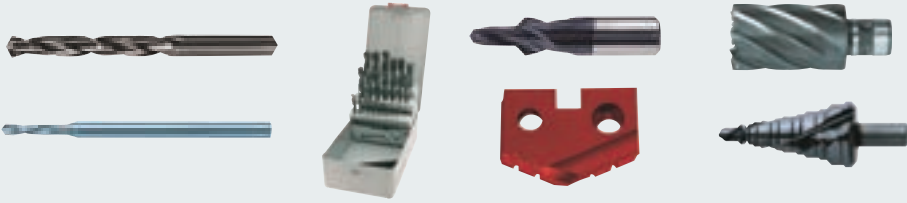


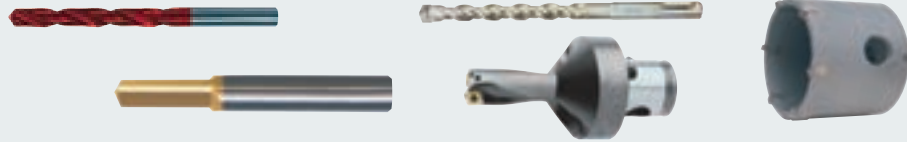
Drilling Tools



- Twist drills
- Miniature drills
- Sheet metal drills
- Spiral countersinks (core drills)
- Step drills
- Centre drills
- Taper pin drills
- Core drills

10

10.3 – 10.48



- Solid carbide drills
- Solid carbide tapping Tools
- Carbide indexable inserts
- Insert drills
- Rock drills
- Hammer drills
- Impact core cutters

11

11.1 – 11.28



- Countersink and deburring tools
- Countersinks and deburrers
- WPL countersinks
- Counterbores
- Spot facing cutters

12

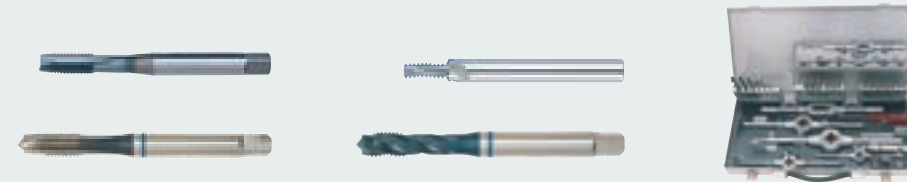
12.1 – 12.8



- Hand reamers
- Taper reamers
- Helical taper pin reamers
- Taper structural reamers
- Chucking reamers
- Automatic machine reamers
- Clamp-on reamers
- Jet reamers

13

13.1 – 13.12



- Thread-cutting taps
- Forming taps
- Solid carbide thread-milling cutters
- Thread repair assortment
- Solid carbide tapping tools
- Tap extractors
- Arc erosion machines
- Tap and die sets

14

14.1 – 14.64



- Round dies

15

15.1 – 15.4

Our suppliers for DRILLING TOOLS:



Info

Coatings for machining tools

Advantages:





















- Longer service life
- Higher productivity
- Fewer tool changes

- No emulsion, thanks 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
Microhardness (HV 0.05)	2.300	3.000	3.300	3.200	3.000	4.000	3.300	3.600	3.100
Friction coefficient gg. 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
Coating colour	gold-yellow	blue-grey	violet-grey	blue-grey	dark-grey	light transparent	grey-blue	copper-coloured	brownish silver

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

Pictograph Overview

Insert direction		No centre cut , front milling is only possible via the workpiece edge
		With centre cut , immersion and front milling (possible in 3 directions)
Type of thread	e.g. 	= Metric Fine thread
Quality	e.g. 	= High-performance rapid machining Steel with cobalt (E) alloy and Titanium Aluminium-Nitrite coating
Type of shank		= straight shank with driving face in compliance with DIN 1835 B
		= Straight shank with locking thread in compliance with DIN 1835 D
		= Straight shank smooth in compliance with DIN 6535 HA (for solid carbide tools)
		= Straight shank with driving face in compliance with DIN 6535 HB (for solid carbide tools)
Spiral angle	e.g. 	= Spiral angle of the tool approx. 39° right
	e.g. 	= Spiral angle of the tool approx. 12° left
Point angle	e.g. 	= Point angle of the blades 120°
Tolerance	e.g. 	= Tolerance of cutting blades in compliance with ISO-recommendation R286-1962
Type designation	e.g. 	= For machining standard duty materials
Material strength	e.g. 	= For materials with a strength to max. 1000 N/mm²
	e.g. 	= For materials with a strength greater than 900 N/mm²
Most suitable for ...		= Aluminium
		= Grey cast iron
		= Brass
		= Universal
		= Rust-resistant, acid-resistant heat resistant and austenitic steels (V2A, V4A)






Info

The HHW colour-code system

With the **HHW** colour-code system you can identify the materials for which the tool is suitable at first glance. In most catalogue areas the **HHW** colour code system additionally informs you of the application data for the respective tool. The **HHW** colour code system is logically structured based on the Key to Steel. Thus you can find the appropriate tools before processing and save 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
Solid carbide types
Coating

Designation	W ^{+0,1} mm	R ^{+0,05} mm			
GTN-2	2,2	0,16	10 pcs.	18674	...
GTN-3	3,1	0,20	10 pcs.		113
					114



Brand	ATORN®	ATORN®	H+W	H+W		ATORN®	ATORN®	H+W	ATORN®	ATORN®	ATORN®
Standard/DIN	338	338	338	338	338	338	338	338	338	338	338
Type	Short	Short offset	Short	Short profile-ground	Short rolled	Short	Short MBS	Short	Short	Short	Short
Article number	10001	10002	10003	10004	10010	10020	10035	10040	10042	10044	10046
Cutting material	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E
Diameter range mm	0,3 - 20	13,5 - 20	0,3 - 16	0,5 - 13	0,3 - 16	1 - 16	1 - 13	0,3 - 16	0,5 - 16	1 - 12	1 - 13
Type	N	N	N	N	N	N	UNI	N	Ti	N	VA-steel
Point angle	118°	118°	118°	118°	118°	118°	130°	130°	130°	130°	130°
Coating	-	-	-	TiN	-	TiN	-	-	-	TiAlN	-
Catalogue page	10.8	10.9	10.9	10.9	10.9	10.10	10.10	10.12	10.13	10.13	10.13

Application recommendation

● = Well suited ○ = Limited suitability

Aluminium < 10% Si	○	○	○	○	○	○	○	○	○	○	○
Aluminium > 10% Si	○	○	○	○	○	○	○	○	○	○	○
Copper	○	○	○	○	○	○	○	○	○	○	○
Brass											
Steel < 520N	●	●	●	●	●	●	●	●	●	●	●
Steel < 750N	●	●	●	●	●	●	●	●	●	●	●
Steel < 900N	●	●	●	●	●	●	●	●	●	●	●
Steel < 1100N											
Steel < 1200N											
Steel < 1400N											
VA-steel < 900N											
VA-steel > 900N											
GG	●	●	●	●	●	●	●	●	●	●	●
GGG	●	●	●	●	●	●	●	●	●	●	●
Titanium											
Titanium alloy											
Nickel											
< 55HRC											
< 60HRC											
< 67HRC											
Plastics	○	○	○	○	○	○	○	○	○	○	○

Brand	ATORN®	ATORN®	ATORN®	HARTNER	HARTNER	HARTNER	ATORN®	HARTNER	H+W	ATORN®
Standard/DIN	338	338	338	338	338	338	338	1899	Company standard	1897
Type	Short	Short	Short	Short	Short	Short	Short	Mini	Extra short	Extra short
Article number	10047	10050	10053	10210	10211	10214	10215	10220	10250	10252
Cutting material	HSS-Co8	HSS-E	HSS-E	HSS	HSS	HSS-E	HSS-E-PM	HSS-E	HSS	HSS
Diameter range mm	1 - 13	1 - 13	1 - 12	0,5 - 14	0,5 - 15	1,1 - 12	1 - 14	0,16 - 1,45	2,5 - 5	1 - 16
Type	N	FS	FS	H	W	VA-steel	UNI	N	N	N
Point angle	135°	130°	130°	118°	130°	130°	130°	118°	118°	118°
Coating	-	-	TiN	-	-	-	TiN	-	-	-
Catalogue page	10.14	10.15	10.15	10.17	10.17	10.17	10.19	10.20	10.20	10.21

Application recommendation

● = Well suited ○ = Limited suitability

Aluminium < 10% Si		○	○		○	○	○	○	○	○
Aluminium > 10% Si		○	○		○	○	○	○	○	○
Copper		○	○		○	○	○	○	○	○
Brass				●						
Steel < 520N	●	●	●	●	●	●	●	●	●	●
Steel < 750N	●	●	●	●	●	●	●	●	●	●
Steel < 900N	●	●	●	●	●	●	●	●	●	●
Steel < 1100N	●	●	●	●	●	●	●	●	●	●
Steel < 1200N	●	●	●	●	●	●	●	●	●	●
Steel < 1400N	●	●	●	●	●	●	●	●	●	●
VA-steel < 900N		○	○				○	○	○	
VA-steel > 900N		○	○				○	○	○	
GG										
GGG										
Titanium										
Titanium alloy	○	○						○		
Nickel	○									
< 55HRC										
< 60HRC										
< 67HRC										
Plastics		○	○		○	○	○	○	○	○

Brand	ATORN [®]	ATORN [®]	ATORN [®]		ATORN [®]	ATORN [®]	ATORN [®]	H+W	HARTNER	ATORN [®]
Standard/DIN	1897	1897	1897	1897	1897	340	340	340	340	340
Type	Extra short	Extra short	Extra short MBS	Extra short	Extra short	Long	Long	Long	Long	Long
Article number	10255	10257	10259	10260	10261	10404	10406	10407	10408	10410
Cutting material	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E-PM	HSS-E	HSS	HSS	HSS	HSS
Diameter range mm	1 - 13	1 - 20	1 - 14	1 - 13	1 - 14	1 - 12	0,6 - 16	1 - 13	2 - 10	1 - 12
Type	VA-steel	N	UNI	UNI	UNI	VA-steel	N	FS	FW	FN
Point angle	130°	130°	130°	120°/130°/140°	130°	130°	118°	130°	130°	130°
Coating	TiN	-	-	TiAlN	TiN	-	-	-	-	TiN
Catalogue page	10.21	10.21	10.22	10.23	10.24	10.24	10.24	10.26	10.26	10.26

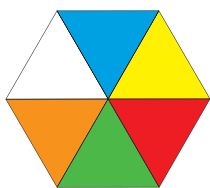
Application recommendation ● = Well suited ○ = Limited suitability

Aluminium < 10% Si	○	○	○	○	●				●	○
Aluminium > 10% Si	○	○	○	○	●				●	○
Copper	○	○	○	○	●	○			●	○
Brass										
Steel < 520N	●	●	●	●	●		●	●	●	●
Steel < 750N	●	●	●	●	●		●	●	●	●
Steel < 900N	●	●	●	●	●		●	●	●	●
Steel < 1100N	●	●	●	●	●		●	●	●	●
Steel < 1200N	●	●	●	●	●	●	●	●	●	●
Steel < 1400N	●	●	●	●	●	●	●	●	●	●
VA-steel < 900N		●	●	●	●	●	●	●		
VA-steel > 900N		●	●	●	●	●	●	●		
GG	●	●	●	●	●			●		●
GGG	●	●	●	●	●			●		●
Titanium		○					○			
Titanium alloy							○			
Nickel							○			
< 55HRC										
< 60HRC										
< 67HRC										
Plastics		○	○		○					

Brand	HARTNER	HARTNER	ATORN [®]		HARTNER	ATORN [®]	ATORN [®]	HARTNER	HARTNER	
Standard/DIN	1869	1869	345	345	345	345	345	341	1870	343
Type	Overlong	Overlong	MT shank short	MT shank short	MT shank short	MT shank short	MT shank short	MK-shank long	Overlong	Z3
Article number	10421	10422	10508	10510	10511	10514	10526	10610	10621	10632
Cutting material	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS-E	HSS	HSS	HSS
Diameter range mm	2 - 12	2 - 11	5 - 60	10 - 50	10 - 26	10 - 35	11 - 32	10 - 35	8 - 30	7,8 - 30
Type	FN	FN	N	N	N	N	VA-steel	N	FN	N
Point angle	130°	130°	118°	118°	118°	118°	130°	118°	130°	120°
Coating	-	TiN	-	-	TiN	-	-	-	-	-
Catalogue page	10.27	10.27	10.28	10.28	10.29	10.29	10.29	10.30	10.30	10.31

Application recommendation ● = Well suited ○ = Limited suitability

Aluminium < 10% Si	○		○	○	○				○	○
Aluminium > 10% Si			○	○	○				○	○
Copper			○	○	○				○	○
Brass										
Steel < 520N	●	●	●	●	●	●	●	●	●	●
Steel < 750N	●	●	●	●	●	●	●	●	●	●
Steel < 900N	●	●	●	●	●	●	●	●	●	●
Steel < 1100N	●	●	●	●	●	●	●	●	●	●
Steel < 1200N						●	●	●		
Steel < 1400N						●	●	●		
VA-steel < 900N	●						●			●
VA-steel > 900N							●			
GG	●	●	●	●	●	●		●	●	●
GGG	●	●	●	●	●	●		●	●	●
Titanium										
Titanium alloy							○			
Nickel							○			
< 55HRC										
< 60HRC										
< 67HRC										
Plastics			○	○						



Material level

The MasterGuide from CERATIZIT divides the materials in accordance with VDI 3323 in six main groups (P, M, K, N, S, H). A colour code is assigned to each group, in some cases these codes are familiar from ISO 513.

Blue: Steel

Machining steel, case-hardened steel, tempering steel, and structural steel

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 alloys, casting alloys, copper, copper alloys, non-metallic materials

Orange: High-temperature alloys/titanium

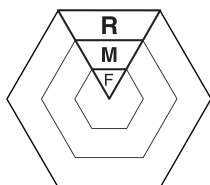
Ni-/Co based alloys, Ti alloys

White: Hard materials

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

Machining level

Every colour code field is divided by lines into three levels. These indicate the respective types of machining:



R = Rough machining

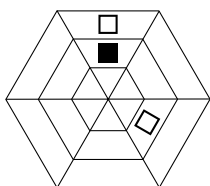
M = Medium machining

F = Fine machining



Application level

The ideal application area of a reversible cutting insert is marked by a solid square. Extended application areas are marked by an empty square symbol. Thus MasterGuide from CERATIZIT provides an overview for purchase, selection, and machining and reduces stock levels of types and geometries in the warehouse.



■ Main application

□ Extended application

The right reversible cutting insert at a glance



Main application:

Medium, fine and rough machining of steel.

Extended application:

Medium machining of high-temperature resistant alloys. Medium, fine and rough machining of stainless steels.



10002

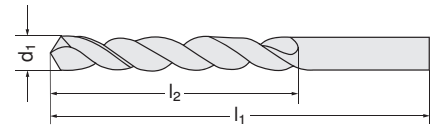
Short twist drills



Note:
Quality drill for highest demands.

- Type**
- Offset straight shank 12,7 mm
 - Right-hand cut
 - Cone envelope grind

Quality
HSS ground for steels to 900 N/mm².



10002

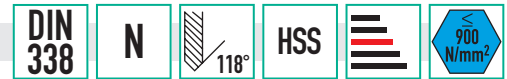
d ₁ h8	l ₂	l ₁	HSS ground	...
mm	mm	mm	10002	
13,5	82	156		202
14,0	82	156		205
14,5	83	157		207
15,0	83	157		209
15,5	83	157		211
16,0	83	157		213

d ₁ h8	l ₂	l ₁	HSS ground	...
mm	mm	mm	10002	
16,5	84	158		214
17,0	84	158		215
17,5	84	158		216
18,0	84	158		217
19,0	84	158		219
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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10003 - 10010

Short twist drills



10003



- Type**
- Straight shank
 - Right-hand cut
 - Cone envelope grind

Quality
HSS ground for steels to 900 N/mm².

Note:
Economically-priced HSS ground version.

10004



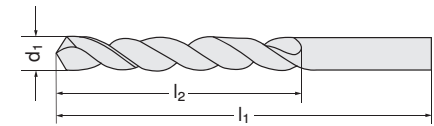
- Type**
- Normal core strength without core rise
 - Precise centre point geometry
 - High true-running accuracy
 - Drill for production

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

- 10010**
- Type**
- Straight shank
 - Right-hand cut
 - Precision-rolled steel

Quality
HSS precision-rolled for steels to 900 N/mm².

Note
No microstructure interruption, thus elastic and suitable for robust drilling tasks (e.g. hand drill).



10003

10004

10010

d ₁ h8	l ₂	l ₁	HEW	HEW	...	HEW	HEW	...
mm	mm	mm	10003	10004	...	10003	10004	...
0,3	3	19	10 pcs.	101				101
0,4	5	20	10 pcs.	102				102
0,5	6	22	10 pcs.	103	050			103
0,6	7	24	10 pcs.	104	060			104
0,7	9	28	10 pcs.	105	070			105
0,8	10	30	10 pcs.	106	080			106
0,9	11	32	10 pcs.	107	090			107
1,0	12	34	10 pcs.	108	100			108
1,1	14	36	10 pcs.	109	110			109
1,2	16	38	10 pcs.	110	120			110
1,3	16	38	10 pcs.	111	130			111
1,4	18	40	10 pcs.	112	140			112
1,5	18	40	10 pcs.	113	150			113
1,6	20	43	10 pcs.	114	160			114
1,7	20	43	10 pcs.	115	170			115
1,8	22	46	10 pcs.	116	180			116
1,9	22	46	10 pcs.	117	190			117
2,0	24	49	10 pcs.	118	200			118
2,1	24	49	10 pcs.	119	210			119
2,2	27	53	10 pcs.	120	220			120
2,3	27	53	10 pcs.	121	230			121

d ₁ h8	l ₂	l ₁	HEW	HEW	...	HEW	HEW	...
mm	mm	mm	10003	10004	...	10003	10004	...
2,4	30	57	10 pcs.	122	240			122
2,5	30	57	10 pcs.	123	250			123
2,6	30	57	10 pcs.	124	260			124
2,7	33	61	10 pcs.	125	270			125
2,8	33	61	10 pcs.	126	280			126
2,9	33	61	10 pcs.	127	290			127
3,0	33	61	10 pcs.	128	300			128
3,1	36	65	10 pcs.	129	310			129
3,2	36	65	10 pcs.	130	320			130
3,3	36	65	10 pcs.	131	330			131
3,4	39	70	10 pcs.	132	340			132
3,5	39	70	10 pcs.	133	350			133
3,6	39	70	10 pcs.	134	360			134
3,7	39	70	10 pcs.	135	370			135
3,8	43	75	10 pcs.	136	380			136
3,9	43	75	10 pcs.	137	390			137
4,0	43	75	10 pcs.	138	400			138
4,1	43	75	10 pcs.	139	410			139
4,2	43	75	10 pcs.	140	420			140
4,3	47	80	10 pcs.	141	430			141
4,4	47	80	10 pcs.	142	440			142

Continuation ▶

Twist drills

10034 - 10178 Twist drill sets in case

Type
Stable metal folding box with drill organisation system

Note:
Final digits 115 (1-10,5 mm) incl. twist drills 3,3 / 4,2 / 6,8 / 10,2 mm Ø for threaded holes (ISO).

10170
ATORN®

Type N
HSS, ground
(cat.-no. 10001).

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

10174
ATORN®

Type N
HSS/TiN, ground
(cat.-no. 10020).

10034
ATORN®

Type UNI
HSS-E.
(cat.-no. 10035).

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

10178
Type N
HSS, precisely rolled steel
(cat.-no. 10010).

DIN 338 N HSS HSS TiN HSS-E



10170 118

10034 114

Set size mm	Number of drills	Increments by mm	HSS		HSS/TiN		HSS-E/UNI		HSS-E		HSS rolled steel	
			10170	...	10173	...	10174	...	10034	...	10177	...
1,0 - 6,0	51	0,1	106		106				106		106	106
2,0 - 10,0	81	0,1	108		108				108		108	108
6,0 - 10,0	41	0,1	109		109				109		109	109
1,0 - 10,0	19	0,5	114		114	114	114	114	114		114	114
1,0 - 10,5	24	0,5	115		115	115	115	115	115		115	115
1,0 - 13,0	25	0,5	118		118	118	118	118	118		118	118

10180 - 10183 Twist drill sets in case

Type
Sheet steel case with 180 twist drills.
Contents:
each 10 pcs. 0,5-8 mm, each 5 pcs. 8,5-10 mm, 0,5 mm increments.

10180
ATORN®

HSS, ground
(cat.-no. 10001).

10181
HW
HSS, ground
(cat.-no. 10003).

10182
HSS, precision-rolled steel.
(cat.-no. 10010).

10183
Type
Empty case.
For max. 600 twist drills (0,5-10 mm Ø, 0,5 mm/increments).
Dimensions: 325 x 225 x 50 mm.

DIN 338 N HSS



10180 - 10182

HSS		HSS		HSS rolled steel		empty	
10180	...	10181	...	10182	...	10183	...
101		101		201		101	

10185 - 10188 Twist drill sets

Type
Sets packed in oil paper.
Use
For re-filling and supplementing existing assortment cases.

Note:
Final digits 115 (1-10,5 mm) incl. twist drills 3,3 / 4,2 / 6,8 / 10,2 mm Ø for threaded holes (ISO).

10185
ATORN®

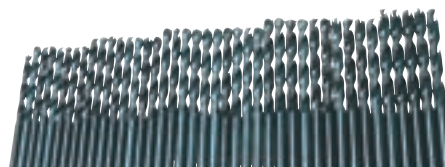
HSS, ground
(cat.-no. 10001).

10186
HW
HSS, ground
(cat.-no. 10003).

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

10188
HSS, precision-rolled steel.
(cat.-no. 10010).

DIN 338 N HSS HSS-E



10185 - 10188

Set size mm	No. of drills	Increments by mm	HSS		HSS-E		HSS rolled steel			
			10185	...	10186	...	10187	...	10188	...
1,0 - 6,0	51	0,1	106		106		106		106	106
2,0 - 10,0	81	0,1	108		108		108		108	108
6,0 - 10,0	41	0,1	109		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

10190 Twist Drill Cases (Empty)

Type

Without drills.

When the lid is opened, the drills are automatically tilted up to vertical position.

Use

For clearly arranged storage of short twist drills with straight shank DIN 338, in sets (cat.-no. 10185 - 10188) and all other short twist drills with straight shank with the respective diameters and lengths.

Note:

Cat.-no.10190 115 - 116 with additional slots for thread core drills (ISO and BSW):

cat.-no. 10190 115 =

3,3 / 4,2 / 6,8 and 10,2 mm,

cat.-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 spiral 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 spiral 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)

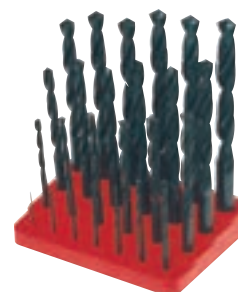
Type

Without drills.

Use

For clearly organised storage of twist drills with straight shank in different sets.

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

Type

- Straight shank
- Right-hand cut
- Cone envelope grind

Quality

HSS ground.

Note:

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

10211

Aluminium twist drill

Type

- Straight shank
- Right-hand cut
- Cone envelope grind

Quality

HSS ground.

Note:

Special drill with polished flutes for optimal chip transport in soft materials.

Drill for production.

10214

VA-steel twist drill

Type

- Straight shank
- Right-hand cut
- Cone envelope grind
- High true-running accuracy
- Precise centre point geometry
- Drilling without centring.

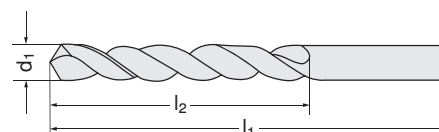
Quality

HSS-E ground.

Note:

For rust-resistant, acid resistant and heat resistant steels, such as V2A und V4A.

Drills for production.



Continuation ▶

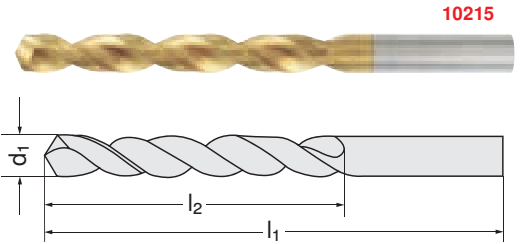


ATORN®

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

Quality
 HSS-E-PM/TiN for universal use.

Note:
 High true-running accuracy, long service life and good dimensional accuracy. Short chips. Drilling without centring. Drill for production.



10215

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-steel<900N	VA-steel>900N	NTI-alloys	GG(G)	plastics
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-code system

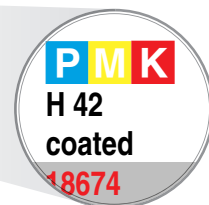
With the **HHW** colour-code system you can identify the materials for which the tool is suitable at first glance. In most catalogue areas the **HHW** colour code system additionally informs you of the application data for the respective tool. The **HHW** colour code system is logically structured based on the Key to Steel. Thus you can find the appropriate tools before processing and save 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
 Solid carbide types
 Coating

Designation	W ^{#0,1} mm	R ^{±0,05} mm		18674	...
GTN-2	2,2	0,16	10 pcs.		113
GTN-3	3,1	0,20	10 pcs.		114



Miniature drills | Sheet metal drills | Twist drills

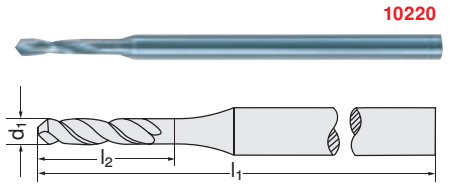
10220 Miniature drills



HARTNER

Quality
HSS-E ground for multi-purpose use and for steel with a strength of up to 1200 N/mm².

- Type**
- Special drill with reinforced shank
 - High true-running accuracy
 - Precise point angle
 - To drill $\varnothing 0,79 =$ shank $\varnothing 1$ mm
 - From drill $\varnothing 0,80 =$ shank $\varnothing 1,5$ mm



HSS-E						HSS-E						HSS-E						
d ₁ mm	l ₂ mm	l ₁ mm		10220	...	d ₁ mm	l ₂ mm	l ₁ mm		10220	...	d ₁ mm	l ₂ mm	l ₁ mm		10220	...	
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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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 sheet metal drills

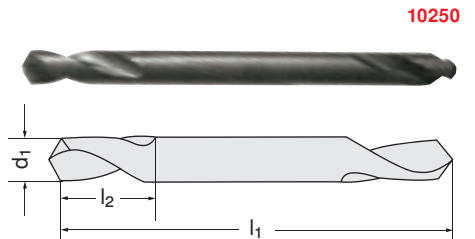


HHW

Quality
HSS ground.

- Type**
- Double-sided ground
 - Extremely break-proof thanks to shortened flutes
 - Particularly suited for hand-guided machines
 - Surface specially treated

Note:
Especially for drilling thin sheet metal elements.



HSS						HSS						HSS						
d ₁ h ₈ mm	l ₂ mm	l ₁ mm		10250	...	d ₁ h ₈ mm	l ₂ mm	l ₁ mm		10250	...	d ₁ h ₈ mm	l ₂ mm	l ₁ mm		10250	...	
2,5	9,5	43	10 pcs.		104	3,3	11,2	49	10 pcs.		108	4,2	14,0	55	10 pcs.		115	
3,0	10,6	46	10 pcs.		105	3,8	14,0	55	10 pcs.		111	5,0	17,0	62	10 pcs.		117	
3,1	11,2	49	10 pcs.		106	4,0	14,0	55	10 pcs.		113							
3,2	11,2	49	10 pcs.		107	4,1	14,0	55	10 pcs.		114							

Info Precision short drill chucks

Starting on page 21.9.



Short-chip drill | Twist drills

10261

High-performance short-chip drill UNI

DIN 1897

130°

HSS-E-PM TiN

1400 N/mm²

Uni

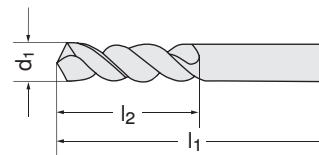
10261

ATORN®

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

Quality
HSS-E-PM/TiN for universal use.

Note:
High true-running accuracy, long service life and good dimensional accuracy. Short chips. Drilling without centring. Drill for production.



HSS-E-PM/TiN				
d ₁ h8	l ₂	l ₁	10261	...
mm	mm	mm		
1,0	6	26	010	
1,1	7	28	011	
1,2	8	30	012	
1,3	8	30	013	
1,4	9	32	014	
1,5	9	32	015	
1,6	10	34	016	
1,7	10	34	017	
1,8	11	36	018	
1,9	11	36	019	
2,0	12	38	020	
2,1	12	38	021	
2,2	13	40	022	
2,3	13	40	023	
2,4	14	43	024	
2,5	14	43	025	
2,6	14	43	026	
2,7	16	46	027	
2,8	16	46	028	
2,9	16	46	029	
3,0	16	46	030	
3,1	18	49	031	
3,2	18	49	032	
3,3	18	49	033	
3,4	20	52	034	
3,5	20	52	035	
3,6	20	52	036	
3,7	20	52	037	
3,8	22	55	038	
3,9	22	55	039	
4,0	22	55	040	

HSS-E-PM/TiN				
d ₁ h8	l ₂	l ₁	10261	...
mm	mm	mm		
4,1	22	55	041	
4,2	22	55	042	
4,3	24	58	043	
4,4	24	58	044	
4,5	24	58	045	
4,6	24	58	046	
4,7	24	58	047	
4,8	26	62	048	
4,9	26	62	049	
5,0	26	62	050	
5,1	26	62	051	
5,2	26	62	052	
5,3	26	62	053	
5,4	28	66	054	
5,5	28	66	055	
5,6	28	66	056	
5,7	28	66	057	
5,8	28	66	058	
5,9	28	66	059	
6,0	28	66	060	
6,1	31	70	061	
6,2	31	70	062	
6,3	31	70	063	
6,4	31	70	064	
6,5	31	70	065	
6,6	31	70	066	
6,7	31	70	067	
6,8	34	74	068	
6,9	34	74	069	
7,0	34	74	070	
7,1	34	74	071	

HSS-E-PM/TiN				
d ₁ h8	l ₂	l ₁	10261	...
mm	mm	mm		
7,2	34	74	072	
7,3	34	74	073	
7,4	34	74	074	
7,5	34	74	075	
7,6	37	79	076	
7,7	37	79	077	
7,8	37	79	078	
7,9	37	79	079	
8,0	37	79	080	
8,1	37	79	081	
8,2	37	79	082	
8,3	37	79	083	
8,4	37	79	084	
8,5	37	79	085	
8,8	40	84	088	
9,0	40	84	090	
9,3	40	84	093	
9,5	40	84	095	
9,8	43	89	098	
10,0	43	89	100	
10,2	43	89	102	
10,5	43	89	105	
11,0	47	95	110	
11,5	47	95	115	
12,0	51	102	120	
12,3	51	102	123	
12,5	51	102	125	
12,7	51	102	127	
13,0	51	102	130	
13,5	54	107	135	
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-steel<900N	VVA-steel>900N	NTI-alloys	GG(G)	plastics
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

10404 - 10406

Long twist drills

ATORN®

- Type**
- Straight shank
 - Right-hand cut
 - Cone envelope grind
 - Web-thinned chisel edge

10406
Quality
HSS ground for machining standard duty materials to 900 N/mm².

10404
Quality
HSS-E for materials that are difficult to machine, such as VA-steel, titanium and special materials.

DIN 340

10406

N

118°

HSS

900 N/mm²

10406



VA

130°

HSS-E

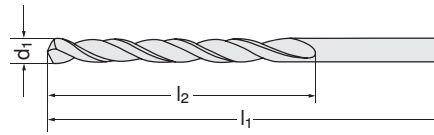
VA

10404



Continuation ▶

Continuation ▶



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		
1,10	37	60	10 pcs.		611		
1,20	41	65	10 pcs.		613		
1,30	41	65	10 pcs.		615		
1,40	45	70	10 pcs.		616		
1,50	45	70	10 pcs.		617		
1,60	50	76	10 pcs.		619		
1,70	50	76	10 pcs.		620		
1,80	53	80	10 pcs.		622		
1,90	53	80	10 pcs.		623		
2,00	56	85	10 pcs.		625		
2,10	56	85	10 pcs.		627		
2,20	59	90	10 pcs.		628		
2,30	59	90	10 pcs.		630		
2,40	62	95	10 pcs.		631		
2,50	62	95	10 pcs.		632		
2,60	62	95	10 pcs.		634		
2,70	66	100	10 pcs.		636		
2,80	66	100	10 pcs.		637		
2,90	66	100	10 pcs.		639		
3,00	66	100	10 pcs.		640		
3,10	69	106	10 pcs.		642		
3,20	69	106	10 pcs.		644		
3,30	69	106	10 pcs.		646		
3,40	73	112	10 pcs.		648		
3,50	73	112	10 pcs.		649		
3,60	73	112	10 pcs.		650		
3,70	73	112	10 pcs.		651		
3,80	78	119	10 pcs.		653		
3,90	78	119	10 pcs.		654		
4,00	78	119	10 pcs.		655		
4,10	78	119	10 pcs.		657		
4,20	78	119	10 pcs.		658		
4,30	82	126	10 pcs.		660		
4,40	82	126	10 pcs.		661		
4,50	82	126	10 pcs.		662		
4,60	82	126	10 pcs.		663		
4,70	82	126	10 pcs.		664		
4,80	87	132	10 pcs.		666		
4,90	87	132	10 pcs.		668		
5,00	87	132	10 pcs.		669		
5,10	87	132	10 pcs.		671		
5,20	87	132	10 pcs.		673		
5,30	87	132	10 pcs.		675		
5,40	91	139	10 pcs.		676		
5,50	91	139	10 pcs.		678		
5,60	91	139	10 pcs.		679		
5,70	91	139	10 pcs.		680		
5,80	91	139	10 pcs.		682		
5,90	91	139	10 pcs.		683		
6,00	91	139	10 pcs.		684		
6,10	97	148	-		685		

d ₁ h8 mm	l ₂ mm	l ₁ mm		HSS		HSS-E	
				10406	...	10404	...
6,20	97	148	-		686		
6,30	97	148	-		688		
6,40	97	148	-		689		
6,50	97	148	-		690		
6,60	97	148	-		691		
6,70	97	148	-		692		
6,80	102	156	-		694		
6,90	102	156	-		695		
7,00	102	156	-		696		
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		
7,60	109	165	-		702		
7,70	109	165	-		703		
7,80	109	165	-		704		
7,90	109	165	-		705		
8,00	109	165	-		706		
8,10	109	165	-		707		
8,20	109	165	-		708		
8,30	109	165	-		709		
8,40	109	165	-		710		
8,50	109	165	-		711		
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		
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		
9,90	121	184	-		725		
10,00	121	184	-		726		
10,20	121	184	-		728		
10,25	121	184	-		729		
10,50	121	184	-		732		
11,00	128	195	-		737		
11,50	128	195	-		742		
12,00	134	205	-		747		
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<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
10406	-	-	30-40	25-28	15-28	-	-	-	-	-	-	-	-	-	-	30-36	-
10404	-	-	-	-	-	-	-	-	-	-	-	-	10-12	8-10	6-8	-	-

Deep hole drills | Twist drills

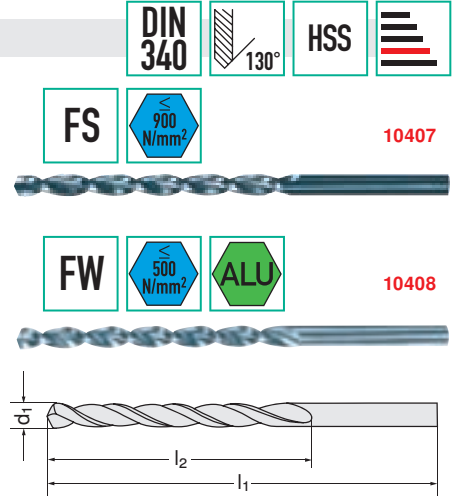
10407 - 10408 Deep hole drill

- Type**
- Straight shank
 - Right-hand cut
 - Cone envelope grind
 - Web-thinned chisel edge
 - Reinforced core
 - Wide flutes
 - Highly rounded heels

Note:
For drilling deep holes (5-10 x d) without chip removal

10407
HHW
Quality
HSS ground for machining standard duty materials to 900 N/mm².

10408
HARTNER
Quality
Special drill with polished flutes for perfect chip transport in soft materials.



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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
10407	-	-	25-30	22-28	21-25	-	-	-	-	-	-	-	-	-	-	18-22	-
10408	40-55	40-45	25-28	25-30	-	-	-	-	-	-	-	-	-	-	-	-	-

10410 Long twist drills

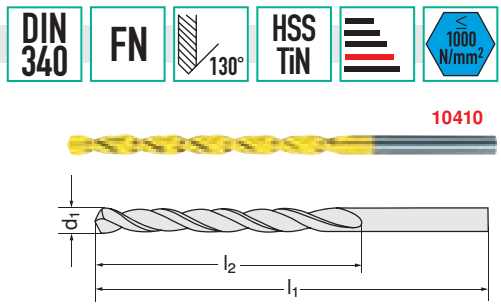


- Type**
- Straight shank
 - Right-hand cut
 - Cone envelope grind
 - Web-thinned chisel edge
 - Reinforced core
 - Wide flutes
 - Highly rounded heels

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

Note:
For drilling deep holes under difficult conditions, e.g. poor chip removal, insufficient cooling.

Warning:
Exception: VA-steels, CrN-steels and similar materials.



Continuation ▶



Twist drills

10508 - 10510 Twist Drills with Morse Taper Shanks

Type

Cone envelope grind. Surface-treated, this reduces tendency of the machined material to stick to the machining tool and improves chip removal.

10508

ATORN®

Quality

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

Note:

Quality drill for highest demands.
Drill for production.

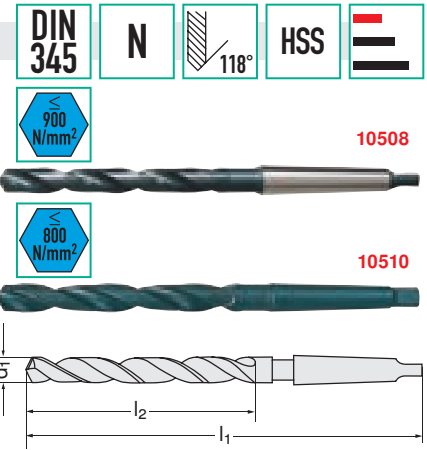
10510

Quality

HSS precision rolled for steel to 800 N/mm², cast iron, aluminium alloys, bronze, brass.

Note:

Economically-priced version.



d ₁ h8 mm	l ₂ mm	l ₁ mm	MK	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	

d ₁ h8 mm	l ₂ mm	l ₁ mm	MK	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	

Continuation ▶

10508 - 10510

Twist Drills with Morse Taper Shanks



Continuation ▶

				ATORN®			
d ₁ h8	l ₂	l ₁	MK	10508	...	10510	...
mm	mm	mm					
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	l ₂	l ₁	MK	10508	...	10510	...
mm	mm	mm					
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-steel<900N	VA-steel>900N	Ti-alloy	GG(G)	plastics
55-63	40-50	25-32	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10511 - 10526

Twist Drills with Morse Taper Shanks



Type

- Cone envelope grind
- Web-thinned chisel edge.

Note:

Quality drill for highest demands.

10511
HARTNER

Quality

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

10514



Quality

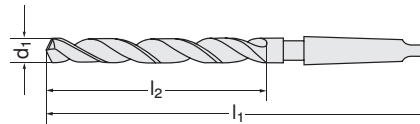
HSS-E surface-treated for steel to 1200 N/mm² and cast iron. Reduced tendency of the machined material to stick to the machining tool and improved chip removal. Reinforced core.

10526



Quality

HSS-E with special geometry for VA-steels and materials with a strain hardening tendency.



				HARTNER ATORN®				ATORN®			
d ₁ h8	l ₂	l ₁	MK	10511	...	10514	...	10526	...		
mm	mm	mm									
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®				ATORN®			
d ₁ h8	l ₂	l ₁	MK	10511	...	10514	...	10526	...		
mm	mm	mm									
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					692		265	
27,0	170	291	3					694		270	
28,0	170	291	3		279			696		280	
28,5	175	296	3							285	
29,0	175	296	3					698		290	
30,0	175	296	3					700		300	
31,0	180	301	3					702			
32,0	185	334	4					704		320	
33,0	185	334	4					705			
34,0	190	339	4					706			
35,0	190	339	4					707			

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	45HRC	55HRC	60HRC	67HRC	VA-steel<900N	VA-steel>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 holder

10610 Long twist drill (bushing drill) with Morse taper shank

HARTNER

Type

- Cone envelope grind
- Surface-treated, this reduces the tendency of the machined material to stick to the machining tool and improves chip removal.
- Greater than Ø 14 mm web-thinned
- Extended cutting section relative to DIN 345

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

Note:
For drilling through bushings.

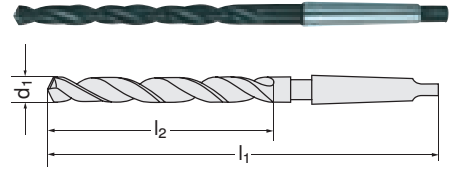
DIN 341

N

118°

HSS

10610



HSS 10610					HSS 10610					Material Compatibility																		
d ₁ h8 mm	l ₂ mm	l ₁ mm	MK	...	d ₁ h8 mm	l ₂ mm	l ₁ mm	MK	...	Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics	
10,0	116	197	1	122	18,0	165	263	2	159	-	-	-	25-28	20-24	18-22	-	-	-	-	-	-	-	-	-	-	-	20-24	-
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	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

10621 Extra long twist drill with Morse taper shank

HARTNER

Type

- Reinforced core
- Shallow flute profile
- Cone envelope grind
- Web-thinned
- To Ø 16 mm, nitrided lands and bare flutes. Greater than this diameter, special thermal treatment for increased wear resistance and reduced tendency of the machined material to stick to the machining tool

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

Note:
For drilling boreholes with a diameter of up to 10 x D without chip removal.

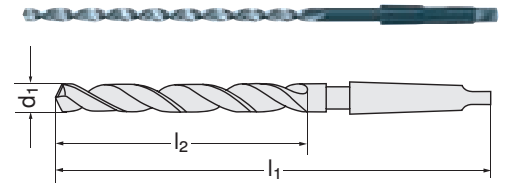
DIN 1870 Reihe 1, 2

FN

130°

HSS

10621



HSS 10621					HSS 10621					Material Compatibility																		
d ₁ h8 x l ₁ mm	l ₂ mm	MK	...	d ₁ h8 x l ₁ mm	l ₂ mm	MK	...	Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	GG(G)	plastics						
8 x 265	165	1	101	16 x 445	295	2	118	-	-	-	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	-	-	-	14-20	-
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		GG(G)	plastics														
35-45	30-36	18-22	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

10632

Core drills with Morse taper shank

DIN 343 Z3 N 120° HSS $\leq 900 \text{ N/mm}^2$

Type

- Highly rounded heels
- Surface-treated for reduced tendency of the machined material to stick to the machining tool and improved chip removal.

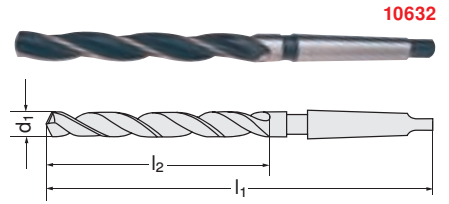
Quality

HSS ground for machining standard duty materials to 900 N/mm².

Advantage: For drilling out ovalised holes; holes that are not flush can be compensated.

Note:

The diameter to be core-drilled should be at least 3/4 of the core drilling Ø.



d ₁ h8 mm	l ₂ mm	l ₁ mm	MK	HSS 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 mm	l ₂ mm	l ₁ mm	MK	HSS 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 mm	l ₂ mm	l ₁ mm	MK	HSS 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-steel<900N	VVA-steel>900N	NTI-alloys	GG(G)	plastics
25-40	10-30	10-30	26-30	25-28	20-25	15-20	10-15	5-10	-	-	-	-	4-10	3-6	-	10-18	-

Info

Are you familiar with the Multiplex drilling system from HARTNER?

HARTNER

The tool system with interior-cooled holders in different lengths, as well as interchangeable cutting tips, consequently

- No re-sharpening
- Always the original grind
- Length always remains constant

Each holder drills with tips in different diameters and cutting materials, such as coated HSS-E PM and solid carbide – depending on the material to be machined. Drill range von 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 previously drilled conventionally, you now drill with the MULTIPLEX DRILLING SYSTEM

- Faster
- More accurately
- Better
- Cheaper

The MULTIPLEX Drilling System offers many advantages:

- No re-sharpening costs
- The coating advantage remains fully intact
- High machining performance and optimal service life thanks to interior cooling
- Constant tool length
- Pre-adjustment times and readjustment for NC machines are dispensed with
- Reduced stock keeping costs

further development as a special tool for the work steps

- Drilling
- Spot-facing
- Planing
- Chamfering
- Hollowing-out
- Countersinking

The MULTIPLEX Drilling System helps to reduce your costs!

10649 - 10674 Multiplex exchangeable blades - twist drills

Type

- With internal coolant feed.
- With straight shank, right-hand cut.
- Up to drilling Ø 35 mm hardened and nickel-plated.
- Above nickel-plated. Without cutting tip.

Point angle:

- To Ø 25,4 = 135°
- Over Ø 25,4 = 132°

Web-thinned:

Special shape with short web-thinned chisel edge.

Use

For drilling steel and cast steel, alloyed and unalloyed, with a strength of up to approx. 1100 N/mm², grey cast iron, malleable cast iron, spheroidal cast iron, sintered iron, German silver, bronze, brass.

10649

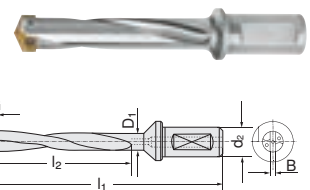
Holder with straight shank 3 x D



HARTNER



For drilling Ø D mm	l ₂ mm	l ₁ mm	D ₁ mm	d ₂ mm	B mm	Torx screws G	HSS 10649	...
9,70-11,70	50	107	9,5	20	2,5	M2,0 x 4	201	
11,71-13,40	53	109	11,5	20	2,5	M2,0 x 4	202	
13,41-16,40	60	116	13,0	20	3,5	M2,5 x 5	203	
16,41-18,90	65	118	16,0	20	3,5	M2,5 x 7	204	
18,91-22,40	73	124	18,5	20	4,0	M3,0 x 6	205	
22,41-25,40	78	127	22,0	20	4,0	M3,0 x 8	206	
25,41-29,00	105	178	24,0	32	5,0	M3,5 x 10	207	
29,01-35,00	108	178	28,0	32	5,0	M3,5 x 10	208	
35,01-45,00	152	223	34,0	32	7,0	M4,0 x 15	209	
45,01-55,00	152	233	44,0	40	7,0	M4,0 x 15	210	
55,01-65,00	152	233	54,0	40	7,0	M4,0 x 15	211	



Continuation ▶

Multiplex holder

10650

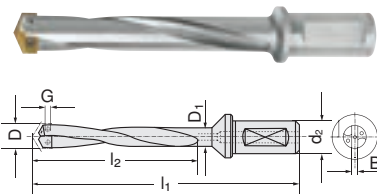
Holder with straight shank 5 x D



HARTNER



For drilling 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	M2,0 x 4	201	201
11,71-13,40	94	150	11,5	20	2,5	M2,0 x 4	202	202
13,41-16,40	104	160	13,0	20	3,5	M2,5 x 5	203	203
16,41-18,90	117	170	16,0	20	3,5	M2,5 x 7	204	204
18,91-22,40	129	180	18,5	20	4,0	M3,0 x 6	205	205
22,41-25,40	131	180	22,0	20	4,0	M3,0 x 8	206	206
25,41-29,00	166	240	24,0	32	5,0	M3,5 x 10	207	207
29,01-35,00	170	240	28,0	32	5,0	M3,5 x 10	208	208
35,01-45,00	210	280	34,0	32	7,0	M4,0 x 15	209	209
45,01-55,00	210	290	44,0	40	7,0	M4,0 x 15	210	210
55,01-65,00	210	290	54,0	40	7,0	M4,0 x 15	211	211



10650

10651

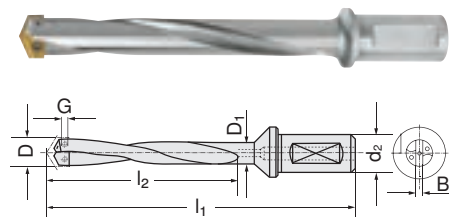
Holder with straight shank 7 x D



HARTNER



For drilling 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	M2,0 x 4	201	201
11,71-13,40	134	190	11,5	20	2,5	M2,0 x 4	202	202
13,41-16,40	155	210	13,0	20	3,5	M2,5 x 5	203	203
16,41-18,90	168	220	16,0	20	3,5	M2,5 x 7	204	204
18,91-22,40	199	250	18,5	20	4,0	M3,0 x 6	205	205
22,41-25,40	201	250	22,0	20	4,0	M3,0 x 8	206	206
25,41-29,00	246	320	24,0	32	5,0	M3,5 x 10	207	207
29,01-35,00	250	320	28,0	32	5,0	M3,5 x 10	208	208
35,01-45,00	310	380	34,0	32	7,0	M4,0 x 15	209	209
45,01-55,00	310	390	44,0	40	7,0	M4,0 x 15	210	210
55,01-65,00	310	390	54,0	40	7,0	M4,0 x 15	211	211



10651

10654 - 10657

Exchangeable Blades for Multiplex System

Type

- Facet ground
- Right-hand cut

10654

Quality

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



10654

10655

Quality

HSS-E-PM/fire-coating for longer service life in steel to 1200 N/mm², cast iron, aluminium, brass, bronze.

With chip divider groove for short chips.



10655

10657

Quality

Solid carbide/fire-coating for even longer service life and performance even in steel to 48 HRC and hardened cast iron.

With land, without chip divider groove.



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	
13,75	3,5	629				629	
14,00	3,5	630		630		630	
14,25	3,5	631		631			
14,50	3,5	633		633		633	

Ø mm	B mm	HSS-E-PM/TiN		HSS-E-PM/fire		H 22/fire	
		10654	...	10655	...	10657	...
14,75	3,5			634		634	
15,00	3,5	635				635	
15,25	3,5	636					
15,50	3,5	637				637	
15,75	3,5	638		638		638	
16,00	3,5	639				639	
16,25	3,5						640
16,50	3,5	641				641	
17,00	3,5	643		643		643	
17,50	3,5	645				645	
17,75	3,5	646					646
18,00	3,5	647				647	
18,25	3,5	648				648	

Continuation



10654 - 10657

Exchangeable Blades for Multiplex System

Continuation ▶

		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			
mm	mm													mm	mm												
18,50	3,5													23,00	4,0												
18,75	3,5													23,50	4,0												
19,00	4,0													24,00	4,0												
19,50	4,0													24,25	4,0												
19,75	4,0													24,50	4,0												
20,00	4,0													25,00	4,0												
20,25	4,0													26,00	5,0												
20,50	4,0													27,00	5,0												
21,00	4,0													28,00	5,0												
21,25	4,0													29,00	5,0												
21,50	4,0													30,00	5,0												
21,75	4,0													33,00	5,0												
22,00	4,0													34,00	5,0												
22,50	4,0													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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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

Exchangeable Blades for Multiplex System



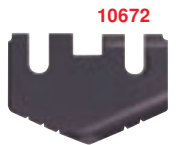
HARTNER

Quality

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

Type

- Facet ground
- Right-hand cut



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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
75-80	65-75	60-65	50-55	45-50	40-45	35-40	30-35	-	-	-	-	-	25-28	-	-	40-50	-

10674

TORX® clamp screws

HARTNER

Use

For Multiplex exchangeable blade twist drills
cat.-no. 10649 ff.

10674

Type

Pack = 5 pcs.



Designation	For drilling mm	TORX size	10674	...	Designation	For drilling 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						

Step drills

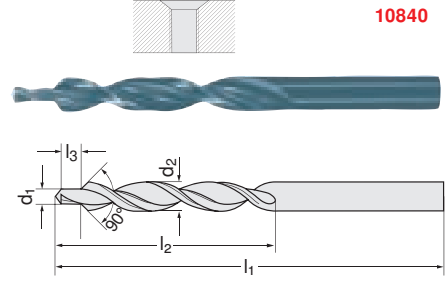
10840 Step drills

HARTNER

- Type**
- Countersink angle 90°
 - With straight shank
 - Cone envelope grind
 - Web-thinned chisel edge and surface treatment

Use
For producing threaded core holes and countersinks in accordance with DIN 336 Part 1. Countersinks for through-holes in accordance with DIN EN 20273.

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



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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

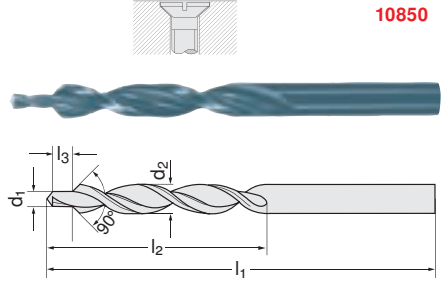
10850 Step drills

HARTNER

- Type**
- Countersink angle 90°
 - With straight shank
 - Cone envelope grind
 - Web-thinned chisel edge and surface treatment

Use
For producing screw through-holes DIN EN 20273, screw-head countersinks shape A medium in accordance with DIN 74 Part 1. Screw countersinks DIN 963 to 966.

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



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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

10861 - 10862 Step drills

HARTNER

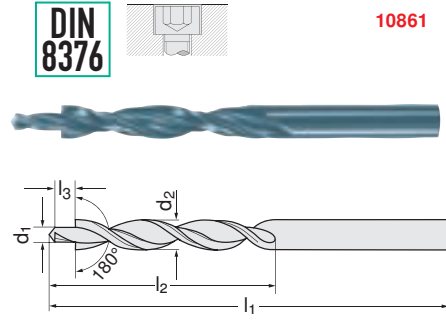
- Type**
- Countersink angle 180°
 - Cone envelope grind
 - Web-thinned chisel edge and surface treatment

10861
Type
With straight shank.

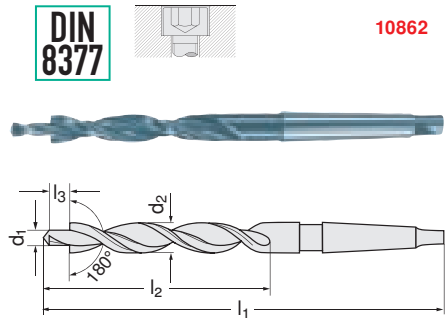
10862
Type
With Morse taper shank.

Use
For producing screw through-holes DIN EN 20273, screw-head countersinks shape H, J and K. Version medium in accordance with DIN 74 Part 2. Cheese head screws in accordance with DIN 84, DIN 912, DIN 6912, DIN 7513, DIN 7984.

Quality
HSS ground for steel 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	-		101	-
M 4	4,5 x 8,0	11	75	117	-		102	-
M 5	5,5 x 10,0	13	87	133	-		103	-
M 6	6,6 x 11,0	15	94	142	-		104	-
M 8	9,0 x 15,0	19	114	169	-		105	-
M 8	9,0 x 15,0	19	114	212	2	-	-	
M 10	11,0 x 18,0	23	130	191	-		106	-
M 10	11,0 x 18,0	23	130	228	2	-	-	
M 12	13,5 x 20,0	27	140	238	2	-	-	
M 16	17,5 x 26,0	35	165	286	3	-	-	
M 20	22,0 x 33,0	43	185	334	4	-	-	



Centre drills

10869 - 10872 Centre drills



Type

- Shape A 60°
- Double-sided
- Right-hand cut
- Spiral flutes
- Relief-ground
- Cone envelope grind
- Simple centre hole without protective countersink, with large surface contact of the workpiece on the lathe centre

Use

For producing centre holes in compliance with DIN 332 when machining standard-duty materials such as steel, cast iron, non-ferrous metals and light metals. Suitable for particularly heavy workpieces using live lathe centres.

Note:

Centre drill with Ø 0,50 and 0,80 mm, single-ended.

10869
Quality
HSS.

10870 101-118
ATORN®

Quality
HSS.

10870 203-215
ATORN®

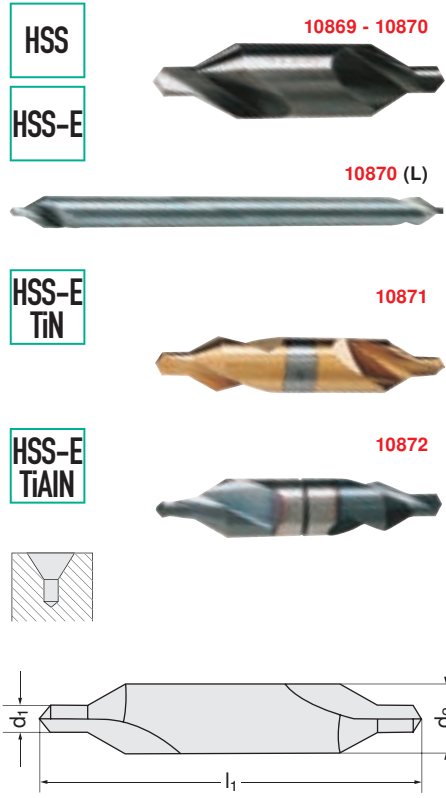
Quality
HSS-E.

10871
ATORN®

Quality
HSS-E/TiN-coated.

10872
ATORN®

Quality
HSS-E/TiAlN-coated.



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.														
0,80	3,15	25,0	10 pcs.														
1,00	3,15	31,0	10 pcs.														
L 1,00	4,00	120,0	-														
1,25	3,15	31,0	10 pcs.														
1,60	4,00	35,0	10 pcs.														
L 1,60	5,00	120,0	-														
2,00	5,00	40,0	10 pcs.														
L 2,00	6,00	120,0	-														
2,50	6,30	45,0	10 pcs.														
L 2,50	8,00	120,0	-														
3,15	8,00	50,0	10 pcs.														
L 3,15	10,00	120,0	-														
4,00	10,00	55,0	10 pcs.														
L 4,00	10,0	120,0	-														
5,00	12,50	63,0	-														
L 5,00	14,0	120,0	-														
6,30	16,00	71,0	-														
8,00	20,00	80,0	-														
10,00	25,00	100,0	-														
Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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 HSS centre drill set

ATORN®

Type

- Shape A 60°
- Short
- Countersink angle 60°.
- Right-hand cut

Use

For centre 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 piece 5,0 x 12,5 mm

	HSS	
Set contents	10881	...
15-part		101



10873

Centre drill, left-hand cut

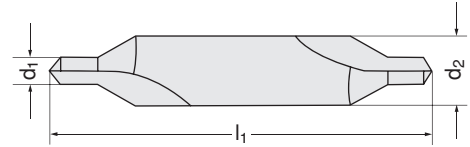


ATORN®

- Type**
 - Shape A 60°
 - Double-sided
 - Left-hand cut
 - Spiral flutes

- Relief-ground
 - Cone envelope grind
Use
 For left turning machine tools.
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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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 drills



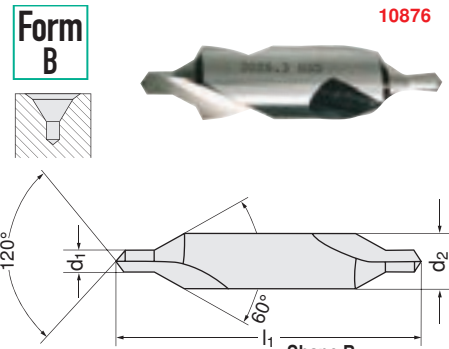
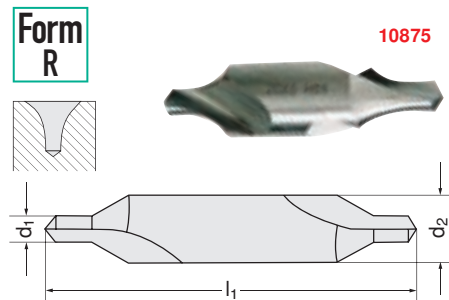
ATORN®

- Type**
 - Double-sided (Ø 0,50 and 0,80 single-sided)
 - Right-hand cut
 - Spiral flutes
 - Relief-ground
 - Cone envelope grind
Quality
 HSS.

- 10874**
Type
 - Shape A with bead 60°
 - Centre hole without protective countersink
 - With annular bead that forms an additional lubricant space
Use
 Suitable for high-speed workpieces when using dead lathe centres.

- 10875**
Type
 - Shape R 60°
 - Centre hole with radius produces a ring-shaped contact surface of the workpiece on the lathe centre with the advantages of a protective countersink
Use
 Particularly suitable for workpieces subject to deformation stress during machining.

- 10876**
Type
 - Shape B 60/120°
 - Centre hole with conical protective countersink
 - Large surface contact of the workpiece on the lathe centre
Use
 Particularly suitable for workpieces or tools, which often need to be clamped between lathe centres.



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		Shape 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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
160-200	140-170	90-110	70-80	60-65	50-60	40-50	35-40	30-35	-	-	-	-	-	-	20-25	60-70	40-45

10880

Solid carbide centre drills



ATORN[®]

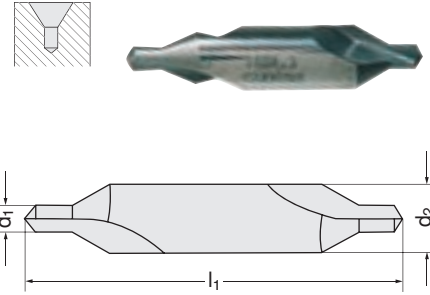
Quality
Solid carbide K10/K20.

Type

- Shape A 60°
- Simple centre hole without protective countersink
- With large surface contact of the workpiece on the lathe centre

Use

For producing centre holes when machining heavy-duty materials, such as steel with high-strength, different cast irons and aluminium with high content of silicium. Suitable for particularly heavy workpieces using live lathe centres.



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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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 spot drills



ATORN[®]

Type

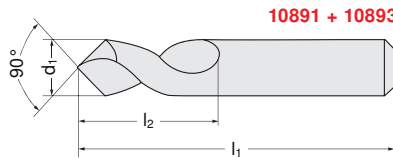
- With straight shank
- Right-hand cut
- Extremely short flutes
- Without lands
- Cone envelope grind
- Special drill with weak core

Use

For drilling steel and cast steel, both alloyed and unalloyed, up to a strength of approx. 1000 N/mm², grey cast iron, malleable cast iron, spheroidal cast iron, sintered iron, German silver, graphite, short-chipping aluminium alloys, die-casting, ductile brass. Particularly suitable for accurate spot and countersink-drilling on NC- und CNC-driven machines, jig drilling machines etc.

Note:

Not suitable for deep holes!
TiN-coated NC spot drills, with different point angle, extended version, or with MT shank, available on request.



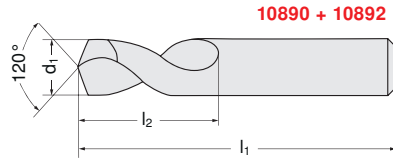
10891 + 10893



10891



10893



10890 + 10892



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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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





10882 - 10883 Long NC spot drills

Type

- Straight shank
- Right-hand cut
- Extremely short flutes, without lands
- Cone envelope grind

Use

For drilling steel and cast steel, both alloyed and unalloyed, up to a strength of approx. **1000 N/mm²**, grey cast iron, malleable cast iron, spheroidal cast iron, sintered iron, German silver, graphite, short-chipping aluminium alloys, die-casting, ductile brass.

Note:

Not suitable for deep holes!

10882
Quality
HSS-E.

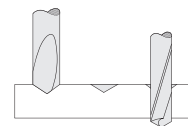
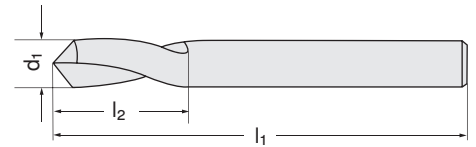
10883
Quality
HSS-E/TiCN-coated.

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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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 spot drills



Type

- Straight shank
- Right-hand cut
- Extremely short flutes, without lands
- Surface grind
- Special drill with weak core

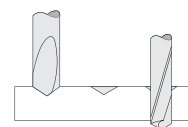
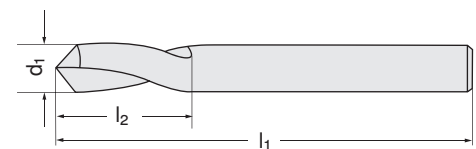
Use

Particularly suitable for accurate spot and counter-sink drilling on NC and CNC-driven machines, jig drilling machines etc. For drilling grey cast iron, hardened cast iron, short-chipping malleable cast iron, hardened steel, non-ferrous metal, 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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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



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Performance requires quality.

For example, with the zero-point clamping system from ATORN.

- Optimal positioning accuracy
- Maintenance-free
- High, holding forces, pull-in forces and closure forces

ATORN®
Performance requires quality.

NC spot drills | Taper pin drills



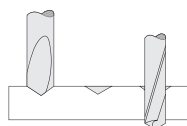
10901 - 10903 Solid carbide NC spot drills



Type
 - Straight shank
 - Right-hand cut
 - Spiral flutes

Use
 Spot drilling and countersinking with NC-machines, for cast iron, malleable cast iron, non-ferrous light metal, abrasive plastics.

Quality
 Solid carbide finest grit/TiAlN-coated.



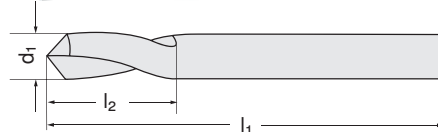
10901



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	102
4	12	50	103		103		103	103
5	15	50	104		104		104	104
6	18	50	105		105		105	105
8	23	60	106		106		106	106
10	24	70	107		107		107	107
12	24	70	108		108		108	108
16	26	80	110		110		110	110
20	35	100	112		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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
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



Type
 - Straight shank with driver in compliance with DIN 1809 D
 - Right-hand cut
 - Cone envelope grind

Use
 For drilling steel and cast steel, both alloy and carbon up to a strength of approx. 1000 N/mm², grey cast iron, malleable cast iron, etc.

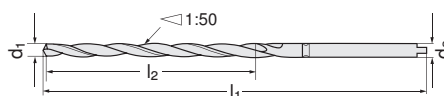
For drilling taper holes for taper pins DIN 1 and DIN 7978 in one operation. (For finish machining, use taper pin reamers cat.-no. 13432.)

Quality
 HSS.

Note:
 The diameter d₁ of the taper pin drill refers to the nominal diameter of the taper pin.



10899



d ₁ h9 mm	l ₂ mm	l ₁ mm	d ₂ mm	HSS	
				10899	...
4	68	112	5,00		105
5	73	122	6,30		106
6	105	160	8,00		107
8	145	207	10,00		108
10	175	245	12,50		109
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-steel<900N	VA-steel>900N	Ti-alloys	GG(G)	plastics
50-60	40-50	30-60	25-28	22-25	20-22	-	-	-	-	-	-	-	-	-	-	20-28	30-40

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Info

10918 - 10928 boring and deburring tool set (step drill)

Type

Diameter tolerance +/- 0,13 mm.

Use

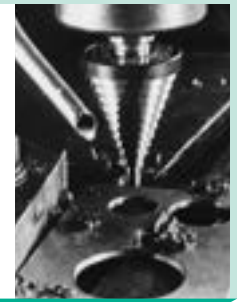
For boring holes in sheeting with a thickness of 0,4 to 3,0 mm of almost all alloys, stainless steel, grey cast iron, aluminium, brass, plastics and fibreglass.

Quality

HSS.

Note:

Spare cooling lubricant stick see cat.-no. 10937 101.



10918

Boring and Deburring Tool Set



Type

Consisting of 1 drilling tool and and 1 deburring tool MC 1M / MC 2M and MC 3M, with cooling lubricant in metal case.

Quality

HSS.

Note:

Spare cooling lubricant stick see cat.-no. 10937 101.



10918

Hole Ø mm	HSS	...
4 - 30	10918	101

10919

Step Drills (3 Cutting Blades)



Note:

Size M1 - M6 and PG 29 without clamping stem (for clamping stems see cat.-no. 10921).

- ¹⁾ especially for electricians, for use in electric hand drills.
- ²⁾ for thread size PG.



10919

Size	Number of blades	Dimension table for drill diameter mm	Inner Taper	shank Ø mm	to material thickness mm	10919	...
M1	3	5,5 / 8,5 / 11,5 / 14,5 / 17,5 / 20,5 / 23,5 / 26,5 / 29,5 / 32,5 / 35,5	B10	-	3	101	
M2	3	6 / 9 / 12 / 15 / 18 / 21 / 24 / 27 / 30 / 33 / 36	B10	-	3	102	
M4	3	7 / 10 / 13 / 16 / 19 / 22 / 25 / 28 / 31 / 34 / 37	B10	-	3	104	
M5	3	7,5 / 10,5 / 13,5 / 16,5 / 19,5 / 22,5 / 25,5 / 28,5 / 31,5 / 34,5 / 37,5	B10	-	3	105	
M6	3	8 / 11 / 14 / 17 / 20 / 23 / 26 / 29 / 32 / 35 / 38	B12	-	3	106	
PG21 ¹⁾	3	12,5 (PG7) / 15,2 (PG9) / 18,6 (PG11) / 20,4 (PG13,5) / 22,5 (PG16) / 25,8 / 28,3 (PG21) / 30,5	-	B12	3	140	
PG29 ¹⁾	3	12,5 (PG7) / 15,2 (PG9) / 18,6 (PG11) / 20,4 (PG13,5) / 22,5 (PG16) / 25,8 / 28,3 (PG21) / 30,5 / 33,6 / 37,0 (PG29)	B12	-	3	141	
PGT ¹⁾²⁾	3	11,4 (PG7) / 14,0 (PG9) / 17,25 (PG11) / 19,0 (PG13,5) / 21,25 (PG16) / 24,5 / 26,75 (PG21)	-	12	5	145	

10921

Clamping stems for step drills cat.-no. 10919

Use

Shank for sizes M1- M6 and PG 29 (cat.-no. 10919 101-106 and 10919 141).

Note:

MT clamping stems, see HHW catalogue volume 1 cat.-no. 21170.



10921

for Size	cylindrical Ø mm	taper	Clamping stem	...
M 1 - M 5	9,5	B 10	10921	101
M 6 + PG 29	12,5	B 12		102

10924 Step Drills (2 Cutting Blades)



HSS
10924 ...

Size	No. of cutting blades	Hole diameter mm	Shank Ø mm	for material thickness mm	
MC 1M	2	4 / 5 / 6 / 7 / 8 / 9 / 10 / 11 / 12	6	5	130
MC 2M	2	10 / 11 / 12 / 13 / 14 / 15 / 16 / 17 / 18 / 19 / 20	9	4	131
MC 3M	2	20 / 21 / 22 / 23 / 24 / 25 / 26 / 27 / 28 / 29 / 30	12	4	132
MC 4M	2	4 / 6 / 8 / 10 / 12	6	10	133
MC 5M	2	6 / 8 / 10 / 12 / 14 / 16 / 18 / 20 / 22 / 24	10	5	134
MC 7M	2	4 / 6 / 8 / 10 / 12 / 14 / 16 / 18 / 20	10	4	135
MC 10M	2	4 / 6 / 8 / 10 / 12 / 14 / 16 / 18 / 20 / 22 / 24 / 26 / 28 / 30	12	4	136

10926 Step drills



Use
For through-holes. Especially for boring holes in sheeting, e.g. -Greenlee-



HSS
10926 ...

Size	Hole diameter mm/inches	Shank Ø mm	for material thickness mm	
MC 521M	5 mm / 7 mm / 3/8 inch / 7/16 inch / 13 mm / 15 mm / 3/4 inch / 21 mm	10	4	101

10927 Step drills



Type
With 2 spiral flutes (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.

Use
For burr-free drilling and reaming of cable screw connections in compliance with DIN EN 60423. For machining of splice boxes, installation sockets, distributor housings, terminal boxes, control cabinets, switching devices and control devices, enclosures.

Thread core-hole (6 mm steps) Ø / 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) Ø / 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



10927 101



10927 201



10927 301

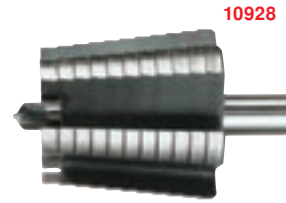
Quality	10927	...
HSS	101	
TiN-coated	201	
TiN-coated	301	

10928 Step Drills (6 Cutting Blades)



Type
With straight shank. Boring steps in precise 1 mm increments.

Use
For drilling straight holes up to 4 mm material thickness of almost all materials such as steel, cast metal, brass, plastics and fibreglass. No pre-drilling necessary.



HSS
10928 ...

Size	No. of cutting blades	Hole diameter mm	Shank Ø mm	for material thickness mm	
TMC3040	6	30 / 31 / 32 / 33 / 34 / 35 / 36 / 37 / 38 / 39 / 40	13	4	101
TMC4050	6	40 / 41 / 42 / 43 / 44 / 45 / 46 / 47 / 48 / 49 / 50	13	4	102
TMC5060	6	50 / 51 / 52 / 53 / 54 / 55 / 56 / 57 / 58 / 59 / 60	13	4	103

10934

Slabbing Cut Drill Reamer (Sheet Metal Drills) Sets



Type
With straight shank. For drilling 3 - 30,5 mm, consisting of 1 drill in each size 1, 2 and 3, in plastic case.

Use
For drilling and reaming holes in thin material free of burrs and chatter marks in one operation. For annealed sheet steel, stainless sheet steel, car-body sheeting, non-ferrous metals, thin-walled pipes and plastics such as PVC, Plexiglas, Resopal etc., also for hardboard, plywood etc.

Quality
HSS-E.

10934 202
Quality
HSS-E/TiN-coated.

HSS-E

10934 201

HSS-E
TiN

10934 202



Note:
For drilling up to the edge without deformation.
Cooling lubricant stick see cat.-no. 10937 101.

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

10935 - 10937

Slabbing Cut Drill Reamers (Sheet Metal Drills)



Type
With straight shank.

Use
For drilling and reaming holes in thin material free of burrs and chatter marks in one operation. For annealed sheet steel, stainless sheet steel, car-body sheeting, non-ferrous metals, thin-walled pipes and plastics such as PVC, Plexiglas, Resopal etc., also for hardboard, plywood etc.

10935
Quality
HSS-E.

10936
Quality
HSS-E/TiN-coated.

HSS-E

10935



HSS-E
TiN

10936



Note:
Cooling lubricant necessary!

10937
Cooling lubricant
Type
Without silicone, contents 25 ml.

Use
For lubricating all contact faces during drilling and thread cutting.

10937



Size	Hole Ø mm	Shank Ø mm	HSS-E		HSS-E/TiN		Coolant lubricating 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 Drill/Milling Cutter



Type
With straight shank.

Use
For drilling and cutting out any contour required in all kinds of metal sheeting; also suitable for wood, Resopal and other plastics.

Note:
Best speed approx. 1000 - 1200 1/min.
For material that binds (zinc, aluminium etc.), occasionally dip the tool into a lubricant.
For use in power hand drills.
Cooling lubricant stick see cat.-no. 10937 101

Quality
HSS.



10940

Ø mm	HSS	10940	...
6,35		101	



10942

Spot-Weld Milling Cutters

HSS

Type

The milling head is reversible, the milling depth can be adjusted.

Use

For loosening spot-welded sheeting without deformation or tear. For sheet metal processing, car body workshops, industry etc.

Quality

HSS.

Note:

Best speed approx. 900 1/min.



10942

HSS

Milling crown Ø mm	10942	...
Milling cutter	10	101
Spare crown	10	102

10955 - 10956

HSS-Co Core Drills (Weldon)

< 750 N/mm²

Type

The core drill machines only a small groove, the residual core is ejected unmachined – drilling time reduced by up to 4x, long service life – low wear. All core drills with Weldon shank 19 mm for direct mounting or for mounting in Morse taper mounts MK-2/AMK-3 with interior cooling.

Use

Suitable for magnetic core drills (see HHW catalogue volume 2 cat.-no. 90060) or for table and column drilling machines.

Quality

HSS-Co.

Note:

Carbide-tipped core drills or drills with other cutting depths available 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 Drills

10957

Clamping stems

Type

With automatic interior cooling and nipple for coolant hose. Delivered in plastic case.

Use

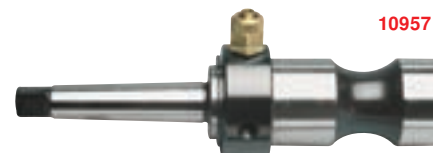
For mounting HSS-Co core drills (cat.-no. 10955-10956).

10958

Spare ejector pins

Use

For HSS-Co core drills from Ø 12 up to 50 mm.



10957



10958

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

QuickIN core drills

10959

QuickIN core drills

Type

With QuickIN mount.

The core drill machines only a small groove, the residual core is ejected unmachined – drilling time reduced by up to 4x, long service life – low wear.

Use

For cutting depth to 35 mm.

For direct mounting in **core drills KBM 65 Q/65 QF/65 U / KBM 50/50 U/50 A** (see HHW Catalogue volume 2 cat. no. 90057),

for **KBM 65/65 F** (predecessor design) via QuickIN clamping stem (cat.-no. 10962) and

for **table and column drilling machines** via QuickIN clamping stems (cat.-no. 10964).

10959 101-121

Core drills, single

Quality HSS.

10959 201-254

Core drills, single

Quality Carbide.

10959 191



HM

Note:

Core drills with other diameters and cutting depths available on request.

10959 101-121

HSS



10959 201-254

HM



Set contents	core hole Ø mm	Quality	10959	...
5-part	14 / 18 / 22 / 32	carbide		191

Hole Ø mm	Total length mm	HSS		HM	
		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

Hole Ø mm	Total length mm	HSS		HM	
		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

QuickIN PLUS core drills and centre drills



10961 101-117

Type

- With QuickIN PLUS mount
- Maximum service life thanks to carbide tip
- Outstanding machining performance in all standard metals
- Drill diameter Ø steel to 25 mm / 1 inch
- Drill Ø alu to 30 mm / 1.3/16 inch

Use

For cutting depth to 20 mm. For direct mounting in the core drill KBH 25 (see HHW Catalogue volume 2 cat.-no. 90054 101).

Quality

Carbide.

Note:

Also available on request:

- Other drill Ø (19/16-1.3/16 inch)
- Carbide core drills coated (14-30 mm, 9/16-1.3/16 inch)
- Carbide compass saws (14-54 mm, 9/16-2.1/8 inch)
- HM compass saws for pipes (21-54 mm, 7/8-2.1/8 inch)

10961 301-302
Centre drills

Note:

- Other accessories available on request:
- Collet chucks and split chucks for thread-cutting
- Chip pans
- Cutting spray
- Extension

10961 101-117



10961 301-302



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

Centre drills		10961	...
for drill Ø mm			
14 - 15		301	
16 - 54		302	

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

10960

Core Drills (with Thread)



Type

With thread M 18 x 6 P 1,5. The core drill machines only a small groove, the residual core is ejected unmachined – drilling time reduced by up to 4x, long service life – low wear.

Use

For cutting depth to 50 mm.

For direct mounting in core drills KBM 65/65 F (predecessor design), for KBM 65 Q/65 QF (see HHW catalogue volume 2 cat.-no. 90057) via QuickIN clamping stem (cat.-no. 10962) and adapter (cat.-no. 10965) and for table column drilling machines via QuickIN clamping stems (cat.-no. 10964) and adapters (cat.-no. 10965).

Quality
Carbide.

Note:

Core drills with other cutting depths available on request.

10960



Drill 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

Drill 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

Drill 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 drills

10962

QuickIN Clamping Shank (Core Drilling Machines)



Type
- With Morse taper MT 3
- Integrated coolant feed

Use
For **core drills KBM 65/65 F** (predecessor design) and **KBM 65 Q/65 QF** (see HHW Catalogue volume 2 cat.-no. 90057). For direct mounting of **QuickIN core drills** (cat.-no. 10959) or by means of adapter (cat.-no. 10965) of **core drills with thread** (cat.-no. 10959) or **with Weldon shank** (cat.-no. 10955).

10962



Shank	for core drills Drill Ø mm	10962	...
MT 3	12 - 65		101

10964

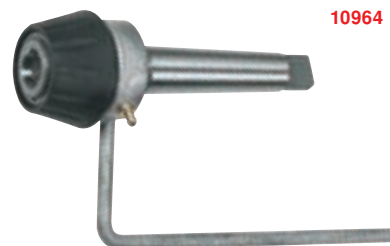
QuickIN Clamping Shanks (Table and Column Drilling Machines)



Type
- With Morse taper
- Hand pump for external coolant feed

Use
For **table and column drilling machines**.
For direct mounting of **QuickIN core drills** (cat.-no. 10959) or by means of adapter (cat.-no. 10965) of **core drills with thread** (cat.-no. 10960) and/or with **Weldon shank** (cat.-no. 10955).

10964



Shank	for core drills Drill Ø mm	10964	...
MT 2	12 - 65		101
MT 3	12 - 65		102

10965

QuickIN Adapters



Use
For **core drills KBM 65/65 F** (predecessor design), **KBM 65 Q/65 QF** (see HHW Catalogue volume 2 cat.-no. 90057) and **table and column drilling machines**.

10965 101
Type
Output M 18 x 6 P 1,5.
Use
For mounting **core drills with thread** (cat.-no.10960)

10965 101



10965 102
Type
Output Weldon.
Use
For mounting **core drills with Weldon shank** (cat.-no.10955)

10965 102



Output	10965	...
M 18 x 6 P 1,5		101
Weldon		102

10966

Centring Pins



Use
For the ejection of the uncut remaining core part.

10966 101
Use
For **core drills with QuickIN mount** (cat.-no.10959)

10966



10966 102
Use
For **core drills with thread** (cat.-no. 10960).

for core drill with mount	Length mm	10966	...
QuickIN	105		101
Thread	125		102