

STOCK

Chip – by Chip – to the Top



sp 

Special Price List 2024

P	M	K	N	S	H	Type	Shank form	Drilling depth	Tool material	Surface	Standard	d1/mm	Catalogue no.	Progr. page
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SuperV drills without internal coolant

	•	•	○	○	○	SuperV-U	HA	3xD	Solid carbide	TiAlN nano	DIN 6537K	3.000 - 20.000	51873	13
	•	•	○	○	○	SuperV-U	HB	3xD	Solid carbide	TiAlN nano	DIN 6537K	3.000 - 20.000	51673	15
	•	•	○	○	○	SuperV-U	HE	3xD	Solid carbide	TiAlN nano	DIN 6537K	3.000 - 20.000	51871	17
	•	•	○	○	○	SuperV-U	HA	5xD	Solid carbide	TiAlN nano	DIN 6537L	3.000 - 20.000	51787	19
	•	•	○	○	○	SuperV-U	HB	5xD	Solid carbide	TiAlN nano	DIN 6537L	3.000 - 20.000	51687	21
	•	•	○	○	○	SuperV-U	HE	5xD	Solid carbide	TiAlN nano	DIN 6537L	3.000 - 20.000	51887	23

SuperV drills with internal cooling

	•	○	•	○	○	SuperV-IK-U	HA	3xD	Solid carbide	TiAlN nano	DIN 6537K	3.000 - 20.000	51776	25
	•	○	•	○	○	SuperV-IK-U	HB	3xD	Solid carbide	TiAlN nano	DIN 6537K	3.000 - 20.000	51676	27
	•	○	•	○	○	SuperV-IK-U	HE	3xD	Solid carbide	TiAlN nano	DIN 6537K	3.000 - 20.000	51876	29
	•	○	•	○	○	SuperV-VA	HA	3xD	Solid carbide	AlTiN nano	DIN 6537K	3.000 - 20.000	51770	31
	•	○	•	○	○	SuperV-VA	HB	3xD	Solid carbide	AlTiN nano	DIN 6537K	3.000 - 20.000	51670	33
	•	○	•	○	○	SuperV-VA	HE	3xD	Solid carbide	AlTiN nano	DIN 6537K	3.000 - 20.000	51771	35
	•	○	•	○	○	SuperV-AI	HA	5xD	Solid carbide	bright	DIN 6537L	3.000 - 20.000	71791	37
	•	○	•	○	○	SuperV-IK-U	HA	5xD	Solid carbide	TiAlN nano	DIN 6537L	3.000 - 20.000	51781	39
	•	○	•	○	○	SuperV-IK-U	HB	5xD	Solid carbide	TiAlN nano	DIN 6537L	3.000 - 20.000	51681	41
	•	○	•	○	○	SuperV-IK-U	HE	5xD	Solid carbide	TiAlN nano	DIN 6537L	3.000 - 20.000	51881	43

P	M	K	N	S	H	Type	Shank form	Drilling depth	Tool material	Surface	Standard	d1/mm	Catalogue no.	Progr. page
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SuperV drills with internal cooling

	•			○		SuperV-VA	HA	5xD	Solid carbide	AlTiN nano	DIN 6537L	3.000 - 20.000	51772	45
	•			○		SuperV-VA	HB	5xD	Solid carbide	AlTiN nano	DIN 6537L	3.000 - 20.000	51674	47
	•			○		SuperV-VA	HE	5xD	Solid carbide	AlTiN nano	DIN 6537L	3.000 - 20.000	51773	49
	•	○	•	○	○	SuperV-IK-U	HA	7xD	Solid carbide	TiAlN nano	Company std.	3.000 - 20.000	51789	51
	•	○	•	○	○	SuperV-IK-U	HE	7xD	Solid carbide	TiAlN nano	Company std.	3.000 - 20.000	51889	53
		•	○			SuperV95-GG	HA	~10xD	Solid carbide	bright	Company std.	3.000 - 20.000	71996	54
	•	○	•	○	○	SuperV-IK-U	HA	12xD	Solid carbide	TiAlN nano	Company std.	3.000 - 20.000	51893	55

SuperV-M universal micro-precision drills

	•		•			SuperV-M	HA		Solid carbide	AlTiN	Company std.	0.100 - 3.000	51720	56
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SuperV drills, 3-fluted

		•	•			SuperV83-GAl	HA	5xD	Solid carbide	bright	DIN 6537L	3.000 - 20.000	71862	57
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Stub drills

	○	○	○	•	○	N	cyl.	~3xD	Solid carbide	bright	DIN 6539	1.000 - 15.000	71184	58
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Jobber drills

	○	○	○	•	○	N	cyl.	~5xD	Solid carbide	bright	Company std.	1.000 - 12.000	71290	60
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NC spotting drills

	•	•	•	•	•	N	HB		Solid carbide	bright	Company std.	4.000 - 20.000	71189	62
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Application recommendations

		Feed column								
Code-letter	A	B	C	D	E	F	G	H	I	
Drill-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
	50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000	

Tools with feed column no. in bold are preferred choices for listed material group.

K, P, K/P
Since our new carbide grades are universally applicable we now define our carbide application groups as K or K/P only.

Lubricants:

- cutting oil, highly activated
- soluble oil (emulsion)
- without lubricant
- air only

Material group	Materials examples, new designations (old designation in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm²)	Hardness	Coolant
General purpose steels	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Free-cutting steels	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Unalloyed tempering steels	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Alloyed tempering steels	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Unalloyed case hardened steels	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		<input checked="" type="checkbox"/>
Alloyed case hardened steels	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Nitriding steels	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Tool steels	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
High speed steels	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		<input checked="" type="checkbox"/>
Spring steels	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	<input checked="" type="checkbox"/>
Hardened steels	-		≤40-48 HRC >48-60 HRC	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Stainless steels, sulphured austenitic martensitic	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9 1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A) 1.4057 X20CrNi17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850 ≤850 ≤850		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Cast iron	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Spheroidal graphite iron and malleable cast iron	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Chilled cast iron	-		≤350 HB	<input checked="" type="checkbox"/>
New Cast iron GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
New Cast iron ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200		<input checked="" type="checkbox"/>
Ti and Ti-alloys	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Aluminium and Al-alloys	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		<input checked="" type="checkbox"/>
Al wrought alloys	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		<input checked="" type="checkbox"/>
Al cast alloys ≤ 10 % Si > 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9 3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600 ≤600		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Magnesium alloys	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		<input type="checkbox"/>
Copper, low alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤400		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Brass, short-chipping long-chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2 2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600 ≤600		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Bronze, short-chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn 2.0790 CuNi18Zn19Pb	≤600 >600-850		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Bronze, long-chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	≤850 >850-1000		<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>
Duroplastics	Epoxy resin, Resopal, Pertinax, Moltopren		-	<input type="checkbox"/>
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon		-	<input checked="" type="checkbox"/>
Kevlar	Kevlar		-	<input type="checkbox"/>
Glass/carbon-concentr. plastics	GFK/CFK		-	<input type="checkbox"/>

SuperV drills

≤3×D drilling depth

Catalogue no.	51873	51673	51871
Tool material	STC	STC	STC
Carbide grade	K/P	K/P	K/P
Surface finish	TiAlN nano	TiAlN nano	TiAlN nano
DIN/Form	6537K	6537K	6537K
Type	U	U	U
Coolant			
Page	13	15	17

51776	51676	51876
STC	STC	STC
K/P	K/P	K/P
TiAlN nano	TiAlN nano	TiAlN nano
6537K	6537K	6537K
U	U	U
axial	axial	axial
25	27	29

51770	51670	51771
STC	STC	STC
K/P	K/P	K/P
AlTiN nano	AlTiN nano	AlTiN nano
6537K	6537K	6537K
VA	VA	VA
axial	axial	axial
31	33	35



V _c m/min	Feed column no.			V _c m/min	Feed column no.			V _c m/min	Feed column no.		
130	G	G	G	145	G	G	G				
110	F	F	F	120	F	F	F				
145	H	H	H	170	H	H	H				
110	G	G	G	145	H	H	H				
120	G	G	G	130	H	H	H				
110	G	G	G	125	G	G	G				
105	G	G	G	120	G	G	G				
105	G	G	G	120	G	G	G				
100	F	F	F	105	G	G	G				
130	H	H	H	145	H	H	H				
120	G	G	G	120	G	G	G				
85	E	E	E	85	E	E	E				
100	F	F	F	110	G	G	G				
90	E	E	E	105	E	E	E				
65	F	F	F	80	F	F	F				
55	E	E	E	65	E	E	E				
				60	D	D	D				
45	C	C	C	60	C	C	C				
40	A	A	A	55	C	C	C				
20	A	A	A	35	B	B	B				
40	B	B	B	60	E	E	E	80	E	E	
15	A	A	A	55	B	B	B	60	B-C	B-C	
35	B	B	B	45	E	E	E	80	E	E	
210	H	H	H	210	I	I	I				
155	H	H	H	160	I	I	I				
155	G	G	G	140	I	I	I				
125	G	G	G	130	H	H	H				
35	C	C	C	40	C	C	C				
25	D	D	D	30	D	D	D	30	D	D	
15	A	A	A	45	D	D	D	45	D	D	
15	A	A	A	40	C	C	C	40	C	C	
260	I	I	I	310	I	I	I				
260	I	I	I	310	I	I	I				
220	H	H	H	260	I	I	I				
180	H	H	H	220	I	I	I				
260	H	H	H	280	H	H	H				
105	G	G	G	125	G	G	G				
270	H	H	H	325	H	H	H				
180	G	G	G	220	G	G	G				
105	F	F	F	125	G	G	G				
85	F	F	F	105	F	F	F				
80	E	E	E	90	F	F	F				
60	E	E	E	80	F	F	F				

Application recommendations

		Feed column								
Code-letter	A	B	C	D	E	F	G	H	I	
Drill-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
	50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000	

Tools with feed column no. in bold are preferred choices for listed material group.

K, P, K/P
Since our new carbide grades are universally applicable we now define our carbide application groups as K or K/P only.

Lubricants:

- cutting oil, highly activated ■
- soluble oil (emulsion) ■
- without lubricant
- air only

Material group	Materials examples, new designations (old designation in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm²)	Hardness	Coolant
General purpose steels	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2)	≤500		■
	1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	>500-850		■
Free-cutting steels	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36)	≤850		■
	1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	850-1000		■
Unalloyed tempering steels	1.0402 C22, 1.1178 C30E (Ck30)	≤ 700		■
	1.0503 C45, 1.1191 C45E (Ck45)	700-850		■
	1.0601 C60, 1.1221 C60E (Ck60)	850-1000		■
Alloyed tempering steels	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4	850-≤1000		■
	1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	1000-1200		■
Unalloyed case hardened steels	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		■
Alloyed case hardened steels	1.7043 38Cr4	850-≤1000		■ ■
	1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	1000-1200		■ ■
Nitriding steels	1.8504 34CrAl6	≥850-≤1000		■
	1.8519 31CrMoV9, 1.8550 34CrAlNi7	>1000-1200		■ ■
Tool steels	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9	≤850		■
	1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	>850-1000		■ ■
High speed steels	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		■
Spring steels	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	■ ■
Hardened steels	-		≤40-48 HRC	■
			>48-60 HRC	■
Stainless steels, sulphured	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9	≤850		■
austenitic	1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A)	≤850		■
martensitic	1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850		■
Cast iron	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20)	850-≤1000		■ □
	0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	1000-1200		■ □
Spheroidal graphite iron and malleable cast iron	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35)		≤240 HB	■
	0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		<300 HB	■
Chilled cast iron	-		≤350 HB	■
New Cast iron GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35)			■ □
	EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			■ □
New Cast iron ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000)	800-1000		■ □
	EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	1200-1400		■ □
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200		■
Ti and Ti-alloys	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2	≤850		■
	3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	>850-1200		■
Aluminium and Al-alloys	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		■
Al wrought alloys	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		■
Al cast alloys ≤ 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9	≤600		■
> 10 % Si	3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600		■
Magnesium alloys	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		! □
Copper, low alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤400		■ ■
Brass, short-chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2	≤600		■ ■
long-chipping	2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600		■ ■
Bronze, short-chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn	≤600		■ ■
	2.0790 CuNi18Zn19Pb	>600-850		■
Bronze, long-chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10	≤850		■
	2.0980 CuAl11Ni, 2.1247 CuBe2	>850-1000		■
Duroplastics	Epoxy resin, Resopal, Pertinax, Moltopren		-	□
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon		-	■ □
Kevlar	Kevlar		-	□
Glass/carbon-concentr. plastics	GFK/CFK		-	□

SuperV drills

≤5×D drilling depth

Catalogue no.	71791	51787	51687	51887	51781	51681	51881	71862	51772	51674	51773
Tool material	STC	STC	STC	STC	STC	STC	STC	STC	STC	STC	STC
Carbide grade	K	K/P	K/P	K/P	K/P	K/P	K/P	K	K/P	K/P	K/P
Surface finish	bright	TiAlNnano	TiAlNnano	TiAlNnano	TiAlNnano	TiAlNnano	TiAlNnano	bright	AlTiNnano	AlTiNnano	AlTiNnano
DIN/Form	6537L	6537L	6537L	6537L	6537L	6537L	6537L	6537L	6537L	6537L	6537L
Type	AI	U	U	U	U	U	U	GAI	VA	VA	VA
Coolant	axial				axial	axial	axial		axial	axial	axial
Page	37	19	21	23	39	41	43	49	45	47	49



V _c m/min	Feed col. no.	V _c m/min	Feed column no.			V _c m/min	Feed column no.			V _c m/min	Feed col. no.	V _c m/min	Feed column no.		
		130	G	G	G	145	G	G	G						
		110	F	F	F	120	F	F	F						
		145	H	H	H	170	H	H	H						
		110	G	G	G	145	H	H	H						
		120	G	G	G	130	H	H	H						
		110	G	G	G	125	G	G	G						
		105	G	G	G	120	G	G	G						
		105	G	G	G	120	G	G	G						
		100	F	F	F	105	G	G	G						
		130	H	H	H	145	H	H	H						
		120	G	G	G	120	G	G	G						
		85	E	E	E	85	E	E	E						
		100	F	F	F	105	G	G	G						
		90	E	E	E	100	E	E	E						
		65	F	F	F	70	F	F	F						
		55	E	E	E	55	E	E	E						
						60	E	E	E						
		45	C	C	C	60	C	C	C						
		35	A	A	A	55	C	C	C						
		20	A	A	A	35	B	B	B						
		40	B	B	B	60	E	E	E						
		15	A	A	A	55	B	B	B			80	E	E	E
		35	B	B	B	50	E	E	E			60	B-C	B-C	B-C
		210	H	H	H	195	I	I	I			80	E	E	E
		155	H	H	H	160	I	I	I						
		145	G	G	G	140	I	I	I						
		125	G	G	G	130	H	H	H						
		35	C	C	C	40	C	C	C						
350	I	260	I	I	I	310	I	I	I			180	G		
350	I	260	I	I	I	310	I	I	I			160	G		
320	H	235	I	I	I	260	I	I	I			150	G		
280	G	170	H	H	H	220	I	I	I			120	F		
320	G	260	H	H	H	280	H	H	H			180	F		
190	G	105	G	G	G	125	G	G	G			180	F		
160	F	270	H	H	H	325	H	H	H						
160	F	180	G	G	G	220	G	G	G			180	F		
160	F	105	F	F	F	125	G	G	G						
160	F	85	F	F	F	105	F	F	F						
150	F	80	E	E	E	90	F	F	F						
150	F	60	E	E	E	80	F	F	F						
100	C														
100	C														
100	B														

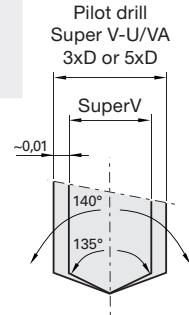
Application recommendations

		Feed column								
Code-letter	A	B	C	D	E	F	G	H	I	
Drill-Ø mm	0,50	0,004	0,006	0,007	0,008	0,010	0,012	0,014	0,016	0,019
	1,00	0,006	0,008	0,012	0,014	0,016	0,018	0,020	0,023	0,025
	2,00	0,020	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125
	2,50	0,025	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160
	3,15	0,032	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,160
	4,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,200
	5,00	0,040	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250
	6,30	0,050	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315
	8,00	0,063	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,315
	10,00	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,400
	12,50	0,080	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500
	16,00	0,100	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630
	20,00	0,125	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,630
	25,00	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	0,800
	31,50	0,160	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000
	40,00	0,200	0,250	0,315	0,400	0,500	0,630	0,800	1,000	1,250
50,00	0,250	0,310	0,400	0,500	0,630	0,800	1,000	1,250	1,250	
63,00	0,315	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	
80,00	0,400	0,500	0,630	0,800	1,000	1,250	1,600	1,600	2,000	

Tools with feed column no. in bold are preferred choices for listed material group.

K, P, K/P
Since our new carbide grades are universally applicable we now define our carbide application groups as K or K/P only.

Application instructions for SuperV drills >7xD:
To achieve optimal machining results with deep holes we recommend the production of a cylindrical pilot hole (tol. F9) drilling depth 1xD with our SuperV drill 3xD or 5xD.



Lubricants:
cutting oil, highly activated ■
soluble oil (emulsion) ■
without lubricant □
air only □

Material group	Materials examples, new designations (old designation in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm²)	Hardness	Coolant
General purpose steels	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		■
Free-cutting steels	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		■
Unalloyed tempering steels	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		■
Alloyed tempering steels	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		■
Unalloyed case hardened steels	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		■
Alloyed case hardened steels	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		■ ■
Nitriding steels	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	≥850-≤1000 >1000-1200		■ ■
Tool steels	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		■ ■
High speed steels	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		■
Spring steels	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	■ ■
Hardened steels	-		≤40-48 HRC >48-60 HRC	■ ■
Stainless steels, sulphured austenitic martensitic	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9 1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A) 1.4057 X20CrNi17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850 ≤850 ≤850		■ ■ ■
Cast iron	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		■ □
Spheroidal graphite iron and malleable cast iron	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	■ ■
Chilled cast iron	-		≤350 HB	■
New Cast iron GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			■ □
New Cast iron ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		■ □
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200		■
Ti and Ti-alloys	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		■ ■
Aluminium and Al-alloys	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		■
Al wrought alloys	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		■
Al cast alloys ≤ 10 % Si > 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9 3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600 ≤600		■ ■
Magnesium alloys	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		□
Copper, low alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤400		■ ■
Brass, short-chipping long-chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2 2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600 ≤600		■ ■ ■
Bronze, short-chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn 2.0790 CuNi18Zn19Pb	≤600 >600-850		■ ■
Bronze, long-chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	≤850 >850-1000		■ ■
Duroplastics	Epoxy resin, Resopal, Pertinax, Moltopren		-	□
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon		-	■ □
Kevlar	Kevlar		-	□
Glass/carbon-concentr. plastics	GFK/CFK		-	□

SuperV drills

$\leq 7 \times D$ drilling depth $\leq 10 \times D$

$\leq 12 \times D$

Twist drills

$\leq 3 \times D$

$\leq 5 \times D$

Catalogue no.	51789	51889
Tool material	STC	STC
Carbide grade	K/P	K/P
Surface finish	TiAlN nano	
DIN/Form	Stock std.	Stock std.
Type	U	U
Coolant	axial	axial
Page	51	53

Catalogue no.	71996
Tool material	STC
Carbide grade	K
Surface finish	bright
DIN/Form	Stock std.
Type	GG
Coolant	axial
Page	54

Catalogue no.	51893
Tool material	STC
Carbide grade	K/P
Surface finish	TiAlN nano
DIN/Form	Stock std.
Type	U
Coolant	axial
Page	55

Catalogue no.	71184
Tool material	STC
Carbide grade	K10/K20
Surface finish	bright
DIN/Form	6539
Type	N
Coolant	
Page	58

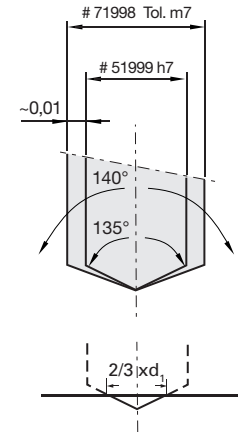
Catalogue no.	71290
Tool material	STC
Carbide grade	K10/K20
Surface finish	bright
DIN/Form	Stock std.
Type	N
Coolant	
Page	60



V _c m/min	Feed column no.		V _c m/min	Feed column no.	V _c m/min	Feed column no.		V _c m/min	Feed column no.	
145	F	F			110	F		80	D	
120	E	E			110	E		70	D	
170	G	G			110	G		80	E	
145	G	G			100	G		70	D	
130	G	G			110	G		80	D	
125	F	F			110	F		70	D	
120	F	F			100	F		60	D	
120	F	F			110	F		60	D	
105	F	F			105	F		60	D	
145	G	G			110	G		80	E	
120	F	F			110	F		60	D	
85	D	D			85	D				
110	F	F			100	F		50	D	
105	D	D			80	D				
80	E	E			80	E		50	C	
65	D	D			65	D				
60	D	D			50	D				
60	B	B			50	B		25	B	
55	B	B						20	C	
					60	D		25	B	
					55	B		15	A	
					45	D		25	B	
195	H	H	120	F	120	H		90	D	
160	H	H	100	F	120	H		80	D	
140	H	H	90	F	100	H		80	D	
130	G	G	80	F	90	G		70	D	
40	B	B	40	A				80	D	
35	C	C						15	B	
								15	A	
								15	A	
								15	A	
310	H	H	410	H	150	H		200	G	
310	H	H	410	H	150	H		200	G	
260	H	H	380	H	150	H		150	F	
220	H	H	330	H	120	H		120	F	
280	G	G			150	G		180	F	
125	F	F			80	F		80	E	
325	G	G	280	G	120	G		180	E	
220	F	F			120	F		180	E	
125	F	F	110	F	40	F		120	E	
105	E	E	80	E				120	E	
90	E	E						70	D	
80	E	E			40	E		50	C	
								50	D	
								40	C	
								80	C	

Application recommendations

Feed column														
Code-letter	A	B	C	D	E	F	G	H	I	J	K	L	M	
Drill-Ø mm	0,50	0,006	0,012	0,018	0,022	0,030	0,035	0,040	0,045	0,050	0,050	0,055	0,060	0,060
	0,80	0,008	0,016	0,024	0,032	0,040	0,050	0,060	0,070	0,080	0,080	0,080	0,090	0,090
	1,00	0,012	0,022	0,032	0,042	0,060	0,070	0,080	0,090	0,100	0,100	0,110	0,110	0,120
	1,50	0,021	0,036	0,051	0,066	0,090	0,100	0,120	0,130	0,150	0,150	0,160	0,170	0,180
	2,00	0,032	0,052	0,072	0,092	0,120	0,140	0,160	0,180	0,200	0,210	0,220	0,230	0,240
	2,50	0,045	0,070	0,095	0,120	0,150	0,170	0,200	0,220	0,250	0,260	0,270	0,280	0,300
	3,00	0,060	0,090	0,120	0,150	0,180	0,210	0,240	0,270	0,300	0,310	0,330	0,340	0,360



Tools with feed column no. **in bold** are preferred choices for listed material group.

Security advices: For safety reasons it is very important, that a drill does not exceed a speed of $n = 6000$ rev./min when not supported. The centrifugal forces could break these long tools before reaching the workpiece surface!

General hints: No play in spindle bearings, alignment accurate tool holders. We recommend the application of hydraulic chucks or shrink fit chucks. We recommend lubrication by soluble oil or neat oil, coolant pressure min. 40 bar.

Pilot drilling

For the application of solid carbide SuperV-NX-drills 15xD we recommend a pilot hole 1xD up to 2xD depth.

For this pilot hole, the solid carbide SuperV-NX-drill 4xD is optimally suitable. Its point angle and its diameter tolerance are adapted.

Centering

In order to achieve full performance with SuperV-NX-drills from 8xD drilling depth, we recommend centering.

The SuperV-NX-drills up to 4xD, catalogue no. 71998, can be applied for this purpose. The centering diameter should be approximately 2/3xD. Centering can alternatively be made with the NC-drill 142°, catalogue no. 71189.

Lubricants:

- cutting oil, highly activated
- soluble oil (emulsion)
- without lubricant
- air only

Material group	Materials examples, new designations (old designation in brackets) Figures in bold = material no. to DIN EN	Tensile strength MPa (N/mm ²)	Hardness	Coolant
General purpose steels	1.0035 S185(St33), 1.0486 P275N(StE285), 1.0345 P235GH(H1), 1.0425 P265GH(H2) 1.0050 E295 (St50-2), 1.0070 E360 (St70-2), 1.8937 P500NH (WStE500)	≤500 >500-850		<input checked="" type="checkbox"/>
Free-cutting steels	1.0718 11SMnPb30 (9SMnPb28), 1.0736 11SMn37 (9SMn36) 1.0727 46S20 (45S20), 1.0728 (60S20), 1.0757 46SPb20 (45SPb20)	≤850 850-1000		<input checked="" type="checkbox"/>
Unalloyed tempering steels	1.0402 C22, 1.1178 C30E (Ck30) 1.0503 C45, 1.1191 C45E (Ck45) 1.0601 C60, 1.1221 C60E (Ck60)	≤ 700 700-850 850-1000		<input checked="" type="checkbox"/>
Alloyed tempering steels	1.5131 50MnSi4, 1.7003 38Cr2, 1.7030 28Cr4 1.5710 36NiCr6, 1.7035 41Cr4, 1.7225 42CrMo4	850-≤1000 1000-1200		<input checked="" type="checkbox"/>
Unalloyed case hardened steels	1.0301 (C10), 1.1121 C10E (Ck10)	≤750		<input checked="" type="checkbox"/>
Alloyed case hardened steels	1.7043 38Cr4 1.5752 15NiCr13 (15NiCr13), 1.7131 16MnCr5, 1.7264 20CrMo5	850-≤1000 1000-1200		<input checked="" type="checkbox"/>
Nitriding steels	1.8504 34CrAl6 1.8519 31CrMoV9, 1.8550 34CrAlNi7	>850-≤1000 ≥1000-1200		<input checked="" type="checkbox"/>
Tool steels	1.1750 C75W, 1.2067 102Cr6, 1.2307 29CrMoV9 1.2080 X210Cr12, 1.2083 X42Cr13, 1.2419 105WCr6, 1.2767 X45NiCrMo4	≤850 >850-1000		<input checked="" type="checkbox"/>
High speed steels	1.3243 S 6-5-2-5, 1.3343 S 6-5-2, 1.3344 S 6-5-3	≥650-1000		<input checked="" type="checkbox"/>
Spring steels	1.5026 55Si7, 1.7176 55Cr3, 1.8159 51CrV4 (51CrV4)		≤330 HB	<input checked="" type="checkbox"/>
Hardened steels	-		≤40-48 HRC >48-60 HRC	<input checked="" type="checkbox"/>
Stainless steels, sulphured austenitic martensitic	1.4005 X12CrS13, 1.4104 X14CrMoS17, 1.4105 X6CrMoS17, 1.4305 X8CrNiS18-9 1.4301 X5CrNi18-10 (V2A), 1.4541 X6CrNiTi18-10, 1.4571 X6CrNiMoTi 17-12-2 (V4A) 1.4057 X20CrNi 17 2 (X17CrNi16-2), 1.4122 X39CrMo17-1, 1.4521 X2CrMoTi18-2	≤850 ≤850 ≤850		<input checked="" type="checkbox"/>
Cast iron	0.6010 EN-GJL-100(GG10), 0.6020 EN-GJL-200(GG20) 0.6025 EN-GJL-250(GG25), 0.6035 EN-GJL-350(GG35)	850-≤1000 1000-1200		<input checked="" type="checkbox"/>
Spheroidal graphite iron and malleable cast iron	0.7050 EN-GJS-500-7(GGG50), 0.8035 EN-GJMW-350-4(GTW35) 0.7070 EN-GJS-700-2(GGG70), 0.8170 EN-GJMB-700-2(GTS70)		≤240 HB <300 HB	<input checked="" type="checkbox"/>
Chilled cast iron	-		≤350 HB	<input checked="" type="checkbox"/>
New Cast iron GGV	EN-GJV250 (GGV25), EN-GJV350 (GGV35) EN-GJV400 (GGV40), EN-GJV500 (GGV50), SiMo6			<input checked="" type="checkbox"/>
New Cast iron ADI	EN-GJS-800-8 (ADI800), EN-GJS-1000-5 (ADI1000) EN-GJS-1200-2 (ADI1200), EN-GJS-1400-1 (ADI1400)	800-1000 1200-1400		<input checked="" type="checkbox"/>
Special alloys	Nimonic, Inconel, Monel, Hastelloy	≤1200		<input checked="" type="checkbox"/>
Ti and Ti-alloys	3.7024 Ti99,5, 3.7114 TiAl5Sn2,5, 3.7124 TiCu2 3.7154 TiAl6Zr5, 3.7165 TiAl6V4, 3.7184 TiAl4Mo4Sn2,5, - TiAl8Mo1V1	≤850 >850-1200		<input checked="" type="checkbox"/>
Aluminium and Al-alloys	3.0255 Al99,5, 3.2315 AlMgSi1, 3.3515 AlMg1	≤400		<input checked="" type="checkbox"/>
Al wrought alloys	3.0615 AlMgSiPb, 3.1325 AlCuMg1, 3.3245 AlMg3Si, 3.4365 AlZnMgCu1,5	≤450		<input checked="" type="checkbox"/>
Al cast alloys ≤ 10 % Si > 10 % Si	3.2131 G-AlSi5Cu1, 3.2153 G-AlSi7Cu3, 3.2573 G-AlSi9 3.2581 G-AlSi12, 3.2583 G-AlSi12Cu, - G-AlSi12CuNiMg	≤600 ≤600		<input checked="" type="checkbox"/>
Magnesium alloys	3.5200 MgMn2, 3.5812.05 G-MgAl8Zn1, 3.5612.05 G-MgAl6Zn1	≤450		<input type="checkbox"/>
Copper, low alloyed	2.0070 SE-Cu, 2.1020 CuSn6, 2.1096 G-CuSn5ZnPb	≤400		<input checked="" type="checkbox"/>
Brass, short-chipping long-chipping	2.0380 CuZn39Pb2, 2.0401 CuZn39Pb3, 2.0410 CuZn43Pb2 2.0250 CuZn20, 2.0280 CuZn33, 2.0332 CuZn37Pb0,5	≤600 ≤600		<input checked="" type="checkbox"/>
Bronze, short-chipping	2.1090 CuSn7ZnPb, 2.1170 CuPb5Sn5, 2.1176 CuPb10Sn 2.0790 CuNi18Zn19Pb	≤600 >600-850		<input checked="" type="checkbox"/>
Bronze, long-chipping	2.0916 CuAl5, 2.0960 CuAl9Mn, 2.1050 CuSn10 2.0980 CuAl11Ni, 2.1247 CuBe2	≤850 >850-1000		<input checked="" type="checkbox"/>
Duroplastics	Epoxy resin, Resopal, Pertinax, Moltopren		-	<input type="checkbox"/>
Thermoplastics	Plexiglass, Hostalen, Novodur, Makralon		-	<input checked="" type="checkbox"/>
Kevlar	Kevlar		-	<input type="checkbox"/>
Glass/carbon-concentr. plastics	GFK/CFK		-	<input type="checkbox"/>



ISO-CODES

P	Steel, high-alloyed steel
M	Stainless steel
K	Grey cast iron, spheroidal and malleable cast iron
N	Aluminium and other non-ferrous metals
S	Special-, super- and Ti-alloys
H	Hardened steel and hard cast iron

Recommendations regarding tool suitability for the mentioned application groups can be found on the relevant programme pages:

- optimal suitability
- limited suitability



PICTOGRAMS

TOOL MATERIAL	VHM							
	Solid carbide							
SURFACE FINISH	bright	TiAlN nano	AlTiN nano					
Ø TOLERANCE	h6	h7	m7					
DRILLING DEPTH	3xD	5xD	7xD	10xD	12xD	~3xD	~5xD	
CUTTING DIRECTION								
	right-hand							
POINT ANGLE								
STANDARD	DIN 6539	DIN 6537 K	DIN 6537 L	WN				
	to Stock standard							
TYPE	SuperV- AI	SuperV- M	SuperV- U	SuperV- IK-U	SuperV- VA	SuperV- 95-GG	SuperV- 83-GAI	N

SuperV drills

SuperV drills without internal coolant



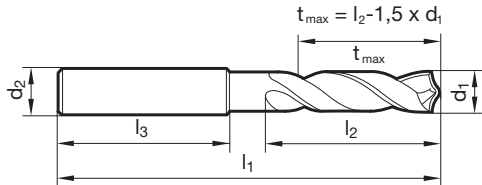
Catalogue no. 51873



P	M	K	N	S	H
●		●	○	○	○

Application recommendations page 4

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51873					
Shank form					HA
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
3.00	6.00	62	20	36	40.55
3.10	6.00	62	20	36	40.55
3.17	6.00	62	20	36	40.55
3.20	6.00	62	20	36	40.55
3.25	6.00	62	20	36	40.55
3.30	6.00	62	20	36	40.55
3.40	6.00	62	20	36	40.55
3.50	6.00	62	20	36	40.55
3.57	6.00	62	20	36	40.55
3.60	6.00	62	20	36	40.55
3.70	6.00	62	20	36	40.55
3.80	6.00	66	24	36	40.55
3.90	6.00	66	24	36	40.55
3.97	6.00	66	24	36	40.55
4.00	6.00	66	24	36	40.55
4.10	6.00	66	24	36	40.55
4.20	6.00	66	24	36	40.55
4.30	6.00	66	24	36	40.55
4.37	6.00	66	24	36	40.55
4.40	6.00	66	24	36	40.55
4.50	6.00	66	24	36	40.55
4.60	6.00	66	24	36	40.55
4.65	6.00	66	24	36	40.55
4.70	6.00	66	24	36	40.55
4.76	6.00	66	28	36	40.55
4.80	6.00	66	28	36	40.55
4.90	6.00	66	28	36	40.55
5.00	6.00	66	28	36	40.55
5.10	6.00	66	28	36	40.55
5.16	6.00	66	28	36	40.55
5.20	6.00	66	28	36	40.55
5.25	6.00	66	28	36	40.55
5.30	6.00	66	28	36	40.55
5.40	6.00	66	28	36	40.55
5.50	6.00	66	28	36	40.55
5.55	6.00	66	28	36	40.55
5.56	6.00	66	28	36	40.55
5.60	6.00	66	28	36	40.55
5.70	6.00	66	28	36	40.55
5.80	6.00	66	28	36	40.55
5.90	6.00	66	28	36	40.55
5.95	6.00	66	28	36	40.55
6.00	6.00	66	28	36	40.55
6.10	8.00	79	34	36	40.55
6.20	8.00	79	34	36	40.55
6.30	8.00	79	34	36	40.55
6.35	8.00	79	34	36	40.55
6.40	8.00	79	34	36	40.55

Catalogue no. 51873					
Shank form					HA
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
6.50	8.00	79	34	36	40.55
6.60	8.00	79	34	36	40.55
6.70	8.00	79	34	36	40.55
6.75	8.00	79	34	36	40.55
6.80	8.00	79	34	36	40.55
6.90	8.00	79	34	36	40.55
7.00	8.00	79	34	36	40.55
7.10	8.00	79	41	36	40.55
7.14	8.00	79	41	36	40.55
7.20	8.00	79	41	36	40.55
7.30	8.00	79	41	36	40.55
7.40	8.00	79	41	36	40.55
7.50	8.00	79	41	36	40.55
7.54	8.00	79	41	36	40.55
7.60	8.00	79	41	36	40.55
7.70	8.00	79	41	36	40.55
7.80	8.00	79	41	36	40.55
7.90	8.00	79	41	36	40.55
7.94	8.00	79	41	36	40.55
8.00	8.00	79	41	36	40.55
8.10	10.00	89	47	40	44.75
8.20	10.00	89	47	40	44.75
8.30	10.00	89	47	40	44.75
8.33	10.00	89	47	40	44.75
8.40	10.00	89	47	40	44.75
8.50	10.00	89	47	40	44.75
8.60	10.00	89	47	40	44.75
8.70	10.00	89	47	40	44.75
8.73	10.00	89	47	40	44.75
8.80	10.00	89	47	40	44.75
8.90	10.00	89	47	40	44.75
9.00	10.00	89	47	40	44.75
9.10	10.00	89	47	40	44.75
9.13	10.00	89	47	40	44.75
9.20	10.00	89	47	40	44.75
9.25	10.00	89	47	40	44.75
9.30	10.00	89	47	40	44.75
9.40	10.00	89	47	40	44.75
9.50	10.00	89	47	40	44.75
9.52	10.00	89	47	40	44.75
9.60	10.00	89	47	40	44.75
9.70	10.00	89	47	40	44.75
9.80	10.00	89	47	40	44.75
9.90	10.00	89	47	40	44.75
9.92	10.00	89	47	40	44.75
10.00	10.00	89	47	40	44.75
10.10	12.00	102	55	45	67.55
10.20	12.00	102	55	45	67.55

Catalogue no. 51873						Catalogue no. 51873					
Shank form HA						Shank form HA					
Discount group 155						Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece	d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
10.30	12.00	102	55	45	67.55	14.00	14.00	107	60	45	89.60
10.40	12.00	102	55	45	67.55	14.10	16.00	115	65	48	115.75
10.50	12.00	102	55	45	67.55	14.20	16.00	115	65	48	115.75
10.60	12.00	102	55	45	67.55	14.30	16.00	115	65	48	115.75
10.70	12.00	102	55	45	67.55	14.40	16.00	115	65	48	115.75
10.80	12.00	102	55	45	67.55	14.50	16.00	115	65	48	115.75
10.90	12.00	102	55	45	67.55	14.70	16.00	115	65	48	115.75
11.00	12.00	102	55	45	67.55	15.00	16.00	115	65	48	115.75
11.10	12.00	102	55	45	67.55	15.20	16.00	115	65	48	115.75
11.20	12.00	102	55	45	67.55	15.50	16.00	115	65	48	115.75
11.30	12.00	102	55	45	67.55	15.60	16.00	115	65	48	115.75
11.40	12.00	102	55	45	67.55	15.70	16.00	115	65	48	115.75
11.50	12.00	102	55	45	67.55	15.80	16.00	115	65	48	115.75
11.60	12.00	102	55	45	67.55	16.00	16.00	115	65	48	115.75
11.70	12.00	102	55	45	67.55	16.50	18.00	123	73	48	198.45
11.80	12.00	102	55	45	67.55	17.00	18.00	123	73	48	198.45
11.90	12.00	102	55	45	67.55	17.50	18.00	123	73	48	198.45
12.00	12.00	102	55	45	67.55	18.00	18.00	123	73	48	198.45
12.10	14.00	107	60	45	89.60	18.30	20.00	131	79	50	217.80
12.20	14.00	107	60	45	89.60	18.50	20.00	131	79	50	217.80
12.30	14.00	107	60	45	89.60	19.00	20.00	131	79	50	217.80
12.40	14.00	107	60	45	89.60	19.50	20.00	131	79	50	217.80
12.50	14.00	107	60	45	89.60	20.00	20.00	131	79	50	217.80
12.60	14.00	107	60	45	89.60						
12.70	14.00	107	60	45	89.60						
13.00	14.00	107	60	45	89.60						
13.20	14.00	107	60	45	89.60						
13.50	14.00	107	60	45	89.60						
13.70	14.00	107	60	45	89.60						
13.80	14.00	107	60	45	89.60						

The following diameters of the type 51873 are also available ex stock on request:
 Ø 3.05 / 3.15 / 3.35 / 3.45 / 3.55 / 3.65 / 3.75 / 3.85 / 3.95 / 4.05 / 4.15 / 4.25 / 4.35 / 4.45 / 4.55 / 4.85 / 4.95 / 5.05 / 5.35 / 5.45 /
 5.65 / 5.75 / 5.85 / 6.05 / 6.15 / 6.25 / 6.45 / 6.55 / 6.65 / 6.85 / 6.95 / 7.05 / 7.25 / 7.35 / 7.45 / 7.65 / 7.75 / 7.85 / 8.05 / 8.15 /
 8.25 / 8.35 / 8.45 / 8.55 / 8.65 / 8.75 / 8.85 / 8.95 / 9.05 / 9.15 / 9.35 / 9.45 / 9.55 / 9.65 / 9.75 / 9.85 / 9.95 mm

SuperV drills

SuperV drills without internal coolant



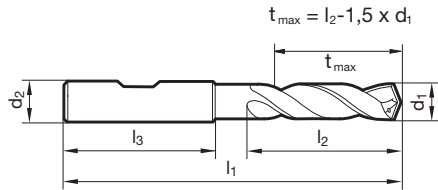
Catalogue no. 51673



P	M	K	N	S	H
●		●	○	○	○

Application recommendations page 4

- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51673					
Shank form HB					
Discount group 155					
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
3.00	6.00	62	20	36	42.05
3.10	6.00	62	20	36	42.05
3.17	6.00	62	20	36	42.05
3.20	6.00	62	20	36	42.05
3.25	6.00	62	20	36	42.05
3.30	6.00	62	20	36	42.05
3.40	6.00	62	20	36	42.05
3.50	6.00	62	20	36	42.05
3.57	6.00	62	20	36	42.05
3.60	6.00	62	20	36	42.05
3.70	6.00	62	20	36	42.05
3.80	6.00	66	24	36	42.05
3.90	6.00	66	24	36	42.05
3.97	6.00	66	24	36	42.05
4.00	6.00	66	24	36	42.05
4.04	6.00	66	24	36	42.05
4.10	6.00	66	24	36	42.05
4.20	6.00	66	24	36	42.05
4.30	6.00	66	24	36	42.05
4.37	6.00	66	24	36	42.05
4.40	6.00	66	24	36	42.05
4.50	6.00	66	24	36	42.05
4.60	6.00	66	24	36	42.05
4.65	6.00	66	24	36	42.05
4.70	6.00	66	24	36	42.05
4.76	6.00	66	28	36	42.05
4.80	6.00	66	28	36	42.05
4.90	6.00	66	28	36	42.05
5.00	6.00	66	28	36	42.05
5.10	6.00	66	28	36	42.05
5.11	6.00	66	28	36	42.05
5.16	6.00	66	28	36	42.05
5.20	6.00	66	28	36	42.05
5.25	6.00	66	28	36	42.05
5.30	6.00	66	28	36	42.05
5.40	6.00	66	28	36	42.05
5.41	6.00	66	28	36	42.05
5.50	6.00	66	28	36	42.05
5.55	6.00	66	28	36	42.05
5.56	6.00	66	28	36	42.05
5.60	6.00	66	28	36	42.05
5.70	6.00	66	28	36	42.05
5.80	6.00	66	28	36	42.05
5.90	6.00	66	28	36	42.05
5.95	6.00	66	28	36	42.05
6.00	6.00	66	28	36	42.05
6.10	8.00	79	34	36	42.05
6.20	8.00	79	34	36	42.05

Catalogue no. 51673					
Shank form HB					
Discount group 155					
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
6.30	8.00	79	34	36	42.05
6.35	8.00	79	34	36	42.05
6.40	8.00	79	34	36	42.05
6.50	8.00	79	34	36	42.05
6.53	8.00	79	34	36	42.05
6.60	8.00	79	34	36	42.05
6.70	8.00	79	34	36	42.05
6.75	8.00	79	34	36	42.05
6.80	8.00	79	34	36	42.05
6.90	8.00	79	34	36	42.05
7.00	8.00	79	34	36	42.05
7.10	8.00	79	41	36	42.05
7.14	8.00	79	41	36	42.05
7.20	8.00	79	41	36	42.05
7.30	8.00	79	41	36	42.05
7.40	8.00	79	41	36	42.05
7.50	8.00	79	41	36	42.05
7.54	8.00	79	41	36	42.05
7.60	8.00	79	41	36	42.05
7.70	8.00	79	41	36	42.05
7.80	8.00	79	41	36	42.05
7.90	8.00	79	41	36	42.05
7.94	8.00	79	41	36	42.05
8.00	8.00	79	41	36	42.05
8.10	10.00	89	47	40	46.95
8.20	10.00	89	47	40	46.95
8.30	10.00	89	47	40	46.95
8.33	10.00	89	47	40	46.95
8.40	10.00	89	47	40	46.95
8.50	10.00	89	47	40	46.95
8.60	10.00	89	47	40	46.95
8.70	10.00	89	47	40	46.95
8.73	10.00	89	47	40	46.95
8.80	10.00	89	47	40	46.95
8.90	10.00	89	47	40	46.95
9.00	10.00	89	47	40	46.95
9.10	10.00	89	47	40	46.95
9.13	10.00	89	47	40	46.95
9.20	10.00	89	47	40	46.95
9.25	10.00	89	47	40	46.95
9.30	10.00	89	47	40	46.95
9.34	10.00	89	47	40	46.95
9.40	10.00	89	47	40	46.95
9.50	10.00	89	47	40	46.95
9.52	10.00	89	47	40	46.95
9.60	10.00	89	47	40	46.95
9.70	10.00	89	47	40	46.95
9.80	10.00	89	47	40	46.95

Catalogue no. 51673					
Shank form HB					
Discount group 155					
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
9.90	10.00	89	47	40	46.95
9.92	10.00	89	47	40	46.95
10.00	10.00	89	47	40	46.95
10.10	12.00	102	55	45	70.35
10.20	12.00	102	55	45	70.35
10.30	12.00	102	55	45	70.35
10.32	12.00	102	55	45	70.35
10.40	12.00	102	55	45	70.35
10.50	12.00	102	55	45	70.35
10.60	12.00	102	55	45	70.35
10.70	12.00	102	55	45	70.35
10.72	12.00	102	55	45	70.55
10.80	12.00	102	55	45	70.35
10.90	12.00	102	55	45	70.35
11.00	12.00	102	55	45	70.35
11.10	12.00	102	55	45	70.35
11.11	12.00	102	55	45	70.35
11.20	12.00	102	55	45	70.35
11.30	12.00	102	55	45	70.35
11.40	12.00	102	55	45	70.35
11.50	12.00	102	55	45	70.35
11.51	12.00	102	55	45	70.55
11.60	12.00	102	55	45	70.35
11.70	12.00	102	55	45	70.35
11.80	12.00	102	55	45	70.35
11.90	12.00	102	55	45	70.35
11.91	12.00	102	55	45	70.35
12.00	12.00	102	55	45	70.35
12.10	14.00	107	60	45	93.65
12.20	14.00	107	60	45	93.65
12.30	14.00	107	60	45	93.65
12.40	14.00	107	60	45	93.65
12.50	14.00	107	60	45	93.65
12.60	14.00	107	60	45	93.65
12.70	14.00	107	60	45	93.65
12.80	14.00	107	60	45	93.65
12.90	14.00	107	60	45	93.65
13.00	14.00	107	60	45	93.65
13.10	14.00	107	60	45	93.65
13.20	14.00	107	60	45	93.65
13.30	14.00	107	60	45	93.65
13.40	14.00	107	60	45	93.65
13.49	14.00	107	60	45	93.65
13.50	14.00	107	60	45	93.65
13.60	14.00	107	60	45	93.65
13.70	14.00	107	60	45	93.65
13.80	14.00	107	60	45	93.65
13.90	14.00	107	60	45	93.65

Catalogue no. 51673					
Shank form HB					
Discount group 155					
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
14.00	14.00	107	60	45	93.65
14.10	16.00	115	65	48	121.40
14.20	16.00	115	65	48	121.40
14.29	16.00	115	65	48	121.40
14.30	16.00	115	65	48	121.40
14.40	16.00	115	65	48	121.40
14.50	16.00	115	65	48	121.40
14.60	16.00	115	65	48	121.40
14.68	16.00	115	65	48	121.40
14.70	16.00	115	65	48	121.40
14.80	16.00	115	65	48	121.40
14.90	16.00	115	65	48	121.40
15.00	16.00	115	65	48	121.40
15.08	16.00	115	65	48	121.40
15.10	16.00	115	65	48	121.40
15.20	16.00	115	65	48	121.40
15.30	16.00	115	65	48	121.40
15.40	16.00	115	65	48	121.40
15.48	16.00	115	65	48	121.40
15.50	16.00	115	65	48	121.40
15.60	16.00	115	65	48	121.40
15.70	16.00	115	65	48	121.40
15.80	16.00	115	65	48	121.40
15.87	16.00	115	65	48	121.40
15.90	16.00	115	65	48	121.40
16.00	16.00	115	65	48	121.40
16.27	18.00	123	73	48	212.30
16.50	18.00	123	73	48	212.30
16.67	18.00	123	73	48	212.30
17.00	18.00	123	73	48	212.30
17.07	18.00	123	73	48	212.30
17.46	18.00	123	73	48	212.30
17.50	18.00	123	73	48	212.30
17.86	18.00	123	73	48	212.30
18.00	18.00	123	73	48	212.30
18.26	20.00	131	79	50	230.20
18.50	20.00	131	79	50	230.20
19.00	20.00	131	79	50	230.20
19.05	20.00	131	79	50	230.20
19.25	20.00	131	79	50	230.20
19.44	20.00	131	79	50	230.20
19.50	20.00	131	79	50	230.20
19.84	20.00	131	79	50	230.20
20.00	20.00	131	79	50	230.20

SuperV drills

SuperV drills without internal coolant



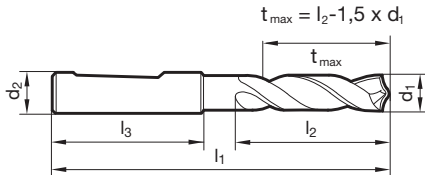
Catalogue no. 51871



P	M	K	N	S	H
●		●	○	○	○

Application recommendations page 4

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51871					
Shank form					HE
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
3.00	6.00	62	20	36	42.05
3.10	6.00	62	20	36	42.05
3.17	6.00	62	20	36	42.05
3.20	6.00	62	20	36	42.05
3.30	6.00	62	20	36	42.05
3.40	6.00	62	20	36	42.05
3.50	6.00	62	20	36	42.05
3.57	6.00	62	20	36	42.05
3.60	6.00	62	20	36	42.05
3.70	6.00	62	20	36	42.05
3.80	6.00	66	24	36	42.05
3.90	6.00	66	24	36	42.05
3.97	6.00	66	24	36	42.05
4.00	6.00	66	24	36	42.05
4.10	6.00	66	24	36	42.05
4.20	6.00	66	24	36	42.05
4.30	6.00	66	24	36	42.05
4.37	6.00	66	24	36	42.05
4.40	6.00	66	24	36	42.05
4.50	6.00	66	24	36	42.05
4.60	6.00	66	24	36	42.05
4.70	6.00	66	24	36	42.05
4.76	6.00	66	28	36	42.05
4.80	6.00	66	28	36	42.05
4.90	6.00	66	28	36	42.05
5.00	6.00	66	28	36	42.05
5.10	6.00	66	28	36	42.05
5.16	6.00	66	28	36	42.05
5.20	6.00	66	28	36	42.05
5.30	6.00	66	28	36	42.05
5.40	6.00	66	28	36	42.05
5.50	6.00	66	28	36	42.05
5.55	6.00	66	28	36	42.05
5.56	6.00	66	28	36	42.05
5.60	6.00	66	28	36	42.05
5.70	6.00	66	28	36	42.05
5.80	6.00	66	28	36	42.05
5.90	6.00	66	28	36	42.05
5.95	6.00	66	28	36	42.05
6.00	6.00	66	28	36	42.05
6.10	8.00	79	34	36	42.05
6.20	8.00	79	34	36	42.05
6.30	8.00	79	34	36	42.05
6.35	8.00	79	34	36	42.05
6.40	8.00	79	34	36	42.05
6.50	8.00	79	34	36	42.05
6.60	8.00	79	34	36	42.05
6.70	8.00	79	34	36	42.05

Catalogue no. 51871					
Shank form					HE
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
6.75	8.00	79	34	36	42.05
6.80	8.00	79	34	36	42.05
6.90	8.00	79	34	36	42.05
7.00	8.00	79	34	36	42.05
7.10	8.00	79	41	36	42.05
7.14	8.00	79	41	36	42.05
7.20	8.00	79	41	36	42.05
7.30	8.00	79	41	36	42.05
7.40	8.00	79	41	36	42.05
7.50	8.00	79	41	36	42.05
7.54	8.00	79	41	36	42.05
7.60	8.00	79	41	36	42.05
7.70	8.00	79	41	36	42.05
7.80	8.00	79	41	36	42.05
7.90	8.00	79	41	36	42.05
7.94	8.00	79	41	36	42.05
8.00	8.00	79	41	36	42.05
8.10	10.00	89	47	40	46.95
8.20	10.00	89	47	40	46.95
8.30	10.00	89	47	40	46.95
8.33	10.00	89	47	40	46.95
8.40	10.00	89	47	40	46.95
8.60	10.00	89	47	40	46.95
8.70	10.00	89	47	40	46.95
8.73	10.00	89	47	40	46.95
8.80	10.00	89	47	40	46.95
8.90	10.00	89	47	40	46.95
8.90	10.00	89	47	40	46.95
9.00	10.00	89	47	40	46.95
9.10	10.00	89	47	40	46.95
9.13	10.00	89	47	40	46.95
9.20	10.00	89	47	40	46.95
9.25	10.00	89	47	40	46.95
9.30	10.00	89	47	40	46.95
9.40	10.00	89	47	40	46.95
9.50	10.00	89	47	40	46.95
9.52	10.00	89	47	40	46.95
9.60	10.00	89	47	40	46.95
9.70	10.00	89	47	40	46.95
9.80	10.00	89	47	40	46.95
9.90	10.00	89	47	40	46.95
9.92	10.00	89	47	40	46.95
10.00	10.00	89	47	40	46.95
10.10	12.00	102	55	45	70.35
10.20	12.00	102	55	45	70.35
10.30	12.00	102	55	45	70.35
10.40	12.00	102	55	45	70.35
10.50	12.00	102	55	45	70.35

Catalogue no. 51871					
Shank form HE					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
10.60	12.00	102	55	45	70.35
10.70	12.00	102	55	45	70.35
10.80	12.00	102	55	45	70.35
10.90	12.00	102	55	45	70.35
11.00	12.00	102	55	45	70.35
11.10	12.00	102	55	45	70.35
11.20	12.00	102	55	45	70.35
11.30	12.00	102	55	45	70.35
11.40	12.00	102	55	45	70.35
11.50	12.00	102	55	45	70.35
11.60	12.00	102	55	45	70.35
11.70	12.00	102	55	45	70.35
11.80	12.00	102	55	45	70.35
11.90	12.00	102	55	45	70.35
12.00	12.00	102	55	45	70.35
12.10	14.00	107	60	45	93.65
12.20	14.00	107	60	45	93.65
12.30	14.00	107	60	45	93.65
12.40	14.00	107	60	45	93.65
12.50	14.00	107	60	45	93.65
12.60	14.00	107	60	45	93.65
12.70	14.00	107	60	45	93.65
13.00	14.00	107	60	45	93.65
13.20	14.00	107	60	45	93.65
13.30	14.00	107	60	45	93.65
13.50	14.00	107	60	45	93.65
13.70	14.00	107	60	45	93.65
13.80	14.00	107	60	45	93.65
14.00	14.00	107	60	45	93.65
14.10	16.00	115	65	48	121.40

Catalogue no. 51871					
Shank form HE					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
14.20	16.00	115	65	48	121.40
14.30	16.00	115	65	48	121.40
14.40	16.00	115	65	48	121.40
14.50	16.00	115	65	48	121.40
14.70	16.00	115	65	48	121.40
15.00	16.00	115	65	48	121.40
15.20	16.00	115	65	48	121.40
15.50	16.00	115	65	48	121.40
15.60	16.00	115	65	48	121.40
15.70	16.00	115	65	48	121.40
15.80	16.00	115	65	48	121.40
16.00	16.00	115	65	48	121.40
16.10	18.00	123	73	48	212.30
16.20	18.00	123	73	48	212.30
16.30	18.00	123	73	48	212.30
16.50	18.00	123	73	48	212.30
17.00	18.00	123	73	48	212.30
17.50	18.00	123	73	48	212.30
18.00	18.00	123	73	48	212.30
18.30	20.00	131	79	50	230.20
18.50	20.00	131	79	50	230.20
19.00	20.00	131	79	50	230.20
19.50	20.00	131	79	50	230.20
20.00	20.00	131	79	50	230.20

SuperV drills

SuperV drills without internal coolant



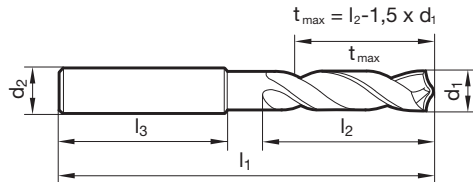
Catalogue no. 51787



P	M	K	N	S	H
●		●	○	○	○

Application recommendations page 6

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51787					
Shank form					HA
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
3.00	6.00	66	28	36	45.55
3.10	6.00	66	28	36	45.55
3.17	6.00	66	28	36	45.55
3.20	6.00	66	28	36	45.55
3.30	6.00	66	28	36	45.55
3.40	6.00	66	28	36	45.55
3.50	6.00	66	28	36	45.55
3.57	6.00	66	28	36	45.55
3.60	6.00	66	28	36	45.55
3.70	6.00	66	28	36	45.55
3.80	6.00	74	36	36	45.55
3.90	6.00	74	36	36	45.55
3.97	6.00	74	36	36	45.55
4.00	6.00	74	36	36	45.55
4.10	6.00	74	36	36	45.55
4.20	6.00	74	36	36	45.55
4.30	6.00	74	36	36	45.55
4.37	6.00	74	36	36	45.55
4.40	6.00	74	36	36	45.55
4.50	6.00	74	36	36	45.55
4.60	6.00	74	36	36	45.55
4.70	6.00	74	36	36	45.55
4.76	6.00	82	44	36	45.55
4.80	6.00	82	44	36	45.55
4.90	6.00	82	44	36	45.55
5.00	6.00	82	44	36	45.55
5.10	6.00	82	44	36	45.55
5.16	6.00	82	44	36	45.55
5.20	6.00	82	44	36	45.55
5.30	6.00	82	44	36	45.55
5.40	6.00	82	44	36	45.55
5.50	6.00	82	44	36	45.55
5.56	6.00	82	44	36	45.55
5.60	6.00	82	44	36	45.55
5.70	6.00	82	44	36	45.55
5.80	6.00	82	44	36	45.55
5.90	6.00	82	44	36	45.55
5.95	6.00	82	44	36	45.55
6.00	6.00	82	44	36	45.55
6.10	8.00	91	53	36	46.95
6.20	8.00	91	53	36	46.95
6.30	8.00	91	53	36	46.95
6.35	8.00	91	53	36	46.95
6.40	8.00	91	53	36	46.95
6.50	8.00	91	53	36	46.95
6.60	8.00	91	53	36	46.95
6.70	8.00	91	53	36	46.95
6.75	8.00	91	53	36	46.95

Catalogue no. 51787					
Shank form					HA
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
6.80	8.00	91	53	36	46.95
6.90	8.00	91	53	36	46.95
7.00	8.00	91	53	36	46.95
7.10	8.00	91	53	36	46.95
7.14	8.00	91	53	36	46.95
7.20	8.00	91	53	36	46.95
7.30	8.00	91	53	36	46.95
7.40	8.00	91	53	36	46.95
7.50	8.00	91	53	36	46.95
7.54	8.00	91	53	36	46.95
7.60	8.00	91	53	36	46.95
7.70	8.00	91	53	36	46.95
7.80	8.00	91	53	36	46.95
7.90	8.00	91	53	36	46.95
7.94	8.00	91	53	36	46.95
8.00	8.00	91	53	36	46.95
8.10	10.00	103	61	40	51.65
8.20	10.00	103	61	40	51.65
8.30	10.00	103	61	40	51.65
8.33	10.00	103	61	40	51.65
8.40	10.00	103	61	40	51.65
8.50	10.00	103	61	40	51.65
8.60	10.00	103	61	40	51.65
8.70	10.00	103	61	40	51.65
8.73	10.00	103	61	40	51.65
8.80	10.00	103	61	40	51.65
8.90	10.00	103	61	40	51.65
9.00	10.00	103	61	40	51.65
9.10	10.00	103	61	40	51.65
9.13	10.00	103	61	40	51.65
9.20	10.00	103	61	40	51.65
9.30	10.00	103	61	40	51.65
9.40	10.00	103	61	40	51.65
9.50	10.00	103	61	40	51.65
9.52	10.00	103	61	40	51.65
9.60	10.00	103	61	40	51.65
9.70	10.00	103	61	40	51.65
9.80	10.00	103	61	40	51.65
9.90	10.00	103	61	40	51.65
9.92	10.00	103	61	40	51.65
10.00	10.00	103	61	40	51.65
10.10	12.00	118	71	45	77.20
10.20	12.00	118	71	45	77.20
10.30	12.00	118	71	45	77.20
10.40	12.00	118	71	45	77.20
10.50	12.00	118	71	45	77.20
10.60	12.00	118	71	45	77.20
10.70	12.00	118	71	45	77.20

Catalogue no. 51787					
Shank form HA					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
10.80	12.00	118	71	45	77.20
10.90	12.00	118	71	45	77.20
11.00	12.00	118	71	45	77.20
11.10	12.00	118	71	45	77.20
11.20	12.00	118	71	45	77.20
11.30	12.00	118	71	45	77.20
11.40	12.00	118	71	45	77.20
11.50	12.00	118	71	45	77.20
11.60	12.00	118	71	45	77.20
11.70	12.00	118	71	45	77.20
11.80	12.00	118	71	45	77.20
11.90	12.00	118	71	45	77.20
12.00	12.00	118	71	45	77.20
12.10	14.00	124	77	45	101.85
12.20	14.00	124	77	45	101.85
12.50	14.00	124	77	45	101.85
12.70	14.00	124	77	45	101.85
13.00	14.00	124	77	45	101.85
13.50	14.00	124	77	45	101.85
13.70	14.00	124	77	45	101.85
14.00	14.00	124	77	45	101.85
14.10	16.00	133	83	48	132.40
14.20	16.00	133	83	48	132.40
14.50	16.00	133	83	48	132.40

Catalogue no. 51787					
Shank form HA					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
14.70	16.00	133	83	48	132.40
15.00	16.00	133	83	48	132.40
15.20	16.00	133	83	48	132.40
15.50	16.00	133	83	48	132.40
15.70	16.00	133	83	48	132.40
16.00	16.00	133	83	48	132.40
16.50	18.00	143	93	48	210.90
17.00	18.00	143	93	48	210.90
17.50	18.00	143	93	48	210.90
18.00	18.00	143	93	48	210.90
18.50	20.00	153	101	50	228.90
19.00	20.00	153	101	50	228.90
19.50	20.00	153	101	50	228.90
20.00	20.00	153	101	50	228.90

SuperV drills

SuperV drills without internal coolant



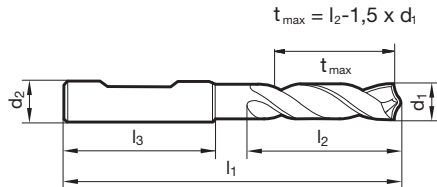
Catalogue no. 51687



P	M	K	N	S	H
●		●	○	○	○

Application recommendations page 6

- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51687					
Shank form HB					
Discount group 155					
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
3.00	6.00	66	28	36	48.15
3.10	6.00	66	28	36	48.15
3.17	6.00	66	28	36	48.15
3.20	6.00	66	28	36	48.15
3.25	6.00	66	28	36	48.15
3.30	6.00	66	28	36	48.15
3.40	6.00	66	28	36	48.15
3.50	6.00	66	28	36	48.15
3.57	6.00	66	28	36	48.15
3.60	6.00	66	28	36	48.15
3.70	6.00	66	28	36	48.15
3.80	6.00	74	36	36	48.15
3.90	6.00	74	36	36	48.15
3.97	6.00	74	36	36	48.15
4.00	6.00	74	36	36	48.15
4.10	6.00	74	36	36	48.15
4.20	6.00	74	36	36	48.15
4.30	6.00	74	36	36	48.15
4.37	6.00	74	36	36	48.15
4.40	6.00	74	36	36	48.15
4.50	6.00	74	36	36	48.15
4.60	6.00	74	36	36	48.15
4.65	6.00	74	36	36	48.15
4.70	6.00	74	36	36	48.15
4.76	6.00	82	44	36	48.15
4.80	6.00	82	44	36	48.15
4.90	6.00	82	44	36	48.15
5.00	6.00	82	44	36	48.15
5.10	6.00	82	44	36	48.15
5.16	6.00	82	44	36	48.15
5.20	6.00	82	44	36	48.15
5.30	6.00	82	44	36	48.15
5.40	6.00	82	44	36	48.15
5.50	6.00	82	44	36	48.15
5.55	6.00	82	44	36	48.15
5.56	6.00	82	44	36	48.15
5.60	6.00	82	44	36	48.15
5.70	6.00	82	44	36	48.15
5.80	6.00	82	44	36	48.15
5.90	6.00	82	44	36	48.15
5.95	6.00	82	44	36	48.15
6.00	6.00	82	44	36	48.15
6.10	8.00	91	53	36	49.55
6.20	8.00	91	53	36	49.55
6.30	8.00	91	53	36	49.55
6.35	8.00	91	53	36	49.55
6.40	8.00	91	53	36	49.55
6.50	8.00	91	53	36	49.55

Catalogue no. 51687					
Shank form HB					
Discount group 155					
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
6.60	8.00	91	53	36	49.55
6.70	8.00	91	53	36	49.55
6.75	8.00	91	53	36	49.55
6.80	8.00	91	53	36	49.55
6.90	8.00	91	53	36	49.55
7.00	8.00	91	53	36	49.55
7.10	8.00	91	53	36	49.55
7.14	8.00	91	53	36	49.55
7.20	8.00	91	53	36	49.55
7.30	8.00	91	53	36	49.55
7.40	8.00	91	53	36	49.55
7.50	8.00	91	53	36	49.55
7.54	8.00	91	53	36	49.55
7.60	8.00	91	53	36	49.55
7.70	8.00	91	53	36	49.55
7.80	8.00	91	53	36	49.55
7.90	8.00	91	53	36	49.55
7.94	8.00	91	53	36	49.55
8.00	8.00	91	53	36	49.55
8.10	10.00	103	61	40	55.85
8.20	10.00	103	61	40	55.85
8.30	10.00	103	61	40	55.85
8.33	10.00	103	61	40	55.85
8.40	10.00	103	61	40	55.85
8.50	10.00	103	61	40	55.85
8.60	10.00	103	61	40	55.85
8.70	10.00	103	61	40	55.85
8.73	10.00	103	61	40	55.85
8.80	10.00	103	61	40	55.85
8.90	10.00	103	61	40	55.85
9.00	10.00	103	61	40	55.85
9.10	10.00	103	61	40	55.85
9.13	10.00	103	61	40	55.85
9.20	10.00	103	61	40	55.85
9.25	10.00	103	61	40	55.85
9.30	10.00	103	61	40	55.85
9.40	10.00	103	61	40	55.85
9.50	10.00	103	61	40	55.85
9.52	10.00	103	61	40	55.85
9.60	10.00	103	61	40	55.85
9.70	10.00	103	61	40	55.85
9.80	10.00	103	61	40	55.85
9.90	10.00	103	61	40	55.85
9.92	10.00	103	61	40	55.85
10.00	10.00	103	61	40	55.85
10.10	12.00	118	71	45	82.65
10.20	12.00	118	71	45	82.65
10.30	12.00	118	71	45	82.65

Catalogue no. 51687					
Shank form HB					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
10.32	12.00	118	71	45	82.65
10.40	12.00	118	71	45	82.65
10.50	12.00	118	71	45	82.65
10.60	12.00	118	71	45	82.65
10.70	12.00	118	71	45	82.65
10.80	12.00	118	71	45	82.65
10.90	12.00	118	71	45	82.65
11.00	12.00	118	71	45	82.65
11.10	12.00	118	71	45	82.65
11.11	12.00	118	71	45	82.65
11.20	12.00	118	71	45	82.65
11.30	12.00	118	71	45	82.65
11.40	12.00	118	71	45	82.65
11.50	12.00	118	71	45	82.65
11.60	12.00	118	71	45	82.65
11.70	12.00	118	71	45	82.65
11.80	12.00	118	71	45	82.65
11.90	12.00	118	71	45	82.65
11.91	12.00	118	71	45	82.65
12.00	12.00	118	71	45	82.65
12.20	14.00	124	77	45	108.85
12.50	14.00	124	77	45	108.85
12.70	14.00	124	77	45	108.85
13.00	14.00	124	77	45	108.85

Catalogue no. 51687					
Shank form HB					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
13.50	14.00	124	77	45	108.85
13.70	14.00	124	77	45	108.85
14.00	14.00	124	77	45	108.85
14.20	16.00	133	83	48	140.65
14.29	16.00	133	83	48	140.65
14.50	16.00	133	83	48	140.65
14.70	16.00	133	83	48	140.65
15.00	16.00	133	83	48	140.65
15.20	16.00	133	83	48	140.65
15.50	16.00	133	83	48	140.65
15.70	16.00	133	83	48	140.65
16.00	16.00	133	83	48	140.65
16.50	18.00	143	93	48	224.70
17.00	18.00	143	93	48	224.70
17.50	18.00	143	93	48	224.70
18.00	18.00	143	93	48	224.70
18.50	20.00	153	101	50	242.70
19.00	20.00	153	101	50	242.70
19.50	20.00	153	101	50	242.70
20.00	20.00	153	101	50	242.70

SuperV drills

SuperV drills without internal coolant



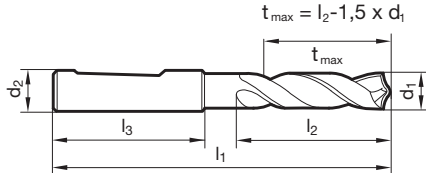
Catalogue no. 51887



P	M	K	N	S	H
●		●	○	○	○

Application recommendations page 6

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51887					
Shank form HE					
Discount group 155					EUR/piece
d1	d2	l1	l2	l3	
mm	mm	mm	mm	mm	
3.00	6.00	66	28	36	48.15
3.10	6.00	66	28	36	48.15
3.17	6.00	66	28	36	48.15
3.20	6.00	66	28	36	48.15
3.30	6.00	66	28	36	48.15
3.40	6.00	66	28	36	48.15
3.50	6.00	66	28	36	48.15
3.57	6.00	66	28	36	48.15
3.60	6.00	66	28	36	48.15
3.70	6.00	66	28	36	48.15
3.80	6.00	74	36	36	48.15
3.90	6.00	74	36	36	48.15
3.97	6.00	74	36	36	48.15
4.00	6.00	74	36	36	48.15
4.10	6.00	74	36	36	48.15
4.20	6.00	74	36	36	48.15
4.30	6.00	74	36	36	48.15
4.37	6.00	74	36	36	48.15
4.40	6.00	74	36	36	48.15
4.50	6.00	74	36	36	48.15
4.60	6.00	74	36	36	48.15
4.70	6.00	74	36	36	48.15
4.76	6.00	82	44	36	48.15
4.80	6.00	82	44	36	48.15
4.90	6.00	82	44	36	48.15
5.00	6.00	82	44	36	48.15
5.10	6.00	82	44	36	48.15
5.16	6.00	82	44	36	48.15
5.20	6.00	82	44	36	48.15
5.30	6.00	82	44	36	48.15
5.40	6.00	82	44	36	48.15
5.50	6.00	82	44	36	48.15
5.56	6.00	82	44	36	48.15
5.60	6.00	82	44	36	48.15
5.70	6.00	82	44	36	48.15
5.80	6.00	82	44	36	48.15
5.90	6.00	82	44	36	48.15
5.95	6.00	82	44	36	48.15
6.00	6.00	82	44	36	48.15
6.10	8.00	91	53	36	49.55
6.20	8.00	91	53	36	49.55
6.30	8.00	91	53	36	49.55
6.35	8.00	91	53	36	49.55
6.40	8.00	91	53	36	49.55
6.50	8.00	91	53	36	49.55
6.60	8.00	91	53	36	49.55
6.70	8.00	91	53	36	49.55
6.75	8.00	91	53	36	49.55

Catalogue no. 51887					
Shank form HE					
Discount group 155					EUR/piece
d1	d2	l1	l2	l3	
mm	mm	mm	mm	mm	
6.80	8.00	91	53	36	49.55
6.90	8.00	91	53	36	49.55
7.00	8.00	91	53	36	49.55
7.10	8.00	91	53	36	49.55
7.14	8.00	91	53	36	49.55
7.20	8.00	91	53	36	49.55
7.30	8.00	91	53	36	49.55
7.40	8.00	91	53	36	49.55
7.50	8.00	91	53	36	49.55
7.54	8.00	91	53	36	49.55
7.60	8.00	91	53	36	49.55
7.70	8.00	91	53	36	49.55
7.80	8.00	91	53	36	49.55
7.90	8.00	91	53	36	49.55
7.94	8.00	91	53	36	49.55
8.00	8.00	91	53	36	49.55
8.10	10.00	103	61	40	55.85
8.20	10.00	103	61	40	55.85
8.30	10.00	103	61	40	55.85
8.33	10.00	103	61	40	55.85
8.40	10.00	103	61	40	55.85
8.50	10.00	103	61	40	55.85
8.60	10.00	103	61	40	55.85
8.70	10.00	103	61	40	55.85
8.73	10.00	103	61	40	55.85
8.80	10.00	103	61	40	55.85
8.90	10.00	103	61	40	55.85
9.00	10.00	103	61	40	55.85
9.10	10.00	103	61	40	55.85
9.13	10.00	103	61	40	55.85
9.20	10.00	103	61	40	55.85
9.30	10.00	103	61	40	55.85
9.40	10.00	103	61	40	55.85
9.50	10.00	103	61	40	55.85
9.52	10.00	103	61	40	55.85
9.60	10.00	103	61	40	55.85
9.70	10.00	103	61	40	55.85
9.80	10.00	103	61	40	55.85
9.90	10.00	103	61	40	55.85
9.92	10.00	103	61	40	55.85
10.00	10.00	103	61	40	55.85
10.10	12.00	118	71	45	82.65
10.20	12.00	118	71	45	82.65
10.30	12.00	118	71	45	82.65
10.40	12.00	118	71	45	82.65
10.50	12.00	118	71	45	82.65
10.60	12.00	118	71	45	82.65
10.70	12.00	118	71	45	82.65

Catalogue no. 51887					
Shank form HE					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
10.80	12.00	118	71	45	82.65
10.90	12.00	118	71	45	82.65
11.00	12.00	118	71	45	82.65
11.10	12.00	118	71	45	82.65
11.20	12.00	118	71	45	82.65
11.30	12.00	118	71	45	82.65
11.40	12.00	118	71	45	82.65
11.50	12.00	118	71	45	82.65
11.60	12.00	118	71	45	82.65
11.70	12.00	118	71	45	82.65
11.80	12.00	118	71	45	82.65
11.90	12.00	118	71	45	82.65
12.00	12.00	118	71	45	82.65
12.10	14.00	124	77	45	108.85
12.20	14.00	124	77	45	108.85
12.50	14.00	124	77	45	108.85
12.70	14.00	124	77	45	108.85
13.00	14.00	124	77	45	108.85
13.50	14.00	124	77	45	108.85
13.70	14.00	124	77	45	108.85
14.00	14.00	124	77	45	108.85
14.10	16.00	133	83	48	140.65
14.20	16.00	133	83	48	140.65
14.50	16.00	133	83	48	140.65

Catalogue no. 51887					
Shank form HE					
Discount group 155					
d1 mm	d2 mm	l1 mm	l2 mm	l3 mm	EUR/piece
14.70	16.00	133	83	48	140.65
15.00	16.00	133	83	48	140.65
15.20	16.00	133	83	48	140.65
15.50	16.00	133	83	48	140.65
15.70	16.00	133	83	48	140.65
16.00	16.00	133	83	48	140.65
16.50	18.00	143	93	48	224.70
17.00	18.00	143	93	48	224.70
17.50	18.00	143	93	48	224.70
18.00	18.00	143	93	48	224.70
18.50	20.00	153	101	50	242.70
19.00	20.00	153	101	50	242.70
19.50	20.00	153	101	50	242.70
20.00	20.00	153	101	50	242.70

SuperV drills

SuperV drills with internal cooling



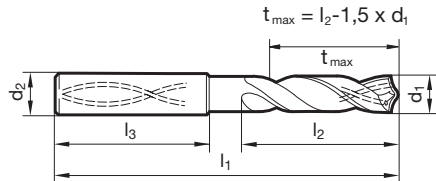
Catalogue no. 51776



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 4

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51776						
Shank form HA						
Discount group 155						EUR/piece
d1	d2	l1	l2	l3		
mm	mm	mm	mm	mm		
3.00	6.00	62	20	36		51.00
3.10	6.00	62	20	36		51.00
3.17	6.00	62	20	36		51.00
3.20	6.00	62	20	36		51.00
3.25	6.00	62	20	36		51.00
3.30	6.00	62	20	36		51.00
3.40	6.00	62	20	36		51.00
3.50	6.00	62	20	36		51.00
3.57	6.00	62	20	36		51.00
3.60	6.00	62	20	36		51.00
3.70	6.00	62	20	36		51.00
3.80	6.00	66	24	36		51.00
3.90	6.00	66	24	36		51.00
3.97	6.00	66	24	36		51.00
4.00	6.00	66	24	36		55.10
4.10	6.00	66	24	36		55.10
4.20	6.00	66	24	36		55.10
4.30	6.00	66	24	36		55.10
4.37	6.00	66	24	36		55.10
4.40	6.00	66	24	36		55.10
4.50	6.00	66	24	36		55.10
4.60	6.00	66	24	36		55.10
4.65	6.00	66	24	36		55.10
4.70	6.00	66	24	36		55.10
4.76	6.00	66	28	36		55.10
4.80	6.00	66	28	36		55.10
4.90	6.00	66	28	36		55.10
5.00	6.00	66	28	36		55.10
5.10	6.00	66	28	36		55.10
5.16	6.00	66	28	36		55.10
5.20	6.00	66	28	36		55.10
5.30	6.00	66	28	36		55.10
5.40	6.00	66	28	36		55.10
5.50	6.00	66	28	36		55.10
5.55	6.00	66	28	36		55.10
5.56	6.00	66	28	36		55.10
5.60	6.00	66	28	36		55.10
5.70	6.00	66	28	36		55.10
5.80	6.00	66	28	36		55.10
5.90	6.00	66	28	36		55.10
5.95	6.00	66	28	36		55.10
6.00	6.00	66	28	36		55.10
6.10	8.00	79	34	36		75.75
6.20	8.00	79	34	36		75.75
6.30	8.00	79	34	36		75.75
6.35	8.00	79	34	36		75.75
6.40	8.00	79	34	36		75.75
6.50	8.00	79	34	36		75.75

Catalogue no. 51776						
Shank form HA						
Discount group 155						EUR/piece
d1	d2	l1	l2	l3		
mm	mm	mm	mm	mm		
6.60	8.00	79	34	36		75.75
6.70	8.00	79	34	36		75.75
6.75	8.00	79	34	36		75.75
6.80	8.00	79	34	36		75.75
6.90	8.00	79	34	36		75.75
7.00	8.00	79	34	36		75.75
7.10	8.00	79	41	36		75.75
7.14	8.00	79	41	36		75.75
7.20	8.00	79	41	36		75.75
7.30	8.00	79	41	36		75.75
7.40	8.00	79	41	36		75.75
7.50	8.00	79	41	36		75.75
7.54	8.00	79	41	36		75.75
7.60	8.00	79	41	36		75.75
7.70	8.00	79	41	36		75.75
7.80	8.00	79	41	36		75.75
7.90	8.00	79	41	36		75.75
7.94	8.00	79	41	36		75.75
8.00	8.00	79	41	36		75.75
8.10	10.00	89	47	40		84.10
8.20	10.00	89	47	40		84.10
8.30	10.00	89	47	40		84.10
8.33	10.00	89	47	40		84.10
8.40	10.00	89	47	40		84.10
8.50	10.00	89	47	40		84.10
8.60	10.00	89	47	40		84.10
8.70	10.00	89	47	40		84.10
8.73	10.00	89	47	40		84.10
8.80	10.00	89	47	40		84.10
8.90	10.00	89	47	40		84.10
9.00	10.00	89	47	40		84.10
9.10	10.00	89	47	40		84.10
9.13	10.00	89	47	40		84.10
9.20	10.00	89	47	40		84.10
9.25	10.00	89	47	40		84.10
9.30	10.00	89	47	40		84.10
9.40	10.00	89	47	40		84.10
9.50	10.00	89	47	40		84.10
9.52	10.00	89	47	40		84.10
9.60	10.00	89	47	40		84.10
9.70	10.00	89	47	40		84.10
9.80	10.00	89	47	40		84.10
9.90	10.00	89	47	40		84.10
9.92	10.00	89	47	40		84.10
10.00	10.00	89	47	40		84.10
10.10	12.00	102	55	45		119.85
10.20	12.00	102	55	45		119.85
10.30	12.00	102	55	45		119.85

Catalogue no. 51776							Catalogue no. 51776						
Shank form HA						Shank form HA							
Discount group 155							Discount group 155						
d1		d2	l1	l2	l3	EUR/piece	d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm		mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	102	55	45	119.85	14.00		14.00	107	60	45	168.10
10.40		12.00	102	55	45	119.85	14.10		16.00	115	65	48	204.10
10.50		12.00	102	55	45	119.85	14.20		16.00	115	65	48	204.10
10.60		12.00	102	55	45	119.85	14.29	9/16	16.00	115	65	48	204.10
10.70		12.00	102	55	45	119.85	14.30		16.00	115	65	48	204.10
10.80		12.00	102	55	45	119.85	14.50		16.00	115	65	48	204.10
10.90		12.00	102	55	45	119.85	14.70		16.00	115	65	48	204.10
11.00		12.00	102	55	45	119.85	14.90		16.00	115	65	48	204.10
11.10		12.00	102	55	45	119.85	15.00		16.00	115	65	48	204.10
11.11	7/16	12.00	102	55	45	119.85	15.20		16.00	115	65	48	204.10
11.20		12.00	102	55	45	119.85	15.50		16.00	115	65	48	204.10
11.30		12.00	102	55	45	119.85	15.60		16.00	115	65	48	204.10
11.40		12.00	102	55	45	119.85	15.70		16.00	115	65	48	204.10
11.50		12.00	102	55	45	119.85	16.00		16.00	115	65	48	204.10
11.60		12.00	102	55	45	119.85	16.10		18.00	123	73	48	328.00
11.70		12.00	102	55	45	119.85	16.20		18.00	123	73	48	328.00
11.80		12.00	102	55	45	119.85	16.50		18.00	123	73	48	328.00
11.90		12.00	102	55	45	119.85	16.70		18.00	123	73	48	328.00
11.91	15/32	12.00	102	55	45	119.85	17.00		18.00	123	73	48	328.00
12.00		12.00	102	55	45	119.85	17.50		18.00	123	73	48	328.00
12.10		14.00	107	60	45	168.10	17.70		18.00	123	73	48	328.00
12.20		14.00	107	60	45	168.10	18.00		18.00	123	73	48	328.00
12.30	31/64	14.00	107	60	45	168.10	18.50		20.00	131	79	50	358.40
12.40		14.00	107	60	45	168.10	18.70		20.00	131	79	50	358.40
12.50		14.00	107	60	45	168.10	19.00		20.00	131	79	50	358.40
12.70	1/2	14.00	107	60	45	168.10	19.50		20.00	131	79	50	358.40
13.00		14.00	107	60	45	168.10	19.70		20.00	131	79	50	358.40
13.20		14.00	107	60	45	168.10	20.00		20.00	131	79	50	358.40
13.50		14.00	107	60	45	168.10							
13.70		14.00	107	60	45	168.10							

The following diameters of the type 51776 are also available ex stock on request:
 Ø 3.05 / 3.15 / 3.35 / 3.45 / 3.55 / 3.65 / 3.75 / 3.85 / 3.95 / 4.05 / 4.15 / 4.25 / 4.35 / 4.45 / 4.55 / 4.85 / 4.95 /
 5.05 / 5.25 / 5.35 / 5.45 / 5.65 / 5.75 / 5.85 / 6.05 / 7.65 / 8.65 / 9.35 / 9.45 / 9.55 / 11.35 / 11.45 / 11.55 mm

SuperV drills

SuperV drills with internal cooling



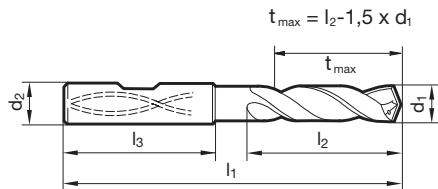
Catalogue no. 51676



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 4

- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51676						
Shank form HB						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	62	20	36	52.40
3.10		6.00	62	20	36	52.40
3.17	1/8	6.00	62	20	36	52.40
3.20		6.00	62	20	36	52.40
3.25		6.00	62	20	36	52.40
3.30		6.00	62	20	36	52.40
3.40		6.00	62	20	36	52.40
3.50		6.00	62	20	36	52.40
3.57	9/64	6.00	62	20	36	52.40
3.60		6.00	62	20	36	52.40
3.70		6.00	62	20	36	52.40
3.80		6.00	66	24	36	52.40
3.90		6.00	66	24	36	52.40
3.97	5/32	6.00	66	24	36	52.40
4.00		6.00	66	24	36	57.20
4.04		6.00	66	24	36	57.20
4.10		6.00	66	24	36	57.20
4.20		6.00	66	24	36	57.20
4.30		6.00	66	24	36	57.20
4.37	11/64	6.00	66	24	36	57.20
4.40		6.00	66	24	36	57.20
4.50		6.00	66	24	36	57.20
4.60		6.00	66	24	36	57.20
4.65		6.00	66	24	36	57.20
4.70		6.00	66	24	36	57.20
4.76	3/16	6.00	66	28	36	57.20
4.80		6.00	66	28	36	57.20
4.90		6.00	66	28	36	57.20
5.00		6.00	66	28	36	57.20
5.10		6.00	66	28	36	57.20
5.11		6.00	66	28	36	57.20
5.16	13/64	6.00	66	28	36	57.20
5.20		6.00	66	28	36	57.20
5.25		6.00	66	28	36	57.20
5.30		6.00	66	28	36	57.20
5.40		6.00	66	28	36	57.20
5.41		6.00	66	28	36	57.20
5.50		6.00	66	28	36	57.20
5.55		6.00	66	28	36	57.20
5.56	7/32	6.00	66	28	36	57.20
5.60		6.00	66	28	36	57.20
5.65		6.00	66	28	36	57.20
5.70		6.00	66	28	36	57.20
5.75		6.00	66	28	36	57.20
5.80		6.00	66	28	36	57.20
5.90		6.00	66	28	36	57.20
5.95	15/64	6.00	66	28	36	57.20
6.00		6.00	66	28	36	78.65

Catalogue no. 51676						
Shank form HB						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.10		8.00	79	34	36	78.65
6.20		8.00	79	34	36	78.65
6.30		8.00	79	34	36	78.65
6.35	1/4	8.00	79	34	36	78.65
6.40		8.00	79	34	36	78.65
6.50		8.00	79	34	36	78.65
6.53		8.00	79	34	36	78.65
6.60		8.00	79	34	36	78.65
6.70		8.00	79	34	36	78.65
6.75	17/64	8.00	79	34	36	78.65
6.80		8.00	79	34	36	78.65
6.90		8.00	79	34	36	78.65
7.00		8.00	79	34	36	78.65
7.10		8.00	79	41	36	78.65
7.14	9/32	8.00	79	41	36	78.65
7.20		8.00	79	41	36	78.65
7.30		8.00	79	41	36	78.65
7.40		8.00	79	41	36	78.65
7.45		8.00	79	41	36	78.65
7.50		8.00	79	41	36	78.65
7.54	19/64	8.00	79	41	36	78.65
7.60		8.00	79	41	36	78.65
7.70		8.00	79	41	36	78.65
7.80		8.00	79	41	36	78.65
7.90		8.00	79	41	36	78.65
7.94	5/16	8.00	79	41	36	78.65
8.00		8.00	79	41	36	78.65
8.10		10.00	89	47	40	86.70
8.20		10.00	89	47	40	86.70
8.30		10.00	89	47	40	86.70
8.33	21/64	10.00	89	47	40	86.70
8.40		10.00	89	47	40	86.70
8.50		10.00	89	47	40	86.70
8.55		10.00	89	47	40	86.70
8.60		10.00	89	47	40	86.70
8.70		10.00	89	47	40	86.70
8.73	11/32	10.00	89	47	40	86.70
8.80		10.00	89	47	40	86.70
8.90		10.00	89	47	40	86.70
9.00		10.00	89	47	40	86.70
9.10		10.00	89	47	40	86.70
9.13	23/64	10.00	89	47	40	86.70
9.20		10.00	89	47	40	86.70
9.25		10.00	89	47	40	86.70
9.30		10.00	89	47	40	86.70
9.34		10.00	89	47	40	87.15
9.40		10.00	89	47	40	86.70
9.50		10.00	89	47	40	86.70

Catalogue no. 51676						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
9.52	3/8	10.00	89	47	40	86.70
9.60		10.00	89	47	40	86.70
9.70		10.00	89	47	40	86.70
9.80		10.00	89	47	40	86.70
9.90		10.00	89	47	40	86.70
9.92	25/64	10.00	89	47	40	86.70
10.00		10.00	89	47	40	86.70
10.10		12.00	102	55	45	124.05
10.20		12.00	102	55	45	124.05
10.30		12.00	102	55	45	124.05
10.32	13/32	12.00	102	55	45	124.05
10.40		12.00	102	55	45	124.05
10.50		12.00	102	55	45	124.05
10.60		12.00	102	55	45	124.05
10.70		12.00	102	55	45	124.05
10.72	27/64	12.00	102	55	45	124.05
10.80		12.00	102	55	45	124.05
10.90		12.00	102	55	45	124.05
11.00		12.00	102	55	45	124.05
11.10		12.00	102	55	45	124.05
11.11	7/16	12.00	102	55	45	124.05
11.20		12.00	102	55	45	124.05
11.30		12.00	102	55	45	124.05
11.40		12.00	102	55	45	124.05
11.50		12.00	102	55	45	124.05
11.51	29/64	12.00	102	55	45	124.05
11.60		12.00	102	55	45	124.05
11.70		12.00	102	55	45	124.05
11.80		12.00	102	55	45	124.05
11.90		12.00	102	55	45	124.05
11.91	15/32	12.00	102	55	45	124.05
12.00		12.00	102	55	45	124.05
12.10		14.00	107	60	45	173.70
12.20		14.00	107	60	45	173.70
12.30	31/64	14.00	107	60	45	173.70
12.40		14.00	107	60	45	173.70
12.50		14.00	107	60	45	173.70
12.60		14.00	107	60	45	173.70
12.70	1/2	14.00	107	60	45	173.70
12.80		14.00	107	60	45	173.70
12.90		14.00	107	60	45	173.70
13.00		14.00	107	60	45	173.70
13.10	33/64	14.00	107	60	45	173.70
13.20		14.00	107	60	45	173.70
13.30		14.00	107	60	45	173.70
13.40		14.00	107	60	45	173.70
13.49	17/32	14.00	107	60	45	173.70
13.50		14.00	107	60	45	173.70
13.60		14.00	107	60	45	173.70
13.70		14.00	107	60	45	173.70
13.80		14.00	107	60	45	173.70
13.90		14.00	107	60	45	173.70
14.00		14.00	107	60	45	173.70
14.10		16.00	115	65	48	212.30
14.20		16.00	115	65	48	212.30
14.29	9/16	16.00	115	65	48	212.30
14.30		16.00	115	65	48	212.30
14.40		16.00	115	65	48	212.30
14.50		16.00	115	65	48	212.30
14.60		16.00	115	65	48	212.30

Catalogue no. 51676						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.68	37/64	16.00	115	65	48	212.30
14.70		16.00	115	65	48	212.30
14.80		16.00	115	65	48	212.30
14.90		16.00	115	65	48	212.30
15.00		16.00	115	65	48	212.30
15.08	19/32	16.00	115	65	48	212.30
15.10		16.00	115	65	48	212.30
15.20		16.00	115	65	48	212.30
15.30		16.00	115	65	48	212.30
15.40		16.00	115	65	48	212.30
15.48	39/64	16.00	115	65	48	212.30
15.50		16.00	115	65	48	212.30
15.60		16.00	115	65	48	212.30
15.70		16.00	115	65	48	212.30
15.80		16.00	115	65	48	212.30
15.87	5/8	16.00	115	65	48	212.30
15.90		16.00	115	65	48	212.30
16.00		16.00	115	65	48	212.30
16.10		18.00	123	73	48	341.80
16.20		18.00	123	73	48	341.80
16.27	41/64	18.00	123	73	48	341.80
16.50		18.00	123	73	48	341.80
16.67	21/32	18.00	123	73	48	341.80
16.90		18.00	123	73	48	341.80
17.00		18.00	123	73	48	341.80
17.07	43/64	18.00	123	73	48	341.80
17.20		18.00	123	73	48	341.80
17.30		18.00	123	73	48	341.80
17.40		18.00	123	73	48	341.80
17.46	11/16	18.00	123	73	48	341.80
17.50		18.00	123	73	48	341.80
17.60		18.00	123	73	48	341.80
17.70		18.00	123	73	48	341.80
17.86	45/64	18.00	123	73	48	341.80
17.90		18.00	123	73	48	341.80
18.00		18.00	123	73	48	341.80
18.26	23/32	20.00	131	79	50	372.40
18.30		20.00	131	79	50	372.40
18.50		20.00	131	79	50	372.40
18.90		20.00	131	79	50	372.40
19.00		20.00	131	79	50	372.40
19.05	3/4	20.00	131	79	50	372.40
19.25		20.00	131	79	50	372.40
19.30		20.00	131	79	50	372.40
19.44		20.00	131	79	50	372.40
19.50		20.00	131	79	50	372.40
19.84	25/32	20.00	131	79	50	372.40
19.90		20.00	131	79	50	372.40
20.00		20.00	131	79	50	372.40

SuperV drills

SuperV drills with internal cooling



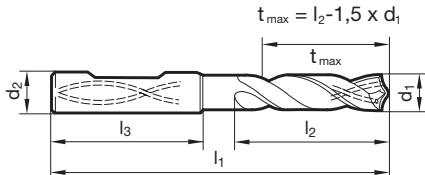
Catalogue no. 51876



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 4

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51876						
Shank form HE						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	62	20	36	52.40
3.10		6.00	62	20	36	52.40
3.20		6.00	62	20	36	52.40
3.30		6.00	62	20	36	52.40
3.40		6.00	62	20	36	52.40
3.50		6.00	62	20	36	52.40
3.60		6.00	62	20	36	52.40
3.70		6.00	62	20	36	52.40
3.80		6.00	66	24	36	52.40
3.90		6.00	66	24	36	52.40
4.00		6.00	66	24	36	57.20
4.10		6.00	66	24	36	57.20
4.20		6.00	66	24	36	57.20
4.30		6.00	66	24	36	57.20
4.37	11/64	6.00	66	24	36	57.20
4.40		6.00	66	24	36	57.20
4.50		6.00	66	24	36	57.20
4.60		6.00	66	24	36	57.20
4.65		6.00	66	24	36	57.20
4.70		6.00	66	24	36	57.20
4.76	3/16	6.00	66	28	36	57.20
4.80		6.00	66	28	36	57.20
4.90		6.00	66	28	36	57.20
5.00		6.00	66	28	36	57.20
5.10		6.00	66	28	36	57.20
5.16	13/64	6.00	66	28	36	57.20
5.20		6.00	66	28	36	57.20
5.30		6.00	66	28	36	57.20
5.40		6.00	66	28	36	57.20
5.50		6.00	66	28	36	57.20
5.55		6.00	66	28	36	57.20
5.56	7/32	6.00	66	28	36	57.20
5.60		6.00	66	28	36	57.20
5.70		6.00	66	28	36	57.20
5.80		6.00	66	28	36	57.20
5.90		6.00	66	28	36	57.20
5.95	15/64	6.00	66	28	36	57.20
6.00		6.00	66	28	36	57.20
6.10		8.00	79	34	36	78.65
6.20		8.00	79	34	36	78.65
6.30		8.00	79	34	36	78.65
6.35	1/4	8.00	79	34	36	78.65
6.40		8.00	79	34	36	78.65
6.50		8.00	79	34	36	78.65
6.60		8.00	79	34	36	78.65
6.70		8.00	79	34	36	78.65
6.75	17/64	8.00	79	34	36	78.65
6.80		8.00	79	34	36	78.65

Catalogue no. 51876						
Shank form HE						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.90		8.00	79	34	36	78.65
7.00		8.00	79	34	36	78.65
7.10		8.00	79	41	36	78.65
7.14	9/32	8.00	79	41	36	78.65
7.20		8.00	79	41	36	78.65
7.30		8.00	79	41	36	78.65
7.40		8.00	79	41	36	78.65
7.50		8.00	79	41	36	78.65
7.54	19/64	8.00	79	41	36	78.65
7.60		8.00	79	41	36	78.65
7.70		8.00	79	41	36	78.65
7.80		8.00	79	41	36	78.65
7.90		8.00	79	41	36	78.65
7.94	5/16	8.00	79	41	36	78.65
8.00		8.00	79	41	36	78.65
8.10		10.00	89	47	40	86.70
8.20		10.00	89	47	40	86.70
8.30		10.00	89	47	40	86.70
8.33	21/64	10.00	89	47	40	86.70
8.40		10.00	89	47	40	86.70
8.50		10.00	89	47	40	86.70
8.60		10.00	89	47	40	86.70
8.70		10.00	89	47	40	86.70
8.73	11/32	10.00	89	47	40	86.70
8.80		10.00	89	47	40	86.70
8.90		10.00	89	47	40	86.70
9.00		10.00	89	47	40	86.70
9.10		10.00	89	47	40	86.70
9.13	23/64	10.00	89	47	40	86.70
9.20		10.00	89	47	40	86.70
9.25		10.00	89	47	40	86.70
9.30		10.00	89	47	40	86.70
9.40		10.00	89	47	40	86.70
9.50		10.00	89	47	40	86.70
9.52	3/8	10.00	89	47	40	86.70
9.60		10.00	89	47	40	86.70
9.70		10.00	89	47	40	86.70
9.80		10.00	89	47	40	86.70
9.90		10.00	89	47	40	86.70
9.92	25/64	10.00	89	47	40	86.70
10.00		10.00	89	47	40	86.70
10.10		12.00	102	55	45	124.05
10.20		12.00	102	55	45	124.05
10.30		12.00	102	55	45	124.05
10.32	13/32	12.00	102	55	45	124.05
10.40		12.00	102	55	45	124.05
10.50		12.00	102	55	45	124.05
10.60		12.00	102	55	45	124.05

Catalogue no. 51876						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.70		12.00	102	55	45	124.05
10.80		12.00	102	55	45	124.05
10.90		12.00	102	55	45	124.05
11.00		12.00	102	55	45	124.05
11.10		12.00	102	55	45	124.05
11.11	7/16	12.00	102	55	45	124.05
11.20		12.00	102	55	45	124.05
11.30		12.00	102	55	45	124.05
11.40		12.00	102	55	45	124.05
11.50		12.00	102	55	45	124.05
11.60		12.00	102	55	45	124.05
11.70		12.00	102	55	45	124.05
11.80		12.00	102	55	45	124.05
11.90		12.00	102	55	45	124.05
11.91	15/32	12.00	102	55	45	124.05
12.00		12.00	102	55	45	124.05
12.10		14.00	107	60	45	173.70
12.20		14.00	107	60	45	173.70
12.30	31/64	14.00	107	60	45	173.70
12.40		14.00	107	60	45	173.70
12.50		14.00	107	60	45	173.70
12.70	1/2	14.00	107	60	45	173.70
13.00		14.00	107	60	45	173.70
13.20		14.00	107	60	45	173.70
13.50		14.00	107	60	45	173.70
13.70		14.00	107	60	45	173.70
14.00		14.00	107	60	45	173.70
14.10		16.00	115	65	48	212.30
14.20		16.00	115	65	48	212.30
14.29	9/16	16.00	115	65	48	212.30

Catalogue no. 51876						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.30		16.00	115	65	48	212.30
14.50		16.00	115	65	48	212.30
14.70		16.00	115	65	48	212.30
14.90		16.00	115	65	48	212.30
15.00		16.00	115	65	48	212.30
15.20		16.00	115	65	48	212.30
15.50		16.00	115	65	48	212.30
15.60		16.00	115	65	48	212.30
15.70		16.00	115	65	48	212.30
16.00		16.00	115	65	48	212.30
16.10		18.00	123	73	48	341.80
16.20		18.00	123	73	48	341.80
16.50		18.00	123	73	48	341.80
17.00		18.00	123	73	48	341.80
17.50		18.00	123	73	48	341.80
17.70		18.00	123	73	48	341.80
18.00		18.00	123	73	48	341.80
18.50		20.00	131	79	50	372.40
19.00		20.00	131	79	50	372.40
19.50		20.00	131	79	50	372.40
20.00		20.00	131	79	50	372.40

SuperV drills

SuperV drills with internal cooling



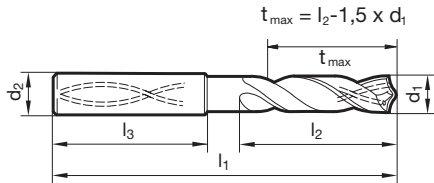
Catalogue no. 51770



P	M	K	N	S	H
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Application recommendations page 4

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- especially suitable for stainless steels



Catalogue no. 51770						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	62	20	36	58.65
3.10		6.00	62	20	36	58.65
3.17	1/8	6.00	62	20	36	58.65
3.20		6.00	62	20	36	58.65
3.25		6.00	62	20	36	58.65
3.30		6.00	62	20	36	58.65
3.40		6.00	62	20	36	58.65
3.50		6.00	62	20	36	58.65
3.57	9/64	6.00	62	20	36	58.65
3.60		6.00	62	20	36	58.65
3.70		6.00	62	20	36	58.65
3.80		6.00	66	24	36	58.65
3.90		6.00	66	24	36	58.65
3.97	5/32	6.00	66	24	36	58.65
4.00		6.00	66	24	36	63.50
4.10		6.00	66	24	36	63.50
4.20		6.00	66	24	36	63.50
4.30		6.00	66	24	36	63.50
4.37	11/64	6.00	66	24	36	63.50
4.40		6.00	66	24	36	63.50
4.50		6.00	66	24	36	63.50
4.60		6.00	66	24	36	63.50
4.65		6.00	66	24	36	63.50
4.70		6.00	66	24	36	63.50
4.76	3/16	6.00	66	28	36	63.50
4.80		6.00	66	28	36	63.50
4.90		6.00	66	28	36	63.50
5.00		6.00	66	28	36	63.50
5.10		6.00	66	28	36	63.50
5.16	13/64	6.00	66	28	36	63.50
5.20		6.00	66	28	36	63.50
5.30		6.00	66	28	36	63.50
5.40		6.00	66	28	36	63.50
5.50		6.00	66	28	36	63.50
5.55		6.00	66	28	36	63.50
5.56	7/32	6.00	66	28	36	63.50
5.60		6.00	66	28	36	63.50
5.70		6.00	66	28	36	63.50
5.80		6.00	66	28	36	63.50
5.90		6.00	66	28	36	63.50
5.95	15/64	6.00	66	28	36	63.50
6.00		6.00	66	28	36	63.50
6.10		8.00	79	34	36	86.70
6.20		8.00	79	34	36	86.70
6.30		8.00	79	34	36	86.70
6.35	1/4	8.00	79	34	36	86.70
6.40		8.00	79	34	36	86.70
6.50		8.00	79	34	36	86.70

Catalogue no. 51770						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	79	34	36	86.70
6.70		8.00	79	34	36	86.70
6.75	17/64	8.00	79	34	36	86.70
6.80		8.00	79	34	36	86.70
6.90		8.00	79	34	36	86.70
7.00		8.00	79	34	36	86.70
7.10		8.00	79	41	36	86.70
7.14	9/32	8.00	79	41	36	86.70
7.20		8.00	79	41	36	86.70
7.30		8.00	79	41	36	86.70
7.40		8.00	79	41	36	86.70
7.50		8.00	79	41	36	86.70
7.54	19/64	8.00	79	41	36	86.70
7.60		8.00	79	41	36	86.70
7.70		8.00	79	41	36	86.70
7.80		8.00	79	41	36	86.70
7.90		8.00	79	41	36	86.70
7.94	5/16	8.00	79	41	36	86.70
8.00		8.00	79	41	36	86.70
8.10		10.00	89	47	40	96.50
8.20		10.00	89	47	40	96.50
8.30		10.00	89	47	40	96.50
8.33	21/64	10.00	89	47	40	96.50
8.40		10.00	89	47	40	96.50
8.50		10.00	89	47	40	96.50
8.60		10.00	89	47	40	96.50
8.70		10.00	89	47	40	96.50
8.73	11/32	10.00	89	47	40	96.50
8.80		10.00	89	47	40	96.50
8.90		10.00	89	47	40	96.50
9.00		10.00	89	47	40	96.50
9.10		10.00	89	47	40	96.50
9.13	23/64	10.00	89	47	40	96.50
9.20		10.00	89	47	40	96.50
9.25		10.00	89	47	40	96.50
9.30		10.00	89	47	40	96.50
9.40		10.00	89	47	40	96.50
9.50		10.00	89	47	40	96.50
9.52	3/8	10.00	89	47	40	96.50
9.60		10.00	89	47	40	96.50
9.70		10.00	89	47	40	96.50
9.80		10.00	89	47	40	96.50
9.90		10.00	89	47	40	96.50
9.92	25/64	10.00	89	47	40	96.50
10.00		10.00	89	47	40	96.50
10.10		12.00	102	55	45	137.75
10.20		12.00	102	55	45	137.75
10.30		12.00	102	55	45	137.75

Catalogue no. 51770						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	102	55	45	137.75
10.40		12.00	102	55	45	137.75
10.50		12.00	102	55	45	137.75
10.60		12.00	102	55	45	137.75
10.70		12.00	102	55	45	137.75
10.80		12.00	102	55	45	137.75
10.90		12.00	102	55	45	137.75
11.00		12.00	102	55	45	137.75
11.10		12.00	102	55	45	137.75
11.11	7/16	12.00	102	55	45	137.75
11.20		12.00	102	55	45	137.75
11.30		12.00	102	55	45	137.75
11.40		12.00	102	55	45	137.75
11.50		12.00	102	55	45	137.75
11.60		12.00	102	55	45	137.75
11.70		12.00	102	55	45	137.75
11.80		12.00	102	55	45	137.75
11.90		12.00	102	55	45	137.75
11.91	15/32	12.00	102	55	45	137.75
12.00		12.00	102	55	45	137.75
12.20		14.00	107	60	45	193.05
12.50		14.00	107	60	45	193.05
12.70	1/2	14.00	107	60	45	193.05
12.80		14.00	107	60	45	193.05
13.00		14.00	107	60	45	193.05
13.30		14.00	107	60	45	193.05
13.50		14.00	107	60	45	193.05
13.70		14.00	107	60	45	193.05
14.00		14.00	107	60	45	193.05
14.20		16.00	115	65	48	234.40

Catalogue no. 51770						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.29	9/16	16.00	115	65	48	234.40
14.30		16.00	115	65	48	234.40
14.50		16.00	115	65	48	234.40
14.70		16.00	115	65	48	234.40
15.00		16.00	115	65	48	234.40
15.20		16.00	115	65	48	234.40
15.30		16.00	115	65	48	234.40
15.50		16.00	115	65	48	234.40
15.70		16.00	115	65	48	234.40
16.00		16.00	115	65	48	234.40
16.30		18.00	123	73	48	377.60
16.50		18.00	123	73	48	377.60
16.90		18.00	123	73	48	377.60
17.00		18.00	123	73	48	377.60
17.30		18.00	123	73	48	377.60
17.50		18.00	123	73	48	377.60
18.00		18.00	123	73	48	377.60
18.50		20.00	131	79	50	413.40
18.90		20.00	131	79	50	413.40
19.00		20.00	131	79	50	413.40
19.30		20.00	131	79	50	413.40
19.50		20.00	131	79	50	413.40
20.00		20.00	131	79	50	413.40

SuperV drills

SuperV drills with internal cooling



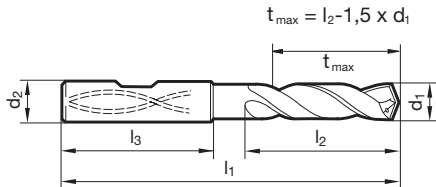
Catalogue no. 51670



P	M	K	N	S	H
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Application recommendations page 4

- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- especially suitable for stainless steels



Catalogue no. 51670						
Shank form HB						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	62	20	36	60.00
3.10		6.00	62	20	36	60.00
3.17	1/8	6.00	62	20	36	60.00
3.20		6.00	62	20	36	60.00
3.25		6.00	62	20	36	60.00
3.30		6.00	62	20	36	60.00
3.40		6.00	62	20	36	60.00
3.50		6.00	62	20	36	60.00
3.57	9/64	6.00	62	20	36	60.00
3.60		6.00	62	20	36	60.00
3.70		6.00	62	20	36	60.00
3.80		6.00	66	24	36	60.00
3.90		6.00	66	24	36	60.00
3.97	5/32	6.00	66	24	36	60.00
4.00		6.00	66	24	36	65.55
4.10		6.00	66	24	36	65.55
4.20		6.00	66	24	36	65.55
4.30		6.00	66	24	36	65.55
4.37	11/64	6.00	66	24	36	65.55
4.40		6.00	66	24	36	65.55
4.50		6.00	66	24	36	65.55
4.60		6.00	66	24	36	65.55
4.65		6.00	66	24	36	65.55
4.70		6.00	66	24	36	65.55
4.76	3/16	6.00	66	28	36	65.55
4.80		6.00	66	28	36	65.55
4.90		6.00	66	28	36	65.55
5.00		6.00	66	28	36	65.55
5.10		6.00	66	28	36	65.55
5.16	13/64	6.00	66	28	36	65.55
5.20		6.00	66	28	36	65.55
5.30		6.00	66	28	36	65.55
5.40		6.00	66	28	36	65.55
5.50		6.00	66	28	36	65.55
5.55		6.00	66	28	36	65.55
5.56	7/32	6.00	66	28	36	65.55
5.60		6.00	66	28	36	65.55
5.70		6.00	66	28	36	65.55
5.80		6.00	66	28	36	65.55
5.90		6.00	66	28	36	65.55
5.95	15/64	6.00	66	28	36	65.55
6.00		6.00	66	28	36	89.60
6.10		8.00	79	34	36	89.60
6.20		8.00	79	34	36	89.60
6.30		8.00	79	34	36	89.60
6.35	1/4	8.00	79	34	36	89.60
6.40		8.00	79	34	36	89.60
6.50		8.00	79	34	36	89.60

Catalogue no. 51670						
Shank form HB						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	79	34	36	89.60
6.70		8.00	79	34	36	89.60
6.75	17/64	8.00	79	34	36	89.60
6.80		8.00	79	34	36	89.60
6.90		8.00	79	34	36	89.60
7.00		8.00	79	34	36	89.60
7.10		8.00	79	41	36	89.60
7.14	9/32	8.00	79	41	36	89.60
7.20		8.00	79	41	36	89.60
7.30		8.00	79	41	36	89.60
7.40		8.00	79	41	36	89.60
7.50		8.00	79	41	36	89.60
7.54	19/64	8.00	79	41	36	89.60
7.60		8.00	79	41	36	89.60
7.70		8.00	79	41	36	89.60
7.80		8.00	79	41	36	89.60
7.90		8.00	79	41	36	89.60
7.94	5/16	8.00	79	41	36	89.60
8.00		8.00	79	41	36	89.60
8.10		10.00	89	47	40	99.30
8.20		10.00	89	47	40	99.30
8.30		10.00	89	47	40	99.30
8.33	21/64	10.00	89	47	40	99.30
8.40		10.00	89	47	40	99.30
8.50		10.00	89	47	40	99.30
8.60		10.00	89	47	40	99.30
8.70		10.00	89	47	40	99.30
8.73	11/32	10.00	89	47	40	99.30
8.80		10.00	89	47	40	99.30
8.90		10.00	89	47	40	99.30
9.00		10.00	89	47	40	99.30
9.10		10.00	89	47	40	99.30
9.13	23/64	10.00	89	47	40	99.30
9.20		10.00	89	47	40	99.30
9.25		10.00	89	47	40	99.30
9.30		10.00	89	47	40	99.30
9.40		10.00	89	47	40	99.30
9.50		10.00	89	47	40	99.30
9.52	3/8	10.00	89	47	40	99.30
9.60		10.00	89	47	40	99.30
9.70		10.00	89	47	40	99.30
9.80		10.00	89	47	40	99.30
9.90		10.00	89	47	40	99.30
9.92	25/64	10.00	89	47	40	99.30
10.00		10.00	89	47	40	99.30
10.10		12.00	102	55	45	142.05
10.20		12.00	102	55	45	142.05
10.30		12.00	102	55	45	142.05

Catalogue no. 51670						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	102	55	45	142.05
10.40		12.00	102	55	45	142.05
10.50		12.00	102	55	45	142.05
10.60		12.00	102	55	45	142.05
10.70		12.00	102	55	45	142.05
10.80		12.00	102	55	45	142.05
10.90		12.00	102	55	45	142.05
11.00		12.00	102	55	45	142.05
11.10		12.00	102	55	45	142.05
11.11	7/16	12.00	102	55	45	142.05
11.20		12.00	102	55	45	142.05
11.30		12.00	102	55	45	142.05
11.40		12.00	102	55	45	142.05
11.50		12.00	102	55	45	142.05
11.60		12.00	102	55	45	142.05
11.70		12.00	102	55	45	142.05
11.80		12.00	102	55	45	142.05
11.90		12.00	102	55	45	142.05
11.91	15/32	12.00	102	55	45	142.05
12.00		12.00	102	55	45	142.05
12.20		14.00	107	60	45	199.90
12.50		14.00	107	60	45	199.90
12.70	1/2	14.00	107	60	45	199.90
13.00		14.00	107	60	45	199.90

Catalogue no. 51670						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
13.50		14.00	107	60	45	199.90
13.70		14.00	107	60	45	199.90
14.00		14.00	107	60	45	199.90
14.20		16.00	115	65	48	244.00
14.29	9/16	16.00	115	65	48	244.00
14.50		16.00	115	65	48	244.00
14.70		16.00	115	65	48	244.00
15.00		16.00	115	65	48	244.00
15.20		16.00	115	65	48	244.00
15.50		16.00	115	65	48	244.00
15.70		16.00	115	65	48	244.00
16.00		16.00	115	65	48	244.00
16.50		18.00	123	73	48	394.30
17.00		18.00	123	73	48	394.30
17.50		18.00	123	73	48	394.30
18.00		18.00	123	73	48	394.30
18.50		20.00	131	79	50	427.30
19.00		20.00	131	79	50	427.30
19.50		20.00	131	79	50	427.30
20.00		20.00	131	79	50	427.30

SuperV drills

SuperV drills with internal cooling



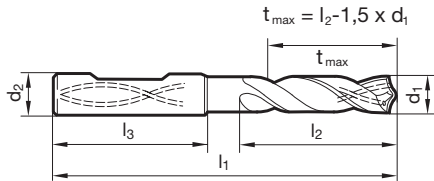
Catalogue no. 51771



P	M	K	N	S	H
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Application recommendations page 4

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- especially suitable for stainless steels



Catalogue no. 51771						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	62	20	36	60.00
3.10		6.00	62	20	36	60.00
3.17	1/8	6.00	62	20	36	60.00
3.20		6.00	62	20	36	60.00
3.25		6.00	62	20	36	60.00
3.30		6.00	62	20	36	60.00
3.40		6.00	62	20	36	60.00
3.50		6.00	62	20	36	60.00
3.57	9/64	6.00	62	20	36	60.00
3.60		6.00	62	20	36	60.00
3.70		6.00	62	20	36	60.00
3.80		6.00	66	24	36	60.00
3.90		6.00	66	24	36	60.00
3.97	5/32	6.00	66	24	36	60.00
4.00		6.00	66	24	36	65.55
4.10		6.00	66	24	36	65.55
4.20		6.00	66	24	36	65.55
4.30		6.00	66	24	36	65.55
4.37	11/64	6.00	66	24	36	65.55
4.40		6.00	66	24	36	65.55
4.50		6.00	66	24	36	65.55
4.60		6.00	66	24	36	65.55
4.65		6.00	66	24	36	65.55
4.70		6.00	66	24	36	65.55
4.76	3/16	6.00	66	28	36	65.55
4.80		6.00	66	28	36	65.55
4.90		6.00	66	28	36	65.55
5.00		6.00	66	28	36	65.55
5.10		6.00	66	28	36	65.55
5.16	13/64	6.00	66	28	36	65.55
5.20		6.00	66	28	36	65.55
5.30		6.00	66	28	36	65.55
5.40		6.00	66	28	36	65.55
5.50		6.00	66	28	36	65.55
5.55		6.00	66	28	36	65.55
5.56	7/32	6.00	66	28	36	65.55
5.60		6.00	66	28	36	65.55
5.70		6.00	66	28	36	65.55
5.80		6.00	66	28	36	65.55
5.90		6.00	66	28	36	65.55
5.95	15/64	6.00	66	28	36	65.55
6.00		6.00	66	28	36	65.55
6.10		8.00	79	34	36	89.60
6.20		8.00	79	34	36	89.60
6.30		8.00	79	34	36	89.60
6.35	1/4	8.00	79	34	36	89.60
6.40		8.00	79	34	36	89.60
6.50		8.00	79	34	36	89.60

Catalogue no. 51771						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	79	34	36	89.60
6.70		8.00	79	34	36	89.60
6.75	17/64	8.00	79	34	36	89.60
6.80		8.00	79	34	36	89.60
6.90		8.00	79	34	36	89.60
7.00		8.00	79	34	36	89.60
7.10		8.00	79	41	36	89.60
7.14	9/32	8.00	79	41	36	89.60
7.20		8.00	79	41	36	89.60
7.30		8.00	79	41	36	89.60
7.40		8.00	79	41	36	89.60
7.50		8.00	79	41	36	89.60
7.54	19/64	8.00	79	41	36	89.60
7.60		8.00	79	41	36	89.60
7.70		8.00	79	41	36	89.60
7.80		8.00	79	41	36	89.60
7.90		8.00	79	41	36	89.60
7.94	5/16	8.00	79	41	36	89.60
8.00		8.00	79	41	36	89.60
8.10		10.00	89	47	40	99.30
8.20		10.00	89	47	40	99.30
8.30		10.00	89	47	40	99.30
8.33	21/64	10.00	89	47	40	99.30
8.40		10.00	89	47	40	99.30
8.50		10.00	89	47	40	99.30
8.60		10.00	89	47	40	99.30
8.70		10.00	89	47	40	99.30
8.73	11/32	10.00	89	47	40	99.30
8.80		10.00	89	47	40	99.30
8.90		10.00	89	47	40	99.30
9.00		10.00	89	47	40	99.30
9.10		10.00	89	47	40	99.30
9.13	23/64	10.00	89	47	40	99.30
9.20		10.00	89	47	40	99.30
9.25		10.00	89	47	40	99.30
9.30		10.00	89	47	40	99.30
9.40		10.00	89	47	40	99.30
9.50		10.00	89	47	40	99.30
9.52	3/8	10.00	89	47	40	99.30
9.60		10.00	89	47	40	99.30
9.70		10.00	89	47	40	99.30
9.80		10.00	89	47	40	99.30
9.90		10.00	89	47	40	99.30
9.92	25/64	10.00	89	47	40	99.30
10.00		10.00	89	47	40	99.30
10.10		12.00	102	55	45	142.05
10.20		12.00	102	55	45	142.05
10.30		12.00	102	55	45	142.05

Catalogue no. 51771						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	102	55	45	142.05
10.40		12.00	102	55	45	142.05
10.50		12.00	102	55	45	142.05
10.60		12.00	102	55	45	142.05
10.70		12.00	102	55	45	142.05
10.80		12.00	102	55	45	142.05
10.90		12.00	102	55	45	142.05
11.00		12.00	102	55	45	142.05
11.10		12.00	102	55	45	142.05
11.11	7/16	12.00	102	55	45	142.05
11.20		12.00	102	55	45	142.05
11.30		12.00	102	55	45	142.05
11.40		12.00	102	55	45	142.05
11.50		12.00	102	55	45	142.05
11.60		12.00	102	55	45	142.05
11.70		12.00	102	55	45	142.05
11.80		12.00	102	55	45	142.05
11.90		12.00	102	55	45	142.05
11.91	15/32	12.00	102	55	45	142.05
12.00		12.00	102	55	45	142.05
12.20		14.00	107	60	45	199.90
12.50		14.00	107	60	45	199.90
12.70	1/2	14.00	107	60	45	199.90
12.80		14.00	107	60	45	199.90
13.00		14.00	107	60	45	199.90
13.30		14.00	107	60	45	199.90
13.50		14.00	107	60	45	199.90
13.70		14.00	107	60	45	199.90
14.00		14.00	107	60	45	199.90
14.20		16.00	115	65	48	244.00

Catalogue no. 51771						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.29	9/16	16.00	115	65	48	244.00
14.30		16.00	115	65	48	244.00
14.50		16.00	115	65	48	244.00
14.70		16.00	115	65	48	244.00
15.00		16.00	115	65	48	244.00
15.20		16.00	115	65	48	244.00
15.30		16.00	115	65	48	244.00
15.50		16.00	115	65	48	244.00
15.70		16.00	115	65	48	244.00
16.00		16.00	115	65	48	244.00
16.30		18.00	123	73	48	394.30
16.50		18.00	123	73	48	394.30
16.90		18.00	123	73	48	394.30
17.00		18.00	123	73	48	394.30
17.30		18.00	123	73	48	394.30
17.50		18.00	123	73	48	394.30
18.00		18.00	123	73	48	394.30
18.50		20.00	131	79	50	427.30
18.90		20.00	131	79	50	427.30
19.00		20.00	131	79	50	427.30
19.30		20.00	131	79	50	427.30
19.50		20.00	131	79	50	427.30
20.00		20.00	131	79	50	427.30

SuperV drills

SuperV drills with internal cooling

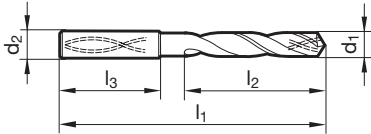


Catalogue no. 71791



Application recommendations page 6

- relieved cone
- main cutting edge is slightly concave
- optimised cutting geometry
- sharp cutting edges



Catalogue no. 71791						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	75.75
3.10		6.00	66	28	36	75.75
3.17	1/8	6.00	66	28	36	75.75
3.20		6.00	66	28	36	75.75
3.25		6.00	66	28	36	75.75
3.30		6.00	66	28	36	75.75
3.40		6.00	66	28	36	75.75
3.50		6.00	66	28	36	75.75
3.57	9/64	6.00	66	28	36	75.75
3.60		6.00	66	28	36	75.75
3.70		6.00	66	28	36	75.75
3.80		6.00	74	36	36	75.75
3.90		6.00	74	36	36	75.75
3.97	5/32	6.00	74	36	36	75.75
4.00		6.00	74	36	36	81.40
4.10		6.00	74	36	36	81.40
4.20		6.00	74	36	36	81.40
4.30		6.00	74	36	36	81.40
4.37	11/64	6.00	74	36	36	81.40
4.40		6.00	74	36	36	81.40
4.50		6.00	74	36	36	81.40
4.60		6.00	74	36	36	81.40
4.65		6.00	74	36	36	81.40
4.70		6.00	74	36	36	81.40
4.76	3/16	6.00	82	44	36	81.40
4.80		6.00	82	44	36	81.40
4.90		6.00	82	44	36	81.40
5.00		6.00	82	44	36	81.40
5.10		6.00	82	44	36	81.40
5.16	13/64	6.00	82	44	36	81.40
5.20		6.00	82	44	36	81.40
5.30		6.00	82	44	36	81.40
5.40		6.00	82	44	36	81.40
5.50		6.00	82	44	36	81.40
5.55		6.00	82	44	36	81.40
5.56	7/32	6.00	82	44	36	81.40
5.60		6.00	82	44	36	81.40
5.70		6.00	82	44	36	81.40
5.80		6.00	82	44	36	81.40
5.90		6.00	82	44	36	81.40
5.95	15/64	6.00	82	44	36	81.40
6.00		6.00	82	44	36	81.40
6.10		8.00	91	53	36	90.80
6.20		8.00	91	53	36	90.80
6.30		8.00	91	53	36	90.80
6.35	1/4	8.00	91	53	36	90.80
6.40		8.00	91	53	36	90.80
6.50		8.00	91	53	36	90.80

Catalogue no. 71791						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	91	53	36	90.80
6.70		8.00	91	53	36	90.80
6.75	17/64	8.00	91	53	36	90.80
6.80		8.00	91	53	36	90.80
6.90		8.00	91	53	36	90.80
7.00		8.00	91	53	36	90.80
7.10		8.00	91	53	36	90.80
7.14	9/32	8.00	91	53	36	90.80
7.20		8.00	91	53	36	90.80
7.30		8.00	91	53	36	90.80
7.40		8.00	91	53	36	90.80
7.50		8.00	91	53	36	90.80
7.54	19/64	8.00	91	53	36	90.80
7.60		8.00	91	53	36	90.80
7.70		8.00	91	53	36	90.80
7.80		8.00	91	53	36	90.80
7.90		8.00	91	53	36	90.80
7.94	5/16	8.00	91	53	36	90.80
8.00		8.00	91	53	36	90.80
8.10		10.00	103	61	40	103.50
8.20		10.00	103	61	40	103.50
8.30		10.00	103	61	40	103.50
8.33	21/64	10.00	103	61	40	103.50
8.40		10.00	103	61	40	103.50
8.50		10.00	103	61	40	103.50
8.60		10.00	103	61	40	103.50
8.70		10.00	103	61	40	103.50
8.73	11/32	10.00	103	61	40	103.50
8.80		10.00	103	61	40	103.50
8.90		10.00	103	61	40	103.50
9.00		10.00	103	61	40	103.50
9.10		10.00	103	61	40	103.50
9.13	23/64	10.00	103	61	40	103.50
9.20		10.00	103	61	40	103.50
9.25		10.00	103	61	40	103.50
9.30		10.00	103	61	40	103.50
9.34		10.00	103	61	40	103.50
9.40		10.00	103	61	40	103.50
9.50		10.00	103	61	40	103.50
9.52	3/8	10.00	103	61	40	103.50
9.60		10.00	103	61	40	103.50
9.70		10.00	103	61	40	103.50
9.80		10.00	103	61	40	103.50
9.90		10.00	103	61	40	103.50
9.92	25/64	10.00	103	61	40	103.50
10.00		10.00	103	61	40	103.50
10.10		12.00	118	71	45	150.20
10.20		12.00	118	71	45	150.20

Catalogue no. 71791						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.30		12.00	118	71	45	150.20
10.32	13/32	12.00	118	71	45	150.20
10.40		12.00	118	71	45	150.20
10.50		12.00	118	71	45	150.20
10.60		12.00	118	71	45	150.20
10.70		12.00	118	71	45	150.20
10.80		12.00	118	71	45	150.20
10.90		12.00	118	71	45	150.20
11.00		12.00	118	71	45	150.20
11.10		12.00	118	71	45	150.20
11.11	7/16	12.00	118	71	45	150.20
11.20		12.00	118	71	45	150.20
11.30		12.00	118	71	45	150.20
11.40		12.00	118	71	45	150.20
11.50		12.00	118	71	45	150.20
11.60		12.00	118	71	45	150.20
11.70		12.00	118	71	45	150.20
11.80		12.00	118	71	45	150.20
11.90		12.00	118	71	45	150.20
11.91	15/32	12.00	118	71	45	150.20
12.00		12.00	118	71	45	150.20
12.10		14.00	124	77	45	201.30
12.20		14.00	124	77	45	201.30
12.50		14.00	124	77	45	201.30
12.60		14.00	124	77	45	201.30
12.70	1/2	14.00	124	77	45	201.30
12.80		14.00	124	77	45	201.30
12.90		14.00	124	77	45	201.30
13.00		14.00	124	77	45	201.30
13.10	33/64	14.00	124	77	45	201.30
13.30		14.00	124	77	45	201.30
13.40		14.00	124	77	45	201.30
13.50		14.00	124	77	45	201.30
13.70		14.00	124	77	45	201.30
13.80		14.00	124	77	45	201.30
14.00		14.00	124	77	45	201.30

Catalogue no. 71791						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.10		16.00	133	83	48	250.80
14.20		16.00	133	83	48	250.80
14.29	9/16	16.00	133	83	48	250.80
14.30		16.00	133	83	48	250.80
14.40		16.00	133	83	48	250.80
14.50		16.00	133	83	48	250.80
14.70		16.00	133	83	48	250.80
14.80		16.00	133	83	48	250.80
15.00		16.00	133	83	48	250.80
15.10		16.00	133	83	48	250.80
15.20		16.00	133	83	48	250.80
15.30		16.00	133	83	48	250.80
15.50		16.00	133	83	48	250.80
15.70		16.00	133	83	48	250.80
15.80		16.00	133	83	48	250.80
16.00		16.00	133	83	48	250.80
16.50		18.00	143	93	48	399.60
16.70		18.00	143	93	48	399.60
16.90		18.00	143	93	48	399.60
17.00		18.00	143	93	48	399.60
17.50		18.00	143	93	48	399.60
17.70		18.00	143	93	48	399.60
18.00		18.00	143	93	48	399.60
18.50		20.00	153	101	50	435.70
18.90		20.00	153	101	50	435.70
19.00		20.00	153	101	50	435.70
19.05	3/4	20.00	153	101	50	435.70
19.30		20.00	153	101	50	435.70
19.50		20.00	153	101	50	435.70
20.00		20.00	153	101	50	435.70

SuperV drills

SuperV drills with internal cooling



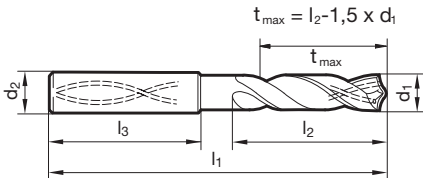
Catalogue no. 51781



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 6

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51781						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	66.20
3.10		6.00	66	28	36	66.20
3.20		6.00	66	28	36	66.20
3.25		6.00	66	28	36	66.20
3.30		6.00	66	28	36	66.20
3.40		6.00	66	28	36	66.20
3.50		6.00	66	28	36	66.20
3.57	9/64	6.00	66	28	36	66.20
3.60		6.00	66	28	36	66.20
3.70		6.00	66	28	36	66.20
3.80		6.00	74	36	36	66.20
3.90		6.00	74	36	36	66.20
3.97	5/32	6.00	74	36	36	66.20
4.00		6.00	74	36	36	70.35
4.10		6.00	74	36	36	70.35
4.20		6.00	74	36	36	70.35
4.30		6.00	74	36	36	70.35
4.37	11/64	6.00	74	36	36	70.35
4.40		6.00	74	36	36	70.35
4.50		6.00	74	36	36	70.35
4.60		6.00	74	36	36	70.35
4.65		6.00	74	36	36	70.35
4.70		6.00	74	36	36	70.35
4.76	3/16	6.00	82	44	36	70.35
4.80		6.00	82	44	36	70.35
4.90		6.00	82	44	36	70.35
5.00		6.00	82	44	36	70.35
5.10		6.00	82	44	36	70.35
5.16	13/64	6.00	82	44	36	70.35
5.20		6.00	82	44	36	70.35
5.25		6.00	82	44	36	70.35
5.30		6.00	82	44	36	70.35
5.40		6.00	82	44	36	70.35
5.50		6.00	82	44	36	70.35
5.55		6.00	82	44	36	70.35
5.56	7/32	6.00	82	44	36	70.35
5.60		6.00	82	44	36	70.35
5.70		6.00	82	44	36	70.35
5.80		6.00	82	44	36	70.35
5.90		6.00	82	44	36	70.35
5.95	15/64	6.00	82	44	36	70.35
6.00		6.00	82	44	36	70.35
6.10		8.00	91	53	36	78.65
6.20		8.00	91	53	36	78.65
6.30		8.00	91	53	36	78.65
6.35	1/4	8.00	91	53	36	78.65
6.40		8.00	91	53	36	78.65
6.50		8.00	91	53	36	78.65

Catalogue no. 51781						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	91	53	36	78.65
6.70		8.00	91	53	36	78.65
6.75	17/64	8.00	91	53	36	78.65
6.80		8.00	91	53	36	78.65
6.90		8.00	91	53	36	78.65
7.00		8.00	91	53	36	78.65
7.10		8.00	91	53	36	78.65
7.14	9/32	8.00	91	53	36	78.65
7.20		8.00	91	53	36	78.65
7.30		8.00	91	53	36	78.65
7.40		8.00	91	53	36	78.65
7.50		8.00	91	53	36	78.65
7.54	19/64	8.00	91	53	36	78.65
7.60		8.00	91	53	36	78.65
7.70		8.00	91	53	36	78.65
7.80		8.00	91	53	36	78.65
7.90		8.00	91	53	36	78.65
7.94	5/16	8.00	91	53	36	78.65
8.00		8.00	91	53	36	78.65
8.10		10.00	103	61	40	89.60
8.20		10.00	103	61	40	89.60
8.30		10.00	103	61	40	89.60
8.33	21/64	10.00	103	61	40	89.60
8.40		10.00	103	61	40	89.60
8.50		10.00	103	61	40	89.60
8.60		10.00	103	61	40	89.60
8.70		10.00	103	61	40	89.60
8.73	11/32	10.00	103	61	40	89.60
8.80		10.00	103	61	40	89.60
8.90		10.00	103	61	40	89.60
9.00		10.00	103	61	40	89.60
9.10		10.00	103	61	40	89.60
9.13	23/64	10.00	103	61	40	89.60
9.20		10.00	103	61	40	89.60
9.25		10.00	103	61	40	89.60
9.30		10.00	103	61	40	89.60
9.40		10.00	103	61	40	89.60
9.50		10.00	103	61	40	89.60
9.52	3/8	10.00	103	61	40	89.60
9.60		10.00	103	61	40	89.60
9.70		10.00	103	61	40	89.60
9.80		10.00	103	61	40	89.60
9.90		10.00	103	61	40	89.60
9.92	25/64	10.00	103	61	40	89.60
10.00		10.00	103	61	40	89.60
10.10		12.00	118	71	45	130.80
10.20		12.00	118	71	45	130.80
10.30		12.00	118	71	45	130.80

Catalogue no. 51781						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	118	71	45	130.80
10.40		12.00	118	71	45	130.80
10.50		12.00	118	71	45	130.80
10.60		12.00	118	71	45	130.80
10.70		12.00	118	71	45	130.80
10.72	27/64	12.00	118	71	45	130.80
10.80		12.00	118	71	45	130.80
10.90		12.00	118	71	45	130.80
11.00		12.00	118	71	45	130.80
11.10		12.00	118	71	45	130.80
11.11	7/16	12.00	118	71	45	130.80
11.20		12.00	118	71	45	130.80
11.30		12.00	118	71	45	130.80
11.40		12.00	118	71	45	130.80
11.50		12.00	118	71	45	130.80
11.60		12.00	118	71	45	130.80
11.70		12.00	118	71	45	130.80
11.80		12.00	118	71	45	130.80
11.90		12.00	118	71	45	130.80
11.91	15/32	12.00	118	71	45	130.80
12.00		12.00	118	71	45	130.80
12.10		14.00	124	77	45	175.05
12.20		14.00	124	77	45	175.05
12.30	31/64	14.00	124	77	45	175.05
12.40		14.00	124	77	45	175.05
12.50		14.00	124	77	45	175.05
12.60		14.00	124	77	45	175.05
12.70	1/2	14.00	124	77	45	175.05
12.80		14.00	124	77	45	175.05
12.90		14.00	124	77	45	175.05
13.00		14.00	124	77	45	175.05
13.10	33/64	14.00	124	77	45	175.05
13.20		14.00	124	77	45	175.05
13.30		14.00	124	77	45	175.05
13.40		14.00	124	77	45	175.05
13.49	17/32	14.00	124	77	45	175.05
13.50		14.00	124	77	45	175.05
13.60		14.00	124	77	45	175.05
13.70		14.00	124	77	45	175.05
13.80		14.00	124	77	45	175.05
13.90		14.00	124	77	45	175.05
14.00		14.00	124	77	45	175.05

Catalogue no. 51781						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.10		16.00	133	83	48	217.80
14.20		16.00	133	83	48	217.80
14.29	9/16	16.00	133	83	48	217.80
14.30		16.00	133	83	48	217.80
14.40		16.00	133	83	48	217.80
14.50		16.00	133	83	48	217.80
14.60		16.00	133	83	48	217.80
14.68	37/64	16.00	133	83	48	217.80
14.70		16.00	133	83	48	217.80
14.80		16.00	133	83	48	217.80
14.90		16.00	133	83	48	217.80
15.00		16.00	133	83	48	217.80
15.08	19/32	16.00	133	83	48	217.80
15.10		16.00	133	83	48	217.80
15.20		16.00	133	83	48	217.80
15.30		16.00	133	83	48	217.80
15.40		16.00	133	83	48	217.80
15.50		16.00	133	83	48	217.80
15.60		16.00	133	83	48	217.80
15.70		16.00	133	83	48	217.80
15.80		16.00	133	83	48	217.80
15.87	5/8	16.00	133	83	48	217.80
15.90		16.00	133	83	48	217.80
16.00		16.00	133	83	48	217.80
16.50		18.00	143	93	48	347.40
16.70		18.00	143	93	48	347.40
17.00		18.00	143	93	48	347.40
17.50		18.00	143	93	48	347.40
17.70		18.00	143	93	48	347.40
18.00		18.00	143	93	48	347.40
18.50		20.00	153	101	50	377.60
18.70		20.00	153	101	50	377.60
19.00		20.00	153	101	50	377.60
19.50		20.00	153	101	50	377.60
19.70		20.00	153	101	50	377.60
20.00		20.00	153	101	50	377.60

The following diameters of the type 51781 are also available ex stock on request:
 Ø 3.05 / 3.15 / 3.35 / 3.45 / 3.55 / 3.65 / 3.75 / 3.85 / 3.95 / 4.05 / 4.15 / 4.25 / 4.35 / 4.45 / 4.55 / 4.75 / 4.85 / 4.95 /
 5.05 / 5.15 / 5.35 / 5.45 / 5.65 / 5.75 / 5.85 / 6.05 / 7.55 / 7.65 / 8.65 / 9.35 / 9.45 / 9.55 / 11.35 / 11.45 / 11.55 mm

SuperV drills

SuperV drills with internal cooling



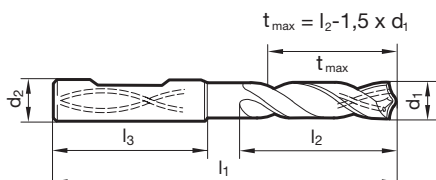
Catalogue no. 51681



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 6

- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51681						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	67.55
3.10		6.00	66	28	36	67.55
3.17	1/8	6.00	66	28	36	67.55
3.20		6.00	66	28	36	67.55
3.25		6.00	66	28	36	67.55
3.30		6.00	66	28	36	67.55
3.40		6.00	66	28	36	67.55
3.50		6.00	66	28	36	67.55
3.57	9/64	6.00	66	28	36	67.55
3.60		6.00	66	28	36	67.55
3.70		6.00	66	28	36	67.55
3.80		6.00	74	36	36	67.55
3.90		6.00	74	36	36	67.55
3.97	5/32	6.00	74	36	36	67.55
4.00		6.00	74	36	36	74.50
4.10		6.00	74	36	36	74.50
4.20		6.00	74	36	36	74.50
4.30		6.00	74	36	36	74.50
4.37	11/64	6.00	74	36	36	74.50
4.40		6.00	74	36	36	74.50
4.50		6.00	74	36	36	74.50
4.60		6.00	74	36	36	74.50
4.65		6.00	74	36	36	74.50
4.70		6.00	74	36	36	74.50
4.76	3/16	6.00	82	44	36	74.50
4.80		6.00	82	44	36	74.50
4.90		6.00	82	44	36	74.50
5.00		6.00	82	44	36	74.50
5.10		6.00	82	44	36	74.50
5.16	13/64	6.00	82	44	36	74.50
5.20		6.00	82	44	36	74.50
5.30		6.00	82	44	36	74.50
5.40		6.00	82	44	36	74.50
5.50		6.00	82	44	36	74.50
5.56	7/32	6.00	82	44	36	74.50
5.60		6.00	82	44	36	74.50
5.70		6.00	82	44	36	74.50
5.80		6.00	82	44	36	74.50
5.90		6.00	82	44	36	74.50
5.95	15/64	6.00	82	44	36	74.50
6.00		6.00	82	44	36	74.50
6.10		8.00	91	53	36	81.40
6.20		8.00	91	53	36	81.40
6.30		8.00	91	53	36	81.40
6.35	1/4	8.00	91	53	36	81.40
6.40		8.00	91	53	36	81.40
6.50		8.00	91	53	36	81.40
6.60		8.00	91	53	36	81.40

Catalogue no. 51681						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.70		8.00	91	53	36	81.40
6.75	17/64	8.00	91	53	36	81.40
6.80		8.00	91	53	36	81.40
6.90		8.00	91	53	36	81.40
7.00		8.00	91	53	36	81.40
7.10		8.00	91	53	36	81.40
7.14	9/32	8.00	91	53	36	81.40
7.20		8.00	91	53	36	81.40
7.30		8.00	91	53	36	81.40
7.40		8.00	91	53	36	81.40
7.50		8.00	91	53	36	81.40
7.54	19/64	8.00	91	53	36	81.40
7.60		8.00	91	53	36	81.40
7.70		8.00	91	53	36	81.40
7.80		8.00	91	53	36	81.40
7.90		8.00	91	53	36	81.40
7.94	5/16	8.00	91	53	36	81.40
8.00		8.00	91	53	36	81.40
8.10		10.00	103	61	40	93.65
8.20		10.00	103	61	40	93.65
8.30		10.00	103	61	40	93.65
8.33	21/64	10.00	103	61	40	93.65
8.40		10.00	103	61	40	93.65
8.50		10.00	103	61	40	93.65
8.60		10.00	103	61	40	93.65
8.70		10.00	103	61	40	93.65
8.73	11/32	10.00	103	61	40	93.65
8.80		10.00	103	61	40	93.65
8.90		10.00	103	61	40	93.65
9.00		10.00	103	61	40	93.65
9.10		10.00	103	61	40	93.65
9.13	23/64	10.00	103	61	40	93.65
9.20		10.00	103	61	40	93.65
9.25		10.00	103	61	40	93.65
9.30		10.00	103	61	40	93.65
9.40		10.00	103	61	40	93.65
9.50		10.00	103	61	40	93.65
9.52	3/8	10.00	103	61	40	93.65
9.60		10.00	103	61	40	93.65
9.70		10.00	103	61	40	93.65
9.80		10.00	103	61	40	93.65
9.90		10.00	103	61	40	93.65
9.92	25/64	10.00	103	61	40	93.65
10.00		10.00	103	61	40	93.65
10.10		12.00	118	71	45	135.10
10.20		12.00	118	71	45	135.10
10.30		12.00	118	71	45	135.10
10.32	13/32	12.00	118	71	45	135.10

Catalogue no. 51681						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.40		12.00	118	71	45	135.10
10.50		12.00	118	71	45	135.10
10.60		12.00	118	71	45	135.10
10.70		12.00	118	71	45	135.10
10.80		12.00	118	71	45	135.10
10.90		12.00	118	71	45	135.10
11.00		12.00	118	71	45	135.10
11.10		12.00	118	71	45	135.10
11.11	7/16	12.00	118	71	45	135.10
11.20		12.00	118	71	45	135.10
11.30		12.00	118	71	45	135.10
11.40		12.00	118	71	45	135.10
11.50		12.00	118	71	45	135.10
11.60		12.00	118	71	45	135.10
11.70		12.00	118	71	45	135.10
11.80		12.00	118	71	45	135.10
11.90		12.00	118	71	45	135.10
11.91	15/32	12.00	118	71	45	135.10
12.00		12.00	118	71	45	135.10
12.20		14.00	124	77	45	182.00
12.50		14.00	124	77	45	182.00
12.70	1/2	14.00	124	77	45	182.00
13.00		14.00	124	77	45	182.00
13.50		14.00	124	77	45	182.00

Catalogue no. 51681						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
13.70		14.00	124	77	45	182.00
14.00		14.00	124	77	45	182.00
14.20		16.00	133	83	48	226.10
14.29	9/16	16.00	133	83	48	226.10
14.50		16.00	133	83	48	226.10
14.70		16.00	133	83	48	226.10
15.00		16.00	133	83	48	226.10
15.20		16.00	133	83	48	226.10
15.50		16.00	133	83	48	226.10
15.70		16.00	133	83	48	226.10
16.00		16.00	133	83	48	226.10
16.50		18.00	143	93	48	361.30
17.00		18.00	143	93	48	361.30
17.50		18.00	143	93	48	361.30
18.00		18.00	143	93	48	361.30
18.50		20.00	153	101	50	391.50
19.00		20.00	153	101	50	391.50
19.05	3/4	20.00	153	101	50	391.50
19.50		20.00	153	101	50	391.50
20.00		20.00	153	101	50	391.50

SuperV drills

SuperV drills with internal cooling



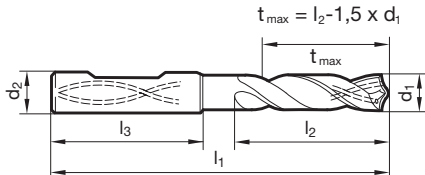
Catalogue no. 51881



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 6

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry



Catalogue no. 51881						
Shank form HE						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	67.55
3.10		6.00	66	28	36	67.55
3.20		6.00	66	28	36	67.55
3.30		6.00	66	28	36	67.55
3.40		6.00	66	28	36	67.55
3.50		6.00	66	28	36	67.55
3.60		6.00	66	28	36	67.55
3.70		6.00	66	28	36	67.55
3.80		6.00	74	36	36	67.55
3.90		6.00	74	36	36	67.55
4.00		6.00	74	36	36	74.50
4.10		6.00	74	36	36	74.50
4.20		6.00	74	36	36	74.50
4.30		6.00	74	36	36	74.50
4.37	11/64	6.00	74	36	36	74.50
4.40		6.00	74	36	36	74.50
4.50		6.00	74	36	36	74.50
4.60		6.00	74	36	36	74.50
4.65		6.00	74	36	36	74.50
4.70		6.00	74	36	36	74.50
4.76	3/16	6.00	82	44	36	74.50
4.80		6.00	82	44	36	74.50
4.90		6.00	82	44	36	74.50
5.00		6.00	82	44	36	74.50
5.10		6.00	82	44	36	74.50
5.16	13/64	6.00	82	44	36	74.50
5.20		6.00	82	44	36	74.50
5.30		6.00	82	44	36	74.50
5.40		6.00	82	44	36	74.50
5.50		6.00	82	44	36	74.50
5.55		6.00	82	44	36	74.50
5.56	7/32	6.00	82	44	36	74.50
5.60		6.00	82	44	36	74.50
5.70		6.00	82	44	36	74.50
5.80		6.00	82	44	36	74.50
5.90		6.00	82	44	36	74.50
5.95	15/64	6.00	82	44	36	74.50
6.00		6.00	82	44	36	74.50
6.10		8.00	91	53	36	81.40
6.20		8.00	91	53	36	81.40
6.30		8.00	91	53	36	81.40
6.35	1/4	8.00	91	53	36	81.40
6.40		8.00	91	53	36	81.40
6.50		8.00	91	53	36	81.40
6.60		8.00	91	53	36	81.40
6.70		8.00	91	53	36	81.40
6.75	17/64	8.00	91	53	36	81.40
6.80		8.00	91	53	36	81.40

Catalogue no. 51881						
Shank form HE						
Discount group						155
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.90		8.00	91	53	36	81.40
7.00		8.00	91	53	36	81.40
7.10		8.00	91	53	36	81.40
7.14	9/32	8.00	91	53	36	81.40
7.20		8.00	91	53	36	81.40
7.30		8.00	91	53	36	81.40
7.40		8.00	91	53	36	81.40
7.50		8.00	91	53	36	81.40
7.54	19/64	8.00	91	53	36	81.40
7.60		8.00	91	53	36	81.40
7.70		8.00	91	53	36	81.40
7.80		8.00	91	53	36	81.40
7.90		8.00	91	53	36	81.40
7.94	5/16	8.00	91	53	36	81.40
8.00		8.00	91	53	36	81.40
8.10		10.00	103	61	40	93.65
8.20		10.00	103	61	40	93.65
8.30		10.00	103	61	40	93.65
8.33	21/64	10.00	103	61	40	93.65
8.40		10.00	103	61	40	93.65
8.50		10.00	103	61	40	93.65
8.60		10.00	103	61	40	93.65
8.70		10.00	103	61	40	93.65
8.73	11/32	10.00	103	61	40	93.65
8.80		10.00	103	61	40	93.65
8.90		10.00	103	61	40	93.65
9.00		10.00	103	61	40	93.65
9.10		10.00	103	61	40	93.65
9.13	23/64	10.00	103	61	40	93.65
9.20		10.00	103	61	40	93.65
9.25		10.00	103	61	40	93.65
9.30		10.00	103	61	40	93.65
9.40		10.00	103	61	40	93.65
9.50		10.00	103	61	40	93.65
9.52	3/8	10.00	103	61	40	93.65
9.60		10.00	103	61	40	93.65
9.70		10.00	103	61	40	93.65
9.80		10.00	103	61	40	93.65
9.90		10.00	103	61	40	93.65
9.92	25/64	10.00	103	61	40	93.65
10.00		10.00	103	61	40	93.65
10.10		12.00	118	71	45	135.10
10.20		12.00	118	71	45	135.10
10.30		12.00	118	71	45	135.10
10.32	13/32	12.00	118	71	45	135.10
10.40		12.00	118	71	45	135.10
10.50		12.00	118	71	45	135.10
10.60		12.00	118	71	45	135.10

Catalogue no. 51881						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.70		12.00	118	71	45	135.10
10.80		12.00	118	71	45	135.10
10.90		12.00	118	71	45	135.10
11.00		12.00	118	71	45	135.10
11.10		12.00	118	71	45	135.10
11.11	7/16	12.00	118	71	45	135.10
11.20		12.00	118	71	45	135.10
11.30		12.00	118	71	45	135.10
11.40		12.00	118	71	45	135.10
11.50		12.00	118	71	45	135.10
11.60		12.00	118	71	45	135.10
11.70		12.00	118	71	45	135.10
11.80		12.00	118	71	45	135.10
11.90		12.00	118	71	45	135.10
11.91	15/32	12.00	118	71	45	135.10
12.00		12.00	118	71	45	135.10
12.10		14.00	124	77	45	182.00
12.20		14.00	124	77	45	182.00
12.30	31/64	14.00	124	77	45	182.00
12.40		14.00	124	77	45	182.00
12.50		14.00	124	77	45	182.00
12.70	1/2	14.00	124	77	45	182.00
13.00		14.00	124	77	45	182.00
13.50		14.00	124	77	45	182.00
13.70		14.00	124	77	45	182.00
13.80		14.00	124	77	45	182.00
13.90		14.00	124	77	45	182.00
14.00		14.00	124	77	45	182.00
14.10		16.00	133	83	48	226.10
14.20		16.00	133	83	48	226.10

Catalogue no. 51881						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.29	9/16	16.00	133	83	48	226.10
14.50		16.00	133	83	48	226.10
14.70		16.00	133	83	48	226.10
15.00		16.00	133	83	48	226.10
15.20		16.00	133	83	48	226.10
15.50		16.00	133	83	48	226.10
15.70		16.00	133	83	48	226.10
15.80		16.00	133	83	48	226.10
16.00		16.00	133	83	48	226.10
16.50		18.00	143	93	48	361.30
16.70		18.00	143	93	48	361.30
17.00		18.00	143	93	48	361.30
17.30		18.00	143	93	48	361.30
17.50		18.00	143	93	48	361.30
17.70		18.00	143	93	48	361.30
18.00		18.00	143	93	48	361.30
18.20		20.00	153	101	50	391.50
18.50		20.00	153	101	50	391.50
18.60		20.00	153	101	50	391.50
18.70		20.00	153	101	50	391.50
19.00		20.00	153	101	50	391.50
19.50		20.00	153	101	50	391.50
19.70		20.00	153	101	50	391.50
20.00		20.00	153	101	50	391.50

SuperV drills

SuperV drills with internal cooling

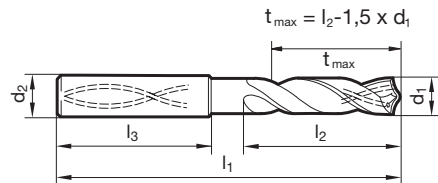


Catalogue no. 51772



P	M	K	N	S	H	Application recommendations page 6
	●			○		

- web thinning $\geq \varnothing 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- especially suitable for stainless steels



Catalogue no. 51772						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	75.75
3.10		6.00	66	28	36	75.75
3.17	1/8	6.00	66	28	36	75.75
3.20		6.00	66	28	36	75.75
3.25		6.00	66	28	36	75.75
3.30		6.00	66	28	36	75.75
3.40		6.00	66	28	36	75.75
3.50		6.00	66	28	36	75.75
3.57	9/64	6.00	66	28	36	75.75
3.60		6.00	66	28	36	75.75
3.70		6.00	66	28	36	75.75
3.80		6.00	74	36	36	75.75
3.90		6.00	74	36	36	75.75
3.97	5/32	6.00	74	36	36	75.75
4.00		6.00	74	36	36	81.40
4.10		6.00	74	36	36	81.40
4.20		6.00	74	36	36	81.40
4.30		6.00	74	36	36	81.40
4.37	11/64	6.00	74	36	36	81.40
4.40		6.00	74	36	36	81.40
4.50		6.00	74	36	36	81.40
4.60		6.00	74	36	36	81.40
4.65		6.00	74	36	36	81.40
4.70		6.00	74	36	36	81.40
4.76	3/16	6.00	82	44	36	81.40
4.80		6.00	82	44	36	81.40
4.90		6.00	82	44	36	81.40
5.00		6.00	82	44	36	81.40
5.10		6.00	82	44	36	81.40
5.16	13/64	6.00	82	44	36	81.40
5.20		6.00	82	44	36	81.40
5.30		6.00	82	44	36	81.40
5.40		6.00	82	44	36	81.40
5.50		6.00	82	44	36	81.40
5.55		6.00	82	44	36	81.40
5.56	7/32	6.00	82	44	36	81.40
5.60		6.00	82	44	36	81.40
5.70		6.00	82	44	36	81.40
5.80		6.00	82	44	36	81.40
5.90		6.00	82	44	36	81.40
5.95	15/64	6.00	82	44	36	81.40
6.00		6.00	82	44	36	81.40
6.10		8.00	91	53	36	90.80
6.20		8.00	91	53	36	90.80
6.30		8.00	91	53	36	90.80
6.35	1/4	8.00	91	53	36	90.80
6.40		8.00	91	53	36	90.80
6.50		8.00	91	53	36	90.80

Catalogue no. 51772						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	91	53	36	90.80
6.70		8.00	91	53	36	90.80
6.75	17/64	8.00	91	53	36	90.80
6.80		8.00	91	53	36	90.80
6.90		8.00	91	53	36	90.80
7.00		8.00	91	53	36	90.80
7.10		8.00	91	53	36	90.80
7.14	9/32	8.00	91	53	36	90.80
7.20		8.00	91	53	36	90.80
7.30		8.00	91	53	36	90.80
7.40		8.00	91	53	36	90.80
7.50		8.00	91	53	36	90.80
7.54	19/64	8.00	91	53	36	90.80
7.60		8.00	91	53	36	90.80
7.70		8.00	91	53	36	90.80
7.80		8.00	91	53	36	90.80
7.90		8.00	91	53	36	90.80
7.94	5/16	8.00	91	53	36	90.80
8.00		8.00	91	53	36	90.80
8.10		10.00	103	61	40	103.50
8.20		10.00	103	61	40	103.50
8.30		10.00	103	61	40	103.50
8.33	21/64	10.00	103	61	40	103.50
8.40		10.00	103	61	40	103.50
8.50		10.00	103	61	40	103.50
8.60		10.00	103	61	40	103.50
8.70		10.00	103	61	40	103.50
8.73	11/32	10.00	103	61	40	103.50
8.80		10.00	103	61	40	103.50
8.90		10.00	103	61	40	103.50
9.00		10.00	103	61	40	103.50
9.10		10.00	103	61	40	103.50
9.13	23/64	10.00	103	61	40	103.50
9.20		10.00	103	61	40	103.50
9.25		10.00	103	61	40	103.50
9.30		10.00	103	61	40	103.50
9.40		10.00	103	61	40	103.50
9.50		10.00	103	61	40	103.50
9.52	3/8	10.00	103	61	40	103.50
9.60		10.00	103	61	40	103.50
9.70		10.00	103	61	40	103.50
9.80		10.00	103	61	40	103.50
9.90		10.00	103	61	40	103.50
9.92	25/64	10.00	103	61	40	103.50
10.00		10.00	103	61	40	103.50
10.10		12.00	118	71	45	150.20
10.20		12.00	118	71	45	150.20
10.30		12.00	118	71	45	150.20

Catalogue no. 51772						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	118	71	45	150.20
10.40		12.00	118	71	45	150.20
10.50		12.00	118	71	45	150.20
10.60		12.00	118	71	45	150.20
10.70		12.00	118	71	45	150.20
10.80		12.00	118	71	45	150.20
10.90		12.00	118	71	45	150.20
11.00		12.00	118	71	45	150.20
11.10		12.00	118	71	45	150.20
11.11	7/16	12.00	118	71	45	150.20
11.20		12.00	118	71	45	150.20
11.30		12.00	118	71	45	150.20
11.40		12.00	118	71	45	150.20
11.50		12.00	118	71	45	150.20
11.60		12.00	118	71	45	150.20
11.70		12.00	118	71	45	150.20
11.80		12.00	118	71	45	150.20
11.90		12.00	118	71	45	150.20
11.91	15/32	12.00	118	71	45	150.20
12.00		12.00	118	71	45	150.20
12.20		14.00	124	77	45	201.30
12.50		14.00	124	77	45	201.30
12.70	1/2	14.00	124	77	45	201.30
12.80		14.00	124	77	45	201.30
13.00		14.00	124	77	45	201.30
13.30		14.00	124	77	45	201.30
13.50		14.00	124	77	45	201.30
13.70		14.00	124	77	45	201.30
14.00		14.00	124	77	45	201.30
14.20		16.00	133	83	48	250.80

Catalogue no. 51772						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.29	9/16	16.00	133	83	48	250.80
14.30		16.00	133	83	48	250.80
14.50		16.00	133	83	48	250.80
14.70		16.00	133	83	48	250.80
15.00		16.00	133	83	48	250.80
15.20		16.00	133	83	48	250.80
15.30		16.00	133	83	48	250.80
15.50		16.00	133	83	48	250.80
15.70		16.00	133	83	48	250.80
16.00		16.00	133	83	48	250.80
16.30		18.00	143	93	48	399.60
16.50		18.00	143	93	48	399.60
16.90		18.00	143	93	48	399.60
17.00		18.00	143	93	48	399.60
17.30		18.00	143	93	48	399.60
17.50		18.00	143	93	48	399.60
18.00		18.00	143	93	48	399.60
18.50		20.00	153	101	50	435.70
18.90		20.00	153	101	50	435.70
19.00		20.00	153	101	50	435.70
19.05	3/4	20.00	153	101	50	435.70
19.30		20.00	153	101	50	435.70
19.50		20.00	153	101	50	435.70
20.00		20.00	153	101	50	435.70

SuperV drills

SuperV drills with internal cooling

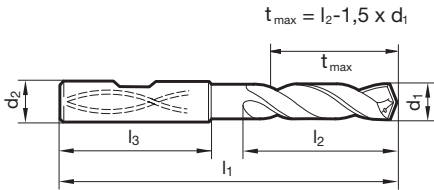


Catalogue no. 51674



P	M	K	N	S	H	Application recommendations page 6
	•			○		

- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- especially suitable for stainless steels



d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	77.20
3.10		6.00	66	28	36	77.20
3.17	1/8	6.00	66	28	36	77.20
3.20		6.00	66	28	36	77.20
3.25		6.00	66	28	36	77.20
3.30		6.00	66	28	36	77.20
3.40		6.00	66	28	36	77.20
3.50		6.00	66	28	36	77.20
3.57	9/64	6.00	66	28	36	77.20
3.60		6.00	66	28	36	77.20
3.70		6.00	66	28	36	77.20
3.80		6.00	74	36	36	77.20
3.90		6.00	74	36	36	77.20
3.97	5/32	6.00	74	36	36	77.20
4.00		6.00	74	36	36	85.55
4.10		6.00	74	36	36	85.55
4.20		6.00	74	36	36	85.55
4.30		6.00	74	36	36	85.55
4.37	11/64	6.00	74	36	36	85.55
4.40		6.00	74	36	36	85.55
4.50		6.00	74	36	36	85.55
4.60		6.00	74	36	36	85.55
4.65		6.00	74	36	36	85.55
4.70		6.00	74	36	36	85.55
4.76	3/16	6.00	82	44	36	85.55
4.80		6.00	82	44	36	85.55
4.90		6.00	82	44	36	85.55
5.00		6.00	82	44	36	85.55
5.10		6.00	82	44	36	85.55
5.16	13/64	6.00	82	44	36	85.55
5.20		6.00	82	44	36	85.55
5.30		6.00	82	44	36	85.55
5.40		6.00	82	44	36	85.55
5.50		6.00	82	44	36	85.55
5.55		6.00	82	44	36	85.55
5.56	7/32	6.00	82	44	36	85.55
5.60		6.00	82	44	36	85.55
5.70		6.00	82	44	36	85.55
5.80		6.00	82	44	36	85.55
5.90		6.00	82	44	36	85.55
5.95	15/64	6.00	82	44	36	85.55
6.00		6.00	82	44	36	85.55
6.10		8.00	91	53	36	93.65
6.20		8.00	91	53	36	93.65
6.30		8.00	91	53	36	93.65
6.35	1/4	8.00	91	53	36	93.65
6.40		8.00	91	53	36	93.65
6.50		8.00	91	53	36	93.65

d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	91	53	36	93.65
6.70		8.00	91	53	36	93.65
6.75	17/64	8.00	91	53	36	93.65
6.80		8.00	91	53	36	93.65
6.90		8.00	91	53	36	93.65
7.00		8.00	91	53	36	93.65
7.10		8.00	91	53	36	93.65
7.14	9/32	8.00	91	53	36	93.65
7.20		8.00	91	53	36	93.65
7.30		8.00	91	53	36	93.65
7.40		8.00	91	53	36	93.65
7.50		8.00	91	53	36	93.65
7.54	19/64	8.00	91	53	36	93.65
7.60		8.00	91	53	36	93.65
7.70		8.00	91	53	36	93.65
7.80		8.00	91	53	36	93.65
7.90		8.00	91	53	36	93.65
7.94	5/16	8.00	91	53	36	93.65
8.00		8.00	91	53	36	93.65
8.10		10.00	103	61	40	107.60
8.20		10.00	103	61	40	107.60
8.30		10.00	103	61	40	107.60
8.33	21/64	10.00	103	61	40	107.60
8.40		10.00	103	61	40	107.60
8.50		10.00	103	61	40	107.60
8.60		10.00	103	61	40	107.60
8.70		10.00	103	61	40	107.60
8.73	11/32	10.00	103	61	40	107.60
8.80		10.00	103	61	40	107.60
8.90		10.00	103	61	40	107.60
9.00		10.00	103	61	40	107.60
9.10		10.00	103	61	40	107.60
9.13	23/64	10.00	103	61	40	107.60
9.20		10.00	103	61	40	107.60
9.25		10.00	103	61	40	107.60
9.30		10.00	103	61	40	107.60
9.40		10.00	103	61	40	107.60
9.50		10.00	103	61	40	107.60
9.52	3/8	10.00	103	61	40	107.60
9.60		10.00	103	61	40	107.60
9.70		10.00	103	61	40	107.60
9.80		10.00	103	61	40	107.60
9.90		10.00	103	61	40	107.60
9.92	25/64	10.00	103	61	40	107.60
10.00		10.00	103	61	40	107.60
10.10		12.00	118	71	45	155.70
10.20		12.00	118	71	45	155.70
10.30		12.00	118	71	45	155.70

Catalogue no. 51674						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	118	71	45	155.70
10.40		12.00	118	71	45	155.70
10.50		12.00	118	71	45	155.70
10.60		12.00	118	71	45	155.70
10.70		12.00	118	71	45	155.70
10.80		12.00	118	71	45	155.70
10.90		12.00	118	71	45	155.70
11.00		12.00	118	71	45	155.70
11.10		12.00	118	71	45	155.70
11.11	7/16	12.00	118	71	45	155.70
11.20		12.00	118	71	45	155.70
11.30		12.00	118	71	45	155.70
11.40		12.00	118	71	45	155.70
11.50		12.00	118	71	45	155.70
11.60		12.00	118	71	45	155.70
11.70		12.00	118	71	45	155.70
11.80		12.00	118	71	45	155.70
11.90		12.00	118	71	45	155.70
11.91	15/32	12.00	118	71	45	155.70
12.00		12.00	118	71	45	155.70
12.20		14.00	124	77	45	209.50
12.50		14.00	124	77	45	209.50
12.70	1/2	14.00	124	77	45	209.50
13.00		14.00	124	77	45	209.50

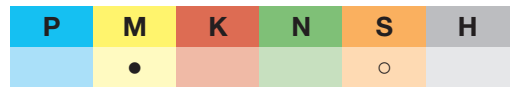
Catalogue no. 51674						
Shank form HB						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
13.50		14.00	124	77	45	209.50
13.70		14.00	124	77	45	209.50
14.00		14.00	124	77	45	209.50
14.20		16.00	133	83	48	260.70
14.29	9/16	16.00	133	83	48	260.70
14.50		16.00	133	83	48	260.70
14.70		16.00	133	83	48	260.70
15.00		16.00	133	83	48	260.70
15.20		16.00	133	83	48	260.70
15.50		16.00	133	83	48	260.70
15.70		16.00	133	83	48	260.70
16.00		16.00	133	83	48	416.20
16.50		18.00	143	93	48	416.20
17.00		18.00	143	93	48	416.20
17.50		18.00	143	93	48	416.20
18.00		18.00	143	93	48	416.20
18.50		20.00	153	101	50	449.60
19.00		20.00	153	101	50	449.60
19.50		20.00	153	101	50	449.60
20.00		20.00	153	101	50	449.60

SuperV drills

SuperV drills with internal cooling

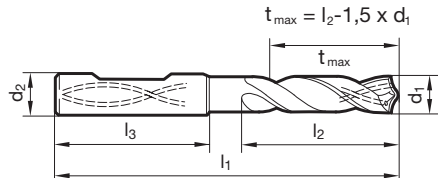


Catalogue no. 51773



Application recommendations page 6

- web thinning ≥ Ø 3.000
- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- especially suitable for stainless steels



Catalogue no. 51773						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	66	28	36	77.20
3.10		6.00	66	28	36	77.20
3.17	1/8	6.00	66	28	36	77.20
3.20		6.00	66	28	36	77.20
3.25		6.00	66	28	36	77.20
3.30		6.00	66	28	36	77.20
3.40		6.00	66	28	36	77.20
3.50		6.00	66	28	36	77.20
3.57	9/64	6.00	66	28	36	77.20
3.60		6.00	66	28	36	77.20
3.70		6.00	66	28	36	77.20
3.80		6.00	74	36	36	77.20
3.90		6.00	74	36	36	77.20
3.97	5/32	6.00	74	36	36	77.20
4.00		6.00	74	36	36	85.55
4.10		6.00	74	36	36	85.55
4.20		6.00	74	36	36	85.55
4.30		6.00	74	36	36	85.55
4.37	11/64	6.00	74	36	36	85.55
4.40		6.00	74	36	36	85.55
4.50		6.00	74	36	36	85.55
4.60		6.00	74	36	36	85.55
4.65		6.00	74	36	36	85.55
4.70		6.00	74	36	36	85.55
4.76	3/16	6.00	82	44	36	85.55
4.80		6.00	82	44	36	85.55
4.90		6.00	82	44	36	85.55
5.00		6.00	82	44	36	85.55
5.10		6.00	82	44	36	85.55
5.16	13/64	6.00	82	44	36	85.55
5.20		6.00	82	44	36	85.55
5.30		6.00	82	44	36	85.55
5.40		6.00	82	44	36	85.55
5.50		6.00	82	44	36	85.55
5.55		6.00	82	44	36	85.55
5.56	7/32	6.00	82	44	36	85.55
5.60		6.00	82	44	36	85.55
5.70		6.00	82	44	36	85.55
5.80		6.00	82	44	36	85.55
5.90		6.00	82	44	36	85.55
5.95	15/64	6.00	82	44	36	85.55
6.00		6.00	82	44	36	85.55
6.10		8.00	91	53	36	93.65
6.20		8.00	91	53	36	93.65
6.30		8.00	91	53	36	93.65
6.35	1/4	8.00	91	53	36	93.65
6.40		8.00	91	53	36	93.65
6.50		8.00	91	53	36	93.65

Catalogue no. 51773						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
6.60		8.00	91	53	36	93.65
6.70		8.00	91	53	36	93.65
6.75	17/64	8.00	91	53	36	93.65
6.80		8.00	91	53	36	93.65
6.90		8.00	91	53	36	93.65
7.00		8.00	91	53	36	93.65
7.10		8.00	91	53	36	93.65
7.14	9/32	8.00	91	53	36	93.65
7.20		8.00	91	53	36	93.65
7.30		8.00	91	53	36	93.65
7.40		8.00	91	53	36	93.65
7.50		8.00	91	53	36	93.65
7.54	19/64	8.00	91	53	36	93.65
7.60		8.00	91	53	36	93.65
7.70		8.00	91	53	36	93.65
7.80		8.00	91	53	36	93.65
7.90		8.00	91	53	36	93.65
7.94	5/16	8.00	91	53	36	93.65
8.00		8.00	91	53	36	93.65
8.10		10.00	103	61	40	107.60
8.20		10.00	103	61	40	107.60
8.30		10.00	103	61	40	107.60
8.33	21/64	10.00	103	61	40	107.60
8.40		10.00	103	61	40	107.60
8.50		10.00	103	61	40	107.60
8.60		10.00	103	61	40	107.60
8.70		10.00	103	61	40	107.60
8.73	11/32	10.00	103	61	40	107.60
8.80		10.00	103	61	40	107.60
8.90		10.00	103	61	40	107.60
9.00		10.00	103	61	40	107.60
9.10		10.00	103	61	40	107.60
9.13	23/64	10.00	103	61	40	107.60
9.20		10.00	103	61	40	107.60
9.25		10.00	103	61	40	107.60
9.30		10.00	103	61	40	107.60
9.40		10.00	103	61	40	107.60
9.50		10.00	103	61	40	107.60
9.52	3/8	10.00	103	61	40	107.60
9.60		10.00	103	61	40	107.60
9.70		10.00	103	61	40	107.60
9.80		10.00	103	61	40	107.60
9.90		10.00	103	61	40	107.60
9.92	25/64	10.00	103	61	40	107.60
10.00		10.00	103	61	40	107.60
10.10		12.00	118	71	45	155.70
10.20		12.00	118	71	45	155.70
10.30		12.00	118	71	45	155.70

Catalogue no. 51773						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
10.32	13/32	12.00	118	71	45	155.70
10.40		12.00	118	71	45	155.70
10.50		12.00	118	71	45	155.70
10.60		12.00	118	71	45	155.70
10.70		12.00	118	71	45	155.70
10.80		12.00	118	71	45	155.70
10.90		12.00	118	71	45	155.70
11.00		12.00	118	71	45	155.70
11.10		12.00	118	71	45	155.70
11.11	7/16	12.00	118	71	45	155.70
11.20		12.00	118	71	45	155.70
11.30		12.00	118	71	45	155.70
11.40		12.00	118	71	45	155.70
11.50		12.00	118	71	45	155.70
11.60		12.00	118	71	45	155.70
11.70		12.00	118	71	45	155.70
11.80		12.00	118	71	45	155.70
11.90		12.00	118	71	45	155.70
11.91	15/32	12.00	118	71	45	155.70
12.00		12.00	118	71	45	155.70
12.20		14.00	124	77	45	209.50
12.50		14.00	124	77	45	209.50
12.70	1/2	14.00	124	77	45	209.50
12.80		14.00	124	77	45	209.50
13.00		14.00	124	77	45	209.50
13.30		14.00	124	77	45	209.50
13.50		14.00	124	77	45	209.50
13.70		14.00	124	77	45	209.50
14.00		14.00	124	77	45	209.50
14.20		16.00	133	83	48	260.70

Catalogue no. 51773						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
14.29	9/16	16.00	133	83	48	260.70
14.30		16.00	133	83	48	260.70
14.50		16.00	133	83	48	260.70
14.70		16.00	133	83	48	260.70
15.00		16.00	133	83	48	260.70
15.20		16.00	133	83	48	260.70
15.30		16.00	133	83	48	260.70
15.50		16.00	133	83	48	260.70
15.70		16.00	133	83	48	260.70
16.00		16.00	133	83	48	260.70
16.30		18.00	143	93	48	416.20
16.50		18.00	143	93	48	416.20
16.90		18.00	143	93	48	416.20
17.00		18.00	143	93	48	416.20
17.30		18.00	143	93	48	416.20
17.50		18.00	143	93	48	416.20
18.00		18.00	143	93	48	416.20
18.50		20.00	153	101	50	449.60
18.90		20.00	153	101	50	449.60
19.00		20.00	153	101	50	449.60
19.05	3/4	20.00	153	101	50	449.60
19.30		20.00	153	101	50	449.60
19.50		20.00	153	101	50	449.60
20.00		20.00	153	101	50	449.60

SuperV drills

SuperV drills with internal cooling

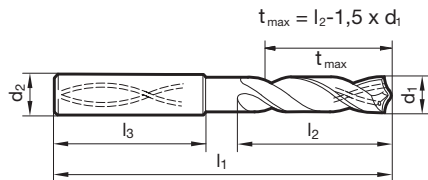


Catalogue no. 51789



P	M	K	N	S	H	Application recommendations page 8
●	○	●	○	○	○	

- web thinning $\geq \text{Ø } 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- double margin



Catalogue no. 51789						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	70	30	36	144.70
3.10		6.00	70	30	36	144.70
3.17	1/8	6.00	70	30	36	144.70
3.20		6.00	70	30	36	144.70
3.25		6.00	70	30	36	144.70
3.30		6.00	70	30	36	144.70
3.40		6.00	75	35	36	144.70
3.50		6.00	75	35	36	144.70
3.57	9/64	6.00	75	35	36	144.70
3.60		6.00	75	35	36	144.70
3.70		6.00	75	35	36	144.70
3.80		6.00	75	37	36	144.70
3.90		6.00	75	37	36	144.70
3.97	5/32	6.00	75	37	36	144.70
4.00		6.00	75	37	36	144.70
4.10		6.00	75	37	36	144.70
4.20		6.00	75	37	36	144.70
4.30		6.00	85	45	36	144.70
4.37	11/64	6.00	85	45	36	144.70
4.40		6.00	85	45	36	144.70
4.50		6.00	85	45	36	144.70
4.60		6.00	85	45	36	144.70
4.65		6.00	85	45	36	144.70
4.70		6.00	85	45	36	144.70
4.76	3/16	6.00	90	50	36	144.70
4.80		6.00	90	50	36	144.70
4.90		6.00	90	50	36	144.70
5.00		6.00	90	50	36	144.70
5.10		6.00	90	50	36	144.70
5.16	13/64	6.00	90	50	36	144.70
5.20		6.00	90	50	36	144.70
5.30		6.00	90	50	36	144.70
5.40		6.00	97	57	36	144.70
5.50		6.00	97	57	36	144.70
5.60		6.00	97	57	36	144.70
5.70		6.00	97	57	36	144.70
5.80		6.00	97	57	36	144.70
5.90		6.00	97	57	36	144.70
6.00		6.00	97	57	36	144.70
6.10		8.00	106	66	36	168.10
6.20		8.00	106	66	36	168.10
6.30		8.00	106	66	36	168.10
6.35	1/4	8.00	106	66	36	168.10
6.50		8.00	106	66	36	168.10
6.60		8.00	106	66	36	168.10
6.70		8.00	106	66	36	168.10
6.80		8.00	106	66	36	168.10
6.90		8.00	116	76	36	168.10

Catalogue no. 51789						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
7.00		8.00	116	76	36	168.10
7.10		8.00	116	76	36	168.10
7.20		8.00	116	76	36	168.10
7.30		8.00	116	76	36	168.10
7.40		8.00	116	76	36	168.10
7.50		8.00	116	76	36	168.10
7.60		8.00	116	76	36	168.10
7.70		8.00	116	76	36	168.10
7.80		8.00	116	76	36	168.10
8.00		8.00	116	76	36	168.10
8.10		10.00	131	87	40	202.60
8.20		10.00	131	87	40	202.60
8.40		10.00	131	87	40	202.60
8.50		10.00	131	87	40	202.60
8.60		10.00	131	87	40	202.60
8.70		10.00	131	87	40	202.60
8.80		10.00	131	87	40	202.60
9.00		10.00	131	87	40	202.60
9.10		10.00	139	95	40	202.60
9.20		10.00	139	95	40	202.60
9.30		10.00	139	95	40	202.60
9.40		10.00	139	95	40	202.60
9.50		10.00	139	95	40	202.60
9.52	3/8	10.00	139	95	40	202.60
9.70		10.00	139	95	40	202.60
9.80		10.00	139	95	40	202.60
9.90		10.00	139	95	40	202.60
10.00		10.00	139	95	40	202.60
10.20		12.00	155	106	45	267.40
10.30		12.00	155	106	45	267.40
10.50		12.00	155	106	45	267.40
10.70		12.00	155	106	45	267.40
10.80		12.00	155	106	45	267.40
11.00		12.00	155	106	45	267.40
11.20		12.00	163	114	45	267.40
11.50		12.00	163	114	45	267.40
11.80		12.00	163	114	45	267.40
12.00		12.00	163	114	45	267.40
12.10		14.00	182	133	45	380.50
12.20		14.00	182	133	45	380.50
12.50		14.00	182	133	45	380.50
12.70	1/2	14.00	182	133	45	380.50
13.00		14.00	182	133	45	380.50
13.50		14.00	182	133	45	380.50
14.00		14.00	182	133	45	380.50
14.10		16.00	204	152	48	474.00
14.20		16.00	204	152	48	474.00
14.50		16.00	204	152	48	474.00

Catalogue no. 51789						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
15.00		16.00	204	152	48	474.00
15.50		16.00	204	152	48	474.00
16.00		16.00	204	152	48	474.00
16.50		18.00	223	171	48	592.00
17.00		18.00	223	171	48	592.00
17.50		18.00	223	171	48	592.00

Catalogue no. 51789						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
18.00		18.00	223	171	48	592.00
18.50		20.00	244	190	50	702.00
19.00		20.00	244	190	50	702.00
19.05	3/4	20.00	244	190	50	702.00
19.50		20.00	244	190	50	702.00
20.00		20.00	244	190	50	702.00

SuperV drills

SuperV drills with internal cooling



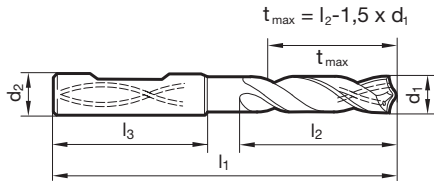
Catalogue no. 51889



P	M	K	N	S	H
●	○	●	○	○	○

Application recommendations page 8

- web thinning $\geq \text{\textcircled{D}} 3.000$
- facet point grind
- main cutting edge form straight
- optimised cutting geometry
- double margin



Catalogue no. 51889						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	70	30	36	147.55
3.10		6.00	70	30	36	147.55
3.17	1/8	6.00	70	30	36	147.55
3.20		6.00	70	30	36	147.55
3.25		6.00	70	30	36	147.55
3.30		6.00	70	30	36	147.55
3.40		6.00	75	35	36	147.55
3.50		6.00	75	35	36	147.55
3.57	9/64	6.00	75	35	36	147.55
3.60		6.00	75	35	36	147.55
3.70		6.00	75	35	36	147.55
3.80		6.00	75	37	36	147.55
3.90		6.00	75	37	36	147.55
3.97	5/32	6.00	75	37	36	147.55
4.00		6.00	75	37	36	147.55
4.10		6.00	75	37	36	147.55
4.20		6.00	75	37	36	147.55
4.30		6.00	85	45	36	147.55
4.40		6.00	85	45	36	147.55
4.50		6.00	85	45	36	147.55
4.60		6.00	85	45	36	147.55
4.70		6.00	85	45	36	147.55
4.80		6.00	90	50	36	147.55
4.90		6.00	90	50	36	147.55
5.00		6.00	90	50	36	147.55
5.10		6.00	90	50	36	147.55
5.20		6.00	90	50	36	147.55
5.30		6.00	90	50	36	147.55
5.40		6.00	97	57	36	147.55
5.50		6.00	97	57	36	147.55
5.70		6.00	97	57	36	147.55
5.80		6.00	97	57	36	147.55
5.90		6.00	97	57	36	147.55
6.00		6.00	97	57	36	147.55
6.20		8.00	106	66	36	170.95
6.30		8.00	106	66	36	170.95
6.50		8.00	106	66	36	170.95
6.60		8.00	106	66	36	170.95
6.70		8.00	106	66	36	170.95
6.80		8.00	106	66	36	170.95
6.90		8.00	116	76	36	170.95
7.00		8.00	116	76	36	170.95
7.10		8.00	116	76	36	170.95
7.20		8.00	116	76	36	170.95
7.50		8.00	116	76	36	170.95
7.60		8.00	116	76	36	170.95
7.70		8.00	116	76	36	170.95
7.80		8.00	116	76	36	170.95

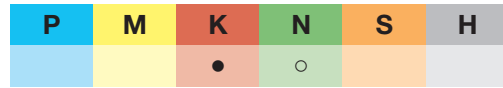
Catalogue no. 51889						
Shank form HE						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
8.00		8.00	116	76	36	170.95
8.10		10.00	131	87	40	206.70
8.20		10.00	131	87	40	206.70
8.40		10.00	131	87	40	206.70
8.50		10.00	131	87	40	206.70
8.60		10.00	131	87	40	206.70
8.70		10.00	131	87	40	206.70
8.80		10.00	131	87	40	206.70
9.00		10.00	131	87	40	206.70
9.10		10.00	139	95	40	206.70
9.20		10.00	139	95	40	206.70
9.30		10.00	139	95	40	206.70
9.40		10.00	139	95	40	206.70
9.50		10.00	139	95	40	206.70
9.70		10.00	139	95	40	206.70
9.80		10.00	139	95	40	206.70
9.90		10.00	139	95	40	206.70
10.00		10.00	139	95	40	206.70
10.20		12.00	155	106	45	273.10
10.30		12.00	155	106	45	273.10
10.50		12.00	155	106	45	273.10
10.80		12.00	155	106	45	273.10
11.00		12.00	155	106	45	273.10
11.20		12.00	163	114	45	273.10
11.50		12.00	163	114	45	273.10
11.80		12.00	163	114	45	273.10
12.00		12.00	163	114	45	273.10
12.10		14.00	182	133	45	386.00
12.20		14.00	182	133	45	386.00
12.50		14.00	182	133	45	386.00
12.70	1/2	14.00	182	133	45	386.00
13.00		14.00	182	133	45	386.00
13.50		14.00	182	133	45	386.00
14.00		14.00	182	133	45	386.00
14.10		16.00	204	152	48	482.30
14.20		16.00	204	152	48	482.30
14.50		16.00	204	152	48	482.30
15.00		16.00	204	152	48	482.30
15.50		16.00	204	152	48	482.30
16.00		16.00	204	152	48	482.30
16.50		18.00	223	171	48	609.00
17.00		18.00	223	171	48	609.00
17.50		18.00	223	171	48	609.00
18.00		18.00	223	171	48	609.00
18.50		20.00	244	190	50	716.00
19.00		20.00	244	190	50	716.00
19.50		20.00	244	190	50	716.00
20.00		20.00	244	190	50	716.00

SuperV drills

SuperV drills with internal cooling

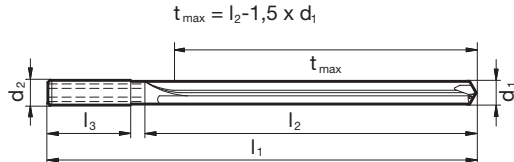


Catalogue no. 71996



Application recommendations page 8

- web thinning $\geq \varnothing 3.000$
- relieved cone
- close diameter tolerances
- very good surface quality of hole
- observe coolant pressure (see diagram "coolant recommendations")



Catalogue no. 71996						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	91	42	36	79.85
3.10		6.00	91	42	36	79.85
3.20		6.00	91	42	36	79.85
3.30		6.00	91	42	36	79.85
3.40		6.00	91	48	36	79.85
3.50		6.00	91	48	36	79.85
3.60		6.00	91	48	36	79.85
3.70		6.00	91	48	36	79.85
3.80		6.00	121	77	36	79.85
3.90		6.00	121	77	36	79.85
4.00		6.00	121	77	36	79.85
4.20		6.00	121	77	36	79.85
4.50		6.00	121	77	36	79.85
5.00		6.00	121	82	36	79.85
5.50		6.00	121	82	36	79.85
6.00		6.00	121	82	36	79.85
6.35	1/4	8.00	146	106	36	104.75
6.50		8.00	146	106	36	104.75
6.80		8.00	146	106	36	104.75
7.00		8.00	146	106	36	104.75
7.50		8.00	146	106	36	104.75
7.80		8.00	146	106	36	104.75
8.00		8.00	146	106	36	104.75
8.50		10.00	175	130	40	132.40
9.00		10.00	175	130	40	132.40
9.50		10.00	175	130	40	132.40
9.52	3/8	10.00	175	130	40	132.40
10.00		10.00	175	130	40	132.40
10.20		12.00	209	159	45	164.05
10.50		12.00	209	159	45	164.05

Catalogue no. 71996						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
11.00		12.00	209	159	45	164.05
11.50		12.00	209	159	45	164.05
12.00		12.00	209	159	45	164.05
12.50		14.00	233	183	45	219.20
12.70	1/2	14.00	233	183	45	219.20
13.00		14.00	233	183	45	219.20
13.50		14.00	233	183	45	219.20
14.00		14.00	233	183	45	219.20
14.50		16.00	260	207	48	275.70
15.00		16.00	260	207	48	275.70
15.50		16.00	260	207	48	275.70
16.00		16.00	260	207	48	275.70
16.50		18.00	284	231	48	366.60
17.00		18.00	284	231	48	366.60
17.50		18.00	284	231	48	366.60
18.00		18.00	284	231	48	366.60
18.50		20.00	308	255	50	496.20
19.00		20.00	308	255	50	496.20
19.50		20.00	308	255	50	496.20
20.00		20.00	308	255	50	496.20

SuperV drills

SuperV drills with internal cooling



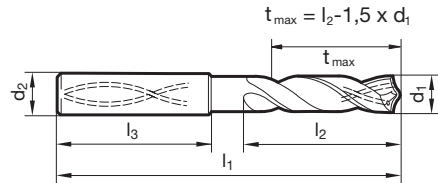
Catalogue no. 51893



P	M	K	N	S	H
●	○	●	○	○	

Application recommendations page 8

- web thinning $\geq \varnothing 3.000$
- facet point grind
- tip coating
- main cutting edge form straight
- optimised cutting geometry
- double margin



Catalogue no. 51893						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
3.00		6.00	90	50	36	194.30
3.10		6.00	90	50	36	194.30
3.20		6.00	90	50	36	194.30
3.30		6.00	90	50	36	194.30
3.40		6.00	90	50	36	194.30
3.50		6.00	90	50	36	194.30
3.60		6.00	90	50	36	194.30
3.70		6.00	90	50	36	194.30
3.80		6.00	102	64	36	194.30
3.90		6.00	102	64	36	194.30
4.00		6.00	102	64	36	194.30
4.10		6.00	102	64	36	194.30
4.20		6.00	102	64	36	194.30
4.30		6.00	102	64	36	194.30
4.40		6.00	102	64	36	194.30
4.50		6.00	102	64	36	194.30
4.60		6.00	102	64	36	194.30
4.70		6.00	102	64	36	194.30
4.80		6.00	116	78	36	194.30
4.90		6.00	116	78	36	194.30
5.00		6.00	116	78	36	194.30
5.10		6.00	116	78	36	194.30
5.20		6.00	116	78	36	194.30
5.30		6.00	116	78	36	194.30
5.40		6.00	116	78	36	194.30
5.50		6.00	116	78	36	194.30
5.60		6.00	116	78	36	194.30
5.70		6.00	116	78	36	194.30
5.80		6.00	116	78	36	194.30
5.90		6.00	116	78	36	194.30
6.00		6.00	116	78	36	194.30
6.10		8.00	146	108	36	227.40
6.20		8.00	146	108	36	227.40
6.30		8.00	146	108	36	227.40
6.40		8.00	146	108	36	227.40
6.50		8.00	146	108	36	227.40
6.60		8.00	146	108	36	227.40
6.70		8.00	146	108	36	227.40
6.80		8.00	146	108	36	227.40
6.90		8.00	146	108	36	227.40
7.00		8.00	146	108	36	227.40
7.10		8.00	146	108	36	227.40
7.20		8.00	146	108	36	227.40
7.30		8.00	146	108	36	227.40
7.40		8.00	146	108	36	227.40
7.50		8.00	146	108	36	227.40
7.60		8.00	146	108	36	227.40
7.70		8.00	146	108	36	227.40

Catalogue no. 51893						
Shank form HA						
Discount group 155						
d1		d2	l1	l2	l3	EUR/piece
mm	inch	mm	mm	mm	mm	
7.80		8.00	146	108	36	227.40
7.90		8.00	146	108	36	227.40
8.00		8.00	146	108	36	227.40
8.10		10.00	162	120	40	286.80
8.20		10.00	162	120	40	286.80
8.30		10.00	162	120	40	286.80
8.40		10.00	162	120	40	286.80
8.50		10.00	162	120	40	286.80
8.60		10.00	162	120	40	286.80
8.70		10.00	162	120	40	286.80
8.80		10.00	162	120	40	286.80
8.90		10.00	162	120	40	286.80
9.00		10.00	162	120	40	286.80
9.10		10.00	162	120	40	286.80
9.20		10.00	162	120	40	286.80
9.30		10.00	162	120	40	286.80
9.40		10.00	162	120	40	286.80
9.50		10.00	162	120	40	286.80
9.60		10.00	162	120	40	286.80
9.70		10.00	162	120	40	286.80
9.80		10.00	162	120	40	286.80
9.90		10.00	162	120	40	286.80
10.00		10.00	162	120	40	286.80
10.20		12.00	204	156	45	380.50
10.50		12.00	204	156	45	380.50
11.00		12.00	204	156	45	380.50
11.50		12.00	204	156	45	380.50
12.00		12.00	204	156	45	380.50
12.50		14.00	230	182	45	471.50
12.70	1/2	14.00	230	182	45	471.50
13.00		14.00	230	182	45	471.50
13.50		14.00	230	182	45	471.50
14.00		14.00	230	182	45	471.50
14.50		16.00	260	208	48	668.00
15.00		16.00	260	208	48	668.00
15.50		16.00	260	208	48	668.00
16.00		16.00	260	208	48	668.00
16.50		18.00	285	234	48	744.00
17.00		18.00	285	234	48	744.00
17.50		18.00	285	234	48	744.00
18.00		18.00	285	234	48	744.00
18.50		20.00	310	258	50	1062.00
19.00		20.00	310	258	50	1062.00
19.50		20.00	310	258	50	1062.00
20.00		20.00	310	258	50	1062.00

SuperV drills

SuperV-M universal micro-precision drills



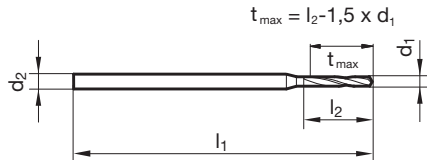
Catalogue no. 51720



P	M	K	N	S	H
●		●			

Application recommendations page 10

- web thinning $\geq \varnothing 0.800$
- facet point grind
- main cutting edge form straight



Catalogue no. 51720					
Shank form HA					
Discount group 155					
d1		d2	l1	l2	EUR/piece
mm	inch	mm	mm	mm	
0.100		3.000	38.000	1.200	21.65
0.150		3.000	38.000	2.000	23.50
0.200		3.000	38.000	2.500	22.90
0.250		3.000	38.000	3.000	24.60
0.300		3.000	38.000	5.000	25.25
0.310		3.000	38.000	5.000	27.60
0.350		3.000	38.000	6.000	27.05
0.370		3.000	38.000	6.000	28.70
0.400		3.000	38.000	7.000	28.35
0.450		3.000	38.000	7.000	30.35
0.500		3.000	38.000	7.000	27.60
0.550		3.000	38.000	7.000	22.50
0.600		3.000	38.000	7.000	25.25
0.640		3.000	38.000	7.000	22.65
0.650		3.000	38.000	7.000	22.50
0.700		3.000	38.000	8.000	23.50
0.710		3.000	38.000	8.000	25.75
0.720		3.000	38.000	8.000	23.10
0.740		3.000	38.000	8.000	25.75
0.750		3.000	38.000	8.000	25.75
0.790	1/32	3.000	38.000	8.000	25.75
0.800		3.000	38.000	10.000	23.95
0.810		3.000	38.000	10.000	23.95
0.820		3.000	38.000	10.000	23.50
0.840		3.000	38.000	10.000	24.60
0.900		3.000	38.000	10.000	27.05
0.910		3.000	38.000	10.000	27.05
0.920		3.000	38.000	10.000	27.05
0.930		3.000	38.000	10.000	27.05
0.940		3.000	38.000	10.000	27.05
0.950		3.000	38.000	10.000	27.05
0.990		3.000	38.000	10.000	25.25
1.000		3.000	38.000	10.000	24.60
1.100		3.000	38.000	10.000	24.60
1.150		3.000	38.000	10.000	23.50
1.200		3.000	38.000	10.000	27.05

Catalogue no. 51720					
Shank form HA					
Discount group 155					
d1		d2	l1	l2	EUR/piece
mm	inch	mm	mm	mm	
1.400		3.000	38.000	10.000	27.05
1.450		3.000	38.000	10.000	24.60
1.500		3.000	38.000	10.000	27.05
1.510		3.000	38.000	10.000	26.40
1.520		3.000	38.000	10.000	26.40
1.550		3.000	38.000	10.000	23.95
1.600		3.000	38.000	12.000	27.60
1.650		3.000	38.000	12.000	27.60
1.700		3.000	38.000	12.000	27.60
1.800		3.000	38.000	12.000	24.60
1.810		3.000	38.000	12.000	27.60
1.830		3.000	38.000	12.000	27.60
1.850		3.000	38.000	12.000	27.60
1.900		3.000	38.000	12.000	27.60
1.920		3.000	38.000	12.000	27.60
1.950		3.000	38.000	12.000	27.05
1.980	5/64	3.000	38.000	12.000	27.05
2.000		3.000	38.000	12.000	27.05
2.100		3.000	38.000	12.000	24.60
2.400		3.000	38.000	12.000	23.95
2.500		3.000	38.000	12.000	24.60
2.600		3.000	38.000	12.000	27.05
2.750		3.000	38.000	12.000	29.25
2.950		3.000	38.000	12.000	29.25
3.000		3.000	38.000	12.000	24.60

SuperV drills

SuperV drills, 3-fluted



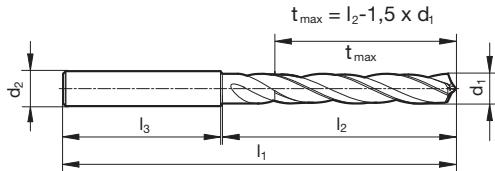
Catalogue no. 71862



P	M	K	N	S	H
		•	•		

Application recommendations page 6

- web thinning $\geq \varnothing 3.000$
- spiro-point
- wide flutes
- optimal centering
- suitable for interrupted cutting



Catalogue no. 71862					
Shank form					HA
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
3.00	6.00	66	28	36	51.65
3.10	6.00	66	28	36	51.65
3.20	6.00	66	28	36	51.65
3.30	6.00	66	28	36	51.65
3.50	6.00	66	28	36	51.65
3.70	6.00	66	28	36	51.65
3.80	6.00	74	36	36	51.65
4.00	6.00	74	36	36	51.65
4.10	6.00	74	36	36	51.65
4.20	6.00	74	36	36	51.65
4.50	6.00	74	36	36	51.65
4.80	6.00	82	44	36	51.65
5.00	6.00	82	44	36	51.65
5.10	6.00	82	44	36	51.65
5.20	6.00	82	44	36	51.65
5.30	6.00	82	44	36	51.65
5.50	6.00	82	44	36	51.65
5.80	6.00	82	44	36	51.65
6.00	6.00	82	44	36	51.65
6.10	8.00	91	53	36	62.05
6.20	8.00	91	53	36	62.05
6.40	8.00	91	53	36	62.05
6.50	8.00	91	53	36	62.05
6.70	8.00	91	53	36	62.05
6.80	8.00	91	53	36	62.05
6.90	8.00	91	53	36	62.05
7.00	8.00	91	53	36	62.05
7.10	8.00	91	53	36	62.05
7.40	8.00	91	53	36	62.05
7.50	8.00	91	53	36	62.05
7.80	8.00	91	53	36	62.05
8.00	8.00	91	53	36	62.05
8.10	10.00	103	61	40	70.35
8.20	10.00	103	61	40	70.35
8.40	10.00	103	61	40	70.35
8.50	10.00	103	61	40	70.35

Catalogue no. 71862					
Shank form					HA
Discount group					155
d1	d2	l1	l2	l3	EUR/piece
mm	mm	mm	mm	mm	
8.60	10.00	103	61	40	70.35
8.70	10.00	103	61	40	70.35
8.80	10.00	103	61	40	70.35
9.00	10.00	103	61	40	70.35
9.10	10.00	103	61	40	70.35
9.50	10.00	103	61	40	70.35
9.80	10.00	103	61	40	70.35
10.00	10.00	103	61	40	70.35
10.10	12.00	118	71	45	104.75
10.20	12.00	118	71	45	104.75
10.30	12.00	118	71	45	104.75
10.50	12.00	118	71	45	104.75
11.00	12.00	118	71	45	104.75
11.20	12.00	118	71	45	104.75
11.50	12.00	118	71	45	104.75
11.80	12.00	118	71	45	104.75
12.00	12.00	118	71	45	104.75
12.10	14.00	124	77	45	137.75
12.50	14.00	124	77	45	137.75
13.00	14.00	124	77	45	137.75
13.50	14.00	124	77	45	137.75
14.00	14.00	124	77	45	137.75
14.10	16.00	133	83	48	169.55
14.50	16.00	133	83	48	169.55
15.00	16.00	133	83	48	169.55
15.50	16.00	133	83	48	169.55
16.00	16.00	133	83	48	169.55
16.50	18.00	143	93	48	252.30
17.00	18.00	143	93	48	252.30
17.50	18.00	143	93	48	252.30
18.00	18.00	143	93	48	252.30
18.50	20.00	153	101	50	341.80
19.00	20.00	153	101	50	341.80
19.50	20.00	153	101	50	341.80
20.00	20.00	153	101	50	341.80

Carbide drills

Stub drills

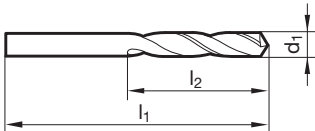


Catalogue no. 71184



Application recommendations page

- web thinning $\geq \text{Ø } 2.100$
- facet point grind
- main cutting edge form straight



Catalogue no. 71184				
Shank form cyl.				
Discount group 155				
d1		l1	l2	EUR/piece
mm	inch	mm	mm	
1.00		26	6	5.15
1.10		28	7	5.30
1.20		30	8	5.50
1.30		30	8	5.50
1.40		32	9	5.60
1.50		32	9	5.50
1.60		34	10	5.60
1.70		34	10	5.60
1.80		36	11	5.65
1.90		36	11	5.65
2.00		38	12	5.35
2.10		38	12	5.35
2.20		40	13	5.35
2.30		40	13	5.35
2.38	3/32	43	14	5.35
2.40		43	14	5.35
2.50		43	14	5.35
2.60		43	14	5.35
2.70		46	16	7.85
2.78	7/64	46	16	7.85
2.80		46	16	7.85
2.90		46	16	7.85
3.00		46	16	7.85
3.10		49	18	7.85
3.17	1/8	49	18	7.85
3.20		49	18	7.85
3.30		49	18	7.85
3.40		52	20	8.25
3.50		52	20	8.25
3.57	9/64	52	20	8.85
3.60		52	20	8.85
3.70		52	20	8.85
3.80		55	22	9.85
3.90		55	22	9.85
3.97	5/32	55	22	9.85
4.00		55	22	9.85
4.10		55	22	10.75
4.20		55	22	10.75
4.30		58	24	10.75
4.37	11/64	58	24	10.75
4.40		58	24	10.75
4.50		58	24	10.75
4.60		58	24	10.75
4.70		58	24	11.45
4.76	3/16	62	26	11.45
4.80		62	26	11.45
4.90		62	26	11.45
5.00		62	26	11.45

Catalogue no. 71184				
Shank form cyl.				
Discount group 155				
d1		l1	l2	EUR/piece
mm	inch	mm	mm	
5.10		62	26	19.50
5.20		62	26	14.75
5.30		62	26	14.75
5.40		66	28	14.75
5.50		66	28	14.75
5.60		66	28	16.25
5.70		66	28	16.50
5.80		66	28	15.50
5.90		66	28	16.50
6.00		66	28	15.50
6.10		70	31	19.85
6.20		70	31	19.85
6.30		70	31	18.85
6.35	1/4	70	31	19.60
6.40		70	31	33.05
6.50		70	31	19.60
6.60		70	31	24.80
6.70		70	31	25.00
6.80		74	34	24.80
6.90		74	34	39.40
7.00		74	34	23.75
7.10		74	34	31.75
7.14	9/32	74	34	27.60
7.20		74	34	31.75
7.30		74	34	34.50
7.40		74	34	31.75
7.50		74	34	27.60
7.60		79	37	33.75
7.70		79	37	34.50
7.80		79	37	37.15
7.90		79	37	37.15
7.94	5/16	79	37	31.75
8.00		79	37	31.75
8.10		79	37	38.00
8.20		79	37	38.00
8.30		79	37	38.00
8.40		79	37	41.35
8.50		79	37	39.40
8.60		84	40	60.00
8.70		84	40	42.05
8.73	11/32	84	40	42.65
8.80		84	40	42.65
8.90		84	40	48.15
9.00		84	40	41.35
9.10		84	40	48.15
9.20		84	40	43.45
9.30		84	40	43.45
9.40		84	40	48.15

Catalogue no. 71184				
Shank form cyl.				
Discount group 155				
d1		l1	l2	
mm	inch	mm	mm	EUR/piece
9.50		84	40	44.15
9.60		89	43	51.65
9.70		89	43	52.40
9.80		89	43	48.15
9.90		89	43	53.65
10.00		89	43	47.55
10.10		89	43	64.10
10.20		89	43	55.10
10.30		89	43	79.85
10.50		89	43	55.10
11.00		95	47	60.55
11.11	7/16	95	47	68.80

Catalogue no. 71184				
Shank form cyl.				
Discount group 155				
d1		l1	l2	
mm	inch	mm	mm	EUR/piece
11.50		95	47	68.80
11.91	15/32	102	51	68.80
12.00		102	51	68.80
13.00		102	51	84.10
15.00		111	56	122.70

The following diameters of the type 71184 are also available ex stock on request:
 Ø 1.05 / 1.15 / 1.25 / 1.35 / 1.45 / 1.55 / 1.65 / 1.75 / 1.95 mm

Carbide drills

Jobber drills



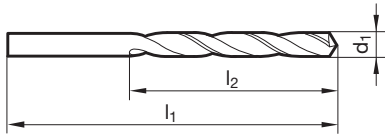
Catalogue no. 71290



P	M	K	N	S	H
○	○	○	●	○	○

Application recommendations page

- web thinning $\geq \varnothing 2.100$
- facet point grind
- main cutting edge form straight



Catalogue no. 71290				
Shank form cyl.				
Discount group 155				
d1		l1	l2	EUR/piece
mm	inch	mm	mm	
1.00		34	12	6.15
1.10		36	14	5.15
1.20		38	16	6.15
1.30		38	16	6.15
1.40		40	18	5.65
1.50		40	18	5.65
1.60		43	20	5.85
1.70		43	20	6.35
1.80		46	22	6.50
1.90		46	22	6.50
2.00		49	24	6.50
2.10		49	24	7.45
2.20		53	27	8.25
2.30		53	27	8.25
2.38	3/32	57	30	8.25
2.40		57	30	8.25
2.50		57	30	8.25
2.60		57	30	11.45
2.70		61	33	11.45
2.78	7/64	61	33	11.45
2.80		61	33	11.45
2.90		61	33	11.45
3.00		61	33	10.75
3.10		65	36	10.75
3.17	1/8	65	36	10.75
3.20		65	36	10.75
3.30		65	36	10.75
3.40		70	39	12.20
3.50		70	39	11.45
3.57	9/64	70	39	13.20
3.60		70	39	13.20
3.70		70	39	13.20
3.80		75	43	13.20
3.90		75	43	13.20
3.97	5/32	75	43	13.20
4.00		75	43	13.20
4.10		75	43	13.90
4.20		75	43	13.90
4.30		80	47	18.05
4.37	11/64	80	47	18.05
4.40		80	47	18.05
4.50		80	47	16.35
4.60		80	47	18.85
4.70		80	47	18.85
4.76	3/16	86	52	18.85
4.80		86	52	18.85
4.90		86	52	18.85
5.00		86	52	18.05

Catalogue no. 71290				
Shank form cyl.				
Discount group 155				
d1		l1	l2	EUR/piece
mm	inch	mm	mm	
5.10		86	52	32.45
5.16	13/64	86	52	24.80
5.20		86	52	24.05
5.30		86	52	24.05
5.40		93	57	25.35
5.50		93	57	24.80
5.56	7/32	93	57	25.50
5.60		93	57	25.75
5.70		93	57	25.75
5.80		93	57	25.75
5.90		93	57	25.75
5.95	15/64	93	57	25.50
6.00		93	57	25.50
6.10		101	63	32.45
6.20		101	63	32.45
6.30		101	63	32.45
6.35	1/4	101	63	31.75
6.40		101	63	32.45
6.50		101	63	31.75
6.60		101	63	35.10
6.70		101	63	35.10
6.80		109	69	38.00
6.90		109	69	60.00
7.00		109	69	38.00
7.10		109	69	41.35
7.14	9/32	109	69	42.65
7.20		109	69	45.55
7.30		109	69	45.55
7.40		109	69	45.55
7.50		109	69	38.00
7.60		117	75	54.45
7.70		117	75	44.75
7.80		117	75	44.75
7.90		117	75	44.75
7.94	5/16	117	75	48.15
8.00		117	75	44.15
8.10		117	75	57.20
8.20		117	75	57.20
8.30		117	75	59.40
8.40		117	75	57.20
8.50		117	75	51.65
8.60		125	81	89.60
8.70		125	81	58.65
8.73	11/32	125	81	59.40
8.80		125	81	58.65
8.90		125	81	58.65
9.00		125	81	53.65
9.10		125	81	64.10

Catalogue no. 71290				
Shank form cyl.				
Discount group 155				
d1		l1	l2	
mm	inch	mm	mm	EUR/piece
9.20		125	81	70.35
9.30		125	81	70.35
9.40		125	81	70.35
9.50		125	81	59.40
9.60		133	87	74.50
9.70		133	87	74.50
9.80		133	87	74.50
9.90		133	87	74.50
10.00		133	87	66.20
10.20		133	87	78.65
10.30		133	87	112.95
10.50		133	87	77.20

Catalogue no. 71290				
Shank form cyl.				
Discount group 155				
d1		l1	l2	
mm	inch	mm	mm	EUR/piece
11.00		142	94	92.35
11.11	7/16	142	94	97.75
11.50		142	94	97.75
11.91	15/32	151	101	97.75
12.00		151	101	107.60

The following diameters of the type 71290 are also available ex stock on request:
 Ø 1.05 / 1.15 / 1.25 / 1.35 / 1.45 / 1.55 / 1.65 / 1.75 / 1.85 / 1.95 mm

Carbide drills

NC spotting drills

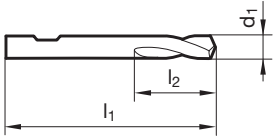


Catalogue no. 71189



P	M	K	N	S	H
•	•	•	•	•	

- facet point grind
- only suitable for spotting
- from Ø 6 mm with HB shank



Catalogue no.		71189	
Shank form		HB	
Discount group		155	
d1 mm	l1 mm	l2 mm	EUR/piece
4.00	55	12	24.45
5.00	62	14	32.45
6.00	66	16	35.85
8.00	79	21	51.65
10.00	89	25	74.50
12.00	102	30	110.35

Catalogue no.		71189	
Shank form		HB	
Discount group		155	
d1 mm	l1 mm	l2 mm	EUR/piece
16.00	115	37	184.70
20.00	131	45	319.80

DRILLS

Questionnaire for special solutions

Quantity _____

Required number of holes _____

Material

Material to be cut _____

Tensile strength/hardness _____ N/mm² HRC

Workpieces

Drilling depth _____ mm

Hole tolerance _____

Tool material

solid carbide HSS-E HSCO HSS

Coolant

internal external

Coolant pressure _____ bar

similar to standard item

Shank

Form HA plain

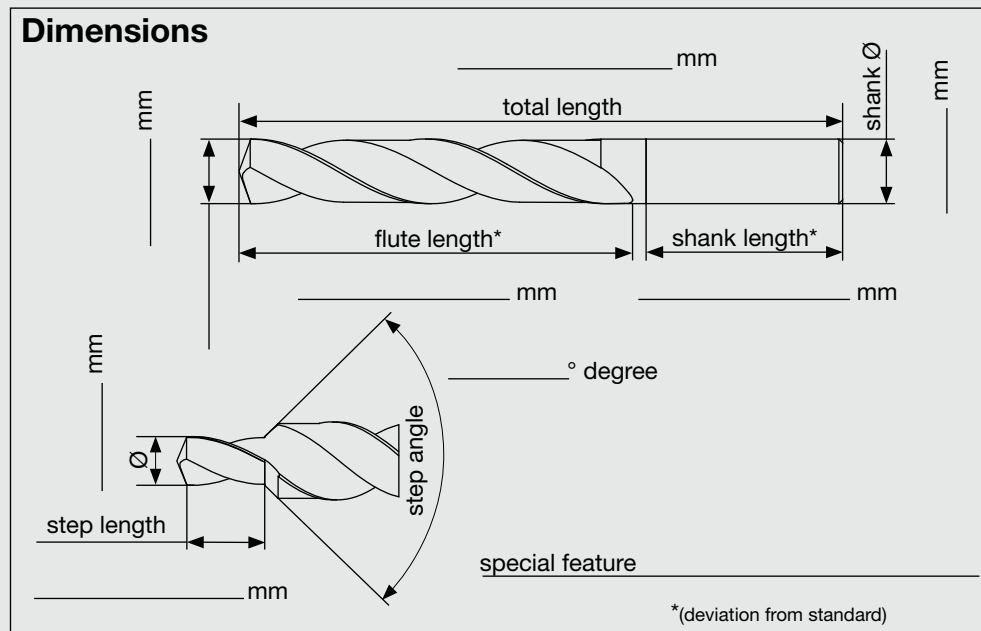
Form HB drive flat

Form HE whistle notch

cylindrical shank

morse taper shank

_____ Size



Coating

bright finish TiN TiAlN AlTiN nano TiAlSiN _____ (other coating)

Contact

Company: _____

Company stamp

Contact person: _____

Telephone/Fax: _____

Date: _____

Email address: _____

Signature: _____



SPL

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