FUTURA	20-14					-	-	697

▸ MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden

Multifunction thread milling cutters with axial internal coolant for chamfering and threading

7040	Innenkühlung ≥M4 Internal coolant ≥M4 	M.D.I. HM	M DIN 13	1.5xD		27°	A	INT	-	2 ÷ 18-20		-	-			-	698

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MULTI CTM 27° **Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden** Multifunction thread milling cutters with axial internal coolant for chamfering and threading																	
NEW 7040TC	Innenkühlung ≥M4 Internal coolant ≥M4	M.D.I. HM	M DIN 13	1.5xD		27°	A	INT	TiCN	2 ÷ 18-20					-	-	698
7041	Innenkühlung ≥M4 Internal coolant ≥M4	M.D.I. HM	M DIN 13	2xD		27°	A	INT	-	2 ÷ 18-20		-	-			-	699
NEW 7041TC	Innenkühlung ≥M4 Internal coolant ≥M4	M.D.I. HM	M DIN 13	2xD		27°	A	INT	TiCN	2 ÷ 18-20					-	-	699
NEW 7042TC		M.D.I. HM	MF DIN 13	1.5xD		27°	A	INT	TiCN	4 ÷ 16					-	-	700
NEW 7043TC		M.D.I. HM	MF DIN 13	2xD		27°	A	INT	TiCN	4 ÷ 16					-	-	701
NEW 7046TC		M.D.I. HM	UNC ASME B.1.1	2xD		27°	A	INT	TiCN	nr.8-32 ÷ 5/8					-	-	702
NEW 7048TC		M.D.I. HM	UNF ASME B.1.1	2xD		27°	A	INT	TiCN	nr.10-32 ÷ 5/8					-	-	703
7044		M.D.I. HM	G (BSP) DIN EN ISO 228	2xD		27°	A	INT	-	1/8 ÷ 3/8		-	-			-	704
NEW 7044TC		M.D.I. HM	G (BSP) DIN EN ISO 228	2xD		27°	A	INT	TiCN	1/8 ÷ 3/8					-	-	704
7050TF		M.D.I. HM	NPT ASME B1.20.1	2xD		27°	A	INT	TiAlN FUTURA	1/8 ÷ 3/8					-	-	705
7052TF		M.D.I. HM	NPTF ANSI B1.20.3	2xD		27°	A	INT	TiAlN FUTURA	1/8 ÷ 3/8					-	-	706
MULTI CTM **Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden** Multifunction thread milling cutters with axial internal coolant for chamfering and threading																	
6933		M.D.I. HM	M DIN 13	1.5xD		0°	A	INT	-	6 ÷ 16		-	-			-	707

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MULTI CTM

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden

Multifunction thread milling cutters with axial internal coolant for chamfering and threading

6933TF		M.D.I. HM	M DIN 13	1.5xD		0°	A	INT	TiAlN FUTURA	5 ÷ 16					-	-	707
6935		M.D.I. HM	M DIN 13	2xD		0°	A	INT	-	5 ÷ 16		-	-			-	708
6935TF		M.D.I. HM	M DIN 13	2xD		0°	A	INT	TiAlN FUTURA	6 ÷ 16					-	-	708
6934		M.D.I. HM	MF DIN 13	1.5xD		0°	A	INT	-	6 ÷ 14		-	-			-	709
6934TF		M.D.I. HM	MF DIN 13	1.5xD		0°	A	INT	TiAlN FUTURA	6 ÷ 16					-	-	709
6936		M.D.I. HM	MF DIN 13	2xD		0°	A	INT	-	6 ÷ 16		-	-			-	710
6936TF		M.D.I. HM	MF DIN 13	2xD		0°	A	INT	TiAlN FUTURA	6 ÷ 16					-	-	710

▸ MULTI DTM

2 Schneiden - Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen

2 flutes - Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

6940	Innenkühlung ≥M6 Internal coolant ≥M6 	M.D.I. HM	M DIN 13	1.5xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	711
NEW 6940TC	Innenkühlung ≥M6 Internal coolant ≥M6 	M.D.I. HM	M DIN 13	1.5xD		-	A	INT	TiCN	3 ÷ 16	-	-			-	-	711
NEW 6940HA	Innenkühlung ≥M6 Internal coolant ≥M6 	M.D.I. HM	M DIN 13	1.5xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	711
NEW 6940 HATC	Innenkühlung ≥M6 Internal coolant ≥M6 	M.D.I. HM	M DIN 13	1.5xD		-	A	INT	TiCN	3 ÷ 16	-	-			-	-	711
6942	Innenkühlung ≥M6 Internal coolant ≥M6 	M.D.I. HM	M DIN 13	2xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	712

B 03

Werkzeugcode | Tool code	Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MULTI DTM

2 Schneiden - Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen

2 flutes - Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW 6942TC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	TiCN	3 ÷ 16						712
NEW 6942HA	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	-	3 ÷ 16						712
NEW 6942 HATC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	TiCN	3 ÷ 16						712
6947		M.D.I. HM	M DIN 13	2.5xD		-	A	INT	-	6 ÷ 16						713
NEW 6947TC		M.D.I. HM	M DIN 13	2.5xD		-	A	INT	TiCN	6 ÷ 16						713
NEW 6947HA		M.D.I. HM	M DIN 13	2.5xD		-	A	INT	-	6 ÷ 16						713
NEW 6947 HATC		M.D.I. HM	M DIN 13	2.5xD		-	A	INT	TiCN	6 ÷ 16						713
6944	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	MF DIN 13	1.5xD		-	A	INT	-	5 ÷ 16						714
NEW 6944TC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	MF DIN 13	1.5xD		-	A	INT	TiCN	5 ÷ 16						714
NEW 6944HA	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	MF DIN 13	1.5xD		-	A	INT	-	5 ÷ 16						714
NEW 6944 HATC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	MF DIN 13	1.5xD		-	A	INT	TiCN	5 ÷ 16						714
6946		M.D.I. HM	MF DIN 13	2xD		-	A	INT	-	5 ÷ 16						715
NEW 6946TC		M.D.I. HM	MF DIN 13	2xD		-	A	INT	TiCN	5 ÷ 16						715

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MULTI DTM

2 Schneiden - Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen

2 flutes - Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW 6946HA		M.D.I. HM	MF DIN 13	2xD		-	A	INT	-	5 ÷ 16	-	-	-		-	-	715
NEW 6946 HATC		M.D.I. HM	MF DIN 13	2xD		-	A	INT	TiCN	5 ÷ 16	-	-			-	-	715
6943		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	-	8 ÷ 16	-	-	-		-	-	716
NEW 6943TC		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	TiCN	8 ÷ 16	-	-			-	-	716
NEW 6943HA		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	-	8 ÷ 16	-	-	-		-	-	716
NEW 6943 HATC		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	TiCN	8 ÷ 16	-	-			-	-	716
7070TF		M.D.I. HM	UNC ASME B.1.1	2xD		-	A	INT	TiAlN FUTURA	5/16 ÷ 9/16	-	-			-	-	717
7062TF		M.D.I. HM	G (BSP) DIN EN ISO 228	2xD		-	A	INT	TiAlN FUTURA	1/8 ÷ 3/8	-	-			-	-	718

▸ MULTI DTM

3 Schneiden - Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen

3 flutes - Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

7071		M.D.I. HM	M DIN 13	1.5xD		-	A	INT	-	6 ÷ 16	-	-	-		-	-	719
NEW 7071TC		M.D.I. HM	M DIN 13	1.5xD		-	A	INT	TiCN	6 ÷ 16	-	-			-	-	719
NEW 7071HA		M.D.I. HM	M DIN 13	1.5xD		-	A	INT	-	6 ÷ 16	-	-	-		-	-	719
NEW 7071 HATC		M.D.I. HM	M DIN 13	1.5xD		-	A	INT	TiCN	6 ÷ 16	-	-			-	-	719

B 03

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MULTI DTM

3 Schneiden - Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen

3 flutes - Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

7073	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	720
NEW 7073TC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	TiCN	3 ÷ 16	-	-			-	-	720
NEW 7073HA	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	720
NEW 7073 HATC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2xD		-	A	INT	TiCN	3 ÷ 16	-	-			-	-	720
7075	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2.5xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	721
NEW 7075TC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2.5xD		-	A	INT	TiCN	3 ÷ 16	-	-			-	-	721
NEW 7075HA	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2.5xD		-	A	INT	-	3 ÷ 16	-	-	-		-	-	721
NEW 7075 HATC	Innenkühlung ≥M6 Internal coolant ≥M6	M.D.I. HM	M DIN 13	2.5xD		-	A	INT	TiCN	3 ÷ 16	-	-			-	-	721
7072TF		M.D.I. HM	MF DIN 13	1.5xD		-	A	INT	TiAlN FUTURA	10 ÷ 14	-	-			-	-	722
7074		M.D.I. HM	MF DIN 13	2xD		-	A	INT	-	6 ÷ 16	-	-	-		-	-	723
NEW 7074TC		M.D.I. HM	MF DIN 13	2xD		-	A	INT	TiCN	6 ÷ 16	-	-			-	-	723
NEW 7074HA		M.D.I. HM	MF DIN 13	2xD		-	A	INT	-	6 ÷ 16	-	-	-		-	-	723
NEW 7074 HATC		M.D.I. HM	MF DIN 13	2xD		-	A	INT	TiCN	6 ÷ 16	-	-			-	-	723

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	Gewinde typ Thread Type	Gewindetiefe Threading depth	Lochtyp Hole type	Drallwinkel Helix angle	Innenkühlung Internal coolant	Gewinden Typ Threading Type	Beschichtung Coating	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MULTI DTM																	
3 Schneiden - Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen																	
3 flutes - Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering																	
7076		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	-	8 ÷ 16	-	-	-		-	-	**724**
NEW ♻ **7076TC**		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	TiCN	8 ÷ 16	-	-			-	-	**724**
NEW **7076HA**		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	-	8 ÷ 16	-	-	-		-	-	**724**
NEW **7076 HATC**		M.D.I. HM	MF DIN 13	2.5xD		-	A	INT	TiCN	8 ÷ 16	-	-			-	-	**724**
MULTI TMI																	
Gewindefräser mit axialer Innenkühlung und Vollhartmetall-Wendeschneidplatten																	
Thread milling cutter with axial internal coolant and solid carbide indexable inserts																	
6960		ACCIAO Steel	-	-		-	A	INT	-	16 ÷ 25	-	-	-	-	-	-	**725**
6961		ACCIAO Steel	-	-		-	A	INT	-	16 ÷ 25	-	-	-	-	-	-	**725**
6963		ACCIAO Steel	-	-		-	A	INT	-	22 ÷ 27	-	-	-	-	-	-	**725**
6962		ACCIAO Steel	-	-		-	A	INT	-	25	-	-	-	-	-	-	**727**

B 03

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**Gewinde typ** Thread Type	**Gewindetiefe** Threading depth	**Lochtyp** Hole type	**Drallwinkel** Helix angle	**Innenkühlung** Internal coolant	**Gewinden Typ** Threading Type	**Beschichtung** Coating	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
MULTI TMI																	
Vollhartmetall-Wendeschneidplatten für Gewindefräskörper | Solid carbide Inserts for thread milling cutter bodies																	
6950		M.D.I. HM	M/MF DIN 13	-		-	-	INT	-	P 0,5 ÷ 3,5		-	-			-	**726**
NEW **6950TF**		M.D.I. HM	M/MF DIN 13	-		-	-	INT	TiAlN FUTURA	P 0,5 ÷ 3,5					-	-	**726**
6954		M.D.I. HM	UN ASME B1.1	-		-	-	INT	-	Filetti/1" 12 ÷ 16		-	-			-	**726**
NEW **6954TF**		M.D.I. HM	UN ASME B1.1	-		-	-	INT	TiAlN FUTURA	Filetti/1" 12 ÷ 16					-	-	**726**
6952		M.D.I. HM	BSP-G BSF	-		-	-	INT	-	Filetti/1" 11 ÷ 14		-	-			-	**726**
NEW **6952TF**		M.D.I. HM	BSP-G BSF	-		-	-	INT	TiAlN FUTURA	Filetti/1" 11 ÷ 14					-	-	**726**
NEW **6956TF**		M.D.I. HM	M/MF DIN 13	-		-	-	INT	TiAlN FUTURA	P 1 ÷ 4					-	-	**728**
NEW **6958TF**		M.D.I. HM	BSP-G BSF	-		-	-	INT	TiAlN FUTURA	Filetti/1" 11					-	-	**728**

GEWINDEFRÄSER
THREAD MILLING CUTTERS

B.03.02

Produktpalette
Products range

Vollhartmetall-Gewindefräser zur Reduzierung der Schnittgeschwindigkeiten, zur Erzeugung kurzer Späne und zur Erzielung sehr präziser Gewindequalitäten und -Toleranzen. Die Gewindefräser eignen sich für Arbeitsbedingungen, die Zuverlässigkeit und Prozesswiederholbarkeit erfordern. Ideal für die Bearbeitung aller Materialien, von Stahl bis Gusseisen und speziell für hitzebeständige Legierungen und Aluminium.

Solid carbide thread milling cutters designed for reducing cutting speeds, producing short chips, obtaining very precise threading qualities and tolerances. The thread milling cutters are suitable in working conditions demanding reliability and process repeatability. Ideal for machining all materials, from steel to cast iron and specifically for heat resistance alloys and aluminium.

Gewindefräser
THREAD MILLING CUTTERS

ILIX® PRECISION

TPH

Vollhartmetall-Gewindefräser für gehärtete Stähle
Solid carbide thread milling cutters for hardened steels

NEW

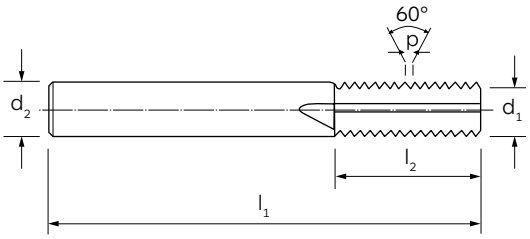
M
DIN 13

INT

6535 HA

54-63
HRC

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlSiN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
GEWINDETIEFE | THREADING DEPTH	**1.5xD**
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Iron	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

B
03

D	P	l_1	l_2	d_1	d_2	Z	7015XD
4	0,70	48	7,3	3,1	6	4	●
5	0,80	54	9,2	4,0	6	4	●
6	1,00	64	10,5	4,5	8	4	●
8	1,25	64	14,3	6,4	8	5	●
10	1,50	80	17,2	8,1	12	5	●
12	1,75	80	21,8	9,6	12	5	●

NEW

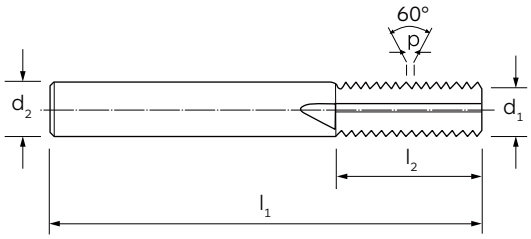
M
DIN 13

INT

6535 HA

54-63
HRC

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlSiN
DRALLWINKEL | HELIX ANGLE	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	-
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	-
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Iron	-
N | **Nichteisenmetalle** | Non-ferrous metals	-
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	H

D	P	l_1	l_2	d_1	d_2	Z	7016XD
4	0,70	48	8,7	3,1	6	4	●
5	0,80	54	11,6	4,0	6	4	●
6	1,00	64	13,5	4,5	8	4	●
8	1,25	64	18,1	6,4	8	5	●
10	1,50	80	21,7	8,1	12	5	●
12	1,75	80	27,1	9,6	12	5	●

MICRO UNO

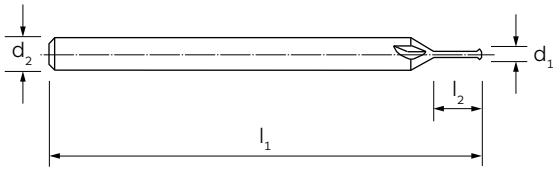
Vollhartmetall-Gewindefräser mit einfachem Zahnkranz
Solid carbide thread milling cutters with single ring of teeth

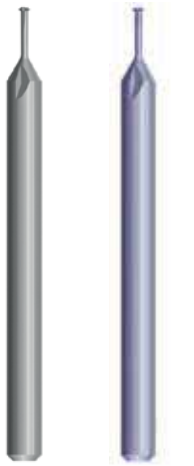
M
DIN 13

INT

6535 HA

P. 730





MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

D	Bereich (M)	P	l_1	l_2	d_1	d_2	Z	7081	7081TC
1,0	M 1 - M 1,1	0,3	39	2,3	0,7	3	3	●	●
1,2	-	0,3	39	2,5	0,9	3	3	●	●
1,4	-	0,3	39	2,9	1,0	3	3	●	●
1,6	M 1,6 - M 1,7	0,4	39	3,5	1,2	3	3	●	●
1,8	-	0,4	39	3,7	1,4	3	3	●	●
2,0	-	0,4	39	4,1	1,5	3	4	●	●
2,2	-	0,5	39	4,5	1,7	3	4	●	●
2,3	-	0,4	39	4,7	1,8	3	4	●	●
2,5	M 2,5 - M 2,6	0,5	39	5,3	1,9	3	4	●	●
3,0	-	0,5	39	6,2	2,4	3	4	●	●
3,5	-	0,6	39	7,2	2,8	3	4	●	●

MICRO UNO

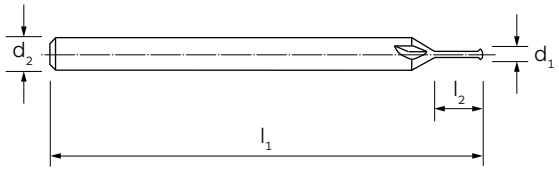
Vollhartmetall-Gewindefräser mit einfachem Zahnkranz
Solid carbide thread milling cutters with single ring of teeth

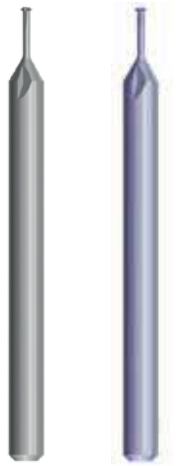
M
DIN 13

INT

6535 HA

P. 730





MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	-	-
GEWINDETIEFE | THREADING DEPTH	3xD	3xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

D	Bereich (M)	P	l_1	l_2	d_1	d_2	Z	7082	7082TC
1,0	M 1 - M 1,1	0,3	39	3,4	0,7	3	3	●	●
1,2		0,3	39	3,7	0,9	3	3	●	●
1,4		0,3	39	4,3	1,0	3	3	●	●
1,6	M 1,6 - M 1,7	0,4	39	5,2	1,2	3	3	●	●
1,8		0,4	39	5,5	1,4	3	3	●	●
2,0		0,4	39	6,1	1,5	3	4	●	●
2,2		0,5	39	6,7	1,7	3	4	●	●
2,3		0,4	39	7,0	1,8	3	4	●	●
2,5	M 2,5 - M 2,6	0,5	39	7,9	1,9	3	4	●	●
3,0		0,5	39	9,2	2,4	3	4	●	●
3,5		0,6	39	10,7	2,8	3	4	●	●

MICRO TRE

VHM-Gewindefräser mit drei Zahnkränzen
Solid carbide thread milling cutters with three rings of teeth

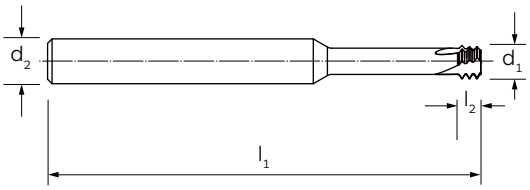
M
DIN 13

A

INT

6535 HA

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	3xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

B 03

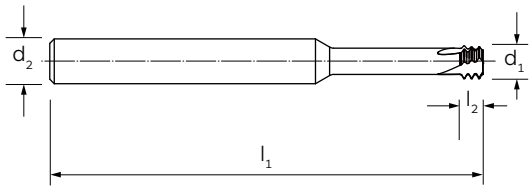
D	P	l_1	l_2	d_2	Z	7083TF
1,2	0,25	39	3,7	3	3	●
1,4	0,30	39	4,3	3	3	●
1,6	0,35	39	5,2	3	3	●
1,8	0,35	39	5,5	3	3	●
2,0	0,40	39	6,1	3	4	●
2,5	0,45	39	7,9	3	4	●
3,0	0,50	39	9,2	3	4	●
3,5	0,60	39	10,7	3	4	●
4,0*	0,70	54	12,7	6	4	●
5,0*	0,80	54	15,8	6	4	●
6,0*	1,00	54	19,0	4	4	●

* **Innenkühlung ≥M4** | Internal coolant ≥M4

MICRO TRE

VHM-Gewindefräser mit drei Zahnkränzen, ungleiche Spiralsteigung
Solid carbide thread milling cutters with three rings of teeth, unequal spiral pitch

NEW | M | DIN 13 | A | INT | 6535 HA | P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlCrN
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	3xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	P	l_1	l_2	d_2	Z	7084XC
1,2	0,25	39	3,9	3	4	●
1,4	0,30	39	4,5	3	4	●
1,6	0,35	39	5,2	3	4	●
1,8	0,35	39	5,8	3	4	●
2,0	0,40	39	6,4	3	4	●
2,2	0,45	39	7,1	3	4	●
2,5	0,45	39	8,0	3	4	●
3,0	0,50	39	9,5	3	4	●
3,5	0,60	39	11,1	3	6	●
4,0*	0,70	54	12,7	6	6	●
5,0*	0,80	54	15,8	6	6	●
6,0*	1,00	54	19,0	6	6	●
8,0*	1,25	68	25,4	8	6	●
10,0*	1,50	75	31,7	10	6	●
12,0*	1,75	82	38,0	10	6	●
14-16*	2,00	100	50,0	12	6	●
18-20*	2,50	115	62,0	16	6	●

* **Innenkühlung ≥M4** | Internal coolant ≥M4

MICRO TRE TPH

VHM-Gewindefräser mit drei Zahnkränzen, ungleiche Spiralsteigung für gehärtete Stähle
Solid carbide thread milling cutters with three rings of teeth, unequal spiral pitch for hardened steels

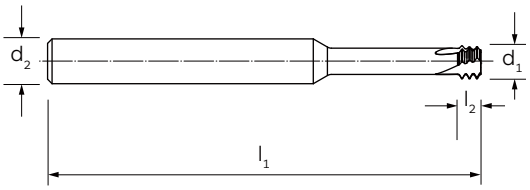
NEW

M
DIN 13

INT

6535 HA

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlSiN
DRALLWINKEL | HELIX ANGLE	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	–
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	
MATERIALGRUPPEN MATERIAL GROUPS	
P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Iron	–
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	H

D	P	l_1	l_2	d_2	Z	7085XD
2,0	0,40	58	1,2	6	4	●
2,5	0,45	58	1,35	6	4	●
3,0	0,50	58	1,50	6	4	●
3,5	0,60	58	1,80	6	4	●
4,0	0,70	58	2,10	6	4	●
5,0	0,80	58	2,40	6	4	●
6,0	1,00	58	3,00	6	4	●
8,0	1,25	62	3,75	8	4	●

MICRO TRE MULTI DTM

VHM-Bohrer und Gewindefräser mit drei Zahnkränzen für gehärtete Stähle
Solid carbide drill and thread milling cutters with three rings of teeth for hardened steels

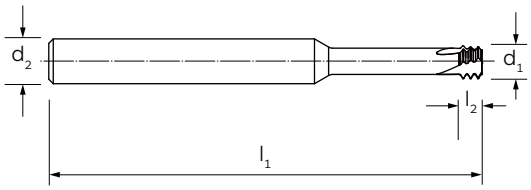
NEW

M/MF
DIN 13

INT

6535 HA

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlSiN
DRALLWINKEL | HELIX ANGLE	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	–
GEWINDETIEFE | THREADING DEPTH	2.5xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Iron	–
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	H

B 03

D	P	Bereich (M)	l_1	l_2	d_2	Z		7086XD
2,0	0,40	M 2 - M 2,5 x 0,40	58	1,20	6	4		●
2,5	0,45	M 2,5 - M 3 x 0,45	58	1,35	6	4		●
3,0	0,50	M 3 - M 4 x 0,50	58	1,50	6	4		●
4,0	0,70	M 4 - M 5 x 0,70	58	2,10	6	4		●
5,0	0,80	M 5 - M 6 x 0,80	58	2,40	6	4		●
6,0	1,00	M 6 - M 8 x 1,00	58	3,00	6	4		●
8,0	1,25	M 8 - M 10 x 1,25	62	3,75	8	4		●
10,0	1,50	M 10 - M 12 x 1,50	76	4,50	10	4		●
12,0	1,75	M 12 - M 14 x 1,75	76	5,25	10	4		●
14,0	2,00	M 14 - M 16 x 2,00	88	6,00	12	4		●
16,0	2,00	M 16 - M 18 x 2,00	92	6,00	14	4		●
8,0	**0,75**	M 8 x 0,75 - M 10 x 0,75	62	2,25	8	4		●
10,0	**1,00**	M 10 x 1,00 - M 12 x 1,00	76	3,00	10	4		●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI TM HP

VHM-Hochleistungs-Gewindefräser, ungleiche Spiralsteigung
Solid carbide high performance thread milling cutters, unequal spiral pitch

NEW

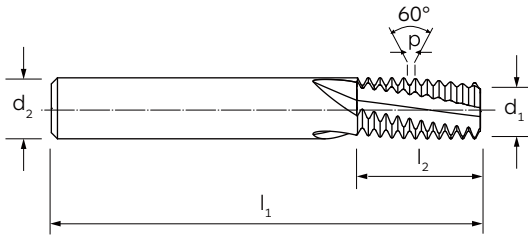
M
DIN 13

A

INT

6535 HA

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	AlTiN
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

B
03

D	P	l_1	l_2	d_2	Z	7018XF
3	0,50	54	6,75	6	4	●
4	0,70	54	8,75	6	6	●
5	0,80	58	10,75	6	6	●
6	1,00	58	13,45	6	6	●
8	1,25	68	18,10	8	6	●
10	1,50	80	21,70	10	6	●
12	1,75	82	25,40	10	6	●
14	2,00	92	31,10	12	6	●

MULTI TM HP

VHM-Hochleistungs-Gewindefräser, ungleiche Spiralsteigung
Solid carbide high performance thread milling cutters, unequal spiral pitch

NEW

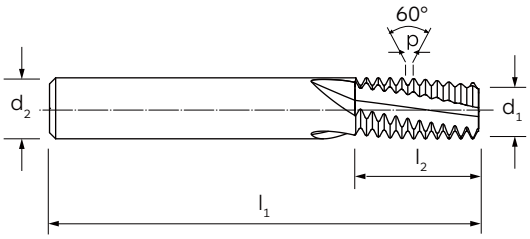
M/MF
DIN 13

A

INT

6535 HA

P. 730



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	AlTiN
DRALLWINKEL | HELIX ANGLE	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2.5xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	d_1	P	l_1	l_2	d_2	Z	7019XF
		Gewindeschneiden (M) | Threading (M)					
20	**16**	**2,00**	106	40,95	16	8	●
		Gewindeschneiden (MF) | Threading (MF)					
14	**12**	**1,00**	92	31,45	12	6	●
16	**12**	**1,50**	92	32,20	12	6	●
16	**12**	**2,00**	92	30,95	12	6	●
18	**16**	**1,00**	106	40,45	16	8	●
20	**16**	**1,50**	106	41,20	16	8	●
24	**20**	**1,50**	120	51,70	20	8	●
26	**20**	**2,00**	120	50,90	20	8	●
27	**20**	**3,00**	120	52,35	20	8	●

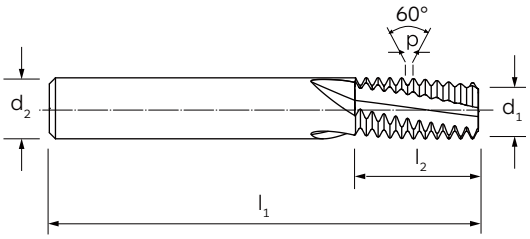
Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

7001TC | DIN 13 | A | INT | 6535 HA | P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN / MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	d_1	d_2	Z	7001	7001TC
6	1,00	54	13,5	4,70	6	3	●	●
8	1,25	54	18,1	5,95	6	3	●	●
10	1,50	64	21,7	7,95	8	4	●	●
12	1,75	74	27,1	9,95	10	4	●	●
14	2,00	74	30,9	9,95	10	4	●	●
16	2,00	80	34,9	11,95	12	4	●	●
18-20	2,50	90	41,1	13,95	14	4	●	●

MULTI TM AERO 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

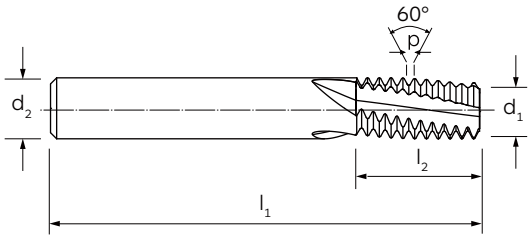
MJ

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Iron	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	P	l_1	l_2	d_1	d_2	Z	7013TC
4	0,70	48	8,75	3,10	6	3	●
5	0,80	54	10,75	3,90	6	3	●
6	1,00	54	13,50	4,80	6	3	●
8	1,25	54	18,10	5,95	6	3	●
10	1,50	64	21,70	7,95	8	4	●
12	1,75	74	27,10	9,95	10	4	●

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

7003TC

MF

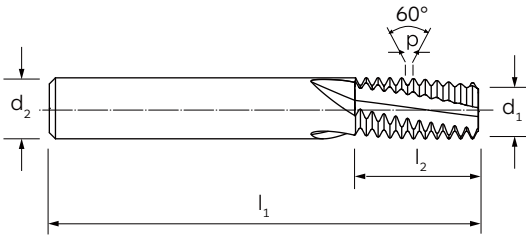
DIN 13

A

INT

6535 HA

P. 732



	7003	7003TC
MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	d_1	d_2	Z	7003	7003TC
6	**0,50**	54	12,7	4,50	6	3	●	●
6	**0,75**	54	13,1	4,50	6	3	●	●
8	**0,50**	54	17,7	5,95	6	3	●	●
8	**0,75**	54	16,8	5,95	6	3	●	●
8	**1,00**	54	17,5	5,95	6	3	●	●
10	**1,00**	64	21,5	7,95	8	4	●	●
10	**1,25**	64	21,8	7,95	8	4	●	●
12	**1,00**	74	25,5	9,95	10	4	●	●
12	**1,50**	74	26,2	9,95	10	4	●	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

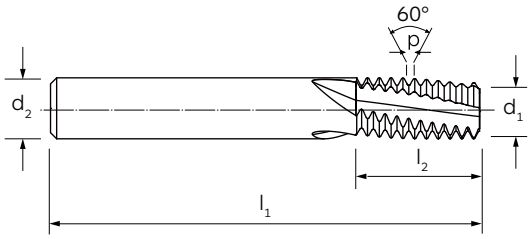
UNC
ASME B.1.1

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

D	Steigung/1" Tpi	l_1	l_2	d_1	d_2	Z		7007TC
1/4"	20	54	14,5	4,80	6	3		●
5/16"	18	54	17,6	5,95	6	3		●
3/8"	16	64	21,4	7,10	8	4		●
7/16"	14	64	24,4	7,95	8	4		●
1/2"	13	74	28,3	9,95	10	4		●

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

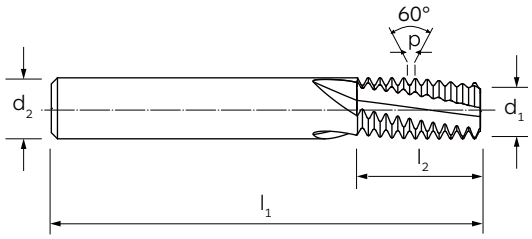
UNF
ASME B.1.1

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

B
03

D	Steigung/1" Tpi	l_1	l_2	d_1	d_2	Z	7009TC
1/4"	28	54	14,0	4,80	6	3	●
5/16"	24	54	17,4	5,95	6	3	●
3/8"	24	64	20,6	7,95	8	4	●
7/16"	20	64	24,7	7,95	8	4	●
1/2"	20	74	27,3	9,95	10	4	●

MULTI TM-AERO 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

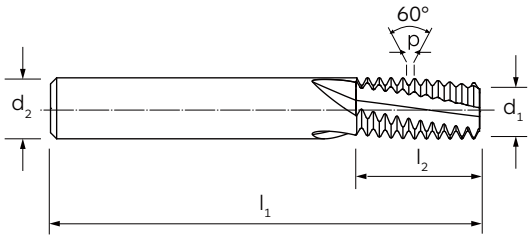
UNJF
ASME B1.15

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	-
K | **Gusseisen** | Cast Iron	-
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	Steigung/1" Tpi	l_1	l_2	d_1	d_2	Z	7014TC
nr. **10**	**32**	54	11,5	3,90	6	3	●
1/4"	28	54	14,0	5,50	6	3	●
5/16"	24	54	17,4	5,95	6	3	●
3/8"	24	64	20,6	7,95	8	4	●
7/16"	20	64	24,7	7,95	8	4	●
1/2"	20	74	27,3	9,95	10	4	●

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

7005TC

G (BSP)

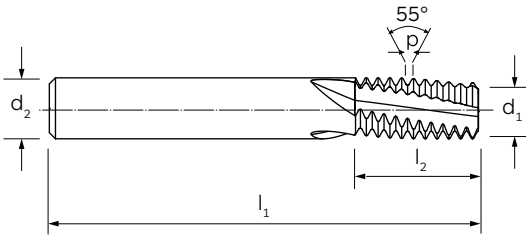
DIN EN ISO 228

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	Steigung/1" Tpi	l_1	l_2	d_1	d_2	Z	7005	7005TC
1/8	28	64	21,3	7,95	8	4	●	●
1/4	19	74	28,7	9,95	10	4	●	●
3/8	19	90	35,5	13,60	14	4	●	●

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung, Kegel 1:16
Solid carbide thread milling cutters with internal coolant, taper 1:16

NEW

7010TC

NPT

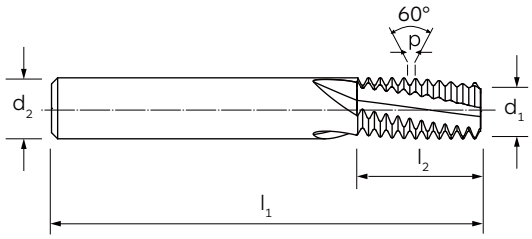
ASME B1.20.1

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

D	Steigung/1" Tpi	l_1	l_2	d_1	d_2	Z	7010	7010TC
1/8	27	64	9,9	7,30	8	4	●	●
1/4	18	72	19	9,95	12	4	●	●
3/8	18	80	14,8	12,50	14	4	●	●
1/2	14	80	19,1	14,50	14	4	●	●

MULTI TM 27°

Vollhartmetall-Gewindefräser mit Innenkühlung, Kegel 1:16
Solid carbide thread milling cutters with internal coolant, taper 1:16

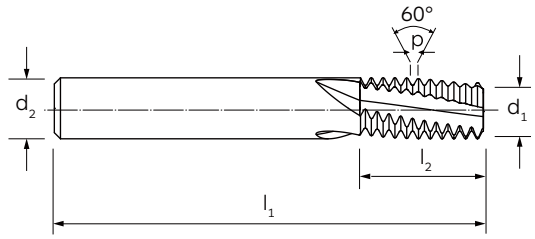
NEW

NPTF

A

INT

7012TC	ANSI B1.20.3	6535 HA	P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

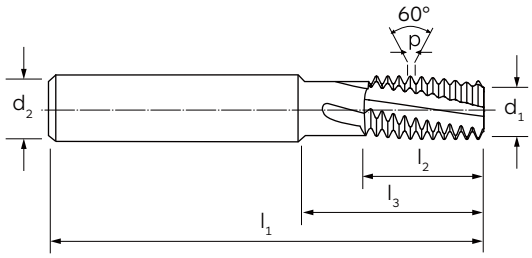
D	Steigung/1" Tpi	l_1	l_2	d_1	d_2	Z	7012	7012TC
1/8"	27	64	9,9	7,30	8	4	●	●
1/4"	18	72	19	9,95	12	4	●	●
3/8"	18	80	14,8	12,50	14	4	●	●
1/2"	14	80	19,1	14,50	14	4	●	●

MULTI TM 15°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

7020TC | DIN 13 | A | INT | 6535 HA | P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	d_1	P	l_1	l_2	l_3	d_2	Z	7020	7020TC
10	**8**	**0,50**	64	16	16	8	4	●	●
10	**8**	**0,75**	64	16	16	8	4	●	●
12	**10**	**0,75**	70	16	25	10	4	●	●
12	**10**	**1,00**	70	16	25	10	4	●	●
14	**10**	**1,25**	70	16	25	10	4	●	●
14	**10**	**1,50**	70	16	25	10	4	●	●
14	**12**	**0,50**	80	20	31	12	4	●	●
16	**12**	**1,00**	80	20	31	12	4	●	●
16	**12**	**1,25**	80	20	31	12	4	●	●
16	**12**	**1,50**	80	20	31	12	4	●	●
16	**12**	**2,00**	80	20	31	12	4	●	●
20	**16**	**1,00**	90	25	40	16	5	●	●
22	**16**	**1,50**	90	25	40	16	5	●	●
22	**16**	**2,00**	90	25	40	16	5	●	●
22	**16**	**2,50**	90	25	40	16	5	●	●
24	**20**	**1,00**	105	33	50	20	5	●	●
26	**20**	**1,50**	105	33	50	20	5	●	●
27	**20**	**2,00**	105	33	50	20	5	●	●
30	**20**	**2,50**	105	33	50	20	5	●	●
30	**20**	**3,00**	105	33	50	20	5	●	●

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)

MULTI TM 15°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

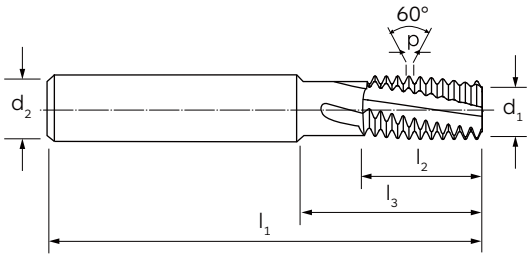
UN
ASME B1.1

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	-
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

D	d_1	Steigung/1" Tpi	l_1	l_2	l_3	d_2	Z	7027TC
1/2"	**10**	**24**	70	16	25	10	4	●
5/8"	**12**	**24**	80	20	31	12	4	●
11/16"	**12**	**20**	80	20	31	12	4	●
5/8"	**12**	**18**	80	20	31	12	4	●
5/8"	**12**	**16**	80	20	31	12	4	●
13/16"	**16**	**24**	90	25	40	16	4	●
13/16"	**16**	**20**	90	25	40	16	4	●
7/8"	**16**	**18**	90	25	40	16	4	●
7/8"	**16**	**16**	90	25	40	16	4	●
7/8"	**16**	**14**	90	25	40	16	4	●
7/8"	**16**	**12**	90	25	40	16	4	●
1"	**20**	**20**	105	33	50	20	5	●
1"	**20**	**18**	105	33	50	20	5	●
1"	**20**	**16**	105	33	50	20	5	●
1"	**20**	**14**	105	33	50	20	5	●
1"	**20**	**12**	105	33	50	20	5	●
1"	**20**	**8**	105	33	50	20	5	●

Bei Bestellung bitte Ø (d1) und Steigungi/1" (beispiel 7027TC 10x24) | When ordering, please state Ø (d_1) and Tpi (example 7027TC 10x24)

MULTI TM 15°

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

NEW

7024TC

G (BSP)

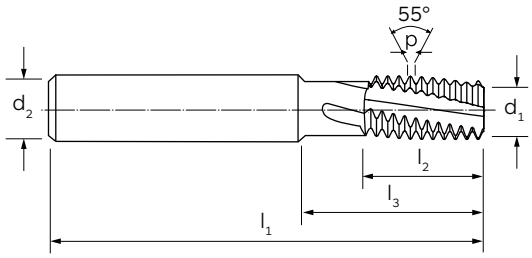
DIN EN ISO 228

A

INT + EXT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

D	d_1	Steigung/1" Tpi	l_1	l_2	l_3	d_2	Z		7024	7024TC
1/4"	**10**	**19**	70	16	25	10	4		●	●
1/2"	**16**	**14**	90	25	40	16	5		●	●
1"	**20**	**11**	105	33	50	20	5		●	●

Bei Bestellung bitte Ø (d1) und Steigungi/1" (beispiel 7024 10x19) | When ordering, please state Ø (d1) and Tpi (example 7024 10x19)

MULTI TM 15°

Vollhartmetall-Gewindefräser mit Innenkühlung, kegel 1:16
Solid carbide thread milling cutters with internal coolant, taper 1:16

NEW

7030TC

NPT

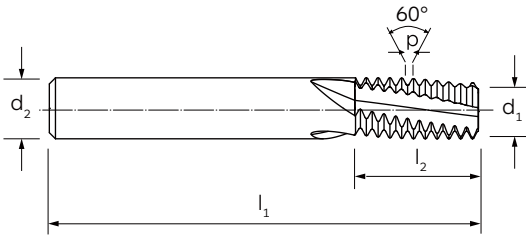
ASME B1.20.1

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	d_1	Steigung/1" Tpi	l_1	l_2	d_2	Z	7030	7030TC
1/2”	**14,5**	**14,0**	90	19,05	16	5	●	●
1”	**18,5**	**11,5**	90	23,19	20	5	●	●

Bei Bestellung bitte Ø (d1) und Steigungi/1" (beispiel 7030 14,5x14,0) | When ordering, please state Ø (d1) and Tpi (example 7030 14,5x14,0)

MULTI TM 15°

Vollhartmetall-Gewindefräser mit Innenkühlung, kegel 1:16
Solid carbide thread milling cutters with internal coolant, taper 1:16

NEW

7032TC

NPTF

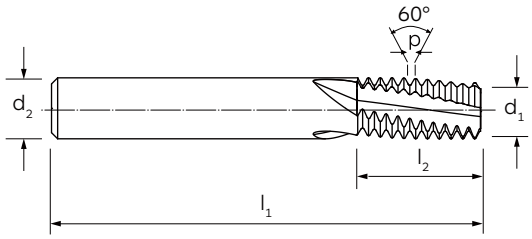
ANSI B1.20.3

A

INT

6535 HA

P. 732



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	15°	15°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	d_1	Steigung/1" Tpi	l_1	l_2	d_2	Z	7032	7032TC
1/2"	**14,5**	**14,0**	90	19,05	16	5	●	●
1"	**18,5**	**11,5**	90	23,19	20	5	●	●

Bei Bestellung bitte Ø (d1) und Steigungi/1" (beispiel 7032 14,5x14,0) | When ordering, please state Ø (d1) and Tpi (example 7032 14,5x14,0)

MULTI TM

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

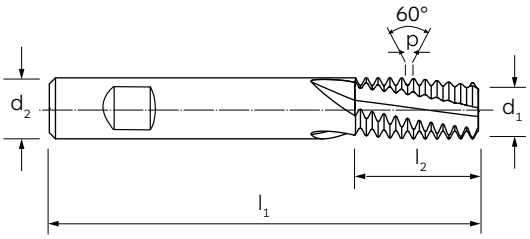
M
DIN 13

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

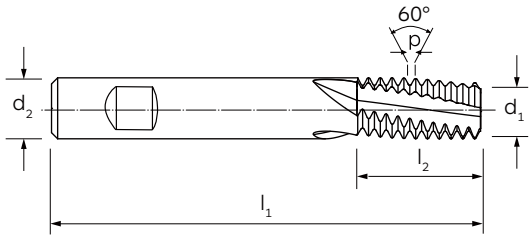
B 03

d_1	P	l_1	l_2	d_2	Z	6930	6930TF
10	**1,0**	70	16	10	5	-	■
12	**1,0**	80	20	12	5	-	■
16	**1,0**	90	25	16	5	-	■
16	**1,5**	90	25	16	5	■	■
16	**2,0**	90	25	16	5	■	■
20	**1,0**	105	32	20	5	■	■
20	**1,5**	105	32	20	5	■	■
20	**2,0**	105	32	20	5	■	■
20	**2,5**	105	32	20	5	■	■
20	**3,0**	105	32	20	5	■	-

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)
■ **Solange der Vorrat reicht** | Till stocks last

M | **A** | **EXT** | **6535 HB** | **P. 734**

DIN 13



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	-	-
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	P	l_1	l_2	d_2	Z	6931	6931TF
16	**1,5**	90	25	16	6	■	-
16	**2,0**	90	25	16	6	-	■
20	**2,0**	105	32	20	6	■	■
20	**3,0**	105	32	20	6	-	■

Bei Bestellung bitte Ø (d_1) und Steigung (P) angeben | When ordering, please state Ø (d_1) and pitch (P)
■ **Solange der Vorrat reicht** | Till stocks last

MULTI TM

Vollhartmetall-Gewindefräser mit Innenkühlung
Solid carbide thread milling cutters with internal coolant

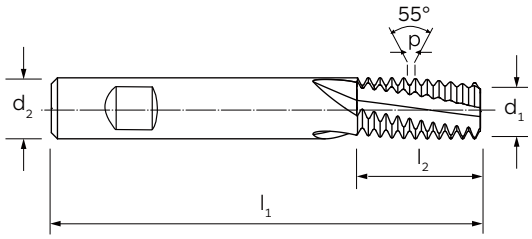
G (BSP)
DIN EN ISO 228

A

INT

6535 HB

P. 734



	MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
	BESCHICHTUNG | COATING	-	TiAlN Futura
	DRALLWINKEL | HELIX ANGLE	0°	0°
	SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
	INNENKÜHLUNG | INTERNAL COOLANT	A	A
	GEWINDETIEFE | THREADING DEPTH	-	-
	LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS	**P** | **Stahl** | Steels	P	P
	M | **Rostfreier Stahl** | Stainless Steels	-	M
	K | **Gusseisen** | Cast Iron	-	K
	N | **Nichteisenmetalle** | Non-ferrous metals	N	N
	S | **HRSA und Titan** | HRSA and Titanium	S	-
	H | **Gehärtete Stähle** | Hardened Steels	-	-

D	d_1	Steigung/1" Tpi	l_1	l_2	d_2	Z	6932	6932TF
1/2	**20**	**14**	105	32	20	5	■	■

Bei Bestellung bitte Ø (d_1) und Steigung/1" angeben (Beispielseite 6932 20x14) | When ordering, please state Ø (d1) and Tpi (example 6932 20x14)
■ **Solange der Vorrat reicht** | Till stocks last

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

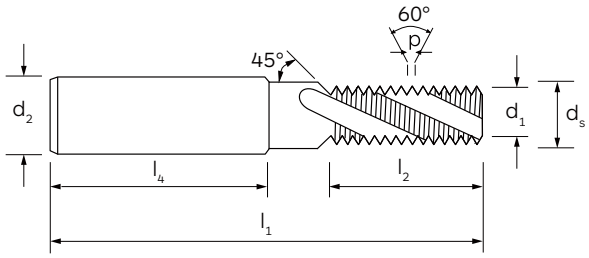
NEW

M

A

INT

7040TC | DIN 13 | 6535 HA | P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	1.5xD	1.5xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7040	7040TC
2,0	0,40	48	3,40	36	1,5	6	2,1	2		●	●
2,5	0,45	48	4,25	36	1,9	6	2,6	3		●	●
3,0	0,50	48	5,25	36	2,3	6	3,2	3		●	●
3,5	0,60	48	6,30	36	2,7	6	3,7	3		●	●
4,0	0,70	48	7,35	36	3,0	6	4,2	3		●	●
5,0	0,80	54	9,15	36	3,8	6	5,3	3		●	●
6,0	1,00	62	10,50	36	4,5	8	6,3	3		●	●
8,0	1,25	74	13,10	40	6,0	10	8,4	3		●	●
10,0	1,50	80	17,20	45	8,0	12	10,5	4		●	●
12,0	1,75	90	20,05	45	10,0	14	12,6	4		●	●
14,0	2,00	102	25,00	48	10,8	16	14,7	4		●	●
16,0	2,00	102	27,00	48	12,8	18	16,8	4		●	●
18-20	2,50	125	33,70	50	13,9	20	21,0	4		●	●

Innenkühlung ≥M4 | Internal coolant ≥M4

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NEW

7041TC

M

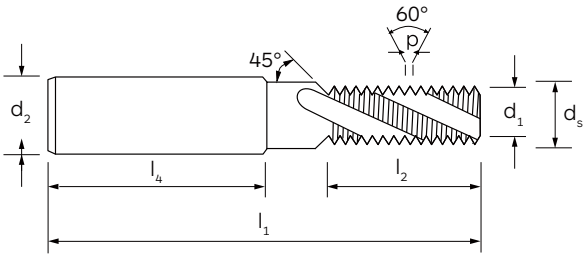
DIN 13

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7041	7041TC
2,0	0,40	48	4,6	36	1,5	6	2,1	2		●	●
2,5	0,45	48	6,1	36	1,9	6	2,6	3		●	●
3,0	0,50	48	6,7	36	2,3	6	3,2	3		●	●
3,5	0,60	48	8,1	36	2,7	6	3,7	3		●	●
4,0	0,70	48	8,7	36	3,0	6	4,2	3		●	●
5,0	0,80	54	10,8	36	3,8	6	5,3	3		●	●
6,0	1,00	62	13,5	36	4,5	8	6,3	3		●	●
8,0	1,25	74	18,1	40	6,0	10	8,4	3		●	●
10,0	1,50	80	21,7	45	8,0	12	10,5	4		●	●
12,0	1,75	90	25,3	45	10,0	14	12,6	4		●	●
14,0	2,00	102	31,0	48	10,8	16	14,7	4		●	●
16,0	2,00	102	35,0	48	12,8	18	16,8	4		●	●
18-20	2,50	125	41,2	50	13,9	20	21,5	4		●	●

Innenkühlung ≥M4 | Internal coolant ≥M4

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NEW

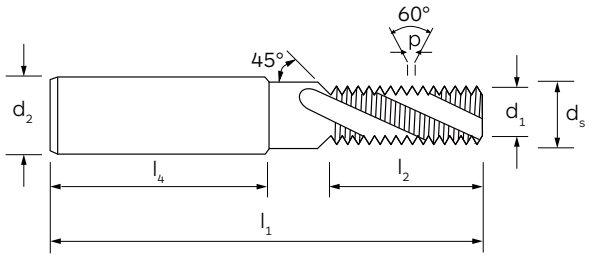
MF
DIN 13

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	**1.5xD**
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7042TC
4	**0,50**	48	7,25	36	3,0	6	4,2	3		●
5	**0,50**	54	8,75	36	3,8	6	5,3	3		●
6	**0,50**	62	9,75	36	4,5	8	6,3	3		●
6	**0,75**	62	10,13	36	4,5	8	6,3	3		●
8	**0,50**	74	12,75	40	6,0	10	8,4	3		●
8	**0,75**	74	13,13	40	6,0	10	8,4	3		●
8	**1,00**	74	13,50	40	6,0	10	8,4	3		●
10	**1,00**	80	16,50	45	8,0	12	10,5	4		●
10	**1,25**	80	16,90	45	8,0	12	10,5	4		●
12	**1,00**	90	19,50	45	10,0	14	12,6	4		●
12	**1,50**	90	20,25	45	10,0	14	12,6	4		●
14	**1,50**	102	23,25	48	10,8	16	14,7	4		●
16	**1,50**	102	26,25	48	12,8	18	16,8	4		●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NEW

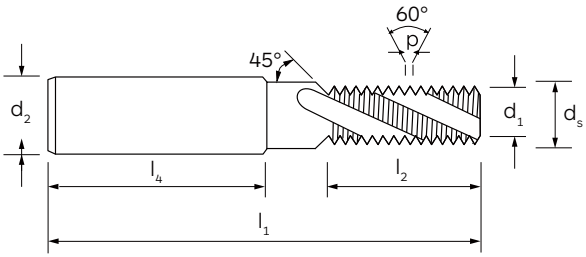
MF
DIN 13

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7043TC
4	**0,50**	48	8,7	36	3,0	6	4,2	3	●
5	**0,50**	54	10,7	36	3,8	6	5,3	3	●
6	**0,50**	62	12,7	36	4,5	8	6,3	3	●
6	**0,75**	62	13,1	36	4,5	8	6,3	3	●
8	**0,50**	74	17,7	40	6,0	10	8,4	3	●
8	**0,75**	74	16,9	40	6,0	10	8,4	3	●
8	**1,00**	74	17,5	40	6,0	10	8,4	3	●
10	**1,00**	80	21,5	45	8,0	12	10,5	4	●
10	**1,25**	80	21,9	45	8,0	12	10,5	4	●
12	**1,00**	90	25,5	45	10,0	14	12,6	4	●
12	**1,50**	90	26,2	45	10,0	14	12,6	4	●
14	**1,50**	102	30,8	48	10,8	16	14,7	4	●
16	**1,50**	102	33,8	48	12,8	18	16,8	4	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NEW

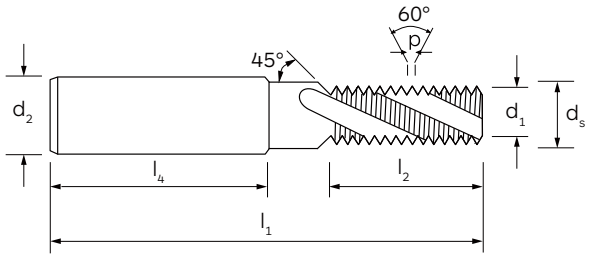
UNC
ASME B.1.1

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

B 03

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7046TC
nr. **8***	**32**	48	9,1	36	3,10	6	4,4	3		●
nr. **10***	**24**	54	11,1	36	3,60	6	5,1	3		●
nr. **12***	**24**	54	12,2	36	4,10	6	5,8	3		●
1/4"	20	62	14,6	36	4,80	8	6,7	3		●
5/16"	18	74	17,6	40	5,95	10	8,3	3		●
3/8"	16	80	21,4	45	7,10	12	10,0	4		●
7/16"	14	80	24,5	45	7,95	12	11,7	4		●
1/2"	13	90	28,3	45	9,95	14	13,3	4		●
9/16"	12	102	30,7	48	10,80	16	15,0	4		●
5/8"	11	102	30,7	48	11,90	18	16,7	4		●

*** Bei Bestellung bitte Ø (d_1) und Steigung/1" angeben (Beispielseite 7046TC 8-32)** | When ordering, please state Ø (d1) and Tpi (example 7046TC 8-32)

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NEW

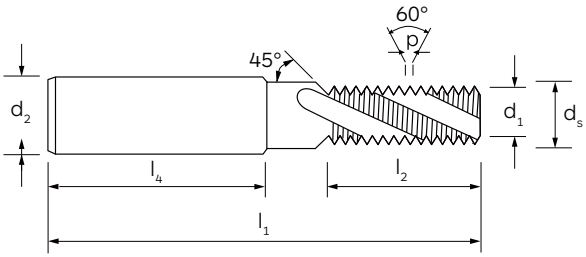
UNF
ASME B.1.1

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiCN
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

B
03

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7048TC
nr. **10***	**32**	54	11,5	36	3,60	6	5,1	3		●
nr. **12***	**28**	54	12,2	36	4,10	6	5,8	3		●
1/4	28	62	14,1	36	4,80	8	6,3	3		●
5/16	24	74	17,4	40	5,95	10	8,3	3		●
3/8	24	80	20,7	45	7,95	12	10,0	4		●
7/16	20	80	24,7	45	7,95	12	11,7	4		●
1/2	20	90	27,3	45	9,95	14	13,3	4		●
9/16	18	102	30,3	48	10,80	16	15,0	4		●
5/8	18	102	33,1	48	11,90	18	16,7	4		●
										●

*** Bei Bestellung bitte Ø (d_1) und Steigung/1" angeben (Beispielseite 7048TC 10-32)** | When ordering, please state Ø (d1) and Tpi (example 7048TC 10-32)

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NEW

7044TC

G (BSP)

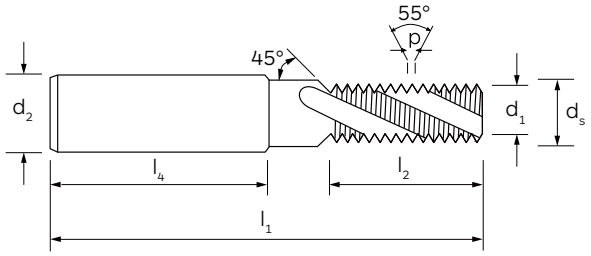
DIN EN ISO 228

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiCN
DRALLWINKEL | HELIX ANGLE	27°	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7044	7044TC
1/8	28	80	21,25	45	7,95	12	10,2	4		●	●
1/4	19	90	28,65	45	9,95	14	13,8	4		●	●
3/8	19	102	35,35	48	13,60	18	17,5	4		●	●

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

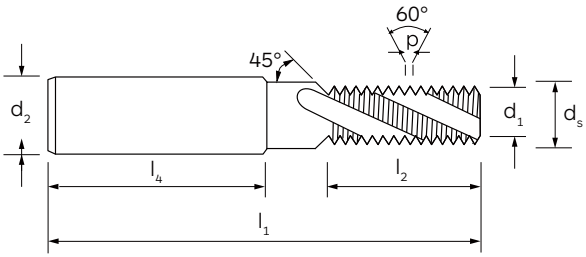
NPT
ASME B1.20.1

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	**2xD**
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7050TF
1/8	27	70	9,86	45	7,30	12	10,0	4		■
1/4	18	80	14,8	48	9,95	16	13,1	4		■
3/8	18	80	14,8	48	12,50	18	16,7	4		■

■ **Solange der Vorrat reicht** | Till stocks last

MULTI CTM 27°

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

NPTF

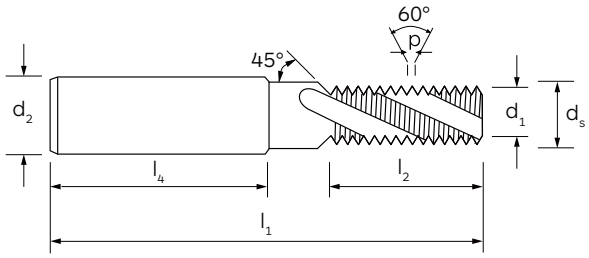
ANSI B1.20.3

A

INT

6535 HA

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	27°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7052TF
1/8	27	70	9,83	45	7,30	12	10,0	4		●
1/4	18	80	14,77	48	9,95	16	13,1	4		●
3/8	18	80	14,77	48	12,50	18	16,7	4		●

MULTI CTM

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

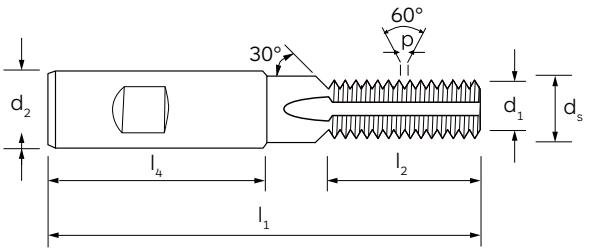
M
DIN 13

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	1.5xD	1.5xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		6933	6933TF
5	0,80	55	7,6	36	4,00	6	5,3	3		-	■
6	1,00	62	9,5	36	4,80	8	6,3	3		■	■
8	1,25	74	13,1	40	6,50	10	8,3	3		■	-
10	1,50	80	15,8	45	8,20	12	10,3	3		■	■
12	1,75	90	17,9	45	9,90	14	12,3	4		■	■
14	2,00	100	23,0	48	11,60	16	14,3	4		■	■
16	2,00	102	25,0	48	13,60	18	16,3	4		■	■

■ **Solange der Vorrat reicht** | Till stocks last

MULTI CTM

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

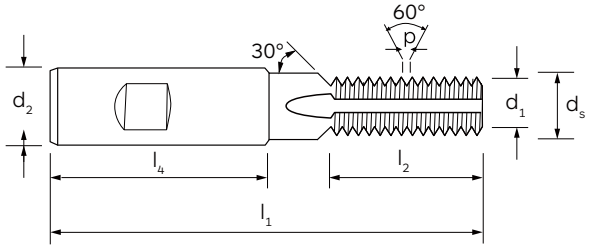
M
DIN 13

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		6935	6935TF
5	0,80	55	10,8	36	4,00	6	5,3	3		■	-
6	1,00	62	12,5	36	4,80	8	6,3	3		■	■
12	1,75	90	25,4	45	9,90	14	12,3	4		■	■
16	2,00	102	33,0	48	13,60	18	16,3	4		■	■

■ **Solange der Vorrat reicht** | Till stocks last

MULTI CTM

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

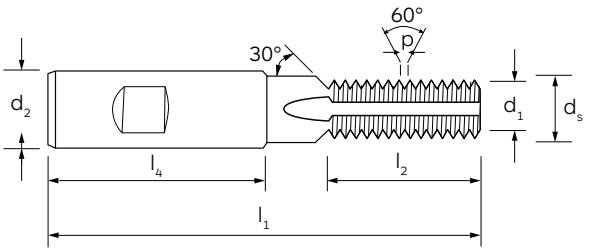
MF
DIN 13

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	1.5xD	1.5xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		6934	6934TF
6	**0,75**	62	9,4	36	5,0	8	6,3	3		■	■
8	**1,00**	74	12,5	40	6,7	10	8,3	3		■	■
10	**1,00**	80	15,5	45	8,7	12	10,3	3		■	■
12	**1,00**	90	18,5	45	10,6	14	12,3	4		■	■
12	**1,50**	90	18,7	45	10,1	14	12,3	4		■	■
14	**1,50**	100	21,7	48	12,1	16	14,3	4		■	■
16	**1,50**	102	24,7	48	14,0	18	16,3	4		-	■

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)
■ **Solange der Vorrat reicht** | Till stocks last

MULTI CTM

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Anfasen und Gewindeschneiden
Multifunction thread milling cutters with axial internal coolant for threading and chamfering

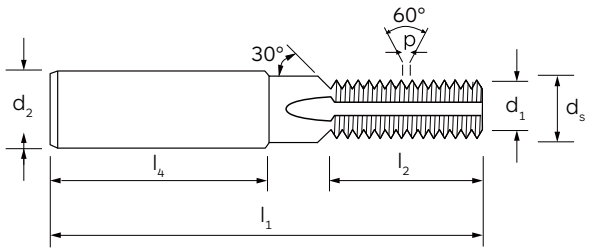
MF
DIN 13

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	0°	0°
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD
LOCHTYP | HOLE TYPE		
MATERIALGRUPPEN MATERIAL GROUPS		
P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	-	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	-
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		6936	6936TF
6	**0,75**	62	12,4	36	5,0	8	6,3	3		■	■
8	**1,00**	74	16,,5	40	6,7	10	8,3	3		■	■
10	**1,00**	80	20,5	45	8,7	12	10,3	3		■	■
12	**1,00**	90	24,5	45	10,6	14	12,3	4		■	■
12	**1,50**	90	24,7	45	10,1	14	12,3	4		■	■
14	**1,50**	100	29,2	48	12,1	16	14,3	4		■	■
16	**1,50**	102	32,2	48	14,0	18	16,3	4		■	■

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)
■ **Solange der Vorrat reicht** | Till stocks last

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW

NEW

6940TC

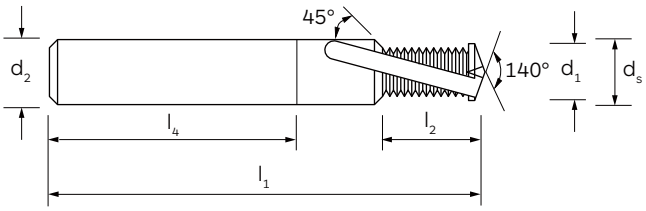
M

DIN 13

A

INT

P. 734



6535 HA

6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	1.5xD	1.5xD	1.5xD	1.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	6940HA	6940HATC	6940	6940TC
3*	0,50	48	5,40	36	2,40	6	3,2	2	●	●	●	●
4*	0,70	48	6,85	36	3,20	6	4,2	2	●	●	●	●
5*	0,80	54	8,70	36	4,00	6	5,3	2	●	●	●	●
6	1,00	62	10,85	36	4,75	8	6,3	2	●	●	●	●
8	1,25	74	13,65	40	6,35	10	8,4	2	●	●	●	●
10	1,50	80	17,95	45	7,95	12	10,5	2	●	●	●	●
12	1,75	90	20,75	45	9,95	14	12,6	2	●	●	●	●
14	2,00	102	23,55	48	11,20	16	14,7	2	●	●	●	●
16	2,00	102	25,90	48	13,20	18	16,8	2	●	●	●	●

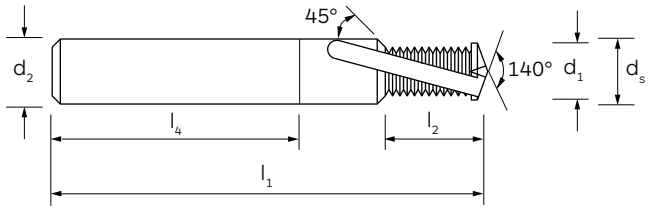
*** Ohne Innenkühlung** | Without internal coolant

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW | NEW | M | A | INT | P. 734

6942TC | DIN 13



6535 HA | 6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD	2xD	2xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	6942HA	6942HATC	6942	6942TC
*3	0,50	48	6,90	36	2,40	6	3,2	2	●	●	●	●
*4	0,70	48	8,95	36	3,20	6	4,2	2	●	●	●	●
*5	0,80	54	11,10	36	4,00	6	5,3	2	●	●	●	●
6	1,00	62	13,85	36	4,75	8	6,3	2	●	●	●	●
8	1,25	74	18,65	40	6,35	10	8,4	2	●	●	●	●
10	1,50	80	22,45	45	7,95	12	10,5	2	●	●	●	●
12	1,75	90	26,00	45	9,95	14	12,6	2	●	●	●	●
14	2,00	102	31,55	48	11,20	16	14,7	2	●	●	●	●
16	2,00	102	35,90	48	13,20	18	16,8	2	●	●	●	●

* **Ohne Innenkühlung.** | Without internal coolant

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW

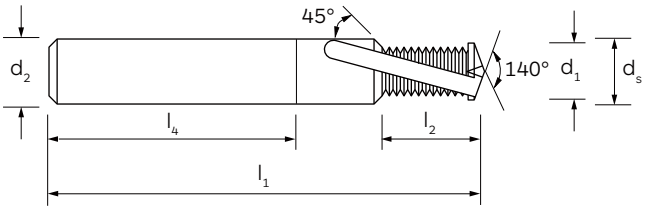
NEW
6947TC

M
DIN 13

A

INT

P. 734



6535 HA

6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2.5xD	2.5xD	2.5xD	2.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

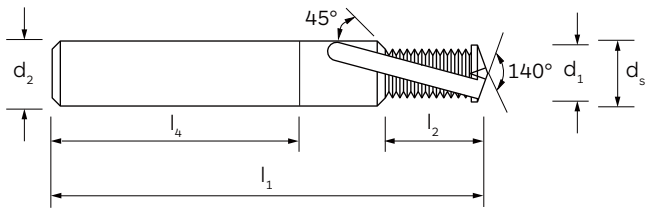
B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	6947HA	6947HATC	6947	6947TC
6	1,00	62	16,85	36	4,75	8	6,3	2	●	●	●	●
8	1,25	74	22,40	40	6,35	10	8,4	2	●	●	●	●
10	1,50	80	26,95	45	7,95	12	10,5	2	●	●	●	●
12	1,75	90	31,25	45	9,95	14	12,6	2	●	●	●	●
14	2,00	102	39,55	48	11,20	16	14,7	2	●	●	●	●
16	2,00	102	45,90	48	13,20	18	16,8	2	●	●	●	●

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW | NEW 6944TC | MF DIN 13 | A | INT | P. 734



6535 HA | 6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	1.5xD	1.5xD	1.5xD	1.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	6944HA	6944HATC	6944	6944TC
5*	**0,50**	54	8,30	36	4,00	6	5,3	2	●	●	●	●
6	**0,75**	62	9,90	36	4,75	8	6,3	2	●	●	●	●
8	**1,00**	74	14,20	40	6,35	10	8,4	2	●	●	●	●
10	**1,00**	80	16,55	45	7,95	12	10,5	2	●	●	●	●
10	**1,25**	80	16,55	45	7,95	12	10,5	2	●	●	●	●
12	**1,00**	90	19,95	45	9,95	14	12,6	2	●	●	●	●
12	**1,50**	90	21,30	45	9,95	14	12,6	2	●	●	●	●
14	**1,50**	102	23,20	48	11,20	16	14,7	2	●	●	●	●
16	**1,50**	102	26,55	48	13,20	18	16,8	2	●	●	●	●

*** Ohne Innenkühlung.** | Without internal coolant
Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW

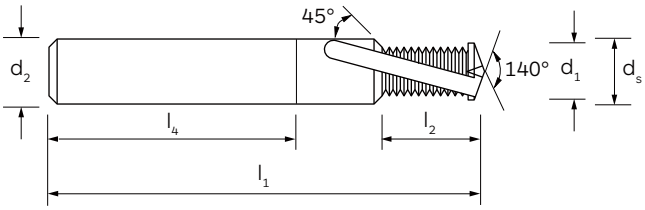
NEW
6946TC

MF
DIN 13

A

INT

P. 734



6535 HA

6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD	2xD	2xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

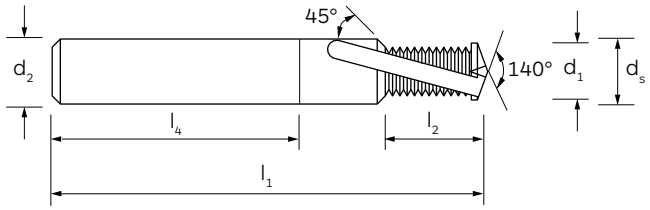
D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	6946HA	6946HATC	6946	6946TC
5*	**0,50**	54	10,80	36	4,00	6	5,3	2	●	●	●	●
6	**0,75**	62	12,90	36	4,75	8	6,3	2	●	●	●	●
8	**1,00**	74	17,20	40	6,35	10	8,4	2	●	●	●	●
10	**1,00**	80	21,55	45	7,95	12	10,5	2	●	●	●	●
10	**1,25**	80	21,55	45	7,95	12	10,5	2	●	●	●	●
12	**1,00**	90	25,95	45	9,95	14	12,6	2	●	●	●	●
12	**1,50**	90	27,30	45	9,95	14	12,6	2	●	●	●	●
14	**1,50**	102	30,70	48	11,20	16	14,7	2	●	●	●	●
16	**1,50**	102	34,05	48	13,20	18	16,8	2	●	●	●	●

*** Ohne Innenkühlung.** | Without internal coolant
Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW | NEW 6943TC | MF DIN 13 | A | INT | P. 734



6535 HA | 6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2.5xD	2.5xD	2.5xD	2.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	6943HA	6943HATC	6943	6943TC
8	**1,00**	74	21,20	40	6,35	10	8,4	2	●	●	●	●
10	**1,00**	80	26,55	45	7,95	12	10,5	2	●	●	●	●
10	**1,25**	80	26,55	45	7,95	12	10,5	2	●	●	●	●
12	**1,00**	90	30,95	45	9,95	14	12,6	2	●	●	●	●
12	**1,50**	90	31,80	45	9,95	14	12,6	2	●	●	●	●
14	**1,50**	102	35,20	48	11,20	16	14,7	2	●	●	●	●
16	**1,50**	102	45,55	48	13,20	18	16,8	2	●	●	●	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

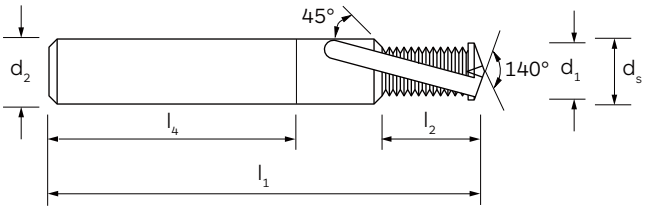
UNC
ASME B.1.1

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7070TF
5/16	18	74	18,00	36	6,25	10	8,3	2	■
7/16	14	80	24,85	45	8,80	12	11,7	2	■
1/2	13	90	26,80	45	10,20	14	13,3	2	■
9/16	12	102	31,10	48	11,80	16	15,0	2	■

■ **Solange der Vorrat reicht** | Till stocks last

MULTI DTM - Z2

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

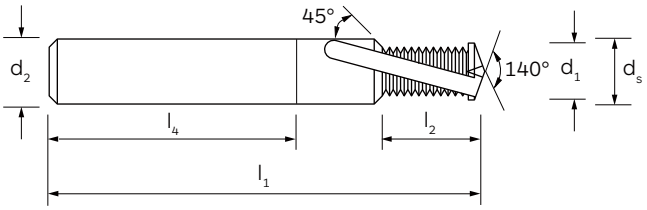
G (BSP)
DIN EN ISO 228

A

INT

6535 HB

P. 734



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	2xD
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

D	Steigung/1" Tpi	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7062TF
1/8	28	80	21,45	45	7,95	12	10,2	2		■
1/4	19	90	28,70	45	11,00	14	13,8	2		■
3/8	19	102	36,00	48	13,80	18	17,5	2		■

■ **Solange der Vorrat reicht** | Till stocks last

MULTI DTM - Z3

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW

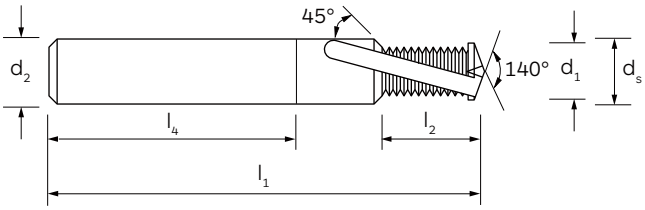
NEW
7071TC

M
DIN 13

A

INT

P. 736



6535 HA

6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	1.5xD	1.5xD	1.5xD	1.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

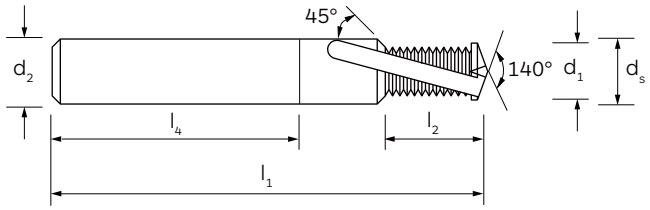
D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7071HA	7071HATC	7071	7071TC
6	1,00	62	10,85	36	4,75	8	6,3	3	●	●	●	●
8	1,25	74	13,65	40	6,35	10	8,4	3	●	●	●	●
10	1,50	80	17,95	45	7,95	12	10,5	3	●	●	●	●
12	1,75	90	20,75	45	9,95	14	12,6	3	●	●	●	●
14	2,00	102	23,55	48	11,20	16	14,7	3	●	●	●	●
16	2,00	102	25,90	48	13,20	18	16,8	3	●	●	●	●

MULTI DTM - Z3

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW | NEW | M | A | INT | P. 736

7073TC | DIN 13



6535 HA

6535 HB

	7073HA	7073HATC	7073	7073TC
MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD	2xD	2xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7073HA	7073HATC	7073	7073TC
*3	0,50	48	6,90	36	2,40	6	3,2	3	●	●	●	●
*4	0,70	48	8,95	36	3,20	6	4,2	3	●	●	●	●
*5	0,80	54	11,10	36	4,00	6	5,3	3	●	●	●	●
6	1,00	62	13,85	36	4,75	8	6,3	3	●	●	●	●
8	1,25	74	18,65	40	6,35	10	8,4	3	●	●	●	●
10	1,50	80	22,45	45	7,95	12	10,5	3	●	●	●	●
12	1,75	90	26,00	45	9,95	14	12,6	3	●	●	●	●
14	2,00	102	31,55	48	11,20	16	14,7	3	●	●	●	●
16	2,00	102	35,90	48	13,20	18	16,8	3	●	●	●	●

* **Ohne Innenkühlung.** | Without internal coolant

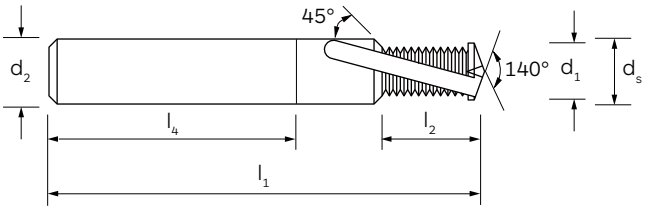
MULTI DTM - Z3

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW | NEW | M | A | INT

7075TC | DIN 13

P. 736



6535 HA

6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2.5xD	2.5xD	2.5xD	2.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7075HA	7075HATC	7075	7075TC
***3**	**0,50**	48	8,40	36	2,40	6	3,2	3	●	●	●	●
***4**	**0,70**	48	11,05	36	3,20	6	4,2	3	●	●	●	●
***5**	**0,80**	54	13,50	36	4,00	6	5,3	3	●	●	●	●
6	1,00	62	16,85	36	4,75	8	6,3	3	●	●	●	●
8	1,25	74	22,40	40	6,35	10	8,4	3	●	●	●	●
10	1,50	80	26,95	45	7,95	12	10,5	3	●	●	●	●
12	1,75	90	31,25	45	9,95	14	12,6	3	●	●	●	●
14	2,00	102	39,55	48	11,20	16	14,7	3	●	●	●	●
16	2,00	102	45,90	48	13,20	18	16,8	3	●	●	●	●

*** Ohne Innenkühlung.** | Without internal coolant

MULTI DTM - Z3

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

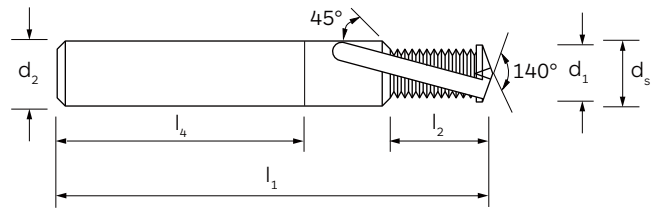
MF
DIN 13

A

INT

6535 HB

P. 736



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
DRALLWINKEL | HELIX ANGLE	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
GEWINDETIEFE | THREADING DEPTH	**1.5xD**
LOCHTYP | HOLE TYPE	

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	–
M | **Rostfreier Stahl** | Stainless Steels	–
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	–
S | **HRSA und Titan** | HRSA and Titanium	–
H | **Gehärtete Stähle** | Hardened Steels	–

B 03

D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z		7072TF
10	**1,25**	80	18	45	7,95	12	10,5	3		■
14	**1,50**	102	23	48	11,20	16	14,7	3		■

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)
■ **Solange der Vorrat reicht** | Till stocks last

MULTI DTM - Z3

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW

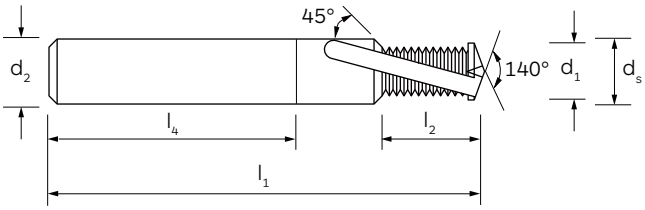
NEW
7074TC

MF
DIN 13

A

INT

P. 736



6535 HA

6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2xD	2xD	2xD	2xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN / MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

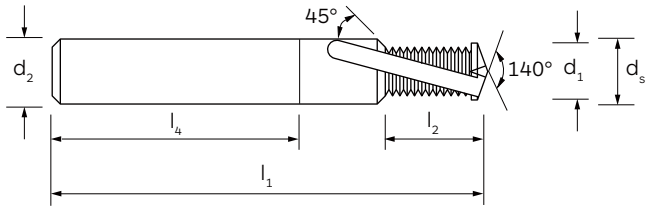
D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7074HA	7074HATC	7074	7074TC
6	**0,75**	62	12,90	36	4,75	8	6,3	3	●	●	●	●
8	**1,00**	74	17,20	40	6,35	10	8,4	3	●	●	●	●
10	**1,00**	80	21,55	45	7,95	12	10,5	3	●	●	●	●
10	**1,25**	80	21,55	45	7,95	12	10,5	3	●	●	●	●
12	**1,00**	90	25,95	45	9,95	14	12,6	3	●	●	●	●
12	**1,50**	90	27,30	45	9,95	14	12,6	3	●	●	●	●
14	**1,50**	102	30,70	48	11,20	16	14,7	3	●	●	●	●
16	**1,50**	102	34,05	48	13,20	18	16,8	3	●	●	●	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

MULTI DTM - Z3

Multifunktions-Gewindefräser mit axialer Innenkühlung zum Bohren, Gewinden und Fasen
Multifunction thread milling cutters with axial internal coolant for drilling, threading and chamfering

NEW | NEW 7076TC | MF DIN 13 | A | INT | P. 736



6535 HA | 6535 HB

MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	–	TiCN	–	TiCN
DRALLWINKEL | HELIX ANGLE	–	–	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A	A	A
GEWINDETIEFE | THREADING DEPTH	2.5xD	2.5xD	2.5xD	2.5xD
LOCHTYP | HOLE TYPE				
MATERIALGRUPPEN MATERIAL GROUPS				
P | **Stahl** | Steels	–	–	–	–
M | **Rostfreier Stahl** | Stainless Steels	–	–	–	–
K | **Gusseisen** | Cast Iron	–	K	–	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	–	N	–
S | **HRSA und Titan** | HRSA and Titanium	–	–	–	–
H | **Gehärtete Stähle** | Hardened Steels	–	–	–	–

B 03

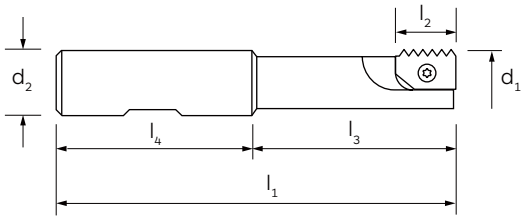
D	P	l_1	l_2	l_4	d_1	d_2 (h6)	d_s	Z	7076HA	7076HATC	7076	7076TC
8	**1,00**	74	21,20	40	6,35	10	8,4	3	●	●	●	●
10	**1,00**	80	26,55	45	7,95	12	10,5	3	●	●	●	●
10	**1,25**	80	26,55	45	7,95	12	10,5	3	●	●	●	●
12	**1,00**	90	30,95	45	9,95	14	12,6	3	●	●	●	●
12	**1,50**	90	31,80	45	9,95	14	12,6	3	●	●	●	●
14	**1,50**	102	35,20	48	11,20	16	14,7	3	●	●	●	●
16	**1,50**	102	41,55	48	13,20	18	16,8	3	●	●	●	●

Bei Bestellung bitte Ø (D) und Steigung (P) angeben | When ordering, please state Ø (D) and pitch (P)

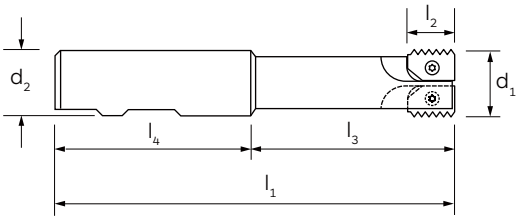
MULTI TMI

Gewindefräserkörper mit Wendeschneidplatten und Innenkühlung
Thread milling cutter bodies with indexable inserts and internal coolant

M/MF	UN	G (BSP)	BSW	BSF	W	A	INT	1835 B	P. 736
DIN 13	ASME B1.1	DIN EN ISO 228	DIN 11	DIN 11	DIN 477-1				



Typ | Type
(01)



Typ | Type
(02)

MATERIAL | MATERIAL	ACCIAIO	ACCIAIO
BESCHICHTUNG | COATING	–	–
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻
INNENKÜHLUNG | INTERNAL COOLANT	A	A
LOCHTYP | HOLE TYPE		

B 03

	Schlüssel Code	d_1	P	l_1	l_2	l_3	l_4	d_2 (h6)	d_3	Schraube Wendeplatten Insert Screw	Torx-Schlüssel Torx Key	Typ | Type 01	Typ | Type 02
KURZ REIHE | SHORT SERIES													
A	**6960**	**16**	0,5-2,5	78	15	30	48	16	13	6970-15	6980	▲	-
B		**25**	0,5-2,5	106	15	50	56	25	21	6970-15	6980	-	▲
C	**6963**	**27**	3-3,5	106	15	50	56	25	21	6970-15	6980	-	▲
LANG REIHE | LONG SERIES													
D	**6961**	**16**	0,5-2,5	98	15	50	48	16	13	6970-15	6980	▲	-
E		**20**	0,5-2,5	110	15	60	50	20	17	6970-15	6980	▲	-
F		**25**	0,5-2,5	150	15	94	56	25	21	6970-15	6980	-	▲
G	**6963**	**22**	3-3,5	110	15	60	50	20	17	6970-15	6980	▲	-

Bestellbeispiel: (6960 + 16) | **Ordering example**: (6960 + 16)
Separat zu bestellende Wendeplatten | Inserts to be ordered separately

▲ **Auf Anfrage** | On request

▸ ERSATZTEILE | SPARE PARTS

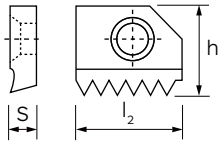
Schraube Wendeplatten (M4 x 7) | Insert Screw (M4 x 7)

Bestellcode | Order code
6970-15

Torx-Schlüssel (T15) | Torx Key (T15)

Bestellcode | Order code
6980

NEW 6950TF | NEW 6954TF | NEW 6952TF | M/MF DIN 13 | UN ASME B1.1 | G (BSP) DIN EN ISO 228 | BSW DIN 11 | BSF DIN 11 | W DIN 477-1 | INT



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
BESCHICHTUNG | COATING	-	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	-	M
K | **Gusseisen** | Cast Iron	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

B 03

	Gewindetyp Thread Type	l_2	**P**	**Steigung/1"** Tpi	**S**	**h**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**6950**	**6950TF**
A-B D-E F	M-MF	15	**0,50**	-	3,18	10	6970-15	6980	●	●
	M-MF	15	**0,75**	-	3,18	10	6970-15	6980	●	●
	M-MF	15	**1,00**	-	3,18	10	6970-15	6980	●	●
	M-MF	15	**1,25**	-	3,18	10	6970-15	6980	●	●
	M-MF	15	**1,50**	-	3,18	10	6970-15	6980	●	●
	M	15	**1,75**	-	3,18	10	6970-15	6980	●	●
	M-MF	15	**2,00**	-	3,18	10	6970-15	6980	●	●
	M	15	**2,50**	-	3,18	10	6970-15	6980	●	●
C-G	M-MF	15	**3,00***	-	3,18	10	6970-15	6980	●	●
	M	15	**3,50***	-	3,18	10	6970-15	6980	●	●

	Gewindetyp Thread Type	l_2	**P**	**Steigung/1"** Tpi	**S**	**h**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**6954**	**6954TF**
A-B-C D-E-F G	UN	**15**	-	12	3,18	10	6970-15	6980	●	●
	UN	**15**	-	14	3,18	10	6970-15	6980	●	●
	UN	**15**	-	16	3,18	10	6970-15	6980	●	●

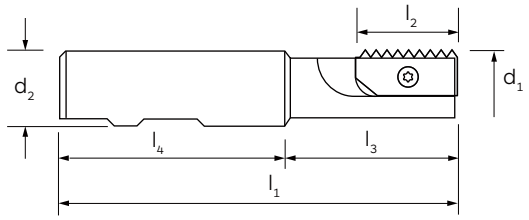
	Gewindetyp Thread Type	l_2	**P**	**Steigung/1"** Tpi	**S**	**h**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**6952**	**6952TF**
A-B-C D-E-F G	G-BSW-BSF-W	15	-	**11**	3,18	10	6970-15	6980	●	●
	G-BSW-BSF-W	15	-	**14**	3,18	10	6970-15	6980	●	●

*** Gewinde-Einsatz ohne 45°-Fase** | Insert without 45° chamfer **Bestellbeispiel:** (6950 + 0,50) | **Ordering example**: (6950 + 0,50)
Schraube Wendeplatten und Torx-Schlüssel nicht enthalten | Insert Screw and torx key not included

MULTI TMI

Gewindefräserkörper mit Wendeschneidplatten und Innenkühlung
Thread milling cutter bodies with indexable inserts and internal coolant

M/MF	G (BSP)	BSW	BSF	W	A	INT		
DIN 13	DIN EN ISO 228	DIN 11	DIN 11	DIN 477-1			1835 B	P. 736



Typ | Type
(01)

MATERIAL | MATERIAL	ACCIAIO
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻
INNENKÜHLUNG | INTERNAL COOLANT	A
LOCHTYP | HOLE TYPE	

	Schlüssel Code	d_1	P	l_1	l_2	l_3	l_4	d_2 (h6)	d_3	**Schraube Wendeplatten** Insert Screw	**Torx-Schlüssel** Torx Key	**Typ** | Type **01**
KURZ REIHE | SHORT SERIES												
H	**6962**	**25**	1-4	107	26	48	56	25	20	6970-26	6980	▲

Bestellbeispiel: (6962 + 25) | **Ordering example**: (6962 + 25)
Separat zu bestellende Wendeplatten | Inserts to be ordered separately

▲ **Auf Anfrage** | On request

▸ ERSATZTEILE | SPARE PARTS

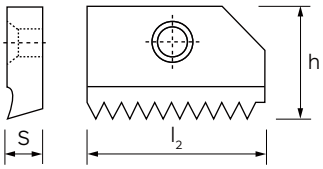
Schraube Wendeplatten (M4 x 13) | Insert Screw (M4 x 13)

Bestellcode | Order code
6970-26

Torx-Schlüssel (T15) | Torx Key (T15)

Bestellcode | Order code
6980

NEW 6956TF | NEW 6958TF | M/MF DIN 13 | G (BSP) DIN EN ISO 228 | BSW DIN 11 | BSF DIN 11 | W DIN 477-1 | INT



MATERIAL | MATERIAL	M.D.I.-HM
BESCHICHTUNG | COATING	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Iron	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

	Gewindetyp Thread Type	l_2	**P**	**Steigung/1"** Tpi	**S**	**h**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**6956TF**
H	M-MF	26	**1,0**	-	4,95	15	6970-26	6980	●
	M-MF	26	**1,5**	-	4,95	15	6970-26	6980	●
	M-MF	26	**2,0**	-	4,95	15	6970-26	6980	●
	M	26	**2,5**	-	4,95	15	6970-26	6980	●
	M-MF	26	**3,0**	-	4,95	15	6970-26	6980	●
	M	26	**3,5**	-	4,95	15	6970-26	6980	●
	M	26	**4,0**	-	4,95	15	6970-26	6980	●

	Gewindetyp Thread Type	l_2	**P**	**Steigung/1"** Tpi	**S**	**h**	**Schraube Wendeplatten** Insert screw	**Torx-Schlüssel** Torx key	**6958TF**
H	G-BSW-BSF-W	26	-	**11**	4,95	15	6970-26	6980	●
	G-BSW-BSF-W	26	-	**14**	4,95	15	6970-26	6980	●

Bestellbeispiel: (6956TF + 26) | **Ordering example**: (6956TF + 26)
Schraube Wendeplatten und Torx-Schlüssel separat bestellen | Insert Screw and torx key not included

GEWINDEFRÄSER
THREAD MILLING CUTTERS

B.03.03

B
03

Schnittdaten
Cutting data

Familienprodukt Family product		**M**	**MF**	**MJ**	**UN**	**UNC**	**UNF**	**UNJF**	**G** (BSP)	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles									

▸ TPH (Gewindefräser | Thread Milling cutters)

TPH		7015XD 7016XD	-	-	-	-	-	-	-	-	-

▸ MICRO UNO (Mikro-Gewindefräser mit einfachem Zahnkranz | Micro thread Milling cutters with single ring of teeth)

MICRO UNO		7081 7082	-	-	-	-	-	-	-	-	-
		7081TC 7082TC	-	-	-	-	-	-	-	-	-

▸ MICRO TRE (Mikro-Gewindefräser mit drei Zahnkränzen | Micro thread Milling cutters 3 three rings of teeth)

MICRO TRE		7083TF	-	-	-	-	-	-	-	-	-
		7084XC	-	-	-	-	-	-	-	-	-

▸ MICRO TRE TPH (Mikro-Gewindefräser mit drei Zahnkränzen | Micro thread Milling cutters with 3 rings of teeth)

MICRO TRE TPH		7085XD	-	-	-	-	-	-	-	-	-

▸ MICRO TRE MULTI DTM (Mikrobohr-Gewindefräser mit drei Zahnkränzen | Micro drill thread Milling cutters with 3 rings of teeth)

MICRO TRE MULTI DTM		7086XD	7086XD	-	-	-	-	-	-	-	-

▸ MULTI TM HP (Gewindefräser | Thread Milling cutters)

MULTI TM HP		7018XF	-	-	-	-	-	-	-	-	-
		7019XF	7019XF	-	-	-	-	-	-	-	-

SCHNITTDATEN | CUTTING DATA

Vollhartmetall-Gewindefräser / Solid carbide thread milling cutters

	Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
	P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c	-	-	-	-	-	-	-	-	-	-	-	**60**	**50**	**35**
f_z	-	-	-	-	-	-	-	-	-	-	-	**0,01 ÷ 0,06**	**0,01 ÷ 0,06**	**0,01 ÷ 0,06**
V_c	**80**	65	45	40	30	90	70	**300**	**170**	**25**	20	-	-	-
f_z	**0,005 ÷ 0,06**	0,005 ÷ 0,06	0,005 ÷ 0,06	0,005 ÷ 0,05	0,005 ÷ 0,05	0,005 ÷ 0,07	0,005 ÷ 0,06	**0,02 ÷ 0,14**	**0,02 ÷ 0,14**	**0,005 ÷ 0,05**	0,005 ÷ 0,04	-	-	-
V_c	**110**	90	60	**55**	**40**	**120**	90	350	**250**	25	30	-	-	-
f_z	**0,005 ÷ 0,06**	0,005 ÷ 0,06	0,005 ÷ 0,06	**0,005 ÷ 0,05**	**0,005 ÷ 0,05**	**0,005 ÷ 0,06**	0,005 ÷ 0,06	0,002 ÷ 0,14	**0,02 ÷ 0,14**	0,005 ÷ 0,05	0,005 ÷ 0,04	-	-	-
V_c	**150**	**100**	**65**	**50**	**35**	**140**	**90**	**350**	**220**	**35**	**30**	**40**	-	-
f_z	**0,025 ÷ 0,18**	**0,025 ÷ 0,18**	**0,015 ÷ 0,14**	**0,015 ÷ 0,14**	**0,015 ÷ 0,14**	**0,035 ÷ 0,22**	**0,025 ÷ 0,19**	**0,065 ÷ 0,29**	**0,065 ÷ 0,29**	**0,025 ÷ 0,14**	**0,015 ÷ 0,09**	**0,015 ÷ 0,11**	-	-
V_c	**150**	**100**	**65**	**50**	**35**	**140**	**90**	**350**	**220**	**35**	**30**	**40**	-	-
f_z	**0,03 ÷ 0,20**	**0,03 ÷ 0,20**	**0,02 ÷ 0,15**	**0,02 ÷ 0,15**	**0,02 ÷ 0,15**	**0,04 ÷ 0,23**	**0,03 ÷ 0,20**	**0,07 ÷ 0,30**	**0,07 ÷ 0,30**	**0,03 ÷ 0,15**	**0,02 ÷ 0,10**	**0,02 ÷ 0,12**	-	-
V_c	-	-	-	-	-	-	-	-	-	-	-	**60**	**50**	**35**
f_z	-	-	-	-	-	-	-	-	-	-	-	**0,03 ÷ 0,13**	**0,03 ÷ 0,13**	**0,03 ÷ 0,13**
V_c	85	70	60	45	35	85	75	85	-	40	-	**55**	**40**	**30**
f_z	0,01 ÷ 0,05	0,01 ÷ 0,045	0,01 ÷ 0,045	0,009 ÷ 0,04	0,009 ÷ 0,04	0,01 ÷ 0,05	0,01 ÷ 0,05	0,01 ÷ 0,05	-	0,009 ÷ 0,04	-	**0,01 ÷ 0,044**	**0,009 ÷ 0,04**	**0,008 ÷ 0,035**
V_c	**150**	**100**	**65**	**50**	**35**	**140**	**90**	**350**	**220**	**35**	**30**	**40**	-	-
f_z	**0,03 ÷ 0,09**	**0,03 ÷ 0,09**	**0,02 ÷ 0,08**	**0,02 ÷ 0,08**	**0,02 ÷ 0,08**	**0,04 ÷ 0,11**	**0,03 ÷ 0,09**	**0,07 ÷ 0,21**	**0,07 ÷ 0,21**	**0,03 ÷ 0,08**	**0,02 ÷ 0,06**	**0,02 ÷ 0,07**	-	-
V_c	**150**	**100**	**65**	**50**	**35**	**140**	**90**	**350**	**220**	**35**	**30**	**40**	-	-
f_z	**0,13 ÷ 0,20**	**0,13 ÷ 0,20**	**0,13 ÷ 0,18**	**0,10 ÷ 0, 18**	**0,10 ÷ 0,18**	**0,15 ÷ 0,23**	**0,13 ÷ 0,20**	**0,21 ÷ 0,29**	**0,21 ÷ 0,29**	**0,13 ÷ 0,20**	**0,06 ÷ 0,12**	**0,10 ÷ 0,18**	-	-

V_c: **Schnittgeschwindigkeit (m/min)** | Cutting speed (m/min) f_z: **Vorschub (mm/U)** | Feed per tooth (mm/tooth)

Familienprodukt Family product		**M**	**MF**	**MJ**	**UN**	**UNC**	**UNF**	**UNJF**	**G** (BSP)	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles									

▸ MULTI TM 27° (Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant)

MULTI TM 27°		7000	7002 7003	7013	-	-	-	7014	7005	-	-
		7001TF	7002TF 7003TC	7013TF	-	7007TC	7009TC	7014TF	7005TC	-	-
		-	-	-	-	-	-	-	-	7010	7012
		-	-	-	-	-	-	-	-	7010TC	7012TC

▸ MULTI TM AERO 27° (Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant)

MULTI TM AERO 27°		-	-	7013TC	-	-	-	7014TC	-	-	-

▸ MULTI TM 15° (Gewindefräser mit axialer Innenkühlung | Thread milling cutters with axial internal coolant)

MULTI TM 15°		7020	-	-	-	-	-	-	7024	-	-
		7020TC	-	-	7027TC	-	-	-	7024TC	-	-
		-	-	-	-	-	-	-	-	7030	7032
		-	-	-	-	-	-	-	-	7030TC	7032TC

SCHNITTDATEN | CUTTING DATA

Vollhartmetall-Gewindefräser / Solid carbide thread milling cutters

	Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
	P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**
V_c	**80**	-	-	40	30	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,02 ÷ 0,13**	-	-	0,01 ÷ 0,1	0,01 ÷ 0,1	-	-	**0,05 ÷ 0,20**	**0,05 ÷ 0,20**	**0,02 ÷ 0,10**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	90	360	**250**	30	30	-	-	-
f_z	**0,02 ÷ 0,13**	**0,02 ÷ 0,13**	-	**0,01 ÷ 0,1**	**0,01 ÷ 0,1**	**0,03 ÷ 0,15**	0,03 ÷ 0,15	0,05 ÷ 0,20	**0,05 ÷ 0,20**	0,02 ÷ 0,1	0,01 ÷ 0,07	-	-	-
V_c	**80**	-	-	40	30	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,02 ÷ 0,13**	-	-	0,01 ÷ 0,1	0,01 ÷ 0,1	-	-	**0,05 ÷ 0,20**	**0,05 ÷ 0,20**	**0,02 ÷ 0,10**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	90	360	**250**	30	30	-	-	-
f_z	**0,02 ÷ 0,13**	**0,02 ÷ 0,13**	-	**0,01 ÷ 0,1**	**0,01 ÷ 0,1**	**0,03 ÷ 0,15**	0,03 ÷ 0,15	0,05 ÷ 0,20	**0,05 ÷ 0,20**	0,02 ÷ 0,1	0,01 ÷ 0,07	-	-	-

V_c	**80**	-	-	40	30	-	-	**300**	**170**	**25**	30	-	-	-
f_z	**0,02 ÷ 0,13**	-	-	0,01 ÷ 0,1	0,01 ÷ 0,1	-	-	**0,05 ÷ 0,20**	**0,05 ÷ 0,20**	**0,02 ÷ 0,10**	0,01 ÷ 0,07	-	-	-

V_c	**80**	-	-	40	30	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,10 ÷ 0,16**	-	-	0,08 ÷ 0,14	0,08 ÷ 0,14	-	-	**0,17 ÷ 0,23**	**0,17 ÷ 0,23**	**0,08 ÷ 0,14**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	90	365	**250**	25	30	-	-	-
f_z	**0,10 ÷ 0,16**	**0,10 ÷ 0,16**	-	**0,08 ÷ 0,14**	**0,08 ÷ 0,14**	**0,12 ÷ 0,18**	0,12 ÷ 0,18	0,17 ÷ 0,23	**0,17 ÷ 0,23**	0,10 ÷ 0,16	0,05 ÷ 0,1	-	-	-
V_c	**80**	-	-	40	30	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,10 ÷ 0,16**	-	-	0,08 - 0,14	0,08 - 0,14	-	-	**0,17 ÷ 0,23**	**0,17 ÷ 0,23**	**0,08 ÷ 0,14**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	90	365	**250**	25	30	-	-	-
f_z	**0,10 ÷ 0,16**	**0,10 ÷ 0,16**	-	**0,08 ÷ 0,14**	**0,08 ÷ 0,14**	**0,12 ÷ 0,18**	0,12 ÷ 0,18	0,17 ÷ 0,23	**0,17 ÷ 0,23**	0,10 ÷ 0,16	0,05 ÷ 0,1	-	-	-

V_c: **Schnittgeschwindigkeit (m/min)** | Cutting speed (m/min) f_z: **Vorschub (mm/U)** | Feed per tooth (mm/tooth)

Familienprodukt Family product		**M**	**MF**	**MJ**	**UN**	**UNC**	**UNF**	**UNJF**	**G** (BSP)	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles									
▸ **MULTI TM** **(Gewindefräser mit axialer Innenkühlung** | Thread milling cutters with axial internal coolant)											
MULTI TM		6930 6931	-	-	-	-	-	-	6932	-	-
		6930TF 6931TF	-	-	-	-	-	-	6932TF	-	-
▸ **MULTI CTM 27°** **(Multifunktions-Gewindefräser mit axialer Innenküh.** | Multifunction thread milling cutters with axial Ik)											
		7040 7041	-	-	-	-	-	-	7044	-	-
MULTI CTM 27°		7040TC 7041TC	7042TC 7043TC	-	-	7046TC	7048TC	-	7044TC	-	-
		-	-	-	-	-	-	-	-	7050TF	7052TF
▸ **MULTI CTM** **(Multifunktions-Gewindefräser mit axialer Innenküh.** | Multifunction thread milling cutters with axial Ik)											
MULTI CTM		6933 6935	6934 6936	-	-	-	-	-	-	-	-
		6933TF 6935TF	6934TF 6936TF	-	-	-	-	-	-	-	-
▸ **MULTI DTM 2T** **(Multifunktions-Gewindefräser mit axialer Innenküh.** | Multifunction thread milling cutters with axial Ik)											
MULTI DTM 2T		6940 6942 6947	6944 6946 6943	-	-	-	-	-	-	-	-
		6940TC 6942TC 6947TC	6944TC 6946TC 6943TC	-	-	7070TF	-	-	7062TF	-	-

SCHNITTDATEN | CUTTING DATA

Vollhartmetall-Gewindefräser / Solid carbide thread milling cutters

	Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
	P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f_z: Vorschub (mm/U)** | Feed per tooth (mm/tooth)
f_n: Vorschub pro Umdrehung (mm/U) | Feed per revolution (mm/rev)

V_c	**80**	-	-	-	-	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,10 ÷ 0,16**	-	-	-	-	-	-	**0,17 ÷ 0,23**	**0,17 ÷ 0,23**	**0,08 ÷ 0,14**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	-	-	**250**	-	-	-	-	-
f_z	**0,10 ÷ 0,16**	**0,10 ÷ 0,16**	-	**0,08 ÷ 0,14**	**0,08 ÷ 0,14**	**0,12 ÷ 0,18**	-	-	**0,17 ÷ 0,23**	-	-	-	-	-

V_c	**80**	-	-	35	25	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,02 ÷ 0,13**	-	-	0,01 ÷ 0,1	0,01 ÷ 0,1	-	-	**0,05 ÷ 0,20**	**0,05 ÷ 0,20**	**0,02 ÷ 0,10**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	90	365	**250**	20	30	-	-	-
f_z	**0,02 ÷ 0,15**	**0,02 ÷ 0,13**	-	**0,01 ÷ 0,10**	**0,01 ÷ 0,10**	**0,03 ÷ 0,15**	0,03 ÷ 0,15	0,05 ÷ 0,2	**0,05 ÷ 0,20**	0,02 ÷ 0,01	0,01 ÷ 0,07	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	90	365	**250**	20	30	-	-	-
f_z	**0,02 ÷ 0,15**	**0,02 ÷ 0,13**	-	**0,01 ÷ 0,10**	**0,01 ÷ 0,10**	**0,03 ÷ 0,15**	0,03 ÷ 0,15	0,05 ÷ 0,2	**0,05 ÷ 0,20**	0,02 ÷ 0,01	0,01 ÷ 0,07	-	-	-

V_c	**80**	-	-	-	-	-	-	**300**	**170**	**25**	-	-	-	-
f_z	**0,02 ÷ 0,13**	-	-	-	-	-	-	**0,05 ÷ 0,20**	**0,05 ÷ 0,20**	**0,02 ÷ 0,10**	-	-	-	-
V_c	**120**	**100**	-	**55**	**40**	**120**	-	-	**250**	-	-	-	-	-
f_z	**0,02 ÷ 0,15**	**0,02** - **0,13**	-	**0,01 ÷ 0,10**	**0,01 ÷ 0,10**	**0,03 ÷ 0,15**	-	-	**0,05 ÷ 0,20**	-	-	-	-	-

V_c	-	-	-	-	-	90	70	**300**	**170**	-	-	-	-	-
f_n	-	-	-	-	-	0,08 ÷ 0,60	0,08 ÷ 0,50	**0,08 ÷ 0,60**	**0,06 ÷ 0,40**	-	-	-	-	-
V_c	-	-	-	-	-	**130**	**90**	365	250	-	-	-	-	-
f_n	-	-	-	-	-	**0,08 ÷ 0,60**	**0,08 ÷ 0,50**	0,08 ÷ 0,60	0,06 ÷ 0,40	-	-	-	-	-

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Familienprodukt Product family		**M**	**MF**	**MJ**	**UN**	**UNC**	**UNF**	**UNJF**	**G** (BSP)	**NPT**	**NPTF**
		Gewindeprofile | Threading profiles									

▸ MULTI DTM 2T (Multifunktions-Gewindefräser mit axialer Innenküh. | Multifunction thread milling cutters with axial Ik)

MULTI DTM 2T		6940HA 6942HA 6947HA	6944HA 6946HA 6943HA	-	-	-	-	-	-	-	-
		6940HATC 6942HATC 6947HATC	6944HATC 6946HATC 6943HATC	-	-	-	-	-	-	-	-

▸ MULTI DTM 3T (Multifunktions-Gewindefräser mit axialer Innenküh. | Multifunction thread milling cutters with axial Ik)

MULTI DTM 3T		7071 7073 7075	7074 7076	-	-	-	-	-	-		-
		7071TC 7073TC 7075TC	7074TC 7076TC	-	-	-	-	-	-		-
		7071HA 7073HA 7075HA	7074HA 7076HA	-	-	-	-	-	-		-
		7071HATC 7073HATC 7075HATC	7074HATC 7076HATC	-	-	-	-	-	-		-
		-	7072TF	-	-	-	-	-	-		-

▸ MULTI TMI (Gewindefräser mit axialer Innenkühlung und Vollhartmetall-Wendeschneidplatten
Thread milling cutter with axial internal coolant and solid carbide indexable inserts)

MULTI TMI		6950 6956	6950 6956	-	-	6954	6954	-	6952 6958		6952 6958
		6950TF 6956TF	6950TF 6956TF	-	-	6954TF	6954TF	-	6952TF 6958TF		6952TF 6958TF

SCHNITTDATEN | CUTTING DATA

Vollhartmetall-Gewindefräser / Solid carbide thread milling cutters

	Niedriglegierter Stahl Low-Alloyed Steel **<800 N/mm²**	**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**	**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**	**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic	**Rostfreier Stahl Austenitisch** Stainless steel Austenitic	**Graues Gusseisen** Grey cast iron	**Sphäroguss** Nodular cast iron	**Aluminium und Aluminiumlegierungen** Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**
	P1	**P2**	**P3**	**M1**	**M2**	**K1**	**K2**	**N1**	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f_z: Vorschub (mm/U)** | Feed per tooth (mm/tooth)
f_n: Vorschub pro Umdrehung (mm/U) | Feed per revolution (mm/rev)

V_c	-	-	-	-	-	90	70	**300**	**170**	-	-	-	-	-
f_n	-	-	-	-	-	0,08 ÷ 0,60	0,08 ÷ 0,50	**0,08 ÷ 0,60**	**0,06 ÷ 0,40**	-	-	-	-	-
V_c	-	-	-	-	-	**130**	**90**	365	250	-	-	-	-	-
f_n	-	-	-	-	-	**0,08 ÷ 0,60**	**0,08 ÷ 0,50**	0,08 ÷ 0,60	0,06 ÷ 0,40	-	-	-	-	-

V_c	-	-	-	-	-	90	70	**300**	**170**	-	-	-	-	-
f_n	-	-	-	-	-	0,08 ÷ 0,60	0,08 ÷ 0,50	**0,08 ÷ 0,60**	**0,06 ÷ 0,40**	-	-	-	-	-
V_c	-	-	-	-	-	**130**	**90**	365	250	-	-	-	-	-
f_n	-	-	-	-	-	**0,08 ÷ 0,60**	**0,08 ÷ 0,50**	0,08 ÷ 0,60	0,06 ÷ 0,40	-	-	-	-	-
V_c	-	-	-	-	-	90	70	**300**	**170**	-	-	-	-	-
f_n	-	-	-	-	-	0,08 ÷ 0,60	0,08 ÷ 0,50	**0,08 ÷ 0,60**	**0,06 ÷ 0,40**	-	-	-	-	-
V_c	-	-	-	-	-	**130**	**90**	365	250	-	-	-	-	-
f_n	-	-	-	-	-	**0,08 ÷ 0,60**	**0,08 ÷ 0,50**	0,08 ÷ 0,60	0,06 ÷ 0,40	-	-	-	-	-
V_c	-	-	-	-	-	**130**	**90**	-	-	-	-	-	-	-
f_n	-	-	-	-	-	**0,08 ÷ 0,60**	**0,08 ÷ 0,50**	-	-	-	-	-	-	-

V_c	**80**	-	-	35	25	-	-	**300**	**170**	**30**	-	-	-	-
f_z	**0,12 ÷ 0,18**	-	-	0,08 ÷ 0,15	0,08 ÷ 0,15	-	-	**0,20 ÷ 0,28**	**0,20 ÷ 0,28**	**0,12 ÷ 0,18**	-	-	-	-
V_c	**150**	**100**	**80**	**55**	**35**	**130**	**100**	350	**230**	15	25	-	-	-
f_z	**0,12 ÷ 0,18**	**0,12 ÷ 0,18**	**0,09 ÷ 0,15**	**0,09 ÷ 0,15**	**0,09 ÷ 0,15**	**0,13 ÷ 0,20**	**0,13 ÷ 0,20**	0,15 ÷ 0,25	**0,20 ÷ 0,28**	0,10 ÷ 0,18	0,05 ÷ 0,10	-	-	-

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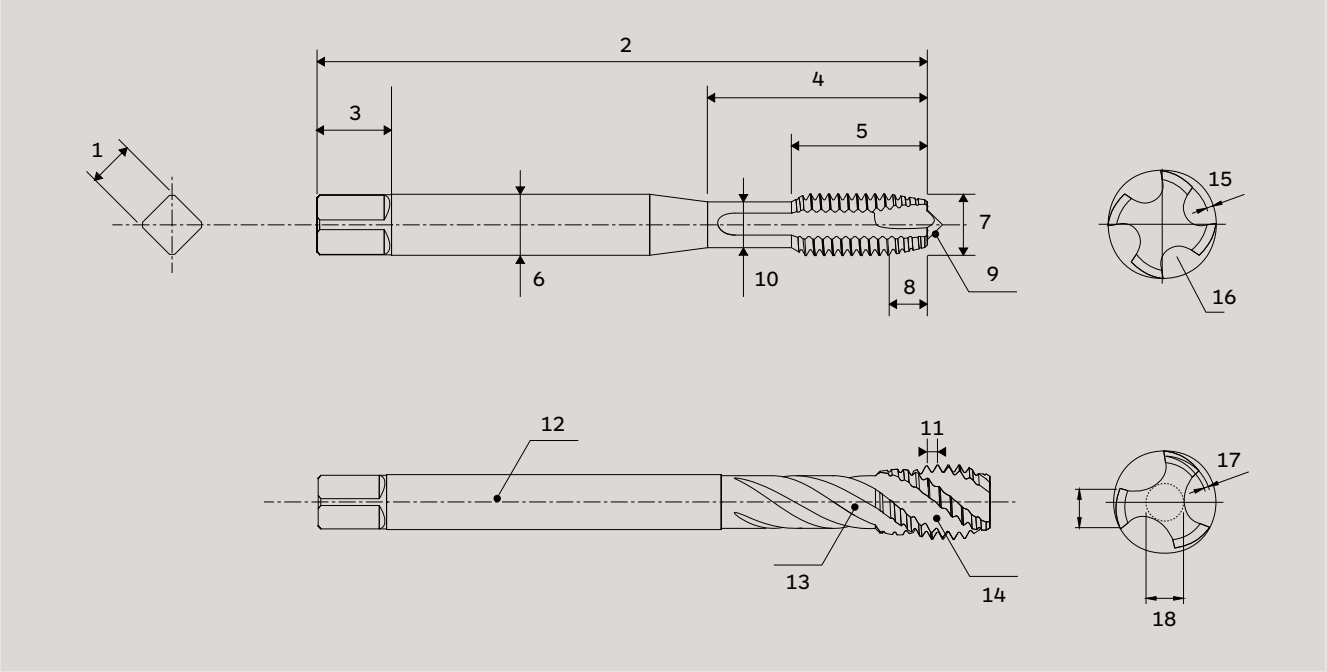
TECHNISCHE ANLEITUNG
TECHNICAL GUIDE

B.04.02

▸ **GEWINDEBOHRER BESCHREIBUNG** | TAP NOMENCLATURE



Zeichenerklärung | Legend:

1	**Vierkant**	Square
2	**Gesamtlänge**	Total Length
3	**Vierkantlänge**	Square length
4	**Nutzlänge**	Useful length
5	**Gewindelänge**	Thread length
6	**Schaftdurchmesser**	Shank diameter
7	**Nenndurchmesser**	Nominal diameter
8	**Anschnittlänge**	Chamfer length
9	**Aussendurchmesser**	External centre

10	**Halsdurchmesser**	Neck diameter
11	**Steigung**	Pitch
12	**Schaft**	Shank
13	**Spiralsteigung**	Helix
14	**Spannute**	Flute
15	**Anschnitthinterschliff**	Chamfer relief
16	**Spannute**	Flute
17	**Flankenhinterschliff**	Pitch diameter relief
18	**Kerndurchmesser**	Core diameter

▸ **BERECHNUNGSFORMELN FÜR DAS GEWINDEBOHREN** | CALCULATION FORMULAS FOR TAPPING

Schnittgeschwindigkeit (m/min)
Cutting Speed (m/min)

$$V_c = \frac{d_1 \cdot \pi \cdot n}{1000}$$

Spindeldrehzahl (U/min)
Spindle Speed (rpm)

$$n = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$$

Eindringgeschwindigkeit (mm/min)
Penetration rate (mm/min)

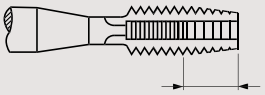
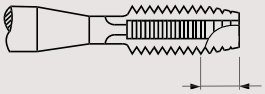
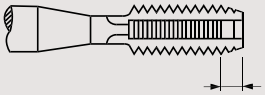
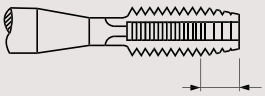
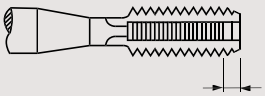
$$V_f = p \cdot n$$

Zeichenerklärung | Legend:

V_c	**Schnittgeschwindigkeit**	Cutting Speed
d_1	**Schnittdurchmesser**	Cutting Diameter
V_f	**Eindringrate**	Penetration rate

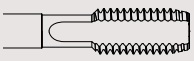
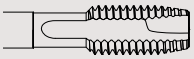
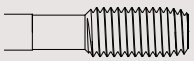
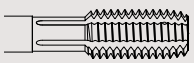
p	**Steigung**	Pitch
n	**Spindeldrehzahl**	Spindle speed

▸ **ANSCHNITTFORM** | CHAMFER FORMS

Form Form	Eindringwert Threads number	Anschnittwinkel Chamfer angle	Drallwinkel Typ Helix type	Haupteinsatzgebiet Main field application
A **Lang** · Long 	**6-8**	**5°**	**Gerade** Straight	**Für kurze Durchgangsbohrungen, Handgewindebohrer Vorschneider.** For short through holes and first hand tapping (roughing).
B **Mittlere** · Medium 	**3,5-5**	**8°**	**Schälanschnitt** Spiral point	**Für Durchgangslöcher in mittel- oder langspanenden Materialien.** For through holes on medium or long chip materials.
C **kurz** · Short 	**2-3**	**15°**	**Gerade oder spiral** Straight or spiral	**Für Sack- oder Durchgangsbohrungen auf kurzspanenden Materialien.** For blind or through holes on short chip materials.
D **Mittlere** · Medium 	**3,5-5**	**8°**	**Gerade oder spiral links** Straight or left spiral	**Zu verwenden beim horizontalen Gewindeschneiden, um den Span in Vorschubrichtung zu entfernen.** To be used in horizontal tapping to remove the chip in the feed direction.
E **Sehr kurz** Extremely short 	**1,5-2**	**23°**	**Spiral** spiral	**Für Sacklöcher, die verwendet werden, wenn im Boden des Lochs nicht viel Spiel vorhanden ist.** For blind holes to be used when there is not much clearance in the bottom of the hole.

B 04

▸ ART DER GEWINDEBOHRER UND IHRE SPEZIFIKATIONEN | TYPE OF TAPS AND THEIR SPECIFICATIONS

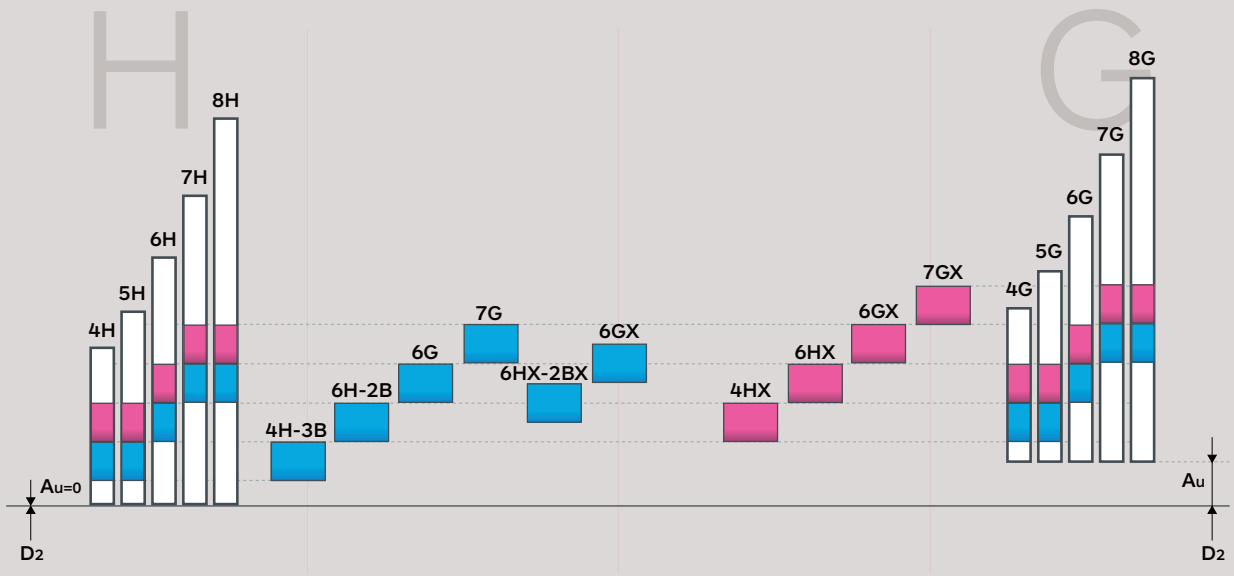
Typ | Type	**Spezifikation** | specification	**Anwendungen** | Applications
 **GERADE SPANNUTEN** Straight flute	• **Gerade Nuten.** • **Starke Schneide.** • **Wird unter verschiedenen Schnittbedingungen verwendet.** • **Einfaches Nachschleifen.** • Straight flute. • Strong cutting edge. • Used in different cutting conditions. • Easy regrinding.	• **Für kurze Durchgangs- und Sacklöcher.** • **Für kurzspanende Materialien.** • **Für harte Materialien.** • For short through and blind holes. • For short chip materials. • For hard materials.
 **SPIRALNUTEN** Spiral flutes	• **Spiralnute.** • **Die Spanabfuhr erfolgt entgegen der Schnittrichtung, was eine korrekte Bearbeitung ermöglicht.** • **Geringes Drehmoment und für Sackloch geeignet.** • **Gute Schnittbedingungen.** • Spiral flute. • The chip evacuation is opposite to the direction of cutting, which enables a correct machining. • Low torque and usable for blind hole. • Good cutting conditions.	• **Für Sacklöcher.** • **Für langspanende Materialien.** • For blind holes. • For long chip materials.
 **Schälanschnitt** Spiral Point	• **Schälanschnitt.** • **Er schiebt den Span mit geringen Schnittkräften in die gleiche Arbeitsrichtung wie der Gewindebohrer.** • **Die gerade Spannuten sorgen für hohe Steifigkeit.** • **Gute Schnittbedingungen.** • Spiral point. • It pushes the chip in the same working direction as the tap, with low cutting forces. • The straight flute ensures high rigidity. • Good cutting conditions.	• **Für Durchgangslöcher.** • **Langspanendes Material.** • **Geeignet zum Gewindeschneiden mit hohen Schnittgeschwindigkeiten.** • for through holes. • Long chip materials. • Suitable for tapping at high cutting speeds.
 **GEWINDEFORMER** Forming taps	• **Es werden keine Späne erzeugt.** • **Hervorragende Gewindequalität.** • **Hohe Standzeiten.** • **Tiefe Gewinde bis 3,5xD sind ohne Spanabfuhrprobleme möglich.** • No chips are generated. • Excellent thread quality. • High tool life. • Deep threads down to 3.5xD are possible without chip-removal problems.	• **Für Sack- und Durchgangslöcher.** • **Die empfohlene Zugfestigkeitsgrenze beträgt 1200 N/mm².** • For blind and through holes. • Recommended tensile strength limit is 1200 N/mm².
 **GEWINDEFORMER MIT SCHMIERNUTEN.** Forming taps with oil grooves	• **Es werden keine Späne erzeugt.** • **Hervorragende Gewindequalität, hohe Standzeit.** • **Tiefe Gewinde bis 3,5xD möglich da keine Späne erzeugt werden.** • **Schmiernuten ermöglichen eine bessere Schmierung in der Bohrung.** • No chips are generated. • Excellent thread quality, high tool life. • Deep threads down to 3.5xD are possible without chip-removal problems. • Oil grooves allow greater lubrification in the hole.	• **Für Sack- und Durchgangslöcher.** • **Empfohlene Zugfestigkeit bis 1200 N/mm².** • For blind and through holes. • Recommended tensile strength uo to 1200 N/mm².

▸ TOLERANZKLASSEN FÜR GEWINDEBOHRER (EN 22857) | TOLERANCE CLASSES FOR TAPS (EN 22857)

Gewinde | Tap			Innen Gewinde Internal Thread					Kupplung Fit
ISO	DIN	ANSI/ASME						
ISO 1	**4H**	**3B**	**4H**	**5H**	-	-	-	**Ohne Aufmaß** Without allowance
ISO 2	**6H**	**2B**	**4G**	**5G**	**6H**	-	-	**Standard-Passform** Standard fit
ISO 3	**6G**	**1B**	-	-	**6G**	**7H**	**8H**	**Spezielle Passform mit Aufmaß** Special fit with allowance
-	**7G**	-	-	-	**3B**	**7G**	**8G**	**Lockere Passform, für nachträgliche Beschichtung** Loose fit, for subsequent coating

▸ TOLERANZKLASSE FÜR GEWINDEBOHRER (EN 22857) | TOLERANCE RANGE FOR TAPS (EN 22857)

Toleranzklasse Innengewinde (H) Internal thread Tolerance class (H)	**Toleranzklasse zum Schneiden von Gewinde.** Tolerance ranger for cutting taps	**Toleranzklasse zum Formen von Gewinde.** Tolerance ranger for forming taps	**Toleranzklasse Innengewinde (G)** Internal thread Tolerance class (G)



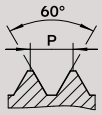
Analyse | Analysis:

- **Die Standardpassung für ein Gewinde entspricht der Toleranz ISO 2, 6H oder 2B. Für eine genauere Passung ohne Toleranz an den Gewindeflanken müssen Sie ISO 1, 4H und 3B für amerikanisches Gewinde wählen. Für nachfolgende Beschichtungen, die nach dem Gewindeschneiden aufgebracht werden sollen, müssen Sie ISO 3, 6G, 1B verwenden.**
- **Die Hersteller von Gewindebohrern produzieren Gewindebohrer mit Toleranz 6HX und 6GX und nicht nur 6H und 6G. Diese Gewindebohrer werden für Gusseisen, zur Standzeiterhöhung oder zum Formen von Gewinde verwendet. In diesen Fällen müssen Sie einen 6HX-Gewindebohrer verwenden, um die elastische Rückstellung des Materials zu kompensieren.**
- **Die angebotenen Werkzeuge sind in der Regel für den geforderten Bearbeitungsfall geeignet. Aufgrund der unzähligen Arbeitssituationen ist es jedoch immer noch Sache des Endbenutzers, die Werkzeuge entsprechend der Art der Anwendung einzusetzen.**
- Standard fit for a thread is according tolerance ISO 2, 6H or 2B and so, for more precise fit, without any allowance on thread flanks, you have to choose ISO 1, 4H and 3B, for American threading. For following coatings to be applied after threading you have to use ISO 3, 6G, 1B.
- Taps'manufacturers produce taps with tolerance 6HX and 6GX and not only 6H and 6G. These taps are used for cast iron, to increase tools life or for forming taps. In those cases You have to use 6HX tap to compensate the elastic return of the material.
- The tools offered are generally suitable for the required machining case. However, due to the countless working situations, it is still up to the end user to implement the tools according to the type of application.

▸ **KERNLOCHBOHRER GRÖSSE** | TAPPING DRILL SIZES

METRISCHES ISO-GEWINDE | ISO METRIC THREAD

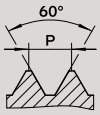
M DIN 13



Metrisches ISO-Grobgewinde DIN 13
ISO Metric Coarse Thread DIN 13

Ø (M)	P (mm)	
1	0.25	**0.75**
1,1	0.25	**0.85**
1,2	0.25	**0.95**
1,4	0.30	**1.10**
1,6	0.35	**1.25**
1,7	0.35	**1.35**
1,8	0.35	**1.45**
2	0.40	**1.60**
2,2	0.45	**1.75**
2,3	0.40	**1.90**
2,5	0.45	**2.05**
2,6	0.45	**2.10**
3	0.50	**2.50**
3,5	0.60	**2.90**
4	0.70	**3.30**
4,5	0.75	**3.70**
5	0.80	**4.20**
6	1.00	**5.00**
7	1.00	**6.00**
8	1.25	**6.80**
9	1.25	**7.80**
10	1.50	**8.50**
11	1.50	**9.50**
12	1.75	**10.30**
14	2.00	**12.00**
16	2.00	**14.00**
18	2.50	**15.50**
20	2.50	**17.50**
22	2.50	**19.50**
24	3.00	**21.00**
27	3.00	**24.00**
30	3.50	**26.50**
33	3.50	**29.50**
36	4.00	**32.00**
39	4.00	**35.00**
42	4.50	**37.50**
45	4.50	**40.50**
48	5.00	**43.00**
52	5.00	**47.00**
56	5.50	**50.50**
60	5.50	**54.50**
64	6.00	**58.00**
68	6.00	**62.00**

MF DIN 13



Metrisches ISO-Grobgewinde DIN 13
ISO Metric Fine Thread DIN 13

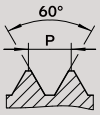
Ø (MF)	P (mm)	
2	0.25	**1.75**
2,2	0.25	**1.95**
2,3	0.25	**2.10**
2,5	0.35	**2.20**
2,6	0.35	**2.30**
3	0.35	**2.65**
3,5	0.35	**3.15**
4	0.50	**3.50**
5	0.50	**4.50**
6	0.50	**5.50**
6	0.75	**5.20**
7	0.75	**6.20**
8	0.50	**7.50**
8	0.75	**7.20**
8	1.00	**7.00**
9	1.00	**8.00**
10	0.75	**9.20**
10	1.00	**9.00**
10	1.25	**8.80**
11	1.00	**10.00**
12	1.00	**11.00**
12	1.25	**10.80**
12	1.50	**10.50**
14	1.00	**13.00**
14	1.25	**12.80**
14	1.50	**12.50**
15	1.00	**14.00**
15	1.50	**13.50**
16	1.00	**15.00**
16	1.50	**14.50**
18	1.00	**17.00**
18	1.50	**16.50**

Ø (MF)	P (mm)	
18	2.00	**16.00**
20	1.00	**19.00**
20	1.50	**18.50**
20	2.00	**18.00**
22	1.00	**21.00**
22	1.50	**20.50**
22	2.00	**20.00**
24	1.00	**23.00**
24	1.50	**22.50**
24	2.00	**22.00**
26	1.50	**24.50**
27	1.50	**25.50**
27	2.00	**25.00**
28	1.50	**26.50**
30	1.00	**29.00**
30	1.50	**28.50**
30	2.00	**28.00**
32	1.50	**30.50**
33	1.50	**31.50**
34	1.50	**32.50**
35	1.50	**33.50**
36	1.50	**34.50**
36	3.00	**33.00**
38	1.50	**36.50**
40	1.50	**38.50**
42	1.50	**40.50**
45	1.50	**43.50**
48	1.50	**46.50**
48	2.00	**46.00**
48	3.00	**45.00**
50	1.50	**48.50**
52	1.50	**50.50**

▸ **KERNLOCHBOHRER GRÖSSE** | TAPPING DRILL SIZES

EINHEITS GEWINDE | UNIFIED THREAD

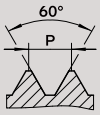
UNC ASME B.1.1



Einheits Grobgewinde UNC ASME - B1.1
Unified coarse thread UNC ASME - B1.1

Ø (UNC)	Steigung/1" Sp/1"	
Nr. 1	64	**1,55**
Nr. 2	56	**1,85**
Nr. 3	48	**2,10**
Nr. 4	40	**2,35**
Nr. 5	40	**2,65**
Nr. 6	32	**2,85**
Nr. 8	32	**3,50**
Nr. 10	24	**3,90**
Nr. 12	24	**4,50**
1/4	20	**5,10**
5/16	18	**6,60**
3/8	16	**8,00**
7/16	14	**9,40**
1/2	13	**10,80**
9/16	12	**12,20**
5/8	11	**13,50**
3/4	10	**16,50**
7/8	9	**19,50**
1"	8	**22,25**
1 1/8	7	**25,00**
1 1/4	7	**28,00**
1 3/8	6	**30,75**
1 1/2	6	**34,00**
1 3/4	5	**39,50**
2"	5	**45,00**

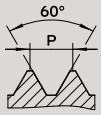
UNF ASME B.1.1



Einheits Feingewinde UNF ASME - B1.1
Unified fine thread UNF ASME - B1.1

Ø (UNF)	Steigung/1" Sp/1"	
Nr. 1	72	**1,55**
Nr. 2	64	**1,90**
Nr. 3	56	**2,15**
Nr. 4	48	**2,40**
Nr. 5	44	**2,70**
Nr. 6	40	**2,95**
Nr. 8	36	**3,50**
Nr. 10	32	**4,10**
Nr. 12	28	**4,70**
1/4	28	**5,50**
5/16	24	**6,90**
3/8	24	**8,50**
7/16	20	**9,90**
1/2	20	**11,50**
9/16	18	**12,90**
5/8	18	**14,50**
3/4	16	**17,50**
7/8	14	**20,40**
1"	12	**23,25**
1 1/8	12	**26,50**
1 1/4	12	**29,50**
1 3/8	12	**32,75**
1 1/2	12	**36,00**

UN-8 ASME B.1.1



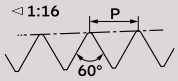
8-UN-Gewinde ASME - B1.1
8-UN thread ASME - B1.1

Ø (UN-8)	Steigung/1" Sp/1"	
1 1/8	8	**25,40**
1 1/4	8	**28,50**
1 3/8	8	**31,80**
1 1/2	8	**35,00**

▸ **KERNLOCHBOHRER GRÖSSE** | TAPPING DRILL SIZES

KONISCHES GEWINDE | CONICAL THREADING

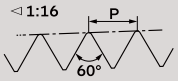
NPT ASME B1.20.1



Nationales Rohrgewinde NPT - ANSI/ASME B1.20.1
National pipe thread NPT - ANSI/ASME B1.20.1

Ø (NPT)	Steigung/1" Sp/1"	
1/16	27	**6,30**
1/8	27	**8,50**
1/4	18	**11,10**
3/8	18	**14,50**
1/2	14	**17,75**
3/4	14	**23,00**
1"	11,5	**29,00**
1 1/4	11,5	**38,00**
1 1/2	11,5	**44,00**
2"	11,5	**56,00**

NPTF ANSI B1.20.3

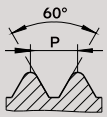


Nationales Rohrgewinde NPTF - ANSI/ASME B1.20.1
National pipe thread NPTF - ANSI/ASME B1.20.1

Ø (NPTF)	Steigung/1" Sp/1"	
1/16	27	**6,30**
1/8	27	**8,50**
1/4	18	**11,10**
3/8	18	**14,50**
1/2	14	**17,75**
3/4	14	**23,00**
1"	11,5	**29,00**
1 1/4	11,5	**38,00**
1 1/2	11,5	**44,00**
2"	11,5	**56,00**

GEWINDE FÜR DIE LUFTFAHRT | THREAD FOR AERONAUTICS

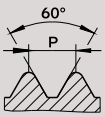
UNJF ASME B1.15



Einheits Feingewinde UNJF ASME - B1.1
Unified fine thread UNJF ASME - B1.1

Ø (UNJF)	Steigung/1" Sp/1"	
Nr. 6	40	**3,00**
Nr. 8	36	**3,55**
Nr. 10	32	**4,15**
1/4	28	**5,55**
5/16	24	**7,00**
3/8	24	**8,60**

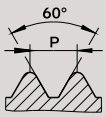
MJ



Metrisches ISO-Grobgewinde
ISO Metric Coarse Thread

Ø (MJ)	P (mm)	
3	0,50	**2,60**
4	0,70	**3,40**
5	0,80	**4,30**
6	1,00	**5,10**
8	1,00	**7,10**
8	1,25	**6,90**
10	1,25	**8,90**
10	1,50	**8,60**

UNJC ASME B.1.1



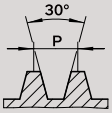
Einheits Grobgewinde UNJF ASME - B1.1
Unified Coarse thread UNJF ASME - B1.1

Ø (UNJC)	Steigung/1" Sp/1"	
Nr. 4	40	**2,30**
Nr. 6	32	**2,75**
Nr. 8	32	**3,50**
Nr. 10	24	**3,80**
Nr. 12	24	**3,80**
1/4	20	**5,10**
5/16	18	**6,50**
3/8	16	**7,90**

▸ **KERNLOCHBOHRER GRÖSSE** | TAPPING DRILL SIZES

TRAPEZGEWINDE | TRAPEZOIDAL THREAD

TR



Metrisches ISO-Trapezgewinde DIN 103
ISO Metric trapezoidal thread DIN 103

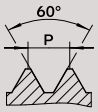
Ø (TR)	P (mm)	
10	2	**8,20**
12	2	**10,20**
12	3	**9,25**
14	2	**12,20**
14	3	**11,25**
16	4	**12,25**

Ø (TR)	P (mm)	
18	4	**14,25**
20	4	**16,25**
22	5	**17,25**
24	5	**19,25**
26	5	**21,25**
28	5	**23,25**

Ø (TR)	P (mm)	
30	6	**24,25**
32	6	**26,25**
34	6	**28,25**
36	6	**30,25**

EG - PG-GEWINDE | EG - PG THREADING

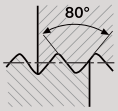
EG (M)



ISO Metrisches Grobgewinde DIN 8140-2 für Drahtgewindeeinsätze (STI)
ISO Metric coarse thread DIN 8140-2 for wire thread inserts (STI)

Ø (EG M)	P (mm)	
3	0,50	**3,20**
4	0,70	**4,20**
5	0,80	**5,20**
6	1,00	**6,30**
8	1,25	**8,40**
10	1,50	**10,50**
12	1,75	**12,50**
16	2,00	**16,50**

PG



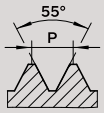
Stahlrohrgewinde DIN 40430
Steel tubes thread DIN 40430

Ø (PG)	Steigung/1" Sp/1"	
7	20	**11,50**
9	18	**14,00**
11	18	**17,25**
13,5	18	**19,00**
16	18	**21,25**
21	16	**27,00**
29	16	**35,50**
36	16	**45,50**
42	16	**54,00**
48	16	**59,30**

▸ **KERNLOCHBOHRER GRÖSSE** | TAPPING DRILL SIZES

55° GEWINDEFLANKEN | 55° THREADING

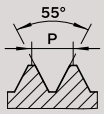
G (BSP) DIN EN ISO 228



Rohrgewinde DIN EN ISO 228
Pipe thread DIN EN ISO 228

Ø (G)	Steigung/1" Sp/1"	
1/16	28	**6,80**
1/8	28	**8,80**
1/4	19	**11,80**
3/8	19	**15,25**
1/2	14	**19,00**
5/8	14	**21,00**
3/4	14	**24,50**
7/8	14	**28,25**
1	11	**30,75**
1 1/8	11	**35,50**
1 1/4	11	**39,50**
1 3/8	11	**42,00**
1 1/2	11	**45,00**
1 3/4	11	**51,00**
2"	11	**57,00**

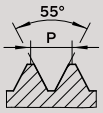
Rp (BSPP) ISO 7-1



Zylindrisches Rohrinnengewinde ISO 7-1
Cylindrical internal pipe thread ISO 7-1

Ø (Rp)	Steigung/1" Sp/1"	
1/16	28	**6,60**
1/8	28	**8,60**
1/4	19	**11,50**
3/8	19	**15,00**
1/2	14	**18,75**
3/4	14	**24,25**
1"	11	**30,25**
1 1/4	11	**39,00**
1 1/2	11	**45,00**
2"	11	**56,50**

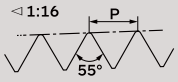
W DIN 477-1



Whitworth-Gewinde BSW - BS 84
Whitworth thread BSW - BS 84

Ø (W)	Steigung/1" Sp/1"	
1/16	60	**1,20**
3/32	48	**1,90**
1/8	40	**2,50**
5/32	32	**3,20**
3/16	24	**3,60**
7/32	24	**4,50**
1/4	20	**5,10**
5/16	18	**6,50**
3/8	16	**7,90**
7/16	14	**9,30**
1/2	12	**10,50**
9/16	12	**12,00**
5/8	11	**13,50**
3/4	10	**16,50**
7/8	9	**19,25**
1	8	**22,00**
1 1/8	7	**24,75**
1 1/4	7	**28,00**
1 3/8	6	**30,50**
1 1/2	6	**33,50**
1 5/8	5	**35,50**
1 3/4	5	**39,00**
2"	4,5	**44,50**

RC BSPT



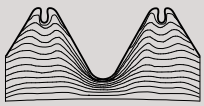
Konisches Rohrgewinde, Kegel 1:16, ISO 7-1
Tapered pipe thread, taper 1:16, ISO 7-1

Ø (Rp)	Steigung/1" Sp/1"	
1/8	28	**8,20**
1/4	19	**11,00**
3/8	19	**14,00**
1/2	14	**18,00**
3/4	14	**23,50**
1"	11	**29,50**

▸ **KERNLOCHBOHRER GRÖSSE** | TAPPING DRILL SIZES

GEWINDE FORMEN | FORMING TAPS

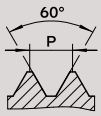
M DIN 13



Metrisches ISO-Grobgewinde DIN 13
ISO Metric Coarse Thread DIN 13

Ø (M)	P (mm)	
1	0,25	**0,88**
1,1	0,25	**0,98**
1,2	0,25	**1,08**
1,4	0,30	**1,25**
1,6	0,35	**1,45**
1,7	0,35	**1,55**
1,8	0,35	**1,65**
2	0,40	**1,80**
2,2	0,45	**2,00**
2,3	0,40	**2,10**
2,5	0,45	**2,30**
2,6	0,45	**2,40**
3	0,50	**2,75**
3,5	0,60	**3,20**
4	0,70	**3,65**
5	0,80	**4,60**
6	1,00	**5,50**
7	1,00	**6,50**
8	1,25	**7,40**
10	1,50	**9,30**
12	1,75	**11,20**
14	2,00	**13,00**
16	2,00	**15,00**

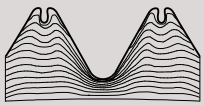
UNF ASME B.1.1



Einheits Feingewinde UNF ASME - B1.1
Unified fine thread UNF ASME - B1.1

Ø (UNF)	**Steigung/1"** Sp/1"	
Nr. 4	48	**2,60**
Nr. 5	44	**2,90**
Nr. 6	40	**3,20**
Nr. 8	36	**3,85**
Nr. 10	32	**4,45**
Nr. 12	28	**5,05**
1/4	28	**5,90**
5/16	24	**7,40**
3/8	24	**9,00**
7/16	20	**10,50**
1/2	20	**12,10**
5/8	18	**15,20**

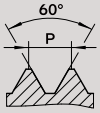
MF DIN 13



Metrisches ISO-Feingewinde DIN 13
ISO Metric Fine Thread DIN 13

Ø (MF)	P (mm)	
3	0,35	**2,85**
3,5	0,35	**3,35**
4	0,50	**3,80**
5	0,50	**4,80**
6	0,50	**5,80**
8	0,75	**7,65**
8	1,00	**7,50**
10	0,75	**9,65**
10	1,00	**9,50**
10	1,25	**9,40**
12	1,00	**11,50**
12	1,25	**11,40**
12	1,50	**11,30**
14	1,50	**13,30**
16	1,00	**15,50**
16	1,50	**15,30**

UNC ASME B.1.1



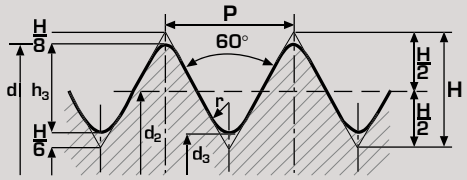
Einheits Grobgewinde UNC ASME - B1.1
Unified coarse thread UNC ASME - B1.1

Ø (UNC)	**Steigung/1"** Sp/1"	
Nr. 2	56	**1,95**
Nr. 3	48	**2,30**
Nr. 4	40	**2,55**
Nr. 5	40	**2,85**
Nr. 6	32	**3,10**
Nr. 8	32	**3,80**
Nr. 10	24	**4,30**
Nr. 12	24	**5,00**
1/4	20	**5,75**
5/16	18	**7,25**
3/8	16	**8,70**
7/16	14	**10,20**
1/2	13	**11,70**

B 04

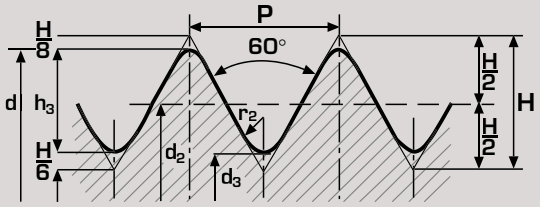
▸ GEWINDETYP UND ABMESSUNGEN | THREAD TYPE AND DIMENSIONS

METRISCHE ISO
METRIC ISO



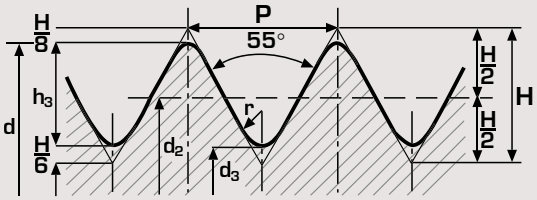
H = 0,86603 . P
h3 = 0,61343 . P
d2 = d - (0,6495 . P)
d3 = d - (2 . h3)
r = H/6 = 0,14434 . P

UNF-UNC



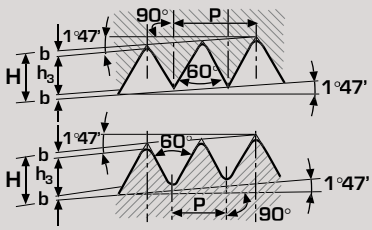
H = 0,86603 . P
h3 = 0,61343 . P
d2 = d - (0,6495 . P)
d3 = d - (2 . h3)
r1 = 0,10825 . P
r2 = 0,1443 . P

GEWINDE | THREADS
WITHWORTH BSW, BSF, BSPP, BSPT



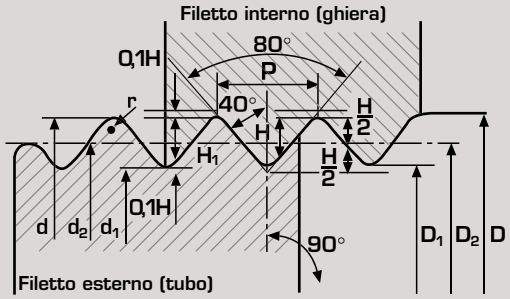
H = 0,96049 . P
h3 = 0,64033 . P
d2 = d - h3
d3 = d - (2 . h3)
r = 0,13733 . P

NPT



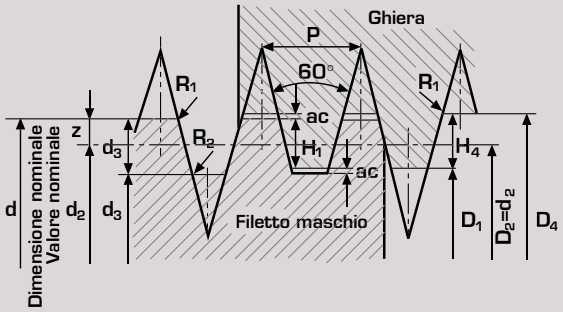
H = 0,866025 . P
h3 = 0,8000 . P
b = 0,033 . P

STAHLPANZERROHR GEWINDE | STEEL CONDUIT THREAD
(DIN 40 430)



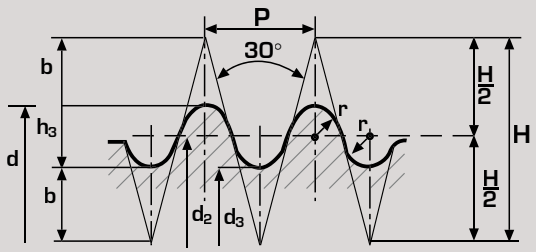
P = 25,4 / z
r = 0,107 . P
H = 0,595878 . P
H1 = 0,8 H = 0,4767 . P

TRAPEZGEWINDE | TRAPEZOIDAL THREAD
(ISO DIN 103)



D1 = d - 2 H1 = d - P
H1 = 0,5 . P
H4 = H1 + ac = 0,5 . P + ac
h3 = H1 + ac = 0,5 . P + ac
z = 0,25 P = H1/2
D4 = d +- 2ac
d3 = d - 2h3
d2 = D2 = d - 2z = d-0,5 . P
ac = Jeu/Gioco
R1 = max. 0,5 ac
R2 = max. ac

RUNDEWINDE | KNUCKLE THREAD
(DIN 405)



H = 1,86603 . P
h3 = 0,5 . P
d2 = d - h3
d3 = d - (2 . h3)
r = 0,23851 . P
b = 0,68301 . P

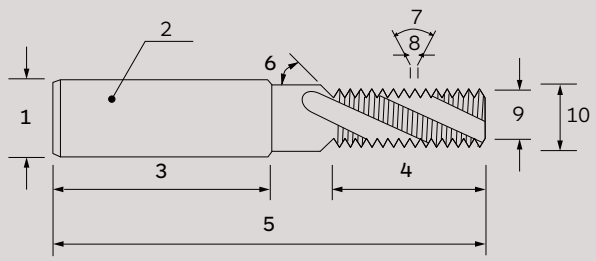
▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

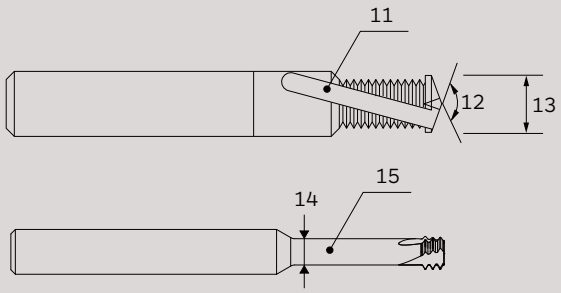
Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
GEWINDEBOHRER BRUCH Tap breakage	**Der Durchmesser des Gewindebohrers ist kleiner als in der Tabelle empfohlen.** Tapping drill diameter is smaller than recommended on the chart.	**Sehen Sie sich die Gewindebohrungstabelle ab Seite 744 an.** Look at the tapping drill chart starting on page 744.
	Axialer Versatz zwischen Gewindebohrer und Vorbohrung. Axial misalignment between the tap and pre hole.	**Axialer Versatz zwischen Gewindebohrer und Kernloch.** Check the misaligment between the tap and the tapping drill.
	Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch. Cutting speed is too high for the kind of workpiece.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Schlechte Spanabfuhr. Poor chip evacuation.	**Kühlmittel prüfen und erhöhen.** Check and increase the coolant.
	Schneidengeometrie ist nicht korrekt für die Art des Werkstücks. Cutting geometry is not correct for the kind of workpiece.	**Wählen Sie den richtigen Gewindebohrer aus.** Select the correct tap.
	Kollision zwischen dem Gewindebohrer und dem Ende des Sacklochs. Collision between the tap and the end of the blind hole.	**Überprüfen Sie die Bohrtiefe.** Check the drilling depth.
	Drehmoment ist zu hoch. Torque is too high.	**Verwenden Sie die Gewindeschneidfutter mit axialem Ausgleich.** Use the tapping chucks with axial compensation.
ÜBERGROSSE GEWINDE Over sized thread	**Das Werkstück ist während des Gewindeschneidens nicht stabil.** The workpiece is not stable during the tapping.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Falsche Toleranz. Wrong tolerance.	**Wählen Sie den richtigen Gewindebohrer aus.** Select the correct tap.
	Falscher Gewindebohrer für die Art des Werkstücks. Wrong tap for the kind of workpiece.	
	Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch. Cutting speed is too high for the kind of workpiece.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
	Schlechte Gewindequalität. Poor thread quality.	
	Axialer Versatz zwischen Gewindebohrer und Vorbohrung. Axial misalignment between the tap and tapping drill.	**Axialer Versatz zwischen Gewindebohrer und Kernloch.** Axial misalignment between the tap and tapping drill.
UNTERDIMENSIONIERTES GEWINDE Undersized thread	**Falsche Toleranz.** Wrong tolerance.	**Überprüfen Sie den Verschleiß des Gewindebohrer und ersetzen Sie ihn durch einen neuen.** Check the tap wear and replace it with a new one.
	Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch. Cutting speed is too high for the kind of workpiece.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Unzureichende Kühlmittelzufuhr. Insufficient supply of coolant.	**Kühlmitteldruck erhöhen / geeignetes Öl verwenden.** Increase the coolant pressure / use appropriate oil.
	Spanstau Chip jamming.	**Wählen Sie den richtigen Gewindebohrer aus.** Select the correct tap.
	Falscher Gewindebohrer für die Art des Werkstücks. Wrong tap for the kind of workpiece.	

▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
SCHLECHTE GEWINDEQUALITÄT Bad threading quality	**Sie verwenden einen abgenutzten Gewindebohrer.** Use the tap worn out.	**Prüfen Sie den Verschleiß des Gewindebohrers und ersetzen ihn durch einen neuen.** Check the wear of the tap and replace it with a new one.
	Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch. Cutting speed is too high for the kind of workpiece.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Unzureichende Kühlmittelzufuhr. Insufficient supply of coolant.	**Kühlmitteldruck erhöhen / geeignetes Öl verwenden.** Increase the coolant pressure / use appropriate oil.
	Spanstau Chip jamming.	**Wählen Sie den richtigen Gewindebohrer aus.** Select the correct tap.
	Schneidengeometrie für die Materialart nicht geeignet. Cutting geometry not suitable for the type of material.	
ABSPLITTERNDE SCHNEIDKANTEN Chipping	**Kollision zwischen dem Gewindebohrer und dem Ende des Sacklochs.** Collision between the tap and the end of blind hole.	**Überprüfen Sie die Bohrtiefe.** Check the drilling depth.
	Unzureichende Kühlmittelzufuhr. Insufficient coolant quantity.	**Kühlmitteldruck erhöhen / geeignetes Öl verwenden.** Increase the coolant pressure / use the appropriate oil.
	Falscher Gewindebohrer für die Art des Werkstücks. Wrong tap for the kind of workpiece.	**Wählen Sie den richtigen Gewindebohrer und die passende Beschichtung.** Select the correct tap and the appropriate coating.
	Späne im Loch beim Austritt des Gewindebohrer. Chips in the hole during the exit of the tap.	
	Der Durchmesser des Gewindebohrers ist kleiner als in der Tabelle empfohlen. Tapping drill diameter is smaller than recommended on the chart.	**Sehen Sie sich die Gewindebohrungstabelle ab Seite 744 an..** Look at tapping drill chart starting on page 744.
VERSCHLEISS Wear	**Falscher Gewindebohrer für die Art des Werkstücks.** Wrong tap for the kind of workpiece.	**Wählen Sie den richtigen Gewindebohrer und die passende Beschichtung.** Select the correct tap and the appropriate coating.
	Die Struktur des Werkstücks hat sich verändert (Zugfestigkeit, Härte). The structure of the workpiece has changed (tensile strength, hardness).	
	Der Durchmesser des Gewindebohrers ist kleiner als in der Tabelle empfohlen. Tapping drill is smaller than recommended on the chart.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch. Cutting speed is too high for the kind of workpiece.	
	Unzureichende Kühlmittelmenge. Insufficient coolant quantity.	**Kühlmitteldruck erhöhen / geeignetes Öl verwenden.** Increase the coolant pressure / use the appropriate oil.
AUFBAUSCHNEIDE Built-up edge	**Schnittgeschwindigkeit ist zu niedrig.** Cutting speed is too low.	**Siehe Kapitel „Schnittdaten“ im Katalog.** Refer to the "cutting data" sections in the catalogue.
	Falscher Gewindebohrer für die Art des Werkstücks. Wrong tap for the kind of workpiece.	**Wählen Sie den richtigen Gewindebohrer und die passende Beschichtung.** Select the correct tap and the appropriate coating.
	Unzureichende Kühlmittelmenge. Insufficient coolant quantity.	**Kühlmitteldruck erhöhen / geeignetes Öl verwenden.** increase the coolant pressure / use the appriopriate oil.
	Schnittgeometrie zu negativ. Cutting geometry too negative.	**Wählen Sie den richtigen Gewindebohrer und die passende Beschichtung.** select the correct tap and the appropriate coating.

▸ **BESCHREIBUNG FÜR GEWINDEFRÄSER** | THREAD MILLING CUTTERS NOMENCLATURE





Zeichenerklärung | Legend:

1	**Schaftdurchmesser**	Shank diameter
2	**Schaft**	Shank
3	**Schaftlänge**	Shank length
4	**Gewindelänge**	Thread length
5	**Gesamtlänge**	Total Length
6	**Fasenwinkel**	Chamfer angle
7	**Gewindewinkel**	Thread angle
8	**Höhe**	Pitch

9	**Fräser Durchmesser (d_1)**	Milling cutter diam. (d_1)
10	**Normaler Durchmesser (D)**	Nominal diameter (D)
11	**Nuten**	Flute
12	**Spitzenwinkel**	Point angle
13	**Bohrdurchmesser**	Drilling diamter
14	**Halsdurchmesser**	Neck diameter
15	**Hals**	Neck

▸ **BERECHNUNGSFORMELN FÜR DAS GEWINDEFRÄSEN** | CALCULATION FORMULAS FOR THREADING

Schnittgeschwindigkeit (m/min)
Cutting Speed (m/min)

$$V_c = \frac{d_1 \cdot \pi \cdot n}{1000}$$

Spindeldrehzahl (U/min)
Spindle Speed (rpm)

$$n = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$$

Eindringgeschwindigkeit (mm/min)
Penetration rate (mm/min)

$$V_f = p \cdot n$$

Zeichenerklärung | Legend:

V_c	**Schnittgeschwindigkeit**	Cutting Speed
d_1	**Schnittdurchmesser**	Cutting Diameter
V_f	**Eindringrate**	Penetration rate

p	**Steigung**	Pitch
n	**Spindeldrehzahl**	Spindle speed

▸ CNC-PROGRAMMIERUNG ZUM INNENGEWINDEFRÄSEN
CNC PROGRAMMING FOR INTERNAL THREAD MILLING

DE
- **Die Programmierung zum Gewindefräsen erfolgt in der Regel nach DIN 66025 und beginnt mit der Auswahl von Werkzeug und Werkzeugwechsler. Das Werkzeug wird im Eilgang über dem Werkstück positioniert und zum Starten des Bearbeitungszyklus auf die richtige Höhe abgesenkt. Um die Belastung des Werkzeugs zu minimieren, wird eine 180°-Einlaufschlaufe gewählt. Der 360°-Bearbeitungszyklus hat Richtung Z bei der Herstellung von Rechtsgewinden im Uhrzeigersinn. Um Markierungen auf dem Gewinde zu vermeiden, wird eine 180°-Auslaufschlaufe gewählt. Der Zyklus wird durch die Rückkehr in die Ausgangsposition beendet.**

ENG
- Programming for thread milling is normally done according to DIN 66025 and starts with the selection of tool and tool changer. The tool is positioned in rapid motion above the workpiece and lowered to the correct height for starting the machining cycle. To minimize stress on the tool, a 180° entry loop is chosen. The 360° machining cycle has direction Z when producing right hand threads clockwise. To avoid marks on the thread, a 180° exit loop is chosen. The cycle is finished by returning to the initial position.

N10 T1 M6
Auswahl Werkzeug, Werkzeugwechsler
Tool and tool changer selection

N20 G20 G54 G00 X0 Y0

N30 Z2 D1 S (W1) M3
Positionierung über Werkstück
Positioning above workpiece

N40 G91 G00 Z -(W2)
Verfahren inkremental
Incremental moving

N50 G01 X0 Y -(W3)
Achskorrektur | Axle correction

N60 G42 X0 Y (W5)
Einfahrschleife | Entry loop

N70 G02 X0 Y -(W6) IO J -(W7) Z -(W8)
Start Bearbeitungszyklus, lineare Interpolation
Start machining cycle, linear interpolation

N80 G02 X0 Y0 IO J (W9)
Z -(W10) F (W11)
Ausfahrschleife | Exit loop

N90 G02 X0 Y (W12) IO J (W13)
Z -(W14) F (W15)
Gegenläufige Achskorrektur
Reverse axle correction

N100 G00 G40 Y -(W16)
Bewegung zum Bohrungsmittelpunkt
Linear movement towards hole center

N120 G00 G53 G90 G80 Z2 M95
Rückkehr zur Ausgangsposition
Return to initial position

N130 M30
Programmende | End of programme

Zeichenerklärung | Legend:

W1	**Drehzahl Spindel** | Spindle speed
W2	**Gewindetiefe** | Cutting depth
W3	**0,3 x Sicherheits für Gewindetiefe (a)** | Cutting depth
W4	**Vorschub V_f** | Feed V_f
W5	**Fräserradius** | Thread mill radius
W6	**Distanz zum Zentrum (a) - W3** | Center distance (a) – W3
W7	**W6 : 2**
W8	**0,15 x Gewindesteigung P** | 0,15 x pitch P
W9	**Bohrungsradius RAWrkst** | Drill hole radius RAWrkst
M6	**Werkzeugwechsel** | Tool changer
G54	**geradlieniges Einfahren** | Straight entrance
Z2	**Anfahren** | Approach
S3/99	**Drehzahl (U/min)** | Rotation (rpm)
G91	**Inkrementalwert** | Incremental value
G02	**Kreisinterpolation** | Circle interpolation

W10	**Steigung P** | Pitch P
W11	**Maschinenvorschub (Va)** | Machine advance (Va)
W12	**Distanz zum Zentrum (a) - W3** | Center distance (a) – W3
W13	**W6 : 2**
W14	**0,15 x Gewindesteigung P** | 0,15 x pitch P
W15	**Vorschub V_f** | Feed V_f
W16	**Fräserradius** | Thread mill radius
W17	**0,3 x Distanz zum Zentrum (a)** | 0,3 x center distance (a)
G90	**Absolutwerteingabe** | Exact value input
G0	**Positionierung im Eilgang** | Rapid motion positioning
M3	**Drehung im Uhrzeigersinn** | Spindle rotation
G00	**Positionierung im Eilgang** | Rapid motion positioning
G42	**Fräserradius** | Thread mill radius
G53/80	**Zyklus beenden** | End of cycle

▸ ARBEITSABLÄUFE FÜR GEWINDEFRÄSER | OPERATION SEQUENCES FOR THREAD MILL. CUTT.

MULTI TM HP

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Ausgangsposition über der Mitte der Bohrung.	1 Tool moves to initial position above centre of hole.
2 Das Gewindefräsen beginnt mit dem Fräsereintrittsweg.	2 Thread milling starts with cutter entry path.
3 Gewindefräsen mit anschließendem Ausfahrweg.	3 Thread milling followed by exit path.
4 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	4 Return to initial position and end of machining cycle.

MULTI CTM

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Ausgangsposition über der Mitte der Bohrung.	1 Tool moves to initial position above centre of hole.
2 90°-Fasung.	2 90° chamfering.
3 Das Gewindefräsen beginnt mit dem Fräsereintrittsweg.	3 Thread milling starts with cutter entry path.
4 Gewindefräsen mit anschließendem Ausfahrweg.	4 Thread milling followed by exit path.
5 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	5 Return to initial position and end of machining cycle.

▸ **ARBEITSABLÄUFE FÜR GEWINDEFRÄSER |** OPERATION SEQUENCES FOR THREAD MILL. CUTT.

MULTI TM

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Ausgangsposition über der Mitte der Bohrung.	1 Tool moves to initial position above centre of hole.
2 Das Gewindefräsen beginnt mit dem Fräsereintrittsweg.	2 Thread milling starts with cutter entry path.
3 Gewindefräsen mit anschließendem Ausfahrweg.	3 Thread milling followed by exit path.
4 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	4 Return to initial position and end of machining cycle.

MICRO UNO - MICRO TRE

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Ausgangsposition über der Mitte der Bohrung.	1 Tool moves to initial position above centre of hole.
2 Das Gewindefräsen beginnt mit dem Fräsereintrittsweg.	2 Thread milling starts with cutter entry path.
3 Das Gewindefräsen endet mit einer Verschiebung des Fräseraustrittswegs auf der Z-Achse auf die erforderliche Tiefe.	3 Thread milling ends with cutter exit path Z-axis displacement to required depth.
4 Der zweite Gewindefräsprozess beginnt mit dem Fräsereintrittspfad.	4 Second thread milling process starts with cutter entry path.
5 Gewindefräsen mit anschließendem Ausfahrweg.	5 Thread milling followed by exit path.
6 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	6 Return to initial position and end of machining cycle.

▸ ARBEITSABLÄUFE FÜR GEWINDEFRÄSER | OPERATION SEQUENCES FOR THREAD MILL. CUTT.

MICRO TRE TPH

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Ausgangsposition über der Mitte der Bohrung.	1 Tool moves to initial position above centre of hole.
2 Das Werkzeug fährt bis zur maximalen Gewindetiefe in die Bohrung ein.	2 Tool moves into the hole to the maximum thread depth.
3 Das Gewindefräsen beginnt mit dem Fräsereintrittsweg.	3 Thread milling starts with cutter entry path.
4 Gewindefräsen mit spiralförmiger Interpolation zur Werkstückoberfläche.	4 Thread milling with helical interpolation towards the workpiece surface.
5 Ende des Gewindefräsprozesses mit Austrittsbahn.	5 End of thread milling process with exit path.
6 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	6 Return to initial position and end of machining cycle.

MICRO TRE MULTI DTM

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Anfangsposition über der Mitte der Gewindeposition.	1 Tool moves to initial position above centre of thread position.
2 Beginnen Sie mit dem Zirkularfräsen.	2 Start with circular milling operation.
3 Gewindefräsen mit spiralförmiger Interpolation bis zur erforderlichen Gewindetiefe.	3 Thread milling with helical interpolation down to required thread depth.
4 Gewindefräsen mit spiralförmiger Interpolation bis zur erforderlichen Gewindetiefe.	4 Thread milling with helical interpolation down to required thread depth.
5 Ende des Gewindefräsprozesses mit Austrittsbahn.	5 End of thread milling process with exit path.
6 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	6 Return to initial position and end of machining cycle.

▸ **ARBEITSABLÄUFE FÜR GEWINDEFRÄSER |** OPERATION SEQUENCES FOR THREAD MILL. CUTT.

MULTI DTM

Arbeitsabläufe	Operation sequences
1 Das Werkzeug bewegt sich in die Anfangsposition über der Mitte der Gewindeposition.	1 Tool moves to initial position above centre of thread position.
2 Bohren des Kerndurchmessers und 90°-Fasen.	2 Drilling of core diameter and 90° chamfering.
3 Rückzug der Schneide aus dem Bohrloch zum Auswurf der Späne.	3 Retraction of cutter from drilled hole for ejection of chips.
4 Startposition des Gewindefräszyklus anfahren.	4 Move to start position of thread milling cycle.
5 Das Gewindefräsen beginnt mit dem Fräsereintrittsweg.	5 Thread milling starts with cutter entry path.
6 Gewindefräsen.	6 Thread milling.
7 Ende des Gewindefräsprozesses mit Austrittsbahn.	7 End of thread milling process with exit path.
8 Rückkehr zur Ausgangsposition und Ende des Bearbeitungszyklus.	8 Return to initial position and end of machining cycle.

▸ **STRATEGIEN ZUM GEWINDEFRÄSER** | THREAD MILLING CUTTERS STRATEGIES

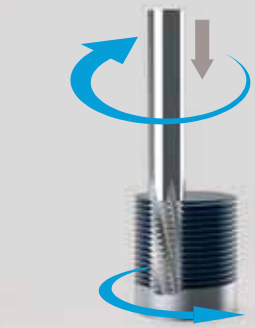
Rechtsgewinde, Gegenlauffräsen
Right thread, up milling

Rechtsgewinde, Gegenlauffräsen
Right thread, up milling

Rechtsgewinde, Gleichlauffräsen
Right-hand thread, down milling

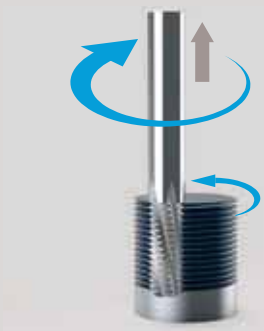
Rechtsgewinde, Gleichlauffräsen
Right-hand thread, down milling

Linksgewinde, Gegenlauffräsen
Left-hand thread, up milling



Linksgewinde, Gegenlauffräsen
Left-hand thread, up milling

Linksgewinde, Gleichlauffräsen
Left-hand thread, down milling



Linksgewinde, Gleichlauffräsen
Left-hand thread, down milling

▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
VIBRATIONEN Vibrations	**Spannsystem ist während des Gewindefräsen nicht stabil.** Clamping system is not stable during the threading.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Die Penetrationsrate ist zu niedrig. Penetration rate is too low.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
	Gewindefräserüberstand ist zu hoch. Thread milling cutter overhang is too high.	**Reduzieren Sie den Gewindefräserüberstand.** Reduce the thread milling cutter overhang.
	Spiralwinkel ist für die Art des Werkstücks nicht korrekt. Helix angle is not correct for the kind of workpiece.	**Wählen Sie den richtigen Gewindefräser aus.** Select the correct thread milling cutter.
ABSPLITTERNDE SCHNEIDKANTEN Chipping cutting edges	**Eindringrate ist zu hoch.** Penetration rate is too high.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
	Spannsystem ist während des Gewindefräsen nicht stabil. Clamping system is not stable during the threading.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Der Rundlauf ist während der Bearbeitung zu hoch. Run-out is too high during the processing.	**Rundlauf des Gewindefräsers prüfen und reduzieren.** Check and reduce the run-out of the thread milling cutter.
VERSCHLEISS Wear	**Schnittgeschwindigkeit zu hoch.** Cutting speed too high.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
	Die Penetrationsrate ist zu niedrig. Penetration rate is too low.	
	Spannsystem ist während des Gewindefräsen nicht stabil. Clamping system is not stable during the threading.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Gewindefräserüberstand ist zu hoch. Thread milling cutter overhang is too high.	**Reduzieren Sie den Gewindefräserüberstand.** Reduce the thread milling cutte overhang.
	Spiralwinkel ist für die Art des Werkstücks nicht korrekt. Helix angle is not correct for the kind of workpiece.	**Wählen Sie den richtigen Gewindefräser aus.** Select the correct thread milling cutter.
KONISCHE GEWINDEFORM Tapered thread shape	**Eindringrate ist zu hoch.** Penetration rate is too high.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
	Gewindefräserüberstand ist zu hoch. Thread milling cutter overhang is too high.	**Reduzieren Sie den Gewindefräserüberstand.** Reduce the thread milling cutter overhang.
	Spiralwinkel ist für die Art des Werkstücks nicht korrekt. Helix angle is not correct for the kind of workpiece.	**Wählen Sie den richtigen Gewindefräser aus.** Select the correct thread milling cutter.

▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

Problem	Problem	**Ursachen**	Causes	**Korrekturmaßnahme**	Corrective Action
GEWINDEFRÄSERBRUCH Thread milling cutter breakage (MULTI TM)		**Eindringrate ist zu hoch.** Penetration rate is too high.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
		Fehler im CNC-Programm. Error in the CNC programme.	**Überprüfen Sie das CNC-Programm.** Check the CNC programme.
		Kernlochbohrung zu klein. Core hole bore too small.	**Überprüfen Sie den Lochdurchmesser und den Gewindefräser.** Check the hole diameter and the thread cutting mill.
GEWINDEFRÄSERBRUCH Thread milling cutter breakage (MULTI DTM)		**Eindringrate ist zu hoch beim Gewindefräsen.** Penetration rate is too high during thread milling.	**Beachten Sie die Abschnitte „Schnittdaten“ im Katalog und verbessern Sie das Kühlmittel.** Refer to the "cutting data" sections in the catalogue and improve the coolant.
		Eindringrate ist zu hoch beim Bohren. Penetration rate is too high during drilling.	
		Spänestau beim Bohren. Chip jamming during drilling.	**Wählen Sie den richtigen Gewindefräser aus.** Select the correct thread milling cutter.
		Fehler im CNC-Programm. Error in the CNC programme.	**Überprüfen Sie das CNC-Programm.** Check the CNC programme.

01

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C.01.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	DIN	Typ Type	Fertigungstoleranz Manufacturing tolerance	Spitzenwinkel Point angle	Schaft Shank	Beschichtung Coating	Schnittrichtung Cutting Direction	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
AUFBOHRER | CORE DRILLS																	
6253		HSS	344 DIN	N	h8	-		-	↻	4,8 ÷ 16							768
6251		HSS	343 DIN	N	h8	-		-	↻	7,8 ÷ 50							769
6255		HSS	222 DIN	N	h8	-	-	-	↻	23,7 ÷ 100							771
FLACHSENKER | COUNTERBORES **Für Zylinderkopfschrauben (180°) |** for cylindrical head screws (180°)																	
6260	 Für Kernloch For tap drill	HSS	373 DIN	-	z9	-		-	↻	M2 ÷ M12							773
6261	 Gütegrad fein Für Durchgangsloch for through fine hole	HSS	373 DIN	-	z9	-		-	↻	M2 ÷ M12							773
6262	 Gütegrad mittel für Durchgangsbohrung for through medium hole	HSS	373 DIN	-	z9	-		-	↻	M2 ÷ M12							773
FLACHSENKER | COUNTERBORES **Für Senkkopfschrauben (90°) |** for countersunk head screws (90°)																	
6263	 Für Kernloch For tap drill	HSS	373 DIN	-	z9	-		-	↻	M2 ÷ M10							774
6264	 Gütegrad fein Für Durchgangsloch for through fine hole	HSS	373 DIN	-	z9	-		-	↻	M2 ÷ M10							774
6265	 Gütegrad mittel für Durchgangsbohrung for through medium hole	HSS	373 DIN	-	z9	-		-	↻	M2 ÷ M10							774
KEGELSENKER 60° | COUNTERSINKS 60°																	
6276		HSS	334 DIN	C	-	60°		-	↻	6,3 ÷ 25						-	775
6276TN		HSS	334 DIN	C	-	60°		TiN	↻	6,3 ÷ 25						-	775

C 01

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	DIN	Typ Type	Fertigungstoleranz Manufacturing tolerance	Spitzenwinkel Point angle	Schaft Shank	Beschichtung Coating	Schnittrichtung Cutting Direction	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
KEGELSENKER 60° | COUNTERSINKS 60°																	
6278		HSS	334 DIN	D	-	60°		-		16 ÷ 80						-	**776**
KEGELSENKER 90° | COUNTERSINKS 90°																	
NEW **6274**		HSS	335 DIN	C	-	90°		-		6,3 ÷ 30						-	**777**
NEW **6274TN**		HSS	335 DIN	C	-	90°		TiN		6,3 ÷ 30						-	**777**
6277		HSS	335 DIN	C	-	90°		-		4,3 ÷ 30						-	**779**
6277TN		HSS	335 DIN	C	-	90°		TiN		6 ÷ 30						-	**779**
6277TF		HSS	335 DIN	C	-	90°		TiAlN FUTURA		6 ÷ 30						-	**779**
6927A **6927B**	 Satz in Metallkassette. Sets in metal cases.	HSS	335 DIN	C	-	90°		-		**A**= 6 ÷ 19 **B**= 6,3 ÷ 20,5						-	**780** **781**
6279		HSS	335 DIN	D	-	90°		-		15 ÷ 80						-	**782**
6275		M.D.I. HM	335 DIN	C	-	90°		-		6 ÷ 31						-	**778**
6275TF		M.D.I. HM	335 DIN	C	-	90°		TiAlN FUTURA		6 ÷ 31						-	**778**
MULTIFUNKTIONSWERKZEUG | MULTIFUNCTIONAL TOOL																	
NEW **6272TC**		M.D.I. HM	ILIX NORM DIN	C	-	90°		-		2,8 ÷ 9,8							**783**

C 01

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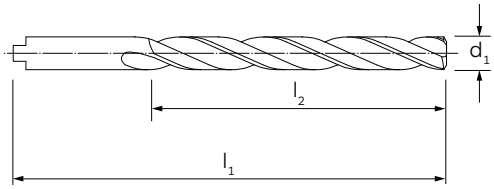
C.01.02

Produktpalette
Products range

344
DIN

h8

P. 786



MATERIAL | MATERIAL	HSS
TYP | TYPE	N
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h8)		l_1	l_2		6253
4,80	3,5	108	74		●
5,00	3,5	108	74		●
5,80	4,2	116	80		●
6,00	4,2	116	80		●
6,80	4,9	133	93		●
7,00	4,9	133	93		●
7,80	5,6	142	100		●
8,00	5,6	142	100		●
8,80	6,3	151	107		●
9,00	6,3	151	107		●
9,80	7,0	162	116		●
10,00	7,0	162	116		●
10,75	7,7	173	125		●
11,00	7,7	173	125		●
11,75	8,4	173	125		●
12,00	8,4	184	134		●
12,75	9,1	184	134		●
13,00	9,1	184	134		●
13,75	9,8	194	142		●
14,00	9,8	194	142		●
14,75	10,5	202	147		●
15,00	10,5	202	147		●
15,75	11,2	211	153		●
16,00	11,2	211	153		●

d_1 (h8)		l_1	l_2		6253

C 01

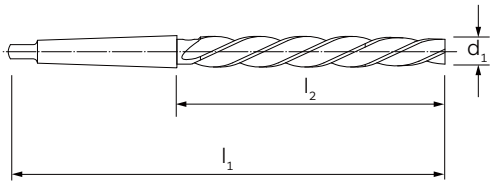
DIN 343

Aufbohrer mit 3 Schneiden | Core drills with 3 flutes

343
DIN

h8

P. 786



MATERIAL | MATERIAL	HSS
TYP | TYPE	N
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h8)		l_1	l_2			6251
7,80	5,6	156	75	1		●
8,00	5,6	156	75	1		●
8,80	6,3	162	81	1		●
9,00	6,3	162	81	1		●
9,80	7,0	168	87	1		●
10,00	7,0	168	87	1		●
10,75	7,7	175	94	1		●
11,00	7,7	175	94	1		●
11,75	8,4	175	94	1		●
12,00	8,4	182	101	1		●
12,75	9,1	182	101	1		●
13,00	9,1	182	101	1		●
13,75	9,8	189	108	1		●
14,00	9,8	189	108	1		●
14,75	10,5	212	114	2		●
15,00	10,5	212	114	2		●
15,75	11,2	218	120	2		●
16,00	11,2	218	120	2		●
16,75	11,9	223	125	2		●
17,00	11,9	223	125	2		●
17,75	12,6	228	130	2		●
18,00	12,6	228	130	2		●
18,70	13,3	233	135	2		●
19,00	13,3	233	135	2		●
19,70	14,0	238	140	2		●
20,00	14,0	238	140	2		●
20,70	14,6	243	145	2		●

d_1 (h8)		l_1	l_2			6251
21,00	14,6	243	145	2		●
21,70	15,3	248	150	2		●
22,00	15,3	248	150	2		●
22,70	16,0	253	155	2		●
23,00	16,0	253	155	2		●
23,70	16,6	281	160	3		●
24,00	16,6	281	160	3		●
24,70	17,3	281	160	3		●
25,00	17,3	281	160	3		●
25,70	18,0	286	165	3		●
26,00	18,0	286	165	3		●
26,70	18,6	291	170	3		●
27,00	18,6	291	170	3		●
27,70	19,3	291	170	3		●
28,00	19,3	291	170	3		●
28,70	20,0	296	175	3		●
29,00	20,0	296	175	3		●
29,70	20,5	296	175	3		●
30,00	20,5	296	175	3		●
30,60	21,0	301	180	3		●
31,00	21,0	301	180	3		●
31,60	22,0	306	185	3		●
32,00	22,0	334	185	4		●
32,60	23,0	334	185	4		●
33,00	23,0	334	185	4		●
33,60	24,0	339	190	4		●
34,00	24,0	339	190	4		●

01/02 →

d_1 (h8)		l_1	l_2			6251
34,60	25,0	339	190	4		●
35,00	25,0	339	190	4		●
35,60	25,5	344	195	4		●
36,00	25,5	344	195	4		●
36,60	26,0	344	195	4		●
37,00	26,0	344	195	4		●
37,60	26,5	349	200	4		●
38,00	26,5	349	200	4		●
38,60	27,0	349	200	4		●
39,00	27,0	349	200	4		●
39,60	28,0	349	200	4		●
40,00	28,0	349	200	4		●
40,60	28,5	354	205	4		●
41,00	28,5	354	205	4		●
41,60	29,0	354	205	4		●
42,00	29,0	354	205	4		●

d_1 (h8)		l_1	l_2			6251
42,60	30,0	359	210	4		●
43,00	30,0	359	210	4		●
43,60	30,5	359	210	4		●
44,00	30,5	359	210	4		●
44,60	31,0	359	210	4		●
45,00	31,0	359	210	4		●
45,60	32,0	364	215	4		●
46,00	32,0	364	215	4		●
46,60	32,5	364	215	4		●
47,00	32,5	364	215	4		●
47,60	33,0	369	220	4		●
48,00	33,0	369	220	4		●
48,60	34,0	369	220	4		●
49,00	34,0	369	220	4		●
49,60	34,5	369	220	4		●
50,00	34,5	369	220	4		●

02/02

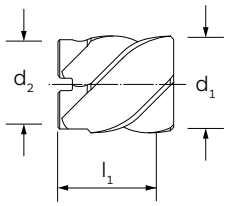
DIN 222

Aufsteckaufbohrer, mit Kegelbohrung 1:30 | Shell core drills, with taper bore 1:30

222
DIN

h8

P. 786



MATERIAL | MATERIAL	HSS
TYP | TYPE	N
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h8)	Min.	l_1	d_2	Z		6255
23,70	20	45	13	4		●
24,00	20	45	13	4		●
24,70	21	45	13	4		●
25,00	21	45	13	4		●
25,70	22	45	13	4		●
26,00	22	45	13	4		●
26,70	23	45	13	4		●
27,00	23	45	13	4		●
27,70	24	45	13	4		●
28,00	24	45	13	4		●
29,70	26	45	13	4		●
30,00	26	45	13	4		●
31,60	28	45	13	4		●
32,00	28	45	13	4		●
32,60	29	45	13	4		●
33,00	29	45	13	4		●
33,60	30	45	13	4		●
34,00	30	45	13	4		●
34,60	31	45	13	4		●
35,00	31	45	13	4		●
35,60	32	50	16	4		●
36,00	32	50	16	4		●
36,60	33	50	16	4		●
37,00	33	50	16	4		●
37,60	34	50	16	4		●
38,00	34	50	16	4		●
39,60	36	50	16	4		●

d_1 (h8)	Min.	l_1	d_2	Z		6255
40,00	36	50	16	4		●
41,60	38	50	16	4		●
42,00	38	50	16	4		●
43,60	40	50	16	4		●
44,00	40	50	16	4		●
44,60	41	50	16	4		●
45,00	41	50	16	4		●
45,60	41	56	19	4		●
46,00	41	56	19	4		●
46,60	41	56	19	4		●
47,00	41	56	19	4		●
47,60	42	56	19	4		●
48,00	42	56	19	4		●
49,60	44	56	19	4		●
50,00	44	56	19	4		●
51,50	46	56	19	4		●
52,00	46	56	19	4		●
54,50	48	63	22	4		●
55,00	48	63	22	4		●
57,50	51	63	22	4		●
58,00	51	63	22	4		●
60,00	53	63	22	4		●
62,00	55	63	22	4		●
65,00	56	71	27	4		●
68,00	58	71	27	4		●
70,00	61	71	27	4		●
72,00	63	71	27	4		●

01/02 →

d_1 (h8)	Min.	l_1	d_2	z		6255
75,00	66	71	27	4		●
78,00	68	80	32	6		●
80,00	70	80	32	6		●
82,00	72	80	32	6		●
85,00	75	80	32	6		●
88,00	78	80	32	6		●

d_1 (h8)	Min.	l_1	d_2	z		6255
90,00	80	80	32	6		●
92,00	80	90	40	6		●
95,00	83	90	40	6		●
98,00	86	90	40	6		●
100,00	88	90	40	6		●

02/02

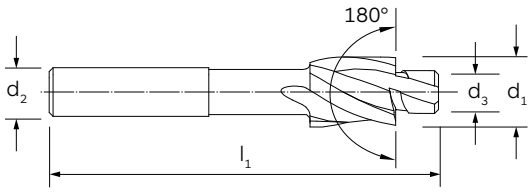
DIN 373

Flachsenker für Zylinderkopfschrauben (180°) | Counterbores for cylindrical head screws (180°)

373

DIN

P. 786



MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	180°	180°	180°
BESCHICHTUNG | COATING	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

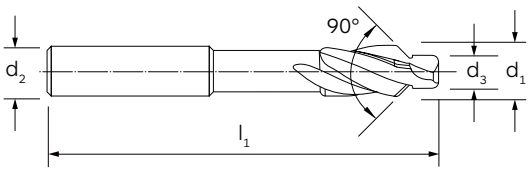
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	H	H	H

Für Schraube For Screw	d_1 (z9)	l_1	d_2 (h9)	d_3 (e8) 6260	d_3 (e8) 6261	d_3 (e8) 6262		**6260**	**6261**	**6262**
M 2	4,3	56	4,3	1,6	2,2	2,4		●	●	●
M 3	6,0	71	6,0	2,5	3,2	3,4		●	●	●
M 4	8,0	71	8,0	3,3	4,3	4,5		●	●	●
M 5	10,0	80	10,0	4,2	5,3	5,5		●	●	●
M 6	11,0	80	11,0	5,0	6,4	6,6		●	●	●
M 8	15,0	100	12,5	6,8	8,4	9,0		●	●	●
M 10	18,0	100	12,5	8,5	10,5	11,0		●	●	●
M 12	20,0	100	12,5	10,2	13,0	14,0		●	●	●

1866

DIN

P. 786



MATERIAL | MATERIAL	HSS	HSS	HSS
TYP | TYPE	90°	90°	90°
BESCHICHTUNG | COATING	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	H	H	H

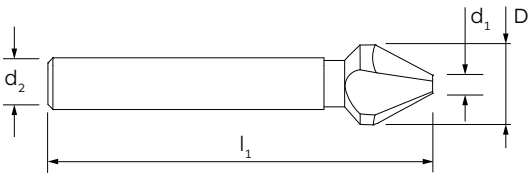
Für Schraube For Screw	d_1 (z9)	l_1	d_2 (h9)	d_3 (e8) 6263	d_3 (e8) 6264	d_3 (e8) 6265		**6263**	**6264**	**6265**
M 2	4,3	56	4,3	1,6	2,2	2,4		●	●	●
M 3	6,0	71	6,0	2,5	3,2	3,4		●	●	●
M 4	8,0	80	8,0	3,3	4,3	4,5		●	●	●
M 5	10,0	80	10,0	4,2	5,3	5,5		●	●	●
M 6	11,5	80	11,5	5,0	6,4	6,6		●	●	●
M 8	15,0	100	12,5	6,8	8,4	9,0		●	●	●
M 10	19,0	100	12,5	8,5	10,5	11,0		●	●	●

DIN 334 (C)

Kegelsenker 60° aus HSS mit 3 Schneiden für den allgemeinen Gebrauch
Countersinks 60° with 3 flutes for general use

334
DIN

P. 788



MATERIAL | MATERIAL	HSS	HSS
SENKWINKEL | COUNTERSINKING ANGLE	60°	60°
FORM | FORM	C	C
BESCHICHTUNG | COATING	-	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

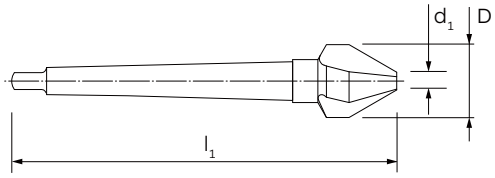
D	d_1	l_1	d_2 (h9)	z		6276	6276TN
6,3	1,6	45	5	3		●	●
8,0	2,0	50	6	3		●	●
12,5	3,2	56	8	3		●	●
16,0	4,0	63	10	3		●	●
20,0	5,0	67	10	3		●	●
25,0	6,3	71	10	3		●	●

DIN 334 (D)

Kegelsenker 60° aus HSS mit 3 Schneiden für den allgemeinen Gebrauch
Countersinks 60° with 3 flutes for general use

334
DIN

P. 788



MATERIAL | MATERIAL	HSS
SENKWINKEL | COUNTERSINKING ANGLE	60°
FORM | FORM	D
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	d_1	l_1		z		6278
16,0	4,0	90	1	3		●
20,0	5,0	106	2	3		●
25,0	6,3	112	2	3		●
31,5	10,0	118	2	3		●
40,0	12,5	150	3	3		●
50,0	16,0	160	3	3		●
63,0	20,0	190	4	3		●
80,0	25,0	200	4	3		●

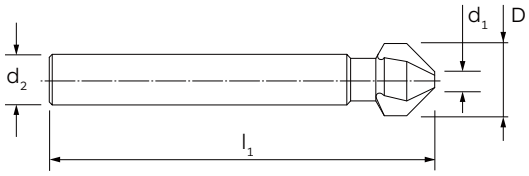
DIN 335 (C)

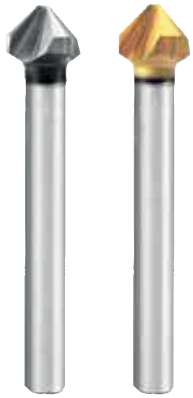
Kegelsenker 90° aus HSS mit 3 Schneiden **ungleicher Teilung, für ratterfreien Betrieb**
Countersinks 90°, with 3 flutes **variable pitch, for chatter free operation**

NEW

335
DIN

P. 788





MATERIAL | MATERIAL	HSS	HSS
SENKWINKEL | COUNTERSINKING ANGLE	90°	90°
FORM | FORM	C	C
BESCHICHTUNG | COATING	-	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↺	↺

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

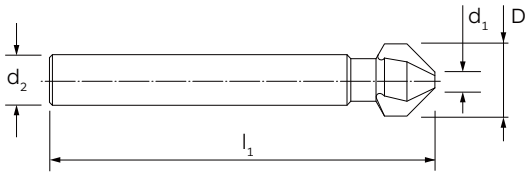
D	d_1	FORM C Fine	FORM C Mittlere | Medium	l_1	d_2 (h9)	Z		6274	6274TN
6,3	1,5	-	-	45	5	3		●	●
8,3	2,0	-	-	50	6	3		●	●
10,0	2,5	M 5	M 4	50	6	3		●	●
10,4	2,5	-	-	50	6	3		●	●
12,4	2,8	-	-	56	8	3		●	●
16,5	3,2	-	-	60	10	3		●	●
20,5	3,5	-	-	63	10	3		●	●
25,0	3,8	-	-	67	10	3		●	●
30,0	4,2	-	-	71	12	3		●	●

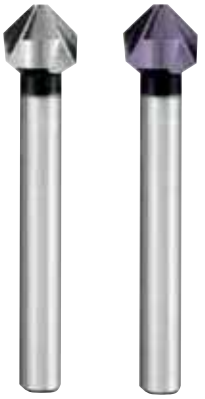
DIN 335 (C)

Kegelsenker 90° aus VHM mit 3 Schneiden für den allgemeinen Gebrauch
Countersinks 90° with 3 flutes for general use

335
DIN

P. 788





MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
SENKWINKEL | COUNTERSINKING ANGLE	90°	90°
FORM | FORM	C	C
BESCHICHTUNG | COATING	-	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

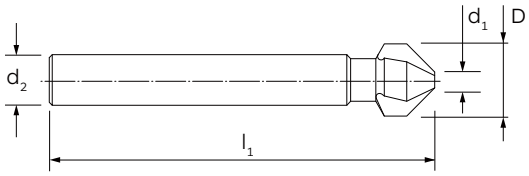
D	d_1	FORM C Fine	FORM C Mittlere | Medium	l_1	d_2 (h9)	Z		6275	6275TF
6,0	2,0	M 3	-	40	5	3		●	●
6,3	2,0	-	-	45	5	3		●	●
8,0	2,0	M 4	M 3,5	45	6	3		●	●
8,3	2,0	-	-	50	6	3		●	●
10,0	2,5	M 5	M 4	46	8	3		●	●
10,4	2,5	-	-	50	8	3		●	●
11,5	2,8	M 6	M 5	56	8	3		●	●
12,4	2,8	-	-	56	8	3		●	●
15,0	3,2	M 8	M 6	60	10	3		●	●
16,5	3,2	-	-	60	10	3		●	●
20,5	3,5	-	-	63	10	3		●	●
25,0	3,8	-	-	67	10	3		●	●
31,0	4,2	-	-	71	12	3		●	●

DIN 335 (C)

Kegelsenker 90° aus HSS mit 3 Schneiden für den allgemeinen Gebrauch
Countersinks 90° with 3 flutes for general use

335
DIN

P. 788



MATERIAL | MATERIAL	HSS	HSS	HSS
SENKWINKEL | COUNTERSINKING ANGLE	90°	90°	90°
FORM | FORM	C	C	C
BESCHICHTUNG | COATING	–	TiN	TiAlN Futura
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

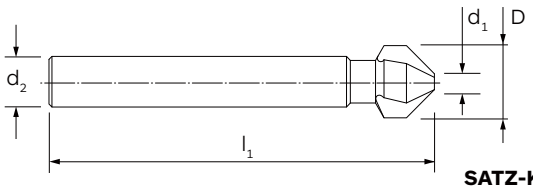
MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	–	–	–

D	d_1	FORM C Fine	FORM C Mittlere | Medium	l_1	d_2 (h9)	Z	6277	6277TN	6277TF
4,3	1,3	M 2	M 1 ,8	40	4	3	●	–	–
5,0	1,5	M 2,5	M 2	40	4	3	●	–	–
5,3	1,5	-	-	40	4	3	●	–	–
5,8	1,5	-	-	45	5	3	●	–	–
6,0	1,5	M 3	M 2,5	45	5	3	●	●	●
6,3	1,5	-	-	45	5	3	●	–	–
7,0	1,8	M 3,5	M 3	50	6	3	●	●	●
7,3	1,8	-	-	50	6	3	●	–	–
8,0	2,0	M 4	M 3,5	50	6	3	●	●	●
8,3	2,0	-	-	50	6	3	●	●	●
9,4	2,2	-	-	50	6	3	●	–	–
10,0	2,5	M 5	M 4	50	6	3	●	●	●
10,4	2,5	-	-	50	6	3	●	●	●
11,5	2,8	M 6	M 5	56	8	3	●	●	●
12,4	2,8	-	-	56	8	3	●	●	●
13,4	2,9	-	-	56	8	3	●	–	–
15,0	3,2	M 8	M 6	60	10	3	●	●	●
16,5	3,2	-	-	60	10	3	●	●	●
19,0	3,5	M 10	M 8	63	10	3	●	●	●
20,5	3,5	-	-	63	10	3	●	●	●
23,0	3,8	M 12	M 10	67	10	3	●	●	●
25,0	3,8	-	-	67	10	3	●	●	●
30,0	4,2	-	-	71	12	3	●	●	●

335
DIN

P. 788



SATZ-Kegelsenker 6927A
SET Countersinks 6927A

Kegelsenker cod. 6277
Countersink cod. **6277**

MATERIAL | MATERIAL	HSS
SENKWINKEL | COUNTERSINKING ANGLE	90°
FORM | FORM	C
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

SATZ KEGELSENKER AUS HSS | HSS Countersinks in SET

pezzo
piece

SATZ
Bestellcode
Order Code

6927A - 6

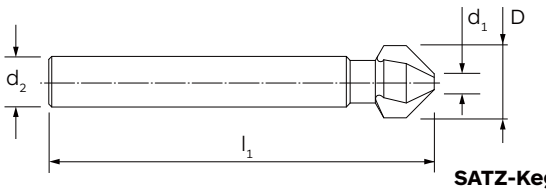
Ø 6	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 8	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 10	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 11,5	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 15	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 19	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**

DIN 335 (C)

Kegelsenker Satz 90° aus HSS in Metallkassette | Countersinks 90° set in metal cases

335
DIN

P. 788



SATZ-Kegelsenker 6927B
SET Countersinks 6927B

Kegelsenker cod. 6277
Countersink cod. **6277**

MATERIAL | MATERIAL	HSS
SENKWINKEL | COUNTERSINKING ANGLE	90°
FORM | FORM	C
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

SATZ KEGELSENKER AUS HSS | HSS Countersinks in SET

pezzo
piece

SATZ
Bestellcode
Order Code

6927B - 6

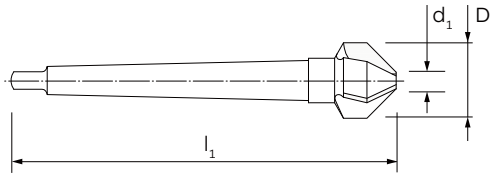
Ø 6,3	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 8,3	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 10,4	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 12,4	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 16,5	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**
Ø 20,5	**90°-Kegelsenker für HSS und VHM, Form C in HSS** 90° countersink, form C in HSS	**1**

DIN 335 (D)

Kegelsenker 90° aus HSS mit 3 Schneiden für den allgemeinen Gebrauch
Countersinks 90° with 3 flutes for general use

335
DIN

P. 788



MATERIAL | MATERIAL	HSS
SENKWINKEL | COUNTERSINKING ANGLE	90°
FORM | FORM	D
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	d_1	FORM C Fine	FORM C Mittlere | Medium	l_1		Z		6279
15,0	3,2	M 8	M 6	85	1	3		●
16,5	3,2	-	-	85	1	3		●
19,0	3,5	M 10	M 8	100	2	3		●
20,5	3,5	-	-	100	2	3		●
23,0	3,8	M 12	M 10	106	2	3		●
25,0	3,8	-	-	106	2	3		●
26,0	3,8	M 14	M 12	106	2	3		●
28,0	4,0	-	-	112	2	3		●
30,0	4,2	M 16	M 14	112	2	3		●
31,0	4,2	-	-	112	2	3		●
34,0	4,5	M 18	M 16	118	2	3		●
37,0	4,8	M 20	M 18	118	2	3		●
40,0	10,0	-	-	140	3	3		●
50,0	14,0	-	-	150	3	3		●
63,0	16,0	-	-	180	4	3		●
80,0	22,0	-	-	190	4	3		●

ILIX NORM

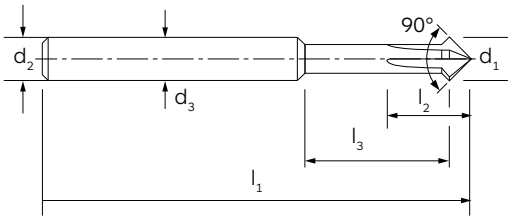
Multifunktionswerkzeug geeignet zum Fräsen, Konturieren, Senken, Schub- und Zugentgraten
Multifunctional tool suitable for milling, contouring, countersinking, push and pull deburring

NEW

ILIX NORM

DIN

P. 788

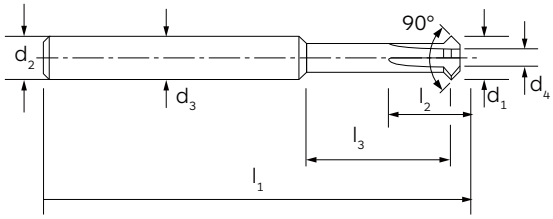


MATERIAL | MATERIAL	M.D.I.-HM
SENKWINKEL | COUNTERSINKING ANGLE	90°
FORM | FORM	C
BESCHICHTUNG | COATING	TiCN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	H

d_1 (h10)	l_1	l_2	l_3	d_2 (h6)	d_3 (h6)	d_4 (h6)		6272TC
2,8	75	3	11,0	6	2	-		●
3,8	75	4	14,0	6	3	-		●
4,8	75	5	16,5	6	4	-		●



5,8	100	6	20	6	4,0	3,0		●
7,8	100	8	25	6	5,4	3,5		●
9,8	100	9	-	6	-	5,0		●

C 01

PRODUKTFOKUS | PRODUCT FOCUS

Arbeitsprozesse | Working processes

C.01.03

Schnittdaten
Cutting data

Katalogseite Catalogue page	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
768	**6253**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
769	**6251**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
771	**6255**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
773	**6260**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
773	**6261**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
773	**6262**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
774	**6263**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
774	**6264**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**
774	**6265**		**25**	**8**	**20**	**7**	**15**	**6**	**6**	**3**	**5**	**4**	**13**	**9**	**10**	**8**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für HSS | Feed f_n (mm/rev) for HSS

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6253 Ø 5 | Werkstück Materialgruppe P1 | V_c = 25 m/min | f_n = **0,009 (mm/U)** (Koeffizient f=8)
Cutting data example: 6253 Ø 5 | Working material group P1 | V_c = 25 m/min | f_n = **0,009** mm/rev (coefficient f=8)

SCHNITTDATEN | CUTTING DATA

Aufbohrer und Flachsenker aus HSS | HSS core drills and counterbores

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6253**	768
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6251**	769
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6255**	771
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6260**	773
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6261**	773
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6262**	773
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6263**	774
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6264**	774
45	**10**	**35**	**10**	4	3	4	2	8	2	-	-	-	-		**6265**	774

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

C 01

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Katalogseite Catalogue page	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
Materialgruppen | Materials Group			P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
775	**6276**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
775	**6276TN**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
776	**6278**		**50**	**10**	**40**	**9**	**34**	**7**	**18**	**5**	**12**	**6**	**50**	**11**	**30**	**10**
777	**6274**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
777	**6274TN**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
779	**6277**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
779	**6277TN**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
779	**6277TF**		**23**	**8**	**20**	**7**	**17**	**5**	**8**	**3**	**6**	**4**	**25**	**9**	**15**	**8**
782	**6279**		**50**	**10**	**40**	**9**	**34**	**7**	**18**	**5**	**12**	**6**	**50**	**11**	**30**	**10**
778	**6275**		**50**	**10**	**40**	**9**	**34**	**7**	**18**	**5**	**12**	**6**	**50**	**11**	**30**	**10**
778	**6275TF**		**50**	**10**	**40**	**9**	**34**	**7**	**18**	**5**	**12**	**6**	**50**	**11**	**30**	**10**
783	**6272TC**		**100**	**3**	**80**	**3**	**50**	**3**	**40**	**3**	**30**	**2**	**100**	**3**	**80**	**3**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) für HSS - VHM | Feed f_n (mm/rev) for HSS - Solid Carbide

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
1	0,005	0,006	0,006	0,007	0,008	0,009	0,010	0,012
2	0,008	0,009	0,011	0,013	0,015	0,018	0,021	0,024
3	0,010	0,012	0,014	0,016	0,019	0,023	0,027	0,032
4	0,013	0,015	0,018	0,022	0,026	0,031	0,037	0,044
5	0,017	0,020	0,024	0,029	0,035	0,042	0,051	0,061
6	0,020	0,024	0,029	0,035	0,043	0,052	0,063	0,076
7	0,023	0,028	0,034	0,042	0,051	0,062	0,076	0,093
8	0,027	0,033	0,041	0,050	0,062	0,076	0,093	0,115
9	0,030	0,037	0,046	0,057	0,070	0,086	0,106	0,131
10	0,033	0,041	0,050	0,061	0,076	0,093	0,114	0,141
12	0,037	0,045	0,055	0,067	0,082	0,100	0,122	0,149
16	0,043	0,052	0,063	0,076	0,092	0,112	0,135	0,163
20	0,050	0,061	0,073	0,089	0,107	0,130	0,157	0,190

Beispiel Schnittdaten: 6276 Ø 5 | Werkstück Materialgruppe P1 | V_c = 23 m/min | f_n = **0,009 (mm/U)** (Koeffizient f=8)
Cutting data example: 6276 Ø 5 | Working material group P1 | V_c = 23 m/min | f_n = **0,009** mm/rev (coefficient f=8)

SCHNITTDATEN | CUTTING DATA

Kegelsenker aus HSS und VHM | HSS and Solid carbide countersinks

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen |** Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6276**	775
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6276TN**	775
54	**12**	**48**	**12**	**14**	**5**	**10**	**4**	-	-	-	-	-	-		**6278**	776
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6274**	777
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6274TN**	777
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6277**	779
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6277TN**	779
27	**10**	**24**	**10**	**7**	**3**	**5**	**2**	-	-	-	-	-	-		**6277TF**	779
54	**12**	**48**	**12**	**14**	**5**	**10**	**4**	-	-	-	-	-	-		**6279**	782
54	**12**	**48**	**12**	**14**	**5**	**10**	**4**	-	-	-	-	-	-		**6275**	778
54	**12**	**48**	**12**	**14**	**5**	**10**	**4**	-	-	-	-	-	-		**6275TF**	778
200	**4**	**150**	**4**	20	2	20	2	20	2	-	-	-	-		**6272TC**	783

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,013	0,015	0,017	0,019	0,022	0,024	0,028	0,031	**1**	**Vorschub-Nummer** Feed Number
0,028	0,033	0,038	0,045	0,053	0,062	0,072	0,084	**2**	
0,038	0,044	0,052	0,062	0,073	0,086	0,101	0,120	**3**	
0,052	0,062	0,074	0,088	0,105	0,125	0,148	0,177	**4**	
0,073	0,088	0,105	0,126	0,152	0,182	0,218	0,262	**5**	
0,092	0,111	0,135	0,163	0,197	0,238	0,288	0,349	**6**	
0,113	0,138	0,168	0,205	0,250	0,305	0,372	0,454	**7**	
0,141	0,174	0,214	0,263	0,324	0,398	0,490	0,602	**8**	
0,162	0,201	0,248	0,306	0,378	0,466	0,576	0,711	**9**	
0,173	0,213	0,262	0,322	0,396	0,487	0,599	0,730	**10**	
0,182	0,222	0,270	0,330	0,402	0,491	0,599	0,736	**12**	
0,198	0,239	0,289	0,350	0,424	0,512	0,620	0,750	**16**	
0,230	0,278	0,336	0,407	0,492	0,596	0,721	0,872	**20**	

▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

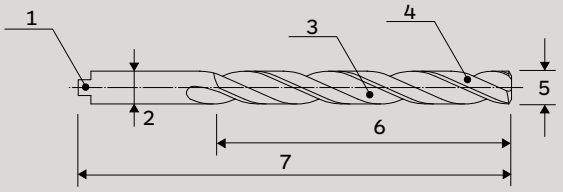
02

TECHNISCHE ANLEITUNG
TECHNICAL GUIDE

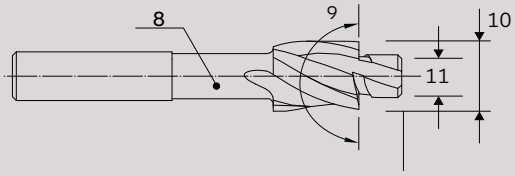
C.02.01

▸ **BESCHREIBUNG** | NOMENCLATURES

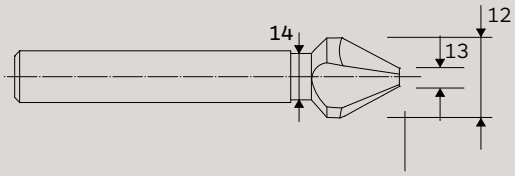
Aufbohrer | Core Drill



Flachsenker | Counterbore



Kegelsenker | Countersink



Zeichenerklärung | Legend:

1	**Zylinderschaft mit Mitnehmer**	Shank with tang
2	**Schaftdurchmesser**	Shank diameter
3	**Spannute**	Flute
4	**Spirale**	Helix
5	**Durchmesser Aufbohrer**	Core Drill diameter
6	**Nutenlänge**	Flute length
7	**Gesamtlänge**	Total Length

8	**Einstich**	Neck
9	**Senkwinkel**	Counterboring angle
10	**Senkdurchmesser**	Counterboring diameter
11	**Zapfendurchmesser**	Pilot diameter
12	**Größter Senkdurchmesser**	Max. cutting diameter
13	**Kleinster Senkdurchmesser**	Min. cutting diameter
14	**Halsdurchmesser**	Neck diameter

C 02

▸ **BERECHNUNGSFORMELN** | CALCULATION FORMULAS

Schnittgeschwindigkei (m/min)
Cutting Speed (m/min)

$$V_c = \frac{d_1 \cdot \pi \cdot n}{1000}$$

Spindeldrehzahl (U/min)
Spindle Speed (rpm)

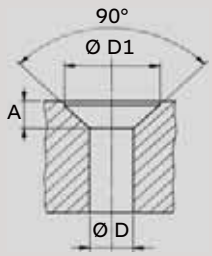
$$n = \frac{V_c \cdot 1000}{d_1 \cdot \pi}$$

Zeichenerklärung | Legend:

V_c	**Schnittgeschwindigkei**	Cutting Speed
d_1	**Bohrerdurchmesser**	Cutting Diameter

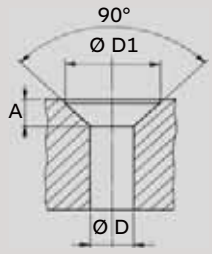
n	**Spindeldrehzahl (U/min)**	Spindle speed

▸ **TABELLE FÜR SENKSCHRAUBENSITZE |** TABLE FOR COUNTERSUNK SCREW SOCKET



UNI 5933
Senkung für Senkkopfschraube mit Innensechskant
Socket for flat countersunk head screw with hexagon socket

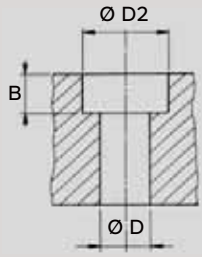
Schraube Screw	D **Mittel** | Medium	D **Fein** | Fein	D1	A
M3	3.4	3.2	6.3	1.7
M4	4.5	4.3	8.3	2.4
M5	5.5	5.3	10.4	2.9
M6	6.6	6.4	12.4	3.3
M8	9	8.4	16.5	4.4
M10	11	10.5	20.5	5.5
M12	13.5	13	25	6.5
M14	15.5	15	28	7
M16	17.5	17	31	7.5
M18	20	19	37	8
M20	22	21	40	8.5
M22	24	23	-	-
M24	26	25	-	-
M27	30	-	-	-
M30	33	-	-	-



UNI 6109
Senkung für Senkkopfschraube mit Schlitz
Slotted flat countersunk head screw socket

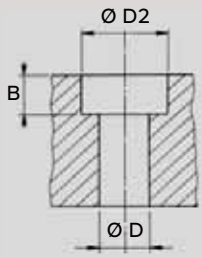
Schraube Screw	D1 **Mittel** | Medium	D1 **Fein** | Fein	A
M2	4.2	4.6	1.3
M2,5	5.2	5.7	1.6
M3	6.2	6.5	1.8
M4"	8.2	8.6	2.4
M5	10.2	10.4	2.9
M6	12.2	12.4	3.4
M8	16.2	16.4	4.5
M10	20.2	20.4	5.6

▸ **TABELLE FÜR KOPFSCHRAUBENSITZE** | TABLE FOR CYLINDRICAL SCREW SOCKET



UNI 5933
Senkung für Zylinderkopfschraube mit Innensechskant
Hexagon socket head cap screw socket

Schraube Screw	D2 **Mittel** | Medium	D2 **Fein** | Fein	B
M3	6	6	3.4
M4	8	7.5	4.6
M5	10	9.5	5.7
M6	11	10.5	6.8
M8	15	14	9
M10	18	17	11
M12	20	19	13
M14	24	23	15
M16	26	25	17.5
M18	30	28	19.5
M20	33	31	21.5
M22	36	34	23.5
M24	40	37	25.5
M27	43	-	28.5
M30	48	-	32



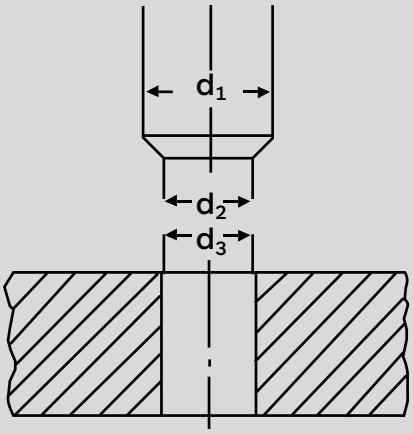
UNI 6107
Senkung für Zylinderkopfschraube mit Schlitz
Slotted head screw socket

Schraube Screw	D2 **Mittel** | Medium	D2 **Fein** | Fein	B
M2	4.3	4.3	1.3
M2,5	5.5	5	1.6
M3	6.5	6	2
M4	8	7.2	2.6
M5	10	9.2	3.3
M6	11	10.2	3.9
M8	15	13.2	5
M10	18	16.2	6

▸ TECHNISCHE DATEN FÜR AUFBOHRER | TECHNICAL DATA FOR CORE DRILLING

DE
- **Mindestlochdurchmesser für Aufbohrer Anwendungen nach DIN 344, 343 und 1864 Ausgabe 8. 1971**

ENG
- Minimum core hole diameter for core drill applications according to DIN 344, 343 e 1864 edizione 8. 1971

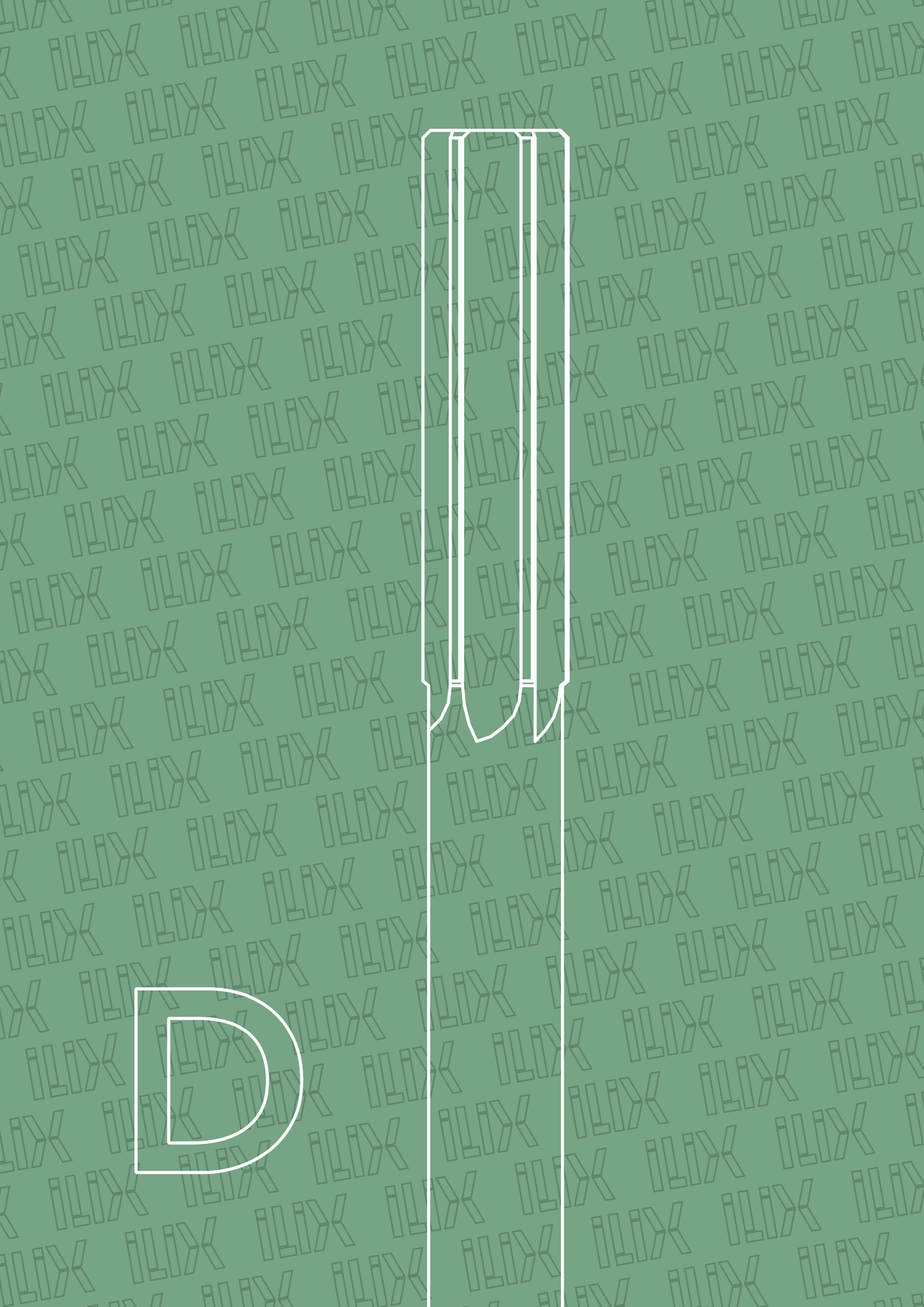


d_1 = Werkzeug-Ø
nominal tool Ø

d_2 = Kleinster Fasen-Ø
minimum chamfer Ø

d_3 = Kleinster vorgebohrter-Ø
minimum core hole Ø

Werkzeug-Ø Aufbohrer Core Drills nominal tool Ø	**Kleinster vorgebohrter-Ø** minimum core hole Ø	**Werkzeug-Ø Aufbohrer** Core Drills nominal tool Ø	**Kleinster vorgebohrter-Ø** minimum core hole Ø
5	3,5	17	11,9
6	4,2	18	12,6
7	4,9	19	13,3
8	5,6	20	14
9	6,3	21	14,6
10	7	22	15,3
11	7,7	23	16
12	8,4	24	16,6
13	9,1	25	17,3
14	9,8	26	18
15	10,5	27	18,6
16	11,2	28	19,3
29	20	41	28,5
30	20,5	42	29
31	21	43	30
32	22	44	30,5
33	23	45	31
34	24	46	32
35	25	47	32,5
36	25,5	48	33
37	26	49	34
38	26,5	50	34,5
39	27	-	-
40	28	-	-


D

01

REIBAHLEN
REAMERS

REIBAHLE
REAMERS

D.01.01

Leitfaden zur Werkzeugauswahl
Tool selection guide

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	DIN	Form Form	Lochtoleranz Hole tolerance	Spiralwinkel Helix angle	Schaft Shank	Beschichtung Coating	Schnittrichtung Cutting Direction	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ HANDREIBAHLEN | HAND REAMERS

6301		HSS	206 DIN	A	H7	0°	DIN 10	-	↻	1 ÷ 50						-	806
6302		HSS	206 DIN	B	H7	6°	DIN 10	-	↻	0,8 ÷ 50						-	806

▸ HANDREIBAHLEN | HAND REAMERS

Einstellbarer Dehnungsbereich max. 1 % über Nennweite | Adjustable range of expansion max 1 % over nominal size

6306		HSS	859 DIN	A	-	0°	DIN 10	-	↻	4 ÷ 30						-	808
6309		HSS	859 DIN	B	-	6°	DIN 10	-	↻	8 ÷ 30						-	808

▸ HANDREIBAHLEN | HAND REAMERS

Hand-Kegelstift-Reibahlen, Kegel 1 : 50 | Hand taper pin reamers, taper 1 : 50

6315		HSS	9 DIN	A	-	0°	DIN 10	-	↻	1 ÷ 30						-	831
6304		HSS	9 DIN	B	-	6°	DIN 10	-	↻	1,5 ÷ 50						-	831

▸ HANDREIBAHLEN | HAND REAMERS

Für Morsekegel nach DIN 228 | Taper socket reamer – finishing for taper sleeves according to DIN 228

6317		HSS	204 DIN	C	-	0°	DIN 10	-	↻	C.M. | M.T. 0 ÷ 6						-	837
6312		HSS	204 DIN	D	-	6°	DIN 10	-	↻	C.M. | M.T. 0 ÷ 6						-	837

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	DIN	Form Form	Lochtoleranz Hole tolerance	Spiralwinkel Helix angle	Schaft Shank	Beschichtung Coating	Schnittrichtung Cutting Direction	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS **Kurz für Automaten** | Short for automatic machines																	
6324		HSS-Co	8089 DIN	B	H7	9°	▭	-	↻	1,5 ÷ 20						-	**809**
MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS																	
6321		HSS-Co	212 DIN	A-C	H7	0°	▭	-	↻	1 ÷ 20						-	**810**
6333		HSS-Co	208 DIN	A	H7	0°	▭	-	↻	5 ÷ 32						-	**822**
6361		HSS	219 DIN	A	H7	0°	-	-	↻	25 ÷ 100						-	**827**
MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS **Abstufung von 0,01 mm-Ø** | Progression of 0,01 mm																	
6326		HSS-Co	212 DIN	B/D	H7	9°	▭	-	↻	1 ÷ 20						-	**810**
6326TN		HSS-Co	212 DIN	B/D	H7	9°	▭	TiN	↻	1 ÷ 20						-	**810**
6326C		HSS-Co	212 DIN	D	-	9°	▭	-	↻	0,95 ÷ 16,10						-	**817**
6337		HSS-Co	208 DIN	B	H7	9°	▭	-	↻	5 ÷ 40						-	**822**
6360		HSS	219 DIN	B	H7	9°	-	-	↻	25 ÷ 100						-	**827**
MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS **45° Spiral** | 45° Helix																	
6325		HSS-Co	212 DIN	E	H7	45°	▭	-	↻	1 ÷ 20						-	**810**

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	DIN	Form Form	Lochtoleranz Hole tolerance	Spiralwinkel Helix angle	Schaft Shank	Beschichtung Coating	Schnittrichtung Cutting Direction	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page

▸ MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS

45° Spiral | 45° Helix

6335		HSS-Co	208 DIN	C	H7	45°	-	-	↻	5 ÷ 32						-	822
6362		HSS	219 DIN	C	H7	45°	-	-	↻	25 ÷ 100						-	827

▸ MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS

Einstellbarer Dehnungsbereich 0,01 mm Ø | Adjustable range of expansion max 0,01 mm Ø

6307		HSS-Co	ILIX NORM DIN	-	H7	0°	-	-	↻	8 ÷ 18						-	826

▸ MASCHINENREIBAHLEN | MACHINE CHUCKING REAMERS

Hand-Kegelstift-Reibahlen, Kegel 1 : 50 | Taper pin reamers - taper 1:50

6313		HSS-Co	2179 DIN	-	-	45°	-	-	↻	1 ÷ 12						-	833
6314		HSS	2180 DIN	-	-	45°	-	-	↻	4 ÷ 20						-	834

▸ MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER REAMERS

6308		HSS	ILIX NORM DIN	-	-	0°	DIN 10	-	↻	3 ÷ 45						-	836

▸ MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER REAMERS

Kegel-Reibahle für NPT/NPTF-Gewinde | Taper pin reamer for NPT/NPTF thread

6310		HSS	ILIX NORM DIN	A	-	0°	DIN 10	-	↻	1/16" ÷ 2"						-	835
6311		HSS	ILIX NORM DIN	B	-	6°	DIN 10	-	↻	1/16" ÷ 2"						-	835

Werkzeugcode | Tool code		Werkzeugmaterial Tool material	DIN	Form Form	Lochtoleranz Hole tolerance	Spiralwinkel Helix angle	Schaft Shank	Beschichtung Coating	Schnittrichtung Cutting Direction	Durchmesserbereich Diameters range	P	M	K	N	S	H	Werkzeugseite Tool page
MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER REAMERS **Kegelstift-Reibahlen (nf: Französischer Standard) – Kegel 1 : 50 |** Taper pin reamers (nf: French standard) – taper 1 : 50																	
6319		HSS	E 66-011 NF	NF	-	45°	DIN 10	-	↻	1 ÷ 4,5						-	832
MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER REAMERS **Nietloch-Reibahlen mit Morsekonus |** Bridge reamers with morse taper																	
6355		HSS	311 DIN	-	-	25°		-	↻	6,4 ÷ 32						-	838
MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER REAMERS **Kegelstift-Reibahlen |** Taper pin reamers																	
6303		HSS	ILIX NORM DIN	-	-	0°	DIN 10	-	↻	1,5 ÷ 20						-	829
MICRO MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER MICRO REAMERS **Zum schnellen, glatten Reiben von kleinen Löchern |** For fast smooth reaming of shallow holes																	
6318		HSS	ILIX NORM DIN	-	-	12°		-	↻	1,2 ÷ 1,9						-	830
MASCHINEN-KEGELREIBAHLEN | MACHINE TAPER REAMERS																	
6369		M.D.I. HM	~8094 DIN	A	H7	0°		-	↻	5 ÷ 20						-	824
MASCHINENREIBAHLEN | MACHINE REAMERS																	
6372		M.D.I. HM	~8093 DIN	B	H7	9°		-	↻	1 ÷ 20						-	813
6372TN		M.D.I. HM	~8093 DIN	B	H7	9°		TiN	↻	1 ÷ 20						-	813
6372C*		M.D.I. HM	~8093 DIN	B	-	9°		-	↻	0,98 ÷ 12,05						-	818

* Maschinen-Reibahle in 1/ 100 Abstufung. Toleranz des Nenn-ø der Reibahle **+0,003/0**
Centesimal progression. Tolerance of the nominal ø of the reamer **+0,003/0**

Werkzeugcode | Tool code		**Werkzeugmaterial** Tool material	**DIN**	**Form** Form	**Lochtoleranz** Hole tolerance	**Spiralwinkel** Helix angle	**Schaft** Shank	**Beschichtung** Coating	**Schnittrichtung** Cutting Direction	**Durchmesserbereich** Diameters range	P	M	K	N	S	H	**Werkzeugseite** Tool page
MASCHINENREIBAHLEN | MACHINE REAMERS																	
6370	**Axiale Kühlmittelzufuhr** Axial internal coolant	M.D.I. HM	~8093 DIN	B	H7	9°		-		4 ÷ 20						-	**815**
6371	**Radialer Innenkühlung** Radial internal coolant	M.D.I. HM	~8093 DIN	B	H7	9°		-		4 ÷ 20						-	**816**
6376		M.D.I. HM	~8094 DIN	B	H7	9°		-		5 ÷ 20						-	**825**
6323		CERMET	~212 DIN	-	H7	12°		-		3,5 ÷ 16					-	-	**820**
6373		PKD	ILIX NORM DIN	-	H7	0°		-		12 ÷ 16	-	-	-		-	-	**821**

REIBAHLE
REAMERS

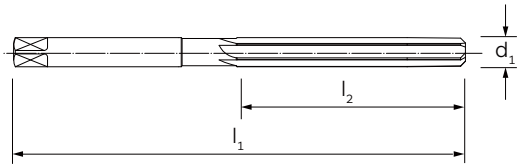
D.01.02

Produktpalette
Products range

DIN 206 (A/B)

Handreibahlen zur Herstellung von Bohrungen mit H7-Toleranzen
Hand reamers to produce holes with H7 tolerances

206 DIN | **H7** | **DIN 10**



MATERIAL | MATERIAL	HSS	HSS
SPIRALWINKEL | HELIX ANGLE	0°	6°
FORM | FORM	A	B
BESCHICHTUNG | COATING	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (H7)	l_1	l_2	z	6301	6302
0,8	34	13	3	-	■
1,0*	34	13	3	●	●
1,1*	34	13	3	●	●
1,2*	38	16	3	●	●
1,3*	38	16	3	●	●
1,4	41	20	3	●	●
1,5	41	20	3	●	●
1,6	44	21	3	●	●
1,7	44	21	3	●	●
1,8	47	23	3	●	●
1,9	47	23	3	●	●
2,0	50	25	3	●	●
2,1	50	25	3	●	●
2,2	54	27	3	●	●
2,3	54	27	3	●	●
2,4	58	29	3	●	●
2,5	58	29	5	●	●
2,6	58	29	5	●	●
2,7	62	31	5	●	●
2,8	62	31	5	●	●
2,9	62	31	5	●	●
3,0	62	31	5	●	●
3,1	66	33	5	●	●
3,2	66	33	5	●	●
3,3	66	33	5	●	●
3,4	71	35	5	●	●
3,5	71	35	5	●	●

d_1 (H7)	l_1	l_2	z	6301	6302
3,6	71	35	5	●	●
3,7	71	35	5	●	●
3,8	76	38	5	●	●
3,9	76	38	5	●	●
4,0	76	38	6	●	●
4,1	76	38	6	●	●
4,2	76	38	6	●	●
4,3	81	41	6	●	●
4,4	81	41	6	●	●
4,5	81	41	6	●	●
4,6	81	41	6	●	●
4,7	81	41	6	●	●
4,8	87	44	6	●	●
4,9	87	44	6	●	●
5,0	87	44	6	●	●
5,1	87	44	6	●	●
5,2	87	44	6	●	●
5,3	87	44	6	●	●
5,4	93	47	6	●	●
5,5	93	47	6	●	●
5,6	93	47	6	●	●
5,7	93	47	6	●	●
5,8	93	47	6	●	●
5,9	93	47	6	●	●
6,0	93	47	6	●	●
6,1	100	50	6	●	●
6,2	100	50	6	●	●

01/02

* ILIX NORM ■ **Solange der Vorrat reicht** | Till stocks last

DIN 206 (A/B)

Handreibahlen zur Herstellung von Bohrungen mit H7-Toleranzen
Hand reamers to produce holes with H7 tolerances

d_1 (H7)	l_1	l_2	z	6301	6302
6,3	100	50	6	●	●
6,4	100	50	6	●	●
6,5	100	50	6	●	●
6,6	100	50	6	●	●
6,7	100	50	6	●	●
6,8	107	54	6	●	●
6,9	107	54	6	●	●
7,0	107	54	6	●	●
7,1	107	54	6	●	●
7,2	107	54	6	●	●
7,3	107	54	6	●	●
7,4	107	54	6	●	●
7,5	107	54	6	●	●
7,6	115	58	6	●	●
7,7	115	58	6	●	●
7,8	115	58	6	●	●
7,9	115	58	6	●	●
8,0	115	58	6	●	●
8,1	115	58	6	●	●
8,2	115	58	6	●	●
8,3	115	58	6	●	●
8,4	115	58	6	●	●
8,5	115	58	6	●	●
8,6	124	62	6	●	●
8,7	124	62	6	●	●
8,8	124	62	6	●	●
8,9	124	62	6	●	●
9,0	124	62	6	●	●
9,1	124	62	6	●	●
9,2	124	62	6	●	●
9,3	124	62	6	●	●
9,4	124	62	6	●	●
9,5	124	62	6	●	●
9,6	133	66	6	●	●
9,7	133	66	6	●	●
9,8	133	66	6	●	●
9,9	133	66	6	●	●
10,0	133	66	6	●	●
10,1	133	66	6	●	–
10,2	133	66	6	●	–
10,3	133	66	6	●	–
10,4	133	66	6	●	–
10,5	133	66	6	●	●
10,6	133	66	6	●	–
10,7	142	71	6	●	–
10,8	142	71	6	●	–
10,9	142	71	6	●	–
11,0	142	71	6	●	●
11,1	142	71	6	●	–
11,2	142	71	6	●	–
11,3	142	71	6	●	–
11,4	142	71	6	●	–
11,5	142	71	6	●	●
11,6	142	71	6	●	–
11,7	142	71	6	●	–
11,8	142	71	6	●	–
11,9	152	76	6	●	–

d_1 (H7)	l_1	l_2	z	6301	6302
12,0	152	76	6	●	●
12,5	152	76	6	●	–
13,0	152	76	8	●	–
13,5	163	81	8	●	–
14,0	163	81	8	●	●
14,5	163	81	8	●	●
15,0	163	81	8	●	●
15,5	175	87	8	●	●
16,0	175	87	8	●	●
16,5	175	87	8	●	●
17,0	175	87	8	●	●
17,5	188	93	8	●	●
18,0	188	93	8	●	●
18,5	188	93	8	●	●
19,0	188	93	8	●	●
19,5	201	100	8	●	●
20,0	201	100	8	●	●
20,5	201	100	8	●	●
21,0	201	100	8	●	●
21,5	201	100	8	●	●
22,0	215	107	8	●	●
22,5	215	107	8	●	●
23,0	215	107	8	●	●
23,5	215	107	8	●	●
24,0	231	115	10	●	●
24,5	231	115	10	–	●
25,0	231	115	10	●	●
25,5	231	115	10	●	●
26,0	231	115	10	●	●
26,5	231	115	10	●	●
27,0	247	124	10	●	●
27,5	247	124	10	–	●
28,0	247	124	10	●	●
28,5	247	124	10	●	●
29,0	247	124	10	●	●
29,5	247	124	10	●	●
30,0	247	124	10	●	■
31,0	265	133	10	●	●
32,0	265	133	10	●	●
33,0	265	133	10	●	●
34,0	284	142	12	●	●
35,0	284	142	12	●	●
36,0	284	142	12	●	●
37,0	284	142	12	●	●
38,0	305	152	12	●	●
39,0	305	152	12	●	●
40,0	305	152	12	●	●
41,0	305	152	12	●	●
42,0	305	152	12	●	●
43,0	326	163	12	●	●
44,0	326	163	12	●	●
45,0	326	163	12	●	●
46,0	326	163	14	●	●
47,0	326	163	14	●	●
48,0	347	174	14	●	●
49,0	347	174	14	●	●
50,0	347	174	14	●	●

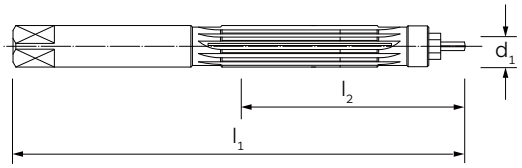
02/02

DIN 859 (A/B)

Nachstellbare Handreibahlen, Nachstellbereich max. 1 % über Nenndurchmesser
Adjustable hand reamers, range of expansion max 1 % over nominal diameter

859
DIN


DIN 10



MATERIAL | MATERIAL	HSS	HSS
SPIRALWINKEL | HELIX ANGLE	0°	6°
FORM | FORM	A	B
BESCHICHTUNG | COATING	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1	l_1	l_2		6306	6309
4	76	38		●	-
5	87	44		●	-
6	93	47		●	-
7	107	54		●	-
8	115	58		●	●
9	124	62		●	●
10	133	66		●	●
11	142	71		●	●
12	152	76		●	●
13	152	76		●	●
14	163	81		●	●
15	163	81		●	●
16	175	87		●	●
17	175	87		●	●
18	188	93		●	●
19	188	93		●	●
20	201	100		●	●
21	201	100		●	●
22	215	107		●	●
23	215	107		●	●
24	231	115		●	●
25	231	115		●	●
26	231	115		●	●
28	247	124		●	●
30	247	124		●	●

d_1	l_1	l_2		6306	6309

D
01

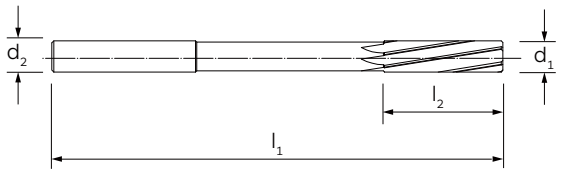
DIN 8089 (B)

Kurze Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz, für Automaten
Short machine chucking reamers to produce holes with H7 tolerance, for automatic machines

8089
DIN

H7

P. 840



MATERIAL | MATERIAL	HSS-Co
SPIRALWINKEL | HELIX ANGLE	9°
FORM | FORM	B
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2	d_2 (h8)		6324
1,5*	45	12	1,50		●
2,0*	50	16	2,00		●
2,5*	56	18	2,50		●
3,0*	56	18	3,00		●
3,5*	56	20	3,00		●
4,0	56	20	3,55		●
4,5	63	22	4,00		●
5,0	63	22	4,00		●
5,5	63	22	5,00		●
6,0	63	22	5,00		●
6,5	63	22	5,00		●
7,0	71	25	6,30		●
7,5	71	25	6,30		●
8,0	71	25	6,30		●
8,5	71	25	6,30		●
9,0	71	25	8,00		●
9,5	71	25	8,00		●
10,0	71	25	8,00		●
11,0	80	28	10,00		●
12,0	80	28	10,00		●
13,0	80	28	10,00		●
14,0	90	32	12,50		●
15,0	90	32	12,50		●
16,0	90	32	12,50		●
17,0	90	32	12,50		●
18,0	100	36	16,00		●
19,0	100	36	16,00		●

d_1 (H7)	l_1	l_2	d_2 (h8)		6324
20,0	100	36	16,00		●

* ILIX NORM

DIN 212 (A/C) - (B/D) - (E)

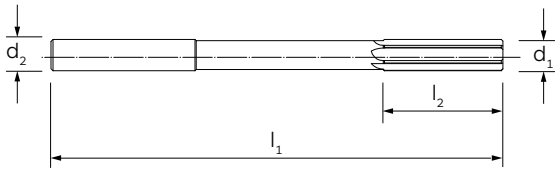
HSS-Co-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

212
DIN

H7

≤ Ø2,9 | ≥ Ø3

P. 840



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co	HSS-Co
SPIRALWINKEL | HELIX ANGLE	0°	45°	9°	9°
FORM | FORM	A/C	E	B/D	B/D
BESCHICHTUNG | COATING	-	-	-	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-	-

d_1 (H7)	l_1	l_2	d_2 (h9)	6321	6325	6326	6326TN
1,0*	34	5,5	1,0	●	■	●	●
1,1*	36	6,5	1,1	●	-	●	●
1,2*	38	8	1,2	●	■	●	●
1,3*	38	8	1,2	●	-	●	●
1,4	40	8	1,4	●	-	●	●
1,5	40	8	1,5	●	■	●	●
1/16”	43	9	1,6	-	-	●	●
1,6	43	9	1,6	●	■	●	●
1,7	43	9	1,6	●	■	●	●
1,8	46	10	1,8	●	■	●	●
1,9	46	10	1,8	●	■	●	●
2,0	49	11	2,0	●	●	●	●
2,1	49	11	2,0	●	●	●	●
2,2	53	12	2,2	●	●	●	●
2,3	53	12	2,2	●	●	●	●
3/32”	57	14	2,5	-	-	●	●
2,4	57	14	2,5	●	●	●	●
2,5	57	14	2,5	●	●	●	●
2,6	57	14	2,5	●	●	●	●
2,7	61	15	2,8	●	●	●	●
7/64”	61	15	2,8	-	-	●	●
2,8	61	15	2,8	●	●	●	●
2,9	61	15	3,0	●	●	●	●
3,0	61	15	3,0	●	●	●	●
3,1	65	16	3,2	●	●	●	●
1/8”	65	16	3,2	-	-	●	●
3,2	65	16	3,2	●	●	●	●

01/03

* ILIX NORM

DIN 212 A/C - B/D - E

HSS-Co-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

d_1 (H7)	l_1	l_2	d_2 (h9)		6321	6325	6326	6326TN
3,3	65	18	3,2		●	●	●	●
3,4	70	18	3,5		●	●	●	●
3,5	70	18	3,5		●	●	●	●
3,6	70	18	3,5		●	●	●	●
3,7	70	18	3,5		●	●	●	●
3,8	75	19	4,0		●	●	●	●
3,9	75	19	4,0		●	●	●	●
4,0	75	19	4,0		●	●	●	●
4,1	75	19	4,0		●	●	●	●
4,2	75	19	4,0		●	●	●	●
4,3	80	21	4,5		●	●	●	●
4,4	80	21	4,5		●	●	●	●
4,5	80	21	4,5		●	●	●	●
4,6	80	21	4,5		●	●	●	●
4,7	80	21	4,5		●	●	●	●
3/16”	86	23	5,0		–	–	●	●
4,8	86	23	5,0		●	●	●	●
4,9	86	23	5,0		●	●	●	●
5,0	86	23	5,0		●	●	●	●
5,1	86	23	5,0		●	●	●	●
5,2	86	23	5,0		●	●	●	●
5,3	86	23	5,0		●	●	●	●
5,4	93	26	5,6		●	●	●	●
5,5	93	26	5,6		●	●	●	●
5,6	93	26	5,6		●	●	●	●
5,7	93	26	5,6		●	●	●	●
5,8	93	26	5,6		●	●	●	●
5,9	93	26	5,6		●	●	●	●
6,0	93	26	5,6		●	●	●	●
6,1	101	28	6,3		●	●	●	●
6,2	101	28	6,3		●	●	●	●
6,3	101	28	6,3		●	●	●	●
1/4”	101	28	6,3		–	–	●	●
6,4	101	28	6,3		●	●	●	●
6,5	101	28	6,3		●	●	●	●
6,6	101	28	6,3		●	●	●	●
6,7	101	28	6,3		●	●	●	●
6,8	109	31	7,1		●	●	●	●
6,9	109	31	7,1		●	●	●	●
7,0	109	31	7,1		●	●	●	●
7,1	109	31	7,1		●	●	●	●
7,2	109	31	7,1		●	●	●	●
7,3	109	31	7,1		●	●	●	●
7,4	109	31	7,1		●	●	●	●
7,5	109	31	7,1		●	●	●	●
7,6	117	33	8,0		●	●	●	●
7,7	117	33	8,0		●	●	●	●
7,8	117	33	8,0		●	●	●	●
7,9	117	33	8,0		●	●	●	●
5/16”	117	33	8,0		–	–	●	●
8,0	117	33	8,0		●	●	●	●
8,1	117	33	8,0		●	●	●	●
8,2	117	33	8,0		●	●	●	●
8,3	117	33	8,0		●	●	●	●
8,4	117	33	8,0		●	●	●	●
8,5	117	33	8,0		●	●	●	●

02/03

DIN 212 A/C - B/D - E

HSS-Co-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

d_1 (H7)	l_1	l_2	d_2 (h9)		6321	6325	6326	6326TN
8,6	125	36	9,0		●	●	●	●
8,7	125	36	9,0		●	●	●	●
8,8	125	36	9,0		●	●	●	●
8,9	125	36	9,0		●	●	●	●
9,0	125	36	9,0		●	●	●	●
9,1	125	36	9,0		●	●	●	●
9,2	125	36	9,0		●	●	●	●
9,3	125	36	9,0		●	●	●	●
9,4	125	36	9,0		●	●	●	●
9,5	125	36	9,0		●	●	●	●
3/8”	133	38	10,0		–	–	●	●
9,6	133	38	10,0		●	●	●	●
9,7	133	38	10,0		●	●	●	●
9,8	133	38	10,0		●	●	●	●
9,9	133	38	10,0		●	●	●	●
10,0	133	38	10,0		●	●	●	●
10,1	133	38	10,0		●	●	●	●
10,2	133	38	10,0		●	●	●	●
10,3	133	38	10,0		●	●	●	●
10,4	133	38	10,0		●	●	●	●
10,5	133	38	10,0		●	●	●	●
10,6	133	38	10,0		●	●	●	●
10,7	142	41	10,0		●	●	●	●
10,8	142	41	10,0		●	●	●	●
10,9	142	41	10,0		●	●	●	●
11,0	142	41	10,0		●	●	●	●
11,5	142	41	10,0		●	●	●	●
12,0	151	44	10,0		●	●	●	●
12,5	151	44	10,0		●	●	●	●
1/2”	151	44	10,0		–	–	●	●
13,0	151	44	10,0		●	●	●	●
13,5	160	47	12,5		●	●	●	●
14,0	160	47	12,5		●	●	●	●
14,5	162	50	12,5		●	●	●	●
15,0	162	50	12,5		●	●	●	●
15,5	170	52	12,5		●	●	●	●
5/8”	170	52	12,5		–	–	●	●
16,0	170	52	12,5		●	●	●	●
16,5	175	54	14,0		●	●	●	●
17,0	175	54	14,0		●	●	●	●
17,5	182	56	14,0		●	●	●	●
18,0	182	56	14,0		●	●	●	●
18,5	189	58	16,0		●	●	●	●
19,0	189	58	16,0		●	●	●	●
3/4”	195	60	16,0		–	–	●	●
19,5	195	60	16,0		●	●	●	●
20,0	195	60	16,0		●	●	●	●

03/03

Durchmesserbereich Diameter range	6321 **Schneiden** Flutes	6325 **Schneiden** Flutes	6326 **Schneiden** Flutes	6326TN **Schneiden** Flutes
0,6 mm - **2,4** mm	3	2	3	3
2,5 mm - **3,9** mm	5	3	5	5
4,0 mm - **13,5** mm	6	3	6	6
13,5 mm - **14,5** mm	8	3	8	8
15,0 mm - **20,0** mm	8	4	8	8

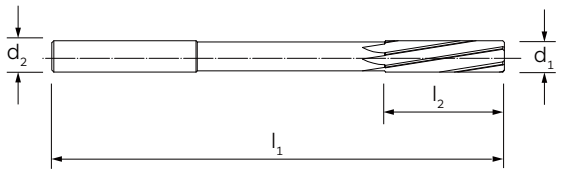
~DIN 8093

VHM-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
Solid carbide machine chucking reamers made to produce holes with H7 tolerance

~8093
DIN

H7

P. 844



MATERIAL | MATERIAL	M.D.I.-HM	M.D.I.-HM
SPIRALWINKEL | HELIX ANGLE	9°	9°
FORM | FORM	B	B
BESCHICHTUNG | COATING	-	TiN
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	-	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

d_1 (H7)	l_1	l_2	d_2 (h6)	Z	6372	6372TN
1,0	34	6	1	3	●	●
1,1	34	6	1	3	●	●
1,2	34	6	1	3	●	●
1,3	34	6	1	3	●	●
1,4	40	8	2	3	●	●
1,5	40	8	2	3	●	●
1,6	43	9	2	3	●	●
1,7	43	9	2	4	●	●
1,8	46	10	2	4	●	●
1,9	46	10	2	4	●	●
2,0	49	11	2	4	●	●
2,1	49	11	2	4	●	●
2,2	53	12	3	4	●	●
2,3	53	12	3	4	●	●
2,4	57	14	3	4	●	●
2,5	57	14	3	4	●	●
2,6	57	14	3	4	●	●
2,7	61	15	3	4	●	●
2,8	61	15	3	6	●	●
2,9	61	15	3	6	●	●
3,0	61	15	3	6	●	●
3,1	65	16	4	6	●	●
3,2	65	16	4	6	●	●
3,3	65	16	4	6	●	●
3,4	70	18	4	6	●	●
3,5	70	18	4	6	●	●
3,6	70	18	4	6	●	●

d_1 (H7)	l_1	l_2	d_2 (h6)	Z	6372	6372TN
3,7	70	18	4	6	●	●
3,8	75	19	4	6	●	●
3,9	75	19	4	6	●	●
4,0	75	19	4	6	●	●
4,1	75	19	4	6	●	●
4,2	75	21	4	6	●	●
4,3	80	21	5	6	●	●
4,4	80	21	5	6	●	●
4,5	80	21	5	6	●	●
4,6	80	21	5	6	●	●
4,7	80	21	5	6	●	●
4,8	86	23	5	6	●	●
4,9	86	23	5	6	●	●
5,0	86	23	5	6	●	●
5,1	86	23	5	6	●	●
5,2	86	23	5	6	●	●
5,3	93	26	6	6	●	●
5,4	93	26	6	6	●	●
5,5	93	26	6	6	●	●
5,6	93	26	6	6	●	●
5,7	93	26	6	6	●	●
5,8	93	26	6	6	●	●
5,9	93	26	6	6	●	●
6,0	93	26	6	6	●	●
6,1	101	28	6	6	●	●
6,2	101	28	6	6	●	●
6,3	101	28	6	6	●	●

01/02

Bis zu 12 mm Durchmesser aus Vollhartmetall, über Hartmetall bestückt
Up to Ø 12 mm made of solid carbide, onwards with solid carbide head

VHM-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
Solid carbide machine chucking reamers made to produce holes with H7 tolerance

d_1 (H7)	l_1	l_2	d_2 (h6)	z	6372	6372TN
6,4	101	28	6	6	●	●
6,5	101	28	6	6	●	●
6,6	101	28	6	6	●	●
6,7	109	31	6	6	●	●
6,8	109	31	8	6	●	●
6,9	109	31	8	6	●	●
7,0	109	31	8	6	●	●
7,1	109	31	8	6	●	●
7,2	109	31	8	6	●	●
7,3	109	31	8	6	●	●
7,4	109	31	8	6	●	●
7,5	109	31	8	6	●	●
7,6	117	33	8	6	●	●
7,7	117	33	8	6	●	●
7,8	117	33	8	6	●	●
7,9	117	33	8	6	●	●
8,0	117	33	8	6	●	●
8,1	117	33	8	6	●	●
8,2	117	33	8	6	●	●
8,3	117	33	8	6	●	●
8,4	117	33	8	6	●	●
8,5	117	33	8	6	●	●
8,6	125	36	10	6	●	●
8,7	125	36	10	6	●	●
8,8	125	36	10	6	●	●
8,9	125	36	10	6	●	●
9,0	125	36	10	6	●	●
9,1	125	36	10	6	●	●
9,2	125	36	10	6	●	●
9,3	125	36	10	6	●	●
9,4	125	36	10	6	●	●
9,5	125	36	10	6	●	●
9,6	133	38	10	6	●	●
9,7	133	38	10	6	●	●
9,8	133	38	10	6	●	●
9,9	133	38	10	6	●	●
10,0	133	38	10	6	●	●
10,1	133	38	10	6	●	●
10,2	133	38	10	6	●	●
10,3	133	38	10	6	●	●
10,4	133	38	10	6	●	●
10,5	133	38	10	6	●	●
10,6	133	38	10	6	●	●
10,7	142	41	10	6	●	●
10,8	142	41	10	6	●	●
10,9	142	41	10	6	●	●
11,0	142	41	10	6	●	●
11,5	142	41	10	6	●	●
12,0	151	44	10	6	●	●
12,5	151	44	10	8	●	●
13,0	151	44	10	8	●	●
13,5	160	47	14	8	●	●
14,0	160	47	14	8	●	●
14,5	162	50	14	8	●	●
15,0	162	50	14	8	●	●
15,5	170	52	14	8	●	●
16,0	170	52	14	8	●	●
16,5	175	54	14	8	●	●
17,0	175	54	14	8	●	●
17,5	182	56	14	8	●	●
18,0	182	56	14	8	●	●
18,5	189	58	16	8	●	●
19,0	189	58	16	8	●	●
19,5	195	60	16	8	●	●
20,0	195	60	16	8	●	●

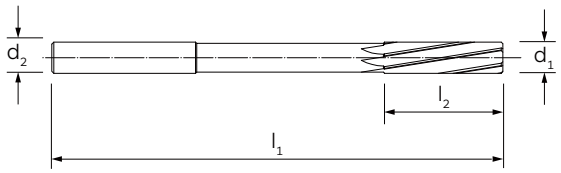
02/02

Bis zu 12 mm Durchmesser aus Vollhartmetall, über Hartmetall bestückt
Up to Ø 12 mm made of solid carbide, onwards with solid carbide head

~DIN 8093

Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz, mit axialer Innenkühlung
Machine chucking reamers, made to produce holes with H7 tolerance, with axial internal coolant

ILIX NORM DIN | **H7** | **A** | **P. 844**



MATERIAL | MATERIAL	M.D.I.-HM
SPIRALWINKEL | HELIX ANGLE	9°
FORM | FORM	B
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

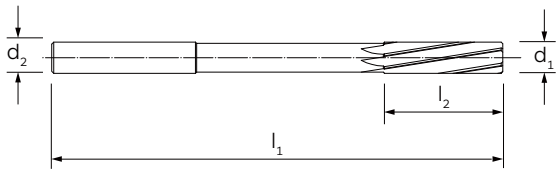
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2	d_2 (h6)	z		6370
4,0	75	19	4	6		●
4,5	80	21	5	6		●
5,0	86	23	5	6		●
5,5	93	26	6	6		●
6,0	93	26	6	6		●
6,5	101	28	6	6		●
7,0	109	31	8	6		●
7,5	109	31	8	6		●
8,0	117	33	8	6		●
8,5	117	33	8	6		●
9,0	125	36	10	6		●
9,5	125	36	10	6		●
10,0	133	38	10	6		●
11,0	142	41	10	6		●
12,0	151	41	10	6		●
13,0	151	44	10	8		●
14,0	160	47	14	8		●
15,0	162	50	14	8		●
16,0	170	52	14	8		●
17,0	175	54	14	8		●
18,0	182	56	14	8		●
19,0	189	58	16	8		●
20,0	195	60	16	8		●

d_1 (H7)	l_1	l_2	d_2 (h6)	z		6370

HM-bestückte-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz, mit radialer Innenkühlung
H.M. machine chucking reamers, made to produce holes with H7 tolerance, with radial internal coolant

~8093 DIN | **H7** | **R** | P. 844



MATERIAL | MATERIAL	M.D.I.-HM
SPIRALWINKEL | HELIX ANGLE	9°
FORM | FORM	B
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2	d_2 (h6)	z		6371
4,0	75	19	4	6		●
4,5	80	21	5	6		●
5,0	86	23	5	6		●
5,5	93	26	6	6		●
6,0	93	26	6	6		●
6,5	101	28	6	6		●
7,0	109	31	8	6		●
7,5	109	31	8	6		●
8,0	117	33	8	6		●
8,5	117	33	8	6		●
9,0	125	36	10	6		●
9,5	125	36	10	6		●
10,0	133	38	10	6		●
11,0	142	41	10	6		●
12,0	151	41	10	6		●
13,0	151	44	10	8		●
14,0	160	47	14	8		●
15,0	162	50	14	8		●
16,0	170	52	14	8		●
17,0	175	54	14	8		●
18,0	182	56	14	8		●
19,0	189	58	16	8		●
20,0	195	60	16	8		●

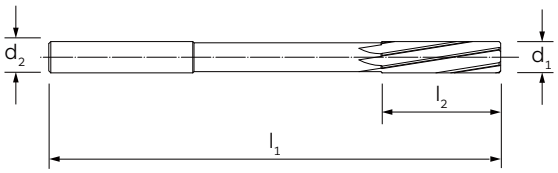
d_1 (H7)	l_1	l_2	d_2 (h6)	z		6371

DIN 212 (D)

HSS-Co-Maschinen-Reibahle (1/100 Abstufung). Tol. des Nenn-ø der Reibahle **0/+0,003**
HSS-Co machine chucking reamers (centesimal progression). Tol. of the nominal ø of the reamer **0/+0,003**

212
DIN

P. 840



MATERIAL | MATERIAL	HSS-Co
SPIRALWINKEL | HELIX ANGLE	9°
FORM | FORM	D
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	l_1	l_2	d_2 (h9)	z	6326C
0,95 ÷ 1,06*	34	5,5	1,0	3	●
1,07 ÷ 1,17*	36	6,5	1,1	3	●
1,18*	36	6,5	1,2	3	●
1,19 ÷ 1,32*	38	8	1,2	3	●
1,33 ÷ 1,40	40	8	1,4	3	●
1,41 ÷ 1,50	40	8	1,5	3	●
1,51 ÷ 1,70	43	9	1,6	3	●
1,71 ÷ 1,90	46	10	1,8	4	●
1,91 ÷ 2,12	49	11	2,0	4	●
2,13 ÷ 2,36	53	12	2,2	4	●
2,37 ÷ 2,65	57	14	2,5	4	●
2,66 ÷ 2,79	61	15	2,8	4	●
2,80 ÷ 2,89	61	15	2,8	6	●
2,90 ÷ 3,00	61	15	3,0	6	●
3,01 ÷ 3,35	65	16	3,2	6	●
3,36 ÷ 3,75	70	18	3,5	6	●
3,76 ÷ 4,25	75	19	4,0	6	●
4,26 ÷ 4,75	80	21	4,5	6	●
4,76 ÷ 5,30	86	23	5,0	6	●
5,31 ÷ 6,00	93	26	5,6	6	●
6,01 ÷ 6,70	101	28	6,3	6	●
6,71 ÷ 7,50	109	31	7,1	6	●
7,51 ÷ 8,50	117	33	8,0	6	●
8,51 ÷ 9,50	125	36	9,0	6	●
9,51 ÷ 10,60	133	38	10,0	6	●
10,61 ÷ 11,80	142	41	10,0	6	●
11,81 ÷ 12,25	151	44	10,0	6	●

d_1	l_1	l_2	d_2 (h9)	z	6326C
12,26 ÷ 13,20	151	44	10,0	8	●
13,21 ÷ 14,00	160	47	12,5	8	●
14,01 ÷ 15,00	162	50	12,5	8	●
15,01 ÷ 16,00	170	52	12,5	8	●
16,01 ÷ 16,10	175	54	14,0	8	●

* ILIX NORM

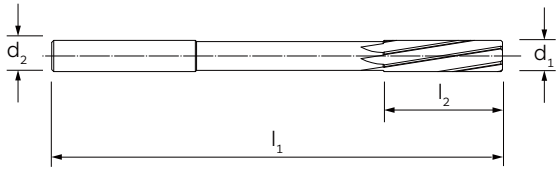
~DIN 8093

VHM Maschinen-Reibahle (1/100 Abstufung). Tol. des Nenn-ø der Reibahle **0/+0,003**
H.M. machine chucking reamers (centesimal progression). Tol. of the nominal ø of the reamer **0/+0,003**

~8093

DIN

P. 844



MATERIAL | MATERIAL	M.D.I.-HM
SPIRALWINKEL | HELIX ANGLE	9°
FORM | FORM	B
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	l_1	l_2	d_2 (h6)	z	6372C
0,98 - 1,30	34	6	1	3	●
1,31 - 1,50	40	8	2	3	●
1,51 - 1,61	43	9	2	3	●
1,62 - 1,70	43	9	2	4	●
1,71 - 1,90	46	10	2	4	●
1,91 - 2,12	49	11	2	4	●
2,13 - 2,36	53	12	3	4	●
2,37 - 2,65	57	14	3	4	●
2,66 - 2,79	61	15	3	4	●
2,80 - 3,09	61	15	3	6	●
3,10 - 3,35	65	16	4	6	●
3,36 - 3,75	70	18	4	6	●
3,76 - 4,10	75	19	4	6	●
4,11 - 4,25	75	21	4	6	●
4,26 - 4,75	80	21	5	6	●
4,76 - 5,20	86	23	5	6	●
5,21 - 6,00	93	26	6	6	●
6,01 - 6,60	101	28	6	6	●
6,61 - 6,70	109	31	6	6	●
6,71 - 7,50	109	31	8	6	●
7,51 - 8,50	117	33	8	6	●
8,51 - 9,50	125	36	10	6	●
9,51 - 10,60	133	38	10	6	●
10,61 - 11,80	142	41	10	6	●
11,81 - 12,05	151	44	10	6	●

d_1	l_1	l_2	d_2 (h6)	z	6372C

D 01

▸ WERKZEUGDURCHMESSER BASIEREND AUF NENNDURCHMESSER UND TOLERANZ
TOOL DIAMETER BASED ON NOMINAL DIAMETER AND TOLERANCE

HUNDERTSTEL REIBAHLEN | CENTESIMAL REAMERS

Ø	C8	C9	C10	C11	CD7	D7	D8	D9	D10	D11	D12	E7	E8	E9	EF8	F7	F8	F9	F10	G6	G7	H5
1,0	1,07	1,07	1,08	1,10	1,04	1,02	1,03	-	1,04	1,06	1,08	1,02	1,02	1,03	1,02	1,01	1,01	1,02	-	-	1,01	1,00
2,0	2,07	2,07	2,08	2,10	2,04	2,02	2,03	-	2,04	2,06	2,08	2,02	2,02	2,03	2,02	2,01	2,01	2,02	-	-	2,01	2,00
3,0	3,07	3,07	3,08	3,10	3,04	3,02	3,03	-	3,04	3,06	3,08	3,02	3,02	3,03	3,02	3,01	3,01	3,02	-	-	3,01	3,00
4,0	4,08	4,09	-	-	4,05	4,04	4,04	4,05	4,06	4,08	4,10	-	4,03	4,04	4,03	-	4,02	4,03	4,04	4,01	4,01	4,00
5,0	5,08	5,09	-	-	5,05	5,04	5,04	5,05	5,06	5,08	5,10	-	5,04	5,04	5,03	-	5,02	5,03	5,04	5,01	5,01	5,00
6,0	6,08	6,09	-	-	6,05	6,04	6,04	6,05	6,06	6,08	6,10	-	6,04	6,04	6,03	-	6,02	6,03	6,04	6,01	6,01	6,00
7,0	7,09	7,10	-	-	7,06	7,05	7,05	7,06	7,08	7,10	-	7,03	7,05	7,05	7,03	7,02	7,03	-	7,05	7,01	7,01	7,00
8,0	8,09	8,10	-	-	8,06	8,05	8,05	8,06	8,08	8,10	-	8,03	8,05	8,05	8,03	8,02	8,03	-	8,05	8,01	8,01	8,00
9,0	9,09	9,10	-	-	9,06	9,05	9,05	9,06	9,08	9,10	-	9,03	9,05	9,05	9,03	9,02	9,03	-	9,05	9,01	9,01	9,00
10,0	10,09	10,10	-	-	10,06	10,05	10,05	10,06	10,08	10,10	-	10,03	10,05	10,05	10,03	10,02	10,03	-	10,05	10,01	10,01	10,00
11,0	-	-	-	-	-	11,06		11,08	11,10	-	-	11,04	11,06	11,06	-	-	11,03	11,04	11,06	11,01	-	11,00
12,0	-	-	-	-	-	12,06		12,08	12,10	-	-	12,04	12,06	12,06	-	-	12,03	12,04	12,06	12,01	-	12,00

Ø	H6	H7	H8	H9	H10	H11	H12	H13	J6	J7	J8	JS7	JS8	JS9	K6	K7	K8	M6	M7	M8	N6	N7
1,0	1,00	-	1,01	-	1,02	1,04	1,06	1,09	1,00	1,00	1,00	1,00	1,00	1,00	-	-	0,99	-	-	0,99	0,99	0,99
2,0	2,00	-	2,01	-	2,02	2,04	2,06	2,09	2,00	2,00	2,00	2,00	2,00	2,00	-	-	1,99	-	-	1,99	1,99	1,99
3,0	3,00	-	3,01	-	3,02	3,04	3,06	3,09	3,00	3,00	3,00	3,00	3,00	3,00	-	-	2,99	-	-	2,99	2,99	2,99
4,0	4,00	-	4,01	4,02	4,03	4,05	4,08	-	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	4,00	3,99	-	3,99	3,99	3,99
5,0	5,00	-	5,01	5,02	5,03	5,05	5,08	-	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	5,00	4,99	-	4,99	4,99	4,99
6,0	6,00	-	6,01	6,02	6,03	6,05	6,08	-	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	5,99	-	5,99	5,99	5,99
7,0	7,00	7,01	7,01	7,02	7,04	7,06	7,10	-	7,00	7,00	7,00	7,00	7,00	-	-	7,00	7,00	6,99	6,99	6,99	-	6,99
8,0	8,00	8,01	8,01	8,02	8,04	8,06	8,10	-	8,00	8,00	8,00	8,00	8,00	-	-	8,00	8,00	7,99	7,99	7,99	-	7,99
9,0	9,00	9,01	9,01	9,02	9,04	9,06	9,10	-	9,00	9,00	9,00	9,00	9,00	-	-	9,00	9,00	8,99	8,99	8,99	-	8,99
10,0	10,00	10,01	10,02	10,02	10,04	10,06	10,10	-	10,00	10,00	10,00	10,00	10,00	-	-	10,00	10,00	9,99	9,99	9,99	-	9,99
11,0	-	11,01	11,02	11,03	11,05	11,07	-	-	11,00	11,00	11,00	11,00	11,00	-	-	11,00	11,00	10,99	10,99	10,99	-	10,99
12,0	-	12,01	12,02	12,03	12,05	12,07	-	-	12,00	12,00	12,00	12,00	12,00	-	-	12,00	12,00	11,99	11,99	11,99	-	11,99

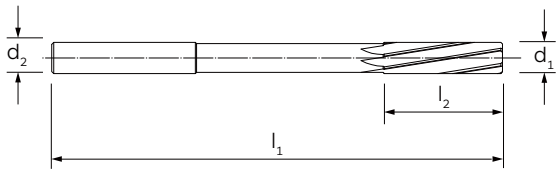
Ø	N8	P6	P7	P8	R6	R7	S6	S7	U6	U7	X7	X8	X9	Z7	Z8	Z9	Z10	ZA7	ZA8	ZA9	ZB8	ZB9
1,0	0,99	0,99	0,99	0,99	-	-	0,98	0,98	0,98	0,98	-	0,97	0,97	0,97	0,97	-	0,96	0,96	-	-	0,95	0,95
2,0	1,99	1,99	1,99	1,99	-	-	1,98	1,98	1,98	1,98	-	1,97	1,97	1,97	1,97	-	1,96	1,96	-	-	1,95	1,95
3,0	2,99	2,99	2,99	2,99	-	-	2,98	2,98	2,98	2,98	-	2,97	2,97	2,97	2,97	-	2,96	2,96	-	-	2,95	2,95
4,0	3,99	-	-	3,98	-	-	3,98	3,98	-	-	3,97	-	3,96	3,96	3,96	3,95	3,95	3,96	-	-	3,94	3,94
5,0	4,99	-	-	4,98	-	-	4,98	4,98	-	-	4,97	-	4,96	4,96	4,96	4,95	4,95	4,96	-	-	4,94	4,94
6,0	5,99	-	-	5,98	-	-	5,98	5,98	-	-	5,97	-	5,96	5,96	5,96	5,95	5,95	5,96	-	-	5,94	5,94
7,0	6,99	-	-	-	6,98	6,98	-	-	6,97	6,97	-	6,96	6,95	6,96	6,95	-	6,94	6,94	6,94	-	-	6,92
8,0	7,99	-	-	-	7,98	7,98	-	-	7,97	7,97	-	7,96	7,95	7,96	7,95	-	7,94	7,94	7,94	-	-	7,92
9,0	8,99	-	-	-	8,98	8,98	-	-	8,97	8,97	-	8,96	8,95	8,96	8,95	-	8,94	8,94	8,94	-	-	8,92
10,0	9,99	-	-	-	9,98	9,98	-	-	9,97	9,97	-	9,96	9,95	9,96	9,95	-	9,94	9,94	9,94	-	-	9,92
11,0	10,99	10,98	10,98	10,97			10,97	10,97	-	-	10,96	10,95		10,95	10,94	-	10,93	-	10,93	-	10,90	10,90
12,0	11,99	11,98	11,98	11,97			11,97	11,97	-	-	11,96	11,95		11,95	11,94	-	11,93	-	11,93	-	11,90	11,90

Maschinen-Reibahlen aus Cermet, um Bohrungen mit H7-Toleranz herzustellen
Machine chucking reamers made of Cermet, to produce holes with H7 tolerance

~212
DIN

H7

P. 844



MATERIAL | MATERIAL	CERMET
SPIRALWINKEL | HELIX ANGLE	12°
FORM | FORM	B
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2	d_2 (h9)	z		6323
3,5	60	18	4	6		■
4,0	75	19	4	6		■
4,5	75	21	5	6		■
6,5	101	28	6	6		■
7,0	109	31	8	6		■
7,5	109	33	8	6		■
9,5	125	38	10	6		■
11,0	142	41	10	6		■
12,0	151	44	10	6		■
13,0	151	44	10	8		■
15,0	162	50	14	8		■
16,0	170	53	14	8		■

d_1 (H7)	l_1	l_2	d_2 (h9)	z		6323

■ **Solange der Vorrat reicht** | Till stocks last

ILIX NORM

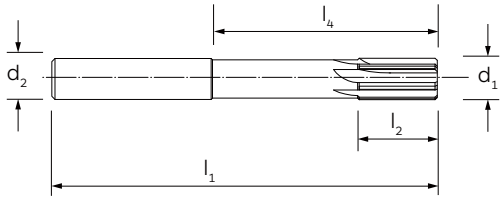
Maschinen-Reibahlen mit polykristallinem Diamant (PKD) mit radialer Innenkühlung
Machine chucking reamers with polycrystalline diamond (PKD) with radial internal coolant

ILIX NORM
DIN

H7

R

P. 844



MATERIAL | MATERIAL	PKD
SPIRALWINKEL | HELIX ANGLE	0°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	-
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2	l_4	d_2 (h6)	z	6373
12,0	105	19	60	12	4	■
14,0	105	19	60	14	4	■
16,0	130	22	82	16	4	■

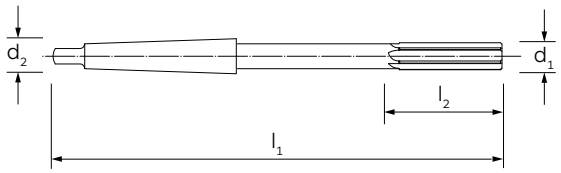
d_1 (H7)	l_1	l_2	l_4	d_2 (h6)	z	6373

■ **Solange der Vorrat reicht** | Till stocks last

DIN 208 (A-B-C)

HSS-Co-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

208 DIN | **H7** | P. 840



MATERIAL | MATERIAL	HSS-Co	HSS-Co	HSS-Co
SPIRALWINKEL | HELIX ANGLE	0°	9°	45°
FORM | FORM	A	B	C
BESCHICHTUNG | COATING	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1 (H7)	l_1	l_2		z (6333)	z (6337)	z (6335)		6333	6337	6335
5,0	133	23	1	6	6	3		●	●	●
5,5	138	26	1	6	6	-		●	●	-
6,0	138	26	1	6	6	3		●	●	●
6,5	144	28	1	6	6	-		●	●	-
7,0	150	31	1	6	6	3		●	●	●
7,5	150	31	1	6	6	-		●	●	-
8,0	156	33	1	6	6	3		●	●	●
8,5	156	33	1	6	6	-		●	●	-
9,0	162	36	1	6	6	3		●	●	●
9,5	162	36	1	6	6	-		●	●	-
10,0	168	38	1	6	6	4		●	●	●
10,5	168	38	1	6	6	-		●	●	-
11,0	175	41	1	6	6	4		●	●	●
11,5	175	41	1	6	6	-		●	●	-
12,0	182	41	1	6	6	4		●	●	●
12,5	182	44	1	8	8	-		●	●	-
13,0	182	44	1	8	8	4		●	●	●
13,5	189	47	1	8	8	-		●	●	-
14,0	189	47	1	8	8	4		●	●	●
14,5	204	50	2	8	8	-		●	●	-
15,0	204	50	2	8	8	4		●	●	●
15,5	210	52	2	8	8	-		●	●	-
16,0	210	52	2	8	8	4		●	●	●
16,5	214	54	2	8	8	-		●	●	-
17,0	214	54	2	8	8	4		●	●	●
17,5	219	56	2	8	8	-		●	●	-
18,0	219	56	2	8	8	4		●	●	●

01/02

DIN 208 (A-B-C)

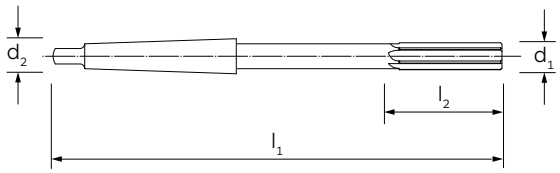
HSS-Co-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
HSS-Co machine chucking reamers made to produce holes with H7 tolerance

d_1 (H7)	l_1	l_2		z (6333)	z (6337)	z (6335)		6333	6337	6335
18,5	223	58	2	8	8	-		●	●	–
19,0	223	58	2	8	8	4		●	●	●
19,5	228	60	2	8	8	-		●	●	–
20,0	228	60	2	8	8	4		●	●	●
20,5	232	62	2	8	8	-		●	●	–
21,0	232	62	2	8	8	4		●	●	●
21,5	237	64	2	8	8	-		●	●	–
22,0	237	64	2	8	8	4		●	●	●
22,5	241	66	2	8	8	-		●	●	–
23,0	241	66	2	8	8	4		●	●	●
23,5	241	66	2	8	8	-		●	●	–
24,0	268	68	3	10	10	4		●	●	●
24,5	268	68	3	10	10	-		●	●	–
25,0	268	68	3	10	10	4		●	●	●
25,5	273	70	3	10	10	-		●	●	–
26,0	273	70	3	10	10	6		●	●	●
26,5	273	70	3	10	10	-		●	●	–
27,0	277	71	3	10	10	6		●	●	●
27,5	277	71	3	10	10	-		●	●	–
28,0	277	71	3	10	10	6		●	●	●
28,5	281	73	3	10	10	-		●	●	–
29,0	281	73	3	10	10	6		●	●	●
29,5	281	73	3	10	10	-		●	●	–
30,0	281	73	3	10	10	6		●	●	●
30,5	285	75	3	10	10	-		●	●	–
31,0	285	75	3	12	12	6		●	●	●
31,5	285	75	3	12	12	-		–	●	–
32,0	317	77	4	12	12	6		●	●	●
33,0	317	77	4	12	12	-		–	●	–
34,0	321	78	4	12	12	-		–	●	–
35,0	321	78	4	12	12	-		–	●	–
36,0	325	79	4	12	12	-		–	●	–
37,0	325	79	4	12	12	-		–	●	–
38,0	329	81	4	12	12	-		–	●	–
39,0	329	81	4	12	12	-		–	●	–
40,0	329	81	4	12	12	-		–	●	–

02/02

VHM-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
Solid carbide machine chucking reamers made to produce holes with H7 tolerance

~8094 DIN | **H7** | P. 844



MATERIAL | MATERIAL	M.D.I.-HM
SPIRALWINKEL | HELIX ANGLE	0°
FORM | FORM	A
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2		z		6369
5*	133	23	1	6		●
6*	138	26	1	6		●
7*	150	31	1	6		●
8	156	33	1	6		●
9	162	36	1	6		●
10	168	38	1	6		●
11	175	41	1	6		●
12	182	44	1	6		●
13	182	44	1	8		●
14	189	47	1	8		●
15	204	50	2	8		●
16	210	52	2	8		●
17	214	54	2	8		●
18	219	56	2	8		●
19	223	58	2	8		●
20	228	60	2	8		●

d_1 (H7)	l_1	l_2		z		6369

* ILIX NORM

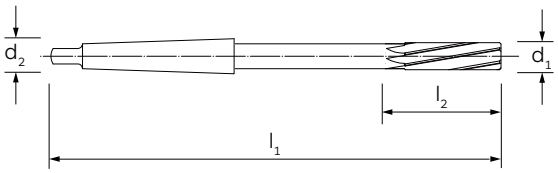
~DIN 8094

VHM-Maschinen-Reibahlen zum Herstellen von Bohrungen mit H7-Toleranz
Solid carbide machine chucking reamers made to produce holes with H7 tolerance

~8094
DIN

H7

P. 844



MATERIAL | MATERIAL	M.D.I.-HM
SPIRALWINKEL | HELIX ANGLE	9°
FORM | FORM	B
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

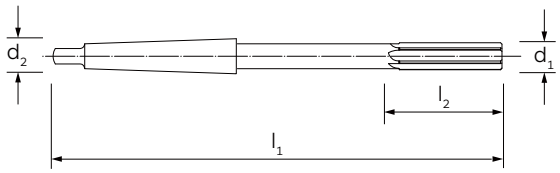
d_1 (H7)	l_1	l_2		z		6376
5*	133	23	1	6		●
6*	138	26	1	6		●
7*	150	31	1	6		●
8	156	33	1	6		●
9	162	36	1	6		●
10	168	38	1	6		●
11	175	41	1	6		●
12	182	44	1	6		●
13	182	44	1	8		●
14	189	47	1	8		●
15	204	50	2	8		●
16	210	52	2	8		●
17	214	54	2	8		●
18	219	56	2	8		●
19	223	58	2	8		●
20	228	60	2	8		●

d_1 (H7)	l_1	l_2		z		6376

* ILIX NORM

D 01

ILIX NORM | **DIN** | **H7** | **P. 842**



MATERIAL | MATERIAL	HSS-Co
SPIRALWINKEL | HELIX ANGLE	0°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1 (H7)	l_1	l_2			6307
8	156	33	1		■
11	175	41	1		■
12	182	44	1		■
14	189	44	1		■
15	204	50	2		■
16	210	52	2		■
18	219	56	2		■

d_1 (H7)	l_1	l_2			6307

■ **Solange der Vorrat reicht** | Till stocks last

DIN 219 (A-B-C)

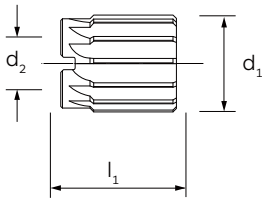
HSS-Aufsteckreibahlen, Kegelbohrung 1 : 30 zur Herstellung von Bohrungen mit H7-Toleranz
HSS shell reamers, taper hole 1:30, to produce holes with H7 tolerance

219
DIN

H7

P. 840

P. 842
6362



	6361	6360	6362
MATERIAL | MATERIAL	HSS	HSS	HSS
SPIRALWINKEL | HELIX ANGLE	0°	9°	45°
FORM | FORM	A	B	C
BESCHICHTUNG | COATING	-	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

	6361	6360	6362
P | **Stahl** | Steels	P	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M	M
K | **Gusseisen** | Cast Irons	K	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-	-

d_1 (H7)	l_1	d_2 **Bohrungs** | Bore	z (6361)	z (6360)	z (6362)	6361	6360	6362
25	45	13	8	8	6	●	●	●
26	45	13	8	8	6	●	●	●
27	45	13	8	8	6	●	●	●
28	45	13	8	8	6	●	●	●
29	45	13	8	8	6	●	●	●
30	45	13	8	8	6	●	●	●
31	50	16	10	10	6	●	●	●
32	50	16	10	10	6	●	●	●
33	50	16	10	10	6	●	●	●
34	50	16	10	10	6	●	●	●
35	50	16	10	10	6	●	●	●
36	56	19	10	10	6	●	●	●
37	56	19	10	10	6	●	●	●
38	56	19	10	10	6	●	●	●
39	56	19	10	10	6	●	●	●
40	56	19	10	10	6	●	●	●
42	56	19	10	10	6	●	●	●
44	63	22	12	12	6	●	●	●
45	63	22	12	12	6	●	●	●
46	63	22	12	12	6	●	●	●
47	63	22	12	12	8	●	●	●
48	63	22	12	12	8	●	●	●
50	63	22	12	12	8	●	●	●
52	71	27	12	12	8	●	●	●
55	71	27	12	12	8	●	●	●
58	71	27	12	12	8	●	●	●
60	71	27	12	12	8	●	●	●

01/02

D
01

DIN 219 (A-B-C)

HSS-Aufsteckreibahlen, Kegelbohrung 1 : 30 zur Herstellung von Bohrungen mit H7-Toleranz
HSS shell reamers, taper hole 1:30, to produce holes with H7 tolerance

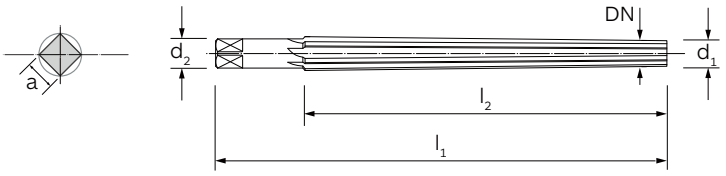
d_1 (h7)	l_1	d_2 **Bohrungs** | Bore	z (6361)	z (6360)	z (6362)		6361	6360	6362
62	80	32	14	14	8		●	●	●
65	80	32	14	14	8		●	●	●
68	80	32	14	14	8		●	●	●
70	80	32	14	14	8		●	●	●
72	90	40	14	14	8		●	●	●
75	90	40	14	14	10		●	●	●
78	90	40	14	14	10		●	●	●
80	90	40	14	14	10		●	●	●
82	90	40	14	14	10		●	●	●
85	90	40	14	14	10		●	●	●
88	100	50	16	16	10		●	●	●
90	100	50	16	16	10		●	●	●
92	100	50	16	16	10		●	●	●
95	100	50	16	16	10		●	●	●
98	100	50	16	16	10		●	●	●
100	100	50	16	16	10		●	●	●

ILIX NORM

Kegel-Reibahlen aus HSS, Kegel 1:100, Vierkant gem. nach DIN 10
HSS taper pin reames, taper 1:100, square acc. to DIN 10

ILIX NORM

DIN	DIN 10	P. 842



MATERIAL | MATERIAL	HSS
SPIRALWINKEL | HELIX ANGLE	0°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

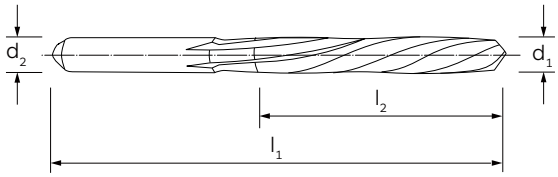
P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

DN	d_1	l_1	l_2	d_2	a	Z		6303
1,50	1,40	62	37	1,77	1,25	4		●
1,75	1,65	68	45	2,10	1,60	4		●
2,00	1,90	73	48	2,38	1,80	4		●
2,25	2,15	77	51	2,66	2,00	4		●
2,50	2,40	80	53	2,93	2,24	4		●
3,00	2,90	91	63	3,53	2,80	6		●
3,50	3,40	96	69	4,09	3,15	6		●
4,00	3,90	100	75	5,65	3,15	6		●
4,50	4,40	108	81	5,21	4,00	6		●
5,00	4,90	115	87	5,77	4,50	6		●
5,50	5,40	133	103	6,43	5,00	6		●
6,00	5,90	150	119	7,09	5,60	6		●
7,00	6,90	164	130	8,20	6,30	6		●
8,00	7,90	177	141	9,31	7,10	6		●
9,00	8,90	190	152	10,42	8,00	6		●
10,00	9,90	205	163	11,53	9,00	8		●
11,00	10,90	216	173	12,63	10,00	8		●
12,50	12,40	234	189	14,29	11,20	8		●
14,00	13,90	257	207	15,97	12,50	8		●
16,00	15,90	290	234	18,24	12,50	8		●
18,00	17,90	325	252	20,42	14,00	8		●
20,00	19,80	340	270	22,50	16,00	8		●

ILIX NORM

DIN

P. 842



MATERIAL | MATERIAL	HSS
SPIRALWINKEL | HELIX ANGLE	12°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	l_1	l_2	d_2		6318
1,20	58	35	1,7		■
1,90	85	55	2,5		■

d_1	l_1	l_2	d_2		6318

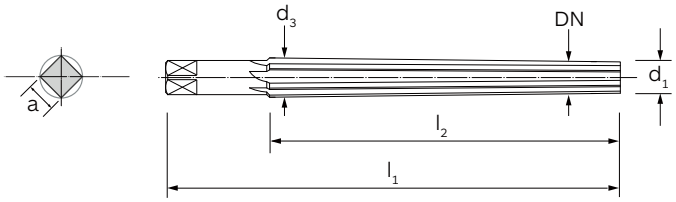
■ **Solange der Vorrat reicht** | Till stocks last

DIN 9 (A-B)

HSS-Kegel-Reibahlen, Kegel 1:50, Vierkant gem. nach DIN 10, zur Herstellung von Bohrungen für Kegelstifte
DIN 1 - HSS taper pin reamers, taper 1:50, square acc. to DIN 10, to produce holes for taper pins DIN 1

ILIX NORM

DIN | **DIN 10**



MATERIAL | MATERIAL	HSS	HSS
SPIRALWINKEL | HELIX ANGLE	0°	6°
FORM | FORM	A	B
BESCHICHTUNG | COATING	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

DN	d_1	l_1	l_2	d_3	a	Z		6315	6304
1,0	0,9	46	28	1,46	2,40	3		●	-
1,2	1,1	50	32	1,74	3,15	3		■	-
1,5	1,4	57	37	2,14	2,40	3		●	●
1,6*	1,5	57	37	2,24	2,40	4		-	●
2,0	1,9	68	48	2,86	2,40	4		●	●
2,5	2,4	68	48	3,36	2,40	4		●	●
3,0	2,9	80	58	4,06	3,00	5		●	●
3,5*	3,4	87	63	4,66	3,40	5		-	●
4,0	3,9	93	68	5,26	3,80	5		●	●
4,5	4,4	95	70	5,80	4,30	5		-	●
5,0	4,9	100	73	6,36	4,90	5		●	●
5,5*	5,4	118	90	7,20	5,50	6		-	●
6,0	5,9	135	105	8,00	6,20	6		●	●
6,5*	6,4	140	110	8,60	6,20	6		-	●
7,0*	6,9	160	125	9,40	7,00	6		-	●
8,0	7,9	180	145	10,80	8,00	6		●	●
9,0*	8,9	195	160	12,10	9,00	6		-	●
10,0	9,9	215	175	13,40	10,00	6		●	●
12,0	11,8	255	210	16,00	11,00	8		●	●
13,0*	12,9	255	210	17,00	12,00	8		-	●
14,0*	13,9	255	210	18,00	12,00	8		-	●
16,0	15,8	280	230	20,40	14,50	8		●	●
20,0	19,8	310	250	24,80	18,00	10		●	●
25,0	24,7	370	300	30,70	22,00	10		●	●
30,0	29,7	400	320	36,10	24,00	12		●	●
40,0	39,7	430	340	46,50	32,00	12		-	●
50,0	49,7	460	360	56,90	39,00	14		-	●

Für Kegelstift gemäß DIN 1 - 258 - 7977 - 7978 | For taper pin according to DIN 1 – 258 – 7977 – 7978
* **ILIX NORM** ■ **Solange der Vorrat reicht** | Till stocks last

NF E 66-011 Französischer Standard | French standard

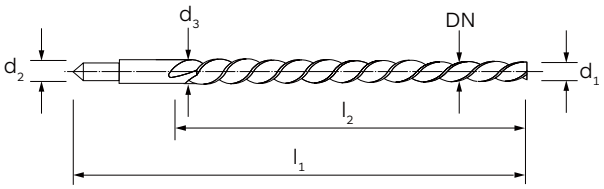
HSS-Kegel-Reibahlen, Kegel 1:50, Vierkant gem. nach DIN 10, zur Herstellung von Bohrungen für Kegelstifte DIN 1 - HSS taper pin reamers, taper 1:50, square acc. to DIN 10, to produce holes for taper pins DIN 1

E 66-011

NF

DIN 10

P. 842



MATERIAL | MATERIAL	HSS
SPIRALWINKEL | HELIX ANGLE	45°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

DN	d_1	l_1	l_2	d_2	d_3	z		6319
1,0	0,7	45	20	1,1	1,1	2		■
3,5	2,7	65	45	3,6	3,6	2		■
4,0	3,1	70	50	4,1	4,1	2		■
4,5	3,5	80	55	4,6	4,6	2		■

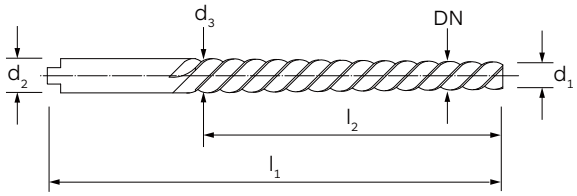
■ **Solange der Vorrat reicht** | Till stocks last

DIN 2179

Kegel-Reibahlen aus HSS mit großer Spiralnut, Kegel 1:50, zum Herstellen von Bohrungen für Kegelstifte
HSS high spiral fluted taper pin reamers, taper 1:50, to produce holes for taper pins

2179
DIN

P. 842



MATERIAL | MATERIAL	HSS-Co
SPIRALWINKEL | HELIX ANGLE	45°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

DN	d_1	l_1	l_2	d_2	d_3	Z		6313
1,00	0,80	60	33	1,40	1,52	2		■
1,50*	1,40	64	43	2,00	2,26	2		●
2,00	1,90	86	48	3,15	2,86	2		●
2,50	2,40	86	48	3,15	3,36	2		●
3,00	2,90	100	58	4,00	4,06	2		●
4,00	3,90	112	68	5,00	5,26	2		●
5,00	4,90	122	73	6,30	6,36	2		●
6,00	5,90	160	105	8,00	8,00	3		●
8,00	7,90	207	145	10,00	10,80	3		●
10,00	9,90	245	175	12,50	13,40	3		●
12,00	11,80	290	210	16,00	16,00	4		●

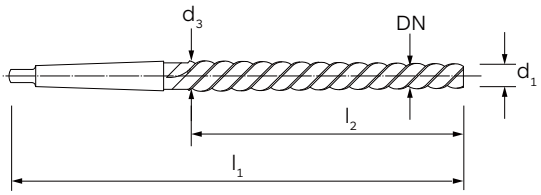
Für Kegelstift gemäß DIN 1 - 258 - 7977 - 7978 | For taper pin according to DIN 1 – 258 – 7977 – 7978
*** ILIX NORM** ■ **Solange der Vorrat reicht** | Till stocks last

DIN 2180

Kegel-Reibahlen aus HSS mit großer Spiralnut, Kegel 1:50, zum Herstellen von Bohrungen für Kegelstifte
HSS high spiral fluted taper pin reamers, taper 1:50, to produce holes for taper pins

2180
DIN

P. 842



MATERIAL | MATERIAL	HSS
SPIRALWINKEL | HELIX ANGLE	45°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

DN	d_1	l_1	l_2	d_3		Z		6314
4	4,90	170	75	5,40	1	3		■
5	4,90	155	73	6,36	1	3		●
6	5,90	187	105	8,00	1	3		●
8	7,90	227	145	10,80	1	3		●
10	9,90	257	175	13,40	1	3		●
12	11,80	315	210	16,00	2	3		●
13	12,86	300	194	16,74	2	3		■
16	15,80	335	230	20,40	2	3		●
20	19,80	377	250	24,80	3	3		●

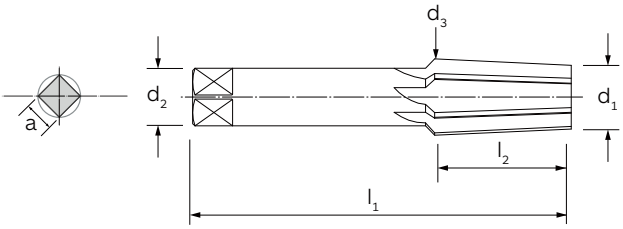
Für Kegelstift gemäß DIN 1 - 258 - 7977 - 7978 | For taper pin according to DIN 1 – 258 – 7977 – 7978
■ **Solange der Vorrat reicht** | Till stocks last

ILIX NORM

HSS-Kegel-Reibahlen, Kegel 1 : 16, zum herstellen von Kernlöcher für NPT/NPTF-Gewinde
HSS taper reamers, taper 1:16, taper pin reamer for NPT/NPTF thread

ILIX NORM

DIN | **DIN 10** | **P. 842**



MATERIAL | MATERIAL	HSS	HSS
SPIRALWINKEL | HELIX ANGLE	0°	6°
FORM | FORM	-	-
BESCHICHTUNG | COATING	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

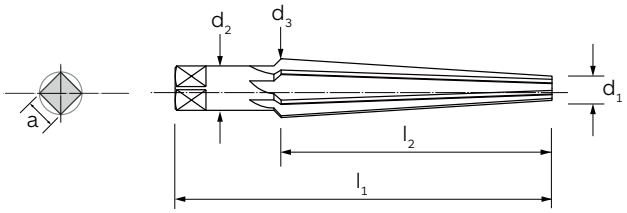
MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

D	d_1	l_1	l_2	d_2	d_3	a	Z		6310	6311
1/16”	5,935	70	17	6	6,998	4,9	6		●	●
1/8”	8,042	70	17	8	9,105	6,2	6		●	●
1/4”	10,308	80	27	11	11,996	9,0	6		●	●
3/8”	13,728	85	27	12	15,416	9,0	8		●	●
1/2”	16,938	95	35	16	19,126	12,0	8		●	●
3/4”	22,253	105	35	20	24,411	16,0	10		●	●
1”	27,996	130	43	25	30,684	20,0	10		●	●
1 1/4”	36,721	140	44	32	39,471	24,0	12		●	●
1 1/2”	42,791	150	45	36	45,604	29,0	12		●	●
2”	54,803	160	46	48	57,678	35,0	14		●	●

ILIX NORM

DIN | **DIN 10** | **P. 842**



MATERIAL | MATERIAL	HSS
SPIRALWINKEL | HELIX ANGLE	0°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

d_1	l_1	l_2	d_2	d_3	a	z		6308
3	100	70	6,2	10	6,3	5		●
5	140	100	9,0	15	10,0	5		●
10	195	150	16,0	25	16,0	7		●
15	250	200	24,0	35	22,4	9		●
23	275	220	32,0	45	31,5	11		●
30	310	250	39,0	55	40,0	13		●
37	345	280	44,0	65	45,0	15		●
45	370	300	49,0	75	45,0	17		●

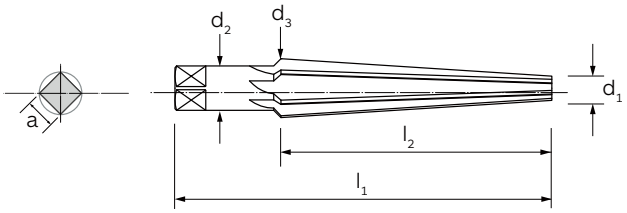
DIN 204 (C-D)

HSS Kegel-Reibahlen zum Herstellen für Morsekegel nach DIN 228
HSS morse taper socket reamers, finishing for taper sleeves according to DIN 228

204

DIN

DIN 10



MATERIAL | MATERIAL	HSS	HSS
SPIRALWINKEL | HELIX ANGLE	0°	6°
FORM | FORM	C	D
BESCHICHTUNG | COATING	-	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P	P
M | **Rostfreier Stahl** | Stainless Steels	M	M
K | **Gusseisen** | Cast Irons	K	K
N | **Nichteisenmetalle** | Non-ferrous metals	N	N
S | **HRSA und Titan** | HRSA and Titanium	S	S
H | **Gehärtete Stähle** | Hardened Steels	-	-

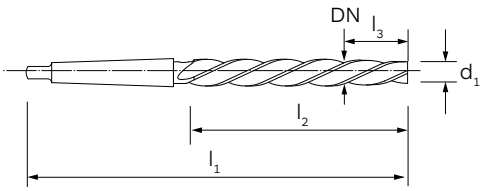
	l_1	l_2	d_3	a	Z		6317	6312
MK 0	93	61	9,722	6,3	6		●	●
MK 1	102	66	12,863	8,0	8		●	●
MK 2	121	79	18,679	11,2	8		●	●
MK 3	146	96	24,829	16,0	10		●	●
MK 4	179	119	32,410	20,0	10		●	●
MK 5	222	150	45,767	25,0	12		●	●
MK 6	300	208	65,016	35,5	16		●	●

DIN 311

HSS-Nietloch-Reibahlen mit Morsekegelschaft, verjüngt auf 1/3 der Schneidlänge
HSS fluted bridge reamers with morse taper shank, tapered over 1/3 of cutting length

311
DIN

P. 842



MATERIAL | MATERIAL	HSS
SPIRALWINKEL | HELIX ANGLE	25°
FORM | FORM	-
BESCHICHTUNG | COATING	-
SCHNITTRICHTUNG | CUTTING DIRECTION	↻

MATERIALGRUPPEN
MATERIAL GROUPS

P | **Stahl** | Steels	P
M | **Rostfreier Stahl** | Stainless Steels	M
K | **Gusseisen** | Cast Irons	K
N | **Nichteisenmetalle** | Non-ferrous metals	N
S | **HRSA und Titan** | HRSA and Titanium	S
H | **Gehärtete Stähle** | Hardened Steels	-

D	d_1	l_1	l_2	l_3		Z		6355
6,4	4,5	151	75	19	1	3		●
7,4	5,3	156	80	22	1	3		●
8,4	6,0	161	85	25	1	3		●
9,0	6,3	166	90	27	1	4		●
9,5	6,9	166	90	27	1	4		●
10,0	7,1	171	95	30	1	4		●
11,0	7,8	176	100	33	1	4		●
12,0	8,2	199	105	39	2	5		●
13,0*	9,2	199	105	39	2	5		●
14,0	9,9	209	115	42	2	5		●
15,0	10,6	219	125	45	2	5		●
16,0	11,4	229	135	48	2	5		●
17,0*	12,1	251	135	51	3	5		●
18,0	12,4	261	145	58	3	5		●
19,0	13,4	261	145	58	3	5		●
20,0	14,0	271	155	62	3	5		●
21,0*	15,0	271	155	62	3	5		●
22,0	15,6	281	165	66	3	5		●
23,0	16,6	281	165	66	3	5		●
24,0	17,0	296	180	72	3	5		●
25,0	18,0	296	180	72	3	5		●
26,0	19,0	296	180	72	3	5		●
27,0	19,4	311	195	78	3	5		●
28,0	20,4	311	195	78	3	5		●
29,0	21,4	311	195	78	3	5		●
30,0	22,4	311	195	78	3	5		●
31,0	22,8	326	210	84	3	5		●
32,0	23,8	354	210	84	4	5		●

* ILIX NORM

REIBAHLE
REAMERS

D.01.03

Schnittdaten
Cutting data

Katalogseite Catalogue page	Werkzeugcode Tool Code		Niedriglegierter Stahl Low-Alloyed Steel <800 N/mm²		Mittellegierter Stahl Medium-Alloyed Steel 700/1000 N/mm²		Hochlegierter Stahl High-Alloyed Steel 1000/1300 N/mm²		Rostfreier Stahl Martensitisch/Ferritisch Stainless steel Martensitic/Ferritic		Rostfreier Stahl Austenitisch Stainless steel Austenitic		Graues Gusseisen Grey cast iron		Sphäroguss Nodular cast iron	
	Materialgruppen | Materials Group		P1		P2		P3		M1		M2		K1		K2	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
809	**6324**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
810	**6321**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
822	**6333**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
827	**6361**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
810	**6326**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
810	**6326TN**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
817	**6326C**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
822	**6337**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
827	**6360**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
810	**6325**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**
822	**6335**		**12**	**1.0**	**8**	**0.8**	**6**	**0.6**	5	0.8	3	0.6	**12**	**1.0**	**8**	**1.2**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	Ø 1	Ø 1,5	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8
0.6	0,030	0,040	0,050	0,060	0,080	0,090	0,100	0,120
0.8	0,045	0,060	0,075	0,090	0,110	0,120	0,140	0,160
1.0	0,060	0,075	0,090	0,120	0,140	0,160	0,180	0,210
1.2	0,075	0,090	0,110	0,140	0,170	0,190	0,210	0,250
1.4	0,085	0,110	0,130	0,160	0,190	0,220	0,240	0,290
1.6	0,098	0,120	0,140	0,190	0,220	0,250	0,270	0,320
1.8	0,110	0,130	0,160	0,210	0,250	0,280	0,310	0,360
2.0	0,120	0,150	0,180	0,230	0,280	0,310	0,340	0,410
2.5	0,150	0,180	0,210	0,280	0,330	0,380	0,420	0,500

Beispiel Schnittdaten: 6324 Ø 5 | Werkstück Materialgruppe P1 | V_c = 12 m/min | f_n = **0,160 mm/U** (Koeffizient f=1)
Cutting data example: 6324 Ø 5 | Working material group P1 | V_c = 12 m/min | f_n = **0,160** mm/rev (coefficient f=1)

SCHNITTDATEN | CUTTING DATA

HSS und HSS-Co Reibahle | HSS and HSS-Co reamers

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6324**	809
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6321**	810
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6333**	822
13	**1.6**	**8**	**1.4**	-	-	-	-	-	-	-	-	-	-		**6361**	827
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6326**	810
15	1.6	10	1.4	2	0.6	2	0.6	-	-	-	-	-	-		**6326TN**	810
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6326C**	817
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6337**	822
13	**1.6**	**8**	**1.4**	-	-	-	-	-	-	-	-	-	-		**6360**	827
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6325**	810
15	**1.6**	**10**	**1.4**	**2**	**0.6**	**2**	**0.6**	-	-	-	-	-	-		**6335**	822

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,140	0,150	0,160	0,200	0,230	0,260	0,300	0,350	**0.6**	**Vorschub-Nummer** Feed Number
0,180	0,220	0,240	0,270	0,320	0,350	0,420	0,480	**0.8**	
0,240	0,270	0,300	0,350	0,400	0,450	0,520	0,600	**1.0**	
0,280	0,330	0,360	0,430	0,480	0,550	0,650	0,720	**1.2**	
0,340	0,380	0,410	0,500	0,550	0,640	0,750	0,820	**1.4**	
0,380	0,420	0,480	0,560	0,650	0,710	0,850	0,950	**1.6**	
0,420	0,480	0,530	0,620	0,720	0,800	0,950	1,100	**1.8**	
0,480	0,530	0,600	0,700	0,800	0,900	1,200	1,400	**2.0**	
0,580	0,650	0,730	0,880	1,000	1,200	1,400	1,600	**2.5**	

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▶ **Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen**
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Katalogseite Catalogue page	**Werkzeugcode** Tool Code		**Niedriglegierter Stahl** Low-Alloyed Steel **<800 N/mm²**		**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**		**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**		**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic		**Rostfreier Stahl Austenitisch** Stainless steel Austenitic		**Graues Gusseisen** Grey cast iron		**Sphäroguss** Nodular cast iron	
Materialgruppen | Materials Group			**P1**		**P2**		**P3**		**M1**		**M2**		**K1**		**K2**	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
827	**6362**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
826	**6307**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
833	**6313**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
834	**6314**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
836	**6308**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
835	**6310**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
835	**6311**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
832	**6319**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
838	**6355**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
829	**6303**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**
830	**6318**		**10**	**1.0**	**6**	**0.8**	**4**	**0.6**	3	0.8	2	0.6	**10**	**1.0**	**6**	**1.2**

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	**Ø 1**	**Ø 1,5**	**Ø 2**	**Ø 3**	**Ø 4**	**Ø 5**	**Ø 6**	**Ø 8**
0.6	0,030	0,040	0,050	0,060	0,080	0,090	0,100	0,120
0.8	0,045	0,060	0,075	0,090	0,110	0,120	0,140	0,160
1.0	0,060	0,075	0,090	0,120	0,140	0,160	0,180	0,210
1.2	0,075	0,090	0,110	0,140	0,170	0,190	0,210	0,250
1.4	0,085	0,110	0,130	0,160	0,190	0,220	0,240	0,290
1.6	0,098	0,120	0,140	0,190	0,220	0,250	0,270	0,320
1.8	0,110	0,130	0,160	0,210	0,250	0,280	0,310	0,360
2.0	0,120	0,150	0,180	0,230	0,280	0,310	0,340	0,410
2.5	0,150	0,180	0,210	0,280	0,330	0,380	0,420	0,500

Beispiel Schnittdaten: 6362 Ø 5 | Werkstück Materialgruppe P1 | **V_c** = 10 m/min | **f_n= 0,160 mm/U** (Koeffizient f=1.0)
Cutting data example: 6362 Ø 5 | Working material group P1 | **V_c** = 10 m/min | **f_n= 0,160** mm/rev (coefficient f=1.0)

SCHNITTDATEN | CUTTING DATA

HSS und HSS-Co Reibahle | HSS and HSS-Co reamers

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		
V_c f	V_c f	V_c f	V_c f	V_c f	V_c f	V_c f			
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6362**	827
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6307**	826
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6313**	833
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6314**	834
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6308**	836
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6310**	835
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6311**	835
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6319**	832
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6355**	838
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6303**	829
13 **1.6**	**8** **1.4**	- -	- -	- -	- -	- -		**6318**	830

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,140	0,150	0,160	0,200	0,230	0,260	0,300	0,350	**0.6**	**Vorschub-Nummer** Feed Number
0,180	0,220	0,240	0,270	0,320	0,350	0,420	0,480	**0.8**	
0,240	0,270	0,300	0,350	0,400	0,450	0,520	0,600	**1.0**	
0,280	0,330	0,360	0,430	0,480	0,550	0,650	0,720	**1.2**	
0,340	0,380	0,410	0,500	0,550	0,640	0,750	0,820	**1.4**	
0,380	0,420	0,480	0,560	0,650	0,710	0,850	0,950	**1.6**	
0,420	0,480	0,530	0,620	0,720	0,800	0,950	1,100	**1.8**	
0,480	0,530	0,600	0,700	0,800	0,900	1,200	1,400	**2.0**	
0,580	0,650	0,730	0,880	1,000	1,200	1,400	1,600	**2.5**	

Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

Katalogseite Catalogue page	**Werkzeugcode** Tool Code		**Niedriglegierter Stahl** Low-Alloyed Steel **<800 N/mm²**		**Mittellegierter Stahl** Medium-Alloyed Steel **700/1000 N/mm²**		**Hochlegierter Stahl** High-Alloyed Steel **1000/1300 N/mm²**		**Rostfreier Stahl Martensitisch/Ferritisch** Stainless steel Martensitic/Ferritic		**Rostfreier Stahl Austenitisch** Stainless steel Austenitic		**Graues Gusseisen** Grey cast iron		**Sphäroguss** Nodular cast iron	
Materialgruppen | Materials Group			**P1**		**P2**		**P3**		**M1**		**M2**		**K1**		**K2**	
			V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f
824	**6369**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
813	**6372**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
813	**6372TN**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
818	**6372C**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
815	**6370**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
816	**6371**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
825	**6376**		**20**	**1.2**	**15**	**1.0**	**10**	**0.8**	**10**	**1.0**	**7**	**0.8**	**20**	**1.4**	**15**	**1.2**
820	**6323**		**50**	**1.2**	**40**	**1.0**	**30**	**0.8**	**20**	**1.0**	**15**	**0.8**	**80**	**1.4**	**40**	**1.2**
821	**6373**		-	-	-	-	-	-	-	-	-	-	-	-	-	-

V_c: Schnittgeschwindigkeit (m/min) | cutting speed (m/min) **f: Vorschub (mm/U)** | Feed table (mm/rev)

Vorschub f_n (mm/U) | Feed f_n (mm/rev)

Kennzahl Coefficient Number	**Ø 1**	**Ø 1,5**	**Ø 2**	**Ø 3**	**Ø 4**	**Ø 5**	**Ø 6**	**Ø 8**
0.6	0,030	0,040	0,050	0,060	0,080	0,090	0,100	0,120
0.8	0,045	0,060	0,075	0,090	0,110	0,120	0,140	0,160
1.0	0,060	0,075	0,090	0,120	0,140	0,160	0,180	0,210
1.2	0,075	0,090	0,110	0,140	0,170	0,190	0,210	0,250
1.4	0,085	0,110	0,130	0,160	0,190	0,220	0,240	0,290
1.6	0,098	0,120	0,140	0,190	0,220	0,250	0,270	0,320
1.8	0,110	0,130	0,160	0,210	0,250	0,280	0,310	0,360
2.0	0,120	0,150	0,180	0,230	0,280	0,310	0,340	0,410
2.5	0,150	0,180	0,210	0,280	0,330	0,380	0,420	0,500

Beispiel Schnittdaten: 6369 Ø 5 | Werkstück Materialgruppe P1 | V_c = 20 m/min | f_n = **0,190 mm/U** (Koeffizient f=1.2)
Cutting data example: 6369 Ø 5 | Working material group P1 | V_c = 20 m/min | f_n = **0,190** mm/rev (coefficient f=1.2)

SCHNITTDATEN | CUTTING DATA

VHM, Cermet und PKD Reibahle | Solid Carbide, Cermet and PKD reamers

Aluminium und Aluminiumlegierungen Aluminum and Aluminum alloys	**Nicht eisenhaltige Materialien** Non ferrous materials	**Titan und Titanlegierungen** Titanium and Titanium alloys	**HRSA Hitzebeständige Legierungen** Heat resistant alloys	**Gehärtete Stähle** Hardened steels **38/48 HRC**	**Gehärtete Stähle** Hardened steels **48/58 HRC**	**Gehärtete Stähle** Hardened steels **58/68 HRC**		**Werkzeugcode** Tool Code	**Katalogseite** Catalogue page
N1	**N2**	**S1**	**S2**	**H1**	**H2**	**H3**	**Materialgruppen** | Materials Group		

V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f	V_c	f			
30	**1.8**	**25**	**1.6**	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6369**	824
30	**1.8**	**25**	**1.6**	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6372**	813
30	1.8	25	1.6	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6372TN**	813
30	**1.8**	**25**	**1.6**	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6372C**	818
30	**1.8**	**25**	**1.6**	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6370**	815
30	**1.8**	**25**	**1.6**	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6371**	816
30	**1.8**	**25**	**1.6**	**5**	**0.8**	**5**	**0.8**	-	-	-	-	-	-		**6376**	825
150	**1.8**	**100**	**1.6**	-	-	-	-	-	-	-	-	-	-		**6323**	820
200	**2.0**	**150**	**1.8**	-	-	-	-	-	-	-	-	-	-		**6373**	821

Ø 10	**Ø 12**	**Ø 15**	**Ø 20**	**Ø 25**	**Ø 30**	**Ø 40**	**Ø 50**		
0,140	0,150	0,160	0,200	0,230	0,260	0,300	0,350	**0.6**	**Vorschub-Nummer** Feed Number
0,180	0,220	0,240	0,270	0,320	0,350	0,420	0,480	**0.8**	
0,240	0,270	0,300	0,350	0,400	0,450	0,520	0,600	**1.0**	
0,280	0,330	0,360	0,430	0,480	0,550	0,650	0,720	**1.2**	
0,340	0,380	0,410	0,500	0,550	0,640	0,750	0,820	**1.4**	
0,380	0,420	0,480	0,560	0,650	0,710	0,850	0,950	**1.6**	
0,420	0,480	0,530	0,620	0,720	0,800	0,950	1,100	**1.8**	
0,480	0,530	0,600	0,700	0,800	0,900	1,200	1,400	**2.0**	
0,580	0,650	0,730	0,880	1,000	1,200	1,400	1,600	**2.5**	

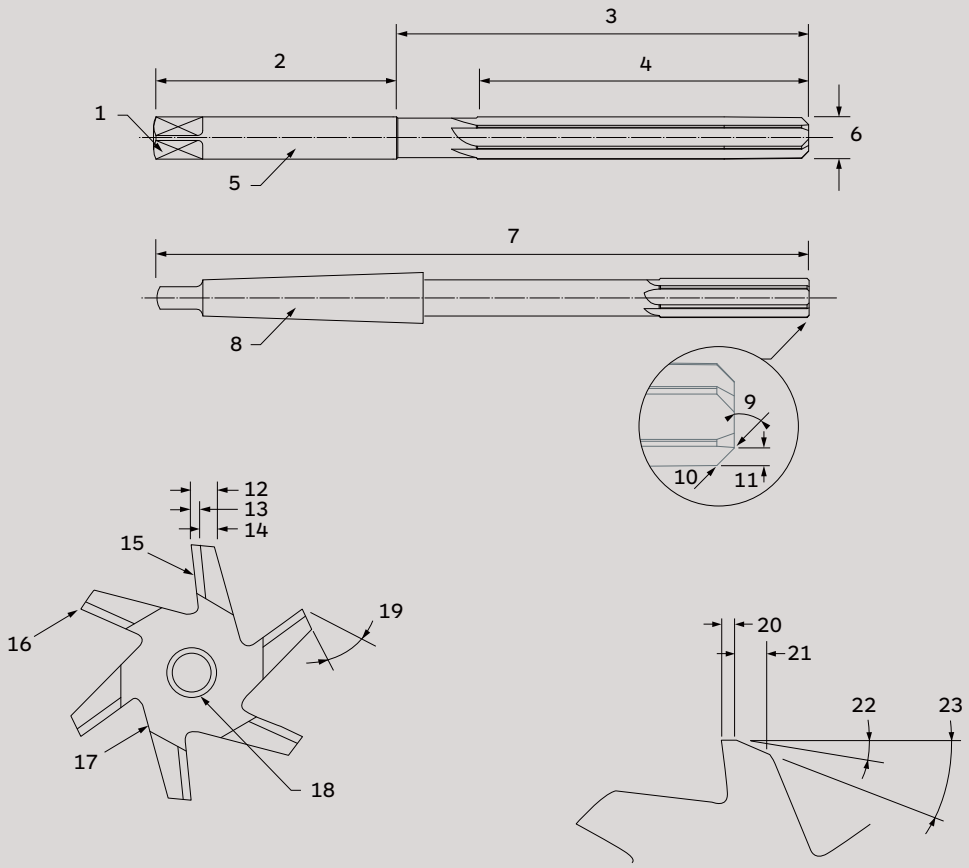
Die in der Tabelle angegebenen Schnittparameter gelten bei optimalen Maschinen-/Werkstückbedingungen
The cutting parameters shown in the table have to be considered valid in optimal machine/workpiece conditions

02

TECHNISCHE ANLEITUNG
TECHNICAL GUIDE

D.02.01

▸ **REIBAHLEN BESCHREIBUNG** | REAMER NOMENCLATURE



Zeichenerklärung | Legend:

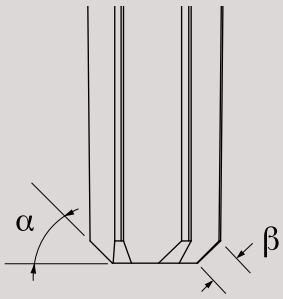
1	**Vierkant**	Square
2	**Schaftlänge**	Shank length
3	**Länge bis zum Schaft**	Body length
4	**Schneidenlänge**	Cutting length
5	**Zylinderschaft**	Cylindrical shank
6	**Schneiden-Ø**	Cutting diameter
7	**Gesamtlänge**	Total length
8	**Konischer Schaft**	Tapered shank
9	**Anschnittwinkel**	Chamfer angle
10	**Anschnitt**	Chamfer
11	**Anschnittlänge**	Chamfer length
12	**Breite**	Width

13	**Nebenschneide**	Circular edging
14	**Spanwinkel**	Rake
15	**Fläche**	Face
16	**Hauptschneide**	Cutting edge
17	**Spannute**	Flute
18	**Zentrierbohrung**	Center hole
19	**Spanwinkel**	Rake angle
20	**Spanwinkel Breite I**	Rake width I
21	**Spanwinkel Breite II**	Rake width II
22	**Spanwinkel I**	Rake angle I
23	**Spanwinkel II**	Rake angle II

▸ **REIBZUGABE** | REAMING ALLOWANCES

Material | Material	**Reibahlendurchmesser** | Reamer diameter				
	3-5 mm	**6-10 mm**	**11-20 mm**	**21-30 mm**	**>30 mm**
Stähle bis 700 N/mm² Steels up to 700 N/mm²	0,1 – 0,2	0.2	0,2 – 0,3	0,3 – 0,4	0,4 – 0,5
Stähle über 700 N/mm² Steels over 700 N/mm²	0,1 – 0,2	0.2	0.2	0.3	0.3
Stahlguss Cast Steel	0,1 – 0,2	0.2	0.2	0,2 – 0,3	0,3 – 0,4
Grauguss Grey Cast Iron	0,1 – 0,2	0.2	0,2 – 0,3	0,3 – 0,4	0,4 – 0,5
Temperguss Malleable Cast Iron	0,1 – 0,2	0.2	0.3	0.4	0.5
Kupfer Copper	0,1 – 0,2	0,2 – 0,3	0,3 – 0,4	0,4 – 0,5	0.5
Messing, Bronze Brass, Bronze	0,1 – 0,2	0.2	0,2 – 0,3	0,3 – 0,4	0,4 – 0,5
Leichtmetalllegierungen Light metals alloys	0,1 – 0,2	0.2	0.3	0.4	0.5
Harte Kunststoffe Hard Plastics	0,1 – 0,2	0,2 – 0,3	0,3 – 0,4	0,4 – 0,5	0.5
Weiche Kunststoffe Soft Plastics	0,1 – 0,2	0.2	0.2	0.3	0,3 – 0,4

▸ **ANSCHNITT-DIAGRAMM** | CHAMFER CHART

	ReibahlendurchmesserReamer diameter		**Anschnittlänge** Chamfer length	**Anschittwinkel** Chamfer angle
	Von | From	**Bis** | to	**+0,1 mm** β	α
	-	1,7	0,3	30°
	1,7	2,8	0,4	30°
	2,8	4	0,4	45°
	4	10	1/10 Ø nom.	45°
	10	31	1	45°
	31	45	1,2	45°
	45	60	1,5	45°
	60	75	1,8	45°
	75	-	2	45°

▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
BRUCH Breakage	**Kleinerer Lochdurchmesser als empfohlen.** Smaller hole diameter than recommended	**Sehen Sie sich die Tabelle der Bearbeitungszugaben auf S.849** Look at the machining allowance chart on p. 849
	Die Bearbeitungszugabe ist zu groß. Machining allowance is too much.	**Reduzieren Sie die Bearbeitungszugabe anhand der Tabelle auf S. 849** Reduce the machining allowance by checking the chart on p. 849
	Späne verstopfen die Spannuten. Clogging chips in the flute.	**Bearbeitungsaufmaß und Schnittdaten prüfen, richtige Reibahle wählen.** Check the machining allowance and the cutting data, choose the correct reamer.
	Kollision zwischen der Reibahle und dem Ende des Sacklochs. Collision between the reamer and the end of the blind hole.	**Überprüfen Sie die Lochtiefe.** Check the hole depth.
VERSCHLEISS Wear	**Schlechte Bearbeitungszugabe.** Poor machining allowance.	**Erhöhen Sie die Bearbeitungszugabe anhand der Tabelle auf S. 849** Increase the machining allowance by looking at the chart on p. 849
	Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch. Cutting speed is too high for the kind of workpiece.	**Betrachtet man die Schnittdaten ab S. 839** Looking at the cutting data starting on p. 839
	Unzureichende Kühlung. Insufficient coolant flowrate.	**Erhöhen Sie die Kühlmitteldurchflussrate.** Increase the coolant flowrate.
	Falsch geliffen. Grinding is wrong.	**Achten Sie auf den richtigen Schliff.** Make sure the grinding is correct.
ÜBERGROSSES LOCH Oversized hole	**Schnittgeschwindigkeit ist für die Art des Werkstücks zu hoch.** Cutting speed is too high for the kind of workpiece.	**Betrachtet man die Schnittdaten ab S. 839** Look at the cutting data starting on p. 839
	Werkstück ist während des Reibens nicht stabil. Workpiece is not stable during the reaming.	**Überprüfen Sie das Spannsystem.** Check the clamping system.
	Schlechter Rundlauf der Reibahle während der Bearbeitung. Bad reamer run-out during the processing.	**Rundlauf der Reibahle prüfen und reduzieren.** Check and reduce the run-out of the reamer.
	Anschnitt der Reibahle ist zu kurz. Chamfer of the reamer is too short.	**Sehen Sie sich die Größe in der Toleranztabelle auf S. 849** Look at the size in the alolowance chart on p. 849

▸ **FEHLERBEHEBUNG** | TROUBLESHOOTING

Problem | Problem	**Ursachen** | Causes	**Korrekturmaßnahme** | Corrective Action
UNTERDIMENSIONIERTES LOCH Undersized hole	**Schlechte Bearbeitungszugabe.** Poor machining allowance.	**Erhöhen Sie die Bearbeitungszugabe anhand der Tabelle auf S. 849** Increase the machining allowance by checking the chart on pag 849
	Verwenden Sie eine abgenutzte Reibahle. Use a worn out reamer.	**Überprüfen Sie den Verschleiß der Reibahle und ersetzen Sie sie durch eine neue** Check the wear of the reamer and replace it with a new one
	Falsche Schnittdaten für die Art des Werkstücks. Wrong cutting data for the kind of workpiece.	**Betrachtet man die Schnittdaten ab S. 839** Check the cutting data starting on p. 839
	Rückfederung der aufgebohrten Bohrung durch extreme Hitze. Springback of the reamed hole because of extreme heat.	**Kühlmittel erhöhen und Schnittdaten ab S. 839** Increase the coolant and look at the cutting data starting on p. 839
LOCH MIT SCHLECHTER OBERFLÄCHENGÜTE Bad surface finish hole	**Unzureichende Kühlung.** Insufficient coolant flowrate.	**Erhöhen Sie die Kühlmitteldurchflussrate.** Increase the coolant flowrate
	Verwenden Sie eine abgenutzte Reibahle. Use a demaged reamer.	**Überprüfen Sie den Verschleiß der Reibahle und ersetzen Sie sie durch eine neue** Check the reamer wear and replace it with a new one
	Falsche Schnittdaten für die Art des Werkstücks. Wrong cutting data for the kind of workpiece.	**Betrachtet man die Schnittdaten ab S. 839** Check the cutting data starting on pag 839
	Die Bearbeitungszugabe ist zu groß. Machining allowance is too much.	**Reduzieren Sie die Bearbeitungszugabe anhand der Tabelle auf S. 849** Reduce the machining allowance by checking the chart on p. 849

ALLGEMEINE INFORMATION
GENERAL INFORMATION

i.01.01

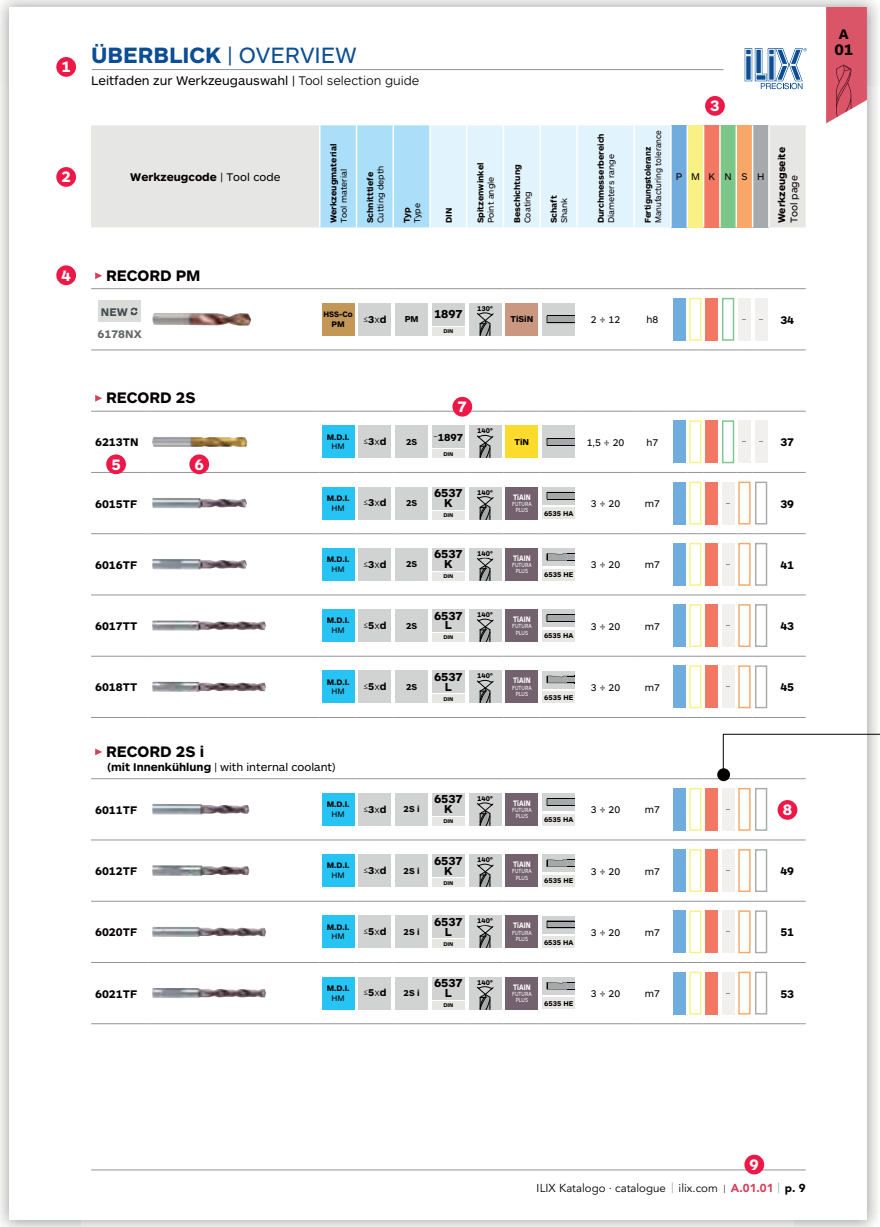
i.01.02

i.01.03

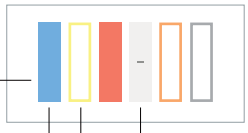
i.01.04

▸ Leitfaden zur Werkzeugauswahl | Tool selection guide

1. **Katalogabschnitt**
   Catalogue section
2. **Materialproduktfamilie**
   Material product family
3. **Symbol für die Produktfamilie**
   Product family icon
4. **Abschnitts- und Unterabschnittscode und Überschrift.**
   Section and sub-section code and rubrication.



1. **Katalogabschnitt**
   Catalogue section
2. **Technische Einzelheiten**
   Technical details
3. **Materialgruppen**
   Material groups
4. **Titel der Produktfamilie**
   Product family title
5. **Produktbestellcode**
   Product order code
6. **Produktfoto**
   Product photo
7. **Symbole für technische Einzelheiten**
   Symbols for technical details
8. **Materialgruppen-Symbole:**
   Material group icons:



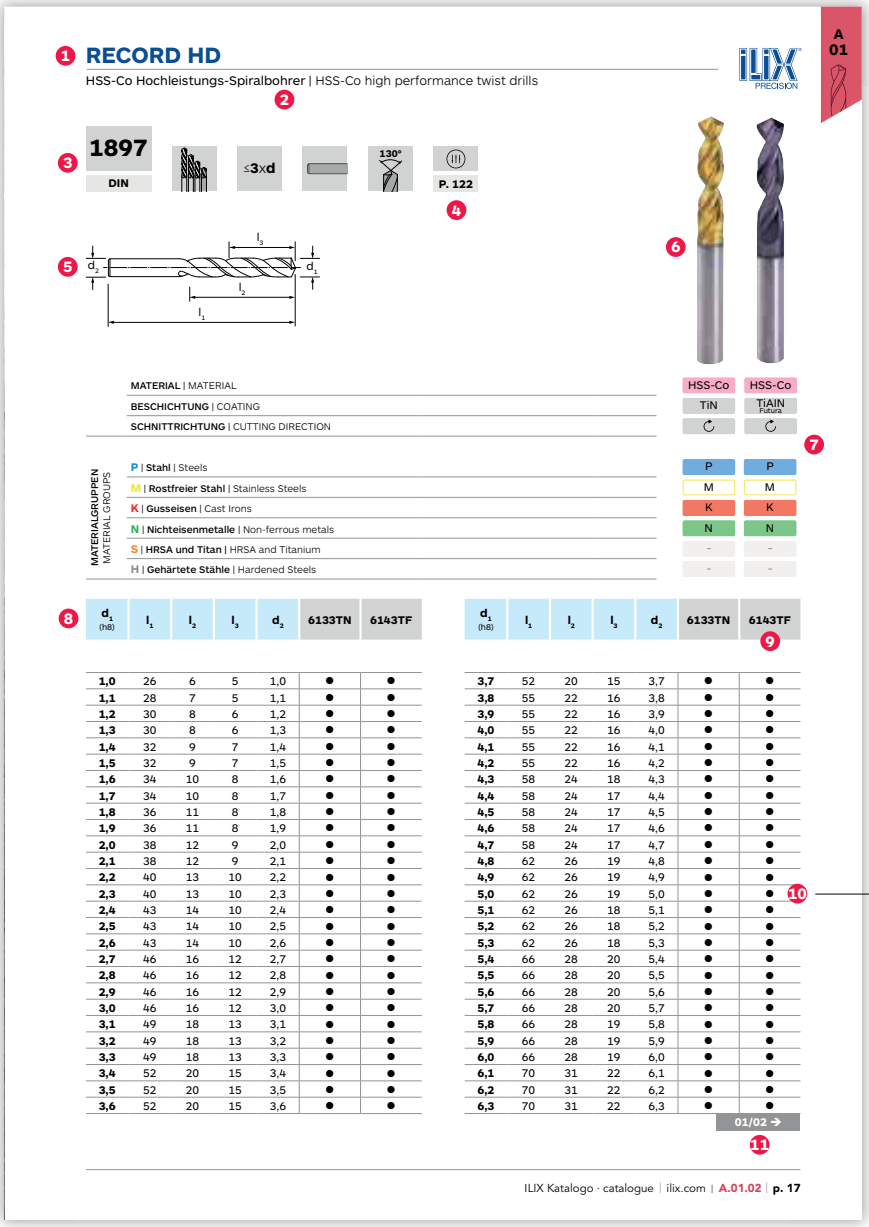
Ungeeignet
Unsuitable

Möglich
Possible

Empfohlen
Suggested

9. **Abschnitts- und Unterabschnittscode**
   Section and sub-section code

▸ Produktpalette | Products range



1 RECORD HD

HSS-Co Hochleistungs-Spiralbohrer | HSS-Co high performance twist drills

2

3 1897 DIN | ≤3xd | 130° | P. 122

4

5

6

7

MATERIAL | MATERIAL — HSS-Co | HSS-Co

BESCHICHTUNG | COATING — TiN | TiAlN Futura

SCHNITTRICHTUNG | CUTTING DIRECTION

MATERIALGRUPPEN MATERIAL GROUPS

P | Stahl | Steels — P | P

M | Rostfreier Stahl | Stainless Steels — M | M

K | Gusseisen | Cast Irons — K | K

N | Nichteisenmetalle | Non-ferrous metals — N | N

S | HRSA und Titan | HRSA and Titanium

H | Gehärtete Stähle | Hardened Steels

8

d_1 (h8)	l_1	l_2	l_3	d_2	6133TN	6143TF
1,0	26	6	5	1,0	●	●
1,1	28	7	5	1,1	●	●
1,2	30	8	6	1,2	●	●
1,3	30	8	6	1,3	●	●
1,4	32	9	7	1,4	●	●
1,5	32	9	7	1,5	●	●
1,6	34	10	8	1,6	●	●
1,7	34	10	8	1,7	●	●
1,8	36	11	8	1,8	●	●
1,9	36	11	8	1,9	●	●
2,0	38	12	9	2,0	●	●
2,1	38	12	9	2,1	●	●
2,2	40	13	10	2,2	●	●
2,3	40	13	10	2,3	●	●
2,4	43	14	10	2,4	●	●
2,5	43	14	10	2,5	●	●
2,6	43	14	10	2,6	●	●
2,7	46	16	12	2,7	●	●
2,8	46	16	12	2,8	●	●
2,9	46	16	12	2,9	●	●
3,0	46	16	12	3,0	●	●
3,1	49	18	13	3,1	●	●
3,2	49	18	13	3,2	●	●
3,3	49	18	13	3,3	●	●
3,4	52	20	15	3,4	●	●
3,5	52	20	15	3,5	●	●
3,6	52	20	15	3,6	●	●
3,7	52	20	15	3,7	●	●
3,8	55	22	16	3,8	●	●
3,9	55	22	16	3,9	●	●
4,0	55	22	16	4,0	●	●
4,1	55	22	16	4,1	●	●
4,2	55	22	16	4,2	●	●
4,3	58	24	18	4,3	●	●
4,4	58	24	17	4,4	●	●
4,5	58	24	17	4,5	●	●
4,6	58	24	17	4,6	●	●
4,7	58	24	17	4,7	●	●
4,8	62	26	19	4,8	●	●
4,9	62	26	19	4,9	●	●
5,0	62	26	19	5,0	●	●
5,1	62	26	18	5,1	●	●
5,2	62	26	18	5,2	●	●
5,3	62	26	18	5,3	●	●
5,4	66	28	20	5,4	●	●
5,5	66	28	20	5,5	●	●
5,6	66	28	20	5,6	●	●
5,7	66	28	20	5,7	●	●
5,8	66	28	19	5,8	●	●
5,9	66	28	19	5,9	●	●
6,0	66	28	19	6,0	●	●
6,1	70	31	22	6,1	●	●
6,2	70	31	22	6,2	●	●
6,3	70	31	22	6,3	●	●

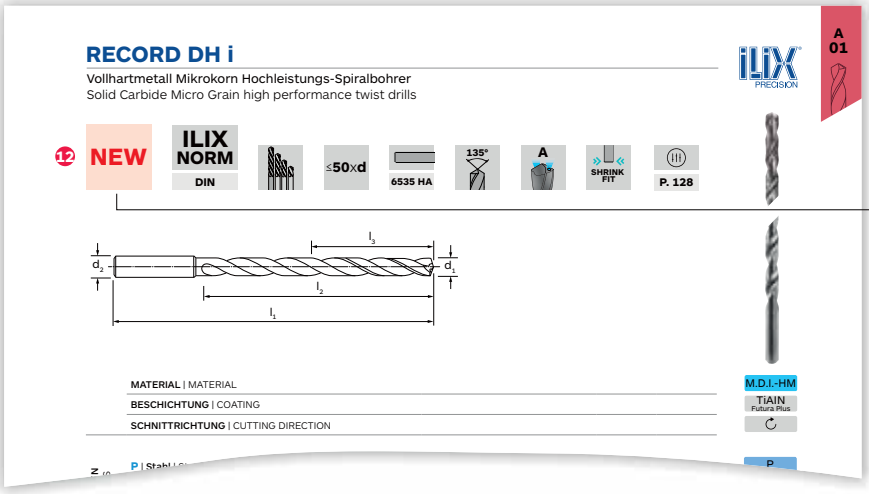
9

10

01/02 →

11

ILIX Katalogo · catalogue | ilix.com | A.01.02 | p. 17



RECORD DH i

Vollhartmetall Mikrokorn Hochleistungs-Spiralbohrer

Solid Carbide Micro Grain high performance twist drills

12 NEW | ILIX NORM DIN | ≤50xd | 6535 HA | 135° | A | SHRINK FIT | P. 128

MATERIAL | MATERIAL — M.D.I.-HM

BESCHICHTUNG | COATING — TiAlN Futura Plus

SCHNITTRICHTUNG | CUTTING DIRECTION

1 **Katalogabschnitt**
Catalogue section

2 **Werkzeugtyp**
Tool type

3 **Symbole für technische Einzelheiten**
Symbols for technical details

4 **Referenzseite der technischen Parameter**
Technical parameters reference page

5 **Technische Zeichnung**
Technical drawing

6 **Produktfoto**
Product photo

7 **Symbole für technische Einzelheiten**
Symbols for technical details

8 **Maße Zitate**
Dimensions quotes

9 **Produktbestellcode**
Product order code

10 **Produktbestellcode:**
Product availability:

- ● **Auf Lager**
  Available in stock
- ■ **Solange der Vorrat reicht**
  Till stocks last
- ▲ **Auf Anfrage**
  On request

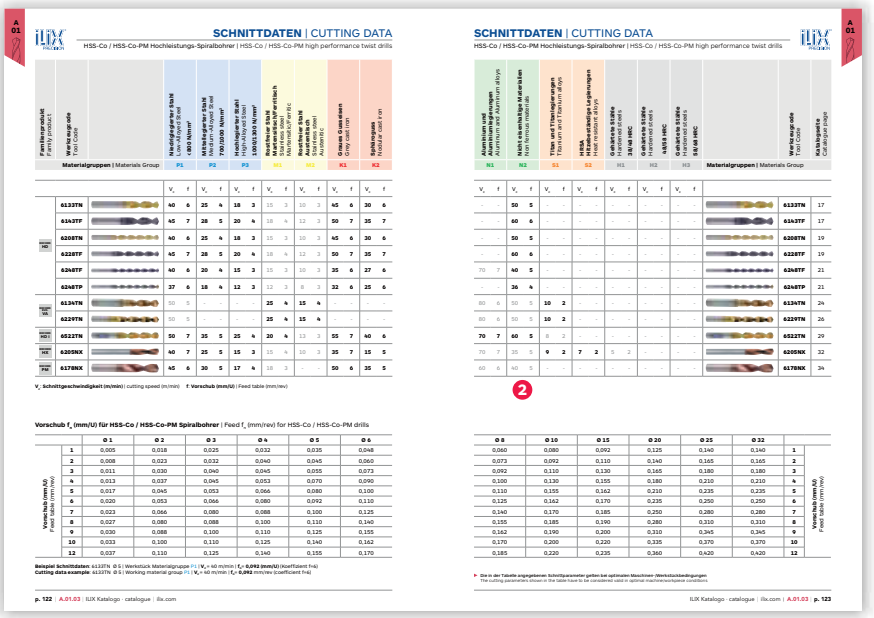
11 **Fortsetzung der Produktseite**
Product page continuation

12 **Katalog "Neuheit"-Symbol:**
Catalogue"novelty" icon:

- NEW **ILIX absolute Neuheit**
  "ILIX" absolute novelty
- NEW **Neuheit bereits auf dem Markt eingeführt**
  Novelty already introduced to the market
- NEW TECH **Technologie-Upgrade**
  Technology upgrade
- NEW **Neue Beschichtung**
  New coating
- NEW Ø **Neue Sortimentsdurchmesser**
  New range diameters

▸ Schnittdaten | Cutting data

1



SCHNITTDATEN | CUTTING DATA

HSS-Co / HSS-Co-PM Hochleistungs-Spiralbohrer | HSS-Co / HSS-Co-PM high performance twist drills

SCHNITTDATEN | CUTTING DATA

HSS-Co / HSS-Co-PM Hochleistungs-Spiralbohrer | HSS-Co / HSS-Co-PM high performance twist drills

Vorschub f_z (mm/U) für HSS-Co / HSS-Co-PM Spiralbohrer | Feed f_z (mm/rev) for HSS-Co / HSS-Co-PM drills

Vorschub (mm/U) Feed table (mm/rev)	Ø 1	Ø 2	Ø 3	Ø 4	Ø 5	Ø 6	Ø 8	Ø 10	Ø 15	Ø 20	Ø 25	Ø 32	Vorschub (mm/U) Feed table (mm/rev)
1	0,005	0,018	0,025	0,032	0,035	0,048	0,060	0,080	0,092	0,125	0,140	0,140	1
2	0,008	0,023	0,032	0,040	0,045	0,060	0,073	0,092	0,110	0,140	0,165	0,165	2
3	0,011	0,030	0,040	0,045	0,055	0,073	0,092	0,110	0,130	0,165	0,180	0,180	3
4	0,013	0,037	0,045	0,053	0,070	0,090	0,100	0,130	0,155	0,180	0,210	0,210	4
5	0,017	0,045	0,053	0,066	0,080	0,100	0,110	0,155	0,162	0,210	0,235	0,235	5
6	0,020	0,053	0,066	0,080	0,092	0,110	0,125	0,162	0,170	0,235	0,250	0,250	6
7	0,023	0,066	0,080	0,088	0,100	0,125	0,140	0,170	0,185	0,250	0,280	0,280	7
8	0,027	0,080	0,088	0,100	0,110	0,140	0,155	0,185	0,190	0,280	0,310	0,310	8
9	0,030	0,088	0,100	0,110	0,125	0,155	0,162	0,190	0,200	0,310	0,345	0,345	9
10	0,033	0,100	0,110	0,125	0,140	0,162	0,170	0,200	0,220	0,335	0,370	0,370	10
12	0,037	0,110	0,125	0,140	0,155	0,170	0,185	0,220	0,235	0,360	0,420	0,420	12

Beispiel Schnittdaten: 6133TN Ø 5 | Werkstück Materialgruppe P1 | V_c = 60 m/min | f_z = **0,092 (mm/U)** (Koeffizient f=6)
Cutting data example: 6133TN Ø 5 | Working material group P1 | V_c = 60 m/min | f_z = **0,092** mm/rev (coefficient f=6)

2

1 Beispielseite Schnittdaten Bohrer-Bereich.
Example page cutting data drilling section.

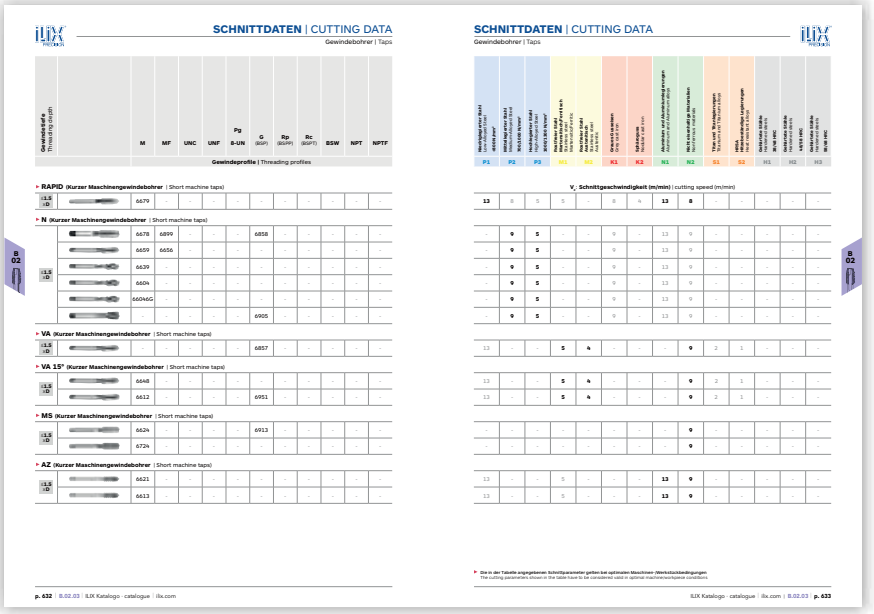
2 Technische Einzelheiten
Technical details

18	4	12	3	**50**	**7**	**35**	**7**
15	3	10	3	**35**	**6**	**27**	**6**
12	3	8	3	**32**	**6**	**25**	**6**
25	**4**	**15**	**4**	-	-	-	-
25	**4**	**15**	**4**	-	-	-	-

12 3 **Möglich** | Possible

25 4 Empfohlen | Suggested

3



SCHNITTDATEN | CUTTING DATA

Gewindebohrer | Taps

SCHNITTDATEN | CUTTING DATA

Gewindebohrer | Taps

3 Beispielseite Schnittparameter Gewinde-Bereich.
Example page cutting parameters threading section.

▸ Arten von Materialien | Types of construction materials

Symbol Icon	Beschreibung | Description	Abschnitt | Section	
HSS	**Schnellarbeitsstahl: Fe+C-Legierung mit Chrommolybdän, Vanadium und Tugsten in unterschiedlichen Prozentsätzen. Schnellarbeitsstähle sind hochlegierte Stähle.** High Speed Steel: Fe+C alloy added with Chromium Molybdenum, Vanadium and Tugsten in different percentages. High speed steels are high alloyed steels.	**A-03**	**Bohrer** Drills
		B-02	**Gewindebohrer** Taps
		C-01	**Aufbohrer,Flachsenker,Kegelsenker** Core Drills-Counterbores-Countersinks
		D-01	**Reibahle** Reamers
HSS-Co	**Kobalt-Schnellarbeitsstahl: Fe+C-Legierung mit Chrommolybdän-, Vanadium-, Tugsten- und Kobaltgehalt, normalerweise 5 %. Schnellarbeitsstähle sind hochlegierte Stähle.** Cobalt High Speed Steel: Fe+C alloy added with Chromium Molybdenum, Vanadium, Tugsten and Cobalt content usually 5%. High speed steels are high alloyed steels.	**A-01**	**Hochleistungsbohrer** High Performance Drills
		A-03	**Bohrer** Drills
		B-01	**Hochleistungsgewindebohrer** High Performance Taps
		B-02	**Gewindebohrer** Taps
		D-01	**Reibahle** Reamers
HSS-Co 8%	**Kobalt 8 % Schnellarbeitsstahl: Fe+C-Legierung mit Chrom, Molybdän, Vanadium, Tugsten und Kobalt (8 %). Schnellarbeitsstähle sind hochlegierte Stähle.** Cobalt 8% High Speed Steel: Fe+C alloy added with Chromium Molybdenum, Vanadium, Tugsten and Cobalt (8%). High speed steels are high alloyed steels.	**A-01**	**Hochleistungsbohrer** High Performance Drills
HSS-Co PM	**Pulverisierter Schnellarbeitsstahl: Stahl, der durch Pulvermetallurgie-Technologie gewonnen wird. Ein Prozess ähnlich der Herstellung von Vollhartmetall.** Powdered High Speed Steel: Steel obtained by powder metallurgy technology. A process similar to the production of solid carbide.	**A-01**	**Hochleistungsbohrer** High Performance Drills
		B-01	**Hochleistungsgewindebohrer** High Performance Taps
M.D.I. HM	**Vollhartmetall: Gesintertes Metallkarbid, ein Schneidstoff, der aus Tugsten-Karbidpulver mit dem Zusatz von Tantalkarbid, Niobio und Titankarbid in unterschiedlichen Prozentsätzen gewonnen wird.** Solid Carbide: Sintered metal carbide, a cutting material obtained by Tugsten carbide powder with the addition of Tantalum carbide, Niobio and Titanium carbide in different percentages.	**A-01**	**Hochleistungsbohrer** High Performance Drills
		A-02	**Wendeplattenbohrer** Indexable Drills
		A-03	**Bohrer** Drills
		B-01	**Hochleistungsgewindebohrer** High Performance Taps
		B-03	**Gewindefräser** Thread Milling Cutters
		C-01	**Aufbohrer,Flachsenker,Kegelsenker** Core Drills-Counterbores-Countersinks
		D-01	**Reibahle** Reamers
PKD	**Polykristalliner Diamant: Schneidstoff auf Kohlenstoffbasis, auch synthetischer Diamant genannt, der durch einen Sinterprozess gewonnen wird. Bindephase erhalten durch Tugsten-Karbid.** Polycrystalline Diamond: Carbon-based cutting material also called synthetic diamond obtained through a sintering process. Binder phase obtained by Tugsten carbide.	**A-01**	**Hochleistungsbohrer** High Performance Drills
		D-01	**Reibahle** Reamers
CERMET	**Titankarbid-Partikelbasis: Gesintertes Hartmetall ohne Wolframkarbid. Bindephase Kobalt oder Nickel. Die Abkürzung CERMET steht für Ceramic-Metal. Grenzlinie zwischen Hartmetall und Keramik..** Titanium Carbide particles base: Sintered Hard Metal with no Tungsten Carbide. Binder phase Cobalt or Nickel. The abbreviation CERMET stands for Ceramic-Metal. Boundary line between Hard Metal and Ceramic.	**D-01**	**Reibahle** Reamers
ACCIAO Steel	**Stahl: Fe+C-Legierung mit anderen Elementen wie Chrom, Vanadium, Molybdän. Oberflächenbehandlung durch Vernickelung.** Steel: Fe+C alloy with other elements such as Chromium, Vanadium, Molybdenum. Nickel-plating surface treatment.	**A-02**	**Wendeplattenbohrer** Indexable Drills
		B-03	**Gewindefräser** Thread Milling Cutters

▸ **Beschichtungsarten** | Types of coating

Beschichtung Coating	Katalog-Symbol Catalogue icon	**Beschreibung**	Description
 **TiN**	TiN **TN**	**Einschichtige Titannitridbeschichtung, geeignet für ein breites Anwendungsspektrum in allen Bereichen der allgemeinen Mechanik. Geeignet für die Bearbeitung von niedrig- und mittellegierten Stählen, Edelstählen und Leichtmetallen. Maximale Betriebstemperatur bis 550 °C.** Single-layer Titanium Nitride coating suitable for a wide range of applications in all areas of general mechanics. Suitable for machining low and medium alloy steels, stainless steels and light alloys. Maximum operating temperature up to 550 °C.
	TiN TOP **TP**	**Einschichtige Titannitridbeschichtung, die nur auf ein Teil des Werkzeugs abgeschieden wird und für eine Vielzahl von Anwendungen in allen Bereichen der allgemeinen Mechanik geeignet ist. Geeignet für die Bearbeitung von niedrig- und mittellegierten Stählen, Edelstählen und LEICHT-Legierungen. Maximale Betriebstemperatur bis 550 °C.** Single-layer Titanium Nitride coating, deposited only on the initial section of the tool, suitable for a wide range of applications in all areas of general mechanics. Suitable for machining low and medium alloy steels, stainless steels and LIGHT alloys. Maximum operating temperature up to 550 °C.
 **TiAlN**	TiAlN FUTURA **TF**	**Mehrschichtige Beschichtung auf Basis von Titan und Aluminiumnitrid, ideal zum Bohren und Gewindeschneiden in einer Vielzahl von Materialien, von Weichstählen bis hin zu Werkzeugstählen, Gusseisen und einigen rostfreien Stählen bei moderaten Schnittgeschwindigkeiten. Maximale Betriebstemperatur bis 850 °C.** Multi-layer coating based on Titanium and Aluminium Nitride, ideal for drilling and tapping in a wide range of materials, from mild steels to tool steels, cast irons and some stainless steels at moderate cutting speeds. Maximum operating temperature up to 850 °C.
	TiAlN FUTURA PLUS **TF-TT**	**Mehrschichtige Beschichtung auf Basis von Titan und Aluminiumnitrid, bis zu einer Dicke von 4,5 µm, speziell für Bohrarbeiten an Stählen und Gusseisen. Maximale Betriebstemperatur von 1000°C** Multi-layer coating based on Titanium and Aluminium Nitride, up to 4,5 µm thickness, specific for drilling operations on steels and cast irons. Maximum operating temperature of 1000°C
	TiAlN FUTURA TOP **TF**	**Mehrschichtige Beschichtung auf Basis von Titan und Aluminiumnitrid, bis zu einer Dicke von 3 µm, speziell für Mikrobohroperationen in Stählen und Gusseisen. Maximale Betriebstemperatur von 1000°C** Multi-layer coating based on Titanium and Aluminium Nitride, up to 3 µm thickness, specific for micro-drilling operations on steels and cast irons. Maximum operating temperature of 1000°C
	TiAlN BLUE EVO **XB**	**Mehrschichtige Beschichtung auf Basis von Titannitrid und Aluminium, bis zu einer Dicke von 4,5 µm, speziell für die Bearbeitung von Edelstählen, Titan, Aluminiumlegierungen und Nichteisenmetallen. Maximale Betriebstemperatur von 1000°C.** Multi-layer coating based on Titanium Nitride and Aluminium, up to 4,5 µm thickness, specific for operations on stainless steels, Titanium, Aluminium alloys and non ferrous materials. Maximum operating temperature of 1000°C.
	NEW TiAlN HL EVO **HL**	**Mehrschichtige Beschichtung auf Basis von Titan-Aluminium-Nitrid, ideal für Gewindeschneidoperationen, garantiert hohe Oberflächenhärte, hohe Temperaturbeständigkeit und niedrigen Reibungskoeffizienten.** Multi-layer coating based on Titanium Aluminium Nitride, ideal for tapping operations, guarantees high surface hardness, high temperature resistance and low coefficient of friction.
 **TiN + WCC**	TiN WCC **TL**	**Die Mehrschichtbeschichtung auf Basis von Tugsten Carbide und Carbon hat einen niedrigen Reibungskoeffizienten, eine gute Härte und eine hohe Beständigkeit gegen chemische Aggression, besonders geeignet, wenn eine hervorragende Glätte erforderlich ist.** Multi-layer coating based on Tugsten Carbide and Carbon has a low coefficient of friction, good hardness and high resistance to chemical aggression, particularly suitable where excellent smoothness is needed.

▸ Beschichtungsarten | Types of coating

Beschichtung Coating	Katalog-Symbol Catalogue icon	Beschreibung | Description
 **TiCN**	TiCN **TC**	**Einschichtige Titancarbonitrid-Beschichtung, ergibt eine größere Härte als klassisches TiN. Wird beim Bohren, Gewindeschneiden und Gewindefräsen verwendet.** Single-layer Titanium carbonitride coating, gives greater hardness than classic TiN. Used in drilling, tapping and threading.
	NEW TiCN PLUS **TC**	**Mehrschichtige Beschichtung auf Basis von Titancarbonitrid garantiert bessere Leistungen in Bezug auf Schnittgeschwindigkeit, Verschleißfestigkeit und niedrigeren Reibungskoeffizienten als klassisches TiCN beim Gewindeschneiden.** Multi-layer coating based on Titanium carbonitride guarantees better performances in terms of cutting speed, wear resistance and lower coefficient of friction than classic TiCN in tapping operations.
	TiCN TOP **TB**	**Mehrschichtige Beschichtung auf Basis von Titancarbonitrid und Titannitrid. Die Dampfbehandlung der Schneidkante und eines Teils der Nuten gewährleistet eine optimale Spankontrolle und erhöhte Zuverlässigkeit beim Gewindeschneiden von Materialien mit geringer Zerspanbarkeit.** Multi-layer coating based on Titanium Carbonitride and Titanium Nitride. The steaming treatment on the cutting edge and part of the grooves ensures optimum chip control and increased reliability when tapping low machinability materials.
 **AlCrN**	NEW AlCrN **TX**	**Mehrschichtige Beschichtung auf Basis von Chromnitrid und Aluminium, die äußerst vielseitig und für die unterschiedlichsten Materialien geeignet ist: Stähle, Edelstähle, Gusseisen, Titan- und Nickellegierungen. Zum Bohren geeignet. Maximale Betriebstemperaturen bis 1200 °C, aufgrund der hohen Oberflächenhärte von 3200 HV.** Multi-layer coating based on Chromium Nitride and Aluminium that is extremely versatile and suitable for the widest range of materials: steels, stainless steels, cast irons, Titanium and Nickel alloys. Suitable for drilling. Maximum operating temperatures up to 1200 °C, due to the high surface hardness of 3200 HV.
	NEW AlCrN TOP **XP**	**Mehrschichtige Beschichtung auf Basis von Chromnitrid und Aluminium, die äußerst vielseitig und für die unterschiedlichsten Materialien geeignet ist: Stähle, Edelstähle, Gusseisen, Titan- und Nickellegierungen. Zum Klopfen geeignet. Maximale Betriebstemperaturen bis 1200 °C, aufgrund der hohen Oberflächenhärte von 3200 HV.** Multi-layer coating based on Chromium Nitride and Aluminium that is extremely versatile and suitable for the widest range of materials: steels, stainless steels, cast irons, Titanium and Nickel alloys. Suitable for tapping. Maximum operating temperatures up to 1200 °C, due to the high surface hardness of 3200 HV.
 **TiSiN**	TiSiXN **TX**	**Mehrschichtige Beschichtung auf Basis von Nitrid-Silizium und Titan, entwickelt für die Hochgeschwindigkeitsbearbeitung von abrasiven Materialien und Titan- und Nickellegierungen. Sehr hohe Oberflächenhärte von 3600HV, hervorragende Beständigkeit gegen hohe Temperaturen in den Schnittzonen. Maximale Betriebstemperaturen bis 1000 °C.** Multi-layer coating based on Nitride Silicon and Titanium developed for high-speed machining on abrasive materials and Titanium and Nickel alloys. Very high surface hardness of 3600HV, excellent resistance to high temperatures in the cutting zones. Maximum operating temperatures up to 1000 °C.
 **TiSiN**	NEW TiSiN **NX**	**Mehrschichtige Beschichtung auf Basis von Nitrid-Silizium und Titan, entwickelt für die Hochgeschwindigkeitsbearbeitung von hochlegierten Stählen. Sehr hohe Oberflächenhärte von 3600HV, hervorragende Beständigkeit gegen hohe Temperaturen in den Schnittzonen. Maximale Betriebstemperaturen bis 1000 °C.** Multi-layer coating based on Nitride Silicon and Titanium developed for high-speed machining on high-alloy steels. Very high surface hardness of 3600HV, excellent resistance to high temperatures in the cutting zones. Maximum operating temperatures up to 1000 °C.
 **TiSiN**	NEW TiSiN PLUS **NX**	**Mehrschichtige Nitrid-Silizium- und Titanbeschichtung, geeignet für die Hochgeschwindigkeitsbearbeitung von gehärteten Stählen. Sehr hohe Oberflächenhärte von 3600HV, hervorragende Beständigkeit gegen hohe Temperaturen in den Schnittzonen. Maximale Betriebstemperaturen bis 1100 °C.** Multi-layer Nitride Silicon and Titanium coating suitable for high-speed machining on hardened steels. Very high surface hardness of 3600HV, excellent resistance to high temperatures in the cutting zones. Maximum operating temperatures up to 1100 °C.

▸ Beschichtungsarten | Types of coating

Beschichtung Coating	Katalog-Symbol Catalogue icon	**Beschreibung**	Description
 **TiAlSiN**	NEW TiAlSiN **XD**	**Mehrschichtige Beschichtung auf Basis von Siliziumnitrid und Titanaluminium speziell zum Fräsen von Innengewinden auf gehärteten Stählen. Hervorragende Verschleißfestigkeit und hohe Temperaturen.** Multi-layer coating based on Silicon Nitride and Titanium Aluminium specific for milling internal threads on hardened steels. Excellent wear resistance and high temperatures.	
 **TiAlCrN**	NEW TiAlCrN **XC**	**Mehrschichtige Beschichtung auf Basis von Nitrid Chrom, Aluminium und Titan geeignet für universelle Anwendungen beim Mikrofräsen von Innengewinden.** Multi-layer coating based on Nitride Chromium, Aluminium and Titanium suitable for universal applications of micro milling of internal threads.	
 **AlTiN**	NEW AlTiN **XF**	**Mehrschichtige Beschichtung auf Basis von Nitrid-Titan und Aluminium. Wird in universellen Anwendungen zum Innengewindefräsen verwendet. Beschichtung mit niedrigem Reibungskoeffizienten.** Multi-layer coating based on Nitride Titanium and Aluminium. Used in universal internal thread milling applications. Coating with low coefficient of friction.	

▸ Oberflächenbehandlung | Surface treatment

Behandlung Treatment	Katalog-Symbol Catalogue icon	**Beschreibung**	Description
 **Nitrieren** Nitriding	NIT	**Oberflächenbehandlung zur Erhöhung der Härte und Verschleißfestigkeit, insbesondere bei der Bearbeitung von abrasiven Materialien.** Surface treatment that increases hardness and wear resistance, particularly when processing abrasive materials.	
 **Nitrierte Fasen** Nitriding lands	F. NIT	**Oberflächenbehandlung auf den Bohrerfasen, die die Härte und Verschleißfestigkeit erhöht, insbesondere bei der Bearbeitung von abrasiven Materialien.** Surface treatment deposited on the drill lands that increases hardness and wear resistance, particularly when machining abrasive materials.	
 **Dampfbehandlung** Steam Oxide	VAP **VP**	**Eine Oberflächenbehandlung, die die Rutschfestigkeit verringert, ein Anhaften des Materials und ein Festklemmen des Werkzeugs verhindert, wenn stark haftende Materialien bearbeitet werden, und die zur Bildung der Aufbauschneide (BUE) neigt** A surface treatment that reduces skid resistance, preventing sticking of the material and clamping of the tool when machining very adherent materials, tending to the formation of the built up edge (BUE)	

ZEICHENERKLÄRUNG | LEGEND

Ikonographie | Iconography

Symbole für Bohrabschnitte | Drilling section icons

Beschreibung Symbol Icon Description	Piktogramm | Pictogram
Schnitttiefe Cutting depth	1xd · ≤3xd · ≤4xd · ≤5xd · ≤7xd · ≤7/8 xd · ≤8xd · ≤10xd · ≤12xd · ≤15xd · ≤16xd · ≤20xd · ≤22xd · ≤25xd · ≤30xd · ≤40xd · ≤50xd · ≤60/70 xd
DIN	ILIX NORM DIN · 328 B.S. · 332 DIN · 333 (A) DIN · 333 (B) DIN · 333 (R) DIN · 338 DIN · ~338 DIN · 339 DIN · 340 DIN · 341 DIN · 345 DIN · 346 DIN · 1869 1 DIN · 1869 2 DIN · 1869 3 DIN · 1870 1 DIN · 1870 2 DIN · 1897 DIN · ~1897 DIN · 1898 (A) DIN · 1898 (B) DIN · 1899 DIN · 6537 K DIN · 6537 L DIN · 8037 DIN · 8041 DIN · 8374 DIN · 8375 DIN · 8376 DIN · 8377 DIN · 8378 DIN · 8379 DIN · B 94.11 M-1979 ANSI
Spitzenwinkel Point angle	90° · 118° · 120° · 120-130° · 120-130 140° · 130° · 135° · 137° · 140° · 145° · 150°
Schaft Shank	**Zylindrisch** Straight · **Morsekegel** Morse taper · **Verstärkter Morsekonus** Oversize morse taper · **Mit Mitnehmerlappen** With tang 1835 A **Zylindrisch (HSS)** Straight (HSS) · 1835 E **Whistle Notch HSS** · 6535 HA **Zylindrisch (M.D.I.)** Straight (HM) · 6535 HE **Whistle Notch M.D.I./HM** 9766 **ISO 9766**
Bohrerlängen (Serie) Drill lengths (series)	**Länge extra kurz** Stub length · **Kurz** Jobber length · **Lang** Long · **Extra Lang** Extra long
Andere Symbole innerhalb des Abschnitts. Other symbols present within the section.	A **Axiale Kühlmittelzufuhr** Axial internal coolant · R **Radialer Innenkühlung** Radial internal coolant · >50 HRC **Rockwell-Härte** "Rockwell" hardness · SHRINK FIT **Schrumpfpassung** Shrink fit **Schnittrichtung rechts** Right cutting direction · **Schnittrichtung links** Left cutting direction

▸ Symbole für Gewindeschneiden | Threading section icons

Beschreibung Symbol Icon Description	**Piktogramm** | Pictogram
Gewindetyp Thread type	M DIN 13 · MF DIN 13 · MJ · UNC ASME B.1.1 · UNF ASME B.1.1 · UNJC ASME B.1.1 · UNJF ASME B1.15 · G (BSP) DIN EN ISO 228 · PG · UN-8 ASME B.1.1 · Rp (BSPP) ISO 7-1 · RC BSPT · BSW DIN 11 · NPT ASME B1.20.1 · NPTF ANSI B1.20.3 · TR · EG (M) · EG (M) 40°
DIN	ILIX NORM DIN · 352 DIN · ~352 DIN · 357 DIN 13 · 371 DIN · ~371 DIN · 374 DIN · ~374 DIN · 376 DIN · ~376 DIN · 2181 DIN · ~2181 DIN · 2174 DIN · 2184 -1 DIN · 2184 2 DIN · 5156 DIN · 5157 DIN · 8140 -2 DIN · 40432 DIN
Lochtyp Hole type	**Durchgangsloch** Through hole · **Sackloch** Blind hole · **Durchgangsloch + Sackloch** Through + blind hole
Spiralwinkel Helix angle	0° · 10° · 15° · 22° · 30° · 35° · 40° · 45° · 50°
Toleranz Tolerance	2B · 2BX · 3B · 3BX · 4H · 4HX · 6H · 6H MOD. · 6H +0,1 · 6HX · 6G · 6GX · 7H · 7G · 7GX
Anschnittform Chamfer form	A 5-6 · A 6-8 · B 2,5-3 · B 3,5-5 · B 4-5 · C 2-3 · C 2,5-3 · D 3,5 · D 3-4 · D 4-5 · E 1-2 · E 1,5-2 · . 3-4 · 2/3 X l_2
Gewindetiefe Threading depth	1.5xD · 2.5xD · 2xD · 3xD
Andere Symbole innerhalb des Abschnitts. Other symbols present within the section.	A · **Axiale Kühlmittelzufuhr** Axial internal coolant · R · **Radialer Innenkühlung** Radial internal coolant · **Luft-und Raumfahrtindustrie** Aerospace industry · **Biomedizinische Industrie** Biomedical industry · SINCRO h6 **(h6) Werkzeugspannung** (h6) Tool clamping · 1835 B **Weldon Schaft (HSS)** Weldon shank (HSS) · 6535 HB **Weldon Schaft(HM)** Weldon shank (HM) · 6535 HA **Zylinderschaft (HM)** Straight shank (HM) · 50 HRC · 52-58 HRC · 54-63 HRC **Rockwell-Härte** "Rockwell" hardness · INT **Innengewinde** Internal threading · EXT **Aussengewinde** External threading

▸ Symbole für Kegelsenker und Flachsenker | Countersinking and Counterboring section icons

Beschreibung Symbol Icon Description	**Piktogramm** | Pictogram
DIN	222 DIN · 334 DIN · 335 DIN · 343 DIN · 344 DIN · 373 DIN
Fertigungstoleranz Manufacturing tolerance	h8 · z9
Spitzenwinkel Point angle	
Senkwinkel Countersinking angle	 
Schaft Shank	 **Zylindrisch** Straight  **Morsekegel** Morse taper
Form Form	C · D
Art der Ausführung Type of execution	 **Senkkopfschrauben** Countersunk head screws  **Zylinderkopfschrauben** Cylindrical head screws  **Schnittrichtung rechts** Right cutting direction

▸ Symbole für Reiben | Reaming section icons

Beschreibung Symbol Icon Description	Piktogramm | Pictogram
DIN	ILIX NORM DIN · 9 DIN · 204 DIN · 206 DIN · 208 DIN · 212 DIN · ~212 DIN · 219 DIN · 311 DIN · 859 DIN · 2179 DIN 2180 DIN · 8089 DIN · ~8093 DIN · ~8094 DIN · E 66-011 NF
Drallwinkel Helix angle	0° · 6° · 9° · 12° · 25° · 45°
Schaft Shank	**Zylindrisch** Straight **Morsekegel** Morse taper **Mit Mitnehmerlappen** With tang DIN 10 **Mit Vierkantantrieb** With square drive
Form Form	A · A-C · B · B/D · C · D · E · NF
Innenkühlung Internal coolant	A **Axiale Kühlmittelzufuhr** Axial internal coolant R **Radialer Innenkühlung** Radial internal coolant
Lochtoleranz Hole tolerance	H7

▸ **Materialreferenz** | Material Reference

P1 **Materialgruppen |** Materials group

Unlegierter Stahl | Unalloyed Steel **< 800 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.0035	St 33					A 33	Fe 320		AE 235-B	
1.0036	USt 37-2		A 570 Gr. 33	K 02502	4360-40 B	E 24-2	Fe 360 B FU	1311	AE 235-B	SS 34
1.0037	St 37-2									
1.0038	RSt 37-2		A 570 Gr. 36	K 02502	4260-40 C	E 24-2 NE	Fe 360 B FN	1312		SS 34
1.0044	St 44-2		A 570 Gr. 40	K 02502	4360-43 B	E 28-2	Fe 430 BFN	1412	AE 275-B	SM 41 B
1.0050	St 50-2		A 570 Gr. 50		4360-50 B	A 50-2	Fe 490	2172	A 490-2	SS 50
1.0060	St 60-2				4360-55 E	A 60-2	Fe 60-2		A 590-2	SM 58
1.0070	St 70-2					A 70-2	Fe 70-2		A 690-2	
1.0116	St 37-3		A 570 Gr. 36		4360-40 C	E 24-3	Fe 37-3	1312	A 360 C	
1.0144	St 44-3		A 573 Gr. 70		4360-43 C	E 28-3	Fe 430 D FF	1414	AE 275-D	
1.0301	C 10		1010	G10100	045 M 10	XC 10	C 10		F.151	S 10 C
1.0401	C 15		1015	G10170	080 M 15	CC 12	C 15	1350	F.111	S 15 C
1.0402	C 22	1 C 22	1020	G10200	050 A 20	CC 20	C 20	1450	F.112	S 22 C
1.0405	St45.8									
1.0406	C 25	1 C 25	1025	G10250	070 M 26	CC 25	C 25		C 25 k	
1.0420	GS-38	GE 200				230-400M		1306		
1.0446	GS-45	GE 230			A1	E23-45M		1305	F.221	
1.0461	StE 255			K01800						
1.0462	WStE 255			K01800						
1.0463	TStE 255			K01800						
1.0482	19 Mn 5			K03102	224-460	A 52 CP; AP; FP				
1.0486	StE 285			K01802			Fe E 285 KG		AE 285 KG	
1.0487	WStE 285			K01802			Fe E 285 KW		AE 285 KW	
1.0488	TStE 285			K01803			Fe E 285 KT		AE 285 KT	
1.0501	C 35	1 C 35	1035	G10350	060 A 35	CC 35	C 35	1550	F.113	
1.0503	C 45	1 C 45	1045	G10450	080 M 46	CC 45	C 45	1650	C 45 k	
1.0505	StE 315									
1.0506	WStE 315									
1.0508	TStE 315									
1.0511	C 40	1 C 40	1040	G10400	080 M 40				F.114.A	
1.0528	C 30	1 C 30	1030	G10300	080 M 30	CC 32	C 30			
1.0532	St 52-2									
1.0535	C 55	1 C 55	1055		070 M 55		C 55	1655		
1.0540	C 50	1 C 50	1050	G10500	080 M 50			1674		
1.0552	GS-52	GE 260								
1.0558	GS-60	GE 300			A3	320-560M	C 45	1606		
1.0562	StE 355		A 633 Gr. C	K12000		E 355 R/FP	Fe E 355 KG	2132	AE 355 KG	SM 50 YB
1.0565	WStE 355									
1.0566	TStE 355									
1.0570	St 52-3	S 355 J 2 G 3			4360-50 B	E 36-3	Fe 510 B	2132	A 510 C	SM 50 YB
1.0601	C 60	1 C 60	1060	G10600	080 A 62	AF 70 C 55	C 60			
1.0619	GS-C25									
1.0710	15 S 10									
1.0711	9 S 20		1212	G12120	220 M 07		CF 9 S 22			SUM 21
1.0715	9 SMn 28	11 SMn 28	1213	G12130	230 M 07	S 250	CF 9 SMn 28	1912	11 SMn 28	SUM 22
1.0718	9 SMnPb 28	11 SMnPb 28	12 L 13	G12134		S 250 Pb	CF 9 SMnPb 28	1914	11 SMnPb 28	SUM 22 L
1.0721	10 S 20	10 S 20	1108	G11080	210 M 15	10 F 1	CF 10 S 20		10 S 20	
1.0722	10 SPb 20	10 SPb 20	11 L 08	G11084		10 Pb F 2	CF 10 SPb 20		10 SPb 20	
1.0726	35 S 20	35 S 20	1140	G11400	212 M 36	35 MF 4		1957	F.210G	
1.0727	45 S 20	45 S 20	1146	G11460	212 M 44	45 MF 4		1973		
1.0728	60 S 20	60 S 20				60 MF 4				
1.0736	9 SMn 36		1215	G12150	240 M 07	S 300	CF 9 SMn 36		12 SMn 35	
1.0737	9 SMnPb 36		12 L 14	G12144		S 300 Pb	CF 9 SMnPb 36	1926	12 SMnPb 35	
1.0903	51 Si 7		9255	G92550	250 A 53	51 S 7	48 Si 7	2090	50 Si 7	
1.0904	55 Si 7		9255	G92550	250 A 53	55 S 7	55 Si 8	2085	56 Si 7	
1.0906	65 Si 7				250 A 61					
1.0961	60 SiCr 7		9262	G92620	250 A 61	60 SC 7	60 SiCr 8		60 SiCr 8	SUP 7
1.0966	QStE 690 TM									
1.0971	QStE 260 N									
1.0973	QStE 300 N									
1.0974	QStE 340 TM					E 335 D				
1.0975	QStE 340 N						Fe E 355 TD			
1.0976	QStE 360 TM						Fe E 355 TM			
1.0977	QStE 360 N									

▸ Materialreferenz | Material Reference

P1 **Materialgruppen |** Materials group

Unlegierter Stahl | Unalloyed Steel **< 800 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.0978	QStE 380 TM					E 390 D				
1.0979	QStE 380 N						Fe E 380 TD			
1.0980	QStE 420 TM					E 430 D	Fe E 420 TM			
1.0981	QStE 420 N						Fe E 420 TD			
1.0982	QStE 460 TM				50/45 HR	E 445 D				
1.0983	QStE 460 N						Fe E 460 TD			
1.0984	QStE 500 TM					E 490 D	Fe E 490 TM			
1.0985	QStE 500 N									
1.0986	QStE 550 TM				60/55 HS		Fe E 560 TM			
1.0987	QStE 550 N									
1.1103	EStE 255									
1.1104	EStE 285									
1.1105	EStE 315									
1.1106	EStE 355									
1.1120	GS-20 Mn 5									
1.1121	Ck 10	2 C 10	1010	G10100	040 A 10	XC 10	C 10	1265	C 10 k	S 10 C
1.1127	36 Mn 6		1141	G11410	212 M 36					SMn 443
1.1131	GS-16 Mn 5	GE 17 Mn 5								
1.1132	Cq15	C15 KD								
1.1133	20 Mn 5		1022	G10220	120 M 19		G 22 Mn 3		20 Mn 6	SMn 420
1.1141	Ck 15	2 C 15	1015	G10150	080 M 15	XC 15	C 15	1370	C 16 k	S 15 C
1.1149	Cm 22	3 C 22			070 M 20	XC 18 u				
1.1151	Ck 22	2 C 22	1023	G10230	050 A 20	XC 25	C 20		C 25 k	S 22 C
1.1152	Cq 22	C 21 KD								
1.1157	40_Mn_4		1039	G10390	150 M 36	35 M 5				
1.1157	40_Mn_4		1039	G10390	150 M 36	35 M 5				
1.1158	Ck_25	2 C 25	1025	G10250	070 M 26	XC 25	C 25		C 25 k	S 25 C
1.1165	GS-30_Mn_5		1330						30 Mn 5	
1.1167	36_Mn_5		1335	G13350	150 M 36	40 M 5		2120	36 Mn 5	SMn 438(H)
1.1169	20 Mn 6				150 M 19	20 M 5	20 Mn 6			
1.1170	28_Mn_6	28 Mn 6	1330	G13300	150 M 28	35 M 5	C 28 Mn		36 Mn 6	SCMn 1
1.1172	Cq_35	C 35 KD	1030	G10300						
1.1178	Ck_30	2 C 30	1030	G10300	080 M 30	XC 32	C 30			S 30 C
1.1180	Cm_35	3 C 35	1035	G10350	080 M 36	38 H1 k		1572-03	C 33 k-1	
1.1181	Ck_35	2 C 35	1034	G10340	080 M 36	XC 38 H1	C 35	1572	C 35 k	S 35 C
1.1183	Cf_35		1035	G10350	060 A 35	XC 38 TS	C 35	1572		S 35 C
1.1186	Ck_40	2 C 40	1040	G10400	080 A 40	XC 42 H1	C 40			S 40 C
1.1191	Ck_45	2 C 45	1045	G10450	080 M 46	XC 42	C 40		C 45 k	S 45 C
1.1192	Cq_45	C 45 KD	1045	G10450						
1.1193	Cf_45		1045	G10450	060 A 47	XC 42 TS	C 43	1672		S 45 C
1.1199	49 MnVS 3									
1.1201	Cm 45	3 C 45	1045	G10450	080 M 46	XC 48 H1u		1672	C 45 k-1	S 50 C
1.1203	Ck 55	2 C 55	1055	G10550	070 M 55	XC 55 H1	C 55		C 55 k	S 55 C
1.1206	Ck 50	2 C 50	1050	G10500	080 M 50		C 50	1674		S 50 C
1.1209	Cm 55	3 C 55	1055	G10550	070 M 55	XC 55 H1			C 55 k-1	
1.1210	Ck 53 N		1050	G10500						S 53 C
1.1213	Cf 53		1050	G10500	060 A 57	XC 48 TS	C 48	1674		S 50 C
1.1221	Ck 60	2 C 60	1060	G10640	060 A 62	XC 60	C 60	1678		S 58 C
1.1223	Cm 60	3 C 60			080 A 67					
1.1231	Ck 67		1070	G10700	060 A 67	XC 68	C 70	1770		
1.1248	Ck 75		1080	G10800	060 A 78	XC 75	C 75	1774		
1.1249	Cf 70		1070	G10700		XC 70				
1.1269	Ck 85		1086	G10860		XC 90	C 90			
1.1273	90 Mn 4		1090	G10900	060 A 96					SUP4
1.1274	Ck 101		1095	G10950	060 A 96	XC_100	C 100	1870		SUP_4
1.1520	C 70 W1						C 70 KU			
1.1525	C 80 W1	C 80 U	W 108	T72301		Y1 90	C 80 KU		F.513	
1.1545	C 105 W1	C 105 U	W 110	T72301		Y1 105	C 100 KU	1880	F.515	
1.1620	C 70 W2	C 70 U								
1.1625	C 80 W2		W 1		BW 1B	Y1 90			C 80	SKC 3
1.1645	C 105 W2								C 102	SK 3

▸ **Materialreferenz** | Material Reference

P2 **Materialgruppen |** Materials group

Niedriglegierter und Mittellegierter Stahl | Low and Medium Alloyed Steel **700/1000 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.1654	C 110 W									
1.1663	C 125 W	C 120 U	W 112	T72301		Y2 120	C 120 KU		C 120	SK 2
1.1673	C 135 W					Y2 140	C 140 KU			SK 1
1.1730	C 45 W	C 45 U				Y3 42				
1.1740	C 60 W					Y3 55				SK 7
1.1744	C 67 W					Y1 70			F.512	
1.1750	C 75 W		W 1		BW 1A					
1.1820	C 55 W									
1.1830	C 85 W	C 90 U				Y3 90				SK 5
1.2002	125 Cr 1					Y2 120 C				
1.2003	75 Cr 1									
1.2004	85 Cr 1					Y1 100 C 2				
1.2008	140 Cr 3					Y2 140 C				SKS 8
1.2056	90 Cr 3									
1.2057	105 Cr 4								F.120.J	SKC 11
1.2063	145 Cr 6									
1.2067	100 Cr 6	99 Cr 6	L3		BL 3	Y 100 C 6			100 Cr 6	
1.2101	62 SiMnCr 4									
1.2103	58 SiCr 8									
1.2108	90 CrSi 5									
1.2109	125 CrSi 5									
1.2127	105 MnCr 4						100 CrMn 4 KU			SUJ 3
1.2129	200 CrMn 8									
1.2162	21 MnCr 5	21 MnCr 5				20 NC 5				SCR 420 H
1.2206	140 CrV 1					130 C 3				
1.2208	31 CrV 3									
1.2210	115 CrV 3		L2	T61202			107 CrV 3 KU		F.520.L	
1.2235	80 CrV 2								F.520.J	
1.2241	51 CrV 4	51 CrMnV 4					51 CrMnV 4 KU			
1.2242	59 CrV 4									
1.2243	61 CrSiV 5									
1.2248	38 SiCrV 6									
1.2249	45 SiCrV 6									
1.2303	100 CrMo 5		L 7						F.520.F	
1.2307	29 CrMoV_9									
1.2311	40 CrMnMo 7						35 CrMo 8 KU			
1.2312	40 CrMnMoS 8 6									
1.2313	21 CrMo 10									
1.2323	48 CrMoV 6 7					45 CDV 6				
1.2328	45 CrMoV 7									
1.2414	120 W 4								F.532	
1.2419	105 WCr 6	105 WCr 5				105 WC 13	107 WCr 5 KU	2140	105 WCr 5	SKS 31
1.2442	115 W 8								F.520.P	
1.2510	100 MnCrW 4	(95 MnWCr 5)	O1	T31501	BO 1		95 MnWCr 5 KU		95 MnCrW 5	
1.2511	80 WCrV 3									
1.2515	100 WV 4									SKS 21
1.2516	120 WV 4						110 W 4 KU			
1.2519	110 WCrV 5								102 WCrV 5	
1.2542	45 WCrV 7	45 WCrV 8	S1	T41901	BS 1		45 WCrV 8 KU	2710	45 WCrSi 8	
1.2550	60 WCrV 7	60 WCrV 8				55 WC 20	55 WCrV 8 KU			
1.2552	80 WCrV 8								60 WCrSi 8	
1.2562	142 WV 13									
1.2710	45 NiCr 6									
1.2711	54 NiCrMoV 6					55 NCDV 6				
1.2713	55 NiCrMoV 6	55 NiCrMoV 7	L6	T61206		55 NCDV 7			F.520.S	SKT 4
1.2714	56 NiCrMoV 7	55 NiCrMoV 7								
1.2718	55 NiCr 10									
1.2721	50 NiCr 13									
1.2726	26 NiCrMoV 5									
1.2735	15 NiCr 14		P 6	T51606		10 NC 12				SNC 22
1.2737	28 NiCrV 15									
1.2740	28 NiCrMoV 10									
1.2743	60 NiCrMoV 12 4									
1.2744	57 NiCrMoV 7 7									

▸ **Materialreferenz** | Material Reference

P2 **Materialgruppen |** Materials group

Niedriglegierter und Mittellegierter Stahl | Low and Medium Alloyed Steel **700/1000 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.2745	14 NiCr 18									
1.2747	28 NiMo 17									
1.2762	75 CrMoNiW 6 7									
1.2823	70 Si 7									
1.2826	60 MnSi 4									
1.2833	100 V 1		W210	T72302	BW 2	Y1 105 V	102 V 2 KU			SKS 43
1.2838	145 V 33									
1.2842	90 MnCrV 8		O 2	T31502	BO 2	90 MV 8	90 MnVCr 8 KU			
1.2851	34 CrAl 6									
1.2766	35 NiCrMo 16									
1.3501	100 Cr 2		E 50100	G50986		100 C 2				
1.3503	105 Cr 4		E 51100	G51986						
1.3505	100 Cr 6	100 Cr 6	E 52100	G52986	535 A 99	100 C 6	100 Cr 6	2258	100 Cr 6	SUJ 2
1.3520	100 CrMn 6	100 CrMn 6				100 CM 6			100 CrMn 6	
1.3536	100 CrMn 7 3	100 CrMnMo 7				100 CD 7			100 CrMnMo 7	
1.3551	80 MoCrV 42 16		M 50			80 DCV 40	X 80 MoCrV 4 4		80 MoCrV 40-16	
1.3561	44 Cr 2									
1.3563	43 CrMo 4									
1.3565	48 CrMo 4									
1.4700	8 CrSi 7 7									
1.2369	81 MoCrV 42 16									
1.2603	45 CrVMoW 5 8									
1.2604	73 WCrMoV 2 2									
1.5022	38 Si 6									
1.5023	38 Si 7									
1.5024	46 Si 7					45 S 7			46 Si 7	
1.5025	51 Si 7									
1.5026	55 Si 7									
1.5028	65 Si 7									SUP 7
1.5029	71 Si 7									
1.5120	38 MnSi 4									
1.5121	46 MnSi 4									
1.5122	37 MnSi 5					38 MS 5		F.130.A		
1.5131	50 MnSi 4									
1.5141	53 MnSi 4									
1.5142	60 SiMn 5									
1.5223	42 MnV 7									
1.5225	51 MnV 7									
1.5231	38 MnSiVS 5									
1.5232	27 MnSiVS 6									
1.5233	44 MnSiVS 6									
1.5310	8 SiTi 4									
1.5403	17 MnMoV 6 4				1501-261					
1.5404	21 MoV 5 3									
1.5406	17 MoV 8 4									
1.5415	15 Mo 3		A 204 Gr. A	K11820	1501-240	15 D3	16 Mo 3 KW	2912	16 Mo 3	
1.5419	GS 22 Mo 4		4419	G44190	243-430		G 22 Mo 5			SCPH 11
1.5423	16 Mo 5		4520	K11522	1503-245-420		16 Mo 5		16 Mo 5	
1.5508	22 B 2	C 22 BE 69							21 B 3 DF	
1.5510	28 B 2	C 30 B								
1.5511	35 B 2	C 35 B							35 B 3 DF	
1.5523	19 MnB 4				170 H 20				20 MnB 4 DF	
1.5622	14 Ni 6		A 350-LF 5	K22103		15 N 6	14 Ni 6		15 Ni 6	
1.5633	24 Ni 8			J22501		22 N 8				SCPL 21
1.5637	10 Ni 14		A 350-LF 5	K31718	503		18 Ni 14 KT			SL 3 N 26
1.5662	X 8 Ni 9		A 353	K81340	509	9 Ni	X 10 Ni 9		X 8 Ni 09	SL 9 N 53
1.5680	12 Ni 19		E 2515	K41583		Z 18 N 5				
1.5710	36 NiCr 6		3135		640 A 35	30 NC 6				SNC 236
1.5732	14 NiCr 10		3415			14 NC 11	16 NiCr 11		15 NiCr 11	SNC 415 H
1.5736	36 NiCr 10		3435			30 NC 11	35 NiCr 9			SNC 631 H
1.5752	14 NiCr 14		E3310	G33106	655 M 13	16 NC 12				SNC 815 H
1.5755	31 NiCr 14				653 M 31	18 NC 13				SNC 836
1.5860	14 NiCr 18								F.153	
1.5864	35 NiCr 18									

▸ **Materialreferenz** | Material Reference

P2 **Materialgruppen |** Materials group

Niedriglegierter und Mittellegierter Stahl | Low and Medium Alloyed Steel **700/1000 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.5919	15 CrNi 6				S107	16 NC 6	16 CrNi 4			
1.5920	18 CrNi 8					20 NC 6			F.150.E	
1.6311	20 MnMoNi 4 5			K12539						SQV 2 B
1.6368	15 NiCuMoNb 5			K12039	3604-591					SBV 2
1.6511	36 CrNiMo 4	36 CrNiMo 4	9840	G98400	816 M 40	40 NCD 3	38 NiCrMo 4 KB		35 NiCrMo 4	
1.6513	28 NiCrMo 4									
1.6523	21 NiCrMo 2	20 NiCrMo 2 KD	8620	G86200	805 M 20	20 NCD 2	20 NiCrMo 2	2506	20 NiCrMo 2	SNCM 220 H
1.6580	30 CrNiMo 8	30 CrNiMo 8 KD			823 M 30	30 CND 8	30 NiCrMo 8			SNCM 431
1.6582	34 CrNiMo 6	34 CrNiMo 6	4340		817 M 40	35 NCD 6	35 NiCrMo 6 KB	2541	40 NiCrMo 7	SNCM 447
1.6587	17 CrNiMo 6				820 A 16	18 NCD 6	18 NiCrMo 7		14 NiCrMo 13	
1.6971	79 Ni 1									
1.6972	83 Ni 1									
1.7001	38 Cr 1						38 Cr 1 KB			
1.7002	46 Cr 1									
1.7003	38 Cr 2	38 Cr 2 KD				38 C 2	38 Cr 2		38 Cr 3	
1.7005	45 Cr 2						45 Cr 2			
1.7006	46 Cr 2	46 Cr 2 KD	5045			42 C 2	45 Cr 2			
1.7012	13 Cr 2									
1.7015	15 Cr 3		5015	G50150	523 M15	12 C 3				SCr 415 H
1.7016	17 Cr 3	(15 Cr 2 KD)	5117	G51170		18 C 3				
1.7020	32 Cr 2									
1.7030	28 Cr 4		5130	G51300	530 A 30					
1.7030	28 Cr 4		5130	G51300	530 A 30					
1.7033	34 Cr 4	34 Cr 4 KD	5130 H	G51300	530 A 32	32 C 4	34 Cr 4 KB		35 Cr 4	SCr 430 H
1.7034	37 Cr 4	37 Cr 4	5132 H	G51320	530 A 36	38 C 4	36 CrMn 4		38 Cr 4	SCr 435 H
1.7035	41 Cr 4	41 Cr 4	5140	G51400	530 M 40	42 C 4	41 Cr 4		42 Cr 4	SCr 440 H
1.7037	34 CrS 4	34 CrS 4								
1.7038	37 CrS 4	37 CrS 4								
1.7039	41 CrS 4	41 CrS 4								
1.7043	38 Cr 4						38 Cr 4			
1.7045	42 Cr 4		5140		530 A 40	42 C 4 TS	41 Cr 4	2245	42 Cr 4	SCr 440
1.7103	67 SiCr 5						67 SiCr 5			
1.7108	60 SiCr 7									
1.7131	16 MnCr 5	16 MnCr 5 KD	5115	G 51150	527 M 17	16 MC 5	16 MnCr 5	2173	16 MnCr 5	SCR 415
1.7138	52 MnCrB 3		50 B 50 H	H50501						SUP 11
1.7139	16 MnCrS 5									
1.7147	20 MnCr 5		5120	G51200		20 MC 5	20 MnCr 5		F.150.D	SMnC 420 H
1.7149	20 MnCrS 5									
1.7176	55 Cr 3		5155	G51550	527 A 60	55 C 3	55 Cr 3	2253	55 Cr 3	SUP 9 (A)
1.7218	25 CrMo 4	25 CrMo 4 KD	4130	G41300	708 A 25	25 CD 4	25 CrMo 4 (KB)	2225	25 CrMo 4	SCM 420
1.7219	26 CrMo 4			K13047						
1.7220	34 CrMo 4	34 CrMo 4 KD	4135 H	H41350	708 A 37	35 CD 4	35 CrMo 4	2234	35 CrMo 4	SCM 435 H
1.7223	41 CrMo 4		4142	G41420	708 M 40	42 CD 4 TS	41 CrMo 4	2244	42 CrMo 4	SCM 440
1.7223	41 CrMo 4		4142	G41420	708 M 40	42 CD 4 TS	41 CrMo 4	2244	42 CrMo 4	SCM 440
1.7225	42 CrMo 4	42 CrMo 4	4140	G41400	708 A 42	42 CD 4	42 CrMo 4	2244	40 CrMo 4	SCM 440 H
1.7226	34 CrMoS 4	34 CrMoS 4							35 CrMo 4-1	
1.7227	42 CrMoS 4	42 CrMoS 4			708 H 42				40 CrMo 4	
1.7228	50 CrMo 4		4150	G41500	708 A 47					SCM 445 H
1.7238	49 CrMo 4									SCM 445
1.7242	16 CrMo 4					15 CD 3.5	18 CrMo 4		18 CrMo 4	SCM 418 H
1.7258	24 CrMo 5									SCM 822 H
1.7259	26 CrMo 7									
1.7262	15 CrMo 5					12 CD 4			12 CrMo 4	SCM 415 H
1.7264	20 CrMo 5					18 CD 4			18 CrMo 4-1	SCM 421
1.7271	23 CrMoB 3 3									
1.7273	24 CrMo 10									
1.7276	10 CrMo 11					12 CD 10				
1.7281	16 CrMo 9 3					20 CD 8				
1.7311	20 CrMo 2									
1.7321	20 MoCr 4								20 MoCr 4	
1.7323	20 MoCrS 4									
1.7325	25 MoCr 4									
1.7326	25 MoCrS 4									
1.7335	13 CrMo 4 4		A182-F11	K11562	1501-621	15 CD 4.05	14 CrMo 4 5	2216	14 CrMo 4 5	SFVA F 12

▸ Materialreferenz | Material Reference

P2 **Materialgruppen |** Materials group

Niedriglegierter und Mittellegierter Stahl | Low and Medium Alloyed Steel **700/1000 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.7337	16 CrMo 4 4		A 387 Gr. 12 Cl. 2	K11564			A 18 CrMo 4 5 KW			
1.7350	22 CrMo 4 4									
1.7357	GS-17 CrMo 5 5			J11872			G 15 CrMo 5 5		AM 18 CrMo 05-05	SCPH 21
1.7361	32 CrMo 12				722 M 24	30 CD 12	32 CrMo 12	2240	F.124.A	
1.7362	12 CrMo 19 5			K41545	3606-625	Z 10 CD 5.05	16 CrMo 20 5			SCMV 6
1.7379	GS-18 CrMo 9 10									
1.7380	10 CrMo 9 10		A182-F22	J21890	1502-622	10 CD 9.10	12 CrMo 9 10	2218		SCMV 4
1.7561	42 CrV 6									
1.7701	51 CrMoV 4					51 CDV 4	51 CrMoV 4			
1.7706	GS-17 CrMoV 5 11			J21610						SCPH 23
1.7707	30 CrMoV 9									
1.7709	21 CrMoV 5 7									
1.7711	40 CrMoV 4 7			K14072	1506-670-860					SNB 21-1-5
1.7715	14 MoV 6 3			K11591	1503-660-440				13 MoCrV 6	
1.7725	GS-30 CrMoV 6 4									
1.7733	24 CrMoV 5 5					20 CDV 6	24 CrMoV 5 5			
1.7735	14 CrMoV 6 9									
1.7755	GS-45 CrMoV 10 4									
1.7766	17 CrMoV 10									
1.7779	20 CrMoV 13 5									
1.8070	21 CrMoV 5 11						21 CrMoV 5 11			
1.8159	50 CrV 4	51 CrV 4	6150	G61500	735 A 50	50 CV 4	50 CrV 4	2230	51 CrV 4	SUP 10
1.8161	58 CrV 4									
1.8212	21 CrVMoW 12									
1.8504	34 CrAl 6									
1.8506	34 CrAlS 5									
1.8506	34 CrAlS 5									
1.8507	34 CrAlMo 5	(34 CrAlMo 5)	A 355 Cl.D	K23510	905 M 31	30 CAD 6.12	34 CrAlMo 7		34 CrAlMo 5	
1.8509	41 CrAlMo 7		A 355 Cl.A	J24056	905 M 39		41 CrAlMo 7	2940	41 CrAlMo 7	SACM 645
1.8515	31 CrMo 12	31 CrMo 12			722 M 24		31 CrMo 12		31 CrMo 12	
1.8519	31 CrMoV 9						31 CrMoV 10		31 CrMoV 10	
1.8521	15 CrMoV 5 9									
1.8523	39 CrMoV 13 9				897 M 39					
1.8550	34 CrAlNi 7			K52440						
1.8900	StE 380						Fe E 390 KG		AE 390 Grado KG	SM 50 B
1.8902	StE 420		A 633 Gr. E	K02002		E 420-I	Fe E 420 KG		AE 420 Grado KG	SM 50 C
1.8905	StE 460		A 633 Gr. E	K02900		E 460-I	Fe E 460 KG		AE 460 Grado KG	SM 53 B
1.8907	StE 500			K02001						SM 58
1.8910	TStE 380						Fe E 390 KT	2117	AE 390 Grado KT	
1.8911	EStE 380									
1.8912	TStE 420			K02002		E 420 T-I	Fe E 420 KT		AE 420 Grado KT	
1.8913	EStE 420									
1.8915	TStE 460			K02900		E 460 T-I	Fe E 460 KT		AE 460 Grado KT	
1.8917	TStE 500			K02001		E 500 T-I				
1.8918	EStE 460									
1.8919	EStE 500									
1.8930	WStE 380						Fe E 390 KW	2116	AE 390 Grado KW	
1.8932	WStE 420			K02002			Fe E 420 KW		AE 420 Grado KW	
1.8935	WStE 460			K02900			Fe E 460 KW		AE 460 Grado KW	
1.8937	WStE 500			K02001						
1.8960	WTSt 37-2				WR 50 B	E 24 W-2				SMA 41 A
1.8961	WTSt 37-3						Fe 360 D FF			SMA 50 A
1.8962	9 CrNiCuP 3 2 4			K11430	WR 50 A					SPA-H
1.8963	WTSt 52-3			K11430	WR 50 C	E 36 W-A2				SMA 58

▸ **Materialreferenz** | Material Reference

P3 **Materialgruppen |** Materials group

Hochlegierter Stahl | High-Alloyed Steel **1000/1300 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.2080	X 210 Cr 12	X 210 Cr 12	D3	T30403	BD 3	Z 200 C 12	X 205 Cr 12 KU		X 210 Cr 12	SKD 1
1.2082	X 20 Cr 13	X20Cr13							X 20 Cr 13	
1.2083	X 42 Cr 13	X 42 Cr 13				Z 40 C 14	X 41 CR 13 KU			SUS 420 J2
1.2201	X 165 CrV 12									
1.2316	X 36 CrMo 17	X 36 CrMo 17					X 38 CrMo 16 1 KU		X 38 CrMo 16	
1.2341	X 6 CrMo 4	X 6 CrMo 4	P 4	T51604						
1.2343	X 38 CrMoV 5 1	X 38 CrMoV 5 1	H 11	T20811	BH 11	Z 38 CDV 5	X 37 CrMoV 5 1 KU		X 37 CrMoV 5	SKD 6
1.2344	X 40 CrMoV 5 1	X 40 CrMoV 5 1	H 13	T20813	BH 13	Z 40 CDV 5	X 40 CrMoV 5 1 1 KU	2242	X 40 CrMoV 5	SKD 61
1.2362	X 63 CrMoV 5 1									
1.2363	X 100 CrMoV 5 1	X 100 CrMoV 5 1	A 2	T30102	BA 2	Z 100 CDV 5	X 100 CrMoV 5 1 KU	2260	X 100 CrMoV 5	SKD 12
1.2365	X 32 CrMoV 3 3	X 32 CrMoV 12H-28	H 10	T20810	BH 10	32 DCV 28	30 CrMoV 12 27 KU		30 CrMoV 12	SKD 7
1.2367	X 38 CrMoV 5 3									
1.2376	X 96 CrMoV 12									
1.2378	X 220 CrVMo 12 2									
1.2379	X 155 CrVMo 12 1	X 153 CrMoV 12	D 2	T30402	BD 2	Z 160 CDV 12	X 155 CrVMo 12 1 KU			SKD 11
1.2436	X 210 CrW 12	X 210 CrW 12					X 215 CrW 12 1 KU	2312	X 210 CrW 12	SKD 2
1.2453	X 130 W 5									
1.2564	X 30 WCrV 4 1								F.527	
1.2567	X 30 WCrV 5 3	X 30 WCrV 5 3				Z 32 WCV 5	X 30 WCrV 5 3 KU			SKD 4
1.2581	X 30 WCrV 9 3	X 30 WCrV 9 3	H 21	T20821	BH 21	Z 30 WCV 9	X 30 WCrV 9 3 KU		X 30 WCrV 9	SKD 5
1.2601	X 165 CrMoV 12	X 165 CrMoV 12					X 165 CrMoW 12 KU	2310	X 160 CrMoV 12	
1.2606	X 37 CrMoW 5 1		H 12	T20812	BH 12	Z 35 CWDV 5	X 35 CrMoW 05 KU		F.537	SKD 62
1.2622	X 60 WCrMoV 9 4									
1.2631	X 50 CrMoW 9 1 1									
1.2662	X 30 WCrCoV 9 3									
1.2678	X 45 CrCoWV 5 5 5									
1.2709	X 3 NiCoMoTi 18 9 5									
1.2731	X 50 NiCrWV 13 13									
1.2764	X 19 NiCrMo 4									
1.2767	X 45 NiCrMo 4	40 NiCrMo 4				Y35 NCD 16	42 NiCrMo 15 7 KU			
1.2786	X 13 NiCrSi 36 15									
1.2787	X 23 CrNi 17									
1.2880	X 165 CrCoMo 12									
1.2884	X 210 CrCoW 12									
1.2888	X 20 CoCrWMo 10 9									
1.2889	X 45 CoCrMoV 5 5 3									
1.3202	S 12-1-4-5	(HS12-1-5-5)	T 15	T12015	BT 15		HS 12-1-5-5		12-1-5-5	
1.3207	S 10-4-3-10	HS10-4-3-10			BT 42	Z130WKCDV10-10-04-04	HS 10-4-3-10		10-4-3-10	SKH 57
1.3243	S 6-5-2-5	(HS6-5-2-5)	M 35			KCV 06-05-05-04-02	HS 6-5-2-5	2723	6-5-2-5	SKH 55
1.3246	S 7-4-2-5	HS1-8-1	M 41	T11341		Z110 WKCDV 07-05-04	HS 7-4-2-5		7-4-2-5	
1.3247	S 2-10-1-8	HS2-9-1-8	M 42	T11342	BM 42	Z110 DKCWV 09-08-04	HS 2-9-1-8		2-10-1-8	
1.3249	S 2-9-2-8				BM 34				2-9-2-8	
1.3255	S 18-1-2-5	(HS18-1-1-5)	T 4	T12004	BT 4	Z80 WKCV 18-05-04-01	HS18-1-1-5		18-1-1-5	SKH 3
1.3257	S 18-1-2-15									
1.3265	S 18-1-2-10	(HS18-0-1-10)	T 5	T12005	BT 5		HS18-0-1-10		18-0-2-10	SKH 4A
1.3302	S12-1-4						(X 150 WV 1305 KU)			
1.3318	S12-1-2									
1.3333	S3-3-2						HS 3-3-2			
1.3342	SC6-5-2	(HS6-5-2)	M 3	T11313		Z90WDCV06-05-04-02	HSC 6-5-3			
1.3343	S6-5-2	HS6-5-3	M 2	T11302	BM 2	Z85WDCV06-05-04-02	HS 6-5-2	2722	6-5-2	SKH 51
1.3344	S6-5-3		M 3 Cl.2	T11323		Z120WDCV06-05-04-03			6-5-3	SKH 52
1.3346	S2-9-1	HS1-8-1	M 1	T20842	BM 1	Z85DCWV08-04-02-01	HS 1-8-1			
1.3348	S2-9-2	HS2-9-2	M 7	T11307		Z100DCWV09-04-02-02	HS 2-9-2	2782	2-9-2	
1.3355	S18-0-1	HS18-0-1	T 1	T12001	BT 1	Z80WCV18-04-01	HS 18-0-1		18-0-1	SKH 2
1.3401	X120Mn 12		A 128	J91109		Z 120 M 12	X G 120 Mn 12		AM-X 120 Mn 12	SCMnH 1
1.3543	X 102 CrMo 17			J91639			X 105 CrMo 17		X 100 CrMo 17	
1.3549	X 89 CrMoV 18 1									
1.3802	X 120 Mn 13									
1.3805	X 35 Mn 18									
1.3813	X 40 MnCrN 19									
1.3815	X 40 MnCr 18 2									
1.3817	X 40 MnCr 18									
1.3819	X 50 MnCrV 20 14									
1.3941	X 4 CrNi 18 13									

▸ Materialreferenz | Material Reference

P3 **Materialgruppen |** Materials group

Hochlegierter Stahl | High-Alloyed Steel **1000/1300 N/mm²**

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.3949	X 5 MnCr 18 13									
1.3952	X 4 CrNiMoN 18 14									
1.3953	X 2 CrNiMo 18 15									
1.3958	X 5 CrNi 18 11									
1.3960	X 45 MnNiCrV 13 7 6									
1.3962	X 15 CrNiMn 12 10									
1.3964	X 4 CrNiMnMoN19 16 5									
1.3965	X 8 CrMnNi 18 8									
1.3967	X 50 CrMnNiN 22 9									
1.3968	X 12 MnCr 18 12									
1.3974	X 3 CrNiMoNbN 23 17									
1.4704	X 45 SiCr 4		HNV 2	S64006						
1.4710	G-X 30 CrSi 6									
1.4712	X 10 CrSi 6									
1.4713	X 10 CrAl 7								X 10 CrAl 7	
1.4716	X 8 Cr 9									
1.4718	X 45 CrSi 9 3	X 45 CrSi 8	HNV 3	S65007	401 S 45	Z 45 CS 9	X 45 CrSi 8		X 4 SCrSi 09-03	SUH 1
1.4721	215 Cr 12									
1.4722	X 10 CrSi 13								X 10 CrSi 13	
1.4725	CrAl 14 4									
1.4731	X 40 CrSiMo 10 2					Z 40 CSD 10			X 40 CrSiMo 10-02	SUH 3
1.4732	X 80 CrSiMoW 15 2									
1.4741	X 10 CrSi 18									
1.4743	G-X 160 CrSi 18									
1.4748	X 85 CrMoV 18 2					Z 85 CDMV 18.02	X 85 CrMoV 19 3		X 85 CrMoV 18-02	
1.4748	X 85 CrMoV 18 2					Z 85 CDMV 18.02	X 85 CrMoV 19 3			
1.4765	CrAl 25 5									
1.4767	CrAl 20 5									
1.4773	X 8 Cr 30									
1.4777	G-X 130 CrSi 29									
1.4785	X60 CrMnMoVNbN 21 10									
1.4820	X 12 CrNi 25 4									
1.4822	G-X 40 CrNi 24 5									
1.4829	X 12 CrNi 22 12			S30980			X 16 CrNi 23 14			SUS Y 309
1.4832	G-X 25 CrNiSi 20 14									
1.4842	X 12 CrNi 25 20			S31080	310 S 94					
1.4843	CrNi 25 20			J94202						SCS 18
1.4846	X 40 CrNi 25 21				310 S 98					SCH 13
1.4860	NiCr 30 20									
1.4861	X 10 NiCr 32 20									
1.4873	X 45 CrNiW 18 9				331 S 40	Z 35 CNWS 14.14	X 45 CrNiW 18 9		X 45 CrNiSiW 18-09	SUH 31
1.4875	X 55 CrMnNiN 20 8		EV 12	S63012					X 55 CrMnNiN 20-08	
1.4882	X 50 CrMnNiNbN 21 9					Z 50 CMNNb 21.09				
1.4911	X 8 CrCoNiMo 10 6				S.152					
1.4913	X 19 CrMoVNbN 11 1									
1.4920	X 15 CrMoV 12 1									
1.4921	X 19 CrMoV 12 1									
1.4922	X 20 CrMoV 12 1									
1.4935	X 20 CrMoWV 12 1		422	S42200			X 22 CrMoWV 121			SUH 616
1.4936	X 24 CrMoV 12 1									
1.4945	X 6 CrNiWNb 16 16									
1.4960	X 40 CrNiCoNb 13 13									
1.4962	X 12 CrNiWTi 16 13									
1.4971	X 12 CrCoNi 21 20		661	R30155						SUH 661
1.4978	X 50 CoCrNi 20 20									
1.4986	X 8 CrNiMoBNb 16 16									
1.6903	X 10 CrNiTi 18 10									
1.6905	X 10 CrNiNb 18 10									
1.6906	X 5 CrNi 18 10									

▸ **Materialreferenz** | Material Reference

M1 **Materialgruppen |** Materials group

Rostfreier Stahl - Ferritisch/Martensitisch | Stainless Steel - Ferritic/Martensitic

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.2780	X 16 CrNiSi 20 12	X 16 CrNiSi 20 12				Z 15 CN 24.13				SUS 309 S
1.2782	X 16 CrNiSi 25 20	X 16 CrNiSi 25 20				Z 15 CN 24.13				SUS 309 S
1.4000	X 6 Cr 13	X 6 Cr 13	403	S40300	403 S 17	Z 6 C 13	X 6 Cr 13	2301	X 6 Cr 13	SUS 403
1.4002	X 6 CrAl 13	X 6 CrAl 13	405	S40500	405 S 17	Z 6 CA 13	X 6 CrAl 13	2302	X 6 CrAl 13	SUS 405
1.4005	X 12 CrS 13	X 12 CrS 13	416	S41600	416 S 21	Z 12 CF 13	X 12 CrS 13	2380	X 12 CrS 13	SUS 416
1.4006	X 10 Cr 13	(X 12 Cr 13 KD)	410	S41000	410 S 21	Z 12 C 13	X 12 Cr 13	2302	X 12 Cr 13	SUS 410
1.4008	G-X 8 CrNi 13				410 C 21	Z 12 CN 13 M	GX 12 Cr 13			SCS 1
1.4009	X 8 Cr 14									
1.4015	X 8 Cr 18									
1.4016	X 6 Cr 17		430	S43000	430 S 15	Z 8 C 17	X 8 Cr 17 KD	2320	X 8 Cr 17	SUS 430
1.4021	X 20 Cr 13	X 20 Cr 13	420	S42000	420 S 37	Z 20 C 13	X 20 Cr 13	2303	X 20 Cr 13	SUS 420 J1
1.4024	X 15 Cr 13	X 15 Cr 13			420 S 29		X 12 Cr 13			SUS 410 J1
1.4024	X 15 Cr 13	X 15 Cr 13			420 S 29		X 12 Cr 13			SUS 410 J1
1.4027	G-X 20 Cr 14				420 C 29	Z 20 C 13 M				SCS 2
1.4028	X 30 Cr 13	X 30 Cr 13			420 S 45	Z 30 C 13	X 30 Cr 13	2304	X 30 Cr 13	SUS 420 J2
1.4031	X 38 Cr 13	X 40 Cr 13				Z 40 C 14	X 40 Cr 14	2304	X 40 Cr 13	SUS 420 J2
1.4034	X 46 Cr 13	X 45 Cr 13			(420 S45)	Z 40 C 14	X 40 Cr 14		X 46 Cr 13	
1.4057	X 20 CrNi 17 2	X 19 CrNi 17 2	431	S43100	431 S 29	Z 15 CN 16.02	X 16 CrNi 16	2321	X 15 CrNi 16	SUS 431
1.4059	G-X 22 CrNi 17					Z 20 CN 17.2 M				
1.4085	G-X 70 Cr 29									
1.4086	G-X 120 Cr 29									
1.4104	X 12 CrMoS 17	X 14 CrMoS 17	430 F	S43020		Z 10 CF 17	X 10 CrS 17	2383	X 10 CrS 17	SUS 430 F
1.4105	X 4 CrMoS 18									
1.4106	X 10 CrMo 13									
1.4107	G-X 8 CrNi 12									
1.4108	X 100 CrMo 13									
1.4109	X 65 CrMo 14					Z 70 CD 14				
1.4110	X 55 CrMo 14					Z 50 CD 13				
1.4111	X 110 CrMoV 15									
1.4112	X 90 CrMoV 18		440 B	S44003						SUS 440 B
1.4113	X 6 CrMo 17 1	(X 8 CrMo 17)	434	S43400	434 S 17	Z 8 CD 17.01	X 8 CrMo 17	2325		SUS 434
1.4115	X 20 CrMo 17 1									
1.4116	X 45 CrMoV 15								X 46 CrMo 16	
1.4117	X 38 CrMoV 15									
1.4119	X 15 CrMo 13									
1.4120	X 20 CrMo 13					Z 20 CD 14				
1.4122	X 35 CrMo 17						X 35 CrMo 17			
1.4125	X 105 CrMo 17		440 C	S44004		Z 100 CD 17				SUS 440 C
1.4136	G-X 70 CrMo 29 2					Z 60 CD 29.2 M				
1.4510	X 6 CrTi 17	X 8 CrTi 17	430 Ti	S 43036		Z 8 CT 17	X 6 CrTi 17		X 8 CrTi 17	SUS 430 LX
1.4511	X 6 CrNb 17		430 Nb			Z 8 CNb 17	X 6 CrNb 17			SUS 430 LX
1.4512	X 6 CrTi 12		409	S40900	409 S 19	Z 6 CT 12	X 6 CrTi 12			SUH 409
1.4742	X 10 CrAl 18		430	S43000	(430 S 15)	Z 10 CAS 18	(X 8 Cr 17)		X 10 CrAl 18	SUH 21
1.4747	X 80 CrNiSi 20		HNV 6	S65006	443 S 65	Z 80 CSN 20.02	X 80 CrSiNi 20		X 80 CrSiNi20-02	SUH 4
1.4762	X 10 CrAl 24		446	S44600		Z 10 CAS 24	X 16 Cr 26		X 10 CrAl 24	SUH 442

▸ Materialreferenz | Material Reference

M2 **Materialgruppen |** Materials group

Rostfreier Stahl - Austenitisch | Stainless Steel - Austenitic

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.4301	X 5 CrNi 18 10	X 6 CrNi 18 10 KD	304 H		304 S 15	Z 6 CN 18.09	X 5 CrNi 18 10	2332	X 5 CrNi 18 11	SUS 304
1.4302	X 5 CrNi 19 9									
1.4303	X 5 CrNi 18 12	X 8 CrNi18 12 KD	308	S30500	305 S 19	Z 8 CN 18.12	X 8 CrNi 19 10		X 8 CrNi18-12	SUS 305
1.4305	X 10 CrNiS 18 9	X 10 CrNiS 18 9	303	S30300	303 S 21	Z 10 CNF 18.09	X 10 CrNiS 18 09	2346	X 10 CrNiS 18 9	SUS 303
1.4306	X 2 CrNi 19 11	(X 3 CrNi18 10 KD)	304 L	S30403	304 S 11	Z 2 CN 18.09	X 2 CrNi 18 11	2352	X 2 CrNi 19-10	SCS 19
1.4308	G-X 6 CrNi 18 9		CF-8		304 C 15	Z 6 CN 18.10 M		2333		SCS 13
1.4310	X 12 CrNi 17 7	X 12 CrNi 17 7	301	S30100	301 S 21	Z 12 CN 17.07	X 12 CrNi 17 07		X 12 CrNi 17 07	SUS 301
1.4311	X 2 CrNiN 18 10	X 2 CrNiN 18 10	304 LN	S30453	304 S 62	Z 8 CN 18.12	X 8 CrNi 19 10	2371	X 8 CrNi 18-12	SUS 304 LN
1.4312	G-X 10 CrNi 18 8				302 C 25	Z 10 CN 18.9 M				SCS 12
1.4313	X 5 CrNi 13 4		CA 6-NM			Z 4 CDN 13.4	X 6 CrNi 13 04	2385		
1.4316	X 2 CrNi 19 9					Z 2 CN 20.10				
1.4321	X 2 NiCr 18 16									
1.4332	X 2 CrNi 24 12					Z 2 CN 24.13				
1.4337	X 10 CrNi 30 9									
1.4340	G-X 40 CrNi 27 4						GX 35 CrNi 28 05			
1.4347	G-X 8 CrNi 26 7									
1.4351	X 3 CrNi 13 4									
1.4370	X 15 CrNiMn 18 8									
1.4401	X 5 CrNiMo 17 12 2	X6 CrNiMo 17 12 2 KD	316	S31600	316 S 16	Z 6 CND 17.11	X 5 CrNiMo 17 12	2347	X 5 CrNiMo 17-12	SUS 316
1.4403	X 5 CrNiMo 19 11			S30882						
1.4404	G-X 2 CrNiMo 18 10	GX3CrNiMo 17 12 2 KD	316 L	S31603	316 S 12	Z 3 CND 19.10 M	GX 2 CrNiMo 19 11	2348	X 2 CrNiMo 17-12-03	SUS 316 L
1.4404	X 2 CrNiMo 17 13 2	X3 CrNiMo 17 12 2 KD	316 L	S31603	316 S 11	Z 2 CND 17.12	X 2 CrNiMo 17 12	2348	X 2 CrNiMo 17-12-03	SUS 316 L
1.4405	G-X 5 CrNiMo 16 5									
1.4406	X 2 CrNiMoN 17 12 2	X 3 CrNiMoN 17 12 2	316 LN	S31653	316 S 61	Z 2 CND 17.12 Az	X 2 CrNiMoN 17 12			SUS 316 LN
1.4408	G-X 6 CrNiMo 18 10		CF-8M	J92900	316 C 16			2343	X 7 CrNiMo 20 10	SCS 14
1.4429	X 2 CrNiMoN 17 13 3	X 3 CrNiMoN 17 13 3	316 LN	S31653	316 S 62	Z 2 CND 17.13 Az	X 2 CrNiMoN 17 13	2375		SUS 316 LN
1.4430	X 2 CrNiMo 19 12			S31683	316 S 93	Z 2 CND 19.12				
1.4435	X 2 CrNiMo 18 14 3		316 L	S31603	316 S 11	Z 2 CND 17.13	X 2 CrNiMo 17 13	2353	X 2 CrNiMo 17-12-03	SCS 16
1.4436	X 5 CrNiMo 18 13 3	X6 CrNiMo 18 13 3 KD	316	S31600	316 S 16	Z 6 CND 17.12	X 5 CrNiMo 17 13	2343	X 6 CrNiMo 17-12-03	SUS 316
1.4437	G-X 6 CrNiMo 18 12				317 C 12					
1.4438	X 2 CrNiMo 18 16 4	X 3 CrNiMo 18 16 4	317 L	S31703	317 S 12	Z 2 CND 19.15	X 2 CrNiMo 18 15	2367		SUS 317 L
1.4439	X 2 CrNiMoN 17 13 5									
1.4440	X 2 CrNiMo 18 16 5			S31780						
1.4446	G-X 2 CrNiMoN17 13 2									
1.4448	G-X 6 CrNiMo 17 13			J93000	317 C 16					
1.4449	X 5 CrNiMo 17 13		317	S31700	317 S 16		X 5 CrNiMo 18 15			SUS 317
1.4455	X 2 CrNiMnMoN 20 16									
1.4463	G-X 6 CrNiMo 24 8 2									
1.4465	X 1 CrNiMoN 25 25 2									
1.4502	X 8 CrTi 18									
1.4503	X 3 NiCrCuMoTi 27 23									
1.4505	X 5 NiCrMoCuNb 20 18									
1.4506	X 5 NiCrMoCuTi 20 18									
1.4523	X 8 CrMoTi 17									
1.4528	X 105 CrCoMo 18 2									
1.4529	X 1 NiCrMoCu 25 20 6									
1.4531	G-X 2NiCrMoCuN 20 18									
1.4535	X 90 CrCoMoV 17									
1.4536	G-X 2NiCrMoCuN 25 20									
1.4539	X 1 NiCrMoCu 25 20 5			N08904		Z 1 NCDU 25.20		2662		
14.541	X 6 CrNiTi 18 10	X 6 CrNiTi 18 10	321	S32100	321 S 12	Z 6 CNT 18.10	X 6 CrNiTi 18 11	2337	X 7 CrNiTi 18-11	SUS 321
1.4543	X 5 CrNiNb 18 9						X 6 CrNiNb 18 11			
1.4550	X 6 CrNiNb 18 10	X 6 CrNiNb 18 10	347	S34700	347 S 17	Z 6 CNNb 18.10	X 6 CrNiNb 18 11	2338	X 6 CrNiNb 18-11	SUS 347
1.4551	X 5 CrNiNb 19 9			S34780						
1.4552	G-X 5 CrNiNb 18 9				347 C 17	Z 4 CNNb 19.10 M				SCS 21
1.4571	X 6 CrNiMoTi 17 12 2		316 Ti		320 S 31	Z 6 CNDT 17.12	X 6 CrNiMoTi 17 12	2350	X6 CrNiMoTi 17-12-03	
1.4573	X 10 CrNiMoTi 18 12		316 Ti		320 S 33		X 6 CrNiMoTi 17 13			
1.4575	X 1 CrNiMoNb 28 4 2									
1.4576	X 5 CrNiMoNb 19 12			S31980	318 S 96					
1.4577	X 3 CrNiMoTi 25 25									
1.4580	X 6 CrNiMoNb 17 12 2		316 Cb			Z 6 CNDNb 17.12	X 6 CrNiMoNb 17 12			
1.4581	G-X 5 CrNiMoNb 18 10				318 C 17	Z 4 CNDNb 18.12 M	GX 6 CRNOMONB 20 11			
1.4582	X 4 CrNiMoNb 25 7									SCS 22
1.4583	X 10 CrNiMoNb 18 12		318				X 6 CrNiMoNb 17 13			

▸ Materialreferenz | Material Reference

M2 Materialgruppen | Materials group

Rostfreier Stahl - Ferritisch/Martensitisch | Stainless Steel - Ferritic/Martensitic

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.4585	G-X7 CrNiMoCuNb 1818									
1.4586	X 5 CrNiMoCuNb 22 18									
1.4724	X 10 CrAl 13				(403 S 17)	Z 10 C 13	X 10 CrAl 12		X 10 CrAl 13	
1.4776	G-X 40 CrSi 29						GX 35 Cr 28			SCH 2
1.4821	X 20 CrNiSi 25 4					Z 20 CNS 25.04	X 20 CrNiSi 254		X 20 CrNiSi 25-04	
1.4823	G-X 40 CrNiSi 27 4			J92605						
1.4825	G-X 25 CrNiSi 18 9			J92603						
1.4826	G-X 40 CrNiSi 22 9			J92603						SCH 12
1.4828	X 15 CrNiSi 20 12		309	S30900	309 S 24	Z 15 CNS 20.12	X 16 CrNiSi 25,20		X 15 CrNiSi 20-12	SUH 309
1.4833	X 7 CrNi 23 14		309 S	J93400	309 S 24	Z 15 CN 24.13	X 6 CrNi 23 14			SUS 309 S
1.4837	G-X 40 CrNiSi 25 12			J93503	309 C 30		GX 35 CrNi 25 12			SCS 17
1.4841	X 15 CrNiSi 25 20		310	S31000		Z 15 CNS 25.20	X 16 CrNiSi 25 20		X 15 CrNiSi 25-20	SUH 310
1.4845	X 12 CrNi 25 21		310 S	S31008	310 S 24	Z 12 CN 25.20	X 6 CrNi 25 20	2361	F.331	SUS 310 S
1.4848	G-X 40 CrNiSi 25 20		HK	J94204	310 C 40		GX 40 CrNi 26 20		X 40 CrNi 25 20	SCH 21
1.4871	X 53 CrMnNiN 21 9		EV 8	S63008	349 S 54	Z 52 CMN 21.09	X 53 CrMnNiN 21 9		X 53 CrMnNiN 21-09	SUH 35
1.4878	X 12 CrNiTi 18 9		321		321 S 20	Z 6 CNT 18.12	X 6 CrNiTi 18.11	2337	X 6 CrNiTi 18 11	SUS 321
1.4910	X 3 CrNiMoN 17 13						X 2 CrNiMoN 17 12			
1.4919	X 6 CrNiMo 17 13		316 H	S31609	316 S 51					
1.4923	X 22 CrMoV 12 1						X 22 CrMoV 121			
1.4931	G-X 22 CrMoV 12 1									
1.4941	X 8 CrNiTi 18 10									
1.4948	X 6 CrNi 18 11				304 S 51					

M2 Materialgruppen | Materials group

Rostfreier Stahl - Austenitisch Duplex | Stainless Steel - Austenitic Duplex

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
1.4949	X 3 CrNiN 18 11	X 2 CrNiN 18 11					Duplex			
1.4410	G-X 10 CrNiMo 18 9					Z 5 CND 20.10 M	Super Duplex			SCS 14 A
1.4462	X 2 CrNiMoN 22 5 3	X 2 CrNiMoN 22 5 3	F51 Cr22	S31803	318S13	Z 2 CND 24.08 M	Duplex	2377		
1.4460	X 3 CrNiMoN 27 5 2		329	S32900		Z 3 CND 25.09 M	Duplex	2324	X 8 CrNiMo 27-05	SUS 329 J1
1.4501	X 2 CrNiMoCuWN 25 7 4		F55	S32760		Z3 CNDU 25.06	Duplex			
1.4542	X 5 CrNiCuNb 16 4	X 5 CrNiCuNb 16 4	17-4PH	S17400		Z 7 CNU 16.04				SUS 630
1.4961	X 8 CrNiNb 16 13								X 7 CrNiNb 16-13	
1.4980	X 6 NiCrTiMoVB25 15 2			S66286		Z 5 NCTDV26.15 B				SUS 660
1.4981	X 8 CrNiMoNb 16 16								X 7 CrNiMo 16-16	
1.4988	X 8 CrNiMoVNb 16 13									
2.4537	G-NiMo 16 CrW									
1.4539	X1 NiCrMoCu 25 20 5		904L	N 08904	904S13	Z2 NCDU 25.20.5				
2.4631	NiCr 20 TiAl									

▸ Materialreferenz | Material Reference

K1 Materialgruppen | Materials group

Grauguss Gusseisen | Grey Cast Iron

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
0.6012	GG 150 HB	GJL-HB 170								
0.6015	GG 15	GJL-150	A48-25 B	F11701	Grade 150	FGL 150	G 15	0115-00	FG 15	FC 15
0.6017	GG 170 HB	GJL-HB 205								
0.6020	GG 20	GJL-200	A48-30 B		Grade 200	Ft 20 D	G 20	0120-00	FG 20	FC 200
0.6022	GG 190 HB	GJL-HB 195								
0.6025	GG 25	GJL-250	A48-40 B		Grade 260	FGL 250	G 25	0125-00	FG 25	FC 250
0.6027	GG 220 HB	GJL-HB 250								
0.6030	GG 30	GJL-300	A48-45 B		Grade 300	Ft 30 D	G 30	0130-00	FG 30	FC 30
0.6032	GG 240 HB	GJL-HB 275								
0.6035	GG 35	GJL-350	A48-50 B		Grade 350	Ft 35 D	G 35	0135-00	FG 35	FC 35
0.6037	GG 260 HB	GJL-HB_275								
0.6040	GG 40	GJL-400	A48-60 B		Grade 400	Ft 40 D		0140-00		
0.6652	GGL-NiMn 13 7	GJLA-XNiMn 13-7			L-NiMn 13 7	L-NM 13 7				
0.6655	GGL-NiCuCr 15 6 2	GJLA-XNiCuCr 15-6-2	A 436 Type 1		L-NiCuCr 15 6 2	L-NUC 15 6 2				
0.6656	GGL-NiCuCr 15 6 3	GJLA-XNiCuCr 15-6-3	A 436 Type 1b		L-NiCuCr 15 6 3	L-NUC 15 6 3				
0.6660	GGL-NiCr 20 2	GJLA-XNiCr 20-2	A 436 Type 2		L-NiCr 20 2	L-NC 20 2		0523-00		
0.6661	GGL-NiCr 20 3	GJLA-XNiCr 20-3	A 436 Type 2b		L-NiCr 20 3					
0.6667	GGL-NiSiCr 20 5 3	GJLA-XNiSiCr 20-5-3			L-NiSiCr 20 5 3	L-NSC 20 5 3				

K2 Materialgruppen | Materials group

Sphäroguss | Nodular Cast Iron

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
0.7033	GGG-35-3									
0.7040	GGG-40		60-40-18		420/12	FGS 400-12	GS 400-12	0717-02		FCD 40
0.7043	GGG-40-3				370/17	FGS 370-17	GSO 42/15	0717-15		
0.7050	GGG-50		65-45-12		500/7	FGS 500-7	GS 500/7	0727-02		FCD 50
0.7060	GGG-60		80-55-06		600/3	FGS 600-3	GS 600/3	0732-03		FCD 60
0.7070	GGG-70		100-70-03		700/2	FGS 700-2	GS 700-2	0737-01		FCD 70
0.7080	GGG-80		120-90-02		800/2	FGS 800-2	GS 800-2			
0.7652	GGG-NiMn 13 7	GJSA-XNiMn 13-7			S-NiMn 13 7	S-Mn 13 7		0772-00		
0.7659	GGG-NiCrNb 20 2	GJSA-XNiCrNb 20-2								
0.7660	GGG-NiCr 20 2	GJSA-XNiCr 20-2	A 439 Type D-2		L-NiCuCr 20 2	L-NC 20 2		0523-00		
0.7661	GGG-NiCr 20 3	GJSA-XNiCr 20-3	A 439 Type D-2B		S-NiCr 20 3					
0.7665	GGG-NiSiCr 20 5 2	GJSA-XNiSiCr 20-5-2			S-NiSiCr 20 5 2	S-NSC 20 5 2				
0.7670	GGG-Ni 22	GJSA-XNi 22	A 439 Type D-2C		S-Ni 22	S-N 22				
0.7673	GGG-NiMn 23 4	GJSA-XNiMn 23-4	A 571 Type D-2M		S-NiMn 23 4					

Temperguss | Malleable & Austempered Cast Iron

0.8035	GTW-35-04	GJMW-350-4								
0.8038	GTW-S 38-12	GJMW-360-12								
0.8040	GTW-40-05	GJMW-400-5				MB 40-10	GMB 40			
0.8045	GTW-45-07	GJMW-450-7					GMB 45			
0.8055	GTW-55						GMB 55			
0.8065	GTW-65						GMB 65			
0.8135	GTS-35-10	GJMB-350-10	32510		B 340/12	MN 35-10		0815		FCMW 330
0.8145	GTS-45-06	GJMB-450-6	40010		P 440/7			0852		FCMW 440
0.8155	GTS-55-04	GJMB-550-4	50005		P 510/4	MP 50-5		0854		FCMW 490
0.8165	GTS-65-02	GJMB-650-2	70003		P 570/3	MP 60-3		0858		FCMW 540
0.8170	GTS-70-02	GJMB-700-2	90001		P 690/2	Mn 700-2	GMN 70	0862		

▸ **Materialreferenz** | Material Reference

N2 **Materialgruppen |** Materials group

Messing und Kupfer Legierungen | Brass and Copper Alloys

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
2.0040	OF-Cu									
2.0060	E-Cu 57		B-120							
2.0065	E-Cu 58		C 11000		C 101	Cn-a2				
2.0070	SE-Cu		C 10300		C 101	Cu-c1				
2.0082	G-CuL45		C 81100		HCC 1					
2.0085	G-CuL50		C 81100		HCC 1					
2.0220	CuZn 5									
2.0240	CuZn 15		C 23000			CuZn 15				C 2300
2.0241	G-CuZn 40 MnPb									
2.0265	CuZn 30		C 26000		CZ 102	CuZn 30				C 2600
2.0290	G-CuZn 33 Pb									
2.0321	CuZn 37		C 27200		CZ 108	CuZn 37	C 2720			
2.0330	CuZn 36 Pb 1.5									
2.0331	CuZn 36 Pb 1,5									
2.0340	G-CuZn 37 Pb									
2.0380	CuZn 39 Pb 2									
2.0401	CuZn 39 Pb 3									
2.0402	CuZn 39 Pb 2									
2.0460	CuZn 20 Al 2									
2.0492	G-CuZn 15 Si 4		B-198							
2.0510	CuZn 37 Al 1									
2.0550	CuZn 40 Al 2									
2.0561	CuZn 40 Al 1									
2.0590	G-CuZn 40 Fe									
2.0591	GK-CuZn 38 Al									
2.0592	G-CuZn 35 Al 1		C 86500		HTB 1	U-Z 36 N 3				
2.0595	GK-CuZn 37 Al 1									
2.0596	G-CuZn 34 Al 2		C 86200		HTB 1	U-Z 36 N 3				
2.0598	G-CuZn 25 Al 5									
2.0872	CuNi 10 Fe 1 Mn									
2.0882	CuNi 30 Mn 1 Fe									
2.0936	CuAl 10 Fe 3 Mn 2				CA 103	U-A 10 Fe				
2.0940	G-CuAl 10 Fe									
2.0966	CuAl 10 Ni 5 Fe 4		C 63000		Ca 104	U-A 10 N				
2.0975	G-CuAl 10 Ni		B-148-52							
2.1050	G-CuSn 10		C 90700		CT 1					
2.1052	G-CuSn 12		C 90800		Pb 2	UE 12 P				
2.1060	G-CuSn 12 Ni		C 91700							
2.1061	G-CuSn 12 Pb									
2.1086	G-CuSn 10 Zn									
2.1090	G-CuSn 7 ZnPb		C 93200			U-E 7 Z 5 Pb 4				
2.1093	G-CuSn 6 ZnNi				LG 4					
2.1096	G-CuSn 5 ZnPb		C 83600		LG 2	U-E 5 Pb 5 Z 5				
2.1098	G-CuSn 2 ZnPb									
2.1176	G-CuPb 10 Sn		C 93700		LB 2	U-E 10 Pb 10				
2.1182	G-CuPb 15 Sn		C 93800		LB 1	U-Pb 15 E 8				
2.1188	G-CuPb 20 Sn		C 94100		LB 5	U-Pb 20				
2.1292	G-CuCrF 35		C 81500		CC1-FF					
2.1293	CuCrZr		C 18200		CC 102	U-Cr 0,8 Zr				
2.1871	G-AlCu 4 TiMg									

▸ **Materialreferenz** | Material Reference

N1 **Materialgruppen |** Materials group

Aluminium und Aluminiumlegierungen | Aluminum & Aluminum Alloys

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
3.0255	Al99.5		1000		L 31	A 59050 C				
3.0280	Al99.8									
3.0515	G-Al99.5									
3.0615	AlMgSiPb									
3.1325	AlCuMg 1	AW-2017 A								
3.1355	AlCuMg 2	AW-2024								
3.1371	G-AlCu 4 Ti Mg									
3.1645	AlCuMgPb									
3.1655	AlCuBiPb									
3.1754	G-AlCu 5 Ni 1.5									
3.1841	G-AlCu 4 Ti									
3.2151	G-AlSi 6 Cu 4									
3.2163	GD-AlSi 9 Cu 3									
3.2211	G-AlSi 11									
3.2315	AlMgSi 1	AW-6005 A								
3.2341	GK-AlSi 5 Mg									
3.2371	G-AlSi 7 Mg		4218 B							
3.2373	G-AlSi 9 Mg									
3.2381	G-AlSi 10 Mg									
3.2382	GD-AlSi 10 Mg									
3.2383	GK-AlSi 10 Mg (Cu)		A 360.2		LM 9			4253		
3.2581	G-AlSi 12		A 413.2		LM 6			4261		
3.2582	GD-AlSi 12		A 413.0					4247		
3.2583	G-AlSi 12 (Cu)		A 413.1		LM 20			4260		
3.2982	GD-AlSi 12 (Cu)									
3.3206	AlMgSi 0.5									
3.3241	G-AlMg 3 Si									
3.3261	G-AlMg 5 Si									
3.3292	GD-AlMg 9									
3.3315	AlMg 1	AW-6082								
3.3535	AlMg 3									
3.3541	G-AlMg 3									
3.3555	AlMg 5									
3.3561	G-AlMg 5									
3.4345	AlZnMgCu 0,5		7050		L 86	AZ 4 GU/9051	811-04			
3.5101	G-MgZn 4 Se 1 Zr 1	MCMgZn 4 RE 1 Zr	ZE 41		MAG 5	G-Z 4 TR				
3.5102	G-MgZn 5 Th 2 Zr 1									
3.5103	MgSe 3 Zn 2 Zr 1	MCMgRE 3 Zn 2 Zr	EZ 33		MAG 6	G-TR 3 Z 2				
3.5105	G-MgTh 3 Zn 2 Zr 1									
3.5106	G-MgAg 3 Se 2 Zr 1	MCMgRE 2 Ag 2 Zr	QE 22		MAG 12	G-Ag 22,5				
3.5200	G-MgAl 3 Se 2 Zr 1									
3.5470	GD-MgAl 4 Si 1		AS 41							
3.5612	GD-MgAl 6 Zn 1									
3.5662	GD-MgAl 6									
3.5812	G-MgAl 8 Zn 1	MCMgAl 8 Zn 1	AZ 81		MAG 1	G-A 9				
3.5912	G-MgAl 9 Zn 1	MCMgAl 9 Zn 1	AZ 91		MAG 7	G-A 9 Z 1				

▸ Materialreferenz | Material Reference

S2 Materialgruppen | Materials group

HRSA und Titan | Heat Resistant Super Alloys HRSA

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
0.6676	GGL-NiCr 30 3	GJLA-XNiCr 30-3	A 436 Type 3		L-NiCr 30 3	L-NC 30 3				
0.6680	GGL-NiSiCr 30 5 5	GJLA-XNiSiCr 30-5-5	A 436 Type 4		L-NiSiCr 30 5 5	L-NSC 30 5 5				
0.7676	GGG-NiCr 30 3	GJSA-XNiCr 30-3	A 439 Type D-3		S-NiCr 30 3	S-NC 30 3				
0.7677	GGG-NiCr 30 1	GJSA-XNiCr 30-1	A 439 Type D-3A		S-NiCr 30 1	S-NC 30 1				
0.7679	GGG-NiSiCr 30 5 5	GJSA-XNiSiCr 30-5-5								
0.7680	GGG-NiSiCr 30 5 3	GJSA-XNiSiCr 30-5-3	A 439 Type D-4		S-NiSiCr 30 5 5	S-NSC 30 5 5				
0.7683	GGG-Ni 35	GJSA-XNi 35	A 439 Type D-5		S-Ni 35	S-N 35				
0.7685	GGG-NiCr 35 3	GJSA-XNiCr 35-3	A 439 Type D-5A		S-NiCr 35 3	S-NC 35 3				
0.7688	GGG-NiSiCr 35 5 2	GJSA-XNiSiCr 35-5-2								
1.4335	X 2 CrNi 25 20									
1.4361	X 2 CrNiSi 18 15					Z 1 CNS 18.15				
1.4558	X2 NiCrAlTi 32 20									NCF 800 TB
1.4562	X1 NiCrMoCu 32 28 7									
1.4563	X1 NiCrMoCuN 31 27 4			N08028		Z2 NCDU 31.27.03		2584		
1.4857	G-X 40 CrNiSi 35 25			J95705			GX 50 NiCr 35 25			
1.4862	X 8 CrNiSi 38 18									
1.4864	X 12 NiCrSi 36 16		330		NA 17	Z 12 NCS 37.18			X 12 CrNiSi 36-16	SUH 330
1.4864	Incoloy									
1.4865	G-X 40 NiCrSi 38 18			J94605	330 C 40		GX 50 NiCr 39 19			SCH 15
1.4876	X 10 NiCrAlTi 32 20		B 163		NA 15	Z 8 NC 32.21			X 10 NiCrAlTi 32-30	NCF 800
1.4939	X 12 CrNiMo 12				S.151					
1.4944	A 286									SUH 660
1.4958	X 5 NiCrAlTi 31 20									
1.4959	X 5 NiCrAlTi 32 21									
1.4977	X 40 CoCrNi 20 20					Z 42 CNKDWNb				
1.4980	X 5 CrNiTi 26 15		660	S66286	286 S 31	Z 6 NCTDV 25.15 B				
2.4060	Ni 99,6									
2.4066	Ni 99,2		N 02200		NA 11					
2.4170	G-Ni 95		SZ-100							
2.4175	G-Ni 93 C		CZ-100							
2.4180	G-Ni 93 Si									
2.4360	NiCu 30 Fe		N 04400		NA 13	NU 30	Monel 400			
2.4365	G-NiCu 30 Nb		M 35-1/2							
2.4367	G-NiCu 30 Si 3		M 30-H							
2.4368	G-NiCu 30 Si 4		M-255							
2.4375	NiCu 30 Al		N 05500		NA 18	NU 30 AT				
2.4375	NiCu 30 Al		N 05500		NA 18	NU 30 AT				
2.4602	NiCr 21 Mo 14 W									
2.4610	NiMo 16 Cr 16 Ti		N 06455							
2.4617	NiMo 28		N 10665			NiMo 28				
2.4619	NiCr 22 Mo 7 Cu		N 06985							
2.4630	NiCr 20 Ti		N 06075		HR5	NC 20 T	Nimonic 75			
2.4632	NiCr 20 Co 18 Ti						Nimonic 90			
2.4634	NiCo 20 Cr 15 MoAlTi						Nimonic 105			
2.4642	NiCr 29 Fe		N 06690			NC 30 Fe				
2.4650	NiCo 20 Cr 20 MoTi		N 07263		HR 10	NCK 20 D	Nimonic C-263			
2.4654	NiCr20Co14MoTi					NC20K14	Waspaloy			
2.4658	NiCr 70 30									
2.4660	NiCr 20 CuMo		N 08020							
2.4663	NiCr 23 Co 12 Mo		N 06617							
2.4665	NiCr 22 Fe 18 Mo									
2.4668	NiCr 19 FeNbMo		N 07718			NC 19 Fe Nb	Inconel 718			
2.4669	NiCr 15 Fe 7 TiAl		N 07750			NC 15 TNb A				
2.4685	G-NiMo 28		N-7 M							
2.4686	G-NiMo 17 CrW		CW-12 MW							
2.4694	NiCr 16 Fe 7 TiAl									
2.4778	G-CoCr 28									
2.4810	G-NiMo 30		N-12 MV							
2.4816	NiCr 15 Fe		N 06600		NA 14	NC 15 Fe				NCF 600
2.4819	NiMo 16 Cr 15 W		N 10276			NC 17 D				
2.4851	NiCr 23 Fe		N 06601			NC 23 Fe A				
2.4856	NiCr 22 Mo 9 Nb		N 06625		NA 21	NC 22 Fe DNb	Inconel 625			
2.4858	NiCr 21 Mo		N 08825		NA 16	NC 21 Fe DU				NCF 825
2.4867	NiCr 60 15									

▸ **Materialreferenz** | Material Reference

S2 **Materialgruppen |** Materials group

HRSA und Titan | Heat Resistant Super Alloys HRSA

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
2.4869	NiCr 80 20									
2.4879	G-NiCr 28 W									
2.4883	G-NiMo 16 CrW									
2.4951	NiCr 20 Ti		N 06075		HR 5	NC 20 T				
2.4952	NiCr 20 TiAl		N 07080		NA 20	NC 20 TA				
2.4955	NiFe 25 Cr 20 NbTi									
2.4964	CoCr 20 W 15 Ni		R 30605		HR 240	KC 22 WN				
2.4969	NiCr 20 Co 18 Ti									
2.4973	NiCr19Co11Mo10Ti3		AMS 5399			NC 19 KDT				
2.4975	NiFeCr 12 Mo									
2.4976	NiCr 20 Mo									
2.4982	NiCr 20 CoMo									
2.4983	NiCr 18 Co 18 MoTi									
2.4989	CoCr 20 NiW									

S1 **Materialgruppen |** Materials group

Titan und Titanlegierungen | Titanium and Titanium Alloys

D		UK	USA		UK	F	IT	S	E	J
W.-NR.	DIN	EN	AISI	UNS	BS	AFNOR	UNI	SS	UNE	JIS
3.7025	Ti 1		R 50250		2 TA 1					
3.7035	Ti 2		R 50400		2 TA 2-5					
3.7055	Ti 3		R 50550		TA 3					
3.7065	Ti 4		R 50700		2 TA 6-9					
3.7105	TiNi 0.8 Mo 0.3									
3.7110	TiAl 5 Fe 2.5									
3.7115	TiAl 5 Sn 2									
3.7124	TiCu2				2 TA 21-24					
3.7145	TiAl 6 Sn 2 Zr 4MoSi		R 54620							
3.7155	TiAl 6 ZrMo 0.5				TA 43					
3.7165	TiAl 6 V 4		R 56400		TA 10-13	T-A 6 V				
3.7175	TiAl 6 V 6 Sn 2									
3.7185	TiAl 4 Mo 4 Sn 2				TA 45-51					
3.7195	TiAl 3 V 2.5									
3.7225	Ti 1 Pd		R 52250		TP 1					
3.7235	Ti 2 Pd		R 52400							
3.7255	Ti 3 Pd									

▸ Umrechnungstabelle von Zugfestigkeit und Härte | Conversion table of tensile strength and hardness

N/mm²	Rockwell HRC	Vickers HV	Brinell HB
-	68	940	-
-	67	900	-
-	66	865	-
-	65	832	-
-	64	800	-
-	63	772	-
-	62	746	-
-	61	720	-
-	60	697	-
-	59	674	-
-	58	653	-
-	57	633	-
-	56	613	-
2075	55	595	-
2015	54	577	-
1950	53	560	-
1880	52	544	-500
1820	51	528	-487
1760	50	513	-475
1695	49	498	-464
1635	48	484	451
1580	47	471	442
1530	46	458	432
1480	45	446	421
1435	44	434	409
1385	43	423	400
1340	42	412	390
1295	41	402	381
1250	40	392	371
1215	39	382	362

N/mm²	Rockwell HRC	Vickers HV	Brinell HB
1180	38	372	353
1160	37	363	344
1115	36	354	336
1080	35	345	327
1055	34	336	319
1025	33	327	311
1000	32	318	301
980	31	310	294
950	30	302	286
930	29	294	279
910	28	286	271
880	27	279	264
860	26	272	258
840	25	266	253
825	24	260	247
805	23	254	243
785	22	248	237
770	21	243	231
760	20	238	226
730	18	230	219
705	-16	222	212
675	-14	213	203
650	-12	204	194
620	-10	196	187
600	-8	188	179
580	-6	180	171
550	-4	173	165
530	-2	166	158
515	0	160	152

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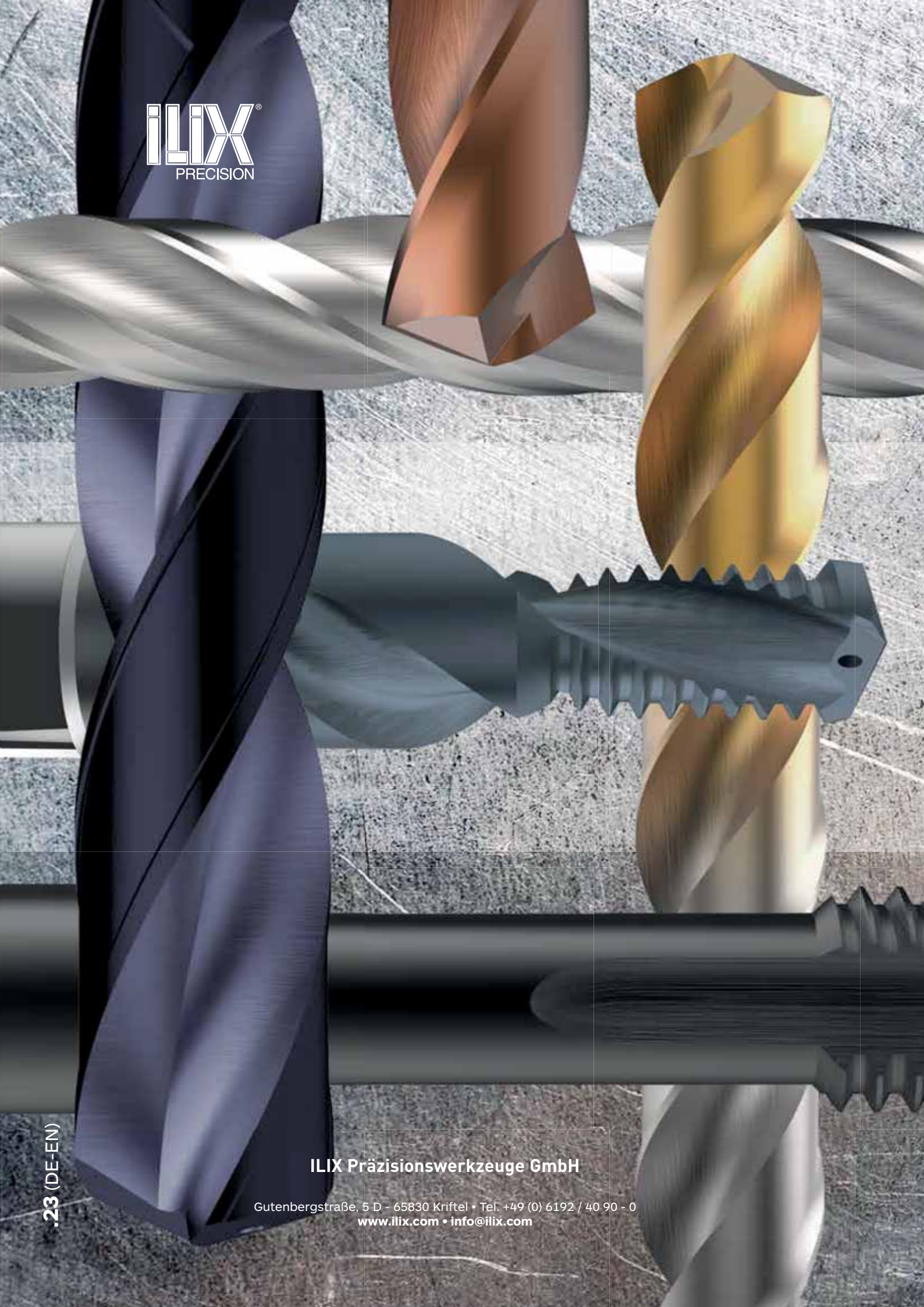
PRECISION



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