

Drilling tools



- Twist drills
- Micro drills
- Bodywork drills
- Spiral countersinks (core drills)
- Deep hole drills
- Stepped drill bits
- Centre drills/spotting drills
- Taper pin drills
- Core drill bits

10

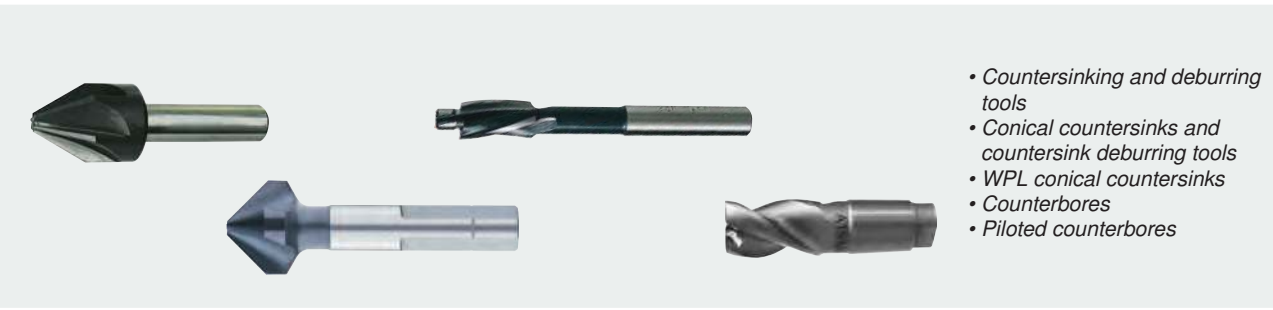
10.3 – 10.68



- Solid carbide drills
- Solid carbide tap removal tools
- Cemented carbide indexable inserts
- Indexable insert drills
- Stone drills
- Hammer drill bits
- Impact core drill bits

11

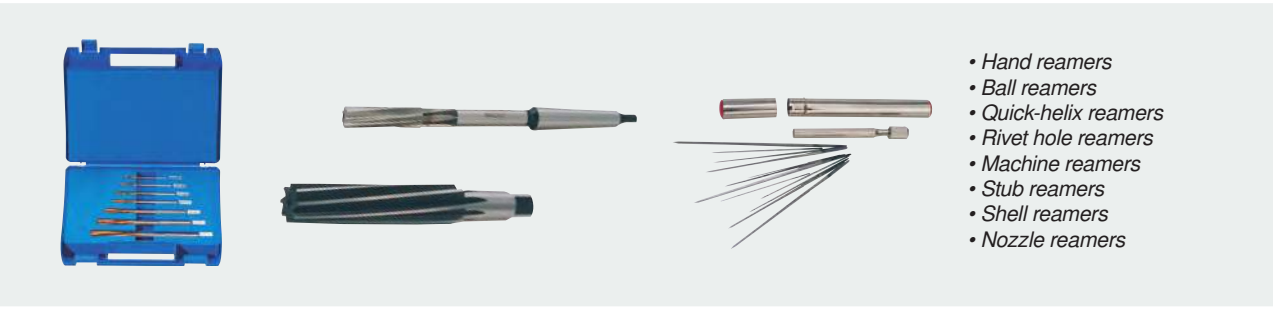
11.1 – 11.42



- Countersinking and deburring tools
- Conical countersinks and countersink deburring tools
- WPL conical countersinks
- Counterbores
- Piloted counterbores

12

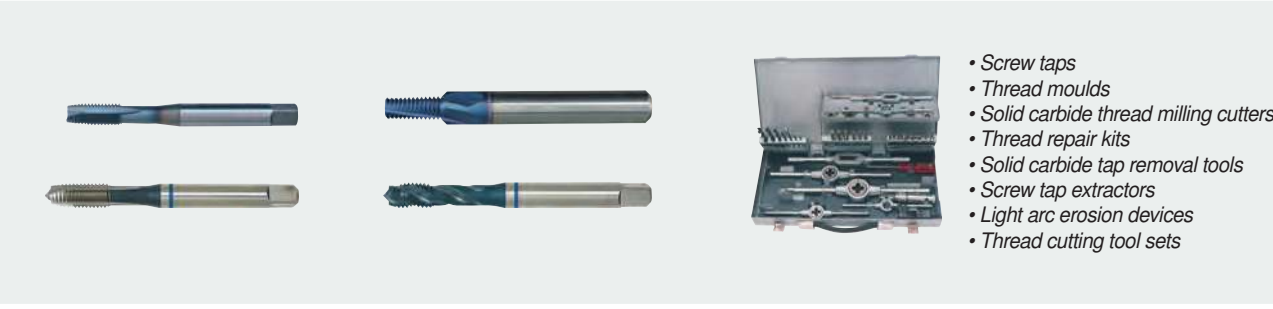
12.1 – 12.10



- Hand reamers
- Ball reamers
- Quick-helix reamers
- Rivet hole reamers
- Machine reamers
- Stub reamers
- Shell reamers
- Nozzle reamers

13

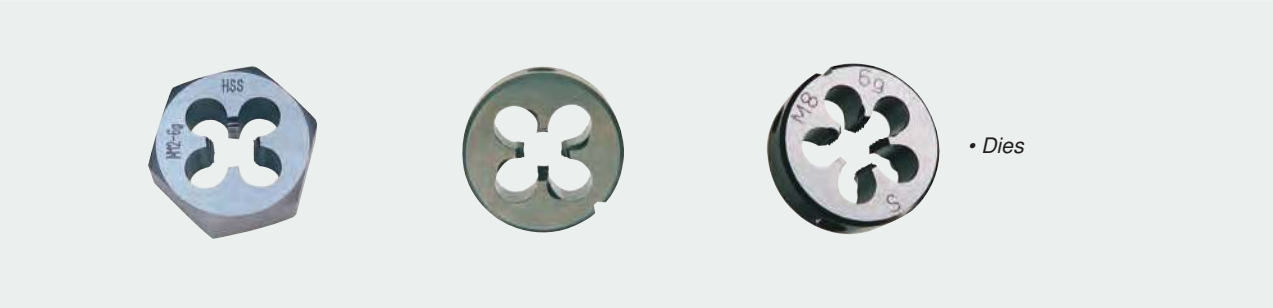
13.1 – 13.12



- Screw taps
- Thread moulds
- Solid carbide thread milling cutters
- Thread repair kits
- Solid carbide tap removal tools
- Screw tap extractors
- Light arc erosion devices
- Thread cutting tool sets

14

14.1 – 14.88



- Dies

15

15.1 – 15.4

Our suppliers for DRILLING TOOLS:

ATORN®

HW

BOSCH

CUTTING SOLUTIONS BY CERATIZIT

EMUGE

eromobil®



H. BILZ

HARTNER



HAZET®

HELICOIL® plus
made by **BOLLHOFF**

KOMET®

Milwaukee

NACHI

UNIMAX
DER UNIVERSAL-GEWINDEBOHRER

Info

Coatings for machining tools

Advantages:

- Longer service life
- Higher productivity
- Fewer tool changes

- No emulsion due to dry machining
- High-speed machining
- Hard machining
- Lower tool costs

Coating material	TiN	TiCN	TiAlN	Alcrona	Hardlube	Alu-CC	Rocktec 52	Rocktec 65	Ultra-N	Ultra Npro
Micro-hardness (HV 0.05)	2,300	3,000	3,300	3,200	3,000	4,000	3,300	3,600	3,100	6,000
Friction coefficient vs. steel (dry)	0.4	0.4	0.30 - 0.35	0.35	0.15 - 0.20	–	0.4	0.4	–	–
Max. application temperature (°C)	600	400	900	1,100	800	800	900	1,200	900	550
Coating colour	Gold-yellow	Blue-grey	Purple-grey	Blue-grey	Dark grey	Light transparent	Grey-blue	Copper-coloured	Brownish-silver	Rainbow colours

Materials Coatings	Plastics	Non-ferrous metals	AlSi alloys	Al wrought alloys	Low alloy steels	High-alloy steels	Tempered steels up to 52 HRC	Tempered steels up to 65 HRC	Stainless steels	Cast iron	Titanium alloys	Super alloys
	TiN	Green				Blue						
TiCN	Green				Blue			Yellow		Red		
TiAlN	Green				Blue		Grey	Yellow		Red	Brown	Brown
Alcrona	Green				Blue							
Hardlube	Green		Green		Blue							
Alu-CC	Green	Green		Green	Blue			Yellow				
Rocktec 52					Blue		Grey		Yellow	Red		
Rocktec 65								Grey				
Ultra-N / Ultra Npro	Green	Green	Green	Green							Brown	Brown

Overview of pictograms

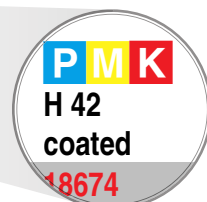
Direction of application		No centre cutting , face milling only possible over the edge of the workpiece
		With centre cutting , plunging and face milling possible (in 3 directions)
Thread type	e.g.	= Fine Metric thread
Quality	e.g.	= High-performance high-speed steel with cobalt (E) alloy and Titanium-aluminium-nitrite coating
Shank design		= Straight shank with driving surface in accordance with DIN 1835 B
		= Straight shank with clamping thread in accordance with DIN 1835 D
		= Smooth, straight shank in accordance with DIN 6535 HA (for solid carbide tools)
		= Straight shank with driving surface in accordance with DIN 6535 HB (for solid carbide tools)
Spiral angle	e.g.	= Spiral angle of the tool approx. 39° to the right
	e.g.	= Spiral angle of the tool approx. 12° to the left
Tip angle	e.g.	= Tip angle of the cutting edges 120°
Tolerance	e.g.	= Cutting edge tolerance in accordance with ISO recommendation R286-1962
Type designation	e.g.	= For normal machinable materials
Material strength	e.g.	= For materials with a strength up to max. 1000 N/mm²
	e.g.	= For materials with a strength over 900 N/mm²
Very well suited to ...		= Aluminium
		= Grey cast iron
		= Brass
		= Universal
		= Rust-, acid- and heat-resistant and austenitic steels (V2A, V4A)

Info The HHW colour guidance system

With the **HHW** colour guidance system you can see at first glance which materials the tool is suitable for. In most catalogue sections, the **HHW** also informs you about the application data for the corresponding tool. The **HHW** colour guidance system is logically structured according to the steel key. This means that you can select the appropriate tools in advance of the machining process, saving you time and money.

St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	plastics
40-50	35-40	-	-	-	-	35-45	35-45	-	80-120	-

Designation	W ^{+0,1} mm	R ^{+0,05} mm		
GTN-2	2,2	0,16	10 pieces	113
GTN-3	3,1	0,20	10 pieces	114



Info

Twist drill overview (I)

Brand	ATORN	ATORN	H+W	H+W	ATORN	H+W		ATORN	ATORN	H+W	ATORN	ATORN	ATORN
Article number	10001	10002	10003	10004	10005	10006	10010	10020	10035	10040	10042	10044	10046
Standard/DIN	338	Factory standard	338	338	338	338	338	338	338	338	338	338	338
Diameter range mm	0.3 - 20	13.5 - 20	0.3 - 16	0.5 - 13	1 - 16	1 - 13	0.3 - 16	1 - 16	1 - 13	0.3 - 16	0.5 - 16	1 - 12	1 - 13
Cutting material	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
Coating	-	-	-	TiN	TiN	-	-	TiN	-	-	-	TiAlN	-
Point angle	118°	118°	118°	118°	118°	135°	118°	118°	118°	118°	130°	130°	130°
Version	Short	Short offset	Short	Short profile.	Short	Short	Short rolled	Short	Short MBS	Short	Short	Short	Short
Type	N	N	N	N	N	Uni	N	N	UNI	N	Ti	N	VA
Catalogue page	10.7	10.8	10.8	10.8	10.10	10.11	10.8	10.11	10.11	10.13	10.14	10.14	10.14

Recommended application

● = well-suited ○ = limited suitability

Aluminium < 10% Si	○	○	○	○	○	○	○	○	○	○	○	○	○
Aluminium > 10% Si	○	○	○	○	○	○	○	○	○	○	○	○	○
Copper	○	○	○	○	○	○	○	○	○	○	○	○	○
Plastics	○	○	○	○	○	○	○	○	○	○	○	○	○
Graphite	○	○	○	○	○	○	○	○	○	○	○	○	○
Steel < 520 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 750 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 900 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1100 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1200 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1400 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Hardox													
< 50 HRC													
< 60 HRC													
< 67 HRC													
GG	●	●	●	●	●	○	●	●	●	●	●	●	●
GGG	●	●	●	●	●	○	●	●	●	●	●	●	●
VA < 900 N					○								
VA > 900 N					○								
Titanium													
Titanium alloy													
Nickel base													

Brand	ATORN	ATORN	ATORN	ATORN	HARTNER	HARTNER	HARTNER	ATORN	NACHI	NACHI	HARTNER	H+W	ATORN
Article number	10047	10050	10053	10060	10210	10211	10214	10215	10216	10217	10220	10250	10252
Standard/DIN	338	338	338	338	338	338	338	338	Factory standard	Factory standard	1899	Factory standard	1897
Diameter range mm	1 - 13	1 - 13	1 - 12	2 - 20	0.5 - 14	0.5 - 15	1.1 - 12	1 - 14	0.5 - 20	2.0 - 32	0.16 - 1.45	2.5 - 5	1 - 16
Cutting material	HSS-Co8	HSS-E	HSS-E	HSS-E	HSS	HSS	HSS-E	HSS-E-PM	HSS-PM	HSS-PM	HSS-E	HSS	HSS
Coating	-	-	TiN	TiAlN	-	-	-	TiN	SG	SG	-	-	-
Point angle	135°	130°	130°	120°/130°	118°	130°	130°	130°	118°/135°	135°	118°	118°	118°
Version	Short	Short	Short	Short	Short	Short	Short	Short	Short	Short	Mini	Extra short	Extra short
Type	N	FS	FS	Uni	H	W	IS	UNI	UNI	UNI	N	N	N
Catalogue page	10.15	10.17	10.17	10.18	10.20	10.20	10.20	10.22	10.23	10.27	10.28	10.28	10.29

Recommended application

● = well-suited ○ = limited suitability

Aluminium < 10% Si	○	○	○	○	○	○	○	○	○	○	○	○	○
Aluminium > 10% Si	○	○	○	○	○	○	○	○	○	○	○	○	○
Copper	○	○	○	○	○	○	○	○	○	○	○	○	○
Plastics	○	○	○	○	○	○	○	○	○	○	○	○	○
Graphite	○	○	○	○	○	○	○	○	○	○	○	○	○
Steel < 520 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 750 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 900 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1100 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1200 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1400 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Hardox													
< 50 HRC													
< 60 HRC													
< 67 HRC													
GG	●	●	●	●	●	○	●	●	●	●	●	●	●
GGG	●	●	●	●	●	○	●	●	●	●	●	●	●
VA < 900 N		○	○	○			○	○	○	○	○	○	○
VA > 900 N		○	○	○			○	○	○	○	○	○	○
Titanium	○										○		
Titanium alloy	○								○	○			
Nickel base	○								○	○			

Info

Twist drill overview (II)

Brand	ATORN®	ATORN®	ATORN®	ATORN®	ATORN®	H+W	H+W	ATORN®	ATORN®	H+W	HARTNER	ATORN®	HARTNER
Article number	10255	10257	10259	10260	10261	10262	10263	10404	10406	10407	10408	10410	10421
Standard/DIN	1897	1897	1897	1897	1897	1897	Factory standard	340	340	340	340	340	1869
Diameter range mm	1 - 13	1 - 20	1 - 14	1 - 20	1 - 14	2 - 18	2 - 13	1 - 12	0.6 - 16	1 - 13	2 - 10	1 - 12	2 - 12
Cutting material	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E-PM	HSS-E	HSS-E	HSS-E	HSS	HSS	HSS	HSS	HSS
Coating	TiN	-	-	TiAlN	TiN	AlCrN	-	-	-	-	-	TiN	-
Point angle	130°	130°	118°	120°/130°/140°	130°	135°	135°	130°	118°	130°	130°	130°	130°
Version	Extra short	Extra short	Extra short MBS	Extra short	Extra short	Short	Short	Long	Long	Long	Long	Long	Overlong
Type	VA	N	UNI	UNI	UNI	Hardox	Hardox/VA	VA	N	FS	FW	FN	FN
Catalogue page	10.29	10.29	10.30	10.31	10.32	10.33	10.33	10.34	10.34	10.36	10.36	10.37	10.39

Recommended application

● = well-suited ○ = limited suitability

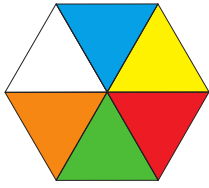
Aluminium < 10% Si	○	○	○	○	○						○	○	○
Aluminium > 10% Si	○	○	○	○	○						○	○	○
Copper	○	○	○	○	○			○			○	○	○
Plastics		○	○		○								
Graphite													
Steel < 520 N	●	●	●	●	●		●		●	●	●	●	●
Steel < 750 N	●	●	●	●	●		●		●	●	●	●	●
Steel < 900 N	●	●	●	●	●		●		●	●	●	●	●
Steel < 1100 N	●	●	●	●	●		●		●	●	●	●	●
Steel < 1200 N	●	●	●	●	●		●	●	●	●	●	●	●
Steel < 1400 N				●	●	●	●	●					
Hardox				●	●	●	●						
< 50 HRC													
< 60 HRC													
< 67 HRC													
GG	●	●	●	●	●				●	●		●	●
GGG	●	●	●	●	●				●	●		●	●
VA < 900 N		●	●	●	●		●	●	●	●		●	●
VA > 900 N		●	●	●	●		●	●	●	●		●	●
Titanium		●					●		●	●		●	●
Titanium alloy									●	●		●	●
Nickel base									○	○		○	○

Brand	HARTNER	NACHI	NACHI	NACHI	NACHI	ATORN®	HARTNER	ATORN®	ATORN®	HARTNER	HARTNER		
Article number	10422	10423	10424	10425	10426	10508	10510	10511	10514	10526	10610	10621	10632
Standard/DIN	1869	338	339	1869	1869	345	345	345	345	345	341	1870	343
Diameter range mm	2 - 8.5	1 - 13	1 - 13	1 - 13	3 - 13	5 - 60	10 - 50	10.5 - 28	10 - 35	11 - 32	10 - 35	8 - 30	7.8 - 30
Cutting material	HSS	HSS-Co8	HSS-Co8	HSS-Co8	HSS-Co8	HSS	HSS	HSS	HSS-E	HSS-E	HSS	HSS	HSS
Coating	TiN	-	AG	AG	AG	-	-	TiN	-	-	-	-	-
Point angle	130°	118°	118°	118°	118°	118°	118°	118°	118°	130°	118°	130°	120°
Version	Overlong	Short	Long	Overlong	Overlong	MK shank short	MK shank short	MK shank short	MK shank short	MK shank short	MK shank long	MK shank overlong	Z3
Type	FN	N	N	N	N	N	N	N	N	VA	N	FN	N
Catalogue page	10.39	10.16	10.34	10.38	10.39	10.40	10.40	10.41	10.41	10.41	10.42	10.42	10.43

Recommended application

● = well-suited ○ = limited suitability

Aluminium < 10% Si						○	○	○				○	○
Aluminium > 10% Si						○	○	○				○	○
Copper						○	○	○				○	○
Plastics						○	○	○					
Graphite													
Steel < 520 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 750 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 900 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1100 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1200 N	●	●	●	●	●	●	●	●	●	●	●	●	●
Steel < 1400 N									●	●			
Hardox													
< 50 HRC													
< 60 HRC													
< 67 HRC													
GG	●	●	●	●	●	●	●	●	●	●	●	●	●
GGG	●	●	●	●	●	●	●	●	●	●	●	●	●
VA < 900 N										●			
VA > 900 N										●			
Titanium										○		○	○
Titanium alloy										○		○	○
Nickel base										○		○	○



Material level

The CERATIZIT MasterGuide divides the materials according to VDI 3323 into six main groups (P, M, K, N, S, H). Each group is assigned a colour code that is partly already known from ISO 513.

Blue: Steel

Free cutting, case hardening, tempering and structural steels

Yellow: stainless steel

Ferritic Cr steels, austenitic CrNi steels, martensitic Cr steels, duplex steels

Red: Cast iron

Grey cast iron, malleable cast iron, spheroidal cast iron, vermicular cast iron, sintered iron

Green: Non-ferrous metals and non-metals

Al-wrought, cast alloys, copper, copper alloys, non-metallic materials

Orange: high heat-resistant alloys/titanium

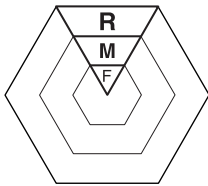
NI/Co-based alloys, Ti alloys

White: hard materials

Hardened steels (≥ 45 HRC), hard cast iron, hard cast iron materials

Machining level

Each colour code field is divided into three levels by lines. These identify the respective machining types:

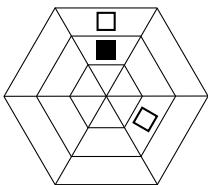


R = Rough chip removal **M = Medium machining** **F = Fine machining**



Application level

The ideal application area of an indexable insert is indicated by a full square. Extended application areas are indicated by an empty square symbol. In this way the CERATIZIT MasterGuide provides an overview when purchasing, selecting and machining, and reduces the supplies of grades and geometries in stock.



■ Main application

□ Advanced application

The right indexable insert at a glance



Main application:

Medium, fine and rough chip machining of steel.

Advanced application:

Medium chip removal of high heat-resistant alloys.
Medium, fine and rough chip removal of stainless steels.



ATORN®

Design

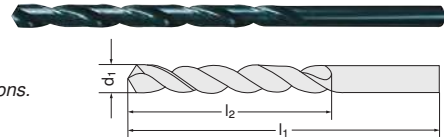
Straight shank, right cutting, cone-shaped section finish. From \varnothing 1.0 mm thinned chisel edge.

Quality

HSS ground for steels up to 900 N/mm².

Note:

Quality drills for the most demanding applications.



10001

d ₁ h ₈ mm mm	l ₂ mm	l ₁ mm	10 pcs.	HSS ground	
				10001	...
0.3	3	19	10 pcs.	609	
0.35	4	19	10 pcs.	613	
0.4	5	20	10 pcs.	618	
0.45	5	20	10 pcs.	622	
0.5	6	22	10 pcs.	626	
0.55	7	24	10 pcs.	630	
0.6	7	24	10 pcs.	635	
0.65	8	26	10 pcs.	640	
0.7	9	28	10 pcs.	644	
0.75	10	30	10 pcs.	649	
0.8	10	30	10 pcs.	654	
0.85	10	30	10 pcs.	659	
0.9	11	32	10 pcs.	663	
0.95	11	32	10 pcs.	667	
1.0	12	34	10 pcs.	672	
1.1	14	36	10 pcs.	679	
1.2	16	38	10 pcs.	688	
1.3	16	38	10 pcs.	697	
1.4	18	40	10 pcs.	699	
1.5	18	40	10 pcs.	704	
1.6	20	43	10 pcs.	712	
1.7	20	43	10 pcs.	717	
1.75	22	46	10 pcs.	721	
1.8	22	46	10 pcs.	724	
1.9	22	46	10 pcs.	730	
1.95	24	49	10 pcs.	734	
2.0	24	49	10 pcs.	737	
2.05	24	49	10 pcs.	740	
2.1	24	49	10 pcs.	741	
2.2	27	53	10 pcs.	743	
2.3	27	53	10 pcs.	745	
2.4	30	57	10 pcs.	750	
2.5	30	57	10 pcs.	753	
2.6	30	57	10 pcs.	757	
2.7	33	61	10 pcs.	759	
2.8	33	61	10 pcs.	762	
2.9	33	61	10 pcs.	764	
3.0	33	61	10 pcs.	767	
3.1	36	65	10 pcs.	771	
3.2	36	65	10 pcs.	774	
3.25	36	65	10 pcs.	775	
3.3	36	65	10 pcs.	776	
3.4	39	70	10 pcs.	778	
3.5	39	70	10 pcs.	780	
3.6	39	70	10 pcs.	782	
3.7	39	70	10 pcs.	784	
3.8	43	75	10 pcs.	786	
3.9	43	75	10 pcs.	788	
4.0	43	75	10 pcs.	791	
4.1	43	75	10 pcs.	794	
4.2	43	75	10 pcs.	796	
4.25	43	75	10 pcs.	797	
4.3	47	80	10 pcs.	798	
4.4	47	80	10 pcs.	800	
4.5	47	80	10 pcs.	802	

d ₁ h ₈ mm mm	l ₂ mm	l ₁ mm	10 pcs.	HSS ground	
				10001	...
4.6	47	80	10 pcs.	804	
4.7	47	80	10 pcs.	806	
4.8	52	86	10 pcs.	809	
4.9	52	86	10 pcs.	812	
5.0	52	86	10 pcs.	814	
5.1	52	86	10 pcs.	818	
5.2	52	86	10 pcs.	820	
5.3	52	86	10 pcs.	822	
5.4	57	93	10 pcs.	824	
5.5	57	93	10 pcs.	825	
5.6	57	93	10 pcs.	827	
5.7	57	93	10 pcs.	829	
5.8	57	93	10 pcs.	831	
5.9	57	93	10 pcs.	833	
6.0	57	93	10 pcs.	835	
6.1	63	101	-	837	
6.2	63	101	-	839	
6.3	63	101	-	841	
6.4	63	101	-	843	
6.5	63	101	-	844	
6.6	63	101	-	845	
6.7	63	101	-	847	
6.75	69	109	-	848	
6.8	69	109	-	849	
6.9	69	109	-	850	
7.0	69	109	-	852	
7.1	69	109	-	854	
7.2	69	109	-	855	
7.3	69	109	-	857	
7.4	69	109	-	858	
7.5	69	109	-	859	
7.6	75	117	-	860	
7.7	75	117	-	861	
7.8	75	117	-	863	
7.9	75	117	-	864	
8.0	75	117	-	867	
8.1	75	117	-	869	
8.2	75	117	-	870	
8.3	75	117	-	872	
8.4	75	117	-	873	
8.5	75	117	-	875	
8.6	81	125	-	877	
8.7	81	125	-	878	
8.8	81	125	-	881	
8.9	81	125	-	882	
9.0	81	125	-	883	
9.1	81	125	-	885	
9.2	81	125	-	887	
9.3	81	125	-	889	
9.4	81	125	-	890	
9.5	81	125	-	891	
9.6	87	133	-	892	
9.7	87	133	-	893	
9.8	87	133	-	895	
9.9	87	133	-	896	

d ₁ h ₈ mm mm	l ₂ mm	l ₁ mm	10 pcs.	HSS ground	
				10001	...
10.0	87	133	-	897	
10.1	87	133	-	898	
10.2	87	133	-	899	
10.25	87	133	-	900	
10.3	87	133	-	901	
10.4	87	133	-	903	
10.5	87	133	-	904	
10.6	87	133	-	905	
10.7	94	142	-	906	
10.8	94	142	-	908	
10.9	94	142	-	909	
11.0	94	142	-	910	
11.1	94	142	-	911	
11.2	94	142	-	912	
11.4	94	142	-	914	
11.5	94	142	-	915	
11.6	94	142	-	916	
11.7	94	142	-	917	
11.75	94	142	-	918	
11.8	94	142	-	919	
11.9	101	151	-	920	
12.0	101	151	-	921	
12.1	101	151	-	922	
12.2	101	151	-	923	
12.3	101	151	-	925	
12.4	101	151	-	926	
12.5	101	151	-	927	
12.6	101	151	-	928	
12.7	101	151	-	929	
12.8	101	151	-	931	
12.9	101	151	-	932	
13.0	101	151	-	933	
13.25	108	160	-	936	
13.5	108	160	-	937	
13.75	108	160	-	940	
13.8	108	160	-	941	
14.0	108	160	-	943	
14.25	114	169	-	946	
14.5	114	169	-	948	
14.75	114	169	-	949	
15.0	114	169	-	951	
15.25	120	178	-	954	
15.5	120	178	-	955	
15.75	120	178	-	956	
16.0	120	178	-	957	
16.5	125	184	-	965	
17.0	125	184	-	970	
17.5	130	191	-	975	
18.0	130	191	-	980	
18.5	135	198	-	985	
19.0	135	198	-	990	
19.5	140	205	-	995	
20.0	140	205	-	999	

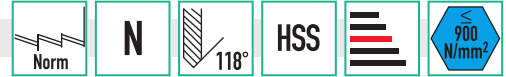
Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40



Twist drill

10002

Short twist drills



Note:
Quality drills for the most demanding applications.

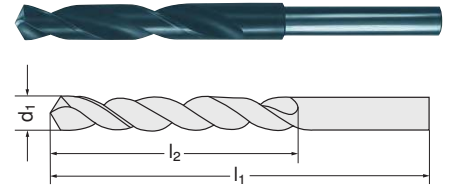
10002

Design

- Offset straight shank 12.7 mm
- Right cutting
- Cone-shaped section finish

Quality

HSS ground for steels up to 900 N/mm².



HSS ground										HSS ground											
d ₁ h8	l ₂	l ₁	10002							...	d ₁ h8	l ₂	l ₁	10002							...
mm	mm	mm									mm	mm	mm								
13.5	82	156								202	16.5	84	158								214
14.0	82	156								205	17.0	84	158								215
14.5	83	157								207	17.5	84	158								216
15.0	83	157								209	18.0	84	158								217
15.5	83	157								211	19.0	84	158								219
16.0	83	157								213	20.0	84	158								221

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10003 - 10010

Short twist drills



10003



Design

- Straight shank
- Right cutting
- Cone-shaped section finish

Quality

HSS ground for steels up to 900 N/mm².

Note:

Affordable HSS ground design.

10004



Design

- Normal core strength without ascending core
- Precise drill point
- High concentricity
- Drills for production

Quality

HSS/TiN profile-ground for steels up to 900 N/mm².

10010

Design

- Straight shank
- Right cutting
- Precision-roll forged

Quality

HSS precision-roll forged for steels up to 900 N/mm².

Note

No structural interruption, therefore resilient and suitable for robust drilling applications (e.g. hand drill).



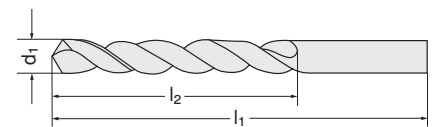
10003



10004



10010



d ₁ h8	l ₂	l ₁	pcs.	HFW		HFW		10003	...	10004	...	10010	...
				10003	...	10004	...						
0.3	3	19	10 pcs.	10003	...	10004	...	10010	...				
0.4	5	20	10 pcs.	101		102		102				101	
0.5	6	22	10 pcs.	103		050		103				103	
0.6	7	24	10 pcs.	104		060		104				104	
0.7	9	28	10 pcs.	105		070		105				105	
0.8	10	30	10 pcs.	106		080		106				106	
0.9	11	32	10 pcs.	107		090		107				107	
1.0	12	34	10 pcs.	108		100		108				108	
1.1	14	36	10 pcs.	109		110		109				109	
1.2	16	38	10 pcs.	110		120		110				110	
1.3	16	38	10 pcs.	111		130		111				111	
1.4	18	40	10 pcs.	112		140		112				112	
1.5	18	40	10 pcs.	113		150		113				113	
1.6	20	43	10 pcs.	114		160		114				114	
1.7	20	43	10 pcs.	115		170		115				115	
1.8	22	46	10 pcs.	116		180		116				116	
1.9	22	46	10 pcs.	117		190		117				117	
2.0	24	49	10 pcs.	118		200		118				118	
2.1	24	49	10 pcs.	119		210		119				119	
2.2	27	53	10 pcs.	120		220		120				120	
2.3	27	53	10 pcs.	121		230		121				121	

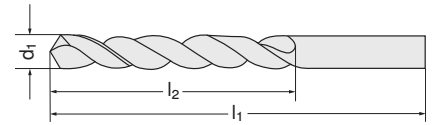
d ₁ h8	l ₂	l ₁	pcs.	HFW		HFW		10003	...	10004	...	10010	...
				10003	...	10004	...						
2.4	30	57	10 pcs.	122		240		122				122	
2.5	30	57	10 pcs.	123		250		123				123	
2.6	30	57	10 pcs.	124		260		124				124	
2.7	33	61	10 pcs.	125		270		125				125	
2.8	33	61	10 pcs.	126		280		126				126	
2.9	33	61	10 pcs.	127		290		127				127	
3.0	33	61	10 pcs.	128		300		128				128	
3.1	36	65	10 pcs.	129		310		129				129	
3.2	36	65	10 pcs.	130		320		130				130	
3.3	36	65	10 pcs.	131		330		131				131	
3.4	39	70	10 pcs.	132		340		132				132	
3.5	39	70	10 pcs.	133		350		133				133	
3.6	39	70	10 pcs.	134		360		134				134	
3.7	39	70	10 pcs.	135		370		135				135	
3.8	43	75	10 pcs.	136		380		136				136	
3.9	43	75	10 pcs.	137		390		137				137	
4.0	43	75	10 pcs.	138		400		138				138	
4.1	43	75	10 pcs.	139		410		139				139	
4.2	43	75	10 pcs.	140		420		140				140	
4.3	47	80	10 pcs.	141		430		141				141	
4.4	47	80	10 pcs.	142		440		142				142	

Continued ▶





Continued



d ₁ h8 mm	l ₂ mm	l ₁ mm		HEW		HEW	
				10003	...	10004	...
4.5	47	80	10 pcs.	143		450	143
4.6	47	80	10 pcs.	144		460	144
4.7	47	80	10 pcs.	145		470	145
4.8	52	86	10 pcs.	146		480	146
4.9	52	86	10 pcs.	147		490	147
5.0	52	86	10 pcs.	148		500	148
5.1	52	86	10 pcs.	149		510	149
5.2	52	86	10 pcs.	150		520	150
5.3	52	86	10 pcs.	151		530	151
5.4	57	93	10 pcs.	152		540	152
5.5	57	93	10 pcs.	153		550	153
5.6	57	93	10 pcs.	154		560	154
5.7	57	93	10 pcs.	155		570	155
5.8	57	93	10 pcs.	156		580	156
5.9	57	93	10 pcs.	157		590	157
6.0	57	93	10 pcs.	158		600	158
6.1	63	101	10 pcs.	159		610	159
6.2	63	101	10 pcs.	160		620	160
6.3	63	101	10 pcs.	161		630	161
6.4	63	101	10 pcs.	162		640	162
6.5	63	101	10 pcs.	163		650	163
6.6	63	101	10 pcs.	164		660	164
6.7	63	101	10 pcs.	165		670	165
6.8	69	109	10 pcs.	166		680	166
6.9	69	109	10 pcs.	167		690	167
7.0	69	109	10 pcs.	168		700	168
7.1	69	109	10 pcs.	169		710	169
7.2	69	109	10 pcs.	170		720	170
7.3	69	109	10 pcs.	171		730	171
7.4	69	109	10 pcs.	172		740	172
7.5	69	109	10 pcs.	173		750	173
7.6	75	117	5 pcs.	174		760	174
7.7	75	117	5 pcs.	175		770	175
7.8	75	117	5 pcs.	176		780	176
7.9	75	117	5 pcs.	177		790	177
8.0	75	117	5 pcs.	178		800	178
8.1	75	117	5 pcs.	179		810	179
8.2	75	117	5 pcs.	180		820	180

d ₁ h8 mm	l ₂ mm	l ₁ mm		HEW		HEW	
				10003	...	10004	...
8.3	75	117	5 pcs.	181		830	181
8.4	75	117	5 pcs.	182		840	182
8.5	75	117	5 pcs.	183		850	183
8.6	81	125	5 pcs.	184		860	184
8.7	81	125	5 pcs.	185		870	185
8.8	81	125	5 pcs.	186		880	186
8.9	81	125	5 pcs.	187		890	187
9.0	81	125	5 pcs.	188		900	188
9.1	81	125	5 pcs.	189		910	189
9.2	81	125	5 pcs.	190		920	190
9.3	81	125	5 pcs.	191		930	191
9.4	81	125	5 pcs.	192		940	192
9.5	81	125	5 pcs.	193		950	193
9.6	87	133	5 pcs.	194		960	194
9.7	87	133	5 pcs.	195		970	195
9.8	87	133	5 pcs.	196		980	196
9.9	87	133	5 pcs.	197		990	197
10.0	87	133	5 pcs.	198		991	198
10.1	87	133	5 pcs.				199
10.2	87	133	5 pcs.	200		992	200
10.5	87	133	5 pcs.	203		993	203
10.8	94	142		206			206
11.0	94	142	-	208		994	208
11.2	94	142	-	210			210
11.5	94	142	-	213		995	213
11.8	94	142	-	216			216
12.0	101	151	-	218		996	218
12.2	101	151	-	220			220
12.5	101	151	-	223		997	223
12.8	101	151	-	226			226
13.0	101	151	-	228		998	228
13.5	108	160	-	233			233
14.0	108	160	-	243			243
14.5	114	169	-	248			248
15.0	114	169	-	253			253
15.5	120	178	-	258			258
16.0	120	178	-	263			263

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10003																	
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40
10004																	
70-80	40-70	25-40	30-36	28-32	20-28	13-20	-	-	-	-	-	-	-	-	-	24-40	20-22
10010																	
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

Twist drill

10005

Short twist drill TiN head coating

DIN 338

N

118°

HSS TiN

ATORN®

Design

- Right cutting
- Cone-shaped section finish
- Tip angle 118°
- With thinned chisel edge

Advantages:

- For universal use
- Reduction in tool costs thanks to the TiN head coating
- Bare flute for optimised chip removal

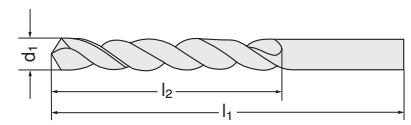
Applications

For universal use up to 1000 N/mm².

Note:

Drills for production.
Art. no. 10005 505 incl. core drill
(Ø 3.3/4.2/6.8/10.2 mm).

10005 010-160



NEW



Set size mm	Number of drills	Increments of mm	Set	
			10005	...
1.0 - 5.9	50	0.10		501
6.0 - 10.0	41	0.10		502
1.0 - 10.0	19	0.50		503
1.0 - 13.0	25	0.50		504
1.0 - 10.5	24	0.50		505

d1	h8	l2	l1	HSS/TiN	
				10005	...
1.0	12	34	10 pcs.	010	
1.1	14	36	10 pcs.	011	
1.2	16	38	10 pcs.	012	
1.3	16	38	10 pcs.	013	
1.4	18	40	10 pcs.	014	
1.5	18	40	10 pcs.	015	
1.6	20	43	10 pcs.	016	
1.7	20	43	10 pcs.	017	
1.8	22	46	10 pcs.	018	
1.9	22	46	10 pcs.	019	
2.0	24	49	10 pcs.	020	
2.1	24	49	10 pcs.	021	
2.2	27	53	10 pcs.	022	
2.3	27	53	10 pcs.	023	
2.4	30	57	10 pcs.	024	
2.5	30	57	10 pcs.	025	
2.6	30	57	10 pcs.	026	
2.7	33	61	10 pcs.	027	
2.8	33	61	10 pcs.	028	
2.9	33	61	10 pcs.	029	
3.0	33	61	10 pcs.	030	
3.1	36	65	10 pcs.	031	
3.2	36	65	10 pcs.	032	
3.3	36	65	10 pcs.	033	
3.4	39	70	10 pcs.	034	
3.5	39	70	10 pcs.	035	
3.6	39	70	10 pcs.	036	
3.7	39	70	10 pcs.	037	
3.8	43	75	10 pcs.	038	
3.9	43	75	10 pcs.	039	
4.0	43	75	10 pcs.	040	
4.1	43	75	10 pcs.	041	
4.2	43	75	10 pcs.	042	
4.3	47	80	10 pcs.	043	
4.4	47	80	10 pcs.	044	
4.5	47	80	10 pcs.	045	
4.6	47	80	10 pcs.	046	

d1	h8	l2	l1	HSS/TiN	
				10005	...
4.7	47	80	10 pcs.	047	
4.8	52	86	10 pcs.	048	
4.9	52	86	10 pcs.	049	
5.0	52	86	10 pcs.	050	
5.1	52	86	10 pcs.	051	
5.2	52	86	10 pcs.	052	
5.3	52	86	10 pcs.	053	
5.4	57	93	10 pcs.	054	
5.5	57	93	10 pcs.	055	
5.6	57	93	10 pcs.	056	
5.7	57	93	10 pcs.	057	
5.8	57	93	10 pcs.	058	
5.9	57	93	10 pcs.	059	
6.0	57	93	10 pcs.	060	
6.1	63	101	-	061	
6.2	63	101	-	062	
6.3	63	101	-	063	
6.4	63	101	-	064	
6.5	63	101	-	065	
6.6	63	101	-	066	
6.7	63	101	-	067	
6.8	69	109	-	068	
6.9	69	109	-	069	
7.0	69	109	-	070	
7.1	69	109	-	071	
7.2	69	109	-	072	
7.3	69	109	-	073	
7.4	69	109	-	074	
7.5	69	109	-	075	
7.6	75	117	-	076	
7.7	75	117	-	077	
7.8	75	117	-	078	
7.9	75	117	-	079	
8.0	75	117	-	080	
8.1	75	117	-	081	
8.2	75	117	-	082	
8.3	75	117	-	083	

d1	h8	l2	l1	HSS/TiN	
				10005	...
8.4	75	117	-	084	
8.5	75	117	-	085	
8.6	81	125	-	086	
8.7	81	125	-	087	
8.8	81	125	-	088	
8.9	81	125	-	089	
9.0	81	125	-	090	
9.1	81	125	-	091	
9.2	81	125	-	092	
9.3	81	125	-	093	
9.4	81	125	-	094	
9.5	87	125	-	095	
9.6	87	133	-	096	
9.7	87	133	-	097	
9.8	87	133	-	098	
9.9	87	133	-	099	
10.0	87	133	-	100	
10.1	87	133	-	101	
10.2	87	133	-	102	
10.5	87	133	-	105	
10.8	94	142	-	108	
11.0	94	142	-	110	
11.2	94	142	-	112	
11.5	94	142	-	115	
11.8	94	142	-	118	
12.0	101	151	-	120	
12.2	101	151	-	122	
12.5	101	151	-	125	
12.8	101	151	-	128	
13.0	101	151	-	130	
13.5	108	160	-	135	
14.0	108	160	-	140	
14.5	114	169	-	145	
15.0	114	169	-	150	
15.5	114	169	-	155	
16.0	120	178	-	160	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti	GG(G)	Plastic
-	-	18-90	30-36	28-32	28-32	20-28	-	-	-	-	-	-	10-12	8-10	7-9	24-40	15-30

10006

Multi-twist drills



Design

- Straight shank with 3-surface cut from Ø 5.5 mm
- Relief grinding with special surface treatment

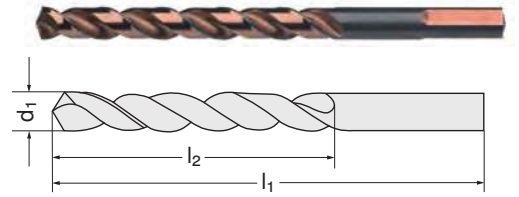
Advantage:

- Optimal power transmission and fixing in the drill chuck
- Good adhesion of the lubricant
- Fast and reliable chip removal

Quality

HSS ground for steels up to 900 N/mm², V2A steels, iron, cast iron, non-ferrous base metals, aluminium as well as plastics and wood.

10006



HSS ground

d ₁ h8 mm	l ₂ mm	l ₁ mm		10006	...
1.0	12	34	10 pcs.	010	
1.5	18	40	10 pcs.	015	
2.0	24	49	10 pcs.	020	
2.5	30	57	10 pcs.	025	
3.0	33	61	10 pcs.	030	
3.3	36	65	10 pcs.	033	
3.5	39	70	10 pcs.	035	
4.0	43	75	10 pcs.	040	
4.2	43	75	10 pcs.	042	
4.5	47	80	10 pcs.	045	
5.0	52	86	10 pcs.	050	
5.5	57	93	10 pcs.	055	
6.0	57	93	10 pcs.	060	
6.5	63	101	10 pcs.	065	

HSS ground

d ₁ h8 mm	l ₂ mm	l ₁ mm		10006	...
6.8	69	109	10 pcs.	068	
7.0	69	109	10 pcs.	070	
7.5	69	109	10 pcs.	075	
8.0	75	117	10 pcs.	080	
8.5	75	117	10 pcs.	085	
9.0	75	117	10 pcs.	090	
9.5	81	125	10 pcs.	095	
10.0	81	125	5 pcs.	100	
10.2	87	133	5 pcs.	102	
10.5	87	133	5 pcs.	105	
11.0	94	142	5 pcs.	110	
12.0	101	151	5 pcs.	120	
13.0	101	151	5 pcs.	130	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	-

10020 - 10035

Short twist drills



10020

Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- Thinned chisel edge
- High concentricity
- Long service life

Quality

HSS/TiN ground for steels up to 1200 N/mm², cast iron, graphite, brass etc.

Note:

Drills for production.

10035

Multi-range twist drill MBS 1200

Design

- Straight shank
- Right cutting
- Special point thinning
- 4-surface cut

Quality

HSS-E ground.

Note:

Universal use, smooth running, low torque, high dimensional accuracy, optimal chip evacuation thanks to round groove profile.



10020



10035



Continued ►

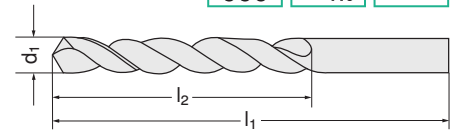
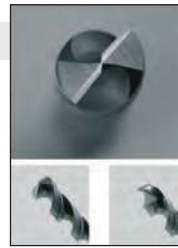


Twist drill

10020 - 10035

Short twist drills

Continued ▶



d ₁ h8 mm	l ₂ mm	l ₁ mm	pcs.	HSS/TiN		MBS 1200	
				10020	...	10035	...
1.0	12	34	10 pcs.	605		010	
1.1	14	36	10 pcs.	606		011	
1.2	16	38	10 pcs.	608		012	
1.3	16	38	10 pcs.	610		013	
1.4	18	40	10 pcs.	612		014	
1.5	18	40	10 pcs.	614		015	
1.6	20	43	10 pcs.	615		016	
1.7	20	43	10 pcs.	617		017	
1.8	22	46	10 pcs.	618		018	
1.9	22	46	10 pcs.	619		019	
2.0	24	49	10 pcs.	620		020	
2.1	24	49	10 pcs.	622		021	
2.2	27	53	10 pcs.	624		022	
2.3	27	53	10 pcs.	626		023	
2.4	30	57	10 pcs.	627		024	
2.5	30	57	10 pcs.	629		025	
2.6	30	57	10 pcs.	630		026	
2.7	33	61	10 pcs.	631		027	
2.8	33	61	10 pcs.	633		028	
2.9	33	61	10 pcs.	640		029	
3.0	33	61	10 pcs.	642		030	
3.1	36	65	10 pcs.	644		031	
3.2	36	65	10 pcs.	645		032	
3.3	36	65	10 pcs.	646		033	
3.4	39	70	10 pcs.	647		034	
3.5	39	70	10 pcs.	648		035	
3.6	39	70	10 pcs.	650		036	
3.7	39	70	10 pcs.	651		037	
3.8	43	75	10 pcs.	652		038	
3.9	43	75	10 pcs.	653		039	
4.0	43	75	10 pcs.	655		040	
4.1	43	75	10 pcs.	656		041	
4.2	43	75	10 pcs.	658		042	
4.3	47	80	10 pcs.	659		043	
4.4	47	80	10 pcs.	660		044	
4.5	47	80	10 pcs.	661		045	
4.6	47	80	10 pcs.	662		046	
4.7	47	80	10 pcs.	663		047	
4.8	52	86	10 pcs.	664		048	
4.9	52	86	10 pcs.	665		049	
5.0	52	86	10 pcs.	666		050	
5.1	52	86	10 pcs.	667		051	
5.2	52	86	10 pcs.	668		052	
5.3	52	86	10 pcs.	669		053	
5.4	57	93	10 pcs.	670		054	
5.5	57	93	10 pcs.	671		055	
5.6	57	93	10 pcs.	672		056	
5.7	57	93	10 pcs.	673		057	
5.8	57	93	10 pcs.	674		058	
5.9	57	93	10 pcs.	675		059	
6.0	57	93	10 pcs.	676		060	
6.1	63	101	-	St<7	677	061	

d ₁ h8 mm	l ₂ mm	l ₁ mm	pcs.	HSS/TiN		MBS 1200	
				10020	...	10035	...
6.2	63	101	-	678		062	
6.3	63	101	-	679		063	
6.4	63	101	-	680		064	
6.5	63	101	-	681		065	
6.6	63	101	-	682		066	
6.7	63	101	-	683		067	
6.8	69	109	-	684		068	
6.9	69	109	-	685		069	
7.0	69	109	-	686		070	
7.1	69	109	-	687		071	
7.2	69	109	-	688		072	
7.3	69	109	-	689		073	
7.4	69	109	-	690		074	
7.5	69	109	-	691		075	
7.6	75	117	-	692		076	
7.7	75	117	-	693		077	
7.8	75	117	-	694		078	
7.9	75	117	-	695		079	
8.0	75	117	-	696		080	
8.1	75	117	-	697		081	
8.2	75	117	-	698		082	
8.3	75	117	-	699		083	
8.4	75	117	-	700		084	
8.5	75	117	-	701		085	
8.6	81	125	-	702		086	
8.7	81	125	-	703		087	
8.8	81	125	-	704		088	
8.9	81	125	-	705		089	
9.0	81	125	-	706		090	
9.1	81	125	-	707		091	
9.2	81	125	-	708		092	
9.3	81	125	-	709		093	
9.4	81	125	-	710		094	
9.5	81	125	-	711		095	
9.6	87	133	-	712		096	
9.7	87	133	-	713		097	
9.8	87	133	-	714		098	
9.9	87	133	-	715		099	
10.0	87	133	-	716		100	
10.2	87	133	-	718		102	
10.5	87	133	-	721		105	
11.0	94	142	-	726		110	
11.5	94	142	-	731		115	
12.0	101	151	-	736		120	
12.5	101	151	-	741		125	
13.0	101	151	-	746		130	
14.0	108	160	-	755			
14.5	114	169	-	760			
15.0	114	169	-	765			
15.5	120	178	-	770			
16.0	120	178	-	775			

Al<10%Si	Al>10%Si	Cu	St<520N	50N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10020	70-80	40-70	25-40	30-36	28-32	20-28	13-20	-	-	-	-	-	-	-	-	25-40	20-22
10035	40-55	30-35	25-35	30-35	20-32	13-16	10-15	10-15	-	-	-	-	12-14	10-12	-	30-36	25-32



Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- From \varnothing 1.0 mm thinned chisel edge
- High concentricity
- Precise point geometry

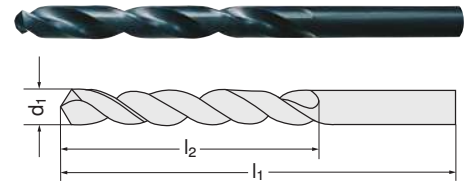
Quality

HSS-E ground for high-alloy steels up to 1200 N/mm².

10040

Note:

Quality drills for the most demanding applications. Drills for production.



HSS-E					HSS-E					HSS-E				
d ₁ h8	l ₂	l ₁		10040	d ₁ h8	l ₂	l ₁		10040	d ₁ h8	l ₂	l ₁		10040
mm	mm	mm		...	mm	mm	mm		...	mm	mm	mm		...
0.3	3	19	10 pcs.	609	4.3	47	80	10 pcs.	798	8.3	75	117	5 pcs.	872
0.4	5	20	10 pcs.	618	4.4	47	80	10 pcs.	800	8.4	75	117	5 pcs.	873
0.5	6	22	10 pcs.	626	4.5	47	80	10 pcs.	802	8.5	75	117	5 pcs.	875
0.6	7	24	10 pcs.	635	4.6	47	80	10 pcs.	804	8.6	81	125	5 pcs.	877
0.7	9	28	10 pcs.	644	4.7	47	80	10 pcs.	806	8.7	81	125	5 pcs.	878
0.8	10	30	10 pcs.	654	4.8	52	86	10 pcs.	809	8.8	81	125	5 pcs.	881
0.9	11	32	10 pcs.	663	4.9	52	86	10 pcs.	812	8.9	81	125	5 pcs.	882
1.0	12	34	10 pcs.	672	5.0	52	86	10 pcs.	814	9.0	81	125	5 pcs.	883
1.1	14	36	10 pcs.	679	5.1	52	86	10 pcs.	818	9.1	81	125	5 pcs.	885
1.2	16	38	10 pcs.	688	5.2	52	86	10 pcs.	820	9.2	81	125	5 pcs.	887
1.3	16	38	10 pcs.	697	5.3	52	86	10 pcs.	822	9.3	81	125	5 pcs.	889
1.4	18	40	10 pcs.	699	5.4	57	93	10 pcs.	824	9.4	81	125	5 pcs.	890
1.5	18	40	10 pcs.	704	5.5	57	93	10 pcs.	825	9.5	81	125	5 pcs.	891
1.6	20	43	10 pcs.	712	5.6	57	93	10 pcs.	827	9.6	87	133	5 pcs.	892
1.7	20	43	10 pcs.	717	5.7	57	93	10 pcs.	829	9.7	87	133	5 pcs.	893
1.8	22	46	10 pcs.	724	5.8	57	93	10 pcs.	831	9.8	87	133	5 pcs.	895
1.9	22	46	10 pcs.	730	5.9	57	93	10 pcs.	833	9.9	87	133	5 pcs.	896
2.0	24	49	10 pcs.	737	6.0	57	93	10 pcs.	835	10.0	87	133	5 pcs.	897
2.1	24	49	10 pcs.	741	6.1	63	101	10 pcs.	837	10.1	87	133	5 pcs.	898
2.2	27	53	10 pcs.	743	6.2	63	101	10 pcs.	839	10.2	87	133	5 pcs.	899
2.3	27	53	10 pcs.	745	6.3	63	101	10 pcs.	841	10.5	87	133	5 pcs.	904
2.4	30	57	10 pcs.	750	6.4	63	101	10 pcs.	843	10.8	94	142	-	908
2.5	30	57	10 pcs.	753	6.5	63	101	10 pcs.	844	11.0	94	142	-	910
2.6	30	57	10 pcs.	757	6.6	63	101	10 pcs.	845	11.2	94	142	-	912
2.7	33	61	10 pcs.	759	6.7	63	101	10 pcs.	847	11.5	94	142	-	915
2.8	33	61	10 pcs.	762	6.8	69	109	10 pcs.	849	11.8	94	142	-	919
2.9	33	61	10 pcs.	764	6.9	69	109	10 pcs.	850	12.0	101	151	-	921
3.0	33	61	10 pcs.	767	7.0	69	109	10 pcs.	852	12.2	101	151	-	923
3.1	36	65	10 pcs.	771	7.1	69	109	10 pcs.	854	12.5	101	151	-	927
3.2	36	65	10 pcs.	774	7.2	69	109	10 pcs.	855	12.8	101	151	-	931
3.3	36	65	10 pcs.	776	7.3	69	109	10 pcs.	857	13.0	101	151	-	933
3.4	39	70	10 pcs.	778	7.4	69	109	10 pcs.	858	13.5	108	160	-	937
3.5	39	70	10 pcs.	780	7.5	69	109	10 pcs.	859	13.8	108	160	-	941
3.6	39	70	10 pcs.	782	7.6	75	117	5 pcs.	860	14.0	108	160	-	943
3.7	39	70	10 pcs.	784	7.7	75	117	5 pcs.	861	14.5	114	169	-	948
3.8	43	75	10 pcs.	786	7.8	75	117	5 pcs.	863	15.0	114	169	-	951
3.9	43	75	10 pcs.	788	7.9	75	117	5 pcs.	864	15.5	120	178	-	955
4.0	43	75	10 pcs.	791	8.0	75	117	5 pcs.	867	16.0	120	178	-	957
4.1	43	75	10 pcs.	794	8.1	75	117	5 pcs.	869					
4.2	43	75	10 pcs.	796	8.2	75	117	5 pcs.	870					

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
60-70	50-55	32-36	30-40	25-28	15-28	15-22	14-18	-	-	-	-	-	12-14	-	-	30-35	15-18



Twist drill

10042 - 10046 Short twist drills

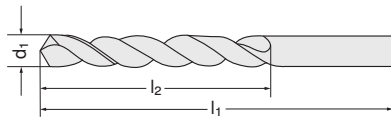


Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- From Ø 1.0 mm thinned chisel edge (only for art. no. 10042 and 10046)
- High concentricity
- Precise point geometry

Note:

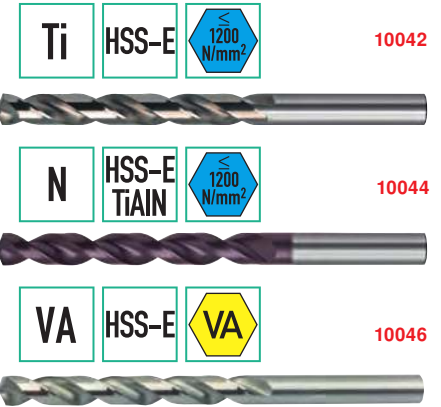
Quality drills for the most demanding applications.
Drills for production.



10042
Quality
HSS-E for materials that are difficult to machine such as titanium and exotics such as Nimonic, Hastelloy and Inconel.

10044
Quality
HSS-E/TiAIN-coated, for high-alloy steels up to 1200 N/mm².
Longest possible service life.

10046
Quality
HSS-E for rust-, acid- and heat-resistant steels such as V2A and V4A.



d ₁ h ₈ mm	l ₂ mm	l ₁ mm	Type Ti		Type N		Type VA	
			10042	...	10044	...	10046	...
0.5	6	22	10 pcs.	105				
0.6	7	24	10 pcs.	106				
1.0	12	34	10 pcs.	110		110	110	
1.1	14	36	10 pcs.	111				111
1.2	16	38	10 pcs.	112				112
1.3	16	38	10 pcs.	113				113
1.4	18	40	10 pcs.	114				114
1.5	18	40	10 pcs.	115		115	115	
1.6	20	43	10 pcs.	116		116	116	
1.7	20	43	10 pcs.	117				117
1.8	22	46	10 pcs.	118				118
1.9	22	46	10 pcs.	119				119
2.0	24	49	10 pcs.	120		120	120	
2.1	24	49	10 pcs.	121				121
2.2	27	53	10 pcs.	122		122	122	
2.3	27	53	10 pcs.	123				123
2.4	30	57	10 pcs.	124		124	124	
2.5	30	57	10 pcs.	125				125
2.6	30	57	10 pcs.	126				126
2.7	33	61	10 pcs.	127				127
2.8	33	61	10 pcs.	128		128	128	
2.9	33	61	10 pcs.	129		129	129	
3.0	33	61	10 pcs.	130		130	130	
3.1	36	65	10 pcs.	131		131	131	
3.2	36	65	10 pcs.	132		132	132	
3.3	36	65	10 pcs.	133		133	133	
3.4	39	70	10 pcs.	134		134	134	
3.5	39	70	10 pcs.	135		135	135	
3.6	39	70	10 pcs.	136		136	136	
3.7	39	70	10 pcs.	137				137
3.8	43	75	10 pcs.	138				138
3.9	43	75	10 pcs.	139		139	139	
4.0	43	75	10 pcs.	140		140	140	
4.1	43	75	10 pcs.	141		141	141	
4.2	43	75	10 pcs.	142		142	142	
4.3	47	80	10 pcs.	143				143
4.4	47	80	10 pcs.	144				144
4.5	47	80	10 pcs.	145		145	145	
4.6	47	80	10 pcs.	146				146
4.7	47	80	10 pcs.	147				147
4.8	52	86	10 pcs.	148		148	148	
4.9	52	86	10 pcs.	149				149
5.0	52	86	10 pcs.	150		150	150	
5.1	52	86	10 pcs.	151		151	151	
5.2	52	86	10 pcs.	152		152	152	
5.3	52	86	10 pcs.	153				153
5.4	57	93	10 pcs.	154				154

d ₁ h ₈ mm	l ₂ mm	l ₁ mm	Type Ti		Type N		Type VA	
			10042	...	10044	...	10046	...
5.5	57	93	10 pcs.	155		155	155	
5.6	57	93	10 pcs.	156				156
5.7	57	93	10 pcs.	157				157
5.8	57	93	10 pcs.	158		158	158	
5.9	57	93	10 pcs.	159				159
6.0	57	93	10 pcs.	160		160	160	
6.1	63	101	-	161				161
6.2	63	101	-	162				162
6.3	63	101	-	163				163
6.4	63	101	-	164				164
6.5	63	101	-	165		165	165	
6.6	63	101	-	166				166
6.7	63	101	-	167				167
6.8	69	109	-	168		168	168	
6.9	69	109	-	169				169
7.0	69	109	-	170		170	170	
7.1	69	109	-	171				171
7.2	69	109	-	172				172
7.3	69	109	-	173				173
7.4	69	109	-	174				174
7.5	69	109	-	175		175	175	
7.6	75	117	-	176				176
7.7	75	117	-	177				177
7.8	75	117	-	178		178	178	
7.9	75	117	-	179				179
8.0	75	117	-	180		180	180	
8.1	75	117	-	181				181
8.2	75	117	-	182		182	182	
8.3	75	117	-	183				183
8.4	75	117	-	184		184	184	
8.5	75	117	-	185		185	185	
8.6	81	125	-	186				186
8.7	81	125	-	187				187
8.8	81	125	-	188		188	188	
8.9	81	125	-	189				189
9.0	81	125	-	190		190	190	
9.1	81	125	-	191				191
9.2	81	125	-	192				192
9.3	81	125	-	193				193
9.4	81	125	-	194				194
9.5	81	125	-	195		195	195	
9.6	87	133	-	196				196
9.7	87	133	-	197				197
9.8	87	133	-	198		198	198	
9.9	87	133	-	199				199
10.0	87	133	-	200		200	200	
10.2	87	133	-	202		202	202	

Continued

Continued ▶

				Type Ti	Type N	Type VA							Type Ti	Type N	Type VA					
d ₁ h8	l ₂	l ₁		10042	...	10044	...	10046	...	d ₁ h8	l ₂	l ₁		10042	...	10044	...	10046	...	
mm	mm	mm								mm	mm	mm								
10.5	87	133	-			205		205		205						230				230
11.0	94	142	-			210		210		210						235				235
11.5	94	142	-			215		215		215						240				240
11.8	94	142	-			218		218		218						245				245
12.0	101	151	-			220		220		220						250				250
12.2	101	151	-			222		222		222						255				255
12.5	101	151	-			225		225		225						260				260

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10042	-	-	35-40	30-35	25-30	20-25	15-20	-	-	-	-	-	10-14	10-14	8-9	-	-
10044	-	-	35-40	30-35	25-30	20-25	15-20	-	-	-	-	-	-	-	-	23-35	-
10046	85-90	50-60	20-45	-	-	-	-	-	-	-	-	-	12-14	10-12	-	-	-

10047 Co8 twist drill

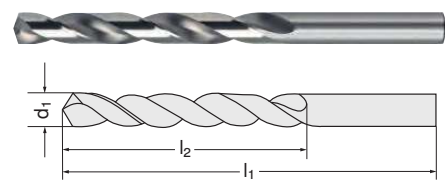
DIN 338 **N** **135°** **HSS Co8** **1400 N/mm²**



- Design**
- Straight shank
 - Right cutting
 - Cone-shaped section finish
 - Thinned chisel edge
 - High concentricity
 - Precise point geometry
 - Drilling without centring

Quality
HSS-Co8 ground for high-strength CrNi-based alloys. VA steels and wear-resistant sheet metals and steels up to 1400 N/mm².

Note:
Quality drills for the most demanding applications. Drills for production.



				HSS-Co8			10047	...
d ₁ h8	l ₂	l ₁		10047	...			
mm	mm	mm						
1.0	12	34	10 pcs.	110				
1.1	14	36	10 pcs.	111				
1.2	16	38	10 pcs.	112				
1.3	16	38	10 pcs.	113				
1.4	18	40	10 pcs.	114				
1.5	18	40	10 pcs.	115				
1.6	20	43	10 pcs.	116				
1.7	20	43	10 pcs.	117				
1.8	22	46	10 pcs.	118				
1.9	22	46	10 pcs.	119				
2.0	24	49	10 pcs.	120				
2.1	24	49	10 pcs.	121				
2.2	27	53	10 pcs.	122				
2.3	27	53	10 pcs.	123				
2.4	30	57	10 pcs.	124				
2.5	30	57	10 pcs.	125				
2.6	30	57	10 pcs.	126				
2.7	33	61	10 pcs.	127				
2.8	33	61	10 pcs.	128				
2.9	33	61	10 pcs.	129				
3.0	33	61	10 pcs.	130				
3.1	36	65	10 pcs.	131				
3.2	36	65	10 pcs.	132				
3.3	36	65	10 pcs.	133				
3.4	39	70	10 pcs.	134				
3.5	39	70	10 pcs.	135				
3.6	39	70	10 pcs.	136				
3.7	39	70	10 pcs.	137				
3.8	43	75	10 pcs.	138				
3.9	43	75	10 pcs.	139				
4.0	43	75	10 pcs.	140				
4.1	43	75	10 pcs.	141				
4.2	43	76	10 pcs.	142				

				HSS-Co8			10047	...
d ₁ h8	l ₂	l ₁		10047	...			
mm	mm	mm						
4.3	47	80	10 pcs.	143				
4.4	47	80	10 pcs.	144				
4.5	47	80	10 pcs.	145				
4.6	47	80	10 pcs.	146				
4.7	47	80	10 pcs.	147				
4.8	52	86	10 pcs.	148				
4.9	52	86	10 pcs.	149				
5.0	52	86	10 pcs.	150				
5.1	52	86	10 pcs.	151				
5.2	52	86	10 pcs.	152				
5.3	52	86	10 pcs.	153				
5.4	57	93	10 pcs.	154				
5.5	57	93	10 pcs.	155				
5.6	57	93	10 pcs.	156				
5.7	57	93	10 pcs.	157				
5.8	57	93	10 pcs.	158				
5.9	57	93	10 pcs.	159				
6.0	57	93	10 pcs.	160				
6.1	63	101	-	161				
6.2	63	101	-	162				
6.3	63	101	-	163				
6.4	63	101	-	164				
6.5	63	101	-	165				
6.6	63	101	-	166				
6.7	63	101	-	167				
6.8	69	109	-	168				
6.9	69	109	-	169				
7.0	69	109	-	170				
7.1	69	109	-	171				
7.2	69	109	-	172				
7.3	69	109	-	173				
7.4	69	109	-	174				
7.5	69	109	-	175				

				HSS-Co8			10047	...
d ₁ h8	l ₂	l ₁		10047	...			
mm	mm	mm						
7.6	75	117	-	176				
7.7	75	117	-	177				
7.8	75	117	-	178				
7.9	75	117	-	179				
8.0	75	117	-	180				
8.1	75	117	-	181				
8.2	75	117	-	182				
8.3	75	117	-	183				
8.4	75	117	-	184				
8.5	75	117	-	185				
8.6	81	125	-	186				
8.7	81	125	-	187				
8.8	81	125	-	188				
8.9	81	125	-	189				
9.0	81	125	-	190				
9.1	81	125	-	191				
9.2	81	125	-	192				
9.3	81	125	-	193				
9.4	81	125	-	194				
9.5	81	125	-	195				
9.6	87	133	-	196				
9.7	87	133	-	197				
9.8	87	133	-	198				
9.9	87	133	-	199				
10.0	87	133	-	200				
10.1	87	133	-	201				
10.5	87	133	-	205				
11.0	94	142	-	210				
11.5	94	142	-	215				
11.8	94	142	-	218				
12.0	101	151	-	220				
12.5	101	151	-	225				
13.0	101	151	-	230				

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	35-40	32-35	25-32	20-25	10-20	10-12	-	-	-	-	10-14	10-14	6	-	-



Twist drill

10423

High-quality drill AGPSD



NACHI

Design

- Straight shank
- Right cutting
- Special flute geometry
- Twist angle 34°

Applications

For steel up to 1200 N/mm² and cast iron.
Drilling in increments, without removing chips!

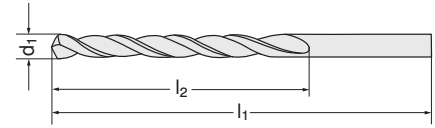
Quality

HSS-E-Co8, ground
AG(AICr) coating.

Note:

Note the respective length/diameter ratio of the bore diameter and the flute length.
Use only high-precision tool chucks!

10423



HSS-E-Co8-AG				HSS-E-Co8-AG				HSS-E-Co8-AG			
d ₁ h8	l ₂	l ₁	10423	d ₁ h8	l ₂	l ₁	10423	d ₁ h8	l ₂	l ₁	10423
mm	mm	mm	...	mm	mm	mm	...	mm	mm	mm	...
1.0	12	34	010	5.1	52	86	051	9.2	81	125	092
1.1	14	36	011	5.2	52	86	052	9.3	81	125	093
1.2	16	38	012	5.3	52	86	053	9.4	81	125	094
1.3	16	38	013	5.4	57	93	054	9.5	81	125	095
1.4	18	40	014	5.5	57	93	055	9.6	87	133	096
1.5	18	40	015	5.6	57	93	056	9.7	87	133	097
1.6	20	43	016	5.7	57	93	057	9.8	87	133	098
1.7	20	43	017	5.8	57	93	058	9.9	87	133	099
1.8	22	46	018	5.9	57	93	059	10.0	87	133	100
1.9	22	46	019	6.0	57	93	060	10.1	87	133	101
2.0	24	49	020	6.1	63	101	061	10.2	87	133	102
2.1	24	49	021	6.2	63	101	062	10.3	87	133	103
2.2	27	53	022	6.3	63	101	063	10.4	87	133	104
2.3	27	53	023	6.4	63	101	064	10.5	87	133	105
2.4	30	57	024	6.5	63	101	065	10.6	87	133	106
2.5	30	57	025	6.6	63	101	066	10.7	94	142	107
2.6	30	57	026	6.7	63	101	067	10.8	94	142	108
2.7	33	61	027	6.8	69	109	068	10.9	94	142	109
2.8	33	61	028	6.9	69	109	069	11.0	94	142	110
2.9	33	61	029	7.0	69	109	070	11.1	94	142	111
3.0	33	61	030	7.1	69	109	071	11.2	94	142	112
3.1	36	65	031	7.2	69	109	072	11.3	94	142	113
3.2	36	65	032	7.3	69	109	073	11.4	94	142	114
3.3	36	65	033	7.4	69	109	074	11.5	94	142	115
3.4	39	70	034	7.5	69	109	075	11.6	94	142	116
3.5	39	70	035	7.6	75	117	076	11.7	94	142	117
3.6	39	70	036	7.7	75	117	077	11.8	94	142	118
3.7	39	70	037	7.8	75	117	078	11.9	101	151	119
3.8	43	75	038	7.9	75	117	079	12.0	101	151	120
3.9	43	75	039	8.0	75	117	080	12.1	101	151	121
4.0	43	75	040	8.1	75	117	081	12.2	101	151	122
4.1	43	75	041	8.2	75	117	082	12.3	101	151	123
4.2	43	75	042	8.3	75	117	083	12.4	101	151	124
4.3	47	80	043	8.4	75	117	084	12.5	101	151	125
4.4	47	80	044	8.5	75	117	085	12.6	101	151	126
4.5	47	80	045	8.6	81	125	086	12.7	101	151	127
4.6	47	80	046	8.7	81	125	087	12.8	101	151	128
4.7	47	80	047	8.8	81	125	088	12.9	101	151	129
4.8	52	86	048	8.9	81	125	089	13.0	101	151	130
4.9	52	86	049	9.0	81	125	090				
5.0	52	86	050	9.1	81	125	091				

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	20-30	15-25	15-25	12-18	12-18	-	-	-	-	-	-	-	-	25-35	-





Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- Thinned chisel edge
- High concentricity
- Precise point geometry
- From 2 mm chamfer-nitrided
- Wide chip flutes and rounded rear edges for optimum chip removal

10050
Quality
HSS-E for steels up to 1200 N/mm².

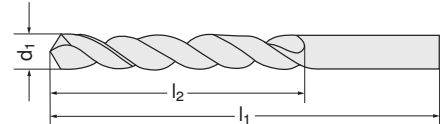
10053
Quality
HSS-E/TiN-coated for even higher cutting performance.



10050



10053



d ₁ h8 mm	l ₂ mm	l ₁ mm	Image	HSS-E		HSS-E/TiN	
				10050	...	10053	...
1.0	12	34	10 pcs.		101		110
1.1	14	36	10 pcs.		107		
1.2	16	38	10 pcs.		112		
1.3	16	38	10 pcs.		115		
1.4	18	40	10 pcs.		118		
1.5	18	40	10 pcs.		122		115
1.6	20	43	10 pcs.		126		116
1.7	20	43	10 pcs.		129		117
1.8	22	46	10 pcs.		131		
1.9	22	46	10 pcs.		133		
2.0	24	49	10 pcs.		140		120
2.1	24	49	10 pcs.		144		121
2.2	27	53	10 pcs.		147		
2.3	27	53	10 pcs.		150		
2.4	30	57	10 pcs.		154		124
2.5	30	57	10 pcs.		159		125
2.6	30	57	10 pcs.		163		
2.7	33	61	10 pcs.		166		
2.8	33	61	10 pcs.		171		128
2.9	33	61	10 pcs.		175		129
3.0	33	61	10 pcs.		177		130
3.1	36	65	10 pcs.		179		131
3.2	36	65	10 pcs.		182		132
3.3	36	65	10 pcs.		185		133
3.4	39	70	10 pcs.		186		134
3.5	39	70	10 pcs.		188		135
3.6	39	70	10 pcs.		190		136
3.7	39	70	10 pcs.		193		
3.8	43	75	10 pcs.		195		138
3.9	43	75	10 pcs.		197		139
4.0	43	75	10 pcs.		201		140
4.1	43	75	10 pcs.		206		141
4.2	43	75	10 pcs.		208		142
4.3	47	80	10 pcs.		211		
4.4	47	80	10 pcs.		214		
4.5	47	80	10 pcs.		215		145
4.8	52	86	10 pcs.		224		148
5.0	52	86	10 pcs.		229		150

d ₁ h8 mm	l ₂ mm	l ₁ mm	Image	HSS-E		HSS-E/TiN	
				10050	...	10053	...
5.1	52	86	10 pcs.		231		151
5.2	52	86	10 pcs.		235		152
5.3	52	86	10 pcs.		238		
5.4	57	93	10 pcs.		240		
5.5	57	93	10 pcs.		242		155
5.7	57	93	10 pcs.		246		
5.8	57	93	10 pcs.		249		158
6.0	57	93	10 pcs.		252		160
6.1	63	101	-		255		
6.2	63	101	-		257		162
6.3	63	101	-		259		
6.5	63	101	-		262		165
6.6	63	101	-		264		
6.7	63	101	-		267		
6.8	69	109	-		269		168
6.9	69	109	-		271		
7.0	69	109	-		272		170
7.1	69	109	-		274		
7.4	69	109	-		280		
7.5	69	109	-		283		175
7.8	75	117	-		289		
7.9	75	117	-		290		
8.0	75	117	-		292		180
8.2	75	117	-		295		182
8.5	75	117	-		300		185
8.8	81	125	-		306		
9.0	81	125	-		309		190
9.2	81	125	-		313		
9.5	81	125	-		317		195
9.7	87	133	-		321		
10.0	87	133	-		325		200
10.2	87	133	-		328		202
10.5	87	133	-		333		205
11.0	94	142	-		339		210
11.5	94	142	-		345		215
12.0	101	151	-		351		220
12.5	101	151	-		353		
13.0	101	151	-		356		

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10050																	
50-55	65-70	32-36	30-40	25-28	15-28	15-22	14-18	10-12	-	-	-	-	12-14	8-12	-	-	15-18
10053																	
90-105	70-80	50-55	40-45	35-40	20-28	18-22	17-22	12-15	-	-	-	-	17-20	12-26	-	-	24-26



Twist drill

10060

Uni twist drill HSS-E V3



ATORN®

Design

- Special profile
- High degree of concentricity, long service life and high dimensional accuracy
- Drilling without centring
- Structural dimensions similar to DIN 338

Quality

TiAlN coating with NC shank.

10060 101-121
Design

- Tip angle 130°

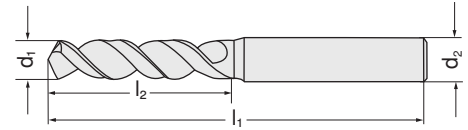
10060 122-225
Design

- Tip angle 120°

NEW



10060



HSS-E/TiAlN					
d ₁ h8	l ₂	l ₁	d ₂ h7	10060	...
mm	mm	mm	mm		
2.0	24	56	3	101	
2.1	24	56	3	102	
2.2	27	56	3	103	
2.3	27	56	3	104	
2.4	30	57	3	105	
2.5	30	57	3	106	
2.6	30	57	3	107	
2.7	33	57	3	108	
2.8	33	61	3	109	
2.9	33	61	3	110	
3.0	33	61	3	111	
3.1	36	65	4	112	
3.2	36	65	4	113	
3.3	36	65	4	114	
3.4	39	70	4	115	
3.5	39	70	4	116	
3.6	39	70	4	117	
3.7	39	75	4	118	
3.8	43	75	4	119	
3.9	43	75	4	120	
4.0	43	75	4	121	
4.1	43	75	6	122	
4.2	43	75	6	123	
4.3	47	80	6	124	
4.4	47	80	6	125	
4.5	47	80	6	126	
4.6	47	80	6	127	
4.7	47	80	6	128	
4.8	52	86	6	129	
4.9	52	86	6	130	
5.0	52	86	6	131	
5.1	52	86	6	132	
5.2	52	86	6	133	
5.3	52	86	6	134	
5.4	57	93	6	135	
5.5	57	93	6	136	
5.6	57	93	6	137	
5.7	57	93	6	138	
5.8	57	93	6	139	
5.9	57	93	6	140	
6.0	57	93	6	141	
6.1	63	101	8	142	

HSS-E/TiAlN					
d ₁ h8	l ₂	l ₁	d ₂ h7	10060	...
mm	mm	mm	mm		
6.2	63	101	8	143	
6.3	63	101	8	144	
6.4	63	101	8	145	
6.5	63	101	8	146	
6.6	63	101	8	147	
6.7	63	101	8	148	
6.8	69	109	8	149	
6.9	69	109	8	150	
7.0	69	109	8	151	
7.1	69	109	8	152	
7.2	69	109	8	153	
7.3	69	109	8	154	
7.4	69	109	8	155	
7.5	69	109	8	156	
7.6	75	117	8	157	
7.7	75	117	8	158	
7.8	75	117	8	159	
7.9	75	117	8	160	
8.0	75	117	8	161	
8.1	75	117	10	162	
8.2	75	117	10	163	
8.3	75	117	10	164	
8.4	75	117	10	165	
8.5	75	117	10	166	
8.6	81	125	10	167	
8.7	81	125	10	168	
8.8	81	125	10	169	
8.9	81	125	10	170	
9.0	81	125	10	171	
9.1	81	125	10	172	
9.2	81	125	10	173	
9.3	81	125	10	174	
9.4	81	125	10	175	
9.5	81	125	10	176	
9.6	87	133	10	177	
9.7	87	133	10	178	
9.8	87	133	10	179	
9.9	87	133	10	180	
10.0	87	133	10	181	
10.1	87	133	10	182	
10.2	87	133	10	183	
10.3	87	133	10	184	

HSS-E/TiAlN					
d ₁ h8	l ₂	l ₁	d ₂ h7	10060	...
mm	mm	mm	mm		
10.4	87	133	10	185	
10.5	87	133	10	186	
10.6	87	133	12	187	
10.7	94	142	12	188	
10.8	94	142	12	189	
10.9	94	142	12	190	
11.0	94	142	12	191	
11.1	94	142	12	192	
11.2	94	142	12	193	
11.3	94	142	12	194	
11.4	94	142	12	195	
11.5	94	142	12	196	
11.6	94	142	12	197	
11.7	94	142	12	198	
11.8	94	142	12	199	
11.9	101	151	12	200	
12.0	101	151	12	201	
12.1	101	151	12	202	
12.2	101	151	12	203	
12.3	101	151	12	204	
12.4	101	151	12	205	
12.5	101	151	12	206	
12.6	101	151	12	207	
12.7	101	151	12	208	
12.8	101	151	12	209	
12.9	101	151	12	210	
13.0	101	151	12	211	
13.5	108	160	16	212	
14.0	108	160	16	213	
14.5	114	169	16	214	
15.0	114	169	16	215	
15.5	120	178	16	216	
16.0	120	178	16	217	
16.5	125	184	20	218	
17.0	125	184	20	219	
17.5	130	191	20	220	
18.0	130	191	20	221	
18.5	135	198	20	222	
19.0	135	198	20	223	
19.5	140	205	20	224	
20.0	140	205	20	225	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
32-63	63-100	25-50	32-40	28-32	24-28	22-26	20-22	-	-	-	-	-	15-20	13-18	-	32-40	-

10034 - 10178 Twist drill sets in box

Design
Sturdy folding metal box with drill bit organisation system.

Note:
End number 115 (1.0–10.5 mm) including twist drill Ø 3.3/4.2/6.8/10.2 mm for threaded holes (ISO).



10170
Type N
HSS, ground
(art. no. 10001).

10173
HW
Type N
HSS, ground
(art. no. 10003).



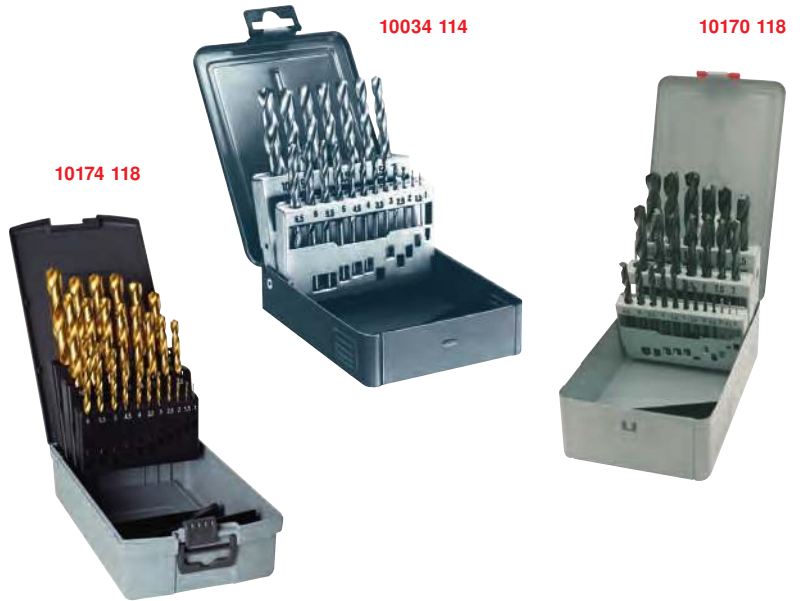
10174
Type N
HSS/TiN, ground
(art. no. 10020).



10034
Type UNI
HSS-E.
(art. no. 10035)

10177
HW
Type N
HSS-E, ground
(art. no. 10040).

10178
Type N
HSS, precision-roll forged
(art. no. 10010).



Set size mm	Number of drills	Increments of mm	HSS		HSS/TiN		HSS-E/UNI		HSS-E		HSS roll forged		
			10170	...	10173	...	10174	...	10034	...	10177	...	10178
1.0–6.0	51	0.1			106		106				106		106
2.0–10.0	81	0.1			108		108				108		108
6.0–10.0	41	0.1			109		109				109		109
1.0 - 10.0	19	0.5			114		114	114	114		114		114
1.0 - 10.5	24	0.5			115		115	115	115		115		115
1.0 - 13.0	25	0.5			118		118	118	118		118		118

10180 - 10183 Twist drill sets in box

Design
Sheet steel box filled with 180 twist drills.

Contents:
10 pieces each. 0.5–8 mm,
5 pieces each. 8.5–10 mm,
in 0.5-mm increments.



10180
HSS, ground
(art. no. 10001).

10181
HW
HSS, ground
(art. no. 10003).

10182
HSS, precision-roll forged
(art. no. 10010).

10183
Design
Box, empty.
For max. 600 twist drills
(0.5–10 mm Ø 0.5-mm increments).
Dimensions: 325 x 225 x 50 mm.

HSS		HSS		HSS roll forged		Empty box		
10180	...	10181	...	10182	...	10183	...	
		101		101		201		101



10185 - 10188 Twist drill sets

Design
Set packed in oiled paper.

Applications
To fill and complement existing boxes.

Note:
End number 115 (1.0–10.5 mm) including twist drill Ø 3.3/4.2/6.8/10.2 mm for threaded holes (ISO).



10185
HSS, ground
(art. no. 10001).

10186
HW
HSS, ground
(art. no. 10003).

10187
HW
HSS-E, ground
(art. no. 10040).

10188
HSS, precision-roll forged
(art. no. 10010).



Set size mm	Number of drills	Increments of mm	HSS		HSS-E		HSS roll forged				
			10185	...	10186	...	10187	...	10188	...	
1.0–6.0	51	0.1			106		106		106		106
2.0–10.0	81	0.1			108		108		108		108
6.0–10.0	41	0.1			109		109		109		109
1.0–10.0	19	0.5			114		114		114		114
1.0–10.5	24	0.5			115		115		115		115
1.0–13.0	25	0.5			118		118		118		118

Twist drill

10190 Boxes for twist drills (empty)

Design
Without drills.
 When you open the lid the drills are automatically positioned.
Applications
 For clearly arranged storage of short spiral drills with straight shank DIN 338, in sets (art. no. 10185–10188) as well as all other short twist drills with straight shank with appropriate diameters and lengths.

Note:
 Art. no. 10190 115-116 additionally with locating holes for thread core drills (ISO and BSW):
Art. no. 10190 115 =
 3.3/4.2/6.8 and 10.2 mm,
Art. no. 10190 116 =
 1.9/2.1/2.6/2.9/3.2/3.3/3.8/4.2/5.1/6.8/7.9/10.2 mm.



10190

For twist drill sets Ø mm	Number of drills	Increments of mm	10190	...
1.0 - 6.0	51	0.1		106
2.0 - 10.0	81	0.1		108
6.0 - 10.0	41	0.1		109
1.0 - 10.0	19	0.5		114

For twist drill sets Ø mm	Number of drills	Increments of mm	10190	...
1.0 - 10.5	24	0.5		115
1.0 - 10.5	32	0.5		116
1.0 - 13.0	25	0.5		118

10195 Plastic stands for twist drills (empty)

Design
Without drills.

Applications
 For clearly arranged storage, in different sets, of twist drills with straight shanks.

For set size mm	Increments of mm	10195	...
1.0-5.0	0.1		101
5.1-10.0	0.1		103
1.0-5.9	0.1		107
1.0-10.0	0.5		114
1.0-13.0	0.5		118



10195

10210 - 10214 Short twist drills



HARTNER

10210

Design
 - Straight shank
 - Right cutting
 - Cone-shaped section finish

Quality
HSS ground.

Note:
 Special drill with wide, spacious chip flutes for hard and brittle materials (brass, bronze).

10211 Aluminium twist drill

Design
 - Straight shank
 - Right cutting
 - Cone-shaped section finish

Quality
HSS ground.

Note:
 Special drill with polished chip flutes for optimum chip removal in soft materials. Drills for production.

10214

VA twist drill
Design
 - Straight shank
 - Right cutting
 - Cone-shaped section finish
 - High concentricity
 - Precise point geometry
 - Drilling without centring

Quality
HSS-E ground.

Note:
 For rust-, acid- and heat-resistant steels such as V2A and V4A. Drills for production.

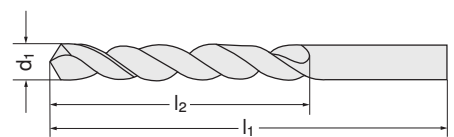
H
118°
HSS
MS
10210



W
130°
HSS
ALU
10211



IS
130°
HSS-E
VA
10214



Continued



Continued

d ₁ h8 mm	l ₂ mm	l ₁ mm		HSS		HSS		HSS-E	
				10210	...	10211	...	10214	...
0.5	6	22	10 pcs.		101		101		
0.6	7	24	10 pcs.		102		102		
0.7	9	28	10 pcs.		103		103		
0.8	10	30	10 pcs.		104		104		
0.9	11	32	10 pcs.		105		105		
1.0	12	34	10 pcs.		106		106		
1.1	14	36	10 pcs.		107		107		602
1.2	16	38	10 pcs.		108		108		603
1.3	16	38	10 pcs.		109		109		604
1.4	18	40	10 pcs.		110		110		605
1.5	18	40	10 pcs.		111		111		606
1.6	20	43	10 pcs.		112		112		607
1.7	20	43	10 pcs.		113		113		608
1.8	22	46	10 pcs.		114		114		609
1.9	22	46	10 pcs.		115		115		610
2.0	24	49	10 pcs.		116		116		611
2.1	24	49	10 pcs.		117		117		612
2.2	27	53	10 pcs.		118		118		613
2.3	27	53	10 pcs.		119		119		614
2.4	30	57	10 pcs.		120		120		615
2.5	30	57	10 pcs.		121		121		616
2.6	30	57	10 pcs.		122		122		617
2.7	33	61	10 pcs.		123		123		618
2.8	33	61	10 pcs.		124		124		619
2.9	33	61	10 pcs.		125		125		620
3.0	33	61	10 pcs.		126		126		621
3.1	36	65	10 pcs.		127		127		622
3.2	36	65	10 pcs.		128		128		623
3.3	36	65	10 pcs.		129		129		624
3.4	39	70	10 pcs.		130		130		625
3.5	39	70	10 pcs.		131		131		626
3.6	39	70	10 pcs.		132		132		627
3.7	39	70	10 pcs.		133		133		628
3.8	43	75	10 pcs.		134		134		629
3.9	43	75	10 pcs.		135		135		630
4.0	43	75	10 pcs.		136		136		631
4.1	43	75	10 pcs.		137		137		632
4.2	43	75	10 pcs.		138		138		633
4.3	47	80	10 pcs.		139		139		634
4.4	47	80	10 pcs.		140		140		635
4.5	47	80	10 pcs.		141		141		636
4.6	47	80	10 pcs.		142		142		637
4.7	47	80	10 pcs.		143		143		638
4.8	52	86	10 pcs.		144		144		639
4.9	52	86	10 pcs.		145		145		640
5.0	52	86	10 pcs.		146		146		641
5.1	52	86	10 pcs.		147		147		642
5.2	52	86	10 pcs.		148		148		643
5.3	52	86	10 pcs.		149		149		644
5.4	57	93	10 pcs.		150		150		646
5.5	57	93	10 pcs.		151		151		647
5.6	57	93	10 pcs.		152		152		647
5.7	57	93	10 pcs.		153		153		647
5.8	57	93	10 pcs.		154		154		650

d ₁ h8 mm	l ₂ mm	l ₁ mm		HSS		HSS		HSS-E	
				10210	...	10211	...	10214	...
5.9	57	93	10 pcs.		155		155		651
6.0	57	93	10 pcs.		156		156		652
6.1	63	101	10 pcs.		157		157		653
6.2	63	101	10 pcs.		158		158		654
6.3	63	101	10 pcs.		159		159		655
6.4	63	101	10 pcs.		160		160		656
6.5	63	101	10 pcs.		161		161		657
6.6	63	101	10 pcs.		162		162		658
6.7	63	101	10 pcs.		163		163		659
6.8	69	109	10 pcs.		164		164		661
6.9	69	109	10 pcs.		165		165		662
7.0	69	109	10 pcs.		166		166		663
7.1	69	109	10 pcs.		166		166		664
7.2	69	109	10 pcs.		167		167		665
7.3	69	109	10 pcs.		167		167		666
7.4	69	109	10 pcs.		168		168		667
7.5	69	109	10 pcs.		168		168		668
7.6	75	117	5 pcs.		169		169		670
7.7	75	117	5 pcs.		169		169		671
7.8	75	117	5 pcs.		170		170		672
7.9	75	117	5 pcs.		170		170		673
8.0	75	117	5 pcs.		171		171		674
8.1	75	117	5 pcs.		171		171		675
8.2	75	117	5 pcs.		172		172		678
8.3	75	117	5 pcs.		172		172		679
8.4	75	117	5 pcs.		173		173		680
8.5	75	117	5 pcs.		173		173		681
8.6	81	125	5 pcs.		174		174		683
8.7	81	125	5 pcs.		174		174		684
8.8	81	125	5 pcs.		175		175		685
8.9	81	125	5 pcs.		175		175		687
9.0	81	125	5 pcs.		176		176		688
9.1	81	125	5 pcs.		176		176		689
9.2	81	125	5 pcs.		177		177		691
9.3	81	125	5 pcs.		177		177		692
9.4	81	125	5 pcs.		178		178		693
9.5	81	125	5 pcs.		178		178		694
9.6	81	125	5 pcs.		179		179		695
9.7	87	133	5 pcs.		179		179		696
9.8	87	133	5 pcs.		180		180		697
9.9	87	133	5 pcs.		180		180		698
10.0	87	133	5 pcs.		181		181		703
10.1	87	133	5 pcs.		181		181		706
10.2	87	133	5 pcs.		182		182		708
10.3	87	133	5 pcs.		182		182		712
10.4	87	133	5 pcs.		183		183		712
10.5	87	133	5 pcs.		183		183		712
10.9	94	142	-		184		184		712
11.0	94	142	-		184		184		712
11.2	94	142	-		184		184		712
11.5	94	142	-		184		184		712
12.0	101	151	-		184		184		712
12.2	101	151	-		184		184		712
13.0	101	151	-		184		184		712
14.0	108	160	-		184		184		712
15.0	114	169	-		184		184		712

Al<10%Si	Al>10%Si	Cu	Ms	Mg	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	Ti alloy	GG(G)	Plastic
10210																	
-	-	25-32	40-63	70-80	-	-	-	-	-	-	-	-	-	-	-	-	-
10211																	
50-60	40-50	25-32	-	-	-	-	-	-	-	-	-	-	-	-	-	-	16-25
10214																	
60-70	50-55	32-36	-	-	-	-	-	-	-	-	-	-	10-20	8-10	-	-	15-18



10215

High-performance short chip drill UNI



ATORN®

Design

- Special profile
- Low wear on the cutting edges
- Temperature-resistant

Quality

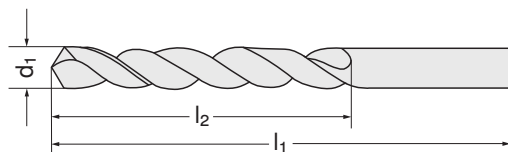
HSS-E-PM/TiN for universal use.

Note:

High degree of concentricity, service life and dimensional accuracy. Short chips.

Drilling without centring.

Drills for production.



HSS-E-PM/TiN					HSS-E-PM/TiN					HSS-E-PM/TiN				
d ₁ h8	l ₂	l ₁	10215	...	d ₁ h8	l ₂	l ₁	10215	...	d ₁ h8	l ₂	l ₁	10215	...
mm	mm	mm			mm	mm	mm			mm	mm	mm		
1.0	12	34	010		4.1	43	75	041		7.2	69	109	072	
1.1	14	36	011		4.2	43	75	042		7.3	69	109	073	
1.2	16	38	012		4.3	47	80	043		7.4	69	109	074	
1.3	16	38	013		4.4	47	80	044		7.5	69	109	075	
1.4	18	40	014		4.5	47	80	045		7.6	75	117	076	
1.5	18	40	015		4.6	47	80	046		7.7	75	117	077	
1.6	20	43	016		4.7	47	80	047		7.8	75	117	078	
1.7	20	43	017		4.8	52	86	048		7.9	75	117	079	
1.8	22	46	018		4.9	52	86	049		8.0	75	117	080	
1.9	22	46	019		5.0	52	86	050		8.1	75	117	081	
2.0	24	49	020		5.1	52	86	051		8.2	75	117	082	
2.1	24	49	021		5.2	52	86	052		8.3	75	117	083	
2.2	27	53	022		5.3	52	86	053		8.4	75	117	084	
2.3	27	53	023		5.4	57	93	054		8.5	75	117	085	
2.4	30	57	024		5.5	57	93	055		8.8	81	125	088	
2.5	30	57	025		5.6	57	93	056		9.0	81	125	090	
2.6	30	57	026		5.7	57	93	057		9.3	81	125	093	
2.7	33	61	027		5.8	57	93	058		9.5	81	125	095	
2.8	33	61	028		5.9	57	93	059		9.8	87	133	098	
2.9	33	61	029		6.0	57	93	060		10.0	87	133	100	
3.0	33	61	030		6.1	63	101	061		10.3	87	133	103	
3.1	36	65	031		6.2	63	101	062		10.5	87	133	105	
3.2	36	65	032		6.3	63	101	063		11.0	94	142	110	
3.3	36	65	033		6.4	63	101	064		11.5	94	142	115	
3.4	39	70	034		6.5	63	101	065		12.0	101	151	120	
3.5	39	70	035		6.6	63	101	066		12.5	101	151	125	
3.6	39	70	036		6.7	63	101	067		12.7	101	151	127	
3.7	39	70	037		6.8	69	109	068		13.0	101	151	130	
3.8	43	75	038		6.9	69	109	069		13.5	108	160	135	
3.9	43	75	039		7.0	69	109	070		14.0	108	160	140	
4.0	43	75	040		7.1	69	109	071						

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100	St<1200	St<1400	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
80-90	80-90	60-65	50-60	40-50	30-50	25-45	25-45	20-28	-	-	-	-	15-18	10-15	-	40-60	25-30

Info The HHW colour guidance system

With the HHW colour guidance system you can see at first glance which materials the tool is suitable for. In most catalogue sections, the HHW also informs you about the application data for the corresponding tool. The HHW colour guidance system is logically structured according to the steel key. This means that you can select the appropriate tools in advance of the machining process, saving you time and money.

St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	plastics
40-50	35-40	-	-	-	-	35-45	35-45	-	80-120	-



Designation	W ^{±0.1} mm	R ^{±0.05} mm		18674	...
GTN-2	2,2	0,16	10 pieces	113	
GTN-3	3,1	0,20	10 pieces	114	



NACHI

Design

- Straight shank
- Right cutting
- Twist angle 26–33°
- $\varnothing < 1.4$ mm thinned chisel edge
- $\varnothing < 1.4$ mm tip angle 118°

Applications

For process-reliable and cost-effective drilling on CNC machines. For universal use.

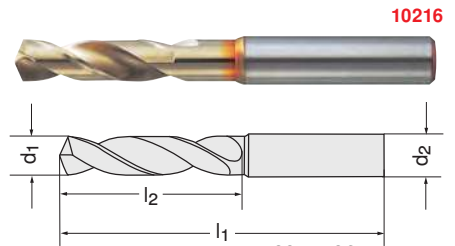
Quality

High-quality HSS-PM, ground, for steel up to 1200 N/mm². SG coating (TiCN multi-layer coating).

NEW

Note:

Note the respective length/diameter ratio of the bore diameter and the flute length. Use only high-precision tool chucks!



10216

HSS-PM-SG					
d ₁ h7	l ₂	l ₁	d ₂ h7	10216	...
mm	mm	mm	mm		
0.50	3	38	3		010
0.51	3	38	3		011
0.52	3	38	3		012
0.53	3	38	3		013
0.54	3	38	3		014
0.55	3	38	3		015
0.56	3	38	3		016
0.57	3	38	3		017
0.58	3	38	3		018
0.59	3	38	3		019
0.60	3.5	38	3		020
0.61	3.5	38	3		021
0.62	3.5	38	3		022
0.63	3.5	38	3		023
0.64	3.5	38	3		024
0.65	3.5	38	3		025
0.66	3.5	38	3		026
0.67	3.5	38	3		027
0.68	3.5	38	3		028
0.69	3.5	38	3		029
0.70	4.5	38	3		030
0.71	4.5	38	3		031
0.72	4.5	38	3		032
0.73	4.5	38	3		033
0.74	4.5	38	3		034
0.75	4.5	38	3		035
0.76	4.5	38	3		036
0.77	4.5	38	3		037
0.78	4.5	38	3		038
0.79	4.5	38	3		039
0.80	5	38	3		040
0.81	5	38	3		041
0.82	5	38	3		042
0.83	5	38	3		043
0.84	5	38	3		044
0.85	5	38	3		045
0.86	5	38	3		046
0.87	5	38	3		047
0.88	5	38	3		048
0.89	5	38	3		049
0.90	5.5	38	3		050
0.91	5.5	38	3		051
0.92	5.5	38	3		052
0.93	5.5	38	3		053
0.94	5.5	38	3		054
0.95	5.5	38	3		055
0.96	5.5	38	3		056
0.97	5.5	38	3		057
0.98	5.5	38	3		058
0.99	5.5	38	3		059
1.00	6	38	3		060
1.01	6	38	3		061
1.02	6	38	3		062
1.03	6	38	3		063

HSS-PM-SG					
d ₁ h7	l ₂	l ₁	d ₂ h7	10216	...
mm	mm	mm	mm		
1.04	6	38	3		064
1.05	6	38	3		065
1.06	6	38	3		066
1.07	7	39	3		067
1.08	7	39	3		068
1.09	7	39	3		069
1.10	7	39	3		070
1.11	7	39	3		071
1.12	7	39	3		072
1.13	7	39	3		073
1.14	7	39	3		074
1.15	7	39	3		075
1.16	7	39	3		076
1.17	7	39	3		077
1.18	7	39	3		078
1.19	8	40	3		079
1.20	8	40	3		080
1.21	8	40	3		081
1.22	8	40	3		082
1.23	8	40	3		083
1.24	8	40	3		084
1.25	8	40	3		085
1.26	8	40	3		086
1.27	8	40	3		087
1.28	8	40	3		088
1.29	8	40	3		089
1.30	8	40	3		090
1.31	8	40	3		091
1.32	8	40	3		092
1.33	9	41	3		093
1.34	9	41	3		094
1.35	9	41	3		095
1.36	9	41	3		096
1.37	9	41	3		097
1.38	9	41	3		098
1.39	9	41	3		099
1.40	9	41	3		100
1.41	9	41	3		101
1.42	9	41	3		102
1.43	9	41	3		103
1.44	9	41	3		104
1.45	9	41	3		105
1.46	9	41	3		106
1.47	9	41	3		107
1.48	9	41	3		108
1.49	9	41	3		109
1.50	9	41	3		110
1.51	10	42	3		111
1.52	10	42	3		112
1.53	10	42	3		113
1.54	10	42	3		114
1.55	10	42	3		115
1.56	10	42	3		116
1.57	10	42	3		117

HSS-PM-SG					
d ₁ h7	l ₂	l ₁	d ₂ h7	10216	...
mm	mm	mm	mm		
1.58	10	42	3		118
1.59	10	42	3		119
1.60	10	42	3		120
1.61	10	42	3		121
1.62	10	42	3		122
1.63	10	42	3		123
1.64	10	42	3		124
1.65	10	42	3		125
1.66	10	42	3		126
1.67	10	42	3		127
1.68	10	42	3		128
1.69	10	42	3		129
1.70	10	42	3		130
1.71	11	43	3		131
1.72	11	43	3		132
1.73	11	43	3		133
1.74	11	43	3		134
1.75	11	43	3		135
1.76	11	43	3		136
1.77	11	43	3		137
1.78	11	43	3		138
1.79	11	43	3		139
1.80	11	43	3		140
1.81	11	43	3		141
1.82	11	43	3		142
1.83	11	43	3		143
1.84	11	43	3		144
1.85	11	43	3		145
1.86	11	43	3		146
1.87	11	43	3		147
1.88	11	43	3		148
1.89	11	43	3		149
1.90	11	43	3		150
1.91	12	44	3		151
1.92	12	44	3		152
1.93	12	44	3		153
1.94	12	44	3		154
1.95	12	44	3		155
1.96	12	44	3		156
1.97	12	44	3		157
1.98	12	44	3		158
1.99	12	44	3		159
2.00	12	44	3		160
2.01	12	44	3		161
2.02	12	44	3		162
2.03	12	44	3		163
2.04	12	44	3		164
2.05	12	44	3		165
2.06	12	44	3		166
2.07	12	44	3		167
2.08	12	44	3		168
2.09	12	44	3		169
2.10	12	44	3		170
2.11	12	44	3		171

Continued

Twist drill

10216

Powder metal twist drill SG-ESS

1/100

HSS
PM-SG

118°

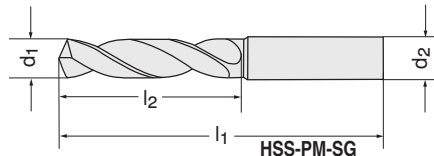
135°

3xD



Continued

NEW



HSS-PM-SG

d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216	...
2.12	12	44	3	172	
2.13	13	45	3	173	
2.14	13	45	3	174	
2.15	13	45	3	175	
2.16	13	45	3	176	
2.17	13	45	3	177	
2.18	13	45	3	178	
2.19	13	45	3	179	
2.20	13	45	3	180	
2.21	13	45	3	181	
2.22	13	45	3	182	
2.23	13	45	3	183	
2.24	13	45	3	184	
2.25	13	45	3	185	
2.26	13	45	3	186	
2.27	13	45	3	187	
2.28	13	45	3	188	
2.29	13	45	3	189	
2.30	13	45	3	190	
2.31	13	45	3	191	
2.32	13	45	3	192	
2.33	13	45	3	193	
2.34	13	45	3	194	
2.35	13	45	3	195	
2.36	13	45	3	196	
2.37	14	46	3	197	
2.38	14	46	3	198	
2.39	14	46	3	199	
2.40	14	46	3	200	
2.41	14	46	3	201	
2.42	14	46	3	202	
2.43	14	46	3	203	
2.44	14	46	3	204	
2.45	14	46	3	205	
2.46	14	46	3	206	
2.47	14	46	3	207	
2.48	14	46	3	208	
2.49	14	46	3	209	
2.50	14	46	3	210	
2.51	14	46	3	211	
2.52	14	46	3	212	
2.53	14	46	3	213	
2.54	14	46	3	214	
2.55	14	46	3	215	
2.56	14	46	3	216	
2.57	14	46	3	217	
2.58	14	46	3	218	
2.59	14	46	3	219	
2.60	14	46	3	220	
2.61	14	46	3	221	
2.62	14	46	3	222	
2.63	14	46	3	223	
2.64	14	46	3	224	
2.65	14	46	3	225	
2.66	16	48	3	226	
2.67	16	48	3	227	
2.68	16	48	3	228	
2.69	16	48	3	229	

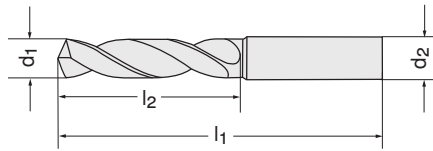
d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216	...
2.70	16	48	3	230	
2.71	16	48	3	231	
2.72	16	48	3	232	
2.73	16	48	3	233	
2.74	16	48	3	234	
2.75	16	48	3	235	
2.76	16	48	3	236	
2.77	16	48	3	237	
2.78	16	48	3	238	
2.79	16	48	3	239	
2.80	16	48	3	240	
2.81	16	48	3	241	
2.82	16	48	3	242	
2.83	16	48	3	243	
2.84	16	48	3	244	
2.85	16	48	3	245	
2.86	16	48	3	246	
2.87	16	48	3	247	
2.88	16	48	3	248	
2.89	16	48	3	249	
2.90	16	48	3	250	
2.91	16	48	3	251	
2.92	16	48	3	252	
2.93	16	48	3	253	
2.94	16	48	3	254	
2.95	16	48	3	255	
2.96	16	48	3	256	
2.97	16	48	3	257	
2.98	16	48	3	258	
2.99	16	48	3	259	
3.00	16	48	3	260	
3.01	18	50	4	261	
3.02	18	50	4	262	
3.03	18	50	4	263	
3.04	18	50	4	264	
3.05	18	50	4	265	
3.06	18	50	4	266	
3.07	18	50	4	267	
3.08	18	50	4	268	
3.09	18	50	4	269	
3.10	18	50	4	270	
3.11	18	50	4	271	
3.12	18	50	4	272	
3.13	18	50	4	273	
3.14	18	50	4	274	
3.15	18	50	4	275	
3.16	18	50	4	276	
3.17	18	50	4	277	
3.18	18	50	4	278	
3.19	18	50	4	279	
3.20	18	50	4	280	
3.21	18	50	4	281	
3.22	18	50	4	282	
3.23	18	50	4	283	
3.24	18	50	4	284	
3.25	18	50	4	285	
3.26	18	50	4	286	
3.27	18	50	4	287	

HSS-PM-SG

d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216	...
3.28	18	50	4	288	
3.29	18	50	4	289	
3.30	18	50	4	290	
3.31	18	50	4	291	
3.32	18	50	4	292	
3.33	18	50	4	293	
3.34	18	50	4	294	
3.35	18	50	4	295	
3.36	20	52	4	296	
3.37	20	52	4	297	
3.38	20	52	4	298	
3.39	20	52	4	299	
3.40	20	52	4	300	
3.41	20	52	4	301	
3.42	20	52	4	302	
3.43	20	52	4	303	
3.44	20	52	4	304	
3.45	20	52	4	305	
3.46	20	52	4	306	
3.47	20	52	4	307	
3.48	20	52	4	308	
3.49	20	52	4	309	
3.50	20	52	4	310	
3.51	20	52	4	311	
3.52	20	52	4	312	
3.53	20	52	4	313	
3.54	20	52	4	314	
3.55	20	52	4	315	
3.56	20	52	4	316	
3.57	20	52	4	317	
3.58	20	52	4	318	
3.59	20	52	4	319	
3.60	20	52	4	320	
3.61	20	52	4	321	
3.62	20	52	4	322	
3.63	20	52	4	323	
3.64	20	52	4	324	
3.65	20	52	4	325	
3.66	20	52	4	326	
3.67	20	52	4	327	
3.68	20	52	4	328	
3.69	20	52	4	329	
3.70	20	52	4	330	
3.71	20	52	4	331	
3.72	20	52	4	332	
3.73	20	52	4	333	
3.74	20	52	4	334	
3.75	20	52	4	335	
3.76	22	54	4	336	
3.77	22	54	4	337	
3.78	22	54	4	338	
3.79	22	54	4	339	
3.80	22	54	4	340	
3.81	22	54	4	341	
3.82	22	54	4	342	
3.83	22	54	4	343	
3.84	22	54	4	344	
3.85	22	54	4	345	

Continued



Continued **NEW**

HSS-PM-SG


d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216	...
3.86	22	54	4	346	
3.87	22	54	4	347	
3.88	22	54	4	348	
3.89	22	54	4	349	
3.90	22	54	4	350	
3.91	22	54	4	351	
3.92	22	54	4	352	
3.93	22	54	4	353	
3.94	22	54	4	354	
3.95	22	54	4	355	
3.96	22	54	4	356	
3.97	22	54	4	357	
3.98	22	54	4	358	
3.99	22	54	4	359	
4.00	22	54	4	360	
4.01	22	66	6	361	
4.02	22	66	6	362	
4.03	22	66	6	363	
4.04	22	66	6	364	
4.05	22	66	6	365	
4.06	22	66	6	366	
4.07	22	66	6	367	
4.08	22	66	6	368	
4.09	22	66	6	369	
4.10	22	66	6	370	
4.11	22	66	6	371	
4.12	22	66	6	372	
4.13	22	66	6	373	
4.14	22	66	6	374	
4.15	22	66	6	375	
4.16	22	66	6	376	
4.17	22	66	6	377	
4.18	22	66	6	378	
4.19	22	66	6	379	
4.20	22	66	6	380	
4.21	22	66	6	381	
4.22	22	66	6	382	
4.23	22	66	6	383	
4.24	22	66	6	384	
4.25	22	66	6	385	
4.26	24	68	6	386	
4.27	24	68	6	387	
4.28	24	68	6	388	
4.29	24	68	6	389	
4.30	24	68	6	390	
4.31	24	68	6	391	
4.32	24	68	6	392	
4.33	24	68	6	393	
4.34	24	68	6	394	
4.35	24	68	6	395	
4.36	24	68	6	396	
4.37	24	68	6	397	
4.38	24	68	6	398	
4.39	24	68	6	399	
4.40	24	68	6	400	
4.41	24	68	6	401	
4.42	24	68	6	402	

HSS-PM-SG

d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216	...
4.43	24	68	6	403	
4.44	24	68	6	404	
4.45	24	68	6	405	
4.46	24	68	6	406	
4.47	24	68	6	407	
4.48	24	68	6	408	
4.49	24	68	6	409	
4.50	24	68	6	410	
4.51	24	68	6	411	
4.52	24	68	6	412	
4.53	24	68	6	413	
4.54	24	68	6	414	
4.55	24	68	6	415	
4.56	24	68	6	416	
4.57	24	68	6	417	
4.58	24	68	6	418	
4.59	24	68	6	419	
4.60	24	68	6	420	
4.61	24	68	6	421	
4.62	24	68	6	422	
4.63	24	68	6	423	
4.64	24	68	6	424	
4.65	24	68	6	425	
4.66	24	68	6	426	
4.67	24	68	6	427	
4.68	24	68	6	428	
4.69	24	68	6	429	
4.70	24	68	6	430	
4.71	24	68	6	431	
4.72	24	68	6	432	
4.73	24	68	6	433	
4.74	24	68	6	434	
4.75	24	68	6	435	
4.76	26	70	6	436	
4.77	26	70	6	437	
4.78	26	70	6	438	
4.79	26	70	6	439	
4.80	26	70	6	440	
4.81	26	70	6	441	
4.82	26	70	6	442	
4.83	26	70	6	443	
4.84	26	70	6	444	
4.85	26	70	6	445	
4.86	26	70	6	446	
4.87	26	70	6	447	
4.88	26	70	6	448	
4.89	26	70	6	449	
4.90	26	70	6	450	
4.91	26	70	6	451	
4.92	26	70	6	452	
4.93	26	70	6	453	
4.94	26	70	6	454	
4.95	26	70	6	455	
4.96	26	70	6	456	
4.97	26	70	6	457	
4.98	26	70	6	458	
4.99	26	70	6	459	

HSS-PM-SG

d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216	...
5.00	26	70	6	460	
5.01	26	70	6	461	
5.02	26	70	6	462	
5.03	26	70	6	463	
5.04	26	70	6	464	
5.05	26	70	6	465	
5.06	26	70	6	466	
5.07	26	70	6	467	
5.08	26	70	6	468	
5.09	26	70	6	469	
5.10	26	70	6	470	
5.11	26	70	6	471	
5.12	26	70	6	472	
5.13	26	70	6	473	
5.14	26	70	6	474	
5.15	26	70	6	475	
5.16	26	70	6	476	
5.17	26	70	6	477	
5.18	26	70	6	478	
5.19	26	70	6	479	
5.20	26	70	6	480	
5.21	26	70	6	481	
5.22	26	70	6	482	
5.23	26	70	6	483	
5.24	26	70	6	484	
5.25	26	70	6	485	
5.26	26	70	6	486	
5.27	26	70	6	487	
5.28	26	70	6	488	
5.29	26	70	6	489	
5.30	26	70	6	490	
5.31	28	72	6	491	
5.32	28	72	6	492	
5.33	28	72	6	493	
5.34	28	72	6	494	
5.35	28	72	6	495	
5.36	28	72	6	496	
5.37	28	72	6	497	
5.38	28	72	6	498	
5.39	28	72	6	499	
5.40	28	72	6	500	
5.41	28	72	6	501	
5.42	28	72	6	502	
5.43	28	72	6	503	
5.44	28	72	6	504	
5.45	28	72	6	505	
5.46	28	72	6	506	
5.47	28	72	6	507	
5.48	28	72	6	508	
5.49	28	72	6	509	
5.50	28	72	6	510	
5.51	28	72	6	511	
5.52	28	72	6	512	
5.53	28	72	6	513	
5.54	28	72	6	514	
5.55	28	72	6	515	
5.56	28	72	6	516	

Continued 

Twist drill

10216

Powder metal twist drill SG-ESS

1/100

HSS
PM-SG

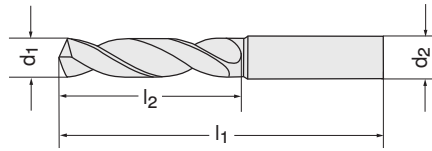


3xD



Continued

NEW



HSS-PM-SG				
d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216 ...
5.57	28	72	6	517
5.58	28	72	6	518
5.59	28	72	6	519
5.60	28	72	6	520
5.61	28	72	6	521
5.62	28	72	6	522
5.63	28	72	6	523
5.64	28	72	6	524
5.65	28	72	6	525
5.66	28	72	6	526
5.67	28	72	6	527
5.68	28	72	6	528
5.69	28	72	6	529
5.70	28	72	6	530
5.71	28	72	6	531
5.72	28	72	6	532
5.73	28	72	6	533
5.74	28	72	6	534
5.75	28	72	6	535
5.76	28	72	6	536
5.77	28	72	6	537
5.78	28	72	6	538
5.79	28	72	6	539
5.80	28	72	6	540
5.81	28	72	6	541
5.82	28	72	6	542
5.83	28	72	6	543
5.84	28	72	6	544
5.85	28	72	6	545
5.86	28	72	6	546
5.87	28	72	6	547
5.88	28	72	6	548
5.89	28	72	6	549
5.90	28	72	6	550
5.91	28	72	6	551
5.92	28	72	6	552
5.93	28	72	6	553
5.94	28	72	6	554
5.95	28	72	6	555
5.96	28	72	6	556
5.97	28	72	6	557
5.98	28	72	6	558
5.99	28	72	6	559

HSS-PM-SG				
d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216 ...
6.0	28	72	6	560
6.1	31	75	8	561
6.2	31	75	8	562
6.3	31	75	8	563
6.4	31	75	8	564
6.5	31	75	8	565
6.6	31	75	8	566
6.7	31	75	8	567
6.8	34	78	8	568
6.9	34	78	8	569
7.0	34	78	8	570
7.1	34	78	8	571
7.2	34	78	8	572
7.3	34	78	8	573
7.4	34	78	8	574
7.5	34	78	8	575
7.6	37	81	8	576
7.7	37	81	8	577
7.8	37	81	8	578
7.9	37	81	8	579
8.0	37	81	8	580
8.1	37	87	10	581
8.2	37	87	10	582
8.3	37	87	10	583
8.4	37	87	10	584
8.5	37	87	10	585
8.6	40	90	10	586
8.7	40	90	10	587
8.8	40	90	10	588
8.9	40	90	10	589
9.0	40	90	10	590
9.1	40	90	10	591
9.2	40	90	10	592
9.3	40	90	10	593
9.4	40	90	10	594
9.5	40	90	10	595
9.6	43	93	10	596
9.7	43	93	10	597
9.8	43	93	10	598
9.9	43	93	10	599
10.0	43	93	10	600
10.1	43	100	12	601
10.2	43	100	12	602

HSS-PM-SG				
d ₁ h7 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10216 ...
10.3	43	100	12	603
10.4	43	100	12	604
10.5	43	100	12	605
10.6	43	100	12	606
10.7	47	104	12	607
10.8	47	104	12	608
10.9	47	104	12	609
11.0	47	104	12	610
11.1	47	104	12	611
11.2	47	104	12	612
11.3	47	104	12	613
11.4	47	104	12	614
11.5	47	104	12	615
11.6	47	104	12	616
11.7	47	104	12	617
11.8	47	104	12	618
11.9	51	108	12	619
12.0	51	108	12	620
12.1	51	108	12	621
12.2	51	108	12	622
12.3	51	108	12	623
12.4	51	108	12	624
12.5	51	108	12	625
12.6	51	108	12	626
12.7	51	108	12	627
12.8	51	108	12	628
12.9	51	108	12	629
13.0	51	108	12	630
13.5	72	132	16	631
14.0	72	132	16	632
14.5	76	136	16	633
15.0	76	142	20	634
15.5	80	146	20	635
16.0	80	146	20	636
16.5	84	150	20	637
17.0	84	150	20	638
17.5	87	153	20	639
18.0	87	153	20	640
18.5	90	156	20	641
19.0	90	164	25	642
19.3	94	164	25	643
19.5	94	168	25	644
20.0	94	168	25	645

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-70	36-68	36-68	30-40	30-40	25-32	25-32	15-20	-	-	-	-	-	8-12	8-10	4-5	32-45	-



NEW

10217

NACHI

Design

- Straight shank
- Right cutting
- Twist angle 31–32°
- Tip angle 135°
- Thinned chisel edge

Applications

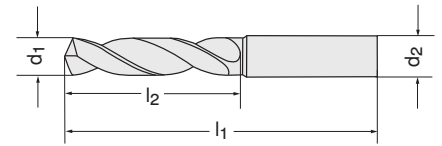
For process-reliable and cost-effective drilling on CNC machines. For universal use.

Quality

HSS-PM, ground, for steel up to 1200 N/mm². SG coating (TiCN multi-layer coating).

Note:

Note the respective length/diameter ratio of the bore diameter and the flute length. Use only high-precision tool chucks!



HSS-PM-SG

d ₁ h7	l ₂	l ₁	d ₂ h7	10217	...
mm	mm	mm	mm		
2.0	24	56	3	010	
2.1	24	56	3	011	
2.2	25	56	3	012	
2.3	25	56	3	013	
2.4	30	61	3	014	
2.5	30	61	3	015	
2.6	30	61	3	016	
2.7	33	64	3	017	
2.8	33	64	3	018	
2.9	33	64	3	019	
3.0	33	64	3	020	
3.1	36	68	4	021	
3.2	36	68	4	022	
3.3	36	68	4	023	
3.4	39	71	4	024	
3.5	39	71	4	025	
3.6	39	71	4	026	
3.7	39	71	4	027	
3.8	43	75	4	028	
3.9	43	75	4	029	
4.0	43	75	4	030	
4.1	43	85	6	031	
4.2	43	85	6	032	
4.3	47	89	6	033	
4.4	47	89	6	034	
4.5	47	89	6	035	
4.6	47	89	6	036	
4.7	47	89	6	037	
4.8	52	94	6	038	
4.9	52	94	6	039	
5.0	52	94	6	040	
5.1	52	94	6	041	
5.2	52	94	6	042	
5.3	52	94	6	043	
5.4	57	99	6	044	
5.5	57	99	6	045	
5.6	57	99	6	046	
5.7	57	99	6	047	
5.8	57	99	6	048	
5.9	57	99	6	049	
6.0	57	99	6	050	
6.1	63	107	8	051	
6.2	63	107	8	052	
6.3	63	107	8	053	
6.4	63	107	8	054	
6.5	63	107	8	055	
6.6	63	107	8	056	
6.7	63	107	8	057	
6.8	69	113	8	058	
6.9	69	113	8	059	

HSS-PM-SG

d ₁ h7	l ₂	l ₁	d ₂ h7	10217	...
mm	mm	mm	mm		
7.0	69	113	8	060	
7.1	69	113	8	061	
7.2	69	113	8	062	
7.3	69	113	8	063	
7.4	69	113	8	064	
7.5	69	113	8	065	
7.6	75	119	8	066	
7.7	75	119	8	067	
7.8	75	119	8	068	
7.9	75	119	8	069	
8.0	75	119	8	070	
8.1	75	125	10	071	
8.2	75	125	10	072	
8.3	75	125	10	073	
8.4	75	125	10	074	
8.5	75	125	10	075	
8.6	81	131	10	076	
8.7	81	131	10	077	
8.8	81	131	10	078	
8.9	81	131	10	079	
9.0	81	131	10	080	
9.1	81	131	10	081	
9.2	81	131	10	082	
9.3	81	131	10	083	
9.4	81	131	10	084	
9.5	81	131	10	085	
9.6	87	137	10	086	
9.7	87	137	10	087	
9.8	87	137	10	088	
9.9	87	137	10	089	
10.0	87	137	10	090	
10.1	87	144	12	091	
10.2	87	144	12	092	
10.3	87	144	12	093	
10.4	87	144	12	094	
10.5	87	144	12	095	
10.6	87	144	12	096	
10.7	94	151	12	097	
10.8	94	151	12	098	
10.9	94	151	12	099	
11.0	94	151	12	100	
11.1	94	151	12	101	
11.2	94	151	12	102	
11.3	94	151	12	103	
11.4	94	151	12	104	
11.5	94	151	12	105	
11.6	94	151	12	106	
11.7	94	151	12	107	
11.8	94	151	12	108	
11.9	101	158	12	109	

HSS-PM-SG

d ₁ h7	l ₂	l ₁	d ₂ h7	10217	...
mm	mm	mm	mm		
12.0	101	158	12	110	
12.1	101	158	12	111	
12.2	101	158	12	112	
12.3	101	158	12	113	
12.4	101	158	12	114	
12.5	101	158	12	115	
12.6	101	158	12	116	
12.7	101	158	12	117	
12.8	101	158	12	118	
12.9	101	158	12	119	
13.0	101	158	12	120	
13.5	108	168	16	121	
14.0	108	168	16	122	
14.5	114	173	16	123	
15.0	114	180	20	124	
15.5	120	185	20	125	
16.0	120	185	20	126	
16.5	125	189	20	127	
17.0	125	189	20	128	
17.5	130	194	20	129	
18.0	130	194	20	130	
18.5	135	198	20	131	
19.0	135	206	25	132	
19.5	140	210	25	133	
20.0	140	210	25	134	
20.5	145	214	25	135	
21.0	145	214	25	136	
21.5	150	218	25	137	
22.0	150	218	25	138	
22.5	155	223	25	139	
23.0	155	223	25	140	
23.5	155	223	25	141	
24.0	160	237	32	142	
24.5	160	237	32	143	
25.0	165	241	32	144	
25.5	165	241	32	145	
26.0	165	241	32	146	
26.5	165	241	32	147	
27.0	170	245	32	148	
27.5	170	245	32	149	
28.0	170	245	32	150	
28.5	175	248	32	151	
29.0	175	248	32	152	
29.5	175	248	32	153	
30.0	175	248	32	154	
30.5	180	252	32	155	
31.0	180	252	32	156	
31.5	180	252	32	157	
32.0	185	252	32	158	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-70	36-68	36-68	30-40	30-40	25-32	25-32	15-20	-	-	-	-	-	8-12	8-10	4-5	32-45	-



Micro drills | Bodywork drills | Twist drills

10220

Micro drills

DIN 1899

N

118°

HSS-E

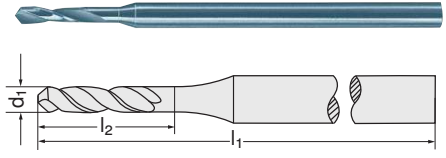
HARTNER

Design

- Special drill with reinforced shank
- High concentricity
- Precise tip angle
- Up to drill Ø 0.79 = shank Ø 1.0 mm
- From drill Ø 0.80 = shank Ø 1.5 mm

Quality
HSS-E ground for universal use and in steels up to 1200 N/mm².

10220



HSS-E					HSS-E					HSS-E				
d ₁	l ₂	l ₁		...	d ₁	l ₂	l ₁		...	d ₁	l ₂	l ₁		...
mm	mm	mm			mm	mm	mm			mm	mm	mm		
0.16	1.1	25	10 pcs.	102	0.42	3.0	25	10 pcs.	128	0.73	4.8	25	10 pcs.	159
0.17	1.1	25	10 pcs.	103	0.43	3.0	25	10 pcs.	129	0.75	4.8	25	10 pcs.	161
0.18	1.1	25	10 pcs.	104	0.44	3.0	25	10 pcs.	130	0.79	5.3	25	10 pcs.	165
0.19	1.1	25	10 pcs.	105	0.45	3.0	25	10 pcs.	131	0.80	5.3	25	10 pcs.	166
0.20	1.5	25	10 pcs.	106	0.47	3.0	25	10 pcs.	133	0.81	5.3	25	10 pcs.	167
0.21	1.5	25	10 pcs.	107	0.48	3.0	25	10 pcs.	134	0.82	5.3	25	10 pcs.	168
0.22	1.5	25	10 pcs.	108	0.49	3.4	25	10 pcs.	135	0.83	5.3	25	10 pcs.	169
0.23	1.5	25	10 pcs.	109	0.50	3.4	25	10 pcs.	136	0.85	5.3	25	10 pcs.	171
0.24	1.5	25	10 pcs.	110	0.52	3.4	25	10 pcs.	138	0.90	6.0	25	10 pcs.	176
0.25	1.9	25	10 pcs.	111	0.55	3.9	25	10 pcs.	141	0.92	6.0	25	10 pcs.	178
0.26	1.9	25	10 pcs.	112	0.56	3.9	25	10 pcs.	142	0.95	6.0	25	10 pcs.	181
0.27	1.9	25	10 pcs.	113	0.57	3.9	25	10 pcs.	143	0.96	6.8	25	10 pcs.	182
0.28	1.9	25	10 pcs.	114	0.58	3.9	25	10 pcs.	144	1.00	6.8	25	10 pcs.	186
0.29	1.9	25	10 pcs.	115	0.59	3.9	25	10 pcs.	145	1.05	6.8	25	10 pcs.	187
0.30	1.9	25	10 pcs.	116	0.60	3.9	25	10 pcs.	146	1.10	7.6	25	10 pcs.	188
0.32	2.4	25	10 pcs.	118	0.62	4.2	25	10 pcs.	148	1.15	7.6	25	10 pcs.	189
0.33	2.4	25	10 pcs.	119	0.63	4.2	25	10 pcs.	149	1.20	8.5	25	10 pcs.	190
0.34	2.4	25	10 pcs.	120	0.64	4.2	25	10 pcs.	150	1.25	8.5	25	10 pcs.	191
0.35	2.4	25	10 pcs.	121	0.65	4.2	25	10 pcs.	151	1.30	8.5	25	10 pcs.	192
0.36	2.4	25	10 pcs.	122	0.66	4.2	25	10 pcs.	152	1.40	9.5	25	10 pcs.	194
0.38	2.4	25	10 pcs.	124	0.70	4.8	25	10 pcs.	156	1.45	9.5	25	10 pcs.	195
0.39	3.0	25	10 pcs.	125	0.71	4.8	25	10 pcs.	157					
0.40	3.0	25	10 pcs.	126	0.72	4.8	25	10 pcs.	158					

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
18-20	15-18	20-22	20-25	18-20	14-18	12-14	10-12	-	-	-	-	-	6-8	6-8	-	18-28	16-18

10250

Double-sided bodywork drill

N

118°

HSS

HHW

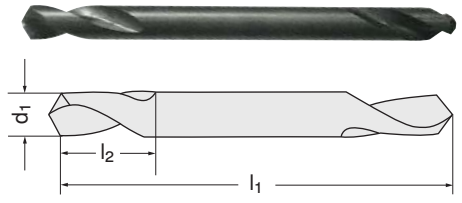
Design

- Double-sided ground
- Extremely break-proof due to shorter chip flutes
- Ideal for hand-guided machines
- Special surface treatment

Quality
HSS ground.

Note:
Specially designed for drilling thin sheet metals.

10250



HSS					HSS					HSS				
d ₁ h ₈	l ₂	l ₁		...	d ₁ h ₈	l ₂	l ₁		...	d ₁ h ₈	l ₂	l ₁		...
mm	mm	mm			mm	mm	mm			mm	mm	mm		
2.5	9.5	43	10 pcs.	104	3.2	11.2	49	10 pcs.	107	4.1	14.0	55	10 pcs.	114
3.0	10.6	46	10 pcs.	105	3.3	11.2	49	10 pcs.	108	4.2	14.0	55	10 pcs.	115
3.1	11.2	49	10 pcs.	106	4.0	14.0	55	10 pcs.	113	5.0	17.0	62	10 pcs.	117

Info Precision short drill chuck

Can be found from page 21.11





Design

- Straight shank
- Right cutting
- Cone-shaped section finish

Note:

High concentricity. Long service life.
Drills for production.

10252

Quality

HSS ground for steels up to 900 N/mm².

10257

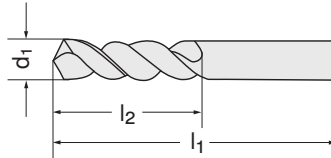
Quality

HSS-E with reinforced core and point thinning for VA steels.

10255

Quality

HSS-E/TiN with special point thinning for quiet running and maximum service life in VA, spring steel, special alloys such as Hastelloy, Nimonic and Inconel.



N 118° HSS 900 N/mm² **10252**



N 130° HSS-E VA **10257**



VA 130° HSS-E TiN 1200 N/mm² **10255**



d ₁ h ₈ mm mm	l ₂ mm	l ₁ mm	pcs.	HSS		HSS-E		HSS-E/TiN	
				10252	...	10257	...	10255	...
1.00	6	26	10	610		640		310	
1.10	7	28	10	612		646			
1.20	8	30	10	613		652		312	
1.30	8	30	10	615		655			
1.40	9	32	10	617		658		314	
1.50	9	32	10	619		661		315	
1.60	10	34	10	622		664		316	
1.70	10	34	10			667			
1.80	11	36	10	626		670		318	
1.90	11	36	10	628		676			
2.00	12	38	10	630		679		320	
2.10	12	38	10	632		682		321	
2.20	13	40	10	634		685		322	
2.30	13	40	10	636		691			
2.40	14	43	10	638		694		324	
2.50	14	43	10	640		697		325	
2.60	14	43	10	642		700		326	
2.70	16	46	10	644		703		327	
2.80	16	46	10	646		706		328	
2.90	16	46	10	647		711			
3.00	16	46	10	649		714		330	
3.10	18	49	10	651		717			
3.20	18	49	10	652		720		332	
3.25	18	49	10			723			
3.30	18	49	10	654		726		333	
3.40	20	52	10	655		729		334	
3.50	20	52	10	657		732		335	
3.60	20	52	10	658		735		336	
3.70	20	52	10	659		738			
3.80	22	55	10	661		741		338	
3.90	22	55	10	663		743			
4.00	22	55	10	664		746		340	
4.10	22	55	10	665		749		341	
4.20	22	55	10	666		752		342	
4.30	24	58	10	668		758		343	
4.40	24	58	10			761			
4.50	24	58	10	672		764		345	
4.60	24	58	10			767			
4.70	24	58	10	675		773			
4.80	26	62	10	677		776			
4.90	26	62	10	679		779			
5.00	26	62	10	681		782		350	
5.10	26	62	10	682		785		351	
5.20	26	62	10	683		788		352	
5.30	26	62	10	685		791			
5.40	26	62	10	686		794			
5.50	28	66	10	687		797		355	

d ₁ h ₈ mm mm	l ₂ mm	l ₁ mm	pcs.	HSS		HSS-E		HSS-E/TiN	
				10252	...	10257	...	10255	...
5.55	28	66	10					800	
5.60	28	66	10					803	
5.80	28	66	10			691		809	358
6.00	28	66	10			694		815	360
6.10	31	70	-			695		818	
6.20	31	70	-			697		821	
6.30	31	70	-			699		824	
6.40	31	70	-			701		827	
6.50	31	70	-			702		830	365
6.60	31	70	-			703		833	366
6.80	34	74	-			706		840	368
6.90	34	74	-					843	
7.00	34	74	-			708		846	370
7.10	34	74	-			709		849	371
7.30	34	74	-					855	
7.40	34	74	-					858	
7.50	34	74	-			715		861	375
7.80	37	79	-			719		870	378
7.90	37	79	-			720		873	
8.00	37	79	-			721		876	380
8.10	37	79	-			722		879	381
8.20	37	79	-			723		882	382
8.40	37	79	-			727			384
8.50	37	79	-			728		890	385
8.80	40	84	-						388
8.90	40	84	-					898	
9.00	40	84	-			736		900	390
9.10	40	84	-					902	
9.40	40	84	-					908	
9.50	40	84	-			743		910	
9.60	43	89	-					912	
9.70	43	89	-					914	
9.80	43	89	-					916	
10.00	43	89	-			749		920	400
10.20	43	89	-			752			402
10.50	43	89	-			756		930	405
11.00	47	95	-			761		936	410
11.10	47	95	-					938	
11.50	47	95	-			765		946	415
11.80	47	95	-					948	
12.00	51	102	-			769		950	420
12.50	51	102	-			772		956	425
12.80	51	102	-					958	
13.00	51	102	-			777		960	430
13.50	54	107	-			779		964	
14.00	54	107	-			783		966	
14.50	56	111	-			786		968	

Continued ▶



Twist drill

10252 - 10257

Extra-short twist drills



Continued ▶

				HSS		HSS-E		HSS-E/TiN						HSS		HSS-E		HSS-E/TiN	
d ₁ h8	l ₂	l ₁		10252	...	10257	...	10255	...	d ₁ h8	l ₂	l ₁		10252	...	10257	...	10255	...
mm	mm	mm								mm	mm	mm							
15.00	56	111	-			788		970		18.50	64	127	-					984	
16.00	58	115	-			794		974		19.00	64	127	-					986	
16.50	60	119	-					976		20.00	66	131	-					990	
18.00	62	123	-					982											

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic	
10252																		
	60-70	50-55	30-35	32-38	30-34	28-36	-	-	-	-	-	-	-	-	-	-	23-32	-
10257																		
	60-70	50-55	32-36	32-36	28-32	25-28	-	-	-	-	-	-	12-14	8-10	-	-	22-30	15-18
10255																		
	-	-	-	40-45	35-40	25-35	20-25	18-20	14-18	-	-	-	-	15-20	15-20	-	40-45	-

10259

Multi-range twist drill MBS 1200



Design

- Straight shank
- Right cutting
- Special point thinning
- 4-surface cut

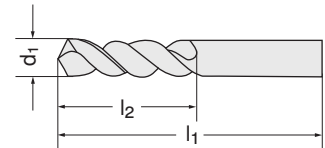
Quality

HSS-E ground for universal use

In VA, steel up to 1200 N/mm², cast iron and aluminium.

Note:

Universal use, smooth running, low torque, high dimensional accuracy, optimal chip evacuation thanks to round groove profile.



10259

				HSS-E						HSS-E						HSS-E	
d ₁ h8	l ₂	l ₁		10259	...	d ₁ h8	l ₂	l ₁		10259	...	d ₁ h8	l ₂	l ₁		10259	...
mm	mm	mm				mm	mm	mm				mm	mm	mm			
1.0	6	26	10 pcs.	301		4.1	22	55	10 pcs.	332		7.2	34	74	-	363	
1.1	7	28	10 pcs.	302		4.2	22	55	10 pcs.	333		7.3	34	74	-	364	
1.2	8	30	10 pcs.	303		4.3	24	58	10 pcs.	334		7.4	34	74	-	365	
1.3	8	30	10 pcs.	304		4.4	24	58	10 pcs.	335		7.5	34	74	-	366	
1.4	9	32	10 pcs.	305		4.5	24	58	10 pcs.	336		7.6	37	79	-	367	
1.5	9	32	10 pcs.	306		4.6	24	58	10 pcs.	337		7.7	37	79	-	368	
1.6	10	34	10 pcs.	307		4.7	24	58	10 pcs.	338		7.8	37	79	-	369	
1.7	10	34	10 pcs.	308		4.8	26	62	10 pcs.	339		7.9	37	79	-	370	
1.8	11	36	10 pcs.	309		4.9	26	62	10 pcs.	340		8.0	37	79	-	371	
1.9	11	36	10 pcs.	310		5.0	26	62	10 pcs.	341		8.1	37	79	-	372	
2.0	12	38	10 pcs.	311		5.1	26	62	10 pcs.	342		8.2	37	79	-	373	
2.1	12	38	10 pcs.	312		5.2	26	62	10 pcs.	343		8.3	37	79	-	374	
2.2	13	40	10 pcs.	313		5.3	26	62	10 pcs.	344		8.4	37	79	-	375	
2.3	13	40	10 pcs.	314		5.4	28	66	10 pcs.	345		8.5	37	79	-	376	
2.4	14	43	10 pcs.	315		5.5	28	66	10 pcs.	346		8.8	40	84	-	377	
2.5	14	43	10 pcs.	316		5.6	28	66	10 pcs.	347		9.0	40	84	-	378	
2.6	14	43	10 pcs.	317		5.7	28	66	10 pcs.	348		9.3	40	84	-	379	
2.7	16	46	10 pcs.	318		5.8	28	66	10 pcs.	349		9.5	40	84	-	380	
2.8	16	46	10 pcs.	319		5.9	28	66	10 pcs.	350		9.8	43	89	-	381	
2.9	16	46	10 pcs.	320		6.0	28	66	10 pcs.	351		10.0	43	89	-	382	
3.0	16	46	10 pcs.	321		6.1	31	70	-	352		10.2	43	89	-	383	
3.1	18	49	10 pcs.	322		6.2	31	70	-	353		10.5	43	89	-	384	
3.2	18	49	10 pcs.	323		6.3	31	70	-	354		11.0	47	95	-	385	
3.3	18	49	10 pcs.	324		6.4	31	70	-	355		11.5	47	95	-	386	
3.4	20	52	10 pcs.	325		6.5	31	70	-	356		12.0	51	102	-	387	
3.5	20	52	10 pcs.	326		6.6	31	70	-	357		12.5	51	102	-	388	
3.6	20	52	10 pcs.	327		6.7	31	70	-	358		13.0	51	102	-	389	
3.7	20	52	10 pcs.	328		6.8	34	74	-	359		13.5	54	107	-	390	
3.8	22	55	10 pcs.	329		6.9	34	74	-	360		14.0	54	107	-	391	
3.9	22	55	10 pcs.	330		7.0	34	74	-	361							
4.0	22	55	10 pcs.	331		7.1	34	74	-	362							

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	30-40	40-50	35-42	32-40	28-28	16-20	15-18	-	-	-	-	-	18-20	14-16	-	25-50	25-32

10260

Uni twist drill HSS-E V3



ATORN®

Design

- NC shank
- Structural dimensions similar to DIN 1897
- Special profile

Quality

HSS-E-Co/TiAlN.

Note:

High degree of concentricity, service life and dimensional accuracy. Problem solver for all VA materials. Drills for production. Drilling without centring.

10260 080-090

Design

- Tip angle 140°

10260 091-111

Design

- Tip angle 130°

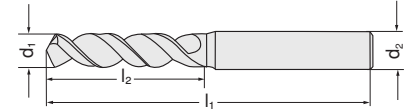
10260 112-249

Design

- Tip angle 120°



10260



HSS-E/TiAlN

HSS-E/TiAlN

HSS-E/TiAlN

d ₁ h8 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10260	...
1.0	6	26	3	080	080
1.1	7	28	3	081	081
1.2	8	30	3	082	082
1.3	8	30	3	083	083
1.4	9	32	3	084	084
1.5	9	32	3	085	085
1.6	10	34	3	086	086
1.7	10	34	3	087	087
1.8	11	36	3	088	088
1.9	11	36	3	089	089
2.0	12	38	3	090	090
2.1	12	38	3	091	091
2.2	13	40	3	092	092
2.3	13	40	3	093	093
2.4	14	43	3	094	094
2.5	14	43	3	095	095
2.6	14	43	3	096	096
2.7	16	46	3	097	097
2.8	16	46	3	098	098
2.85	16	46	3	230	230
2.9	16	46	3	100	100
3.0	16	46	3	101	101
3.1	18	49	4	102	102
3.2	18	49	4	103	103
3.3	18	49	4	104	104
3.4	20	52	4	105	105
3.5	20	52	4	106	106
3.6	20	52	4	107	107
3.7	20	52	4	108	108
3.8	22	55	4	109	109
3.9	22	55	4	110	110
4.0	22	55	4	111	111
4.1	22	55	6	112	112
4.2	22	55	6	113	113
4.3	24	58	6	114	114
4.4	24	58	6	115	115
4.5	24	58	6	116	116
4.6	24	58	6	117	117
4.65	24	58	6	231	231
4.7	24	58	6	118	118
4.8	26	62	6	119	119
4.9	26	62	6	120	120
5.0	26	62	6	121	121
5.1	26	62	6	122	122
5.2	26	62	6	123	123
5.3	26	62	6	124	124
5.4	28	66	6	125	125

d ₁ h8 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10260	...
5.5	28	66	6	126	126
5.55	28	66	6	232	232
5.6	28	66	6	127	127
5.65	28	66	6	233	233
5.7	28	66	6	128	128
5.8	28	66	6	129	129
5.9	28	66	6	130	130
6.0	28	66	6	131	131
6.1	32	70	8	132	132
6.2	32	70	8	133	133
6.3	32	70	8	134	134
6.4	32	70	8	135	135
6.5	32	70	8	136	136
6.6	32	70	8	137	137
6.7	32	70	8	138	138
6.8	34	74	8	139	139
6.9	34	74	8	140	140
7.0	34	74	8	141	141
7.1	34	74	8	142	142
7.2	34	74	8	143	143
7.3	34	74	8	144	144
7.4	34	74	8	145	145
7.5	34	74	8	146	146
7.55	37	79	8	234	234
7.6	37	79	8	147	147
7.7	37	79	8	148	148
7.8	37	79	8	149	149
7.9	37	79	8	150	150
8.0	37	79	8	151	151
8.1	37	79	10	152	152
8.2	37	79	10	153	153
8.3	37	79	10	154	154
8.4	37	79	10	155	155
8.5	37	79	10	156	156
8.6	40	84	10	157	157
8.7	40	84	10	158	158
8.8	40	84	10	159	159
8.9	40	84	10	160	160
9.0	40	84	10	161	161
9.1	40	84	10	162	162
9.2	40	84	10	163	163
9.3	40	84	10	164	164
9.4	40	84	10	165	165
9.5	40	84	10	166	166
9.55	43	89	10	235	235
9.6	43	89	10	167	167
9.7	43	89	10	168	168

d ₁ h8 mm	l ₂ mm	l ₁ mm	d ₂ h7 mm	10260	...
9.8	43	89	10	169	169
9.9	43	89	10	170	170
10.0	43	89	10	171	171
10.1	43	89	10	172	172
10.2	43	89	10	173	173
10.3	43	89	10	174	174
10.4	43	89	10	175	175
10.5	43	89	10	176	176
10.6	43	89	12	177	177
10.7	47	95	12	178	178
10.8	47	95	12	180	180
10.9	47	95	12	181	181
11.0	47	95	12	182	182
11.1	47	95	12	183	183
11.2	47	95	12	184	184
11.3	47	95	12	185	185
11.4	47	95	12	186	186
11.5	47	95	12	187	187
11.6	47	95	12	188	188
11.7	47	95	12	189	189
11.8	47	95	12	190	190
11.9	47	95	12	191	191
12.0	51	102	12	192	192
12.1	51	102	12	193	193
12.2	51	102	12	194	194
12.3	51	102	12	195	195
12.4	51	102	12	196	196
12.5	51	102	12	197	197
12.6	51	102	12	198	198
12.7	51	102	12	199	199
12.8	51	102	12	200	200
12.9	51	102	12	201	201
13.0	51	102	12	202	202
13.5	54	107	16	236	236
14.0	54	107	16	237	237
14.5	56	111	16	238	238
15.0	56	111	16	239	239
15.5	58	115	16	240	240
16.0	58	115	16	241	241
16.5	60	119	20	242	242
17.0	60	119	20	243	243
17.5	62	123	20	244	244
18.0	62	123	20	245	245
18.5	64	127	20	246	246
19.0	64	127	20	247	247
19.5	66	131	20	248	248
20.0	66	131	20	249	249

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
80-100	63-90	25-50	32-45	34-40	22-28	22-25	18-22	15-18	-	-	-	-	13-18	8-12	-	32-40	-

10261

High-performance short chip drill UNI



ATORN®

Design

- Special profile
- Low wear on the cutting edges
- Temperature-resistant

Quality

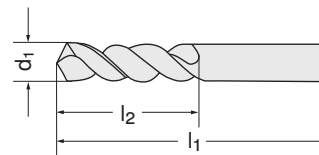
HSS-E-PM/TiN for universal use.

Note:

High degree of concentricity, service life and dimensional accuracy. Short chips. Drilling without centring. Drills for production.



10261



HSS-E-PM/TiN					HSS-E-PM/TiN					HSS-E-PM/TiN				
d ₁ h8	l ₂	l ₁	10261	...	d ₁ h8	l ₂	l ₁	10261	...	d ₁ h8	l ₂	l ₁	10261	...
mm	mm	mm			mm	mm	mm			mm	mm	mm		
1.0	6	26	010		4.1	22	55	041		7.2	34	74	072	
1.1	7	28	011		4.2	22	55	042		7.3	34	74	073	
1.2	8	30	012		4.3	24	58	043		7.4	34	74	074	
1.3	8	30	013		4.4	24	58	044		7.5	34	74	075	
1.4	9	32	014		4.5	24	58	045		7.6	37	79	076	
1.5	9	32	015		4.6	24	58	046		7.7	37	79	077	
1.6	10	34	016		4.7	24	58	047		7.8	37	79	078	
1.7	10	34	017		4.8	26	62	048		7.9	37	79	079	
1.8	11	36	018		4.9	26	62	049		8.0	37	79	080	
1.9	11	36	019		5.0	26	62	050		8.1	37	79	081	
2.0	12	38	020		5.1	26	62	051		8.2	37	79	082	
2.1	12	38	021		5.2	26	62	052		8.3	37	79	083	
2.2	13	40	022		5.3	26	62	053		8.4	37	79	084	
2.3	13	40	023		5.4	28	66	054		8.5	37	79	085	
2.4	14	43	024		5.5	28	66	055		8.8	40	84	088	
2.5	14	43	025		5.6	28	66	056		9.0	40	84	090	
2.6	14	43	026		5.7	28	66	057		9.3	40	84	093	
2.7	16	46	027		5.8	28	66	058		9.5	40	84	095	
2.8	16	46	028		5.9	28	66	059		9.8	43	89	098	
2.9	16	46	029		6.0	28	66	060		10.0	43	89	100	
3.0	16	46	030		6.1	31	70	061		10.2	43	89	102	
3.1	18	49	031		6.2	31	70	062		10.5	43	89	105	
3.2	18	49	032		6.3	31	70	063		11.0	47	95	110	
3.3	18	49	033		6.4	31	70	064		11.5	47	95	115	
3.4	20	52	034		6.5	31	70	065		12.0	51	102	120	
3.5	20	52	035		6.6	31	70	066		12.3	51	102	123	
3.6	20	52	036		6.7	31	70	067		12.5	51	102	125	
3.7	20	52	037		6.8	34	74	068		12.7	51	102	127	
3.8	22	55	038		6.9	34	74	069		13.0	51	102	130	
3.9	22	55	039		7.0	34	74	070		13.5	54	107	135	
4.0	22	55	040		7.1	34	74	071		14.0	54	107	140	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
70-80	70-80	50-60	45-55	35-45	25-45	25-45	23-35	18-25	-	-	-	-	12-16	10-13	-	30-50	25-30

10262

Twist drills for Hardox

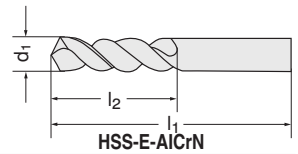


Design

- Special geometry with split point DIN 1412C
- Reinforced core
- High-performance coating

Applications

Specially for Hardox processing.



- Advantage:**
- Drilling without centring

HSS-E-AICrN

d ₁ h8 mm	l ₂ mm	l ₁ mm	Feed f	10262	...
2.0	12	38	0.02	020	
2.5	14	43	0.02	025	
3.0	16	46	0.03	030	
3.3	18	49	0.03	033	
3.5	20	52	0.03	035	
4.0	22	55	0.04	040	
4.2	22	55	0.04	042	
4.5	24	58	0.04	045	
5.0	26	62	0.05	050	
5.5	28	66	0.05	055	
6.0	28	66	0.06	060	
6.5	31	70	0.06	065	
6.8	34	74	0.06	068	
7.0	34	74	0.07	070	
7.5	34	74	0.07	075	
8.0	37	79	0.08	080	

d ₁ h8 mm	l ₂ mm	l ₁ mm	Feed f	10262	...
8.5	37	79	0.08	085	
9.0	40	84	0.09	090	
9.5	40	84	0.09	095	
10.0	43	89	0.10	100	
10.2	43	89	0.10	102	
10.5	43	89	0.10	105	
11.0	47	95	0.11	110	
11.5	47	95	0.11	115	
12.0	51	102	0.12	120	
12.5	51	102	0.12	125	
13.0	51	102	0.13	130	
14.0	54	107	0.14	140	
15.0	56	111	0.15	150	
16.0	58	115	0.16	160	
18.0	62	123	0.18	180	

Al<10%Si	Al>10%Si	Cu	Hardox 300	Hardox 400	Hardox 500	Hardox 600	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	GG(G)	Plastic
-	-	-	12	9	7	5	-	-	-	-	-	-	-	-

10263

Twist drills for Hardox and INOX



Design

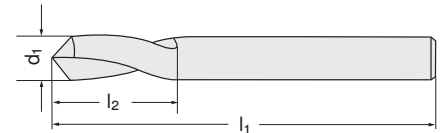
- Short cutting edge with split point

Applications

For Hardox and INOX sheet metals as well as tough and hard materials such as rust- and acid-resistant chrome-nickel steels and components subject to wear. Also for hand-guided tools.

Note:

Very good centring and drilling properties.
Problem solver for Hardox processing.



Set	10263	...
Set size	Number of drills	Increments of mm
1.0 - 10.0	19	0.5
1.0-13.0	25	0.5

HSS-E (Co5)

d ₁ h8 mm	l ₂ mm	l ₁ mm	10263	...
2.0	12	49	10 pcs.	120
2.5	14	57	10 pcs.	125
3.0	16	61	10 pcs.	130
3.2	18	65	10 pcs.	132
3.3	18	65	10 pcs.	133
3.5	20	70	10 pcs.	135
4.0	22	75	10 pcs.	140
4.2	22	75	10 pcs.	142
4.5	24	80	10 pcs.	145
5.0	26	86	10 pcs.	150
5.5	28	93	10 pcs.	155
6.0	28	93	10 pcs.	160
6.5	31	101	10 pcs.	165
6.8	34	101	10 pcs.	168

HSS-E (Co5)

d ₁ h8 mm	l ₂ mm	l ₁ mm	10263	...
7.0	34	109	10 pcs.	170
7.5	34	109	5 pcs.	175
8.0	37	117	5 pcs.	180
8.5	37	117	5 pcs.	185
9.0	40	125	5 pcs.	190
9.5	40	125	5 pcs.	195
10.0	43	133	5 pcs.	200
10.2	43	133	5 pcs.	202
10.5	43	133	5 pcs.	205
11.0	47	142	5 pcs.	210
11.5	47	142	5 pcs.	215
12.0	51	151	5 pcs.	220
12.5	51	151	5 pcs.	225
13.0	51	151	5 pcs.	230

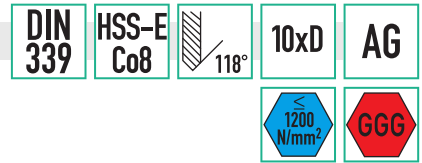
Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti/Hardox	GG(G)	Plastic
-	-	-	40	30	22	18	10	8	-	-	-	-	8	15	5/5	-	-



Deep hole drills | Twist drills

10424

High-quality deep hole drill AGPSLSD



NACHI

Design

- Straight shank
- Right cutting
- Special flute geometry
- Twist angle 34°

Applications

For drilling deep holes under difficult conditions.

For steel up to 1200 N/mm² and cast iron.
Drilling in increments, without removing chips!

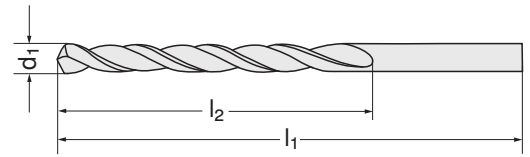
Quality
HSS-E-Co8, ground
AG(AICr) coating.



Note:
Note the respective length/
diameter ratio of the bore
diameter and the flute length.
Use only high-precision tool chucks!



10424



HSS-E-Co8-AG				HSS-E-Co8-AG				HSS-E-Co8-AG			
d ₁ h8	l ₂	l ₁	10424	d ₁ h8	l ₂	l ₁	10424	d ₁ h8	l ₂	l ₁	10424
mm	mm	mm	...	mm	mm	mm	...	mm	mm	mm	...
1.0	26	48	010	4.3	69	102	043	7.6	100	142	076
1.1	28	50	011	4.4	69	102	044	7.7	100	142	077
1.2	30	52	012	4.5	69	102	045	7.8	100	142	078
1.3	30	52	013	4.6	69	102	046	7.9	100	142	079
1.4	33	55	014	4.7	69	102	047	8.0	100	142	080
1.5	33	55	015	4.8	74	108	048	8.1	100	142	081
1.6	35	58	016	4.9	74	108	049	8.2	100	142	082
1.7	35	58	017	5.0	74	108	050	8.3	100	142	083
1.8	38	62	018	5.1	74	108	051	8.4	100	142	084
1.9	38	62	019	5.2	74	108	052	8.5	100	142	085
2.0	41	66	020	5.3	74	108	053	8.6	107	151	086
2.1	41	66	021	5.4	80	116	054	8.7	107	151	087
2.2	44	70	022	5.5	80	116	055	8.8	107	151	088
2.3	44	70	023	5.6	80	116	056	8.9	107	151	089
2.4	47	74	024	5.7	80	116	057	9.0	107	151	090
2.5	47	74	025	5.8	80	116	058	9.1	107	151	091
2.6	47	74	026	5.9	80	116	059	9.2	107	151	092
2.7	51	79	027	6.0	80	116	060	9.3	107	151	093
2.8	51	79	028	6.1	86	124	061	9.4	107	151	094
2.9	51	79	029	6.2	86	124	062	9.5	107	151	095
3.0	51	79	030	6.3	86	124	063	9.6	116	162	096
3.1	55	84	031	6.4	86	124	064	9.7	116	162	097
3.2	55	84	032	6.5	86	124	065	9.8	116	162	098
3.3	55	84	033	6.6	86	124	066	9.9	116	162	099
3.4	60	91	034	6.7	86	124	067	10.0	116	162	100
3.5	60	91	035	6.8	93	133	068	10.5	116	162	101
3.6	60	91	036	6.9	93	133	069	11.0	125	173	102
3.7	60	91	037	7.0	93	133	070	11.5	125	173	103
3.8	64	96	038	7.1	93	133	071	12.0	134	184	104
3.9	64	96	039	7.2	93	133	072	12.5	134	184	105
4.0	64	96	040	7.3	93	133	073	13.0	134	184	106
4.1	64	96	041	7.4	93	133	074				
4.2	64	96	042	7.5	93	133	075				

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	18-28	12-18	12-18	8-13	8-13	-	-	-	-	-	-	-	-	20-30	-

10404 - 10406

Long twist drills



ATORN®

Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- Thinned chisel edge

10406
Quality
HSS ground for normally machinable materials
up to 900 N/mm².

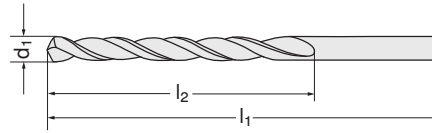


10404
Quality
HSS-E ground for difficult to machine materials
such as VA, titanium and exotics.



Continued ▶

Continued



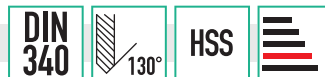
d ₁ h8 mm	l ₂ mm	l ₁ mm		HSS		HSS-E	
				10406	...	10404	...
0.60	15	35	10 pcs.	606			
0.80	29	46	10 pcs.	608			
1.00	33	56	10 pcs.	610		110	
1.10	37	60	10 pcs.	611		111	
1.20	41	65	10 pcs.	613		112	
1.30	41	65	10 pcs.	615		113	
1.40	45	70	10 pcs.	616		114	
1.50	45	70	10 pcs.	617		115	
1.60	50	76	10 pcs.	619		116	
1.70	50	76	10 pcs.	620		117	
1.80	53	80	10 pcs.	622		118	
1.90	53	80	10 pcs.	623		119	
2.00	56	85	10 pcs.	625		120	
2.10	56	85	10 pcs.	627		121	
2.20	59	90	10 pcs.	628		122	
2.30	59	90	10 pcs.	630		123	
2.40	62	95	10 pcs.	631		124	
2.50	62	95	10 pcs.	632		125	
2.60	62	95	10 pcs.	634		126	
2.70	66	100	10 pcs.	636		127	
2.80	66	100	10 pcs.	637		128	
2.90	66	100	10 pcs.	639		129	
3.00	66	100	10 pcs.	640		130	
3.10	69	106	10 pcs.	642		131	
3.20	69	106	10 pcs.	644		132	
3.30	69	106	10 pcs.	646		133	
3.40	73	112	10 pcs.	648		134	
3.50	73	112	10 pcs.	649		135	
3.60	73	112	10 pcs.	650		136	
3.70	73	112	10 pcs.	651		137	
3.80	78	119	10 pcs.	653		138	
3.90	78	119	10 pcs.	654		139	
4.00	78	119	10 pcs.	655		140	
4.10	78	119	10 pcs.	657		141	
4.20	78	119	10 pcs.	658		142	
4.30	82	126	10 pcs.	660		143	
4.40	82	126	10 pcs.	661		144	
4.50	82	126	10 pcs.	662		145	
4.60	82	126	10 pcs.	663			
4.70	82	126	10 pcs.	664		147	
4.80	87	132	10 pcs.	666		148	
4.90	87	132	10 pcs.	668		149	
5.00	87	132	10 pcs.	669		150	
5.10	87	132	10 pcs.	671		151	
5.20	87	132	10 pcs.	673		152	
5.30	87	132	10 pcs.	675		153	
5.40	91	139	10 pcs.	676		154	
5.50	91	139	10 pcs.	678		155	
5.60	91	139	10 pcs.	679		156	
5.70	91	139	10 pcs.	680		157	
5.80	91	139	10 pcs.	682		158	
5.90	91	139	10 pcs.	683		159	
6.00	91	139	10 pcs.	684		160	
6.10	97	148	-	685		161	

d ₁ h8 mm	l ₂ mm	l ₁ mm		HSS		HSS-E	
				10406	...	10404	...
6.20	97	148	-	686		162	
6.30	97	148	-	688		163	
6.40	97	148	-	689		164	
6.50	97	148	-	690		165	
6.60	97	148	-	691		166	
6.70	97	148	-	692		167	
6.80	102	156	-	694		168	
6.90	102	156	-	695			
7.00	102	156	-	696		170	
7.10	102	156	-	697			
7.20	102	156	-	698			
7.30	102	156	-	699			
7.40	102	156	-	700			
7.50	102	156	-	701		175	
7.60	109	165	-	702			
7.70	109	165	-	703		177	
7.80	109	165	-	704		178	
7.90	109	165	-	705			
8.00	109	165	-	706		180	
8.10	109	165	-	707		181	
8.20	109	165	-	708		182	
8.30	109	165	-	709			
8.40	109	165	-	710		184	
8.50	109	165	-	711		185	
8.60	115	175	-	712			
8.70	115	175	-	713			
8.80	115	175	-	714			
8.90	115	175	-	715			
9.00	115	175	-	716		190	
9.10	115	175	-	717			
9.20	115	175	-	718			
9.30	115	175	-	719			
9.40	115	175	-	720			
9.50	115	175	-	721			
9.60	121	184	-	722			
9.70	121	184	-	723			
9.80	121	184	-	724		198	
9.90	121	184	-	725			
10.00	121	184	-	726		200	
10.20	121	184	-	728		202	
10.25	121	184	-	729			
10.50	121	184	-	732		205	
11.00	128	195	-	737		210	
11.50	128	195	-	742		215	
12.00	134	205	-	747		220	
12.50	134	205	-	752			
13.00	134	205	-	757			
13.50	140	214	-	762			
14.00	140	214	-	763			
14.50	144	220	-	764			
15.00	144	220	-	765			
15.50	149	227	-	766			
16.00	149	227	-	767			

Al<10%Si	Al>10%Si	Cu	St<520N	St<7 50N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10406	-	-	30-40	25-28	15-28	-	-	-	-	-	-	-	-	-	-	30-36	-
10404	-	-	-	-	-	-	-	-	-	-	-	-	10-12	8-10	6-8	-	-

Deep hole drills | Twist drills

10407 - 10408 Deep hole drills



Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- Thinned chisel edge
- Reinforced core
- Wide chip flutes
- Strongly rounded rear edges

10407



Quality

HSS ground for normally machinable materials up to 900 N/mm².



10407

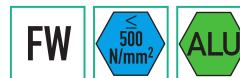


10408

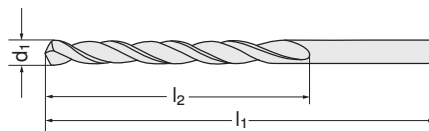


Quality

HSS ground with polished chip flutes for optimal chip removal in soft materials.



10408



d ₁ h8 mm	l ₂ mm	l ₁ mm	Image	Type FS		Type FW	
				10407	...	10408	...
1.0	33	56	10 pcs.	201			
1.1	37	60	10 pcs.	207			
1.2	41	65	10 pcs.	211			
1.3	41	65	10 pcs.	213			
1.4	45	70	10 pcs.	216			
1.5	45	70	10 pcs.	218			
1.6	50	76	10 pcs.	223			
1.7	50	76	10 pcs.	226			
1.8	53	80	10 pcs.	229			
1.9	53	80	10 pcs.	231			
2.0	56	85	10 pcs.	236			111
2.1	56	85	10 pcs.	240			112
2.2	59	90	10 pcs.	243			
2.3	59	90	10 pcs.	246			
2.4	62	95	10 pcs.	250			115
2.5	62	95	10 pcs.	254			116
2.6	62	95	10 pcs.	258			
2.7	66	100	10 pcs.	261			
2.8	66	100	10 pcs.	266			119
2.9	66	100	10 pcs.	270			120
3.0	66	100	10 pcs.	273			121
3.1	69	106	10 pcs.	275			122
3.2	69	106	10 pcs.	278			123
3.3	69	106	10 pcs.	281			124
3.4	73	112	10 pcs.	282			125
3.5	73	112	10 pcs.	284			126
3.6	73	112	10 pcs.	287			
3.7	73	112	10 pcs.	290			
3.8	78	119	10 pcs.	293			129
3.9	78	119	10 pcs.	295			130
4.0	78	119	10 pcs.	299			131

d ₁ h8 mm	l ₂ mm	l ₁ mm	Image	Type FS		Type FW	
				10407	...	10408	...
4.2	78	119	10 pcs.	305			133
4.5	82	126	10 pcs.	312			136
4.8	87	132	10 pcs.	319			
5.0	87	132	10 pcs.	324			141
5.1	87	132	10 pcs.				142
5.2	87	132	10 pcs.	330			
5.5	91	139	10 pcs.	337			146
5.8	91	139	10 pcs.	344			
6.0	91	139	10 pcs.	347			151
6.2	97	148	10 pcs.	352			
6.5	97	148	10 pcs.	357			156
6.8	102	156	5 pcs.	363			159
7.0	102	156	5 pcs.	366			161
7.2	102	156	5 pcs.	371			
7.5	102	156	5 pcs.	376			
7.8	109	165	5 pcs.	382			
7.9	109	165	5 pcs.				170
8.0	109	165	5 pcs.	386			171
8.2	109	165	5 pcs.	389			
8.5	109	165	5 pcs.	395			
9.0	115	175	5 pcs.	403			
9.5	115	175	5 pcs.	412			186
9.8	121	184	5 pcs.	417			
10.0	121	184	5 pcs.	420			191
10.5	121	184	5 pcs.	429			
11.0	128	195	-	433			
11.5	128	195	-	438			
12.0	134	205	-	442			
12.5	134	205	-	444			
13.0	134	205	-	447			

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10407																	
-	-	-	25-30	22-28	21-25	-	-	-	-	-	-	-	-	-	-	18-22	-
10408																	
40-55	40-45	25-28	25-30	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Design

- Straight shank
- Right cutting
- Cone-shaped section finish
- Thinned chisel edge
- Reinforced core
- Wide chip flutes
- Strongly rounded rear edges

Note:

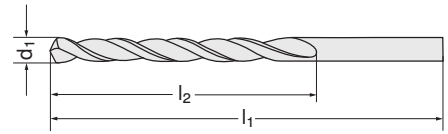
For drilling deep holes under difficult conditions, such as poor chip removal, poor cooling.

Caution:

Exception: VA steels, CrN steels and similar materials.



10410



Quality

HSS/TiN-coated for a long service life in steel up to 1000 N/mm² and cast iron.

HSS/TiN						HSS/TiN						HSS/TiN					
d ₁ h8	l ₂	l ₁		10410	...	d ₁ h8	l ₂	l ₁		10410	...	d ₁ h8	l ₂	l ₁		10410	...
mm	mm	mm				mm	mm	mm				mm	mm	mm			
1.0	33	56	10 pcs.	110		3.4	73	112	10 pcs.	134		5.9	91	139	10 pcs.	159	
1.1	37	60	10 pcs.	111		3.5	73	112	10 pcs.	135		6.0	91	139	10 pcs.	160	
1.2	41	65	10 pcs.	112		3.6	73	112	10 pcs.	136		6.1	97	148	-	161	
1.3	41	65	10 pcs.	113		3.7	73	112	10 pcs.	137		6.2	97	148	-	162	
1.4	45	70	10 pcs.	114		3.8	78	119	10 pcs.	138		6.3	97	148	-	163	
1.5	45	70	10 pcs.	115		3.9	78	119	10 pcs.	139		6.4	97	148	-	164	
1.6	50	76	10 pcs.	116		4.0	78	119	10 pcs.	140		6.5	97	148	-	165	
1.7	50	76	10 pcs.	117		4.1	78	119	10 pcs.	141		6.6	97	148	-	166	
1.8	53	80	10 pcs.	118		4.2	78	119	10 pcs.	142		6.7	97	148	-	167	
1.9	53	80	10 pcs.	119		4.3	82	126	10 pcs.	143		6.8	102	156	-	168	
2.0	56	85	10 pcs.	120		4.4	82	126	10 pcs.	144		7.0	102	156	-	170	
2.1	56	85	10 pcs.	121		4.5	82	126	10 pcs.	145		7.5	102	156	-	175	
2.2	59	90	10 pcs.	122		4.7	82	126	10 pcs.	147		8.0	109	165	-	180	
2.3	59	90	10 pcs.	123		4.8	87	132	10 pcs.	148		8.5	109	165	-	185	
2.4	62	95	10 pcs.	124		4.9	87	132	10 pcs.	149		9.0	115	175	-	190	
2.5	62	95	10 pcs.	125		5.0	87	132	10 pcs.	150		9.5	115	175	-	195	
2.6	62	95	10 pcs.	126		5.1	87	132	10 pcs.	151		10.0	121	184	-	200	
2.7	66	100	10 pcs.	127		5.2	87	132	10 pcs.	152		10.2	121	184	-	202	
2.8	66	100	10 pcs.	128		5.3	87	132	10 pcs.	153		10.5	121	184	-	205	
2.9	66	100	10 pcs.	129		5.4	91	139	10 pcs.	154		11.0	128	195	-	210	
3.0	66	100	10 pcs.	130		5.5	91	139	10 pcs.	155		11.5	128	195	-	215	
3.1	69	106	10 pcs.	131		5.6	91	139	10 pcs.	156		12.0	134	205	-	220	
3.2	69	106	10 pcs.	132		5.7	91	139	10 pcs.	157							
3.3	69	106	10 pcs.	133		5.8	91	139	10 pcs.	158							

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1000N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
45-55	30-45	22-28	32-40	28-32	25-28	18-25	-	-	-	-	-	-	-	-	-	25-38	-

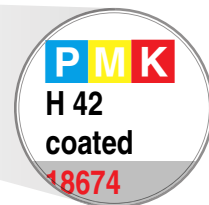
Info The HHW colour guidance system

With the HHW colour guidance system you can see at first glance which materials the tool is suitable for. In most catalogue sections, the HHW also informs you about the application data for the corresponding tool. The HHW colour guidance system is logically structured according to the steel key. This means that you can select the appropriate tools in advance of the machining process, saving you time and money.

St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	plastics
40-50	35-40	-	-	-	-	35-45	35-45	-	80-120	-



Use	HM grade	Coating	Designation	W ^{+0,1} mm	R ^{+0,05} mm		18674	...
			GTN-2	2,2	0,16	10 pieces		113
			GTN-3	3,1	0,20	10 pieces		114



Deep hole drills | Twist drills

10425

High-quality deep hole drill AGPLSD

HSS-E
Co8

AG

118°

15xD

DIN
1869
Reihe 1, 2, 3

≤
1200
N/mm²

GGG

NEW

NACHI

Design

- Straight shank
- Right cutting
- Special flute geometry
- Twist angle 34°
- DIN 1869-1

Quality

HSS-E-Co8, ground
AG(AICr) coating.

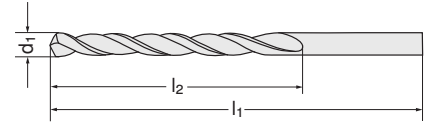
Note:

Note the respective length/diameter ratio of the bore diameter and the flute length. Use only high-precision tool chucks!

Applications

For drilling deep holes under difficult conditions.
For steel up to 1200 N/mm² and cast iron.
Drilling in increments, without chip removal up to 15xD!

10425



HSS-E-Co8-AG

d ₁ h8 mm	l ₂ mm	l ₁ mm	10425	...
1.0	60	100	010	
1.1	60	100	011	
1.2	65	105	012	
1.3	65	105	013	
1.4	70	110	014	
1.5	70	110	015	
1.6	75	115	016	
1.7	75	115	017	
1.8	80	120	018	
1.9	80	120	019	
2.0	85	125	020	
2.1	85	125	021	
2.2	90	135	022	
2.3	90	135	023	
2.4	95	140	024	
2.5	95	140	025	
2.6	95	140	026	
2.7	100	150	027	
2.8	100	150	028	
2.9	100	150	029	
3.0	100	150	030	
3.1	105	155	031	
3.2	105	155	032	
3.3	105	155	033	

HSS-E-Co8-AG

d ₁ h8 mm	l ₂ mm	l ₁ mm	10425	...
3.4	115	165	034	
3.5	115	165	035	
3.6	115	165	036	
3.7	115	165	037	
3.8	120	175	038	
3.9	120	175	039	
4.0	120	175	040	
4.1	120	175	041	
4.2	120	175	042	
4.3	125	185	043	
4.4	125	185	044	
4.5	125	185	045	
4.6	125	185	046	
4.7	125	185	047	
4.8	135	195	048	
4.9	135	195	049	
5.0	135	195	050	
5.1	135	195	051	
5.2	135	195	052	
5.3	135	195	053	
5.4	140	205	054	
5.5	140	205	055	
5.6	140	205	056	
5.7	140	205	057	

HSS-E-Co8-AG

d ₁ h8 mm	l ₂ mm	l ₁ mm	10425	...
5.8	140	205	058	
5.9	140	205	059	
6.0	140	205	060	
6.4	150	215	061	
6.5	150	215	062	
6.8	155	225	063	
7.0	155	225	064	
7.5	155	225	065	
7.9	165	240	066	
8.0	165	240	067	
8.3	165	240	068	
8.4	165	240	069	
8.5	165	240	070	
9.0	175	250	071	
9.5	175	250	072	
10.0	185	265	073	
10.5	185	265	074	
11.0	195	280	075	
11.5	195	280	076	
12.0	205	295	077	
12.5	205	295	078	
13.0	205	295	079	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	12-25	8-15	8-15	5-10	5-10	-	-	-	-	-	-	-	-	12-25	-

10421 - 10422

Extra-long twist drills



HARTNER

Design

Straight shank, right cutting, cone-shaped section finish. Thinned chisel edge.

10421

Design

Flat, wide chip flutes for holes up to 10xD without chip removal, rounded rear edge, above 2.5 mm chamfer-nitrided.

Quality

HSS ground for steel up to 1000 N/mm², cast iron, aluminium alloys, brass and bronze.

10422

Design

Reinforced core and strongly rounded rear edges under difficult conditions, such as poor chip removal and poor cooling.

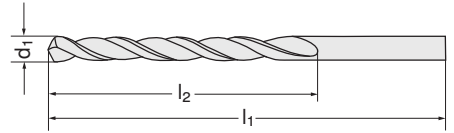


Quality

HSS/TiN-coated for a long service life in steel up to 1000 N/mm² and cast iron.

Caution:

Exception: VA steels, CrN steels and similar materials.



d ₁ h8 x l ₁ mm mm	l ₂	HSS		HSS/TiN	
		10421	...	10422	...
2.0 x 125	85	101		101	
2.5 x 140	95	102		102	
3.0 x 150	100	103		103	
3.0 x 190	130	104			
3.5 x 165	115	105			
3.5 x 210	145	106			
4.0 x 175	120	108		108	
4.0 x 220	150	109		109	
4.0 x 280	190	110			
4.5 x 185	125	111			
4.5 x 235	160	112			
5.0 x 195	135	114		114	
5.0 x 245	170	115			
5.0 x 315	210	116			

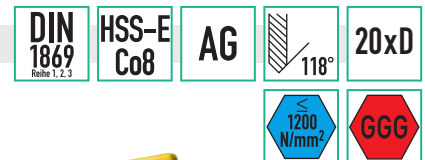
d ₁ h8 x l ₁ mm mm	l ₂	HSS		HSS/TiN	
		10421	...	10422	...
5.5 x 205	140		117		
5.5 x 260	180		118		
6.0 x 205	140		120		120
6.0 x 260	180		121		
6.0 x 330	225		122		
6.5 x 215	150		123		
6.5 x 275	190		124		
6.5 x 350	235		125		
7.0 x 225	155		126		
7.0 x 290	200		127		127
7.0 x 370	250		128		
7.5 x 225	155		129		
7.5 x 290	200		130		
8.0 x 240	165		132		132

d ₁ h8 x l ₁ mm mm	l ₂	HSS		HSS/TiN	
		10421	...	10422	...
8.0 x 305	210		133		133
8.0 x 390	265		134		
8.5 x 240	165		135		
8.5 x 305	210		136		136
8.5 x 390	265		137		
9.0 x 250	175		138		
9.0 x 320	220		139		
9.0 x 410	280		140		
9.5 x 250	175		141		
10.0 x 265	185		144		
10.0 x 340	235		145		
10.0 x 430	295		146		
11.0 x 280	195		147		
12.0 x 375	260		148		

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10421																	
40-45	-	-	18-22	18-22	14-18	12-16	-	-	-	-	-	-	6-8	-	-	14-22	-
10422																	
-	-	-	22-28	22-28	16-20	10-15	-	-	-	-	-	-	-	-	-	18-25	-

10426

High-quality deep hole drill AGPLSD



NACHI

Design

- Straight shank
- Right cutting
- Special flute geometry
- Twist angle 34°
- DIN 1869-2

Quality

HSS-E-Co8, ground AG(AlCr) coating.

Note:

Note the respective length/diameter ratio of the bore diameter and the flute length.

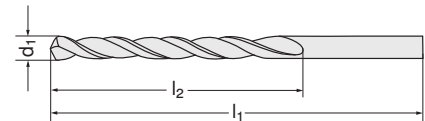
NEW

Applications

For drilling deep holes under difficult conditions. For steel up to 1200 N/mm² and cast iron. Drilling in increments, without chip removal up to 15xD!



Use only high-precision tool chucks!



d ₁ h8 mm	l ₂ mm	l ₁ mm	HSS-E-Co8-AG	
			10426	...
3.0	130	190	010	
3.5	145	210	011	
4.0	150	220	012	
4.5	160	235	013	
5.0	170	245	014	
5.5	180	260	015	
6.0	180	260	016	
6.1	190	275	017	

d ₁ h8 mm	l ₂ mm	l ₁ mm	HSS-E-Co8-AG	
			10426	...
6.5	190	275	018	
7.0	200	290	019	
7.5	200	290	020	
8.0	210	305	021	
8.5	210	305	022	
9.0	220	320	023	
9.5	220	320	024	
10.0	235	340	025	

d ₁ h8 mm	l ₂ mm	l ₁ mm	HSS-E-Co8-AG	
			10426	...
10.5	235	340	026	
11.0	250	365	027	
11.5	250	365	028	
12.0	260	375	029	
12.5	260	375	030	
13.0	260	375	031	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	12-25	8-15	8-15	5-10	5-10	-	-	-	-	-	-	-	-	12-25	-

Twist drill

10508 - 10510 Morse taper shank twist drills

Design

- Cone-shaped section finish
- Surface treatment, resulting in reduced build-up of material deposits and improved chip removal

10508



Quality

HSS ground for steel up to 900 N/mm², cast iron, aluminium alloys, brass, bronze.

Note:

Quality drills for the most demanding applications.
Drills for production.

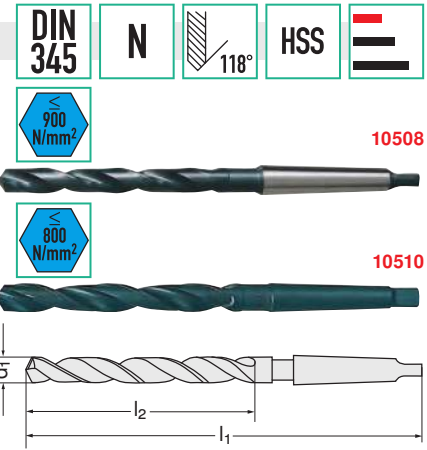
10510

Quality

HSS precision-roll forged for steel up to 800 N/mm², cast iron, aluminium alloys, bronze, brass.

Note:

Cost-effective design.



ATORN®							
d ₁ h8 mm	l ₂ mm	l ₁ mm	MT	10508	...	10510	...
5.00	52	133	1	604			
5.50	57	138	1	605			
6.00	57	138	1	606			
6.50	63	144	1	608			
7.00	69	150	1	613			
8.00	75	156	1	617			
8.50	75	156	1	619			
9.00	81	162	1	621			
9.50	81	162	1	622			
10.00	87	168	1	624			211
10.20	87	168	1	626			212
10.50	87	168	1	629			213
10.80	94	175	1	630			
11.00	94	175	1	631			215
11.50	94	175	1	634			217
11.80	94	175	1	636			
12.00	101	182	1	637			219
12.20	101	182	1	639			
12.50	101	182	1	640			221
12.80	101	182	1	641			
13.00	101	182	1	642			223
13.50	108	189	1	645			225
13.80	108	189	1	647			
14.00	108	189	1	648			227
14.25	114	212	2	651			228
14.50	114	212	2	652			229
14.75	114	212	2	654			230
15.00	114	212	2	655			231
15.25	120	218	2	656			232
15.50	120	218	2	657			233
15.75	120	218	2	658			234
16.00	120	218	2	659			235
16.25	125	223	2	661			236
16.50	125	223	2	662			237
16.75	125	223	2	664			238
17.00	125	223	2	665			239
17.25	130	228	2	666			
17.50	130	228	2	667			241
17.75	130	228	2	668			242
18.00	130	228	2	669			243
18.25	135	233	2	670			
18.50	135	233	2	671			245
18.75	135	233	2	672			
19.00	135	233	2	673			247
19.50	140	238	2	675			249
19.75	140	238	2	676			250
20.00	140	238	2	677			251
20.25	145	243	2	679			252
20.50	145	243	2	681			253

ATORN®							
d ₁ h8 mm	l ₂ mm	l ₁ mm	MT	10508	...	10510	...
20.75	145	243	2		682		254
21.00	145	243	2		683		255
21.50	150	248	2		685		257
21.75	150	248	2		686		258
22.00	150	248	2		687		259
22.50	155	253	2		689		261
23.00	155	253	2		691		263
23.50	155	276	3		693		265
24.00	160	281	3		695		267
24.50	160	281	3		696		268
24.75	160	281	3		697		
25.00	160	281	3		698		270
25.50	165	286	3		701		271
26.00	165	286	3		703		273
26.50	165	286	3		704		274
27.00	170	291	3		706		276
27.50	170	291	3		707		277
28.00	170	291	3		709		279
28.50	175	296	3		710		280
29.00	175	296	3		711		281
29.50	175	296	3		712		282
30.00	175	296	3		713		283
30.50	180	301	3		714		284
31.00	180	301	3		715		285
31.50	180	301	3				286
32.00	185	334	4		717		287
32.50	185	334	4		718		288
33.00	185	334	4		719		289
33.50	185	334	4		720		290
34.00	190	339	4		721		291
34.50	190	339	4		722		292
35.00	190	339	4		723		293
35.50	190	339	4		724		294
36.00	195	344	4		725		295
36.50	195	344	4		726		296
37.00	195	344	4		727		297
38.00	200	349	4		728		298
38.50	200	349	4		729		299
39.00	200	349	4		730		300
39.50	200	349	4		731		301
40.00	200	349	4		732		302
41.00	205	354	4		733		303
42.00	205	354	4		734		304
43.00	210	359	4		735		305
44.00	210	359	4		736		306
45.00	210	359	4		737		307
46.00	215	364	4		738		308
47.00	215	364	4		739		309
48.00	220	369	4		740		310

Continued ▶

10508 - 10510

Morse taper shank twist drills



Continued ▶

ATORN®				
d ₁ h8 mm	l ₂ mm	l ₁ mm	MT	10508 ... 10510 ...
49.00	220	369	4	741 311
50.00	220	369	4	742 312
51.00	225	412	5	743
55.00	230	417	5	747
56.00	230	417	5	748

ATORN®				
d ₁ h8 mm	l ₂ mm	l ₁ mm	MT	10508 ... 10510 ...
57.00	235	422	5	749
58.00	235	422	5	750
59.00	235	422	5	751
60.00	235	422	5	752

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	45HRC	55HRC	60HRC	67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
55-63	40-50	25-32	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10511 - 10526

Morse taper shank twist drills



Design

- Cone-shaped section finish
- Thinned chisel edge

Note:

Quality drills for the most demanding applications.

10511
HARTNER

Quality

HSS/TiN for even longer service life in steel up to 900 N/mm², cast iron, aluminium alloys, bronze, brass.

10514



Quality

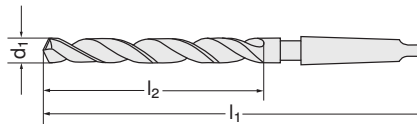
HSS-E surface-treated for steel up to 1200 N/mm² and cast iron. Reduced build-up of material deposits and improved chip removal. Reinforced core.

10526



Quality

HSS-E with special geometry for VA steels and materials that tend towards cold hardening.



HARTNER ATORN®				
d ₁ h8 mm	l ₂ mm	l ₁ mm	MT	10511 ... 10514 ... 10526 ...
10.0	87	168	1	630
10.2	87	168	1	632
10.5	87	168	1	213 634
11.0	94	175	1	215 637 111
11.5	94	175	1	217 639 115
12.0	101	182	1	219 642 120
12.5	101	182	1	221 647 125
13.0	101	182	1	650 130
13.5	108	189	1	225 653 135
13.75	108	189	1	655
14.0	108	189	1	227 657 140
14.5	114	212	2	229 662 145
15.0	114	212	2	231 664 150
15.5	120	218	2	666 155
16.0	120	218	2	235 668 160
16.5	125	223	2	670 165
17.0	125	223	2	239 671 170
17.5	130	228	2	241 673 175
18.0	130	228	2	243 674 180
18.5	135	233	2	676 185
19.0	135	233	2	677 190
19.5	140	238	2	678 195
20.0	140	238	2	251 679 200

HARTNER ATORN®				
d ₁ h8 mm	l ₂ mm	l ₁ mm	MT	10511 ... 10514 ... 10526 ...
20.5	145	238	2	680 205
21.0	145	243	2	255 681 210
21.5	150	248	2	682 215
22.0	150	248	2	259 683 220
22.5	155	253	2	261 684 225
23.0	155	253	2	685 230
23.5	155	276	3	686
24.0	160	281	3	687 240
24.5	160	281	3	688 245
25.0	160	281	3	689 250
26.0	165	286	3	273 692 260
26.5	170	291	3	695 265
27.0	170	291	3	694 270
28.0	170	291	3	279 696 280
28.5	175	296	3	697 285
29.0	175	296	3	698 290
30.0	175	296	3	700 300
31.0	180	301	3	702 305
32.0	185	334	4	704 320
33.0	185	334	4	705 325
34.0	190	339	4	706 330
35.0	190	339	4	707 335

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	45HRC	55HRC	60HRC	67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10511																	
60-70	45-55	26-36	28-36	22-28	22-26	-	-	-	-	-	-	-	-	-	-	22-28	18-28
10514																	
-	-	-	28-36	22-28	14-18	14-16	10-14	-	-	-	-	-	10-14	10-12	-	22-30	-
10526																	
-	-	-	35-40	32-35	25-32	20-25	15-20	12-15	-	-	-	-	10-15	10-15	8-10	-	-

Twist drills | Core drills | Multiplex holders

10610

Long twist drill (boring bush drill) with Morse taper shank

HARTNER



Design

- Cone-shaped section finish
- Surface treatment, resulting in reduced build-up of material deposits and improved chip removal
- Above Ø 14 mm with point thinning
- Extended cutting section compared to DIN 345

Quality
HSS ground for steel up to 900 N/mm², cast iron, graphite.

DIN 341

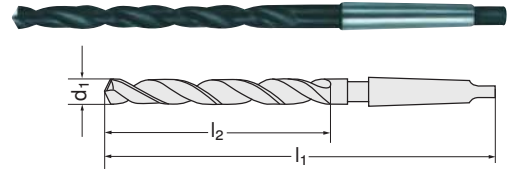
N

118°

HSS

10610

Note:
For drilling through boring bushings.



				HSS																HSS				
d ₁ h8	l ₂	l ₁	MT	10610	...	d ₁ h8	l ₂	l ₁	MT	10610	...												10610	...
mm	mm	mm				mm	mm	mm																
10.0	116	197	1		122	18.0	165	263	2		159													
11.0	125	206	1		127	19.0	171	269	2		162													
11.5	125	206	1		129	20.0	177	275	2		164													
13.0	134	215	1		135	21.0	184	282	2		166													
13.5	142	223	1		137	22.0	191	289	2		168													
14.0	142	223	1		140	24.0	206	327	3		172													
15.0	147	245	2		145	25.0	206	327	3		173													
15.5	153	251	2		147	28.0	222	343	3		176													
16.0	153	251	2		149	30.0	230	351	3		178													
17.0	159	257	2		155	34.0	257	406	4		182													
17.5	165	263	2		157	35.0	257	406	4		183													

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
-	-	-	25-28	20-24	18-22	-	-	-	-	-	-	-	-	-	-	20-24	-

10621

Extra-long twist drills with Morse taper shank

HARTNER



Design

- Reinforced core
- Flat flute profile
- Cone-shaped section finish
- Point thinning
- Up to Ø 16 mm nitrated chamfers and bare chip flutes. Also specially heat treated for increased wear resistance and reduced build-up of material deposits

Quality
HSS ground for steel up to 900 N/mm², cast iron, graphite, aluminium alloys, brass, bronze.

DIN 1870
Reihe 1.2

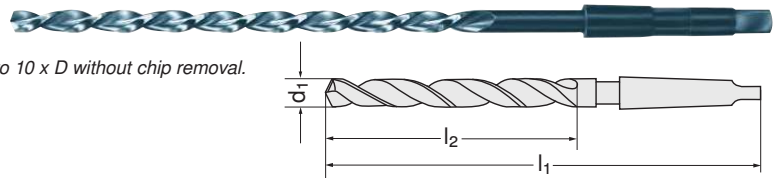
FN

130°

HSS

10621

Note:
For drilling up to 10 x D without chip removal.



				HSS																HSS				
d ₁ h8 x l ₁	l ₂	MT	10621	...	d ₁ h8 x l ₁	l ₂	MT	10621	...												10621	...		
mm	mm				mm	mm																		
8 x 265	165	1		101	16 x 445	295	2		118															
9 x 275	175	1		103	17 x 355	230	2		119															
10 x 285	185	1		105	18 x 370	245	2		121															
10 x 360	235	1		106	18 x 465	310	2		122															
11 x 300	195	1		107	19 x 465	310	2		124															
12 x 310	205	1		109	20 x 385	260	2		125															
12 x 395	260	1		110	20 x 490	325	2		126															
13 x 310	205	1		111	22 x 515	345	2		130															
13 x 395	260	1		112	24 x 555	365	3		134															
14 x 325	220	1		113	25 x 440	290	3		135															
14 x 410	275	1		114	25 x 555	365	3		136															
15 x 340	220	2		115	28 x 580	385	3		142															
15 x 425	275	2		116	30 x 460	305	3		145															
16 x 355	230	2		117																				

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
35-45	30-36	18-22	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	14-20	-

DIN 343

Z3

N

HSS

≤ 900 N/mm²

10632 Core drill with Morse taper shank

Design

- Strongly rounded rear
- Surface treatment for reduced build-up of material deposits and improved chip removal

Quality

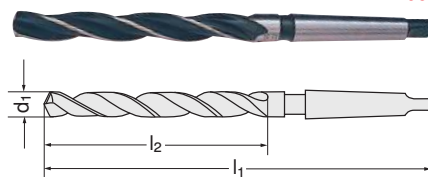
HSS ground for normally machinable materials up to 900 N/mm².

Advantage:

For drilling non-round holes, misaligned holes can be compensated.

Note:

The drilling diameter should be at least 3/4 of the spiral countersink Ø.



10632

d ₁ h8	l ₂	l ₁	MT	HSS	...
mm	mm	mm		10632	
7.80	75	156	1		101
8.00	75	156	1		102
8.80	81	162	1		103
9.80	87	168	1		104
10.00	87	168	1		105
10.75	94	175	1		106
11.75	101	182	1		107
12.00	101	182	1		108
12.75	101	182	1		109

d ₁ h8	l ₂	l ₁	MT	HSS	...
mm	mm	mm		10632	
13.75	108	189	1		110
14.00	108	189	1		111
14.75	114	212	2		112
15.00	114	212	2		113
15.75	120	218	2		114
16.00	120	218	2		115
16.75	125	223	2		116
17.00	125	223	2		117
17.75	130	228	2		118

d ₁ h8	l ₂	l ₁	MT	HSS	...
mm	mm	mm		10632	
18.00	130	228	2		119
18.70	135	233	2		120
19.70	140	238	2		121
20.00	140	238	2		122
20.70	145	243	2		123
21.70	150	248	2		124
22.00	150	248	2		125
25.00	160	281	3		127
30.00	175	296	3		129

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
25-40	10-30	10-30	26-30	25-28	20-25	15-20	10-15	5-10	-	-	-	-	4-10	3-6	-	10-18	-

10640 - 10649 Multiplex HPC

HARTNER



Design

- Long service life due to wear-resistant indexable inserts
- Optimised chip removal
- Highly accurate and stable plate seat
- Perfect lubrication
- Large selection of indexable inserts

Advantage:

- Drilling tool also suitable for stack drilling

Scope of delivery:

Indexable insert holder incl. clamping screw.

Note:

For drilling depths from 5xD we recommend centring or making a pilot hole.

When drilling without centring - reduce feed by approx. 50%.

In the case of through-bores, the feed is to be reduced in the event of breakthrough.



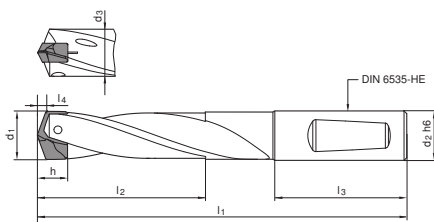
High precision, stable plate seat and stable holder + optimised chip removal and perfect cooling = long service life

Continued



Continued

Multiplex HPC holder 1.5xD



10640



For drilling range Ø d ₁ mm	Carrier size	l ₂ mm	l ₁ mm	l ₃ mm	d ₂ (h6) mm	d ₃ mm	1.5xD	
							10640	...
11.00–11.49	110	19.30	84	45	12	10.70		100
11.50–11.99	115	20.10	85	45	12	11.20		101
12.00–12.49	120	21.0	87	45	12	11.70		102
12.50–12.99	125	21.90	89	45	14	12.20		103
13.00–13.49	130	22.60	90	45	14	12.70		104
13.50–13.99	135	23.60	92	45	14	13.20		105
14.00–14.49	140	24.50	93	45	14	13.70		106
14.50–14.99	145	25.30	98	48	16	14.20		107
15.00–15.49	150	26.10	100	48	16	14.70		108
15.50–15.99	155	27.0	101	48	16	15.20		109
16.00–16.49	160	27.80	102	48	16	15.70		110
16.50–16.99	165	28.70	105	48	18	16.20		111
17.00–17.49	170	29.60	106	48	18	16.70		112
17.50–17.99	175	30.40	107	48	18	17.20		113
18.00–18.49	180	31.20	108	48	18	17.70		114
18.50–18.99	185	32.10	113	50	20	18.20		115
19.00–19.49	190	32.90	114	50	20	18.70		116
19.50–19.99	195	33.70	116	50	20	19.20		117
20.00–20.49	200	34.60	117	50	20	19.70		118
20.50–20.99	205	35.50	128	56	25	20.20		119
21.00–21.49	210	36.40	129	56	25	20.70		120
21.50–21.99	215	37.20	130	56	25	21.20		121
22.00–22.49	220	38.00	131	56	25	21.70		122
22.50–22.99	225	38.90	134	56	25	22.20		123
23.00–23.49	230	39.80	135	56	25	22.70		124
23.50–23.99	235	40.60	137	56	25	23.20		125
24.00–24.49	240	41.50	138	56	25	23.70		126
24.50–24.99	245	42.30	140	56	25	24.20		127
25.00–25.49	250	43.20	142	56	25	24.70		128
25.50–25.99	255	44.00	148	60	32	25.20		129
26.00–26.49	260	44.30	151	60	32	25.70		130
26.50–26.99	265	45.10	153	60	32	26.20		131
27.00–27.49	270	46.00	155	60	32	26.70		132
27.50–27.99	275	46.80	156	60	32	27.20		133
28.00–28.49	280	47.70	157	60	32	27.70		134
28.50–28.99	285	48.50	159	60	32	28.20		135
29.00–29.49	290	49.40	161	60	32	28.70		136
29.50–29.99	295	50.20	162	60	32	29.20		137
30.00–30.49	300	50.90	164	60	32	29.70		138
30.50–30.99	305	51.70	166	60	32	30.20		139
31.00–31.49	310	52.60	167	60	32	30.70		140
31.50–31.99	315	53.40	168	60	32	31.20		141
32.00–32.99	320	55.10	172	60	32	31.70		142
33.00–33.99	330	56.80	175	60	32	32.70		143
34.00–34.99	340	58.50	178	60	32	33.70		144
35.00–35.99	350	60.20	181	60	32	34.70		145
36.00–36.99	360	61.80	184	60	32	35.70		146
37.00–37.99	370	63.50	188	60	32	36.70		147
38.00–38.99	380	65.20	191	60	32	37.70		148
39.00–40.00	390	66.90	194	60	32	38.70		149

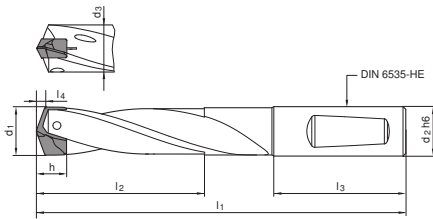
Continued





Continued

Multiplex HPC holder 3xD



10641



3xD

For drilling range Ø d ₁ mm	Carrier size	l ₂ mm	l ₁ mm	l ₃ mm	d ₂ (h6) mm	d ₃ mm	10641	...
11.00–11.49	110	36.60	101	45	12	10.70		100
11.50–11.99	115	38.10	103	45	12	11.20		101
12.00–12.49	120	39.70	106	45	12	11.70		102
12.50–12.99	125	41.30	108	45	14	12.20		103
13.00–13.49	130	42.90	110	45	14	12.70		104
13.50–13.99	135	44.60	113	45	14	13.20		105
14.00–14.49	140	46.20	115	45	14	13.70		106
14.50–14.99	145	47.80	120	48	16	14.20		107
15.00–15.49	150	49.30	123	48	16	14.70		108
15.50–15.99	155	50.90	125	48	16	15.20		109
16.00–16.49	160	52.90	127	48	16	15.70		110
16.50–16.99	165	54.10	130	48	18	16.20		111
17.00–17.49	170	55.80	132	48	18	16.70		112
17.50–17.99	175	57.40	134	48	18	17.20		113
18.00–18.49	180	58.90	137	48	18	17.70		114
18.50–18.99	185	60.50	141	50	20	18.20		115
19.00–19.49	190	62.10	143	50	20	18.70		116
19.50–19.99	195	63.70	146	50	20	19.20		117
20.00–20.49	200	65.30	148	50	20	19.70		118
20.50–20.99	205	67.00	159	56	25	20.20		119
21.00–21.49	210	68.60	161	56	25	20.70		120
21.50–21.99	215	70.10	163	56	25	21.20		121
22.00–22.49	220	71.70	165	56	25	21.70		122
22.50–22.99	225	73.30	168	56	25	22.20		123
23.00–23.49	230	74.90	170	56	25	22.70		124
23.50–23.99	235	76.50	173	56	25	23.20		125
24.00–24.49	240	78.10	175	56	25	23.70		126
24.50–24.99	245	79.70	177	56	25	24.20		127
25.00–25.49	250	81.30	180	56	25	24.70		128
25.50–25.99	255	82.90	187	60	32	25.20		129
26.00–26.49	260	84.00	191	60	32	25.70		130
26.50–26.99	265	86.10	193	60	32	26.20		131
27.00–27.49	270	87.20	196	60	32	26.70		132
27.50–27.99	275	88.90	198	60	32	27.20		133
28.00–28.49	280	90.50	200	60	32	27.70		134
28.50–28.99	285	92.50	202	60	32	28.20		135
29.00–29.49	290	94.60	205	60	32	28.70		136
29.50–29.99	295	95.10	207	60	32	29.20		137
30.00–30.49	300	96.70	210	60	32	29.70		138
30.50–30.99	305	98.30	212	60	32	30.20		139
31.00–31.49	310	99.80	214	60	32	30.70		140
31.50–31.99	315	101.40	216	60	32	31.20		141
32.00–32.99	320	104.60	221	60	32	31.70		142
33.00–33.99	330	107.80	226	60	32	32.70		143
34.00–34.99	340	111.00	230	60	32	33.70		144
35.00–35.99	350	114.20	235	60	32	34.70		145
36.00–36.99	360	117.30	240	60	32	35.70		146
37.00–37.99	370	120.50	245	60	32	36.70		147
38.00–38.99	380	123.70	249	60	32	37.70		148
39.00–40.00	390	126.90	254	60	32	38.70		149

Continued

Multiplex holder

10640 - 10649

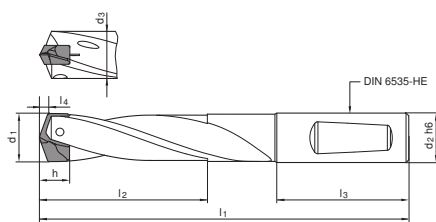
Multiplex HPC



5xD

Continued

Multiplex HPC holder 5xD



10642



5xD

For drilling range Ø d ₁ mm	Carrier size	l ₂ mm	l ₁ mm	l ₃ mm	d ₂ (h6) mm	d ₃ mm	10642	...
11.00-11.49	110	59.60	124	45	12	10.70		100
11.50-11.99	115	62.10	127	45	12	11.20		101
12.00-12.49	120	64.70	131	45	12	11.70		102
12.50-12.99	125	67.30	134	45	14	12.20		103
13.00-13.49	130	69.90	137	45	14	12.70		104
13.50-13.99	135	72.60	141	45	14	13.20		105
14.00-14.49	140	75.20	144	45	14	13.70		106
14.50-14.99	145	77.80	150	48	16	14.20		107
15.00-15.49	150	80.30	154	48	16	14.70		108
15.50-15.99	155	82.90	157	48	16	15.20		109
16.00-16.49	160	85.90	160	48	16	15.70		110
16.50-16.99	165	88.10	164	48	18	16.20		111
17.00-17.49	170	90.80	167	48	18	16.70		112
17.50-17.99	175	93.40	170	48	18	17.20		113
18.00-18.49	180	95.90	174	48	18	17.70		114
18.50-18.99	185	98.50	179	50	20	18.20		115
19.00-19.49	190	101.10	182	50	20	18.70		116
19.50-19.99	195	103.70	186	50	20	19.20		117
20.00-20.49	200	106.30	189	50	20	19.70		118
20.50-20.99	205	109.00	201	56	25	20.20		119
21.00-21.49	210	111.60	204	56	25	20.70		120
21.50-21.99	215	114.10	207	56	25	21.20		121
22.00-22.49	220	116.70	210	56	25	21.70		122
22.50-22.99	225	119.30	214	56	25	22.20		123
23.00-23.49	230	121.90	217	56	25	22.70		124
23.50-23.99	235	124.50	221	56	25	23.20		125
24.00-24.49	240	127.10	224	56	25	23.70		126
24.50-24.99	245	129.70	227	56	25	24.20		127
25.00-25.49	250	132.30	231	56	25	24.70		128
25.50-25.99	255	134.90	239	60	32	25.20		129
26.00-26.49	260	137.00	244	60	32	25.70		130
26.50-26.99	265	140.00	247	60	32	26.20		131
27.00-27.49	270	142.20	251	60	32	26.70		132
27.50-27.99	275	144.80	254	60	32	27.20		133
28.00-28.49	280	147.40	257	60	32	27.70		134
28.50-28.99	285	150.40	260	60	32	28.20		135
29.00-29.49	290	153.50	264	60	32	28.70		136
29.50-29.99	295	155.10	267	60	32	29.20		137
30.00-30.49	300	157.60	271	60	32	29.70		138
30.50-30.99	305	160.20	274	60	32	30.20		139
31.00-31.49	310	162.80	277	60	32	30.70		140
31.50-31.99	315	165.40	280	60	32	31.20		141
32.00-32.99	320	170.60	287	60	32	31.70		142
33.00-33.99	330	175.80	294	60	32	32.70		143
34.00-34.99	340	181.00	300	60	32	33.70		144
35.00-35.99	350	186.20	307	60	32	34.70		145
36.00-36.99	360	191.30	314	60	32	35.70		146
37.00-37.99	370	196.50	321	60	32	36.70		147
38.00-38.99	380	201.70	327	60	32	37.70		148
39.00-40.00	390	206.90	334	60	32	38.70		149

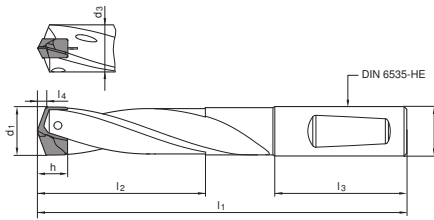
Continued





Continued

Multiplex HPC holder 7xD



10643



7xD

For drilling range Ø d ₁ mm	Carrier size	l ₂ mm	l ₁ mm	l ₃ mm	d ₂ (h6) mm	d ₃ mm	7xD	
							10643	...
11.00–11.49	110	82.60	147	45	12	10.70		100
11.50–11.99	115	86.10	151	45	12	11.20		101
12.00–12.49	120	89.70	156	45	12	11.70		102
12.50–12.99	125	93.30	160	45	14	12.20		103
13.00–13.49	130	96.90	164	45	14	12.70		104
13.50–13.99	135	100.60	169	45	14	13.20		105
14.00–14.49	140	104.20	173	45	14	13.70		106
14.50–14.99	145	107.80	180	48	16	14.20		107
15.00–15.49	150	111.30	185	48	16	14.70		108
15.50–15.99	155	114.90	189	48	16	15.20		109
16.00–16.49	160	118.90	193	48	16	15.70		110
16.50–16.99	165	122.10	198	48	18	16.20		111
17.00–17.49	170	125.80	202	48	18	16.70		112
17.50–17.99	175	129.40	206	48	18	17.20		113
18.00–18.49	180	132.90	211	48	18	17.70		114
18.50–18.99	185	136.50	217	50	20	18.20		115
19.00–19.49	190	140.10	221	50	20	18.70		116
19.50–19.99	195	143.70	226	50	20	19.20		117
20.00–20.49	200	147.30	230	50	20	19.70		118
20.50–20.99	205	151.60	243	56	25	20.20		119
21.00–21.49	210	154.60	247	56	25	20.70		120
21.50–21.99	215	158.10	251	56	25	21.20		121
22.00–22.49	220	161.70	225	56	25	21.70		122
22.50–22.99	225	165.30	260	56	25	22.20		123
23.00–23.49	230	168.90	264	56	25	22.70		124
23.50–23.99	235	172.50	269	56	25	23.20		125
24.00–24.49	240	176.10	273	56	25	23.70		126
24.50–24.99	245	179.70	277	56	25	24.20		127
25.00–25.49	250	183.30	282	56	25	24.70		128
25.50–25.99	255	186.90	291	60	32	25.20		129
26.00–26.49	260	190.00	297	60	32	25.70		130
26.50–26.99	265	194.00	301	60	32	26.20		131
27.00–27.49	270	197.20	306	60	32	26.70		132
27.50–27.99	275	200.80	310	60	32	27.20		133
28.00–28.49	280	204.40	314	60	32	27.70		134
28.50–28.99	285	208.40	318	60	32	28.20		135
29.00–29.49	290	212.50	323	60	32	28.70		136
29.50–29.99	295	215.10	327	60	32	29.20		137
30.00–30.49	300	218.60	332	60	32	29.70		138
30.50–30.99	305	222.20	336	60	32	30.20		139
31.00–31.49	310	225.80	340	60	32	30.70		140
31.50–31.99	315	229.40	344	60	32	31.20		141

Continued

Multiplex holder

10640 - 10649

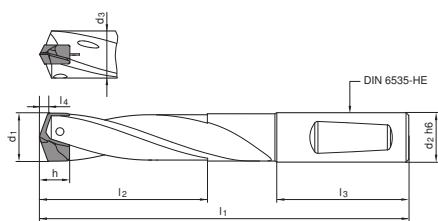
Multiplex HPC



10xD

Continued

Multiplex HPC holder 10xD




10644 100-141



For drilling range Ø d ₁ mm	Carrier size	l ₂ mm	l ₁ mm	l ₃ mm	d ₂ (h6) mm	d ₃ mm	10xD	
							10644	...
11.00-11.49	110	117.10	182	45	12	10.70		100
11.50-11.99	115	122.10	187	45	12	11.20		101
12.00-12.49	120	127.20	194	45	12	11.70		102
12.50-12.99	125	132.30	199	45	14	12.20		103
13.00-13.49	130	137.50	205	45	14	12.70		104
13.50-13.99	135	142.50	211	45	14	13.20		105
14.00-14.49	140	147.70	217	45	14	13.70		106
14.50-14.99	145	152.80	225	48	16	14.20		107
15.00-15.49	150	157.80	232	48	16	14.70		108
15.50-15.99	155	162.90	237	48	16	15.20		109
16.00-16.49	160	168.00	243	48	16	15.70		110
16.50-16.99	165	173.10	249	48	18	16.20		111
17.00-17.49	170	178.30	255	48	18	16.70		112
17.50-17.99	175	183.50	260	48	18	17.20		113
18.00-18.49	180	188.40	267	48	18	17.70		114
18.50-18.99	185	193.50	274	50	20	18.20		115
19.00-19.49	190	198.70	280	50	20	18.70		116
19.50-19.99	195	203.70	286	50	20	19.20		117
20.00-20.49	200	208.90	292	50	20	19.70		118
20.50-20.99	205	214.00	306	56	25	20.20		119
21.00-21.49	210	219.10	312	56	25	20.70		120
21.50-21.99	215	224.20	317	56	25	21.20		121
22.00-22.49	220	229.30	323	56	25	21.70		122
22.50-22.99	225	234.40	329	56	25	22.20		123
23.00-23.49	230	239.50	335	56	25	22.70		124
23.50-23.99	235	244.60	341	56	25	23.20		125
24.00-24.49	240	249.70	347	56	25	23.70		126
24.50-24.99	245	254.80	352	56	25	24.20		127
25.00-25.49	250	259.90	359	56	25	24.70		128
25.50-25.99	255	265.00	369	60	32	25.20		129
26.00-26.49	260	270.00	377	60	32	25.70		130
26.50-26.99	265	275.00	382	60	32	26.20		131
27.00-27.49	270	280.00	388	60	32	26.70		132
27.50-27.99	275	285.20	394	60	32	27.20		133
28.00-28.49	280	290.30	400	60	32	27.70		134
28.50-28.99	285	295.40	405	60	32	28.20		135
29.00-29.49	290	300.50	412	60	32	28.70		136
29.50-29.99	295	305.60	418	60	32	29.20		137
30.00-30.49	300	310.60	424	60	32	29.70		138
30.50-30.99	305	315.70	429	60	32	30.20		139
31.00-31.49	310	320.80	435	60	32	30.70		140
31.50-31.99	315	325.90	441	60	32	31.20		141

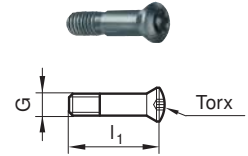
Continued



Continued 

Clamping screws

10644 200-213



For carrier size	G	l ₁ mm	TORX® size	10644	...
110/115	M 2.2	9.50	T 7	200	
120/125	M 2.2	10.50	T 7	201	
130/135	M 2.5	11.40	T 8	202	
140/145	M 3.0	12.10	T 9	203	
150/155	M 3.0	13.10	T 9	204	
160-175	M 3.5	14.25	T 10	205	
180-195	M 4.0	16.00	T 15	206	

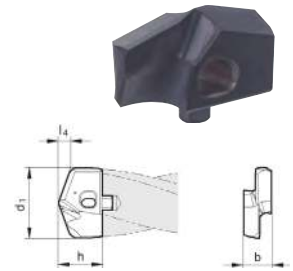
For carrier size	G	l ₁ mm	TORX® size	10644	...
200-215	M 4.5	18.00	T 15	207	
220-235	M 5.0	19.75	T 20	208	
240-255	M 5.0	21.75	T 20	209	
260-295	M 5.0	23.40	T 20	210	
300-315	M 6.0	27.00	T 25	211	
320-350	M 6.0	28.50	T 25	212	
360-390	M 6.0	32.50	T 25	213	

Multiplex HPC pilot plates

10645

Scope of delivery:

- Includes 1 clamping screw



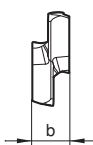
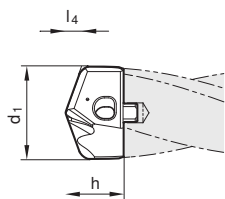
Carrier size	Solid carbide/AlTiN					10645	...
	d ₁ m7 mm	l ₄ mm	b mm	h mm			
110	11.00	1.80	4.50	7.20	100		
110	11.20	1.80	4.50	7.20	101		
110	11.50	1.90	4.50	7.20	102		
110	11.80	1.90	4.50	7.20	103		
120	12.00	1.90	5.00	7.40	104		
120	12.20	2.00	5.00	7.40	105		
120	12.50	2.00	5.00	7.40	106		
130	13.00	2.10	5.50	8.20	107		
130	13.50	2.20	5.50	8.20	108		
130	13.80	2.20	5.50	8.20	109		
140	14.00	2.30	6.00	9.40	110		
140	14.50	2.30	6.00	9.40	111		
140	14.80	2.40	6.00	9.40	112		
150	15.00	2.40	6.00	9.40	113		
150	15.50	2.50	6.00	9.40	114		
150	15.80	2.50	6.00	9.40	115		
160	16.00	2.60	7.00	10.60	116		
160	16.50	2.70	7.00	10.60	117		
170	17.00	2.70	7.00	10.60	118		
170	17.50	2.80	7.00	10.60	119		
180	18.00	2.90	8.00	12.10	120		
180	18.50	3.00	8.00	12.10	121		
190	19.00	3.00	8.00	12.10	122		
190	19.60	3.10	8.00	12.10	123		
200	20.00	3.20	9.00	13.30	124		

Carrier size	Solid carbide/AlTiN					10645	...
	d ₁ m7 mm	l ₄ mm	b mm	h mm			
200	20.50	3.30	9.00	13.30	125		
210	21.00	3.40	9.00	13.30	126		
210	21.50	3.40	9.00	13.30	127		
220	22.00	3.50	10.00	14.80	128		
220	22.50	3.60	10.00	14.80	129		
230	23.00	3.70	10.00	14.80	130		
230	23.50	3.80	10.00	14.80	131		
240	24.00	3.80	11.00	15.30	132		
240	24.50	3.90	11.00	15.30	133		
250	25.00	4.00	11.00	15.30	134		
260	26.00	4.10	12.00	19.40	135		
270	27.00	4.30	12.00	19.40	136		
280	28.00	4.40	13.00	20.10	137		
290	29.00	4.60	13.00	20.10	138		
300	30.00	4.70	14.00	21.70	139		
310	31.00	4.90	14.00	21.70	140		
320	32.00	5.00	15.00	22.40	141		
330	33.00	5.20	15.00	22.40	142		
340	34.00	5.40	15.00	22.40	143		
350	35.00	5.50	15.00	22.40	144		
360	36.00	5.70	16.00	23.20	145		
370	37.00	5.80	16.00	23.20	146		
380	38.00	6.00	16.00	23.20	147		
390	39.00	6.20	16.00	23.20	148		
390	40.00	6.20	16.00	23.20	149		

Continued 

Continued 

Multiplex HPC indexable inserts



Scope of delivery:
- Includes 1 clamping screw



Use	Carrier size		Solid carbide/nanofire		Solid carbide/fire		Solid carbide/blank		Solid carbide/AlTiN nano		
Carrier size	d ₁ m7 mm	l ₄ mm	b mm	h mm	10646	...	10647	...	10648	...	10649
110	11.00	2.10	4.50	7.50	100		100		100		100
110	11.20	2.10	4.50	7.50	101		101		101		101
115	11.50	2.10	4.50	7.50	102		102		102		102
115	11.80	2.20	4.50	7.50	103		103		103		103
120	12.00	2.20	5.00	7.70	104		104		104		104
120	12.20	2.30	5.00	7.70	105		105		105		105
125	12.50	2.30	5.00	7.70	106		106		106		106
130	13.00	2.40	5.50	8.50	107		107		107		107
135	13.50	2.50	5.50	8.50	108		108		108		108
135	13.80	2.60	5.50	8.50	109		109		109		109
140	14.00	2.60	6.00	9.60	110		110		110		110
145	14.50	2.70	6.00	9.60	111		111		111		111
145	14.80	2.70	6.00	9.60	112		112		112		112
150	15.00	2.80	6.00	9.80	113		113		113		113
155	15.50	2.90	6.00	9.80	114		114		114		114
155	15.80	2.90	6.00	9.80	115		115		115		115
160	16.00	3.00	7.00	11.00	116		116		116		116
165	16.50	3.10	7.00	11.00	117		117		117		117
170	17.00	3.10	7.00	11.00	118		118		118		118
175	17.50	3.20	7.00	11.00	119		119		119		119
180	18.00	3.30	8.00	12.60	120		120		120		120
185	18.50	3.40	8.00	12.60	121		121		121		121
190	19.00	3.50	8.00	12.60	122		122		122		122
195	19.60	3.60	8.00	12.60	123		123		123		123
200	20.00	3.70	9.00	13.90	124		124		124		124
205	20.50	3.80	9.00	13.90	125		125		125		125
210	21.00	3.90	9.00	13.90	126		126		126		126
215	21.50	4.00	9.00	13.90	127		127		127		127
220	22.00	4.10	10.00	15.30	128		128		128		128
225	22.50	4.10	10.00	15.30	129		129		129		129
230	23.00	4.20	10.00	15.30	130		130		130		130
235	23.50	4.30	10.00	15.30	131		131		131		131
240	24.00	4.40	11.00	15.80	132		132		132		132
245	24.50	4.50	11.00	15.80	133		133		133		133
250	25.00	4.60	11.00	15.80	134		134		134		134
260	26.00	4.80	12.00	20.00	135		135		135		135
270	27.00	5.00	12.00	20.00	136		136		136		136
280	28.00	5.10	13.00	20.70	137		137		137		137
290	29.00	5.30	13.00	20.70	138		138		138		138
300	30.00	5.50	14.00	22.30	139		139		139		139
310	31.00	5.70	14.00	22.30	140		140		140		140
320	32.00	5.90	15.00	23.10	141		141		141		141
330	33.00	6.10	15.00	23.10	142		142		142		142
340	34.00	6.20	15.00	23.10	143		143		143		143
350	35.00	6.40	15.00	23.10	144		144		144		144
360	36.00	6.60	16.00	23.90	145		145		145		145
370	37.00	6.80	16.00	23.90	146		146		146		146
380	38.00	7.00	16.00	23.90	147		147		147		147
390	39.00	7.10	16.00	23.90	148		148		148		148
390	40.00	7.30	16.00	23.90	149		149		149		149

Continued 



Continued

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<50HRC	<55HRC	<60HRC	<65HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10646	-	-	130	120	110	90	70	55	-	-	-	-	-	-	-	-	-
10647	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	120	-
10648	200	150	70-180	-	-	-	-	-	-	-	-	-	-	-	-	-	-
10649	-	-	-	-	-	-	-	-	25	25	-	-	55	35	-	-	-

Info

Are you familiar with the HARTNER multiplex drilling system?

HARTNER

The tool system with internally cooled holders in different lengths as well as cutting plates that can be replaced, meaning

- No re-sharpening
- Always original grinding
- Length always remains constant

Each holder drills with plates in different diameters and cutting materials, such as coated HSS-E PM and solid carbide, depending on what is being processed. Drilling range from Ø 9.7 to 65 mm – often up to 7 x d. This tool is not suitable for drilling out pre-cast or pre-drilled holes.

What you have previously drilled conventionally, you can now drill with the MULTIPLEX DRILLING SYSTEM

- Quicker
- More precise
- Better
- Cheaper

The MULTIPLEX DRILLING SYSTEM has many benefits:

- No resharpening costs
- The coating benefit is fully maintained
- High cutting performance and optimum service life due to internal cooling
- Constant tool length
- Presetting times and adjustments for NC machines are not required
- Reduction in storage costs

Further development as a special tool for the operations

- Drilling
- Countersinking
- Levelling
- Chamfering
- Extracting
- Countersinking

The MULTIPLEX DRILLING SYSTEM drills down your spiralling costs!

10649–10674 Multiplex indexable insert twist drills

Design

With internal coolant supply.
With straight shank, right cutting.
Up to drilling Ø 35 mm hardened and nickel-plated.
Also nickel-plated. Without cutting plate.

Tip angle:

- Up to Ø 25.4 = 135°
- Over Ø 25.4 = 132°

Point thinning:

Special design with short chisel edge.

Applications

For drilling steel and steel casting alloyed and unalloyed up to 1100 N/mm² strength, grey cast iron, malleable iron, spheroidal graphite iron, sintered iron, nickel silver, bronze, brass.

10649

Twist drill with straight shank 3xD



3xD

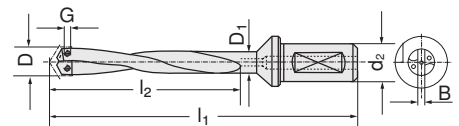
HARTNER



10649



For drilling range Ø D mm	l ₂ mm	l ₁ mm	D ₁ mm	d ₂ mm	B mm	TORX® screws G	10649	...
9.70–11.70	50	107	9.5	20	2.5	M 2.0 x 4	201	
11.71–13.40	53	109	11.5	20	2.5	M 2.0 x 4	202	
13.41–16.40	60	116	13.0	20	3.5	M 2.5 x 5	203	
16.41–18.90	65	118	16.0	20	3.5	M 2.5 x 7	204	
18.91–22.40	73	124	18.5	20	4.0	M 3.0 x 6	205	
22.41–25.40	78	127	22.0	20	4.0	M 3.0 x 8	206	
25.41–29.00	105	178	24.0	32	5.0	M 3.5 x 10	207	
29.01–35.00	108	178	28.0	32	5.0	M 3.5 x 10	208	
35.01–45.00	152	223	34.0	32	7.0	M 4.0 x 15	209	
45.01–55.00	152	233	44.0	40	7.0	M 4.0 x 15	210	
55.01–65.00	152	233	54.0	40	7.0	M 4.0 x 15	211	



Continued

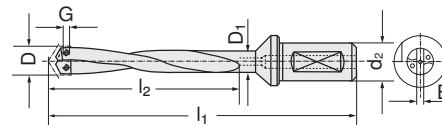
Twist drills | Multiplex drilling system

Drilling tools

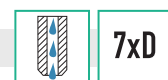
10650 Twist drill with straight shank 5xD



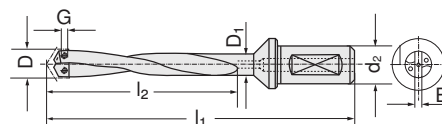
For drilling range Ø D mm	l ₂ mm	l ₁ mm	D ₁ mm	d ₂ mm	B mm	TORX® screws G	10650	...
9.70-11.70	83	140	9.5	20	2.5	M 2.0 x 4		201
11.71-13.40	94	150	11.5	20	2.5	M 2.0 x 4		202
13.41-16.40	104	160	13.0	20	3.5	M 2.5 x 5		203
16.41-18.90	117	170	16.0	20	3.5	M 2.5 x 7		204
18.91-22.40	129	180	18.5	20	4.0	M 3.0 x 6		205
22.41-25.40	131	180	22.0	20	4.0	M 3.0 x 8		206
25.41-29.00	166	240	24.0	32	5.0	M 3.5 x 10		207
29.01-35.00	170	240	28.0	32	5.0	M 3.5 x 10		208
35.01-45.00	210	280	34.0	32	7.0	M 4.0 x 15		209
45.01-55.00	210	290	44.0	40	7.0	M 4.0 x 15		210
55.01-65.00	210	290	54.0	40	7.0	M 4.0 x 15		211



10651 Twist drill with straight shank 7xD



For drilling range Ø D mm	l ₂ mm	l ₁ mm	D ₁ mm	d ₂ mm	B mm	TORX® screws G	10651	...
9.70-11.70	123	180	9.5	20	2.5	M 2.0 x 4		201
11.71-13.40	134	190	11.5	20	2.5	M 2.0 x 4		202
13.41-16.40	155	210	13.0	20	3.5	M 2.5 x 5		203
16.41-18.90	168	220	16.0	20	3.5	M 2.5 x 7		204
18.91-22.40	199	250	18.5	20	4.0	M 3.0 x 6		205
22.41-25.40	201	250	22.0	20	4.0	M 3.0 x 8		206
25.41-29.00	246	320	24.0	32	5.0	M 3.5 x 10		207
29.01-35.00	250	320	28.0	32	5.0	M 3.5 x 10		208
35.01-45.00	310	380	34.0	32	7.0	M 4.0 x 15		209
45.01-55.00	310	390	44.0	40	7.0	M 4.0 x 15		210
55.01-65.00	310	390	54.0	40	7.0	M 4.0 x 15		211



10654 - 10657 Indexable inserts for Multiplex system



Design
- With surface cut
- Right cutting

10654
Quality
HSS-E-PM/TiN for steel up to 1200 N/mm², cast iron, aluminium.
With chip divider groove for short chips.

10655
Quality
HSS-E-PM/fire coating for increased service life in steel up to 1200 N/mm², cast iron, aluminium, brass, bronze. With chip divider groove for short chips.

10657
Quality
Solid carbide/fire coating for another significant increase in service life and performance also in steel up to 48 HRC and chilled cast iron. With chamfer without chip divider groove.



10654



10655



10657

Ø mm	B mm	HSS-E-PM/TiN		HSS-E-PM/Fire		H 22/Fire	
		10654	...	10655	...	10657	...
10.00	2.5		602		602		602
10.20	2.5		603				603
10.50	2.5				604		604
11.00	2.5		607		607		607
12.00	2.5		615		615		615
12.50	2.5		621		621		621
12.75	2.5		624				624
13.00	2.5		625		625		625
13.50	3.5		628		628		628

Ø mm	B mm	HSS-E-PM/TiN		HSS-E-PM/Fire		H 22/Fire	
		10654	...	10655	...	10657	...
13.75	3.5		629				629
14.00	3.5		630			630	630
14.25	3.5		631			631	631
14.50	3.5		633			633	633
14.75	3.5		634				634
15.00	3.5		635		635		635
15.25	3.5		636				636
15.50	3.5		637			637	637
15.75	3.5		638			638	638

Continued

10654 - 10657 Indexable inserts for Multiplex system

Continued

		HSS-E-PM/TiN		HSS-E-PM/Fire		H 22/Fire				HSS-E-PM/TiN		HSS-E-PM/Fire		H 22/Fire				
Ø	B	10654	...	10655	...	10657	...	Ø	B	10654	...	10655	...	10657	...	Ø	B	
mm	mm							mm	mm							mm	mm	
16.00	3.5		639			639		21.50	4.0			663			663		21.50	4.0
16.25	3.5						640	21.75	4.0			664			664		21.75	4.0
16.50	3.5		641			641	641	22.00	4.0			665			665		22.00	4.0
17.00	3.5		643			643	643	22.50	4.0			668			668		22.50	4.0
17.50	3.5		645			645	645	23.00	4.0			670			670		23.00	4.0
17.75	3.5		646				646	23.50	4.0			672			672		23.50	4.0
18.00	3.5		647				647	24.00	4.0			675			675		24.00	4.0
18.25	3.5		648				648	24.25	4.0								24.25	4.0
18.50	3.5		649				649	24.50	4.0			677			677		24.50	4.0
18.75	3.5		650				650	25.00	4.0			680			680		25.00	4.0
19.00	4.0		651				651	26.00	5.0								26.00	5.0
19.50	4.0		654				654	27.00	5.0								27.00	5.0
19.75	4.0		655				655	28.00	5.0								28.00	5.0
20.00	4.0		656				656	29.00	5.0								29.00	5.0
20.25	4.0		657					30.00	5.0								30.00	5.0
20.50	4.0		658				658	33.00	5.0								33.00	5.0
21.00	4.0		661				661	34.00	5.0								34.00	5.0
21.25	4.0		662					35.00	5.0								35.00	5.0

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10654																	
80-85	65-70	40-45	35-40	30-35	25-30	22-25	20-22	-	-	-	-	-	15-20	-	-	28-35	-
10655																	
80-85	65-70	40-50	42-48	40-45	35-40	25-28	18-25	-	-	-	-	-	17-23	-	-	33-40	-
10657																	
140-160	130-150	70-80	90-100	80-85	75-80	70-75	55-65	40-45	-	-	-	-	30-45	-	-	70-90	-

10672 Indexable inserts for Multiplex system



HARTNER



Design

- With surface cut
- Right cutting

Quality
HSS-E-PM/TiAlN for
materials up to 1200 N/mm².



10672 600-613



10672 614-641

		HSS-E-PM/TiAlN		HSS-E-PM/TiAlN		HSS-E-PM/TiAlN		HSS-E-PM/TiAlN				HSS-E-PM/TiAlN			
Ø	B	10672	...	Ø	B	10672	...	Ø	B	10672	...	Ø	B	10672	...
mm	mm			mm	mm			mm	mm			mm	mm		
25	5		600	33	5		611	44	7		622	55	7		633
25.5	5		601	34	5		612	45	7		623	56	7		634
26	5		602	35	5		613	46	7		624	57	7		635
26.5	5		603	36	7		614	47	7		625	58	7		636
27	5		604	37	7		615	48	7		626	59	7		637
28	5		605	38	7		616	49	7		627	60	7		638
29	5		606	39	7		617	50	7		628	62	7		639
29.5	5		607	40	7		618	51	7		629	64	7		640
30	5		608	41	7		619	52	7		630	65	7		641
31	5		609	42	7		620	53	7		631				
32	5		610	43	7		621	54	7		632				

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
75-80	65-75	60-65	50-55	45-50	40-45	35-40	30-35	-	-	-	-	-	25-28	-	-	40-50	-

10674 TORX® clamping screws

HARTNER



Design

Pack = 5 units.

Applications
For Multiplex indexable insert twist drills
Art. no. 10649 ff.



10674

Designation	Drilling range mm	TORX® size	10674	...	Designation	Drilling range mm	TORX® size	10674	...
M 2.0 x 4	10-13	T 6		201	M 3.0 x 8	> 22-25	T 9		205
M 2.5 x 5	> 13-16	T 7		202	M 3.5 x 10	> 25-35	T 15		206
M 2.5 x 7	> 16-18	T 7		203	M 4.0 x 15	> 35-65	T 20		207
M 3.0 x 6	> 18-22	T 9		204					

Stepped drill bit

10840

Stepped drill bit



HARTNER

Design

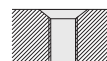
- Countersink angle 90°
- With straight shank
- Cone-shaped section finish
- Thinned chisel edge and surface treatment

Applications

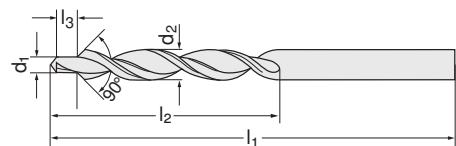
For making threaded core holes and counterbores in accordance with DIN 336 Part 1. Free countersinks for through-bores in accordance with DIN EN 20273.

Quality

HSS ground for steel up to 900 N/mm², aluminium alloys, bronze, brass.



10840



For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	10840	...
M 3	2.5 x 3.4	8.8	39	70		101
M 4	3.3 x 4.5	11.4	47	80		102
M 5	4.2 x 5.5	13.6	57	93		103

For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	10840	...
M 6	5.0 x 6.6	16.5	63	101		104
M 8	6.8 x 9.0	21.0	81	125		105
M 10	8.5 x 11.0	25.5	94	142		106

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10850

Stepped drill bit



HARTNER

Design

- Countersink angle 90°
- With straight shank
- Cone-shaped section finish
- Thinned chisel edge and surface treatment

Applications

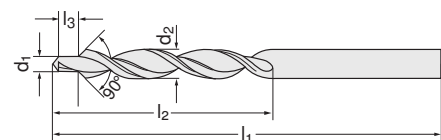
For making screw through-bores DIN EN 20273, screw head countersinking shape A medium DIN 74 Part 1. Screw countersinks DIN 963 to 966.

Quality

HSS ground for steel up to 900 N/mm², aluminium alloys, bronze, brass.



10850

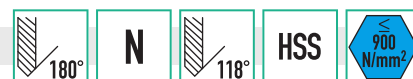


For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	10850	...
M 3	3.4 x 6.6	9	63	101		101
M 4	4.5 x 9.0	11	81	125		102
M 5	5.5 x 11.0	13	94	142		103
M 6	6.6 x 13.0	15	101	151		105
M 8	9.0 x 17.2	19	130	191		107

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10861 - 10862

Stepped drill bit



HARTNER

Design

- Countersink angle 180°
- Cone-shaped section finish
- Thinned chisel edge and surface treatment

10861

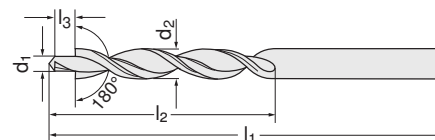
Design
With straight shank.

10862

Design
With Morse taper shank.



10861



For making screw through-bores and countersinks DIN EN 20273, screw head countersinking shape H, J and K. Medium design in accordance with DIN 74 Part 2. Cylinder screws in accordance with DIN 84, DIN 912, DIN 6912, DIN 7513, DIN 7984.

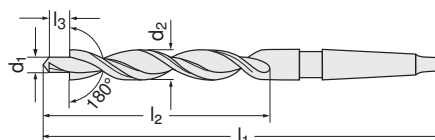
Quality

HSS ground for steel up to 900 N/mm², cast iron, aluminium alloys, brass, bronze.

For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	Straight shank		Morse taper shank	
					10861	...	10862	...
M 3	3.4 x 6.0	9	57	93	-			
M 4	4.5 x 8.0	11	75	117	-			
M 5	5.5 x 10.0	13	87	133	-			
M 6	6.6 x 11.0	15	94	142	-			
M 8	9.0 x 15.0	19	114	169	-			
M 8	9.0 x 15.0	19	114	212	2			105
M 10	11.0 x 18.0	23	130	191	-			106
M 10	11.0 x 18.0	23	130	228	2			106
M 12	13.5 x 20.0	27	140	238	2			107
M 16	17.5 x 26.0	35	165	286	3			109
M 20	22.0 x 33.0	43	185	334	4			111



10862



HARTNER

Design

- With straight shank
- Cone-shaped section finish
- Thinned chisel edge

Quality

HSS ground for steel up to 900 N/mm², cast iron, aluminium alloys, brass, bronze.

10866

Design

Countersink angle 90°. For thread core hole bores DIN 336 Part 1. Free countersinks for through-bores DIN EN 20273 medium.

10867

Design

Countersink angle 90°. For screw through-bores DIN EN 20273. Screw head countersinks DIN 74 Part 1 fine, countersunk head screws DIN EN ISO 2009 and 2010.

10868

Design

Countersink angle 180°. For screw through-bores DIN EN 20273. Screw head countersinks shape H, J, K Part 2 medium. Cheese head screws DIN EN ISO 4762, DIN EN ISO 1207, DIN 6912, DIN 7513, DIN 7984.

For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	HSS		HSS		HSS	
					10866	...	10867	...	10868	...
M 3	2.5 x 3.4	8.8	20	52			101			
M 4	3.3 x 4.5	11.4	24	58			102			
M 5	4.2 x 5.5	13.6	28	66			103			
M 6	5.0 x 6.6	16.5	31	70			104			
M 8	6.8 x 9.0	21.0	40	84			105			
M 10	8.5 x 11.0	25.5	47	95			106			
M 12	10.2 x 13.5	30.0	54	107			107			
M 3	3.2 x 6.0	9.0	28	66					101	
M 4	4.3 x 8.0	11.0	37	79					102	
M 5	5.3 x 10.0	13.0	43	89					103	
M 6	6.4 x 11.5	15.0	47	95					104	
M 8	8.4 x 15.0	19.0	56	111					105	
M 10	10.5 x 19.0	23.0	64	127					106	
M 3	3.4 x 6.0	9.0	28	66						101
M 4	4.5 x 8.0	11.0	37	79						102
M 5	5.5 x 10.0	13.0	43	89						103
M 6	6.6 x 11.0	15.0	47	95						104
M 8	9.0 x 15.0	19.0	56	111						105
M 10	11.0 x 18.0	23.0	62	123						106

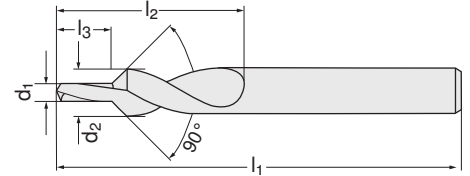
Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40



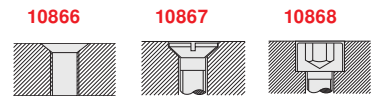
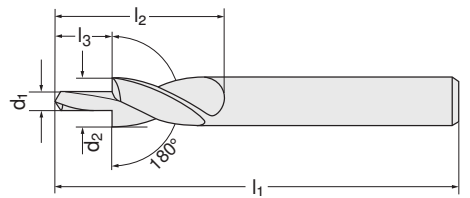
10866



10867



10868





Design

- With straight shank
- Right cutting
- Diameter tolerance h8

Applications

For thread core holes. For economic manufacture of hole and countersink in a single action.

Quality

Solid carbide/TiAlN-coated.

10863

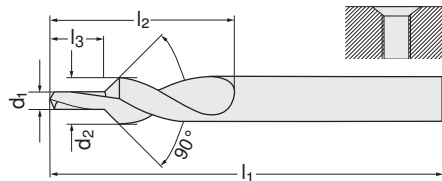
Design

Countersink angle 90°.

For thread core hole bores DIN 336 Part 1. Free countersinks for through-bores DIN EN 20273 medium.



10863



10864

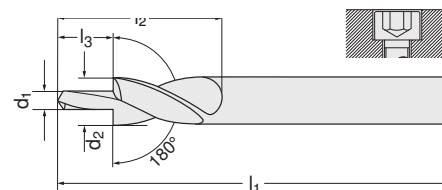
Design

Countersink angle 180°.

For screw through-bores DIN EN 20273. Screw head countersinks shape H, J, K Part 2 medium. Cheese head screws DIN EN ISO 4762, DIN EN ISO 1207, DIN 6912, DIN 7513, DIN 7984.



10864



For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	Shank Ø mm	90°	
						10863	...
M 3	2.5 x 3.4	8.8	28	66	6.0		101
M 4	3.3 x 4.5	11.4	28	66	6.0		102
M 5	4.2 x 5.5	13.6	28	66	6.0		103
M 6	5.0 x 6.6	16.5	41	79	8.0		104
M 8	6.8 x 9.0	21.0	47	89	10.0		105
M 10	8.5 x 11.0	25.5	55	102	12.0		106
M 12	10.2 x 13.5	30.0	60	107	14.0		107

For thread	d ₁ x d ₂ mm	l ₃ mm	l ₂ mm	l ₁ mm	Shank Ø mm	180°	
						10864	...
M 3	3.4 x 6.0	9	28	64	6.0		101
M 4	4.5 x 8.0	11	37	79	8.0		102
M 5	5.5 x 10.0	13	43	89	10.0		103
M 6	6.6 x 11.0	15	55	102	12.0		104
M 8	9.0 x 15.0	19	60	115	16.0		105
M 10	11.0 x 18.0	23	62	123	18.0		106

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
190-200	180-190	100-120	80-100	70-90	65-85	60-80	55-75	35-55	-	-	-	-	35-40	25-30	25-35	65-90	35-60

10869 - 10872

Centre drill bit



Design

- Shape A 60°
- Double-sided
- Right cutting
- Spiral-fluted
- Relief ground
- Conical grinding
- Simple centring hole without protective countersink with a large surface area of the workpiece at the punch tip

Applications

For making centring holes in accordance with DIN 332 in normally machinable materials such as steel, cast iron, and non-ferrous and light metals. Suitable for especially heavy workpieces using synchronous running punch tips.

Note:

Centre drill with Ø 0.50 and 0.80 mm on one side only.

10869
Quality
HSS.

10870 101-118
ATORN®

Quality
HSS.

10870 203-215
ATORN®

Quality
HSS-E.

10871
ATORN®

Quality
HSS-E/TiN-coated.

10872
ATORN®

Quality
HSS-E/TiAlN-coated.

HSS
HSS-E



10869 - 10870



10870 (L)

HSS-E
TiN

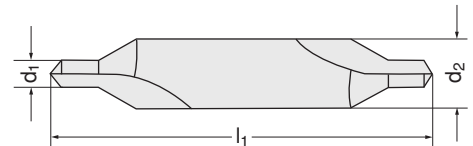


10871

HSS-E
TiAlN



10872



d ₁ h7 mm	d ₂ mm	l ₁ mm	Image	HSS		HSS		HSS-E		HSS-E/TiN		HSS-E/TiAlN	
				10869	...	10870	...	10870	...	10871	...	10872	...
0.50	3.15	25.0	10 pcs.				101				201		
0.80	3.15	25.0	10 pcs.		102		102				202		
1.00	3.15	31.0	10 pcs.		103		103		203		203		203
L 1.00	4.00	120.0	-				104						
1.25	3.15	31.0	10 pcs.		105		105		205		205		205
1.60	4.00	35.0	10 pcs.		106		106		206		206		206
L 1.60	5.00	120.0	-				107						
2.00	5.00	40.0	10 pcs.		108		108		208		208		208
L 2.00	6.00	120.0	-				109						
2.50	6.30	45.0	10 pcs.		110		110		210		210		210
L 2.50	8.00	120.0	-				111						
3.15	8.00	50.0	10 pcs.		112		112		212		212		212
L 3.15	10.00	120.0	-				113						
4.00	10.00	55.0	10 pcs.		114		114		214		214		214
L 4.00	10.0	120.0	-				119						
5.00	12.50	63.0	-		115		115		215		215		215
L 5.00	14.0	120.0	-				120						
6.30	16.00	71.0	-		116		116				216		
8.00	20.00	80.0	-		117		117						
10.00	25.00	100.0	-		118		118						

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
160-200	140-170	90-110	70-80	60-65	50-60	40-50	35-40	30-35	-	-	-	-	-	-	20-25	60-70	40-45

10881

Centre drill set

ATORN®

Design

- Shape A 60°
- Short
- Countersink angle 60°
- Right cutting

Applications

For centring holes without protective countersink in accordance with DIN 333.

Quality
HSS.

Set contents:

- 3 pieces 1.6 x 4.0 mm
- 3 pieces 2.0 x 5.0 mm
- 3 pieces 2.5 x 6.3 mm
- 3 pieces 3.15 x 8.0 mm
- 2 pieces 4.0 x 10.0 mm
- 1 pieces 5.0 x 12.5 mm

Set contents	HSS	...
15 pieces	10881	101



10881

10873

Centre drill, left-cutting



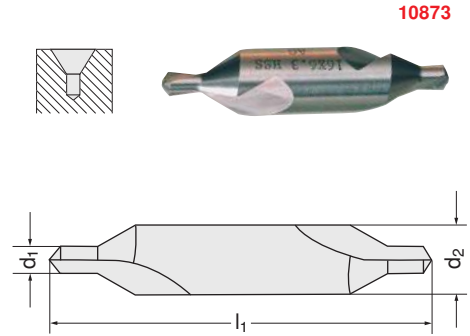
Design

- Shape A 60°
- Double-sided
- Left-cutting
- Spiral-fluted

- Relief ground
 - Cone polished section
- Applications**
For left-turning processing machines.
- Quality**
HSS.

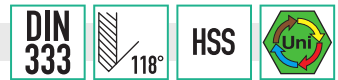
d ₁ h7 mm	d ₂ mm	l ₁ mm		HSS	
				10873	...
1.00	3.15	31.0	10 pcs.	103	
1.60	4.00	35.0	10 pcs.	106	
2.00	5.00	40.0	10 pcs.	108	
2.50	6.30	45.0	10 pcs.	110	
3.15	8.00	50.0	10 pcs.	112	
4.00	10.00	55.0	10 pcs.	114	
5.00	12.50	63.0	-	115	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
160-200	140-170	90-110	70-80	60-65	50-60	40-50	35-40	30-35	-	-	-	-	-	-	20-25	60-70	40-45



10874 - 10876

Centre drill bit



Design

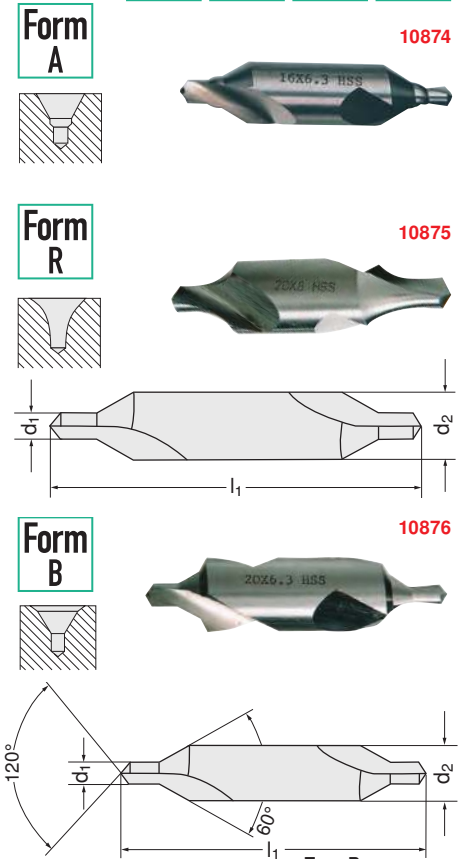
- Double-sided (Ø 0.50 and 0.80 one-sided)
- Right cutting
- Spiral-fluted
- Relief ground
- Cone polished section

- 10874**
Design
- Shape A with bead 60°
- Centring hole without protective countersink
- With ring bead that forms additional space for lubricant
- Applications**
Beneficial for fast-rotating workpieces when using fixed punch tips.

Quality
HSS.

- 10875**
Design
- Shape R 60°
- Centring hole with radius results in a ring-shaped installation of the workpiece at the punch tip with the advantages of a protective countersink
- Applications**
Ideal for workpieces in which deformation tensions occur during processing.

- 10876**
Design
- Shape B 60/120°
- Centring hole with conical protective countersink
- Large surface area of the workpiece at the punch tip
- Applications**
Especially beneficial for workpieces or tools, which need to be clamped between punch tips very often.



d ₁ h7 mm	d ₂ mm	l ₁ mm		Shape A		Shape R	
				10874	...	10875	...
0.50	3.15	25.0	10 pcs.				101
0.80	3.15	25.0	10 pcs.				102
1.00	3.15	31.0	10 pcs.		103		103
1.25	3.15	31.0	10 pcs.				105
1.60	4.00	35.0	10 pcs.		106		106
2.00	5.00	40.0	10 pcs.		108		108
2.50	6.30	45.0	10 pcs.		110		110
3.15	8.00	50.0	10 pcs.		112		112
4.00	10.00	55.0	10 pcs.		114		114
5.00	12.50	63.0	-		115		115
6.30	16.00	71.0	-		116		116

d ₁ h7 mm	d ₂ mm	l ₁ mm		Type B	
				10876	...
1.60	6.30	45.0	10 pcs.	103	
2.00	8.00	50.0	10 pcs.	104	
2.50	10.00	55.0	10 pcs.	105	
3.15	11.20	62.0	10 pcs.	106	
4.00	14.00	69.0	10 pcs.	107	
5.00	18.00	77.0	-	108	
6.30	20.00	80.0	-	109	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
160-200	140-170	90-110	70-80	60-65	50-60	40-50	35-40	30-35	-	-	-	-	-	-	20-25	60-70	40-45



ATORN®

Quality
Solid carbide K10/K20.

Design

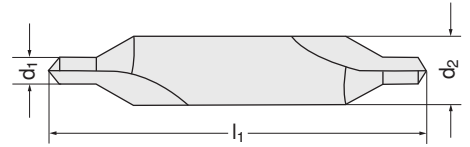
- Shape A, 60°
- Simple centring hole without protective countersink
- With large surface area of the workpiece at the punch tip

Applications

For making centring holes in materials that are difficult to machine, such as high-strength steel, various types of cast iron and aluminium with a high silicon content. Suitable for especially heavy workpieces using synchronously running punch tips.



10880



K10/K20				K10/K20			
d ₁ h7	d ₂	l ₁	10880	d ₁ h7	d ₂	l ₁	10880
mm	mm	mm	...	mm	mm	mm	...
1.00	3.15	31.5	103	2.50	6.30	45.0	107
1.25	3.15	31.5	104	3.15	8.00	50.0	108
1.60	4.00	35.5	105	4.00	10.00	56.0	109
2.00	5.00	40.0	106	5.00	12.50	63.0	110

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
160-200	140-170	90-110	70-80	60-65	50-60	40-50	35-40	30-35	-	-	-	-	25-28	25-28	20-25	60-70	40-45

10890 - 10893

NC spotting drills



ATORN®

Design

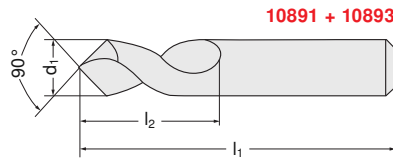
- With straight shank
- Right cutting
- Extremely short chip flutes
- Without chamfers
- Cone polished section
- Special drill with weak core

Applications

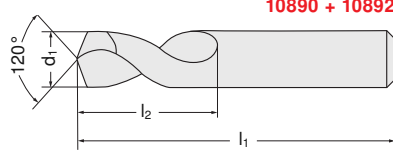
For drilling in steel and steel casting, alloyed and unalloyed, up to approx. 1000 N/mm² strength, grey cast iron, malleable iron, spheroidal graphite iron, sintered iron, nickel silver, graphite, short-chipping aluminium alloys, high-pressure die casting, tough brass. In particular, for precision spotting and countersinking work on NC and CNC-controlled machines, jig boring machines etc.

Note:

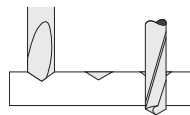
Not suitable for drilling deep holes!
NC spotting drill TiN-coated, as well as with another tip angle, in an extended design or with MK shank deliverable on request.



10891 + 10893



10890 + 10892



10891



10893



10890



10892

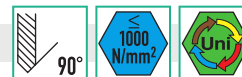


d ₁ h ₆	l ₂	l ₁	HSS-E 90°		HSS-E/TiCN 90°		HSS-E 120°		HSS-E/TiCN 120°	
			10891	...	10893	...	10890	...	10892	...
3	12.0	46	201		201		201		201	
4	12.0	55	202		202		202		202	
5	14.0	62	203		203		203		203	
6	16.0	66	204		204		204		204	
8	21.0	79	205		205		205		205	
10	25.0	89	206		206		206		206	
12	30.0	102	207		207		207		207	
16	37.5	115	208		208		208		208	
20	40.0	131	209		209		209		209	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10890 + 10891																	
40-100	30-60	35-65	30-50	25-35	20-30	14-20	-	-	-	-	-	-	-	-	-	20-35	10-40
10892 + 10893																	
50-125	40-65	45-80	38-63	30-45	25-30	20-25	-	-	-	-	-	-	15-25	8-15	4-14	25-40	10-40

NC spotting drills

10882 - 10883 Long NC spotting drills



Design

- Straight shank
- Right cutting
- Extremely short chip flutes, without chamfers
- Cone polished section

Applications

For drilling in steel and steel casting, alloyed and unalloyed, **up to approx. 1000 N/mm²** strength, grey cast iron, malleable iron, spheroidal graphite iron, sintered iron, nickel silver, graphite, short-chipping aluminium alloys, high-pressure die casting, tough brass.

Note:

Not suitable for drilling deep holes!

10882

Quality

HSS-E.

10883

Quality

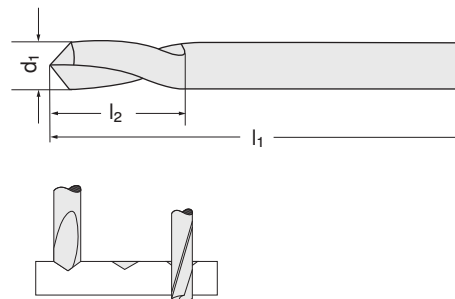
HSS-E/TiCN-coated.

HSS-E

10882

HSS-E
TiCN

10883



d ₁ h6 mm	l ₂ mm	l ₁ mm	HSS-E 90°		HSS-E/TiCN 90°	
			10882	...	10883	...
4	12	100		104		104
6	20	140		106		106
8	25	140		108		108
10	25	170		110		110
12	30	170		112		112

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10882																	
40-100	30-60	35-65	30-50	25-35	20-30	14-20	-	-	-	-	-	-	-	-	-	20-35	10-40
10883																	
50-125	40-65	45-80	38-63	30-45	25-30	20-25	-	-	-	-	-	-	15-25	8-15	4-10	25-40	10-40

10895 Solid carbide NC spotting drill



Design

- Straight shank
- Right cutting
- Extremely short chip flutes, without chamfers
- Surface grinding
- Special drill with weak core

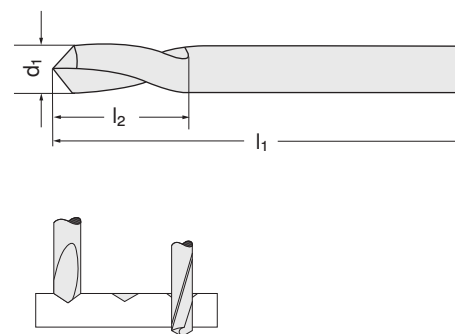
Applications

In particular, for precision spotting and countersinking work on NC and CNC-controlled machines, jig boring machines etc. For drilling in grey cast iron, chilled cast iron, short chipping malleable iron, hardened steel, non-ferrous metals, plastics, etc.

Quality

Carbide, type K10/K20 90°.

10895



d ₁ h8 mm	l ₂ mm	l ₁ mm	K10/K20 90°	
			10895	...
2	8	40		107
3	10	45		108
4	12	50		109
5	15	50		110
6	18	50		111
8	23	60		112
10	24	70		113
12	24	70		114
16	26	80		115
20	35	100		116

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
150-220	130-160	130-180	60-85	55-75	50-75	45-60	45-60	45-60	-	-	-	-	30-50	20-45	20-40	65-75	20-70

10901 - 10903

Solid carbide NC spotting drill



Design

- Straight shank
- Right cutting
- Spiral-fluted

Applications

Drilling and countersinking on NC machines in cast iron, malleable iron, non-ferrous light metals, abrasive plastics.

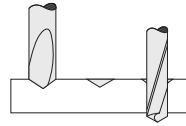
Quality

Solid carbide ultra-fine grain/TiAlN-coated.

10901

Design

From diameter 6 mm with HB shaft.



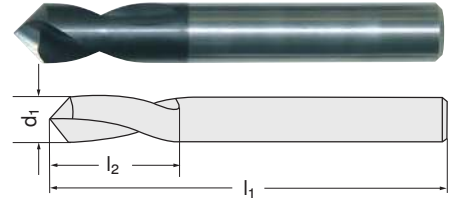
10901



10902



10903



d ₁ h6 mm	l ₂ mm	l ₁ mm	142°		120°		90°	
			10901	...	10902	...	10903	...
2	8	40					101	101
3	10	45		102		102		102
4	12	50		103		103		103
5	15	50		104		104		104
6	18	50		105		105		105
8	23	60		106		106		106
10	24	70		107		107		107
12	24	70		108		108		108
16	26	80		110		110		110
20	35	100		112		112		112

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
220-300	180-240	180-240	80-100	60-90	60-80	50-70	45-65	45-65	-	-	-	-	30-40	20-30	35-45	80-100	30-80

10905 - 10906

Solid carbide NC spotting drill



Design

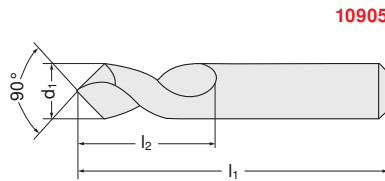
- Spiral-fluted
- With relief grinding

Applications

For universal use up to 1300 N/mm².
For NC spot drilling on CNC machines.

Note:

Diameter 3.0-5.0 with HA shaft.



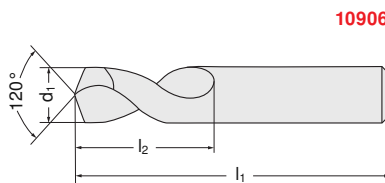
10905



10905 103-120



10905 203-220



10906



10906 103-120



10906 203-220




d ₁ h6 mm	l ₂ mm	l ₁ mm	Shank DIN 1835	Solid carbide 90°		Solid carbide/TiAlN+ 90°		Solid carbide 120°		Solid carbide/TiAlN+ 120°	
				10905	...	10905	...	10906	...	10906	...
3.0	12	46	HA		103		203		103		203
4.0	12	55	HA		104		204		104		204
5.0	14	62	HA		105		205		105		205
6.0	20	66	HB		106		206		106		206
8.0	25	79	HB		108		208		108		208
10.0	25	89	HB		110		210		110		210
12.0	30	102	HB		112		212		112		212
16.0	35	115	HB		116		216		116		216
20.0	40	131	HB		120		220		120		220

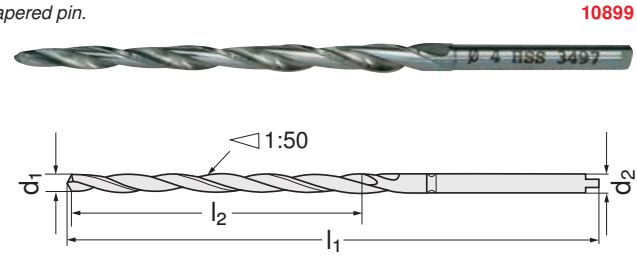
Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
10905+10906 1..																	
150-220	130-160	130-180	60-85	55-75	50-75	45-60	45-60	45-60	-	-	-	-	30-50	20-45	20-40	65-75	20-70
10905+10906 2..																	
220-300	180-240	180-240	80-100	60-90	60-80	50-70	45-65	45-65	-	-	-	-	30-40	20-30	35-45	80-100	30-80



10899 **Taper pin drills**     

HARTNER

Design
 - Straight shank with driver in accordance with DIN 1809
 - Right cutting
 - Cone polished section
Applications
 For drilling in steel and steel casting alloyed and unalloyed **up to 1000 N/mm²** strength, grey cast iron, malleable iron, etc.
 For manufacturing tapered bores for taper pins DIN 1 and DIN 7978 in one step.
 (Use for finish-machining of pin hole reamers art. no. 13432.)

Quality
 HSS.
Note:
 The diameter d_1 of the pin hole drill bit corresponds to the nominal diameter of the tapered pin.



10899

HSS					HSS				
d ₁ h9	l ₂	l ₁	d ₂	...	d ₁ h9	l ₂	l ₁	d ₂	...
mm	mm	mm	mm		mm	mm	mm	mm	
4	68	112	5.00	105	8	145	207	10.00	108
5	73	122	6.30	106	10	175	245	12.50	109
6	105	160	8.00	107	12	210	290	16.00	110

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA<900N	VA>900N	Ti alloy	GG(G)	Plastic
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40


Info **10918 - 10927 Drilling and deburring tool (stepped drill bit)**

Design
 Diameter tolerance +/- 0.13 mm.

Applications
 For drilling and deburring in sheet metals of almost all metal alloys from 0.4 to 3.0 mm thickness, stainless steel, grey cast iron, aluminium, brass, plastic and fibreglass.

Quality
 HSS.

Note:
 Coolant stick see art. no. 10937 101.



10918 **Drilling and deburring tool set**   

Design
 Consisting of 1 drilling and deburring tool each size 1/2A/3A, in box.
Quality
 HSS.

Note:
 Coolant stick see art. no. 10937 101.



10918

Drilling Ø	HSS
mm	10918 ...
4 - 30	101

10924

Stepped drill bit (2 cutting edges)



Size	Number of cutting edges	Dimension table for bore diameter mm	Shank Ø mm	up to material thickness mm	HSS	
					10924	...
1	2	4/5/6/7/8/9/10/11/12	6	5	130	
2	2	12/13/14/15/16/17/18/19/20	9	4	142	NEW
3	2	20/21/22/23/24/25/26/27/28/29/30	12	4	132	
2A	2	4/6/8/10/12/14/16/18/20	8	4	135	
3A	2	6/8/10/12/14/16/18/20/22/24/26/28/30	10	4	143	NEW
4	2	7/12.5 (PG7)/15.2 (PG9)/18.6 (PG11)/20.4 (PG 13.5)/22.5 (PG16)/28.3 (PG21)/30.5/32.6	12	4	137	NEW
5	2	7/12.5 (PG7)/15.2 (PG9)/18.6 (PG11)/20.4 (PG 13.5)/22.5 (PG16)/28.3 (PG21)/33/37 (PG29)/39.6	12	4	138	NEW
13	2	30/31/32/33/34/35/36/37/38/39/40	13	4	139	NEW
14	2	40/41/42/43/44/45/46/47/48/49/50	13	4	140	NEW
15	2	50/51/52/53/54/55/56/57/58/59/60	13	4	141	NEW

10927

Stepped drill bit



Design

With 2 spiral grooves (DBGM) and edge-breaker (DBGM) deburring zone, as well as ROTASTOP (DBGM) comfort shank. Both steps (6 mm for core hole and 3 mm for through hole) on one tool.

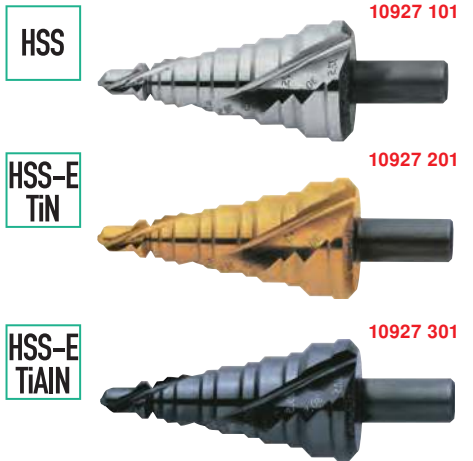
Applications

For burr-free drilling and reaming for cable glands in accordance with **DIN EN 60423**. For processing cable junction boxes, installation boxes, distributor housings, terminal boxes, switch cabinets, switch and control devices, housings.

Thread core hole (6 mm steps)	
Dia./thread	
	7.0/-
	10.5/M 12 x 1.5
	14.5/M 16 x 1.5
	18.5/M 20 x 1.5
	23.5/M 25 x 1.5
	30.5/M 30 x 1.5

Through hole (3 mm steps)	
Dia./thread	
	12.5/M 12 x 1.5
	16.5/M 16 x 1.5
	20.5/M 20 x 1.5
	25.5/M 25 x 1.5
	32.5/M 30 x 1.5

Quality	10927	...
HSS		101
TiN-coated		201
TiAlN-coated		301



10934

Slabbing cut drill reamer (sheet metal drill) sets



Design

- With straight shank
- Drilling range 3–30.5 mm
- Consisting of 1 drill bit in each size: 1, 2 and 3, in plastic case

Applications

For burr- and chatter-free drilling and reaming of holes in thin materials in a single action. For annealed sheet steels, stainless-steel sheets, body panels, non-ferrous metals, thin-walled pipes and plastics such as PVC, Plexiglas, Resopal, among others, as well as hard paper, plywood, etc.

Note:

Bore to the edge possible without deformation!
Coolant stick, see art. no. 10937 101.

10934 201

Quality HSS-E.

10934 202

Quality HSS-E/TiN-coated.

Quality	10934	...
HSS-E		201
HSS-E/TiN		202



10935 - 10937 Slabbing cut drill reamer (sheet metal drill)



Design

- With straight shank

Applications

For burr- and chatter-free drilling and reaming of holes in thin materials in a single action. For annealed sheet steels, stainless-steel sheets, body panels, non-ferrous metals, thin-walled pipes and plastics such as PVC, Plexiglas, Resopal, among others, as well as hard paper, plywood, etc.

Note:

Cooling lubricant!

10935
Quality
HSS-E.

10936
Quality
HSS-E/TiN-coated.

10937
Coolant stick
Design
Without silicone, content 25 ml.
Applications
For lubricating all areas of friction when drilling and thread cutting.

HSS-E



10935

HSS-E
TiN



10936



10937

Size	for hole Ø mm	Shank Ø mm	HSS-E		HSS-E/TiN		Coolant stick	
			10935	...	10936	...	10937	...
1	3-14.0	6		101		101		
2	8-20.0	8		102		102		
3	16-30.5	9		103		103		
4	26-40.0	12		104		104		
5	36-50.0	12		105		105		
6	46-60.0	12		106		106		
7	4-30.5	9		107		107		
-	-	-						101

10940 Universal milling drill

HSS



Design

With straight shank.

Applications

For drilling and cutting out any desired contour in sheets of all kinds, also suitable for wood, Resopal and other plastics.

Quality

HSS.

Note:

Effective rotation speed approx. 1000-1200 rpm.
In the case of lubricating material (zinc, aluminium, etc.) immerse the tool in a lubricant occasionally. For use in electric hand drills.
Coolant stick see art. no. 10937 101.



10940

Ø mm	HSS	
	10940	...
6.35		101

10942 Spot weld cutter

HSS

Design

The core drill is reversible, the cutting depth can be adjusted.

Applications

For loosening spot-welded sheet metal parts without deformation or tearing of the sheet metal. For sheet metal processing plants, body workshops, industry, etc.

Quality

HSS.

Note:

Effective rotation speed approx. 900 rpm.



10942

Core drill Ø mm	HSS	
	10942	...
Cutter	10	101
Spare core	10	102

10955 - 10956

HSS-Co core drill bit (Weldon)



Design

The core drill bit machines only a narrow groove; the remaining core is removed unmachined. Low drive power – up to 4 times faster drilling time, long service life – low wear. All core drill bits with 19 mm Weldon shank for direct fitting or for fitting in Morse taper fittings AMK-2/AMK-3 with internal cooling.

Applications

Suitable for magnetic core drills (see HHW Catalogue Volume 2 art. no. 90060) or for table and pillar drills.

Quality

HSS Co.

Note:

Core drill bits in cemented carbide design or other cutting depths deliverable on request.

10955

Cutting depth 25 mm.

10956

Cutting depth 50 mm.



10955



10956

Ø mm	25 mm		50 mm	
	10955	...	10956	...
12		101		101
13		102		102
14		103		103
15		104		104
16		105		105
17		106		106
18		107		107
19		108		108
20		109		109
21		110		110
22		111		111
23		112		112
24		113		113

Ø mm	25 mm		50 mm	
	10955	...	10956	...
25		114		114
26		115		115
27		116		116
28		117		117
29		118		118
30		119		119
31		120		120
32		121		121
33		122		122
34		123		123
35		124		124
36		125		125
37		126		126

Ø mm	25 mm		50 mm	
	10955	...	10956	...
38		127		127
39		128		128
40		129		129
41		130		130
42		131		131
43		132		132
44		133		133
45		134		134
46		135		135
47		136		136
48		137		137
49		138		138
50		139		139

10957 - 10958

Accessories for core drill bits

10957

Drive arbors

Design

With automatic internal cooling and nipple for coolant hose. Supplied in plastic case.

Applications

For fitting the HSS-Co core drill bits (art. no. 10955-10956).

10958

Replacement ejector pins

Applications

For HSS-Co core drill bits Ø 12 to 50 mm.



10957



10958

Size	for magnetic core drill Art. no.	for cutting depth mm	for Ø mm	Drive arbor		Ejector pin	
				10957	...	10958	...
MT 2	90060 199	-	-		101		
MT 3	90060 200 + 203	-	-		102		
-	-	25	12-50				101
-	-	50	12-50				102

Core drill bits

10959 QuickIN core drill bit

Design

- With QuickIN holder
- The core drill bit machines only a narrow groove; the remaining core is removed unmachined
- Low drive output
- Up to 4 times faster drilling time
- Long service life
- Reduced wear

Applications

For cutting depth up to 35 mm.

For direct fitting in core drills KBM 65 Q/65 QF/65 U / KBM 50/50 U/50 A (see HHW Catalogue Volume 2 art. no. 90057), for KBM 65/65 F (predecessor type) using a QuickIN drive arbor (art. no. 10962) and for table and pillar drills using QuickIN drive arbors (art. no. 10964).

Note:

Further drilling diameters and cutting depths deliverable on request.

10959 101-121

Individual core drill bits
Quality
HSS.

10959 201-254

Individual core drill bits
Quality
Cemented carbide.

10959 200

Best of QuickIN core drill bits accessories set
Design

- Extremely long service life
- Excellent cutting performance
- Metric dimensions
- Cutting depth 35 mm
- Set design, consisting of 6 core drill bits Ø 12, 14, 16, 18, 20 and 22 mm (cutting depth 35 mm), as well as 2 centring pins (105 mm) in plastic case

Applications

Suitable for: KBM 50 Q, KBM 32 Q, KBM 50 auto, KBM 50 U, KBM 65 U, KBM 80 U, KBM 80 auto.

10959 200



10959 101-121

HSS



10959 201-254

HM



Set contents	Core hole Ø mm	Centring pins mm	10959	...
8 pieces	12/14/16/18/20/22	2 x 105		200

Drilling Ø mm	Total length mm	HSS		Carbide	
		10959	...	10959	...
12	77		101		201
13	77		102		202
14	77		103		203
15	77		104		204
16	77		105		205
17	77		106		206
18	77		107		207
19	77		108		208
20	77		109		209
21	77		110		210
22	77		111		211
23	77		112		212
24	77		113		213
25	77		114		214
26	77		115		215
27	77		116		216
28	77		117		217
29	77		118		218
30	77		119		219
31	77		120		220
32	77		121		221
33	77				222
34	77				223
35	77				224
36	77				225
37	77				226
38	77				227

Drilling Ø mm	Total length mm	HSS		Carbide	
		10959	...	10959	...
39	77				228
40	77				229
41	77				230
42	77				231
43	77				232
44	77				233
45	77				234
46	77				235
47	77				236
48	77				237
49	77				238
50	77				239
51	77				240
52	77				241
53	77				242
54	77				243
55	77				244
56	77				245
57	77				246
58	77				247
59	77				248
60	77				249
61	77				250
62	77				251
63	77				252
64	77				253
65	77				254



10961 101-117

Design

- With QuickIN Plus mount
- Maximum service life thanks to carbide tips
- Excellent cutting performance on all common metals
- Drilling Ø steel up to 25 mm/1 inch
- Drilling diameter for aluminium up to 30 mm / 1.3/16 inch

Applications

For cutting depth up to 20 mm.
For direct fitting in core drill KBH 25 (see HHW Catalogue Volume 2 art. no. 90054 101).

Quality

Cemented carbide.

Note:

- Also deliverable on request:
- Further drilling Ø (19/16–1 3/16 inch)
 - Cemented carbide core drill bits coated (14–30 mm, 9/16–1.3/16 inch)
 - Cemented carbide hole saws (14–54 mm, 9/16–2.1/8 inch)
 - Cemented carbide hole saws for pipes (21–54 mm, 7/8–2.1/8 inch)

10961 302

Centre drill bit

Note:

- Further accessories deliverable on request:
- Chucks and collet chucks for thread cutting
 - Chip container
 - Cutting spray
 - Extension



10961 101-117



10961 302

Centre drill bit

For drilling Ø mm	10961	...
14–54		302

Core drill bits

Drilling Ø mm	10961	...
14		101
15		102
16		103
17		104
18		105
19		106
20		107
21		108
22		109

Core drill bits

Drilling Ø mm	10961	...
23		110
24		111
25		112
26		113
27		114
28		115
29		116
30		117



Design

With thread M 18 x 6 P 1.5. The core drill bit machines only a narrow groove, the remaining core is removed unmachined, lower drive power – up to 4 times faster drilling time, long service life – lower wear.

Applications

For cutting depth up to 50 mm.

For direct fitting in core drills KBM 65/65 F (predecessor type), for KBM 65 Q/65 QF (see HHW Catalogue Volume 2 art. no. 90057) using QuickIN drive arbor (art. no. 10962) and adapter (art. no. 10965) and for table and pillar drills using QuickIN drive arbors (art. no. 10964) and adapter (art. no. 10965).

Quality

Cemented carbide.

Note:

Other cutting depths deliverable on request.



10960

Drilling Ø mm	Total length mm	10960	...
12	82		601
13	82		602
14	82		603
15	82		604
16	82		605
17	82		606
18	82		607
19	82		608
20	82		609
21	82		610
22	82		611
23	82		612
24	82		613
25	82		614
26	78		615

Drilling Ø mm	Total length mm	10960	...
27	78		616
28	78		617
29	78		618
30	78		619
31	78		620
32	78		621
33	78		622
34	78		623
35	78		624
36	78		625
37	78		626
38	78		627
39	78		628
40	78		629
41	78		630

Drilling Ø mm	Total length mm	10960	...
42	78		631
43	78		632
44	78		633
45	78		634
46	78		635
47	78		636
48	78		637
49	78		638
50	78		639
52	78		641
54	78		643
56	78		645
58	78		647
60	78		649
65	78		654

Accessories for QuickIN core drill bits

10962

QuickIN drive arbor (core drill)



Design

- With Morse taper MT 3
- Integrated cooling lubricant supply

Applications

For **core drills KBM 65/65 F** (predecessor type) and **KBM 65 Q/65 QF** (see HHW Catalogue Volume 2 art. no. 90057).
 For direct fitting of **QuickIN core drill bits** (art. no. 10959) or using adapter (art. no. 10965) or of **core drill bits with thread** (art. no. 10959) or with **Weldon shank** (art. no. 10955).



10962

Shank	for core drill bit Drilling Ø mm	10962	...
MT 3	12 - 65		101

10964

QuickIN drive arbors (table/pillar drill)

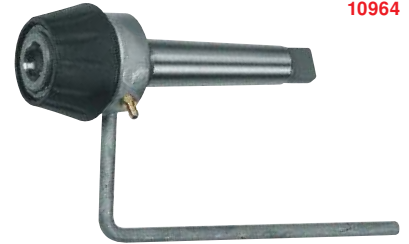


Design

- With Morse taper
- Hand pump for external cooling lubricant supply

Applications

For **table and pillar drills**.
 For direct fitting of **QuickIN core drill bits** (art. no. 10959) or using adapter (art. no. 10965) or of **core drill bits with thread** (art. no. 10960) or with **Weldon shank** (art. no. 10955).



10964

Shank	for core drill bit Drilling Ø mm	10964	...
MT 2	12 - 65		101
MT 3	12 - 65		102

10965

QuickIN adapter



Applications

For **core drills KBM 65/65 F** (predecessor type), **KBM 65 Q/65 QF** (see HHW Catalogue Volume 2 art. no. 90057) and **table and pillar drills**.

10965 101

Design

Output M 18 x 6 P 1.5.

Applications

For fitting **core drill bits with thread** (art. no. 10960).

10965 102

Design

Output Weldon.

Applications

For fitting **core drill bits with Weldon shank** (art. no. 10955).



10965 101



10965 102

Output	10965	...
M 18 x 6 P 1.5		101
Weldon		102

10966

Centring pins



Applications

For removing the unmachined remaining core.

10966 101

Applications

For **core drill bits with QuickIN fitting** (art. no. 10959).

10966 102

Applications

For **core drill bits with thread** (art. no. 10960).



10966

For core drill bit with fitting	Length mm	10966	...
QuickIN	105		101
Thread	125		102