Info

Overview - solid carbide twist drills (I)

Brand	ATORN	ATORN	ATORN	ATORN	ATORN	ATORN	ATORN	ATORN
DIN	Company standard	Company standard	Company standard	Company standard	6539	6539	6539	6539
								
Type	5 x D						Countersink	Countersink
Article number	11016	11020	11021	11022	11030	11033	11040	11041
Cutting material	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Diameter range mm	0,10 - 3,00	1 - 12	1 - 12	1 - 12	1 - 16	1 - 16	3 - 16	3 - 16
Type	N	N	N	N	N	N	N	N
Point angle	130°	118°	118°	118°	118°	118°	150°	150°
Coating	TiAlN	-	TiN	TiAlN	-	TiAlN	-	TiN
Catalogue page	11.3	11.3	11.3	11.3	11.5	11.5	11.6	11.6
Application recommendation	● = Well suited	○ = Limited suitability						
Aluminium < 10% Si	●	●	●	●	●	●	●	●
Aluminium > 10% Si	●	●	●	●	●	●	●	●
Copper	●	●	●	●	●	●	●	●
Brass	●							
Steel < 520N	●	●	●	●	●	●		●
Steel < 750N	●	●	●	●	●	●		●
Steel < 900N	●	●	●	●	●	●		●
Steel < 1100N	●	●	●	●	●	●		●
Steel < 1200N	●	●	●	●	●	●		●
Steel < 1400N	●	●	●	●	●	●		●
VA-steel < 900N	●	●	●	●	●	●		
VA-steel > 900N	●	●	●	●	●	●		
GG	●	●	●	●	●	●	●	●
GGG	●	●	●	●	●	●	●	●
Titanium			○	●		●		
Titanium alloy			○	●		●		
Nickel	●			●		●		
< 55HRC								
< 60HRC								
< 67HRC								
Plastics		○	○	○	○	○		

Brand	ATORN	ATORN	ATORN	ATORN	ATORN	ATORN	ATORN	ATORN
DIN	6539	6539	6539	6539	6539	Company standard	Company standard	Company standard
						NEW 	NEW 	
Type	3 x D	3 x D, IKZ	3 x D, IKZ	5 x D, IKZ	5 x D, IKZ	5 x D, IKZ	5 x D, IKZ	8 x D, IKZ
Article number	11049-11050	11059-11060	11061-11062	11064-11065	11073-11074	11100	11090	11066-11067
Cutting material	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Diameter range mm	3 - 20	3 - 20	3 - 20	3 - 20	3 - 20	8 - 20	5,98 - 16	3 - 20
Type	UNI	UNI	VA-steel	UNI	VA-steel	UNI	UNI	UNI
Point angle	140°	140°	140°	140°	140°	180°	140°	140°
Coating	TiAlN+	TiAlN	TiAlN Ultra-M	TiAlN+	TiAlN Ultra-M	TiAlN	TiAlN	TiAlN+
Catalogue page	11.6	11.7	11.9	11.10	11.11	11.12	11.13	11.13
Application recommendation	● = Well suited	○ = Limited suitability						
Aluminium < 10% Si	●	●		●		●	●	●
Aluminium > 10% Si	●	●		●		●	●	●
Copper	●	●		●		●	●	●
Brass								
Steel < 520N	●	●		●		●	●	●
Steel < 750N	●	●		●		●	●	●
Steel < 900N	●	●		●		●	●	●
Steel < 1100N	●	●		●		●	●	●
Steel < 1200N	●	●		●		●	●	●
Steel < 1400N	●	●		●		●	●	●
VA-steel < 900N	●	●	●	●	●	●	●	●
VA-steel > 900N		●	●	●	●	●	●	●
GG	●	●		●		●	●	●
GGG	●	●		●		●	●	●
Titanium			●	●	●	●	●	
Titanium alloy			●	●	●	●	●	
Nickel								
< 55HRC								
< 60HRC								
< 67HRC								
Plastics								

Solid Carbide Micro Heavy-Duty Drills | Solid Carbide Twist Drills

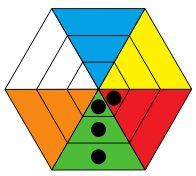
Info — Overview - solid carbide twist drills (II)

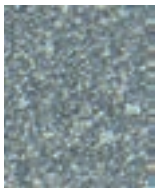
Brand	ATORN	HW	HW	HW	HW	HW	ATORN	ATORN	HW
DIN	Company standard	Company standard	Company standard	Company standard	Company standard	Company standard	Company standard	Company standard	Company standard
		NEW	NEW	NEW	NEW	NEW			
Type	12 x D, IKZ	5 x D, IKZ	16 x D, IKZ	20 x D, IKZ	25 x D, IKZ	30 x D, IKZ	5 x D, IKZ	8 x D, IKZ	Hard
Article number	11072	11078	11079	11080	11081	11082	11085	11086	11071
Cutting material	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide	Solid carbide
Diameter range mm	3 - 20	2,02 - 12,02	3 - 12	2 - 12	3 - 10	2 - 10	2,5 - 20	2,5 - 20	2 - 14
Type	UNI	Pilot drill	Deep hole	Deep hole	Deep hole	Deep hole	Alu-Cut	Alu-Cut	H
Point angle	140°	140°	135°	135°	135°	135°	135°	135°	140°
Coating	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	Alu-CC	Alu-CC	TiAlN
Catalogue page	11.14	11.15	11.16	11.16	11.17	11.17	11.18	11.18	11.19
Application recommendation	● = Well suited	○ = Limited suitability							
Aluminium < 10% Si	●	●	●	●	●	●	●	●	●
Aluminium > 10% Si	●	●	●	●	●	●	●	●	●
Copper	●	●	●	●	●	●	●	●	●
Brass							●		●
Steel < 520N	●	●	●	●	●	●			
Steel < 750N	●	●	●	●	●	●			
Steel < 900N	●	●	●	●	●	●			
Steel < 1100N	●	●	●	●	●	●			
Steel < 1200N	●	●	●	●	●	●			
Steel < 1400N	●	●	●	●	●	●			
VA-steel < 900N	●	●	●	●	●	●			
VA-steel > 900N	●	●	●	●	●	●			
GG	●	●	●	●	●	●			
GGG	●	●	●	●	●	●			
Titanium	●	●	●	●	●	●			
Titanium alloy	●	●	●	●	●	●			
Nickel									
< 55HRC									●
< 60HRC									●
< 67HRC									
Plastics									

Info — Multi-function tools EcoCut / drilling

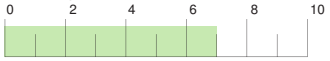
H216T

HW-K15

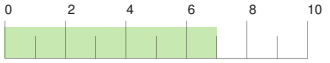




Ductility

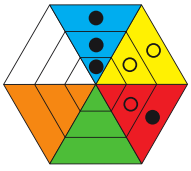


Wear resistance



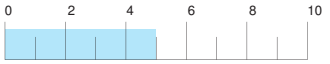
CTCP435/GM40

HC-P35
HC-M30
HC-K40



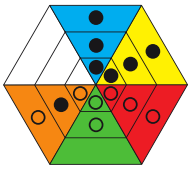
Ductility

Wear resistance



CTPP430/SR226

HC-P30
HC-M25
HC-S25



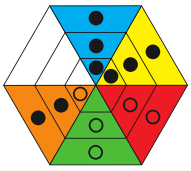
Ductility

Wear resistance

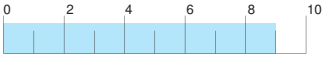
CTPP435

HC-P35
HC-M30
HC-S30

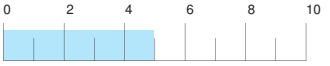
EcoCut Mini



Ductility



Wear resistance



HW TECHNOLOGIE VERBINDET CERATIZIT

Characteristics/application:

- Ideally suited for aluminium
- High wear resistance
- High temperature stability
- Minimal adhesion tendency

11016 Solid Carbide Micro Heavy-Duty Drills

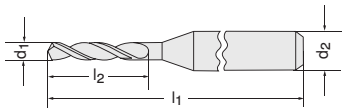
HPC | 5xD | 130° | DIN 6535 HA | VHM TiAlN | Uni

ATORN®

Type
- Heavy-duty micro-drill with shank Ø 3 mm h6
- Tolerance of cutting blades 0.004 mm
- Precision grind
- Extremely hard, strong glide, and temperature-resistant TiAlN-coating

Use
For universal implementation, e.g. in metal cast iron and VA-steel.

11016



Solid carbide/TiAlN

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11016	...
0.10	1.00	38	3		101
0.15	2.00	38	3		102
0.20	2.50	38	3		103
0.25	4.00	38	3		104
0.30	5.50	38	3		105
0.35	5.50	38	3		106
0.40	6.00	38	3		107
0.45	6.00	38	3		108
0.50	6.00	38	3		109
0.55	8.00	38	3		110
0.60	8.00	38	3		111
0.65	8.00	38	3		112
0.70	8.00	38	3		113
0.75	8.00	38	3		114
0.80	8.00	38	3		115
0.85	8.00	38	3		116
0.90	8.00	38	3		117
0.95	8.00	38	3		118
0.97	8.00	38	3		119
0.98	8.00	38	3		120
0.99	8.00	38	3		121
1.00	10.00	38	3		122
1.01	10.00	38	3		123
1.02	10.00	38	3		124
1.03	10.00	38	3		125
1.05	10.00	38	3		126
1.10	10.00	38	3		127
1.15	10.00	38	3		128

Solid carbide/TiAlN

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11016	...
1.20	10.00	38	3		129
1.25	10.00	38	3		130
1.30	10.00	38	3		131
1.35	10.00	38	3		132
1.40	10.00	38	3		133
1.45	10.00	38	3		134
1.47	10.00	38	3		135
1.48	10.00	38	3		136
1.49	10.00	38	3		137
1.50	12.00	38	3		138
1.51	12.00	38	3		139
1.52	12.00	38	3		140
1.53	12.00	38	3		141
1.55	12.00	38	3		142
1.60	12.00	38	3		143
1.65	12.00	38	3		144
1.70	12.00	38	3		145
1.75	12.00	38	3		146
1.80	12.00	38	3		147
1.85	12.00	38	3		148
1.90	12.00	38	3		149
1.95	12.00	38	3		150
1.97	12.00	38	3		151
1.98	12.00	38	3		152
1.99	12.00	38	3		153
2.00	12.00	38	3		154
2.01	12.00	38	3		155
2.02	12.00	38	3		156

Solid carbide/TiAlN

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11016	...
2.03	12.00	38	3		157
2.05	12.00	38	3		158
2.10	12.00	38	3		159
2.15	12.00	38	3		160
2.20	12.00	38	3		161
2.25	12.00	38	3		162
2.30	12.00	38	3		163
2.35	12.00	38	3		164
2.40	12.00	38	3		165
2.45	12.00	38	3		166
2.50	12.00	38	3		167
2.51	12.00	38	3		168
2.52	12.00	38	3		169
2.53	12.00	38	3		170
2.55	12.00	38	3		171
2.60	12.00	38	3		172
2.65	12.00	38	3		173
2.70	12.00	38	3		174
2.75	12.00	38	3		175
2.80	12.00	38	3		176
2.85	12.00	38	3		177
2.90	12.00	38	3		178
2.95	12.00	38	3		179
2.96	12.00	38	3		180
2.97	12.00	38	3		181
2.98	12.00	38	3		182
2.99	12.00	38	3		183
3.00	12.00	38	3		184

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
150-220	100-160	80-130	50-75	50-75	50-70	40-50	30-40	20-35	-	-	-	-	20-35	20-35	10-30	60-100	-

11020 - 11022 Solid Carbide Twist Drills

Norm | 118° | DIN 6535 HA | Uni

ATORN®

Type
- 2 flutes
- With straight shank
- Right-hand cut
- **Point angle 118°**
- Four-surface grind

11020
Use
For drilling steel **with a strength of up to 1400 N/mm²**, cast iron, cast steel, copper, aluminium, thermosetting plastics, glass-fibre and carbon reinforced plastics and laminated paper.
Quality
Solid carbide, K10/K20.

11021
Quality
Solid carbide, K10/K20 TiN-coated.

11022
Use
Also suitable for steels that are difficult to machine.
Quality
Solid carbide, K10/K20 TiN-coated.

VHM — 11020

VHM TiN — 11021

VHM TiAlN — 11022

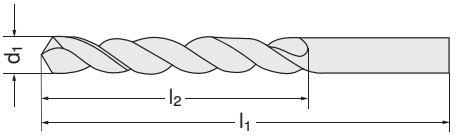
Continuation ▶

Solid Carbide Twist Drills

11020 - 11022 Solid Carbide Twist Drills

Continuation ▶

Norm | 118° | DIN 6535 HA | Uni



d_1 h8 mm	l_2 mm	l_1 mm	Solid carbide 11020	...	Solid carbide/TiN 11021	...	Solid carbide/TiAlN 11022	...
1.0	12	34		090		090		090
1.1	14	36		091				
1.2	16	38		092				
1.3	16	38		093				
1.4	18	40		094				
1.5	18	40		095		095		095
1.6	20	43		096				096
1.7	20	43		097				
1.8	22	46		098				098
1.9	22	46		099				
2.0	24	49		100		100		100
2.1	24	49		101				
2.2	27	53		102				
2.3	27	53		103				
2.4	30	57		104				
2.5	30	57		105		105		105
2.6	30	57		106				
2.7	33	61		107				
2.8	33	61		108		108		108
2.9	33	61		109				
3.0	33	61		110		110		110
3.1	36	65		111				
3.2	36	65		112				
3.3	36	65		113		113		113
3.4	39	70		114				
3.5	39	70		115		115		115
3.6	39	70		116				
3.7	39	70		117				
3.8	43	75		118		118		118
3.9	43	75		119				
4.0	43	75		120		120		120
4.1	43	75		121				
4.2	43	75		122		122		122
4.3	47	80		123				
4.4	47	80		124				
4.5	47	80		125		125		125
4.6	47	80		126				
4.7	47	80		127				
4.8	52	86		128		128		128
4.9	52	86		129				
5.0	52	86		130		130		130
5.1	52	86		131				
5.2	52	86		132				
5.3	52	86		133				
5.4	57	93		134				
5.5	57	93		135		135		135
5.6	57	93		136				
5.7	57	93		137				
5.8	57	93		138		138		138
5.9	57	93		139				
6.0	57	93		140		140		140
6.1	63	101		141				
6.2	63	101		142				
6.3	63	101		143				
6.4	63	101		144				
6.5	63	101		145		145		145
6.6	63	101		146				
6.7	63	101		147				
6.8	69	109		148		148		148
6.9	69	109		149				
7.0	69	109		150		150		150
7.1	69	109		151				
7.2	69	109		152				
7.3	69	109		153				
7.4	69	109		154				
7.5	69	109		155		155		155
7.6	75	117		156				
7.7	75	117		157				
7.8	75	117		158				
7.9	75	117		159				
8.0	75	117		160		160		160
8.1	75	117		161				
8.2	75	117		162				
8.3	75	117		163				
8.4	75	117		164				
8.5	75	117		165		165		165
8.6	81	125		166				
8.7	81	125		167				
8.8	81	125		168				
8.9	81	125		169				
9.0	81	125		170		170		170
9.1	81	125		171				
9.2	81	125		172				
9.3	81	125		173				
9.4	81	125		174				
9.5	81	125		175		175		175
9.6	87	133		176				
9.7	87	133		177				
9.8	87	133		178				
9.9	87	133		179				
10.0	87	133		180		180		180
10.2	87	133		182		182		182
10.5	87	133		185		185		185
11.0	94	142		190				190
11.5	94	142		195				
12.0	101	151		200		200		200

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
11020																	
180-200	130-160	60-100	60-80	65-75	65-70	50-60	40-50	20-25	-	-	-	-	20-25	15-20	-	60-70	50-70
11021																	
200-230	150-170	130-200	90-100	80-90	70-80	60-70	50-60	40-50	-	-	-	-	35-40	30-35	20-25	70-100	50-70
11022																	
220-260	160-180	180-250	130-145	100-110	80-100	70-80	60-70	50-60	-	-	-	-	45-55	35-45	20-45	100-145	50-70

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

11030 - 11033 Extra short solid carbide twist drill

DIN 6539 | N | 118° | DIN 6535 HA | ≤ 1400 N/mm²

ATORN®

Type
- **2 flutes**
- With straight shank
- Right-hand cut
- **Point angle 118°**

Use
For drilling steel **with a strength of up to 1400 N/mm²**, cast iron, cast steel, copper, aluminium, thermosetting plastics, glass-fibre and carbon reinforced plastics and laminated paper.

11030
Quality
Solid carbide, K10/K20.

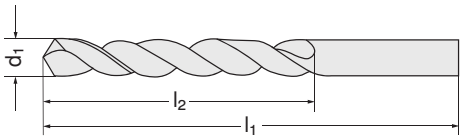
11033
Use
Also suitable for steels that are difficult to machine.
Quality
Solid carbide/TiAlN-coated

VHM K10/K20

11030

VHM TiAlN

11033



d_1 h6 mm	l_2 mm	l_1 mm	Solid carbide 11030	...	Solid carbide/TiAlN 11033	...
1.0	6	26	110		110	
1.1	7	28	111		111	
1.2	8	30	112		112	
1.3	8	30	113		113	
1.4	9	32	114		114	
1.5	9	32	115		115	
1.6	10	34	116		116	
1.7	10	34	117		117	
1.8	11	36	118		118	
1.9	11	36	119		119	
2.0	12	38	120		120	
2.1	12	38	121		121	
2.2	13	40	122		122	
2.3	13	40	123		123	
2.4	14	43	124		124	
2.5	14	43	125		125	
2.6	14	43	126		126	
2.7	16	46	127		127	
2.8	16	46	128		128	
2.9	16	46	129		129	
3.0	16	46	130		130	
3.1	18	49	131		131	
3.2	18	49	132		132	
3.3	18	49	133		133	
3.4	20	52	134		134	
3.5	20	52	135		135	
3.6	20	52	136		136	
3.7	20	52	137		137	
3.8	22	55	138		138	
3.9	22	55	139		139	
4.0	22	55	140		140	
4.1	22	55	141		141	
4.2	22	55	142		142	
4.3	24	58	143		143	
4.4	24	58	144			
4.5	24	58	145		145	
4.6	24	58	146		146	
4.7	24	58	147			
4.8	26	62	148		148	
4.9	26	62	149		149	
5.0	26	62	150		150	
5.1	26	62	151		151	

d_1 h6 mm	l_2 mm	l_1 mm	Solid carbide 11030	...	Solid carbide/TiAlN 11033	...
5.2	26	62	152			
5.3	26	62	153			
5.4	28	66	154			
5.5	28	66	155		155	
5.6	28	66	156			
5.7	28	66	157			
5.8	28	66	158			
5.9	28	66	159			
6.0	28	66	160		160	
6.1	31	70	161		161	
6.2	31	70	162			
6.3	31	70	163		163	
6.4	31	70	164			
6.5	31	70	165		165	
6.6	31	70	166			
6.7	31	70	167			
6.8	34	74	168		168	
6.9	34	74	169			
7.0	34	74	170		170	
7.1	34	74	171			
7.2	34	74	172			
7.3	34	74	173			
7.4	34	74	174			
7.5	34	74	175		175	
7.6	37	79	176			
7.7	37	79	177			
7.8	37	79	178			
7.9	37	79	179			
8.0	37	79	180		180	
8.5	37	79	185		185	
9.0	40	84	190		190	
9.5	40	84	195		195	
10.0	43	89	200		200	
10.2	43	89	202		202	
10.5	43	89			205	
11.0	47	95	210		210	
11.5	47	95	215		215	
12.0	51	102	220		220	
13.0	51	102	230		230	
14.0	54	107	240		240	
15.0	56	111	250		250	
16.0	58	115	260		260	

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
11030																	
180-200	130-160	60-100	60-80	65-75	65-70	50-60	40-50	20-25	-	-	-	-	20-25	15-20	-	60-70	50-70
11033																	
220-260	160-180	180-250	130-145	100-110	80-100	70-80	60-70	50-60	-	-	-	-	45-55	35-45	20-45	100-145	50-70

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

Solid carbide countersinking cutters | Solid Carbide Twist Drills | Solid Carbide Heavy-Duty Oil Feed Drills

11040 - 11041 Solid carbide countersinking cutters

ATORN®

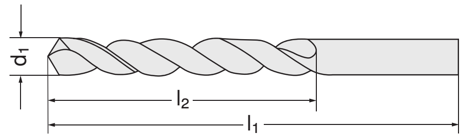
Type
3 flutes with straight shank. **Accuracy H7.**
Web-thinned: up to centre of drill, shape profile: three flutes with rounded rear edges, core thickness: reinforced, surface: bright.
Use
For drilling of grey cast iron, short-chipping brass, long-chipping aluminium alloys with high Si content, thermosetting plastics On modern machines, bores with high dimensional and position accuracy are achieved.

11040
Quality
Solid carbide, K10/K20.

11041
Quality
Solid carbide/TiN-coated.
For increased service life.

11040

11041



d1 h7 mm	l2 mm	l1 mm	Solid carbide 11040 ...	Solid carbide/TiN 11041 ...
3.0	22	46	130	130
3.2	24	49	132	132
3.3	24	49	133	133
3.5	27	52	135	135
3.8	30	55	138	138
4.0	30	55	140	140
4.2	30	55	142	142
4.5	32	58	145	145
4.8	35	62	147	148
5.0	35	62	150	150
5.2	35	62	152	
5.5	39	66	155	155
5.8	39	66	157	158
6.0	39	66	160	160
6.5	42	70	165	165
6.8	45	74	168	168
7.0	45	74	170	170

d1 h7 mm	l2 mm	l1 mm	Solid carbide 11040 ...	Solid carbide/TiN 11041 ...
7.5	45	74	175	175
7.8	48	79	177	178
8.0	48	79	180	180
8.5	48	79	185	185
9.0	52	84	190	190
9.5	52	84	195	195
9.8	55	89	197	198
10.0	55	89	200	200
10.2	55	89	202	202
10.5	55	89	205	205
11.0	60	95	210	210
12.0	65	102	220	220
13.0	65	102	230	230
14.0	66	107	240	240
15.0	70	111	250	250
16.0	73	115	260	260

	Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
11040	130-150	100-120	-	-	-	-	-	-	-	-	-	-	-	-	-	-	70-100	-
11041	150-170	120-140	80-100	120-130	110-120	100-110	90-100	80-90	-	-	-	-	-	-	-	-	80-140	-

11049 - 11050 Solid Carbide Twist Drills

ATORN®

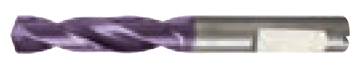
Type
- Short Type
- 2 flutes
- With reinforced core and heavy-duty point grind, as well as special web thinning

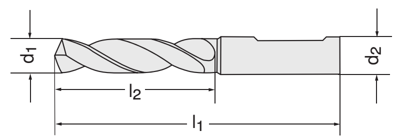
11049
Type
With smooth shank in compliance with **DIN 6535 HA.**

11050
Type
With clamping surface in compliance with **DIN 6535 HE.**

11049

11050





d1 m7 mm	l2 mm	l1 mm	d2 h6 mm	DIN 6535 HA 11049 ...	DIN 6535 HE 11050 ...
3.0	20	62	6	230	430
3.1	20	62	6	231	431
3.2	20	62	6	232	432
3.3	20	62	6	233	433
3.4	20	62	6	234	434
3.5	20	62	6	235	435
3.6	20	62	6	236	436
3.7	20	62	6	237	437
3.8	24	66	6	238	438
3.9	24	66	6	239	439
4.0	24	66	6	240	440

d1 m7 mm	l2 mm	l1 mm	d2 h6 mm	DIN 6535 HA 11049 ...	DIN 6535 HE 11050 ...
4.1	24	66	6	241	441
4.2	24	66	6	242	442
4.3	24	66	6	243	443
4.4	24	66	6	244	444
4.5	24	66	6	245	445
4.6	24	66	6	246	446
4.7	24	66	6	247	447
4.8	28	66	6	248	448
4.9	28	66	6	249	449
5.0	28	66	6	250	450
5.1	28	66	6	251	451

Continuation

www.hhw.de
Fax order hotline: +49 6204 739-1217
= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

11049 - 11050 Solid Carbide Twist Drills

HPC | 140° | VHM TiAlN+ | 3xD | Uni

Continuation ▶

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11049 ...	DIN 6535 HE 11050 ...
5.2	28	66	6	252	452
5.3	28	66	6	253	453
5.4	28	66	6	254	454
5.5	28	66	6	255	455
5.6	28	66	6	256	456
5.7	28	66	6	257	457
5.8	28	66	6	258	458
5.9	28	66	6	259	459
6.0	28	66	6	260	460
6.1	34	79	8	261	461
6.2	34	79	8	262	462
6.3	34	79	8	263	463
6.4	34	79	8	264	464
6.5	34	79	8	265	465
6.6	34	79	8	266	466
6.7	34	79	8	267	467
6.8	34	79	8	268	468
6.9	34	79	8	269	469
7.0	34	79	8	270	470
7.1	41	79	8	271	471
7.2	41	79	8	272	472
7.3	41	79	8	273	473
7.4	41	79	8	274	474
7.5	41	79	8	275	475
7.6	41	79	8	276	476
7.7	41	79	8	277	477
7.8	41	79	8	278	478
7.9	41	79	8	279	479
8.0	41	79	8	280	480
8.1	47	89	10	281	481
8.2	47	89	10	282	482
8.3	47	89	10	283	483
8.4	47	89	10	284	484
8.5	47	89	10	285	485
8.6	47	89	10	286	486
8.7	47	89	10	287	487
8.8	47	89	10	288	488
8.9	47	89	10	289	489
9.0	47	89	10	290	490
9.1	47	89	10	291	491
9.2	47	89	10	292	492
9.3	47	89	10	293	493
9.4	47	89	10	294	494
9.5	47	89	10	295	495
9.6	47	89	10	296	496

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11049 ...	DIN 6535 HE 11050 ...
9.7	47	89	10	297	497
9.8	47	89	10	298	498
9.9	47	89	10	299	499
10.0	47	89	10	300	500
10.1	55	102	12	301	501
10.2	55	102	12	302	502
10.3	55	102	12	303	503
10.4	55	102	12	304	504
10.5	55	102	12	305	505
10.6	55	102	12	306	506
10.7	55	102	12	307	507
10.8	55	102	12	308	508
10.9	55	102	12	309	509
11.0	55	102	12	310	510
11.1	55	102	12	311	511
11.2	55	102	12	312	512
11.3	55	102	12	313	513
11.4	55	102	12	314	514
11.5	55	102	12	315	515
11.6	55	102	12	316	516
11.7	55	102	12	317	517
11.8	55	102	12	318	518
11.9	55	102	12	319	519
12.0	55	102	12	320	520
12.5	60	107	14	325	525
12.8	60	107	14	328	528
13.0	60	107	14	330	530
13.5	60	107	14	335	535
13.8	60	107	14	338	538
14.0	60	107	14	340	540
14.5	65	115	16	345	545
14.8	65	115	16	348	548
15.0	65	115	16	350	550
15.5	65	115	16	355	555
15.8	65	115	16	358	558
16.0	65	115	16	360	560
16.5	73	123	18	365	565
17.0	73	123	18	370	570
17.5	73	123	18	375	575
18.0	73	123	18	380	580
18.5	79	131	20	385	585
19.0	79	131	20	390	590
19.5	79	131	20	395	595
20.0	79	131	20	400	600

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
180-220	160-180	85-105	110-130	105-120	100-120	85-100	75-85	40-45	-	-	-	-	45-55	-	35-40	125-170	

11059 - 11060 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | VHM TiAlN+ | 3xD | Uni

ATORN®

Type
- Short Type
- Special web-thinning
- With reinforced core and heavy-duty point grind, as well as special web thinning
- Right-hand cut
- **Point angle 140°**

Quality
Multi-purpose carbide fine grit/TiAlN plus-coated.

Note:
Drilling tools with internal cooling are of higher performance with coolant pressure of minimum 30 bar. The higher the pressure, the higher the performance. Regrinding of heavy-duty drills possible on any tool grinding machine.

11059
Type
With smooth shank in compliance with **DIN 6535 HA.**

11060
Type
With clamping surface in compliance with **DIN 6535 HE.**

DIN 6535 HA

11059

DIN 6535 HE

11060

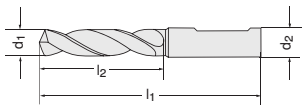
Continuation ▶

Solid Carbide Heavy-Duty Oil Feed Drills | Solid Carbide HPC Drills

11059 - 11060 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | VHM TiAlN+ | 3xD | Uni

Continuation ▶



				DIN 6535 HA		DIN 6535 HE	
d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	11059	...	11060	...
3.0	20	62	6		230		430
3.1	20	62	6		231		431
3.2	20	62	6		232		432
3.25	20	62	6		402		602
3.3	20	62	6		233		433
3.4	20	62	6		234		434
3.5	20	62	6		235		435
3.6	20	62	6		236		436
3.7	20	62	6		237		437
3.8	24	66	6		238		438
3.9	24	66	6		239		439
4.0	24	66	6		240		440
4.1	24	66	6		241		441
4.2	24	66	6		242		442
4.3	24	66	6		243		443
4.4	24	66	6		244		444
4.5	24	66	6		245		445
4.6	24	66	6		246		446
4.65	24	66	6		403		603
4.7	24	66	6		247		447
4.8	28	66	6		248		448
4.9	28	66	6		249		449
5.0	28	66	6		250		450
5.1	28	66	6		251		451
5.2	28	66	6		252		452
5.3	28	66	6		253		453
5.4	28	66	6		254		454
5.5	28	66	6		255		455
5.55	28	66	6		404		604
5.6	28	66	6		256		456
5.7	28	66	6		257		457
5.8	28	66	6		258		458
5.9	28	66	6		259		459
6.0	28	66	6		260		460
6.1	34	79	8		261		461
6.2	34	79	8		262		462
6.3	34	79	8		263		463
6.4	34	79	8		264		464
6.5	34	79	8		265		465
6.6	34	79	8		266		466
6.7	34	79	8		267		467
6.8	34	79	8		268		468
6.9	34	79	8		269		469
7.0	34	79	8		270		470
7.1	41	79	8		271		471
7.2	41	79	8		272		472
7.3	41	79	8		273		473
7.4	41	79	8		274		474
7.5	41	79	8		275		475
7.6	41	79	8		276		476
7.7	41	79	8		277		477
7.8	41	79	8		278		478
7.9	41	79	8		279		479
8.0	41	79	8		280		480
8.1	47	89	10		281		481
8.2	47	89	10		282		482
8.3	47	89	10		283		483
8.4	47	89	10		284		484

				DIN 6535 HA		DIN 6535 HE	
d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	11059	...	11060	...
8.5	47	89	10		285		485
8.6	47	89	10		286		486
8.7	47	89	10		287		487
8.8	47	89	10		288		488
8.9	47	89	10		289		489
9.0	47	89	10		290		490
9.1	47	89	10		291		491
9.2	47	89	10		292		492
9.3	47	89	10		293		493
9.4	47	89	10		294		494
9.5	47	89	10		295		495
9.6	47	89	10		296		496
9.7	47	89	10		297		497
9.8	47	89	10		298		498
9.9	47	89	10		299		499
10.0	47	89	10		300		500
10.1	55	102	12		301		501
10.2	55	102	12		302		502
10.3	55	102	12		303		503
10.4	55	102	12		304		504
10.5	55	102	12		305		505
10.6	55	102	12		306		506
10.7	55	102	12		307		507
10.8	55	102	12		308		508
10.9	55	102	12		309		509
11.0	55	102	12		310		510
11.1	55	102	12		311		511
11.2	55	102	12		312		512
11.3	55	102	12		313		513
11.4	55	102	12		314		514
11.5	55	102	12		315		515
11.6	55	102	12		316		516
11.7	55	102	12		317		517
11.8	55	102	12		318		518
11.9	55	102	12		319		519
12.0	55	102	12		320		520
12.5	60	107	14		325		525
12.8	60	107	14		328		528
13.0	60	107	14		330		530
13.5	60	107	14		335		535
13.8	60	107	14		338		538
14.0	60	107	14		340		540
14.2	65	115	16		342		542
14.5	65	115	16		345		545
14.8	65	115	16		348		548
15.0	65	115	16		350		550
15.1	65	115	16		351		551
15.5	65	115	16		355		555
15.8	65	115	16		358		558
16.0	65	115	16		360		560
16.5	73	123	18		365		565
17.0	73	123	18		370		570
17.5	73	123	18		375		575
18.0	73	123	18		380		580
18.5	79	131	20		385		585
19.0	79	131	20		390		590
19.5	79	131	20		395		595
20.0	79	131	20		400		600

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
260-300	180-220	105-125	145	120-130	105-120	85-120	100-105	60-75	-	-	-	-	55-60	45-55	40-45	130-180	-

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

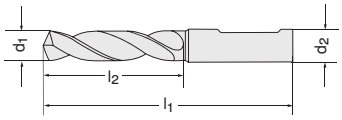
11061 - 11062 Solid Carbide HPC Drills Ultra-M

HPC | 140° | VHM TiAlN Ultra-M | 3xD | Toleranz m 7 | ≤ 850 N/mm² | ≤ 850 N/mm²

ATORN®

Type
- Specially developed carbide for the machining of stainless steels
- Wear-resistant coating
- Cutting edge geometry for stainless steels

Advantage:
- Extremely high feed rates can be achieved
- Optimal heat dissipation



DIN 6535 HA

DIN 6535 HE

11061

11062

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11061	...	DIN 6535 HE 11062	...
3.0	20	62	6		330		330
3.1	20	62	6		331		331
3.2	20	62	6		332		332
3.25	20	62	6		333		333
3.3	20	62	6		334		334
3.4	20	62	6		335		335
3.5	20	62	6		336		336
3.6	20	62	6		337		337
3.7	20	62	6		338		338
3.8	24	66	6		339		339
3.9	24	66	6		340		340
4.0	24	66	6		341		341
4.1	24	66	6		342		342
4.2	24	66	6		343		343
4.3	24	66	6		344		344
4.4	24	66	6		345		345
4.5	24	66	6		346		346
4.6	24	66	6		347		347
4.65	24	66	6		348		348
4.7	24	66	6		349		349
4.8	28	66	6		350		350
4.9	28	66	6		351		351
5.0	28	66	6		352		352
5.1	28	66	6		353		353
5.2	28	66	6		354		354
5.3	28	66	6		355		355
5.4	28	66	6		356		356
5.5	28	66	6		357		357
5.55	28	66	6		358		358
5.6	28	66	6		359		359
5.7	28	66	6		360		360
5.8	28	66	6		361		361
5.9	28	66	6		362		362
6.0	28	66	6		363		363
6.1	34	79	8		364		364
6.2	34	79	8		365		365
6.3	34	79	8		366		366
6.4	34	79	8		367		367
6.5	34	79	8		368		368
6.6	34	79	8		369		369
6.7	34	79	8		370		370
6.8	34	79	8		371		371
6.9	34	79	8		372		372
7.0	34	79	8		373		373
7.1	41	79	8		374		374
7.2	41	79	8		375		375
7.3	41	79	8		376		376
7.4	41	79	8		377		377
7.5	41	79	8		378		378
7.6	41	79	8		379		379
7.7	41	79	8		380		380
7.8	41	79	8		381		381
7.9	41	79	8		382		382

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11061	...	DIN 6535 HE 11062	...
8.0	41	79	8		383		383
8.1	47	89	10		384		384
8.2	47	89	10		385		385
8.3	47	89	10		386		386
8.4	47	89	10		387		387
8.5	47	89	10		388		388
8.6	47	89	10		389		389
8.7	47	89	10		390		390
8.8	47	89	10		391		391
8.9	47	89	10		392		392
9.0	47	89	10		393		393
9.1	47	89	10		394		394
9.2	47	89	10		395		395
9.25	47	89	10		396		396
9.3	47	89	10		397		397
9.4	47	89	10		398		398
9.5	47	89	10		399		399
9.6	47	89	10		400		400
9.7	47	89	10		401		401
9.8	47	89	10		402		402
9.9	47	89	10		403		403
10.0	47	89	10		404		404
10.1	55	102	12		405		405
10.2	55	102	12		406		406
10.3	55	102	12		407		407
10.4	55	102	12		408		408
10.5	55	102	12		409		409
10.6	55	102	12		410		410
10.7	55	102	12		411		411
10.8	55	102	12		412		412
10.9	55	102	12		413		413
11.0	55	102	12		414		414
11.1	55	102	12		415		415
11.2	55	102	12		416		416
11.3	55	102	12		417		417
11.4	55	102	12		418		418
11.5	55	102	12		419		419
11.6	55	102	12		420		420
11.7	55	102	12		421		421
11.8	55	102	12		422		422
11.9	55	102	12		423		423
12.0	55	102	12		424		424
12.5	60	107	14		425		425
12.7	60	107	14		426		426
13.0	60	107	14		427		427
13.5	60	107	14		428		428
14.0	60	107	14		429		429
14.5	65	115	16		430		430
15.0	65	115	16		431		431
15.5	65	115	16		432		432
16.0	65	115	16		433		433
16.5	73	123	18		434		434
16.9	73	123	18		435		435

Continuation ▶

Solid Carbide HPC Drills | Solid Carbide Heavy-Duty Oil Feed Drills

11061 - 11062 Solid Carbide HPC Drills Ultra-M

HPC | 140° | VHM TiAlN Ultra-M | 3xD | Toleranz m7 | ≤ 850 N/mm² | ≤ 850 N/mm²

Continuation ▶

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11061 ...	DIN 6535 HE 11062 ...
17.0	73	123	18	436	436
17.5	73	123	18	437	437
18.0	73	123	18	438	438
18.5	79	131	20	439	439
18.9	79	131	20	440	440
19.0	79	131	20	441	441
19.5	79	131	20	442	442
20.0	79	131	20	443	443

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
-	-	-	-	-	-	-	-	-	-	-	-	-	60-80	50-60	30-35	-	-

11064 - 11065 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | VHM TiAlN+ | 5xD | Uni

ATORN®

Type
- Long Type
- Spiral flutes
- Four-surface grind

Quality
Multi-purpose carbide fine grit/TiAlN plus-coated.

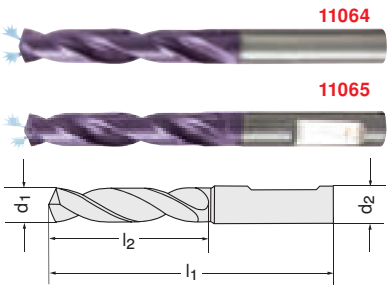
Note:
Drilling tools with internal cooling are of higher performance with coolant pressure of minimum 30 bar. The higher the pressure, the higher the performance. Regrinding of heavy-duty drills possible on any tool grinding machine.

11064
Type
With smooth shank in compliance with **DIN 6535 HA.**

11065
Type
With clamping surface in compliance with **DIN 6535 HE.**

DIN 6535 HA

DIN 6535 HE



d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11064 ...	DIN 6535 HE 11065 ...
3.0	28	66	6	230	430
3.1	28	66	6	231	431
3.2	28	66	6	232	432
3.25	28	66	6	401	601
3.3	28	66	6	233	433
3.4	28	66	6	234	434
3.5	28	66	6	235	435
3.6	28	66	6	236	436
3.7	28	66	6	237	437
3.8	36	74	6	238	438
3.9	36	74	6	239	439
4.0	36	74	6	240	440
4.1	36	74	6	241	441
4.2	36	74	6	242	442
4.3	36	74	6	243	443
4.4	36	74	6	244	444
4.5	36	74	6	245	445
4.6	36	74	6	246	446
4.65	36	74	6	402	602
4.7	36	74	6	247	447
4.8	44	82	6	248	448
4.9	44	82	6	249	449
5.0	44	82	6	250	450
5.1	44	82	6	251	451
5.2	44	82	6	252	452
5.3	44	82	6	253	453
5.4	44	82	6	254	454
5.5	44	82	6	255	455
5.55	44	82	6	403	603
5.6	44	82	6	256	456
5.7	44	82	6	257	457
5.8	44	82	6	258	458
5.9	44	82	6	259	459
6.0	44	82	6	260	460
6.1	53	91	8	261	461
6.2	53	91	8	262	462
6.3	53	91	8	264	464
6.4	53	91	8	263	463
6.5	53	91	8	265	465
6.6	53	91	8	266	466
6.7	53	91	8	267	467
6.8	53	91	8	268	468
6.9	53	91	8	269	469
7.0	53	91	8	270	470
7.1	53	91	8	271	471
7.2	53	91	8	272	472
7.3	53	91	8	273	473
7.4	53	91	8	274	474
7.5	53	91	8	275	475
7.6	53	91	8	276	476
7.7	53	91	8	277	477
7.8	53	91	8	278	478
7.9	53	91	8	279	479
8.0	53	91	8	280	480
8.1	61	103	10	281	481
8.2	61	103	10	282	482
8.3	61	103	10	283	483
8.4	61	103	10	284	484
8.5	61	103	10	285	485
8.6	61	103	10	286	486
8.7	61	103	10	287	487
8.8	61	103	10	288	488
8.9	61	103	10	289	489
9.0	61	103	10	290	490
9.1	61	103	10	291	491
9.2	61	103	10	292	492
9.3	61	103	10	293	493
9.4	61	103	10	294	494
9.5	61	103	10	295	495
9.6	61	103	10	296	496
9.7	61	103	10	297	497
9.8	61	103	10	298	498
9.9	61	103	10	299	499
10.0	61	103	10	300	500
10.1	71	118	12	301	501
10.2	71	118	12	302	502
10.3	71	118	12	303	503
10.4	71	118	12	304	504

Continuation ▶

11064 - 11065 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | VHM TiAlN+ | 5xD | Uni

Continuation ▶

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11064 ...	DIN 6535 HE 11065 ...
10.5	71	118	12	305	505
10.6	71	118	12	306	506
10.7	71	118	12	307	507
10.8	71	118	12	308	508
10.9	71	118	12	309	509
11.0	71	118	12	310	510
11.1	71	118	12	311	511
11.2	71	118	12	312	512
11.3	71	118	12	313	513
11.4	71	118	12	314	514
11.5	71	118	12	315	515
11.6	71	118	12	316	516
11.7	71	118	12	317	517
11.8	71	118	12	318	518
11.9	71	118	12	319	519
12.0	71	118	12	320	520
12.5	77	124	14	325	525
12.8	77	124	14	328	528
13.0	77	124	14	330	530
13.5	77	124	14	335	535
13.8	77	124	14	338	538
14.0	77	124	14	340	540
14.2	83	133	16	342	542
14.5	83	133	16	345	545
14.8	83	133	16	348	548
15.0	83	133	16	350	550
15.1	83	133	16	351	551
15.5	83	133	16	355	555
15.8	83	133	16	358	558
16.0	83	133	16	360	560
16.5	93	143	18	365	565
17.0	93	143	18	370	570
17.5	93	143	18	375	575
18.0	93	143	18	380	580
18.5	101	153	20	385	585
19.0	101	153	20	390	590
19.5	101	153	20	395	595
20.0	101	153	20	400	600

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
260-300	180-220	240-280	145	120-130	105-120	85-120	100-105	-	-	-	-	-	55-60	45-55	40-45	130-180	-

11073 - 11074 Solid Carbide HPC Drills Ultra-M

HPC | 140° | VHM TiAlN Ultra-M | 5xD | Toleranz m 7 | V_c 850 N/mm² | V_c 850 N/mm²

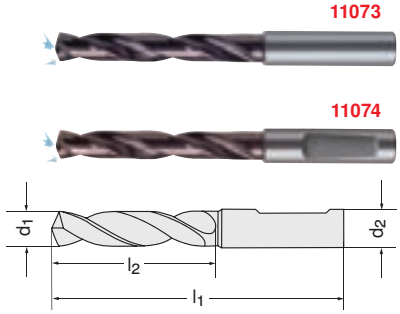
ATORN®

Type
- Specially developed carbide for the machining of stainless steels
- Wear-resistant coating
- Cutting edge geometry for stainless steels

Advantage:
- Extremely high feed rates can be achieved
- Optimal heat dissipation

DIN 6535 HA

DIN 6535 HE



d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11073 ...	DIN 6535 HE 11074 ...
3.0	28	66	6	330	330
3.1	28	66	6	331	331
3.2	28	66	6	332	332
3.25	28	66	6	333	333
3.3	28	66	6	334	334
3.4	28	66	6	335	335
3.5	28	66	6	336	336
3.6	28	66	6	337	337
3.7	28	66	6	338	338
3.8	36	74	6	339	339
3.9	36	74	6	340	340
4.0	36	74	6	341	341
4.1	36	74	6	342	342
4.2	36	74	6	343	343
4.3	36	74	6	344	344
4.4	36	74	6	345	345
4.5	36	74	6	346	346
4.6	36	74	6	347	347
4.65	36	74	6	348	348
4.7	36	74	6	349	349
4.8	44	82	6	350	350
4.9	44	82	6	351	351
5.0	44	82	6	352	352
5.1	44	82	6	353	353
5.2	44	82	6	354	354
5.3	44	82	6	355	355
5.4	44	82	6	356	356
5.5	44	82	6	357	357
5.55	44	82	6	358	358
5.6	44	82	6	359	359
5.7	44	82	6	360	360
5.8	44	82	6	361	361
5.9	44	82	6	362	362
6.0	44	82	6	363	363
6.1	53	91	8	364	364
6.2	53	91	8	365	365
6.3	53	91	8	366	366
6.4	53	91	8	367	367
6,5	53	91	8	368	368
6.6	53	91	8	369	369
6.7	53	91	8	370	370
6.8	53	91	8	371	371
6.9	53	91	8	372	372
7.0	53	91	8	373	373
7.1	53	91	8	374	374
7.2	53	91	8	375	375

Continuation ▶

Solid Carbide HPC Drills | Solid Carbide Drills | Solid Carbide Countersinking Cutters | Solid Carbide Heavy-Duty Oil Feed Drills

11073 - 11074 Solid Carbide HPC Drills Ultra-M

HPC | 140° | VHM TiAlN Ultra-M | 5xD | Toleranz m 7 | ≤ 850 N/mm² | ≤ 850 N/mm²

Continuation ▶

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11073 ...	DIN 6535 HE 11074 ...
7.3	53	91	8	376	376
7.4	53	91	8	377	377
7.5	53	91	8	378	378
7.6	53	91	8	379	379
7.7	53	91	8	380	380
7.8	53	91	8	381	381
7.9	53	91	8	382	382
8.0	53	91	8	383	383
8.1	61	103	10	384	384
8.2	61	103	10	385	385
8.3	61	103	10	386	386
8.4	61	103	10	387	387
8.5	61	103	10	388	388
8.6	61	103	10	389	389
8.7	61	103	10	390	390
8.8	61	103	10	391	391
8.9	61	103	10	392	392
9.0	61	103	10	393	393
9.1	61	103	10	394	394
9.2	61	103	10	395	395
9.3	61	103	10	396	396
9.4	61	103	10	397	397
9.5	61	103	10	398	398
9.6	61	103	10	399	399
9.7	61	103	10	400	400
9.8	61	103	10	401	401
9.9	61	103	10	402	402
10.0	61	103	10	403	403
10.1	71	118	12	404	404
10.2	71	118	12	405	405
10.3	71	118	12	406	406
10.4	71	118	12	407	407
10.5	71	118	12	408	408
10.6	71	118	12	409	409
10.7	71	118	12	410	410

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11073 ...	DIN 6535 HE 11074 ...
10.8	71	118	12	411	411
10.9	71	118	12	412	412
11.0	71	118	12	413	413
11.1	71	118	12	414	414
11.2	71	118	12	415	415
11.3	71	118	12	416	416
11.4	71	118	12	417	417
11.5	71	118	12	418	418
11.6	71	118	12	419	419
11.7	71	118	12	420	420
11.8	71	118	12	421	421
11.9	71	118	12	422	422
12.0	71	118	12	423	423
12.2	77	124	14	424	424
12.5	77	124	14	425	425
12.7	77	124	14	426	426
13.0	77	124	14	427	427
13.5	77	124	14	428	428
14.0	77	124	14	429	429
14.2	83	133	16	430	430
14.5	83	133	16	431	431
15.0	83	133	16	432	432
15.5	83	133	16	433	433
16.0	83	133	16	434	434
16.5	93	143	18	435	435
16.9	93	143	18	436	436
17.0	93	143	18	437	437
17.5	93	143	18	438	438
18.0	93	143	18	439	439
18.5	101	153	20	440	440
18.9	101	153	20	441	441
19.0	101	153	20	442	442
19.5	101	153	20	443	443
20.0	101	153	20	444	444

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
-	-	-	-	-	-	-	-	-	-	-	-	-	60-80	50-60	30-35	-	-

11100 Solid Carbide Drills 180°

Norm | 180° | DIN 6535 HA | VHM TiAlN | 5xD | 45° | Toleranz m 7 | Uni

ATORN®

Type

- Special grind for producing **bores with 180° drill base**
- Minimal radial forces even when spot drilling surfaces inclined to 15°.
- 4 guide chamfers for high alignment accuracy

Advantage:

- 180° point angle enables **drilling and counterboring in one work step**

Note:

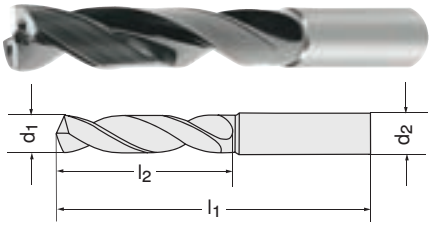
For reliable implementation of the drill, the following one of the following options is strictly required

- *The **setting of a pilot bore 1xD with pilot drill** cat.-no. 11078 or*
- *The **reduction of the feed rate f mm/rev to drilling depth 0,5xD***

(At 0° inclination of the workpiece surface - correction factor f mm/rev x 0,4, to maximum 15° inclination of the workpiece surface - correction factor f mm/rev x 0,25, thereafter a normal feed rate can be used.

NEW

11100



d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11100 ...
8	53	93	8	101
10	61	103	10	102
11	69	116	12	103

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11100 ...
15	81	131	16	104
18	91	141	18	105
20	99	151	20	106

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	100-120	100-115	90-100	75-90	60-75	40-60	35-40	-	-	-	-	30-40	25-30	25-35	80-90	-

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

11090 Solid Carbide Countersinking Cutters

Norm | Z 4 | 140° | DIN 6535 HA | VHM TiAlN | 5xD | H7 | Uni

ATORN®

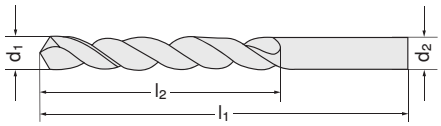
Type
- Drilling and reaming in one work step
- Maximum true-running accuracy
- With 4 reaming chamfers for optimal dimensional accuracy
- Surface quality the same as for reaming

Use
For producing bores in **tolerance zone H7.**

11090

Note:
Coolant pressure at least 30 bar.

NEW



DIN 6535 HA

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11090 ...	
5.98	44	82	6		101
5.99	44	82	6		102
6.00	44	82	6		103
6.01	44	82	6		104
6.02	44	82	6		105
7.98	53	91	8		106
7.99	53	91	8		107
8.00	53	91	8		108

DIN 6535 HA

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11090 ...	
8.01	53	91	8		109
8.02	53	91	8		110
9.98	61	103	10		111
9.99	61	103	10		112
10.00	61	103	10		113
10.01	61	103	10		114
10.02	61	103	10		115
11.98	71	118	12		116

DIN 6535 HA

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11090 ...	
11.99	71	118	12		117
12.00	71	118	12		118
12.01	71	118	12		119
12.02	71	118	12		120
14.00	77	124	14		121
16.00	83	133	16		122

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	100-120	100-115	90-100	75-90	60-75	40-60	35-40	-	-	-	-	30-40	25-30	25-35	80-90	-

11066 - 11067 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | VHM TiAlN+ | 8xD | Uni

ATORN®

Type
- Overlong Type
- Spiral flutes
- Four-surface grind

Quality
Multi-purpose carbide fine grit/TiAlN plus-coated.

Note:
Drilling tools with internal cooling are of higher performance with coolant pressure of minimum 30 bar. The higher the pressure, the higher the performance.
Regrinding of heavy-duty drills possible on any tool grinding machine.

11066
Type
With smooth shank in compliance with **DIN 6535 HA.**

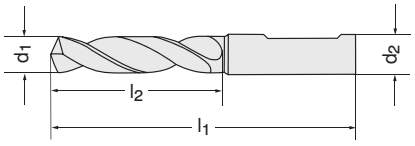
11067
Type
With clamping surface in compliance with **DIN 6535 HE.**

DIN 6535 HA

11066

DIN 6535 HE

11067



DIN 6535 HA | DIN 6535 HE

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	11066 ...		11067 ...	
3.0	30.0	70	6		230		430
3.1	30.0	70	6		231		431
3.2	30.0	70	6		232		432
3.3	30.0	70	6		233		433
3.4	35.5	75	6		234		434
3.5	35.5	75	6		235		435
3.6	35.5	75	6		236		436
3.7	35.5	75	6		237		437
3.8	37.5	75	6		238		438
3.9	37.5	75	6		239		439
4.0	37.5	75	6		240		440
4.1	37.5	75	6		241		441
4.2	37.5	75	6		242		442
4.3	45	85	6		243		443
4.4	45	85	6		244		444
4.5	45	85	6		245		445
4.6	45	85	6		246		446
4.7	45	85	6		247		447
4.8	50	90	6		248		448
4.9	50	90	6		249		449
5.0	50	90	6		250		450

DIN 6535 HA | DIN 6535 HE

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	11066 ...		11067 ...	
5.1	50	90	6		251		451
5.2	50	90	6		252		452
5.3	50	90	6		253		453
5.4	57	97	6		254		454
5.5	57	97	6		255		455
5.7	57	97	6		257		457
5.8	57	97	6		258		458
5.9	57	97	6		259		459
6.0	57	97	6		260		460
6.1	66	106	8		261		461
6.2	66	106	8		262		462
6.3	66	106	8		264		464
6.4	66	106	8		263		463
6.5	66	106	8		265		465
6.6	66	106	8		266		466
6.7	66	106	8		267		467
6.8	66	106	8		268		468
6.9	76	116	8		269		469
7.0	76	116	8		270		470
7.1	76	116	8		271		471
7.2	76	116	8		272		472

Continuation ▶

Solid Carbide Heavy-Duty Drills | Solid Carbide Pilot drills

11066 - 11067 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | VHM TiAlN+ | 8xD | Uni

Continuation ▶

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11066 ...	DIN 6535 HE 11067 ...
7.3	76	116	8	273	473
7.4	76	116	8	274	474
7.5	76	116	8	275	475
7.6	76	116	8	276	476
7.7	76	116	8	277	477
7.8	76	116	8	278	478
7.9	76	116	8	279	479
8.0	76	116	8	280	480
8.1	87	131	10	281	481
8.2	87	131	10	282	482
8.3	87	131	10	283	483
8.4	87	131	10	284	484
8.5	87	131	10	285	485
8.6	87	131	10	286	486
8.7	87	131	10	287	487
8.8	87	131	10	288	488
8.9	87	131	10	289	489
9.0	87	131	10	290	490
9.1	95	139	10	291	491
9.2	95	139	10	292	492
9.3	95	139	10	293	493
9.4	95	139	10	294	494
9.5	95	139	10	295	495
9.6	95	139	10	296	496
9.7	95	139	10	297	497
9.8	95	139	10	298	498
9.9	95	139	10	299	499
10.0	95	139	10	300	500

d_1 m7 mm	l_2 mm	l_1 mm	d_2 h6 mm	DIN 6535 HA 11066 ...	DIN 6535 HE 11067 ...
10.2	106	155	12	302	502
10.5	106	155	12	305	505
10.8	106	155	12	308	508
11.0	106	155	12	310	510
11.2	114	163	12	312	512
11.5	114	163	12	315	515
11.8	114	163	12	318	518
12.0	114	163	12	320	520
12.2	133	182	14	322	522
12.5	133	182	14	325	525
12.7	133	182	14	327	527
13.0	133	182	14	330	530
13.5	133	182	14	335	535
14.0	133	182	14	340	540
14.2	152	204	16	342	542
14.5	152	204	16	345	545
15.0	152	204	16	350	550
15.5	152	204	16	355	555
16.0	152	204	16	360	560
16.5	171	223	18	365	565
17.0	171	223	18	370	570
17.5	171	223	18	375	575
18.0	171	223	18	380	580
18.5	190	244	20	385	585
19.0	190	244	20	390	590
19.5	190	244	20	395	595
20.0	190	244	20	400	600

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
260-300	180-220	240-280	130-145	120-130	105-120	85-120	100-105	-	-	-	-	-	55-60	45-55	40-45	130-180	-

11072 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | DIN 6535 HA | VHM TiAlN | 12xD | Uni

ATORN®

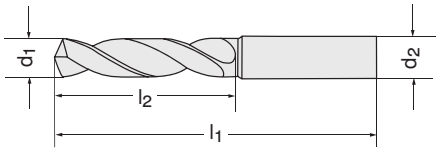
Type

- With reinforced straight shank in compliance with **DIN 6535 HA**
- Reinforced core with special web thinning for high centring accuracy
- Excellent fitting accuracy and stabilisation through **4 guide chamfers**
- The straight main edge, the edge rounding and the shape of the flute produce short chips
- **Entire drill length can be used without venting**
- Excellent surface quality

Quality
Solid carbide finest grit/ TiAlN-coated.

11072

Note:
Drilling tools with internal cooling are of higher performance with coolant pressure of minimum 30 bar. The higher the pressure, the higher the performance. Regrinding of heavy-duty drills possible on any tool grinding machine.



d_1 h7 mm	l_2 mm	l_1 mm	d_2 h5 mm	DIN 6535 HA 11072 ...
3.0	50	90	6	130
3.1	50	90	6	131
3.2	50	90	6	132
3.3	50	90	6	133
3.4	50	90	6	134
3.5	50	90	6	135
3.6	50	90	6	136
3.7	50	90	6	137
3.8	64	102	6	138
3.9	64	102	6	139
4.0	64	102	6	140
4.1	64	102	6	141
4.2	64	102	6	142
4.3	64	102	6	143
4.4	64	102	6	144

d_1 h7 mm	l_2 mm	l_1 mm	d_2 h5 mm	DIN 6535 HA 11072 ...
4.5	64	102	6	145
4.6	64	102	6	146
4.7	64	102	6	147
4.8	78	116	6	148
4.9	78	116	6	149
5.0	78	116	6	150
5.1	78	116	6	151
5.2	78	116	6	152
5.3	78	116	6	153
5.4	78	116	6	154
5.5	78	116	6	155
5.6	78	116	6	156
5.7	78	116	6	157
5.8	78	116	6	158
5.9	78	116	6	159

Continuation ▶

11072 Solid Carbide Heavy-Duty Oil Feed Drills

HPC | 140° | DIN 6535 HA | VHM TiAlN | 12xD | Uni

Continuation ▶

DIN 6535 HA

d_1 h7 mm	l_2 mm	l_1 mm	d_2 h5 mm	11072 ...
6.0	78	116	6	160
6.1	108	146	8	161
6.2	108	146	8	162
6.3	108	146	8	163
6.4	108	146	8	164
6.5	108	146	8	165
6.6	108	146	8	166
6.7	108	146	8	167
6.8	108	146	8	168
6.9	108	146	8	169
7.0	108	146	8	170
7.1	108	146	8	171
7.2	108	146	8	172
7.3	108	146	8	173
7.4	108	146	8	174
7.5	108	146	8	175
7.6	108	146	8	176
7.7	108	146	8	177
7.8	108	146	8	178
7.9	108	146	8	179
8.0	108	146	8	180
8.1	120	162	10	181
8.2	120	162	10	182
8.3	120	162	10	183
8.4	120	162	10	184
8.5	120	162	10	185
8.6	120	162	10	186
8.7	120	162	10	187
8.8	120	162	10	188
8.9	120	162	10	189
9.0	120	162	10	190
9.1	120	162	10	191

DIN 6535 HA

d_1 h7 mm	l_2 mm	l_1 mm	d_2 h5 mm	11072 ...
9.2	120	162	10	192
9.3	120	162	10	193
9.4	120	162	10	194
9.5	120	162	10	195
9.6	120	162	10	196
9.7	120	162	10	197
9.8	120	162	10	198
9.9	120	162	10	199
10.0	120	162	10	200
10.2	156	204	12	202
10.5	156	204	12	205
10.8	156	204	12	208
11.0	156	204	12	210
11.5	156	204	12	215
11.8	156	204	12	218
12.0	156	204	12	220
12.5	182	230	14	225
12.7	182	230	14	227
12.8	182	230	14	228
13.0	182	230	14	230
13.5	182	230	14	235
14.0	182	230	14	240
14.5	208	260	16	245
14.8	208	260	16	248
15.0	208	260	16	250
15.5	208	260	16	255
16.0	208	260	16	260
16.5	234	285	18	265
17.0	234	285	18	270
18.0	234	285	18	280
19.0	258	310	20	290
20.0	258	310	20	300

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-150	110-120	110-120	90-100	80-90	70-80	40-60	40-50	35-40	-	-	-	-	35-45	35-45	-	80-120	-

11078 Solid Carbide Pilot drills

140° | Z 2 | DIN 6535 HA | VHM TiAlN | 5xD | Toleranz m 7

Type

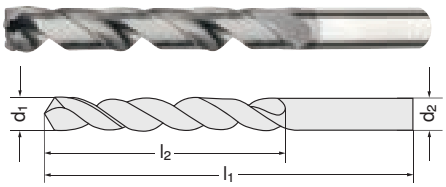
- **Reinforced core with special web thinning**
- Cutting web-thinned chisel edge with **high centring accuracy**
- High alignment accuracy and roundness of the bore through **4 guide chamfers**
- Point angle 140° for optimal generation of a pilot bore

Use

The pilot bore is recommended for deep hole bores from 12 x D and 16 x D.
Starting at drilling depths of 20xD a pilot bore is strictly required.
Setting of a pilot bore always increases the process reliability.

NEW

11078



DIN 6535 HA

d_1 m7 mm	l_2 mm	l_1 mm	d_2 mm	11078 ...
2.02	16	57	3	101
2.22	21	57	3	102
2.32	21	57	3	103
2.42	21	57	3	104
2.52	21	57	3	105
2.72	21	57	3	106
2.82	21	57	3	107
3.02	28	66	6	108
3.22	28	66	6	109
3.32	28	66	6	110
3.52	28	66	6	111
3.82	36	74	6	112

DIN 6535 HA

d_1 m7 mm	l_2 mm	l_1 mm	d_2 mm	11078 ...
4.02	36	74	6	113
4.22	36	74	6	114
4.52	36	74	6	115
4.82	44	82	6	116
5.02	44	82	6	117
5.52	44	82	6	118
5.82	44	82	6	119
6.02	44	82	6	120
6.52	53	91	8	121
6.82	53	91	8	122
7.02	53	91	8	123
7.52	53	91	8	124

DIN 6535 HA

d_1 m7 mm	l_2 mm	l_1 mm	d_2 mm	11078 ...
7.82	53	91	8	125
8.02	53	91	8	126
8.52	61	103	10	127
8.82	61	103	10	128
9.02	61	103	10	129
9.82	61	103	10	130
10.02	61	103	10	131
10.22	71	118	12	132
10.82	71	118	12	133
11.82	71	118	12	134
12.02	71	118	12	135

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	75-85	80-95	75-85	70-75	65-70	55-60	50-55	-	-	-	-	25-30	20-25	25-35	85-105	-

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

Solid Carbide Deep Hole Drills

11079 - 11080 Solid Carbide Deep Hole Drills

HPC | 135° | DIN 6535 HA | VHM TiAlN | 16xD | 20xD | Uni

Type
- Spiral flutes
- With 4 guide chamfers and internal coolant supply
- Polished chip spaces and head coating for trouble-free chip transport
- Maximum cooling channel cross-section for optimal cooling
- High alignment accuracy and roundness of the bore

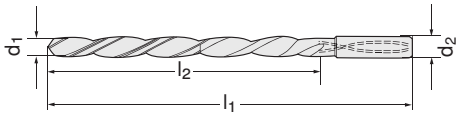
Quality
Solid carbide/TiAlN-coated

NEW

Note:
Minimum coolant pressure 40 bar. *Prior to deep hole drilling, set a pilot bore (min. 1xD) (pilot drills see cat.-no 11078). Enter the pilot bore with approx. 300 rpm at f=500 mm/min. Adjust the coolant lubrication pressure and suitable rpm.*

Continuous drilling all the way to the bottom of the borehole without chip removal cycle. For through-holes with slanted exit, reduce the feed speed Vf by 60 % approx. 1 mm before breakthrough. After reaching the boring depth, switch off rpm and coolant - Remove in rapid feed. All deep hole drills must be guided at the beginning. Deep hole drills must never be moved around with full speed.

11079



16 x D

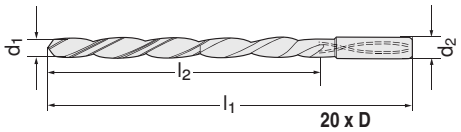
d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11079 ...
3.0	60	100	6	201
3.2	60	100	6	202
3.3	60	100	6	203
3.5	60	100	6	204
3.8	78	115	6	205
4.0	78	115	6	206
4.2	78	115	6	207
4.5	78	115	6	208
4.8	92	130	6	209
5.0	92	130	6	210
5.5	100	145	6	211
5.8	100	145	6	212
6.0	100	145	6	213
6.5	130	170	8	214
6.8	130	170	8	215
7.0	130	170	8	216

16 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11079 ...
7.5	130	170	8	217
7.8	130	170	8	218
8.0	130	170	8	219
8.5	163	208	10	220
8.8	163	208	10	221
9.0	163	208	10	222
9.5	163	208	10	223
9.8	163	208	10	224
10.0	163	208	10	225
10.2	195	245	12	226
10.5	195	245	12	227
10.8	195	245	12	228
11.0	195	245	12	229
11.5	195	245	12	230
11.8	195	245	12	231
12.0	195	245	12	232

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	75-85	80-95	75-85	70-75	65-70	55-60	50-55	-	-	-	-	25-30	20-25	25-35	85-105	-

11080



20 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11080 ...
2.0	50	92	4	201
2.2	50	92	4	202
2.3	50	92	4	203
2.4	70	112	4	204
2.5	70	112	4	205
2.7	70	112	4	206
2.8	70	112	4	207
3.0	80	120	6	209
3.2	80	120	6	210
3.3	80	120	6	211
3.5	80	120	6	212
3.8	90	130	6	213
4.0	90	130	6	214
4.2	110	160	6	215
4.5	110	160	6	216
4.8	110	160	6	218
5.0	110	160	6	219
5.5	140	185	6	220
5.8	140	185	6	221
6.0	140	185	6	222

20 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11080 ...
6.5	155	210	8	223
6.8	160	210	8	224
7.0	160	210	8	225
7.5	180	230	8	226
7.8	180	230	8	227
8.0	180	230	8	228
8.5	195	260	10	229
8.8	230	290	10	230
9.0	230	290	10	231
9.5	230	290	10	232
9.8	230	290	10	233
10.0	230	290	10	234
10.2	270	315	12	235
10.5	270	315	12	236
10.8	270	315	12	237
11.0	270	315	12	238
11.5	270	315	12	239
11.8	270	315	12	240
12.0	270	315	12	241

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	75-85	80-90	70-80	65-70	60-65	55-60	50-55	-	-	-	-	25-30	20-25	25-35	80-100	-

11081 - 11082 Solid Carbide Deep Hole Drills

HPC | 135° | DIN 6535 HA | VHM TiAlN | 25xD | 30xD | Uni

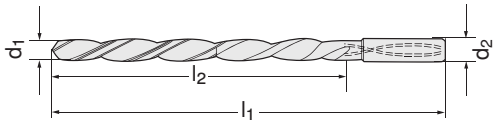
Type
- Spiral flutes
- With 4 guide chamfers and internal coolant supply
- Polished chip spaces and head coating for trouble-free chip transport
- Maximum cooling channel cross-section for optimal cooling
- High alignment accuracy and roundness of the bore

Quality
Solid carbide/TiAlN-coated

NEW

Note:
Minimum coolant pressure 40 bar. *Prior to deep hole drilling, set a pilot bore (min. 1xD) (pilot drills see cat. no 11078). Enter the pilot bore with approx. 300 rpm at f=500 mm/min. Adjust the coolant lubrication pressure and suitable rpm.*

Continuous drilling all the way to the bottom of the borehole without chip removal cycle. For through-holes with slanted exit, reduce the feed speed Vf by 60 % approx. 1 mm before breakthrough. After reaching the boring depth, switch off rpm and coolant - Remove in rapid feed. All deep hole drills must be guided at the beginning. Deep hole drills must never be moved around with full speed.



11081

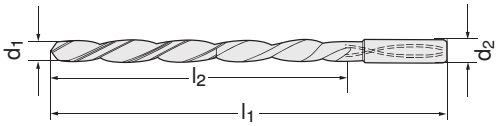
25 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11081 ...	
3.0	98	115	6		201
3.2	98	115	6		202
3.3	110	150	6		203
3.5	110	150	6		204
3.8	120	160	6		205
4.0	120	160	6		206
4.2	120	160	6		207
4.5	135	180	6		208
4.8	135	180	6		209
5.0	135	180	6		210
5.5	168	205	6		211
5.8	168	205	6		212
6.0	168	205	6		213

25 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11081 ...	
6.5	200	240	8		214
6.8	200	240	8		215
7.0	200	240	8		216
7.5	220	260	8		217
7.8	220	260	8		218
8.0	220	260	8		219
8.5	240	285	10		220
8.8	270	310	10		221
9.0	270	310	10		222
9.5	270	310	10		223
9.8	270	310	10		224
10.0	270	310	10		225

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	70-80	75-85	70-75	65-70	60-65	55-60	45-50	-	-	-	-	25-30	20-25	25-35	75-95	-



11082

30 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11082 ...	
2.0	70	115	4		201
2.2	70	115	4		202
2.3	70	115	4		203
2.4	90	138	4		204
2.5	90	138	4		205
2.7	90	138	4		206
2.8	90	138	4		207
3.0	105	150	6		209
3.2	105	150	6		210
3.3	135	185	6		211
3.5	135	185	6		212
3.8	135	185	6		213
4.0	135	185	6		214
4.2	135	185	6		215
4.5	165	215	6		216
4.8	165	215	6		218

30 x D

d_1 mm	l_2 mm	l_1 mm	d_2 h6 mm	11082 ...	
5.0	165	215	6		219
5.5	180	230	6		220
5.8	180	230	6		221
6.0	180	230	6		222
6.5	215	280	8		223
6.8	230	280	8		224
7.0	230	280	8		225
7.5	230	280	8		226
7.8	265	315	8		227
8.0	265	315	8		228
8.5	295	350	10		229
8.8	330	380	10		230
9.0	330	380	10		231
9.5	330	380	10		232
9.8	330	380	10		233
10.0	330	380	10		234

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
140-180	120-140	70-80	70-80	65-70	60-65	55-60	50-55	40-50	-	-	-	-	25-30	20-25	25-35	70-90	-

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

Solid Carbide Heavy-Duty Drills | Solid Carbide Twist Drills | Solid Carbide Thread Boring Tools

11085 - 11086 Solid Carbide Drills AluSpeed®

VHM AluCC | 135° | DIN 6535 HA | HPC | ALU

ATORN®

Type
- **With 6x guide chamfer**
- Polished chip spaces for ideal chip removal
- Aluminium coating for maximum service life

Use
Reliable use even in large-scale production.

Quality
Solid carbide/Alu-CC coated

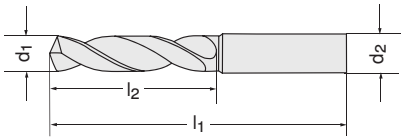
Note:
Minimum coolant pressure 25 bar. Drilling tools with internal cooling are of higher performance with coolant pressure of minimum 30 bar. The higher the pressure, the higher the performance.

5xD

11085

8xD

11086



				5 x D	
d_1m7 mm	l_2 mm	l_1 mm	d_2h6 mm	11085	...
2.5	21	57	4		125
2.8	21	57	4		128
3.0	28	66	6		130
3.25	28	66	6		132
3.3	28	66	6		133
3.5	28	66	6		135
3.8	36	74	6		138
4.0	36	74	6		140
4.2	36	74	6		142
4.5	36	74	6		145
4.6	36	74	6		146
4.65	36	74	6		147
4.8	44	82	6		148
5.0	44	82	6		150
5.5	44	82	6		155
5.8	44	82	6		158
6.0	44	82	6		160
6.5	53	91	8		165
6.8	53	91	8		168
7.0	53	91	8		170
7.4	53	91	8		174
7.45	53	91	8		175
7.8	53	91	8		178
8.0	53	91	8		180
8.5	61	103	10		185
8.8	61	103	10		188
9.0	61	103	10		190
9.35	61	103	10		193
9.8	61	103	10		198
10.0	61	103	10		200
10.2	71	118	12		202
11.0	71	118	12		211
11.2	71	118	12		212
12.0	71	118	12		213
13.0	77	124	14		214
14.0	77	124	14		215
15.0	83	133	16		216
15.5	83	133	16		217
16.0	83	133	16		218
17.0	93	143	18		219
17.5	93	143	18		220
18.0	93	143	18		221
20.0	101	153	20		222

				8 x D	
d_1m7 mm	l_2 mm	l_1 mm	d_2h6 mm	11086	...
2.5	30	66	4		125
3.0	34	72	6		130
3.3	34	72	6		133
3.5	34	72	6		135
3.8	43	81	6		138
4.0	43	81	6		140
4.2	43	81	6		142
4.5	43	81	6		145
4.6	43	81	6		146
4.8	57	95	6		148
5.0	57	95	6		150
5.5	57	95	6		155
5.8	57	95	6		158
6.0	57	95	6		160
6.5	76	114	8		165
6.8	76	114	8		168
7.0	76	114	8		170
7.4	76	114	8		174
7.8	76	114	8		178
8.0	76	114	8		180
8.5	95	142	10		185
8.8	95	142	10		188
9.0	95	142	10		190
9.8	95	142	10		198
10.0	95	142	10		200
10.2	114	162	12		202
11.0	114	162	12		210
12.0	114	162	12		212
13.0	131	178	14		213
14.0	131	178	14		214
15.0	152	203	16		215
15.5	152	203	16		216
16.0	152	203	16		217
17.0	171	222	18		218
17.5	171	222	18		219
18.0	171	222	18		220
20.0	190	243	20		221

Alu unalloyed	Alu wrought alloy Cured	Alu wrought alloy Cured	Al< 6%Si	Al<12%Si	Al>12%Si	Cu Unalloyed	Cu wrought alloy not Cured	Cu wrought alloy Cured	CuNi Alloy	CuNi Alloy L. chipping	Ms L. chipping	Ms S. chipping	Bronze L. chipping	Bronze S. chipping
360	360	400	400	360	350	160	160	160	160	160	200	200	200	200

= Sales are restricted to the packaging units mentioned in the catalogue. Purchase orders must be in units.

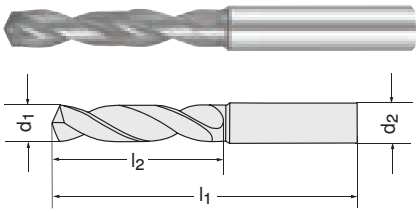
11071 Solid Carbide Twist Drills 65 HRC

140° | HPC | VHM TiAlN | DIN 6535 HA | 65 HRC

Type
- With smooth straight shank
- Structural dimensions in accordance with DIN 6537 K

Quality
Solid carbide finest grit/TiAlN-coated

11071



Solid carbide/TiAlN

d_1 mm	l_2 mm	l_1 mm	d_2 mm	11071 ...
2.00	20	55	4	120
2.50	20	55	4	125
2.55	20	55	4	126 NEW
2.80	20	55	4	128
3.00	20	62	6	130
3.20	20	62	6	132
3.40	20	62	6	134 NEW
3.50	20	62	6	135
3.80	24	66	6	138
4.00	24	66	6	140
4.20	24	66	6	142
4.30	24	66	6	143
4.50	24	66	6	145
4.80	28	66	6	148
5.00	28	66	6	150
5.10	28	66	6	151 NEW
5.20	28	66	6	152
5.50	28	66	6	155

Solid carbide/TiAlN

d_1 mm	l_2 mm	l_1 mm	d_2 mm	11071 ...
5.80	28	66	6	158
6.00	28	66	6	160
6.50	34	79	8	165
6.80	34	79	8	168
6.90	34	79	8	169 NEW
7.00	34	79	8	170
7.50	41	79	8	175
7.80	41	79	8	178
8.00	41	79	8	180
8.50	47	89	10	185
8.60	47	89	10	186 NEW
9.00	47	89	10	190
9.50	47	89	10	195
10.00	47	89	10	200
10.20	55	102	12	202
10.50	55	102	12	205
12.00	55	102	12	220
14.00	60	107	14	240

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<65HRC	VA-steel<900N	VA-steel>900N	Ti alloy	GG(G)	Plastics
-	-	-	-	-	-	-	-	-	25-32	14-25	14-20	10-14	-	-	-	-	-

11069 Solid Carbide Thread Boring Tools

VHM TiN | DIN 6535 HA

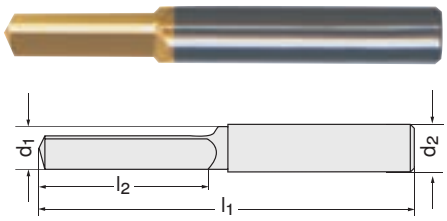
Type
- With straight shank
- Self-centring

Use
For removing broken HSS and HSS-E taps.

Quality
Solid carbide micro finest grit/TiN-coated.

Note:
Stable clamping operation required.
Bore dry and free of cutting oil.

11069



Solid carbide/TiN

d_1 h9 mm	l_2 mm	l_1 mm	d_2 h6 mm	11069 ...
3.3	50	15	6	101
4.2	50	15	6	103
5.0	50	15	6	105

Solid carbide/TiN

d_1 h9 mm	l_2 mm	l_1 mm	d_2 h6 mm	11069 ...
6.8	60	20	8	107
8.5	70	25	10	109
10.2	75	30	12	111

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
-	-	-	-	-	-	-	-	-	-	-	-	25-35	-	-	-	-	-

Carbide Twist Drills | Indexable Insert Drills

11070 Carbide Twist Drills

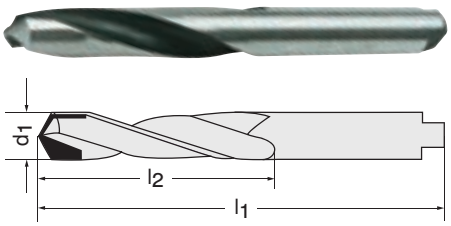
DIN 8037 | 118° | HM K20 | ≤ 1400 N/mm²

Type
- With straight shank
- Ground flute
- With carbide tips

Use
For drilling steel **750 - 1400 N/mm²**, cast steel **above 700 N/mm²**, grey, chilled, malleable cast iron and gun metal, brass, bronze etc.

Quality
Carbide-tipped blades K20.

11070



d_1 h8 mm	l_2 mm	l_1 mm	11070 ...
3.0	20	50	130
3.5	25	56	135
4.0	25	56	140
4.5	28	63	145
5.0	28	63	150
5.5	32	71	155
6.0	32	71	160
6.5	32	71	165

d_1 h8 mm	l_2 mm	l_1 mm	11070 ...
7.0	40	80	170
7.5	40	80	175
8.0	40	80	180
8.5	50	90	185
9.0	50	90	190
9.5	50	90	195
10.0	56	100	200
10.5	56	100	205

d_1 h8 mm	l_2 mm	l_1 mm	11070 ...
11.0	56	100	210
12.0	63	112	220
13.0	63	112	230
14.0	71	125	240
15.0	71	125	250
16.0	80	140	260

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
80-150	50-100	40-90	30-45	20-40	40-65	40-60	30-50	20-30	-	-	-	-	15-30	8-15	18-35	30-80	20-100

11120 Carbide Twist Drills

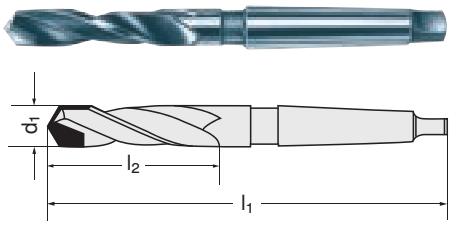
DIN 8041 | 118° | HM K20 | ≤ 1400 N/mm²

Type
- With Morse taper shank
- With carbide tips in accordance with DIN 8010

Use
For drilling steel **750 - 1400 N/mm²**, cast steel **above 700 N/mm²**, grey, chilled, malleable cast iron and gun metal, brass, bronze etc.

Quality
Carbide-tipped blades K10/20

11120



d_1 mm	l_2 mm	l_1 mm	Shank MT	11120 ...
10	50	140	1	101
12	56	146	1	105
13	56	146	1	106

d_1 mm	l_2 mm	l_1 mm	Shank MT	11120 ...
14	63	168	2	107
15	63	168	2	108
16	70	175	2	109

d_1 mm	l_2 mm	l_1 mm	Shank MT	11120 ...
17	70	175	2	110
18	80	185	2	111
20	90	215	3	113

Al<10%Si	Al>10%Si	Cu	St<520N	St<750N	St<900N	St<1100N	St<1200N	St<1400N	<45HRC	<55HRC	<60HRC	<67HRC	VA-steel<900N	VA-steel>900N	Ti alloys	GG(G)	Plastics
80-150	50-100	40-90	30-45	20-40	40-65	40-60	30-50	20-30	-	-	-	-	15-30	8-15	18-35	30-80	20-100

Info The HHW colour-code system

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

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

Use
Solid carbide types
Coating

P M K
H 42
coated
18674

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

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