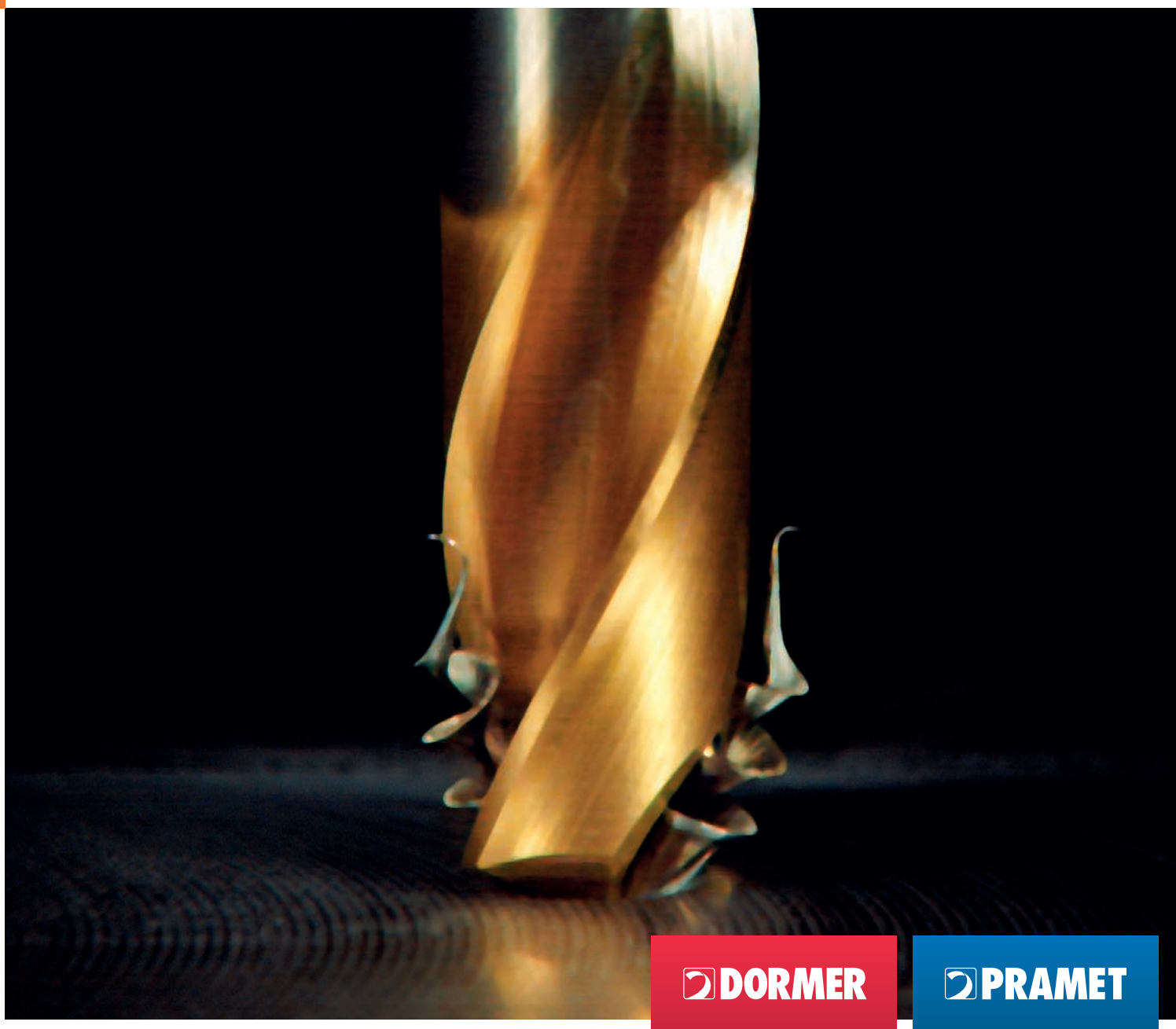
DORMER PRAMET

HOLEMAKING

2024



DORMER

PRAMET

HOLEMAKING – GENERAL CONTENT

HOLEMAKING

Tools for basic manufacturing, construction, maintenance, repair, overhaul. Typically used with power tools and conventional machines. Suitable for low cutting parameters.

Tools for mixed manufacturing. Typically used with conventional machines with machine feed and CNC. Suitable for moderate cutting parameters.

Tools for process security and productivity. Typically used with CNC and automated manufacturing. Suitable for high cutting parameters.

INSTRUCTIONS

DORMER — SOLID ROUND TOOLS – CONTENT (ALPHABETICAL)

PRAMET — INDEXABLE TOOLS – CONTENT (ALPHABETICAL)

INDEXABLE INSERTS – CONTENT (ALPHABETICAL)

**TOOLS FOR BASIC MANUFACTURING, CONSTRUCTION,
MAINTENANCE, REPAIR, OVERHAUL.
TYPICALLY USED WITH POWER TOOLS AND CONVENTIONAL MACHINES.**

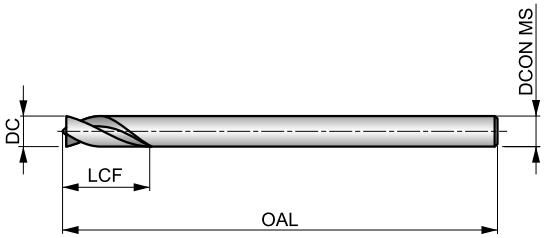
Material code (BMC)	HSS-E	HSS	HSS	HSS	HSS	HSS							
Basic standard group (BSG)	DORMER	DIN 1897	DIN 1897	DIN 1897	DIN 1897	DIN ANSI							
Usable length (ULDR)	1×D	1×D	1.25×D	1.5×D	2.5×D	2.5×D							
Application angle	180°	90°/120°	120°	120°	135°	135°							
Coating	Bronze	Bright	ST	ST	ST	TiN-Tip							
Shank													
Spiral form	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°							
Hand (Cutting direction)	R	R	R	R	R	R							
													
Product Family Code	A723	A122	A119	A123	A120	A022							
PSF cutting diameters range	6.00 - 8.00	6.00 - 20.00	3.30 - 5.10	3/32 - 1/4	0.50 - 25.00	0.50 - 16.00							
	8	9	10	11	12	14							
P P1	■	■	■	■	■	■							
P2	◪	■	◪	■	■	■							
P3	◪	◪	◪	◪	■	■							
P4	◪	◪	◪	◪	◪	■							
M M1		◪	◪	◪	■	■							
M2		◪	◪	◪	■	■							
M3		◪	◪	◪	◪	◪							
M4		◪	◪	◪	◪	◪							
K K1		◪			■	■							
K2		◪			■	■							
K3		◪			■	■							
K4		◪			◪	◪							
K5		◪			■	■							
N N1		■	◪	■	◪	■							
N2		◪	◪	◪	◪	■							
N3		■	◪	■	◪	◪							
N4		◪	◪	◪	◪	◪							
N5													
S S1		◪	◪	◪	◪	◪							
S2		◪	◪	◪	◪	◪							
S3		◪	◪	◪	◪	◪							
S4		◪	◪	◪	◪	◪							
H H1													
H2													
H3													
H4													

■ Primary use ◪ Possible use

A723

HSS-E (5% Cobalt) Spot Weld Drill, Bronze Tempered Surface Finish

Drill with specially designed lip and spur point to remove or "drill out" spot welded areas, commonly for removing welds in a vehicle repair shop. Short flute length makes it more sturdy and less prone to shattering when being used in a hand-held device. The bronze finish is a thin oxide layer and an indication for Cobalt.



HSS-E	DORMER	1×D
Bronze		λ 20-35°
R	DC h8	

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P3.1	P3.2	P4.1
■ 33 D	■ 37 D	■ 38 D	■ 28 D	◪ 25 C	◪ 20 C	◪ 20 C	◪ 20 C

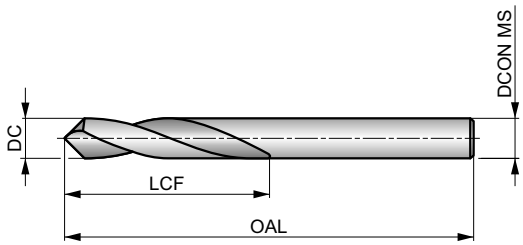
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A7236.0X66	6.00	0.2362	18.0	66.0	6.00
A7236.0X93	6.00	0.2362	18.0	93.0	6.00
A7238.0X79	8.00	0.3150	24.0	79.0	8.00
A7238.0X117	8.00	0.3150	24.0	117.0	8.00

A122

DORMER

HSS Spotting Drill, Bright Finish

Used to create a hole in the material to be drilled to ensure the start point is accurate. Comes with either a 90° or 120° point angle, giving you two options of countersink. Bright surface finish. Suitable for drilling in many materials.



HSS	DIN 1897	1×D
90°/120°	Bright	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

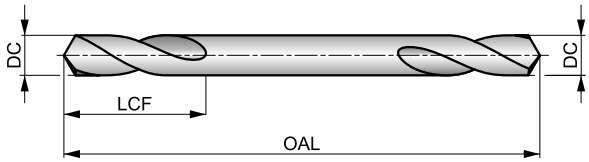
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■36 E	■40 E	■41 E	■31 E	■27 C	◪24 C	◪21 C	◪17 C	◪14 C	◪12 C	◪10 C	◪9 B	◪22 C	◪19 C
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪20 C	◪16 C	◪10 D	◪9 D	◪8 D	◪10 B	◪32 E	◪24 C	◪18 C	◪25 C	◪20 C	◪16 B	◪22 C	◪17 C
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 B	◪20 C	◪15 C	◪11 B	◪10 B	◪8 B	◪23 C	◪17 C	◪13 B	■33 E	■25 E	■17 E	◪46 D	◪42 D
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪30 D	■56 D	■33 E	■17 D	◪30 F	◪35 E	◪17 D	◪27 C	◪12 B	◪7 A	◪11 C	◪6 A	◪8 C	◪4 A
S4.1	**S4.2**												
◪6 C	◪3 A												

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1226.0X90	6.00	0.2362	30.0	66.0	6.00
A1226.0X120	6.00	0.2362	30.0	66.0	6.00
A1228.0X90	8.00	0.3150	33.0	79.0	8.00
A1228.0X120	8.00	0.3150	33.0	79.0	8.00
A12210.0X90	10.00	0.3937	35.0	89.0	10.00
A12210.0X120	10.00	0.3937	35.0	89.0	10.00
A12212.0X90	12.00	0.4724	40.0	102.0	12.00
A12212.0X120	12.00	0.4724	40.0	102.0	12.00
A12216.0X90	16.00	0.6299	40.0	115.0	16.00
A12216.0X120	16.00	0.6299	40.0	115.0	16.00
A12220.0X90	20.00	0.7874	55.0	131.0	20.00

A119

HSS Double Ended Stub Drill, Steam Tempered Finish

A short double-ended drill designed for drilling holes through sheet metal. Possible to use both ends, giving twice the tool life. A 120° conventional point to aid self-centering. Suitable for drilling in many materials. Steam tempered finish retains cutting fluid and prevents chip to tool welding.



HSS	DIN 1897	1.25×D
120°	ST	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■31 C	■34 C	■35 C	■26 C	◪23 C	◪20 C	◪12 C	◪9 C	◪8 C	◪7 C	◪6 C	◪5 A	◪21 A	◪17 A
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**
◪18 A	◪15 A	◪8 C	◪7 C	◪6 C	◪10 A	◪33 C	◪25 C	◪17 C	◪46 C	◪42 C	◪30 C	◪56 C	◪33 C
N3.3	**N4.1**	**N4.2**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**		
◪17 A	◪30 I	◪35 C	◪27 A	◪12 A	◪7 A	◪5 C	◪4 C	◪4 C	◪3 C	◪3 C	◪2 C		

Sheet Metal Drill.

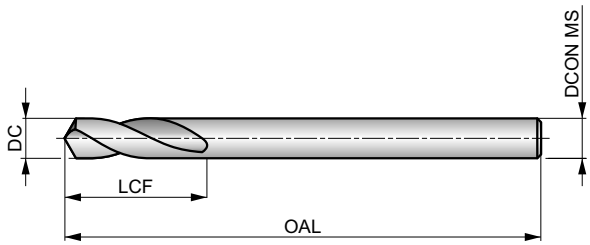
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1193.3	3.30	0.1299	11.0	49.0	3.30
A1193.6	3.60	0.1417	12.0	52.0	3.60
A1194.1	4.10	0.1614	14.0	55.0	4.10
A1194.2	4.20	0.1654	14.0	55.0	4.20
A1194.9	4.90	0.1929	17.0	62.0	4.90
A1195.1	5.10	0.2008	17.0	62.0	5.10

A123

DORMER

HSS Stub Drill, Steam Tempered Finish, for Sheet Metal

Specially designed for drilling thin materials and sheet metal. A 120° point and a steam tempered finish which stops workpiece material from sticking to the cutting edge, giving a better hole finish and more accurate diameter. Suitable for drilling in many materials.



HSS	DIN 1897	1.5×D
120°	ST	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■36 E	■40 E	■41 E	■31 E	■27 C	◪24 C	◪21 C	◪17 C	◪14 C	◪12 C	◪10 C	◪9 B	◪22 C	◪19 C
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**
◪20 C	◪16 C	◪10 D	◪9 D	◪8 D	◪10 B	■33 E	■25 E	■17 E	◪46 D	◪42 D	◪30 D	■56 D	■33 E
N3.3	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**	
■17 D	◪30 F	◪35 E	◪17 D	◪27 C	◪12 B	◪7 A	◪11 C	◪6 A	◪8 C	◪4 A	◪6 C	◪3 A	

Sheet Metal Drill.

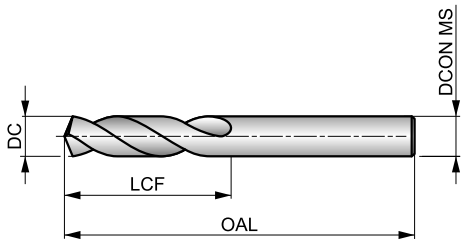
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1233/32S	3/32	2.38	0.0937	14.0	43.0	2.38
A1232.5S	–	2.50	0.0984	14.0	43.0	2.50
A1233.0S	–	3.00	0.1181	16.0	46.0	3.00
A1231/8S	1/8	3.18	0.1250	18.0	49.0	3.18
A1233.2S	–	3.20	0.1260	18.0	49.0	3.20
A1233.3S	–	3.30	0.1299	18.0	49.0	3.30
A1233.5S	–	3.50	0.1378	18.0	52.0	3.50
A1233.7S	–	3.70	0.1457	18.0	52.0	3.70
A1235/32S	5/32	3.97	0.1563	18.0	55.0	3.97
A1234.0S	–	4.00	0.1575	18.0	55.0	4.00
A1234.1S	–	4.10	0.1614	18.0	55.0	4.10
A1234.2S	–	4.20	0.1654	18.0	55.0	4.20
A1234.5S	–	4.50	0.1772	18.0	58.0	4.50
A1233/16S	3/16	4.76	0.1875	18.0	62.0	4.76
A1234.8S	–	4.80	0.1890	18.0	62.0	4.80
A1234.9S	–	4.90	0.1929	18.0	62.0	4.90
A1235.0S	–	5.00	0.1969	18.0	62.0	5.00
A1235.5S	–	5.50	0.2165	18.0	66.0	5.50
A1237/32S	7/32	5.56	0.2188	18.0	66.0	5.56
A1236.0S	–	6.00	0.2362	18.0	66.0	6.00
A1231/4S	1/4	6.35	0.2500	19.0	70.0	6.35

A120

DORMER

HSS Stub Drill, Steam Tempered Finish

Versatile drill with Steam tempered finish. A 135° split point reduces the forces when drilling and prevents the drill from wandering over the surface of the material. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for hand-held and machine drilling of many materials.



HSS	DIN 1897	2.5×D
135°	ST	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■36 J	■40 J	■41 J	■31 J	■27 G	◪24 F	■21 G	■17 G	◪14 F	■12 G	◪10 F	◪9 E	■22 F	■19 F
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■20 F	■16 F	◪10 H	◪9 H	◪8 H	◪10 D	■32 J	■24 G	■18 G	■25 F	■20 F	◪16 F	■22 F	■17 F
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 F	■20 F	■15 F	◪11 F	◪10 F	◪8 F	■23 F	■17 F	◪13 F	◪33 K	◪25 K	◪17 J	◪46 I	◪42 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪30 I	◪64 I	◪38 J	◪19 H	◪30 K	◪35 I	◪17 G	■27 G	◪16 E	◪8 C	◪11 F	◪6 B	◪8 F	◪4 B
S4.1	**S4.2**												
◪6 F	◪3 B												

DC < 1mm Bright; 2.9mm => DC > 13.0mm 118° Point.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A120.5	–	0.50	0.0197	3.0	20.0	0.50
A120.6	–	0.60	0.0236	3.5	21.0	0.60
A120.7	–	0.70	0.0276	4.5	23.0	0.70
A1201/32	1/32	0.79	0.0313	5.0	24.0	0.79
A120.8	–	0.80	0.0315	5.0	24.0	0.80
A120.9	–	0.90	0.0354	5.5	25.0	0.90
A1201.0	–	1.00	0.0394	6.0	26.0	1.00
A1201.1	–	1.10	0.0433	7.0	28.0	1.10
A1201.2	–	1.20	0.0472	8.0	30.0	1.20
A1201.3	–	1.30	0.0512	8.0	30.0	1.30
A1201.4	–	1.40	0.0551	9.0	32.0	1.40
A1201.5	–	1.50	0.0591	9.0	32.0	1.50
A1201/16	1/16	1.59	0.0625	10.0	34.0	1.59
A1201.6	–	1.60	0.0630	10.0	34.0	1.60
A1201.7	–	1.70	0.0669	10.0	34.0	1.70
A1201.8	–	1.80	0.0709	11.0	36.0	1.80
A1201.9	–	1.90	0.0748	11.0	36.0	1.90
A1205/64	5/64	1.98	0.0781	12.0	38.0	1.98
A1202.0	–	2.00	0.0787	12.0	38.0	2.00
A1202.1	–	2.10	0.0827	12.0	38.0	2.10
A1202.2	–	2.20	0.0866	13.0	40.0	2.20
A1202.25	–	2.25	0.0886	13.0	40.0	2.25
A1202.3	–	2.30	0.0906	13.0	40.0	2.30

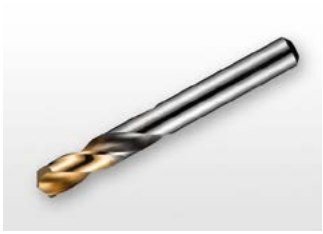
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1203/32	3/32	2.38	0.0938	14.0	43.0	2.38
A1202.4	–	2.40	0.0945	14.0	43.0	2.40
A1202.5	–	2.50	0.0984	14.0	43.0	2.50
A1202.6	–	2.60	0.1024	14.0	43.0	2.60
A1202.7	–	2.70	0.1063	16.0	46.0	2.70
A1207/64	7/64	2.78	0.1094	16.0	46.0	2.78
A1202.8	–	2.80	0.1102	16.0	46.0	2.80
A1202.9	–	2.90	0.1142	16.0	46.0	2.90
A1203.0	–	3.00	0.1181	16.0	46.0	3.00
A1203.1	–	3.10	0.1220	18.0	49.0	3.10
A1201/8	1/8	3.18	0.1250	18.0	49.0	3.18
A1203.2	–	3.20	0.1260	18.0	49.0	3.20
A1203.25	–	3.25	0.1280	18.0	49.0	3.25
A1203.3	–	3.30	0.1299	18.0	49.0	3.30
A1203.4	–	3.40	0.1339	20.0	52.0	3.40
A1203.5	–	3.50	0.1378	20.0	52.0	3.50
A1209/64	9/64	3.57	0.1406	20.0	52.0	3.57
A1203.6	–	3.60	0.1417	20.0	52.0	3.60
A1203.7	–	3.70	0.1457	20.0	52.0	3.70
A1203.8	–	3.80	0.1496	22.0	55.0	3.80
A1203.9	–	3.90	0.1535	22.0	55.0	3.90
A1205/32	5/32	3.97	0.1563	22.0	55.0	3.97
A1204.0	–	4.00	0.1575	22.0	55.0	4.00

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1204.1	–	4.10	0.1614	22.0	55.0	4.10
A1204.2	–	4.20	0.1654	22.0	55.0	4.20
A1204.3	–	4.30	0.1693	24.0	58.0	4.30
A12011/64	11/64	4.37	0.1719	24.0	58.0	4.37
A1204.4	–	4.40	0.1732	24.0	58.0	4.40
A1204.5	–	4.50	0.1772	24.0	58.0	4.50
A1204.6	–	4.60	0.1811	24.0	58.0	4.60
A1204.7	–	4.70	0.1850	24.0	58.0	4.70
A1203/16	3/16	4.76	0.1875	26.0	62.0	4.76
A1204.8	–	4.80	0.1890	26.0	62.0	4.80
A1204.9	–	4.90	0.1929	26.0	62.0	4.90
A1205.0	–	5.00	0.1969	26.0	62.0	5.00
A1205.1	–	5.10	0.2008	26.0	62.0	5.10
A12013/64	13/64	5.16	0.2031	26.0	62.0	5.16
A1205.2	–	5.20	0.2047	26.0	62.0	5.20
A1205.3	–	5.30	0.2087	26.0	62.0	5.30
A1205.4	–	5.40	0.2126	28.0	66.0	5.40
A1205.5	–	5.50	0.2165	28.0	66.0	5.50
A1207/32	7/32	5.56	0.2188	28.0	66.0	5.56
A1205.6	–	5.60	0.2205	28.0	66.0	5.60
A1205.7	–	5.70	0.2244	28.0	66.0	5.70
A1205.8	–	5.80	0.2283	28.0	66.0	5.80
A1205.9	–	5.90	0.2323	28.0	66.0	5.90
A12015/64	15/64	5.95	0.2344	28.0	66.0	5.95
A1206.0	–	6.00	0.2362	28.0	66.0	6.00
A1206.1	–	6.10	0.2402	31.0	70.0	6.10
A1206.2	–	6.20	0.2441	31.0	70.0	6.20
A1206.3	–	6.30	0.2480	31.0	70.0	6.30
A1201/4	1/4	6.35	0.2500	31.0	70.0	6.35
A1206.4	–	6.40	0.2520	31.0	70.0	6.40
A1206.5	–	6.50	0.2559	31.0	70.0	6.50
A1206.6	–	6.60	0.2598	31.0	70.0	6.60
A1206.7	–	6.70	0.2638	31.0	70.0	6.70
A1206.8	–	6.80	0.2677	34.0	74.0	6.80
A1206.9	–	6.90	0.2717	34.0	74.0	6.90
A1207.0	–	7.00	0.2756	34.0	74.0	7.00
A1207.1	–	7.10	0.2795	34.0	74.0	7.10
A1209/32	9/32	7.14	0.2813	34.0	74.0	7.14
A1207.2	–	7.20	0.2835	34.0	74.0	7.20
A1207.3	–	7.30	0.2874	34.0	74.0	7.30
A1207.4	–	7.40	0.2913	34.0	74.0	7.40
A1207.5	–	7.50	0.2953	34.0	74.0	7.50
A1207.6	–	7.60	0.2992	37.0	79.0	7.60
A1207.7	–	7.70	0.3031	37.0	79.0	7.70
A1207.8	–	7.80	0.3071	37.0	79.0	7.80
A1207.9	–	7.90	0.3110	37.0	79.0	7.90
A1205/16	5/16	7.94	0.3125	37.0	79.0	7.94
A1208.0	–	8.00	0.3150	37.0	79.0	8.00
A1208.1	–	8.10	0.3189	37.0	79.0	8.10
A1208.2	–	8.20	0.3228	37.0	79.0	8.20
A1208.3	–	8.30	0.3268	37.0	79.0	8.30
A1208.4	–	8.40	0.3307	37.0	79.0	8.40
A1208.5	–	8.50	0.3346	37.0	79.0	8.50
A1208.6	–	8.60	0.3386	40.0	84.0	8.60

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1208.7	–	8.70	0.3425	40.0	84.0	8.70
A12011/32	11/32	8.73	0.3438	40.0	84.0	8.73
A1208.8	–	8.80	0.3465	40.0	84.0	8.80
A1208.9	–	8.90	0.3504	40.0	84.0	8.90
A1209.0	–	9.00	0.3543	40.0	84.0	9.00
A1209.1	–	9.10	0.3583	40.0	84.0	9.10
A1209.2	–	9.20	0.3622	40.0	84.0	9.20
A1209.3	–	9.30	0.3661	40.0	84.0	9.30
A1209.4	–	9.40	0.3701	40.0	84.0	9.40
A1209.5	–	9.50	0.3740	40.0	84.0	9.50
A1203/8	3/8	9.52	0.3750	43.0	89.0	9.52
A1209.6	–	9.60	0.3780	43.0	89.0	9.60
A1209.7	–	9.70	0.3819	43.0	89.0	9.70
A1209.8	–	9.80	0.3858	43.0	89.0	9.80
A1209.9	–	9.90	0.3898	43.0	89.0	9.90
A12010.0	–	10.00	0.3937	43.0	89.0	10.00
A12010.1	–	10.10	0.3976	43.0	89.0	10.10
A12010.2	–	10.20	0.4016	43.0	89.0	10.20
A12010.3	–	10.30	0.4055	43.0	89.0	10.30
A12010.5	–	10.50	0.4134	43.0	89.0	10.50
A12010.8	–	10.80	0.4252	47.0	95.0	10.80
A12011.0	–	11.00	0.4331	47.0	95.0	11.00
A1207/16	7/16	11.11	0.4375	47.0	95.0	11.11
A12011.3	–	11.30	0.4449	47.0	95.0	11.30
A12011.5	–	11.50	0.4528	47.0	95.0	11.50
A12011.7	–	11.70	0.4606	47.0	95.0	11.70
A12011.8	–	11.80	0.4646	47.0	95.0	11.80
A12012.0	–	12.00	0.4724	51.0	102.0	12.00
A12012.1	–	12.10	0.4764	51.0	102.0	12.10
A12012.2	–	12.20	0.4803	51.0	102.0	12.20
A12012.5	–	12.50	0.4921	51.0	102.0	12.50
A1201/2	1/2	12.70	0.5000	51.0	102.0	12.70
A12013.0	–	13.00	0.5118	51.0	102.0	13.00
A12013.5	–	13.50	0.5315	54.0	107.0	13.50
A12014.0	–	14.00	0.5512	54.0	107.0	14.00
A1209/16	9/16	14.29	0.5625	56.0	111.0	14.29
A12014.5	–	14.50	0.5709	56.0	111.0	14.50
A12015.0	–	15.00	0.5906	56.0	111.0	15.00
A12015.5	–	15.50	0.6102	58.0	115.0	15.50
A1205/8	5/8	15.88	0.6250	58.0	115.0	15.88
A12016.0	–	16.00	0.6299	58.0	115.0	16.00
A12016.5	–	16.50	0.6496	60.0	119.0	16.50
A12017.0	–	17.00	0.6693	60.0	119.0	17.00
A12011/16	11/16	17.46	0.6875	62.0	123.0	17.46
A12017.5	–	17.50	0.6890	62.0	123.0	17.50
A12018.0	–	18.00	0.7087	62.0	123.0	18.00
A12018.5	–	18.50	0.7283	64.0	127.0	18.50
A12019.0	–	19.00	0.7480	64.0	127.0	19.00
A12020.0	–	20.00	0.7874	66.0	131.0	20.00
A12020.5	–	20.50	0.8071	68.0	136.0	20.50
A12013/16	13/16	20.64	0.8125	68.0	136.0	20.64
A12021.0	–	21.00	0.8268	68.0	136.0	21.00
A12022.0	–	22.00	0.8661	70.0	141.0	22.00
A12025.0	–	25.00	0.9843	75.0	151.0	25.00

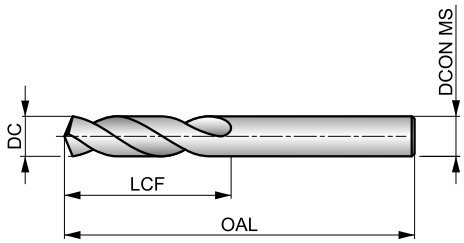
A022

DORMER



HSS Stub Drill, TiN-Tip Coated

Versatile drill with a specially designed 135° split point which helps self-centering when drilling by hand and in machines provides a more accurate hole with a better quality of finish. Suitable for drilling many materials. TiN-Tip coating improves performance and extends the tool life.



HSS	DIN ANSI	2.5×D
135°	TiN-Tip	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 K	■37 K	■38 K	■28 K	■25 I	■22 G	■24 H	■19 H	■16 G	■14 H	■12 G	◪10 E	■21 G	■17 G
M2.1	M2.2	M3.1	M3.2	M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2
■18 G	■15 G	◪9 I	◪8 I	◪7 I	◪9 E	■32 K	■24 I	■18 I	■25 G	■20 G	◪16 G	■22 G	■17 G
K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2
◪13 G	■20 G	■15 G	◪11 G	◪10 G	◪8 G	■23 G	■17 G	◪13 G	■40 F	■30 F	■20 K	■49 J	■44 J
N2.3	N3.1	N3.2	N3.3	N4.1	N4.2	N4.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2
■32 J	◪64 I	◪38 K	◪19 H	◪30 K	◪35 I	◪17 G	■25 I	◪14 F	◪8 C	◪11 F	◪6 B	◪8 F	◪4 B
S4.1	S4.2												
◪6 F	◪3 B												

DC < 2mm Bright; DC >= 2mm TiN Tipped and Split Point.
Products from this series are also available in set. Please see A088.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A022.5	–	0.50	0.0197	3.0	20.0	0.50
A022.6	–	0.60	0.0236	3.5	21.0	0.60
A022.7	–	0.70	0.0276	4.5	23.0	0.70
A0221/32	1/32	0.79	0.0313	13.0	35.0	0.79
A022.8	–	0.80	0.0315	5.0	24.0	0.80
A022.9	–	0.90	0.0354	5.5	25.0	0.90
A0221.0	–	1.00	0.0394	6.0	26.0	1.00
A0221.1	–	1.10	0.0433	7.0	28.0	1.10
A0223/64	3/64	1.19	0.0469	13.0	35.0	1.19
A0221.2	–	1.20	0.0472	8.0	30.0	1.20
A0221.3	–	1.30	0.0512	8.0	30.0	1.30
A0221.4	–	1.40	0.0551	9.0	32.0	1.40
A0221.5	–	1.50	0.0591	9.0	32.0	1.50
A0221/16	1/16	1.59	0.0625	16.0	41.0	1.59
A0221.6	–	1.60	0.0630	10.0	34.0	1.60
A0221.7	–	1.70	0.0669	10.0	34.0	1.70
A0221.8	–	1.80	0.0709	11.0	36.0	1.80
A0221.9	–	1.90	0.0748	11.0	36.0	1.90
A0225/64	5/64	1.98	0.0781	17.0	43.0	1.98
A0222.0	–	2.00	0.0787	12.0	38.0	2.00
A0222.1	–	2.10	0.0827	12.0	38.0	2.10
A0222.2	–	2.20	0.0866	13.0	40.0	2.20

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A0222.25	–	2.25	0.0886	13.0	40.0	2.25
A0222.3	–	2.30	0.0906	13.0	40.0	2.30
A0223/32	3/32	2.38	0.0938	20.0	45.0	2.38
A0222.4	–	2.40	0.0945	14.0	43.0	2.40
A0222.5	–	2.50	0.0984	14.0	43.0	2.50
A0222.6	–	2.60	0.1024	14.0	43.0	2.60
A0222.65	–	2.65	0.1043	14.0	43.0	2.65
A0222.7	–	2.70	0.1063	16.0	46.0	2.70
A0227/64	7/64	2.78	0.1094	22.0	47.0	2.78
A0222.8	–	2.80	0.1102	16.0	46.0	2.80
A0222.9	–	2.90	0.1142	16.0	46.0	2.90
A0223.0	–	3.00	0.1181	16.0	46.0	3.00
A0223.1	–	3.10	0.1220	18.0	49.0	3.10
A0221/8	1/8	3.18	0.1250	23.0	49.0	3.18
A0223.2	–	3.20	0.1260	18.0	49.0	3.20
A0223.25	–	3.25	0.1280	18.0	49.0	3.25
A0223.3	–	3.30	0.1299	18.0	49.0	3.30
A0223.4	–	3.40	0.1339	20.0	52.0	3.40
A0223.5	–	3.50	0.1378	20.0	52.0	3.50
A0229/64	9/64	3.57	0.1406	25.0	50.0	3.57
A0223.6	–	3.60	0.1417	20.0	52.0	3.60
A0223.7	–	3.70	0.1457	20.0	52.0	3.70

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A0223.8	–	3.80	0.1496	22.0	55.0	3.80
A0223.9	–	3.90	0.1535	22.0	55.0	3.90
A0225/32	5/32	3.97	0.1563	26.0	53.0	3.97
A0224.0	–	4.00	0.1575	22.0	55.0	4.00
A0224.1	–	4.10	0.1614	22.0	55.0	4.10
A0224.2	–	4.20	0.1654	22.0	55.0	4.20
A0224.3	–	4.30	0.1693	24.0	58.0	4.30
A02211/64	11/64	4.37	0.1719	28.0	55.0	4.37
A0224.4	–	4.40	0.1732	24.0	58.0	4.40
A0224.5	–	4.50	0.1772	24.0	58.0	4.50
A0224.6	–	4.60	0.1811	24.0	58.0	4.60
A0224.7	–	4.70	0.1850	24.0	58.0	4.70
A0223/16	3/16	4.76	0.1875	30.0	57.0	4.76
A0224.8	–	4.80	0.1890	26.0	62.0	4.80
A0224.9	–	4.90	0.1929	26.0	62.0	4.90
A0225.0	–	5.00	0.1969	26.0	62.0	5.00
A0225.1	–	5.10	0.2008	26.0	62.0	5.10
A02213/64	13/64	5.16	0.2031	31.0	58.0	5.16
A0225.2	–	5.20	0.2047	26.0	62.0	5.20
A0225.3	–	5.30	0.2087	26.0	62.0	5.30
A0225.4	–	5.40	0.2126	28.0	66.0	5.40
A0225.5	–	5.50	0.2165	28.0	66.0	5.50
A0227/32	7/32	5.56	0.2188	33.0	61.0	5.56
A0225.6	–	5.60	0.2205	28.0	66.0	5.60
A0225.7	–	5.70	0.2244	28.0	66.0	5.70
A0225.8	–	5.80	0.2283	28.0	66.0	5.80
A0225.9	–	5.90	0.2323	28.0	66.0	5.90
A02215/64	15/64	5.95	0.2344	34.0	63.0	5.95
A0226.0	–	6.00	0.2362	28.0	66.0	6.00
A0226.1	–	6.10	0.2402	31.0	70.0	6.10
A0226.2	–	6.20	0.2441	31.0	70.0	6.20
A0226.3	–	6.30	0.2480	31.0	70.0	6.30
A0221/4	1/4	6.35	0.2500	36.0	65.0	6.35
A0226.4	–	6.40	0.2520	31.0	70.0	6.40
A0226.5	–	6.50	0.2559	31.0	70.0	6.50
A0226.6	–	6.60	0.2598	31.0	70.0	6.60
A0226.7	–	6.70	0.2638	31.0	70.0	6.70
A0226.8	–	6.80	0.2677	34.0	74.0	6.80
A0226.9	–	6.90	0.2717	34.0	74.0	6.90
A0227.0	–	7.00	0.2756	34.0	74.0	7.00
A0227.1	–	7.10	0.2795	34.0	74.0	7.10
A0229/32	9/32	7.14	0.2813	40.0	70.0	7.14
A0227.2	–	7.20	0.2835	34.0	74.0	7.20
A0227.3	–	7.30	0.2874	34.0	74.0	7.30
A0227.4	–	7.40	0.2913	34.0	74.0	7.40
A0227.5	–	7.50	0.2953	34.0	74.0	7.50
A0227.6	–	7.60	0.2992	37.0	79.0	7.60
A0227.7	–	7.70	0.3031	37.0	79.0	7.70
A0227.8	–	7.80	0.3071	37.0	79.0	7.80
A0227.9	–	7.90	0.3110	37.0	79.0	7.90
A0225/16	5/16	7.94	0.3125	43.0	73.0	7.94
A0228.0	–	8.00	0.3150	37.0	79.0	8.00
A0228.1	–	8.10	0.3189	37.0	79.0	8.10

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A0228.2	–	8.20	0.3228	37.0	79.0	8.20
A0228.3	–	8.30	0.3268	37.0	79.0	8.30
A0228.4	–	8.40	0.3307	37.0	79.0	8.40
A0228.5	–	8.50	0.3346	37.0	79.0	8.50
A0228.6	–	8.60	0.3386	40.0	84.0	8.60
A0228.7	–	8.70	0.3425	40.0	84.0	8.70
A02211/32	11/32	8.73	0.3438	45.0	78.0	8.73
A0228.8	–	8.80	0.3465	40.0	84.0	8.80
A0228.9	–	8.90	0.3504	40.0	84.0	8.90
A0229.0	–	9.00	0.3543	40.0	84.0	9.00
A0229.1	–	9.10	0.3583	40.0	84.0	9.10
A0229.2	–	9.20	0.3622	40.0	84.0	9.20
A0229.3	–	9.30	0.3661	40.0	84.0	9.30
A0229.4	–	9.40	0.3701	40.0	84.0	9.40
A0229.5	–	9.50	0.3740	40.0	84.0	9.50
A0223/8	3/8	9.52	0.3750	48.0	81.0	9.52
A0229.6	–	9.60	0.3780	43.0	89.0	9.60
A0229.7	–	9.70	0.3819	43.0	89.0	9.70
A0229.8	–	9.80	0.3858	43.0	89.0	9.80
A0229.9	–	9.90	0.3898	43.0	89.0	9.90
A02210.0	–	10.00	0.3937	43.0	89.0	10.00
A02210.1	–	10.10	0.3976	43.0	89.0	10.10
A02210.2	–	10.20	0.4016	43.0	89.0	10.20
A02210.3	–	10.30	0.4055	43.0	89.0	10.30
A02213/32	13/32	10.32	0.4063	51.0	86.0	10.32
A02210.4	–	10.40	0.4094	43.0	89.0	10.40
A02210.5	–	10.50	0.4134	43.0	89.0	10.50
A02210.6	–	10.60	0.4173	43.0	89.0	10.60
A02210.8	–	10.80	0.4252	47.0	95.0	10.80
A02211.0	–	11.00	0.4331	47.0	95.0	11.00
A02211.1	–	11.10	0.4370	47.0	95.0	11.10
A0227/16	7/16	11.11	0.4375	54.0	89.0	11.11
A02211.2	–	11.20	0.4409	47.0	95.0	11.20
A02211.3	–	11.30	0.4449	47.0	95.0	11.30
A02211.5	–	11.50	0.4528	47.0	95.0	11.50
A02211.7	–	11.70	0.4606	47.0	95.0	11.70
A02211.8	–	11.80	0.4646	47.0	95.0	11.80
A02211.9	–	11.90	0.4685	51.0	102.0	11.90
A02212.0	–	12.00	0.4724	51.0	102.0	12.00
A02212.1	–	12.10	0.4764	51.0	102.0	12.10
A02212.2	–	12.20	0.4803	51.0	102.0	12.20
A02212.5	–	12.50	0.4921	51.0	102.0	12.50
A0221/2	1/2	12.70	0.5000	60.0	98.0	12.70
A02213.0	–	13.00	0.5118	51.0	102.0	13.00
A02213.5	–	13.50	0.5315	54.0	107.0	13.50
A02214.0	–	14.00	0.5512	54.0	107.0	14.00
A0229/16	9/16	14.29	0.5625	67.0	105.0	14.29
A02214.5	–	14.50	0.5709	56.0	111.0	14.50
A02215.0	–	15.00	0.5906	56.0	111.0	15.00
A02215.5	–	15.50	0.6102	58.0	115.0	15.50
A0225/8	5/8	15.88	0.6250	73.0	111.0	15.88
A02216.0	–	16.00	0.6299	58.0	115.0	16.00

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS					
Basic standard group (BSG)	DORMER	DIN 338	DIN 338	DORMER	DIN 345	DIN 338	DIN 338	DIN 338					
Usable length (ULDR)	3.5×D	4×D	4×D	4×D	4×D	4×D	4×D	4×D					
Application angle	135°	118°	118°	118°	118°	118°	118°	135°					
Coating	ST Bronze	ST	ST	ST	ST	TiN-Tip	TiN-Tip	ST					
Shank													
Spiral form		λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ >35°					
Hand (Cutting direction)	R	R	L	R	R	R	R	R					
													
	NEW												
Product Family Code	A321	A100	A101	A170	A130	A002	A002S	A108					
PSF cutting diameters range	3.0 - 13.0	0.20 - 20.00	1.00 - 12.00	13.00 - 1.1/4	3.00 - 2"	1.00 - 16.00	2.00 - 13.00	1.00 - 16.00					
	18	19	23	24	26	30	32	33					
P	P1	■	■	■	■	■	■	■	◪					
	P2	■	■	■	■	■	■	■	◪					
	P3	■	■	■	◪	■	■	■	◪					
	P4	◪	◪	◪	◪	◪	◪	◪	◪					
M	M1	■	◪	◪	◪	◪	◪	◪	◪					
	M2	◪	◪	◪	◪	◪	◪	◪	◪					
	M3	◪	◪	◪	◪	◪	◪	◪	■					
	M4	◪	◪	◪	◪	◪	◪	◪	■					
K	K1	■	■	■	◪	■	■	■	◪					
	K2	◪	◪	◪	◪	◪	◪	◪	◪					
	K3	◪	◪	◪	◪	◪	◪	◪	◪					
	K4	◪	◪	◪	◪	◪	◪	◪	◪					
	K5	◪	◪	◪	◪	◪	◪	◪	◪					
N	N1	◪	◪	◪	◪	◪	■	■	◪					
	N2	◪	◪	◪	◪	◪	◪	◪	◪					
	N3	◪	◪	◪	◪	◪	◪	◪	◪					
	N4	◪	◪	◪	◪	◪	■	■	◪					
	N5													
S	S1	◪	◪	◪	◪	◪	◪	◪	■					
	S2	◪	◪	◪	◪	◪	◪	◪	◪					
	S3	◪	◪	◪	◪	◪	◪	◪	◪					
	S4	◪	◪	◪	◪	◪	◪	◪	◪					
H	H1													
	H2													
	H3													
	H4													

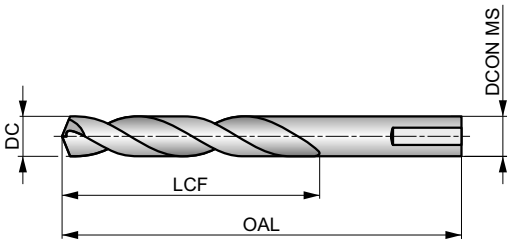
■ Primary use ◪ Possible use

A321

DORMER

HSS Intermediate Length Drill, Steam and Bronze Tempered Surface Finish

Heavy duty design drill with three-flat shanks for medium depth holes. Primarily suited for hand-held operations and pillar drill machines. Three flats on the shank allow for non-slip chucking. The self-centering 135° split point reduces thrust force and the steam and bronze tempered surface finish improves lubricity.



HSS	DORMER	3.5×D
135°	ST Bronze	
R	DC h8	

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 H	■37 H	■38 H	■28 H	■25 F	◪22 E	■19 F	■15 F	◪13 E	■11 F	◪10 E	◪8 D	■21 E	■17 E
M2.1	M2.2	M3.1	M3.2	M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2
◪18 E	◪15 E	◪9 G	◪8 G	◪7 G	◪9 C	■30 H	■22 F	■17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	N3.1	N3.2	N3.3	N4.1	N4.2	N4.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2
◪27 H	◪59 H	◪35 I	◪18 G	◪30 J	◪28 H	◪14 F	◪23 E	◪12 D	◪6 B	◪8 E	◪4 A	◪6 E	◪3 A
S4.1	S4.2												
◪5 E	◪2 A												

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A3213.0	3.00	0.1180	37.0	64.0	3.00
A3213.3	3.30	0.1300	40.0	67.0	3.30
A3213.4	3.40	0.1340	40.0	67.0	3.40
A3213.5	3.50	0.1380	40.0	67.0	3.50
A3214.0	4.00	0.1580	47.0	74.0	4.00
A3214.1	4.10	0.1610	47.0	74.0	4.10
A3214.2	4.20	0.1650	47.0	74.0	4.20
A3214.3	4.30	0.1690	47.0	74.0	4.30
A3214.5	4.50	0.1770	49.0	77.0	4.50
A3214.9	4.90	0.1930	50.0	80.0	4.90
A3215.0	5.00	0.1970	50.0	80.0	5.00
A3215.1	5.10	0.2010	50.0	80.0	5.10
A3215.3	5.30	0.2090	52.0	84.0	5.30
A3215.5	5.50	0.2170	52.0	84.0	5.50
A3216.0	6.00	0.2360	52.0	90.0	6.00
A3216.3	6.30	0.2480	52.0	90.0	6.30
A3216.5	6.50	0.2560	55.0	93.0	6.50

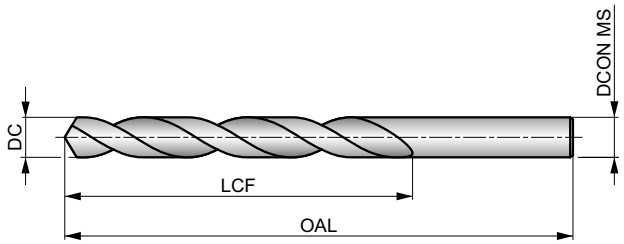
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A3216.8	6.80	0.2680	59.0	97.0	6.80
A3217.0	7.00	0.2760	59.0	97.0	7.00
A3217.3	7.30	0.2870	62.0	100.0	7.30
A3217.5	7.50	0.2950	62.0	100.0	7.50
A3218.0	8.00	0.3150	67.0	105.0	8.00
A3218.5	8.50	0.3350	68.0	107.0	8.50
A3219.0	9.00	0.3540	70.0	108.0	9.00
A3219.5	9.50	0.3740	70.0	110.0	9.50
A32110.0	10.00	0.3940	74.0	113.0	10.00
A32110.3	10.30	0.4060	74.0	113.0	10.30
A32110.5	10.50	0.4130	75.0	115.0	10.50
A32111.0	11.00	0.4330	77.0	117.0	11.00
A32111.5	11.50	0.4530	79.0	120.0	11.50
A32112.0	12.00	0.4720	85.0	126.0	12.00
A32112.5	12.50	0.4920	88.0	130.0	12.50
A32113.0	13.00	0.5120	88.0	130.0	13.00

A100

DORMER

HSS Jobber Drill, Steam Tempered Finish

A great and versatile all-around drill with a 118° conventional point, which provides strength and is easy to regrind, making it very cost-effective. Usable for hand-held and machine drilling. Steam tempered finish retains cutting fluid and prevents chip tool welding. Suitable for many materials.



HSS	DIN 338	4×D
118°	ST	
λ 20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 H	■37 H	■38 H	■28 H	■25 F	◪22 E	■19 F	■15 F	◪13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 E	◪15 E	◪9 G	◪8 G	◪7 G	◪9 C	■30 H	■22 F	■17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪27 H	◪59 H	◪35 I	◪18 G	◪30 J	◪28 H	◪14 F	◪23 E	◪12 D	◪6 B	◪8 E	◪4 A	◪6 E	◪3 A
S4.1	**S4.2**												
◪5 E	◪2 A												

DC <= 1mm; 3/64"; N60. Bright.
Products from this series are also available in set. Please see A190 or A191.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A100.2	–	0.20	0.0079	2.5	19.0	0.20
A100.25	–	0.25	0.0098	3.0	19.0	0.25
A100.3	–	0.30	0.0118	3.0	19.0	0.30
A100.32	–	0.32	0.0126	4.0	19.0	0.32
A100N80	N80	0.34	0.0135	4.0	19.0	0.34
A100.35	–	0.35	0.0138	4.0	19.0	0.35
A100N79	N79	0.37	0.0145	4.0	19.0	0.37
A100.38	–	0.38	0.0150	4.0	19.0	0.38
A1001/64	1/64	0.40	0.0156	5.0	20.0	0.40
A100.4	–	0.40	0.0157	5.0	20.0	0.40
A100N78	N78	0.41	0.0160	5.0	20.0	0.41
A100.42	–	0.42	0.0165	5.0	20.0	0.42
A100.45	–	0.45	0.0177	5.0	20.0	0.45
A100N77	N77	0.46	0.0180	5.0	20.0	0.46
A100.48	–	0.48	0.0189	5.0	20.0	0.48
A100.5	–	0.50	0.0197	6.0	22.0	0.50
A100N76	N76	0.51	0.0200	6.0	22.0	0.51
A100.52	–	0.52	0.0205	6.0	22.0	0.52
A100N75	N75	0.53	0.0210	6.0	22.0	0.53
A100.55	–	0.55	0.0217	7.0	24.0	0.55
A100N74	N74	0.57	0.0225	7.0	24.0	0.57
A100.58	–	0.58	0.0228	7.0	24.0	0.58

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A100.6	–	0.60	0.0236	7.0	24.0	0.60
A100N73	N73	0.61	0.0240	8.0	26.0	0.61
A100.62	–	0.62	0.0244	8.0	26.0	0.62
A100N72	N72	0.64	0.0250	8.0	26.0	0.64
A100.65	–	0.65	0.0256	8.0	26.0	0.65
A100N71	N71	0.66	0.0260	8.0	26.0	0.66
A100.68	–	0.68	0.0268	9.0	28.0	0.68
A100.7	–	0.70	0.0276	9.0	28.0	0.70
A100N70	N70	0.71	0.0280	9.0	28.0	0.71
A100.72	–	0.72	0.0283	9.0	28.0	0.72
A100N69	N69	0.74	0.0292	9.0	28.0	0.74
A100.75	–	0.75	0.0295	9.0	28.0	0.75
A100.78	–	0.78	0.0307	10.0	30.0	0.78
A1001/32	1/32	0.79	0.0313	10.0	30.0	0.79
A100N68	N68	0.79	0.0310	10.0	30.0	0.79
A100.8	–	0.80	0.0315	10.0	30.0	0.80
A100N67	N67	0.81	0.0320	10.0	30.0	0.81
A100.82	–	0.82	0.0323	10.0	30.0	0.82
A100N66	N66	0.84	0.0330	10.0	30.0	0.84
A100.85	–	0.85	0.0335	10.0	30.0	0.85
A100.88	–	0.88	0.0346	11.0	32.0	0.88
A100N65	N65	0.89	0.0350	11.0	32.0	0.89

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A100.9	–	0.90	0.0354	11.0	32.0	0.90
A100N64	N64	0.91	0.0360	11.0	32.0	0.91
A100.92	–	0.92	0.0362	11.0	32.0	0.92
A100N63	N63	0.94	0.0370	11.0	32.0	0.94
A100.95	–	0.95	0.0374	11.0	32.0	0.95
A100N62	N62	0.97	0.0380	12.0	34.0	0.97
A100.98	–	0.98	0.0386	12.0	34.0	0.98
A100N61	N61	0.99	0.0390	12.0	34.0	0.99
A1001.0	–	1.00	0.0394	12.0	34.0	1.00
A100N60	N60	1.02	0.0400	12.0	34.0	1.02
A100N59	N59	1.04	0.0410	12.0	34.0	1.04
A1001.05	–	1.05	0.0413	12.0	34.0	1.05
A100N58	N58	1.07	0.0420	14.0	36.0	1.07
A100N57	N57	1.09	0.0430	14.0	36.0	1.09
A1001.1	–	1.10	0.0433	14.0	36.0	1.10
A1001.15	–	1.15	0.0453	14.0	36.0	1.15
A100N56	N56	1.18	0.0465	14.0	36.0	1.18
A1003/64	3/64	1.19	0.0469	16.0	38.0	1.19
A1001.2	–	1.20	0.0472	16.0	38.0	1.20
A1001.25	–	1.25	0.0492	16.0	38.0	1.25
A1001.3	–	1.30	0.0512	16.0	38.0	1.30
A100N55	N55	1.32	0.0520	16.0	38.0	1.32
A1001.35	–	1.35	0.0531	18.0	40.0	1.35
A1001.4	–	1.40	0.0551	18.0	40.0	1.40
A100N54	N54	1.40	0.0550	18.0	40.0	1.40
A1001.45	–	1.45	0.0571	18.0	40.0	1.45
A1001.5	–	1.50	0.0591	18.0	40.0	1.50
A100N53	N53	1.51	0.0595	20.0	43.0	1.51
A1001.55	–	1.55	0.0610	20.0	43.0	1.55
A1001/16	1/16	1.59	0.0625	20.0	43.0	1.59
A1001.6	–	1.60	0.0630	20.0	43.0	1.60
A100N52	N52	1.61	0.0635	20.0	43.0	1.61
A1001.65	–	1.65	0.0650	20.0	43.0	1.65
A1001.7	–	1.70	0.0669	20.0	43.0	1.70
A100N51	N51	1.70	0.0670	22.0	46.0	1.70
A1001.75	–	1.75	0.0689	22.0	46.0	1.75
A100N50	N50	1.78	0.0700	22.0	46.0	1.78
A1001.8	–	1.80	0.0709	22.0	46.0	1.80
A1001.85	–	1.85	0.0728	22.0	46.0	1.85
A100N49	N49	1.85	0.0730	22.0	46.0	1.85
A1001.9	–	1.90	0.0748	22.0	46.0	1.90
A100N48	N48	1.93	0.0760	24.0	49.0	1.93
A1001.95	–	1.95	0.0768	24.0	49.0	1.95
A1005/64	5/64	1.98	0.0781	24.0	49.0	1.98
A100N47	N47	1.99	0.0785	24.0	49.0	1.99
A1002.0	–	2.00	0.0787	24.0	49.0	2.00
A1002.05	–	2.05	0.0807	24.0	49.0	2.05
A100N46	N46	2.06	0.0810	24.0	49.0	2.06
A100N45	N45	2.08	0.0820	24.0	49.0	2.08
A1002.1	–	2.10	0.0827	24.0	49.0	2.10
A1002.15	–	2.15	0.0846	27.0	53.0	2.15
A100N44	N44	2.18	0.0860	27.0	53.0	2.18
A1002.2	–	2.20	0.0866	27.0	53.0	2.20
A1002.25	–	2.25	0.0886	27.0	53.0	2.25
A100N43	N43	2.26	0.0890	27.0	53.0	2.26
A1002.3	–	2.30	0.0906	27.0	53.0	2.30
A1002.35	–	2.35	0.0925	27.0	53.0	2.35
A1003/32	3/32	2.38	0.0938	30.0	57.0	2.38
A100N42	N42	2.38	0.0935	30.0	57.0	2.38
A1002.4	–	2.40	0.0945	30.0	57.0	2.40
A100N41	N41	2.44	0.0960	30.0	57.0	2.44
A1002.45	–	2.45	0.0965	30.0	57.0	2.45

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A100N40	N40	2.49	0.0980	30.0	57.0	2.49
A1002.5	–	2.50	0.0984	30.0	57.0	2.50
A100N39	N39	2.53	0.0995	30.0	57.0	2.53
A1002.55	–	2.55	0.1004	30.0	57.0	2.55
A100N38	N38	2.58	0.1015	30.0	57.0	2.58
A1002.6	–	2.60	0.1024	30.0	57.0	2.60
A100N37	N37	2.64	0.1040	30.0	57.0	2.64
A1002.65	–	2.65	0.1043	30.0	57.0	2.65
A1002.7	–	2.70	0.1063	33.0	61.0	2.70
A100N36	N36	2.71	0.1065	33.0	61.0	2.71
A1002.75	–	2.75	0.1083	33.0	61.0	2.75
A1007/64	7/64	2.78	0.1094	33.0	61.0	2.78
A100N35	N35	2.79	0.1100	33.0	61.0	2.79
A1002.8	–	2.80	0.1102	33.0	61.0	2.80
A100N34	N34	2.82	0.1110	33.0	61.0	2.82
A1002.85	–	2.85	0.1122	33.0	61.0	2.85
A100N33	N33	2.87	0.1130	33.0	61.0	2.87
A1002.9	–	2.90	0.1142	33.0	61.0	2.90
A1002.95	–	2.95	0.1161	33.0	61.0	2.95
A100N32	N32	2.95	0.1160	33.0	61.0	2.95
A1003.0	–	3.00	0.1181	33.0	61.0	3.00
A100N31	N31	3.05	0.1200	36.0	65.0	3.05
A1003.1	–	3.10	0.1220	36.0	65.0	3.10
A1003.15	–	3.15	0.1240	36.0	65.0	3.15
A1001/8	1/8	3.18	0.1250	36.0	65.0	3.18
A1003.2	–	3.20	0.1260	36.0	65.0	3.20
A1003.25	–	3.25	0.1280	36.0	65.0	3.25
A100N30	N30	3.26	0.1285	36.0	65.0	3.26
A1003.3	–	3.30	0.1299	36.0	65.0	3.30
A1003.4	–	3.40	0.1339	39.0	70.0	3.40
A100N29	N29	3.45	0.1360	39.0	70.0	3.45
A1003.5	–	3.50	0.1378	39.0	70.0	3.50
A1009/64	9/64	3.57	0.1406	39.0	70.0	3.57
A100N28	N28	3.57	0.1405	39.0	70.0	3.57
A1003.6	–	3.60	0.1417	39.0	70.0	3.60
A100N27	N27	3.66	0.1440	39.0	70.0	3.66
A1003.7	–	3.70	0.1457	39.0	70.0	3.70
A100N26	N26	3.73	0.1470	39.0	70.0	3.73
A1003.75	–	3.75	0.1476	39.0	70.0	3.75
A1003.8	–	3.80	0.1496	43.0	75.0	3.80
A100N25	N25	3.80	0.1495	43.0	75.0	3.80
A100N24	N24	3.86	0.1520	43.0	75.0	3.86
A1003.9	–	3.90	0.1535	43.0	75.0	3.90
A100N23	N23	3.91	0.1540	43.0	75.0	3.91
A1005/32	5/32	3.97	0.1563	43.0	75.0	3.97
A100N22	N22	3.99	0.1570	43.0	75.0	3.99
A1004.0	–	4.00	0.1575	43.0	75.0	4.00
A100N21	N21	4.04	0.1590	43.0	75.0	4.04
A100N20	N20	4.09	0.1610	43.0	75.0	4.09
A1004.1	–	4.10	0.1614	43.0	75.0	4.10
A1004.2	–	4.20	0.1654	43.0	75.0	4.20
A100N19	N19	4.22	0.1660	43.0	75.0	4.22
A1004.25	–	4.25	0.1673	43.0	75.0	4.25
A1004.3	–	4.30	0.1693	47.0	80.0	4.30
A100N18	N18	4.31	0.1695	47.0	80.0	4.31
A10011/64	11/64	4.37	0.1719	47.0	80.0	4.37
A100N17	N17	4.39	0.1730	47.0	80.0	4.39
A1004.4	–	4.40	0.1732	47.0	80.0	4.40
A1004.5	–	4.50	0.1772	47.0	80.0	4.50
A100N16	N16	4.50	0.1770	47.0	80.0	4.50
A100N15	N15	4.57	0.1800	47.0	80.0	4.57
A1004.6	–	4.60	0.1811	47.0	80.0	4.60

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A100N14	N14	4.62	0.1820	47.0	80.0	4.62
A1004.7	–	4.70	0.1850	47.0	80.0	4.70
A100N13	N13	4.70	0.1850	47.0	80.0	4.70
A1004.75	–	4.75	0.1870	47.0	80.0	4.75
A1003/16	3/16	4.76	0.1875	52.0	86.0	4.76
A1004.8	–	4.80	0.1890	52.0	86.0	4.80
A100N12	N12	4.80	0.1890	52.0	86.0	4.80
A100N11	N11	4.85	0.1910	52.0	86.0	4.85
A1004.9	–	4.90	0.1929	52.0	86.0	4.90
A100N10	N10	4.92	0.1935	52.0	86.0	4.92
A100N9	N9	4.98	0.1960	52.0	86.0	4.98
A1005.0	–	5.00	0.1969	52.0	86.0	5.00
A100N8	N8	5.06	0.1990	52.0	86.0	5.06
A1005.1	–	5.10	0.2008	52.0	86.0	5.10
A100N7	N7	5.11	0.2010	52.0	86.0	5.11
A10013/64	13/64	5.16	0.2031	52.0	86.0	5.16
A100N6	N6	5.18	0.2040	52.0	86.0	5.18
A1005.2	–	5.20	0.2047	52.0	86.0	5.20
A100N5	N5	5.22	0.2055	52.0	86.0	5.22
A1005.25	–	5.25	0.2067	52.0	86.0	5.25
A1005.3	–	5.30	0.2087	52.0	86.0	5.30
A100N4	N4	5.31	0.2090	57.0	93.0	5.31
A1005.4	–	5.40	0.2126	57.0	93.0	5.40
A100N3	N3	5.41	0.2130	57.0	93.0	5.41
A1005.5	–	5.50	0.2165	57.0	93.0	5.50
A1007/32	7/32	5.56	0.2188	57.0	93.0	5.56
A1005.6	–	5.60	0.2205	57.0	93.0	5.60
A100N2	N2	5.61	0.2210	57.0	93.0	5.61
A1005.7	–	5.70	0.2244	57.0	93.0	5.70
A1005.75	–	5.75	0.2264	57.0	93.0	5.75
A100N1	1	5.79	0.2280	57.0	93.0	5.79
A1005.8	–	5.80	0.2283	57.0	93.0	5.80
A1005.9	–	5.90	0.2323	57.0	93.0	5.90
A100A	A	5.94	0.2340	57.0	93.0	5.94
A10015/64	15/64	5.95	0.2344	57.0	93.0	5.95
A1006.0	–	6.00	0.2362	57.0	93.0	6.00
A100B	B	6.03	0.2380	63.0	101.0	6.03
A1006.1	–	6.10	0.2402	63.0	101.0	6.10
A100C	C	6.15	0.2420	63.0	101.0	6.15
A1006.2	–	6.20	0.2441	63.0	101.0	6.20
A1006.25	–	6.25	0.2461	63.0	101.0	6.25
A100D	D	6.25	0.2460	63.0	101.0	6.25
A1006.3	–	6.30	0.2480	63.0	101.0	6.30
A1001/4	1/4	6.35	0.2500	63.0	101.0	6.35
A100E	E	6.35	0.2500	63.0	101.0	6.35
A1006.4	–	6.40	0.2520	63.0	101.0	6.40
A1006.5	–	6.50	0.2559	63.0	101.0	6.50
A100F	F	6.53	0.2570	63.0	101.0	6.53
A1006.6	–	6.60	0.2598	63.0	101.0	6.60
A100G	G	6.63	0.2610	63.0	101.0	6.63
A1006.7	–	6.70	0.2638	63.0	101.0	6.70
A10017/64	17/64	6.75	0.2656	69.0	109.0	6.75
A1006.75	–	6.75	0.2657	69.0	109.0	6.75
A100H	H	6.76	0.2660	69.0	109.0	6.76
A1006.8	–	6.80	0.2677	69.0	109.0	6.80
A1006.9	–	6.90	0.2717	69.0	109.0	6.90
A100I	I	6.91	0.2720	69.0	109.0	6.91
A1007.0	–	7.00	0.2756	69.0	109.0	7.00
A100J	J	7.04	0.2770	69.0	109.0	7.04
A1007.1	–	7.10	0.2795	69.0	109.0	7.10
A1009/32	9/32	7.14	0.2813	69.0	109.0	7.14
A1007.2	–	7.20	0.2835	69.0	109.0	7.20

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1007.25	–	7.25	0.2854	69.0	109.0	7.25
A1007.3	–	7.30	0.2874	69.0	109.0	7.30
A100L	L	7.37	0.2900	69.0	109.0	7.37
A1007.4	–	7.40	0.2913	69.0	109.0	7.40
A1007.5	–	7.50	0.2953	69.0	109.0	7.50
A10019/64	19/64	7.54	0.2969	75.0	117.0	7.54
A1007.6	–	7.60	0.2992	75.0	117.0	7.60
A100N	N	7.67	0.3020	75.0	117.0	7.67
A1007.7	–	7.70	0.3031	75.0	117.0	7.70
A1007.75	–	7.75	0.3051	75.0	117.0	7.75
A1007.8	–	7.80	0.3071	75.0	117.0	7.80
A1007.9	–	7.90	0.3110	75.0	117.0	7.90
A1005/16	5/16	7.94	0.3125	75.0	117.0	7.94
A1008.0	–	8.00	0.3150	75.0	117.0	8.00
A100O	O	8.03	0.3160	75.0	117.0	8.03
A1008.1	–	8.10	0.3189	75.0	117.0	8.10
A1008.2	–	8.20	0.3228	75.0	117.0	8.20
A1008.25	–	8.25	0.3248	75.0	117.0	8.25
A1008.3	–	8.30	0.3268	75.0	117.0	8.30
A10021/64	21/64	8.33	0.3281	75.0	117.0	8.33
A1008.4	–	8.40	0.3307	75.0	117.0	8.40
A100Q	Q	8.43	0.3320	75.0	117.0	8.43
A1008.5	–	8.50	0.3346	75.0	117.0	8.50
A1008.6	–	8.60	0.3386	81.0	125.0	8.60
A1008.7	–	8.70	0.3425	81.0	125.0	8.70
A10011/32	11/32	8.73	0.3438	81.0	125.0	8.73
A1008.75	–	8.75	0.3445	81.0	125.0	8.75
A1008.8	–	8.80	0.3465	81.0	125.0	8.80
A1008.9	–	8.90	0.3504	81.0	125.0	8.90
A1009.0	–	9.00	0.3543	81.0	125.0	9.00
A1009.1	–	9.10	0.3583	81.0	125.0	9.10
A10023/64	23/64	9.13	0.3594	81.0	125.0	9.13
A1009.2	–	9.20	0.3622	81.0	125.0	9.20
A1009.25	–	9.25	0.3642	81.0	125.0	9.25
A1009.3	–	9.30	0.3661	81.0	125.0	9.30
A100U	U	9.35	0.3680	81.0	125.0	9.35
A1009.4	–	9.40	0.3701	81.0	125.0	9.40
A1009.5	–	9.50	0.3740	81.0	125.0	9.50
A1003/8	3/8	9.52	0.3750	87.0	133.0	9.52
A1009.6	–	9.60	0.3780	87.0	133.0	9.60
A1009.7	–	9.70	0.3819	87.0	133.0	9.70
A1009.75	–	9.75	0.3839	87.0	133.0	9.75
A1009.8	–	9.80	0.3858	87.0	133.0	9.80
A1009.9	–	9.90	0.3898	87.0	133.0	9.90
A10025/64	25/64	9.92	0.3906	87.0	133.0	9.92
A10010.0	–	10.00	0.3937	87.0	133.0	10.00
A10010.1	–	10.10	0.3976	87.0	133.0	10.10
A10010.2	–	10.20	0.4016	87.0	133.0	10.20
A10010.25	–	10.25	0.4035	87.0	133.0	10.25
A10010.3	–	10.30	0.4055	87.0	133.0	10.30
A10013/32	13/32	10.32	0.4063	87.0	133.0	10.32
A10010.4	–	10.40	0.4094	87.0	133.0	10.40
A10010.5	–	10.50	0.4134	87.0	133.0	10.50
A10010.6	–	10.60	0.4173	87.0	133.0	10.60
A10010.7	–	10.70	0.4213	94.0	142.0	10.70
A10027/64	27/64	10.72	0.4219	94.0	142.0	10.72
A10010.75	–	10.75	0.4232	94.0	142.0	10.75
A10010.8	–	10.80	0.4252	94.0	142.0	10.80
A10010.9	–	10.90	0.4291	94.0	142.0	10.90
A10011.0	–	11.00	0.4331	94.0	142.0	11.00
A10011.1	–	11.10	0.4370	94.0	142.0	11.10
A1007/16	7/16	11.11	0.4375	94.0	142.0	11.11

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A10011.2	–	11.20	0.4409	94.0	142.0	11.20
A10011.25	–	11.25	0.4429	94.0	142.0	11.25
A10011.3	–	11.30	0.4449	94.0	142.0	11.30
A10011.4	–	11.40	0.4488	94.0	142.0	11.40
A10011.5	–	11.50	0.4528	94.0	142.0	11.50
A10029/64	29/64	11.51	0.4531	94.0	142.0	11.51
A10011.6	–	11.60	0.4567	94.0	142.0	11.60
A10011.7	–	11.70	0.4606	94.0	142.0	11.70
A10011.75	–	11.75	0.4626	94.0	142.0	11.75
A10011.8	–	11.80	0.4646	94.0	142.0	11.80
A10011.9	–	11.90	0.4685	101.0	151.0	11.90
A10015/32	15/32	11.91	0.4688	101.0	151.0	11.91
A10012.0	–	12.00	0.4724	101.0	151.0	12.00
A10012.1	–	12.10	0.4764	101.0	151.0	12.10
A10012.2	–	12.20	0.4803	101.0	151.0	12.20
A10012.25	–	12.25	0.4823	101.0	151.0	12.25
A10012.3	–	12.30	0.4843	101.0	151.0	12.30
A10031/64	31/64	12.30	0.4844	101.0	151.0	12.30
A10012.4	–	12.40	0.4882	101.0	151.0	12.40
A10012.5	–	12.50	0.4921	101.0	151.0	12.50
A10012.6	–	12.60	0.4961	101.0	151.0	12.60
A10012.7	–	12.70	0.5000	101.0	151.0	12.70
A1001/2	1/2	12.70	0.5000	101.0	151.0	12.70
A10012.75	–	12.75	0.5020	101.0	151.0	12.75
A10012.8	–	12.80	0.5039	101.0	151.0	12.80
A10012.9	–	12.90	0.5079	101.0	151.0	12.90
A10013.0	–	13.00	0.5118	101.0	151.0	13.00
A10033/64	33/64	13.10	0.5156	101.0	151.0	13.10
A10013.1	–	13.10	0.5157	101.0	151.0	13.10
A10013.2	–	13.20	0.5197	101.0	151.0	13.20
A10013.25	–	13.25	0.5217	108.0	160.0	13.25
A10013.3	–	13.30	0.5236	108.0	160.0	13.30
A10013.4	–	13.40	0.5276	108.0	160.0	13.40

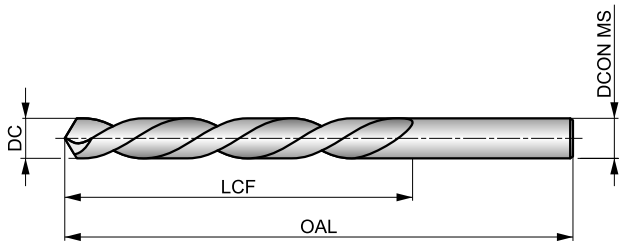
Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A10017/32	17/32	13.49	0.5313	108.0	160.0	13.49
A10013.5	–	13.50	0.5315	108.0	160.0	13.50
A10013.6	–	13.60	0.5354	108.0	160.0	13.60
A10013.7	–	13.70	0.5394	108.0	160.0	13.70
A10013.75	–	13.75	0.5413	108.0	160.0	13.75
A10013.8	–	13.80	0.5433	108.0	160.0	13.80
A10035/64	35/64	13.89	0.5469	108.0	160.0	13.89
A10013.9	–	13.90	0.5472	108.0	160.0	13.90
A10014.0	–	14.00	0.5512	108.0	160.0	14.00
A10014.25	–	14.25	0.5610	114.0	169.0	14.25
A1009/16	9/16	14.29	0.5625	114.0	169.0	14.29
A10014.5	–	14.50	0.5709	114.0	169.0	14.50
A10037/64	37/64	14.68	0.5781	114.0	169.0	14.68
A10014.75	–	14.75	0.5807	114.0	169.0	14.75
A10015.0	–	15.00	0.5906	114.0	169.0	15.00
A10019/32	19/32	15.08	0.5938	120.0	178.0	15.08
A10015.25	–	15.25	0.6004	120.0	178.0	15.25
A10015.5	–	15.50	0.6102	120.0	178.0	15.50
A10015.75	–	15.75	0.6201	120.0	178.0	15.75
A1005/8	5/8	15.88	0.6250	120.0	178.0	15.88
A10016.0	–	16.00	0.6299	120.0	178.0	16.00
A10041/64	41/64	16.27	0.6406	125.0	184.0	16.27
A10016.5	–	16.50	0.6496	125.0	184.0	16.50
A10021/32	21/32	16.67	0.6563	125.0	184.0	16.67
A10017.0	–	17.00	0.6693	125.0	184.0	17.00
A10011/16	11/16	17.46	0.6875	130.0	191.0	17.46
A10017.5	–	17.50	0.6890	130.0	191.0	17.50
A10018.0	–	18.00	0.7087	130.0	191.0	18.00
A10018.5	–	18.50	0.7283	135.0	198.0	18.50
A10019.0	–	19.00	0.7480	135.0	198.0	19.00
A10019.5	–	19.50	0.7677	140.0	205.0	19.50
A10020.0	–	20.00	0.7874	140.0	205.0	20.00

A101

DORMER

HSS Left-Hand Jobber Drill, Steam Tempered Finish

Versatile left-handed drill with steam tempered finish for hand-held and machine drilling. Conventional 118° point provides strength and is easy to regrind, making it very cost-effective. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for drilling many materials.



HSS	DIN 338	4×D
118°	ST	
λ 20-35°	L	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 H	■37 H	■38 H	■28 H	■25 F	◪22 E	■19 F	■15 F	◪13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 E	◪15 E	◪9 G	◪8 G	◪7 G	◪9 C	■30 H	■22 F	■17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪27 H	◪59 H	◪35 I	◪18 G	◪30 J	◪28 H	◪14 F	◪23 E	◪12 D	◪6 B	◪8 E	◪4 A	◪6 E	◪3 A
S4.1	**S4.2**												
◪5 E	◪2 A												

DC <= 3mm Bright.

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1011.0	1.00	0.0394	12.0	34.0	1.00
A1011.1	1.10	0.0433	14.0	36.0	1.10
A1011.2	1.20	0.0472	16.0	38.0	1.20
A1011.25	1.25	0.0492	16.0	38.0	1.25
A1011.3	1.30	0.0512	16.0	38.0	1.30
A1011.4	1.40	0.0551	18.0	40.0	1.40
A1011.5	1.50	0.0591	18.0	40.0	1.50
A1011.6	1.60	0.0630	20.0	43.0	1.60
A1011.7	1.70	0.0669	20.0	43.0	1.70
A1011.8	1.80	0.0709	22.0	46.0	1.80
A1011.9	1.90	0.0748	22.0	46.0	1.90
A1012.0	2.00	0.0787	24.0	49.0	2.00
A1012.1	2.10	0.0827	24.0	49.0	2.10
A1012.2	2.20	0.0866	27.0	53.0	2.20
A1012.4	2.40	0.0945	30.0	57.0	2.40
A1012.5	2.50	0.0984	30.0	57.0	2.50
A1012.6	2.60	0.1024	30.0	57.0	2.60
A1012.7	2.70	0.1063	33.0	61.0	2.70
A1012.8	2.80	0.1102	33.0	61.0	2.80
A1012.9	2.90	0.1142	33.0	61.0	2.90
A1013.0	3.00	0.1181	33.0	61.0	3.00
A1013.2	3.20	0.1260	36.0	65.0	3.20

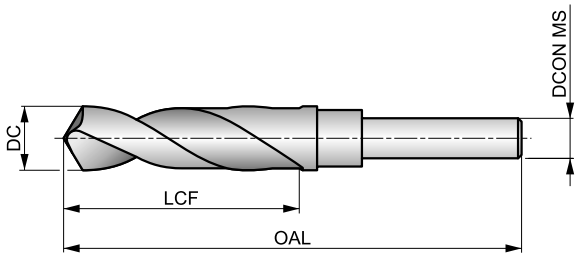
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1013.3	3.30	0.1299	36.0	65.0	3.30
A1013.5	3.50	0.1378	39.0	70.0	3.50
A1013.8	3.80	0.1496	43.0	75.0	3.80
A1014.0	4.00	0.1575	43.0	75.0	4.00
A1014.2	4.20	0.1654	43.0	75.0	4.20
A1014.5	4.50	0.1772	47.0	80.0	4.50
A1014.8	4.80	0.1890	52.0	86.0	4.80
A1015.0	5.00	0.1969	52.0	86.0	5.00
A1015.1	5.10	0.2008	52.0	86.0	5.10
A1015.2	5.20	0.2047	52.0	86.0	5.20
A1015.5	5.50	0.2165	57.0	93.0	5.50
A1016.0	6.00	0.2362	57.0	93.0	6.00
A1016.5	6.50	0.2559	63.0	101.0	6.50
A1017.0	7.00	0.2756	69.0	109.0	7.00
A1017.5	7.50	0.2953	69.0	109.0	7.50
A1018.0	8.00	0.3150	75.0	117.0	8.00
A1018.5	8.50	0.3346	75.0	117.0	8.50
A1019.0	9.00	0.3543	81.0	125.0	9.00
A10110.0	10.00	0.3937	87.0	133.0	10.00
A10111.0	11.00	0.4331	94.0	142.0	11.00
A10112.0	12.00	0.4724	101.0	151.0	12.00

A170

DORMER

HSS Reduced Shank Drill, Steam Tempered Finish

A ½ inch parallel shank allows this drill, even with a large cutting diameter, to be clamped in conventional, hand-held power tools. A 118° point makes regrinding easy. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for drilling many materials.



HSS | DORMER | 4×D

118° | ST |

λ 20-35° | R | DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 H	■37 H	■38 H	■28 H	■25 F	◪22 D	◪19 E	◪15 E	◪13 D	◪11 E	◪10 D	◪8 C	◪21 D	◪17 D
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 D	◪15 D	◪8 F	◪7 F	◪6 F	◪7 B	◪27 H	◪20 E	◪15 E	◪23 D	◪19 D	◪15 D	◪21 D	◪16 D
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 D	◪19 D	◪14 D	◪11 D	◪9 D	◪8 D	◪22 D	◪16 D	◪13 D	◪33 I	◪25 I	◪17 H	◪42 G	◪37 G
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪27 G	◪56 G	◪33 H	◪17 F	◪30 I	◪28 G	◪14 E	◪17 E	◪9 C	◪5 A	◪5 D	◪4 A	◪4 D	◪3 A
S4.1	**S4.2**												
◪3 D	◪2 A												

Product	DC (inch)	DC (mm)	DC (inch)	LCF (inch)	OAL (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A17013.0	–	13.00	0.5118	–	–	83.0	156.0	12.70
A17033/64	33/64	13.10	0.5156	3.1/8	6″	79.4	152.4	12.70
A17017/32	17/32	13.49	0.5313	3.1/8	6″	79.4	152.4	12.70
A17013.5	–	13.50	0.5315	–	–	83.0	156.0	12.70
A17035/64	35/64	13.89	0.5469	3.1/8	6″	79.4	152.4	12.70
A17014.0	–	14.00	0.5512	–	–	83.0	156.0	12.70
A1709/16	9/16	14.29	0.5625	3.1/8	6″	79.4	152.4	12.70
A17014.5	–	14.50	0.5709	–	–	83.0	156.0	12.70
A17037/64	37/64	14.68	0.5781	3.1/8	6″	79.4	152.4	12.70
A17015.0	–	15.00	0.5906	–	–	83.0	156.0	12.70
A17019/32	19/32	15.08	0.5938	3.1/8	6″	79.4	152.4	12.70
A17039/64	39/64	15.48	0.6094	3.1/8	6″	79.4	152.4	12.70
A17015.5	–	15.50	0.6102	–	–	83.0	156.0	12.70
A1705/8	5/8	15.88	0.6250	3.1/8	6″	79.4	152.4	12.70
A17016.0	–	16.00	0.6299	–	–	84.0	157.0	12.70
A17041/64	41/64	16.27	0.6406	3.1/8	6″	79.4	152.4	12.70
A17016.5	–	16.50	0.6496	–	–	84.0	157.0	12.70
A17021/32	21/32	16.67	0.6563	3.1/8	6″	79.4	152.4	12.70
A17017.0	–	17.00	0.6693	–	–	84.0	157.0	12.70
A17043/64	43/64	17.07	0.6719	3.1/8	6″	79.4	152.4	12.70
A17011/16	11/16	17.46	0.6875	3.1/8	6″	79.4	152.4	12.70
A17017.5	–	17.50	0.6890	–	–	84.0	157.0	12.70
A17045/64	45/64	17.86	0.7031	3.1/8	6″	79.4	152.4	12.70
A17018.0	–	18.00	0.7087	–	–	84.0	157.0	12.70

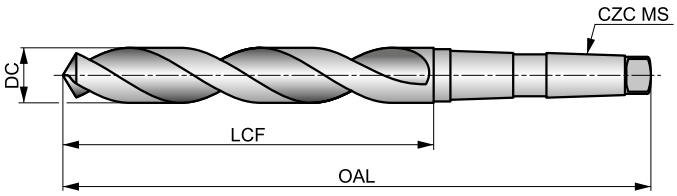
Product	DC	DC	DC	LCF	OAL	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(inch)	(inch)	(mm)	(mm)	(mm)
A17023/32	23/32	18.26	0.7188	3.1/8	6″	79.4	152.4	12.70
A17018.5	–	18.50	0.7283	–	–	84.0	157.0	12.70
A17047/64	47/64	18.65	0.7344	3.1/8	6″	79.4	152.4	12.70
A17019.0	–	19.00	0.7480	–	–	84.0	157.0	12.70
A1703/4	3/4	19.05	0.7500	3.1/8	6″	79.4	152.4	12.70
A17049/64	49/64	19.45	0.7656	3″	6″	76.2	152.4	12.70
A17019.5	–	19.50	0.7677	–	–	81.0	158.0	12.70
A17025/32	25/32	19.84	0.7813	3″	6″	76.2	152.4	12.70
A17020.0	–	20.00	0.7874	–	–	81.0	158.0	12.70
A17051/64	51/64	20.24	0.7969	3″	6″	76.2	152.4	12.70
A17013/16	13/16	20.64	0.8125	3″	6″	76.2	152.4	12.70
A17021.0	–	21.00	0.8268	–	–	82.0	158.0	12.70
A17053/64	53/64	21.03	0.8281	3″	6″	76.2	152.4	12.70
A17027/32	27/32	21.43	0.8437	3″	6″	76.2	152.4	12.70
A17055/64	55/64	21.83	0.8594	3″	6″	76.2	152.4	12.70
A17022.0	–	22.00	0.8661	–	–	82.0	158.0	12.70
A1707/8	7/8	22.22	0.8750	3″	6″	76.2	152.4	12.70
A17023.0	–	23.00	0.9055	–	–	82.0	158.0	12.70
A17029/32	29/32	23.02	0.9063	3″	6″	76.2	152.4	12.70
A17059/64	59/64	23.42	0.9219	3″	6″	76.2	152.4	12.70
A17015/16	15/16	23.81	0.9375	3″	6″	76.2	152.4	12.70
A17024.0	–	24.00	0.9449	–	–	83.0	159.0	12.70
A17031/32	31/32	24.61	0.9688	3″	6″	76.2	152.4	12.70
A17025.0	–	25.00	0.9843	–	–	83.0	159.0	12.70
A1701	1″	25.40	1.0000	3″	6″	76.2	152.4	12.70
A1701.1/32	1.1/32	26.19	1.0313	3″	6″	76.2	152.4	12.70
A1701.1/16	1.1/16	26.99	1.0625	3″	6″	76.2	152.4	12.70
A1701.1/8	1.1/8	28.58	1.1250	3″	6″	76.2	152.4	12.70
A1701.3/16	1.3/16	30.16	1.1875	3″	6″	76.2	152.4	12.70
A1701.1/4	1.1/4	31.75	1.2500	3″	6″	76.2	152.4	12.70

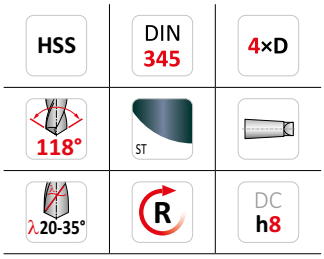
A130

DORMER

HSS Taper Shank Drill, Steam Tempered Finish

Versatile drill with larger diameters - up to 50.80mm (2 inches). Tapered shank provides a better grip for holding it in the machine. Conventional 118° point provides strength and makes it easy to regrind. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 I	■37 I	■38 I	■28 I	■25 F	◪22 E	■18 F	■14 F	◪12 E	■11 F	◪9 E	◪7 D	◪21 E	◪17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 E	◪15 E	◪10 G	◪9 G	◪8 G	◪10 C	■30 I	■22 E	■17 E	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪26 J	◪20 J	◪13 I	◪43 H	◪39 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪28 H	◪59 H	◪35 I	◪18 F	◪30 K	◪28 J	◪14 H	◪23 F	◪13 D	◪7 B	◪9 E	◪6 A	◪7 E	◪4 A
S4.1	**S4.2**												
◪5 E	◪3 A												

DC > 14mm Point Thinned.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	CZC MS
A1303.0	–	3.00	0.1181	33.0	114.0	MK 1
A1301/8	1/8	3.18	0.1250	36.0	117.0	MK 1
A1303.3	–	3.30	0.1299	36.0	117.0	MK 1
A1303.5	–	3.50	0.1378	39.0	120.0	MK 1
A1304.0	–	4.00	0.1575	43.0	124.0	MK 1
A1304.2	–	4.20	0.1654	43.0	124.0	MK 1
A1304.25	–	4.25	0.1673	43.0	124.0	MK 1
A1304.5	–	4.50	0.1772	47.0	128.0	MK 1
A1303/16	3/16	4.76	0.1875	52.0	133.0	MK 1
A1305.0	–	5.00	0.1969	52.0	133.0	MK 1
A1305.1	–	5.10	0.2008	52.0	133.0	MK 1
A13013/64	13/64	5.16	0.2031	52.0	133.0	MK 1
A1305.2	–	5.20	0.2047	52.0	133.0	MK 1
A1305.5	–	5.50	0.2165	57.0	138.0	MK 1
A1306.0	–	6.00	0.2362	57.0	138.0	MK 1
A1301/4	1/4	6.35	0.2500	63.0	144.0	MK 1
A1306.5	–	6.50	0.2559	63.0	144.0	MK 1
A1306.7	–	6.70	0.2638	63.0	144.0	MK 1
A13017/64	17/64	6.75	0.2656	69.0	150.0	MK 1
A1306.75	–	6.75	0.2657	69.0	150.0	MK 1
A1306.8	–	6.80	0.2677	69.0	150.0	MK 1
A1307.0	–	7.00	0.2756	69.0	150.0	MK 1
A1309/32	9/32	7.14	0.2813	69.0	150.0	MK 1

Product	DC	DC	DC	LCF	OAL	CZC MS
	(inch)	(mm)	(inch)	(mm)	(mm)	
A1307.5	–	7.50	0.2953	69.0	150.0	MK 1
A1305/16	5/16	7.94	0.3125	75.0	156.0	MK 1
A1308.0	–	8.00	0.3150	75.0	156.0	MK 1
A1308.2	–	8.20	0.3228	75.0	156.0	MK 1
A1308.5	–	8.50	0.3346	75.0	156.0	MK 1
A1308.6	–	8.60	0.3386	81.0	162.0	MK 1
A1308.7	–	8.70	0.3425	81.0	162.0	MK 1
A13011/32	11/32	8.73	0.3438	81.0	162.0	MK 1
A1308.75	–	8.75	0.3445	81.0	162.0	MK 1
A1309.0	–	9.00	0.3543	81.0	162.0	MK 1
A1309.5	–	9.50	0.3740	81.0	162.0	MK 1
A1303/8	3/8	9.52	0.3750	87.0	168.0	MK 1
A13010.0	–	10.00	0.3937	87.0	168.0	MK 1
A13010.2	–	10.20	0.4016	87.0	168.0	MK 1
A13010.25	–	10.25	0.4035	87.0	168.0	MK 1
A13010.3	–	10.30	0.4055	87.0	168.0	MK 1
A13013/32	13/32	10.32	0.4063	87.0	168.0	MK 1
A13010.5	–	10.50	0.4134	87.0	168.0	MK 1
A13027/64	27/64	10.72	0.4219	94.0	175.0	MK 1
A13010.75	–	10.75	0.4232	94.0	175.0	MK 1
A13010.8	–	10.80	0.4252	94.0	175.0	MK 1
A13011.0	–	11.00	0.4331	94.0	175.0	MK 1
A1307/16	7/16	11.11	0.4375	94.0	175.0	MK 1
A13011.2	–	11.20	0.4409	94.0	175.0	MK 1
A13011.5	–	11.50	0.4528	94.0	175.0	MK 1
A13011.75	–	11.75	0.4626	94.0	175.0	MK 1
A13011.8	–	11.80	0.4646	94.0	175.0	MK 1
A13012.0	–	12.00	0.4724	101.0	182.0	MK 1
A13012.2	–	12.20	0.4803	101.0	182.0	MK 1
A13012.25	–	12.25	0.4823	101.0	182.0	MK 1
A13031/64	31/64	12.30	0.4844	101.0	182.0	MK 1
A13012.5	–	12.50	0.4921	101.0	182.0	MK 1
A13012.7	–	12.70	0.5000	101.0	182.0	MK 1
A1301/2	1/2	12.70	0.5000	101.0	182.0	MK 1
A13012.75	–	12.75	0.5020	101.0	182.0	MK 1
A13012.8	–	12.80	0.5039	101.0	182.0	MK 1
A13013.0	–	13.00	0.5118	101.0	182.0	MK 1
A13033/64	33/64	13.10	0.5156	101.0	182.0	MK 1
A13013.2	–	13.20	0.5197	101.0	182.0	MK 1
A13013.25	–	13.25	0.5217	108.0	189.0	MK 1
A13017/32	17/32	13.49	0.5313	108.0	189.0	MK 1
A13013.5	–	13.50	0.5315	108.0	189.0	MK 1
A13013.75	–	13.75	0.5413	108.0	189.0	MK 1
A13013.8	–	13.80	0.5433	108.0	189.0	MK 1
A13013.9	–	13.90	0.5472	108.0	189.0	MK 1
A13014.0	–	14.00	0.5512	108.0	189.0	MK 1
A13014.1	–	14.10	0.5551	114.0	212.0	MK 2
A13014.2	–	14.20	0.5591	114.0	212.0	MK 2
A13014.25	–	14.25	0.5610	114.0	212.0	MK 2
A1309/16	9/16	14.29	0.5625	114.0	212.0	MK 2
A13014.3	–	14.30	0.5630	114.0	212.0	MK 2
A13014.5	–	14.50	0.5709	114.0	212.0	MK 2
A13037/64	37/64	14.68	0.5781	114.0	212.0	MK 2
A13014.75	–	14.75	0.5807	114.0	212.0	MK 2
A13014.8	–	14.80	0.5827	114.0	212.0	MK 2
A13014.9	–	14.90	0.5866	114.0	212.0	MK 2
A13015.0	–	15.00	0.5906	114.0	212.0	MK 2
A13015.1	–	15.10	0.5945	120.0	218.0	MK 2
A13015.2	–	15.20	0.5984	120.0	218.0	MK 2
A13015.25	–	15.25	0.6004	120.0	218.0	MK 2
A13039/64	39/64	15.48	0.6094	120.0	218.0	MK 2
A13015.5	–	15.50	0.6102	120.0	218.0	MK 2

Product	DC	DC	DC	LCF	OAL	CZC MS
	(inch)	(mm)	(inch)	(mm)	(mm)	
A13015.7	–	15.70	0.6181	120.0	218.0	MK 2
A13015.75	–	15.75	0.6201	120.0	218.0	MK 2
A13015.8	–	15.80	0.6220	120.0	218.0	MK 2
A1305/8	5/8	15.88	0.6250	120.0	218.0	MK 2
A13015.9	–	15.90	0.6260	120.0	218.0	MK 2
A13016.0	–	16.00	0.6299	120.0	218.0	MK 2
A13016.1	–	16.10	0.6339	125.0	223.0	MK 2
A13016.2	–	16.20	0.6378	125.0	223.0	MK 2
A13016.25	–	16.25	0.6398	125.0	223.0	MK 2
A13041/64	41/64	16.27	0.6406	125.0	223.0	MK 2
A13016.5	–	16.50	0.6496	125.0	223.0	MK 2
A13021/32	21/32	16.67	0.6563	125.0	223.0	MK 2
A13016.75	–	16.75	0.6594	125.0	223.0	MK 2
A13017.0	–	17.00	0.6693	125.0	223.0	MK 2
A13043/64	43/64	17.07	0.6719	130.0	228.0	MK 2
A13017.25	–	17.25	0.6791	130.0	228.0	MK 2
A13011/16	11/16	17.46	0.6875	130.0	228.0	MK 2
A13017.5	–	17.50	0.6890	130.0	228.0	MK 2
A13017.75	–	17.75	0.6988	130.0	228.0	MK 2
A13045/64	45/64	17.86	0.7031	130.0	228.0	MK 2
A13018.0	–	18.00	0.7087	130.0	228.0	MK 2
A13018.25	–	18.25	0.7185	135.0	233.0	MK 2
A13023/32	23/32	18.26	0.7188	135.0	233.0	MK 2
A13018.5	–	18.50	0.7283	135.0	233.0	MK 2
A13047/64	47/64	18.65	0.7344	135.0	233.0	MK 2
A13018.75	–	18.75	0.7382	135.0	233.0	MK 2
A13019.0	–	19.00	0.7480	135.0	233.0	MK 2
A1303/4	3/4	19.05	0.7500	140.0	238.0	MK 2
A13019.25	–	19.25	0.7579	140.0	238.0	MK 2
A13019.5	–	19.50	0.7677	140.0	238.0	MK 2
A13019.75	–	19.75	0.7776	140.0	238.0	MK 2
A13025/32	25/32	19.84	0.7813	140.0	238.0	MK 2
A13020.0	–	20.00	0.7874	140.0	238.0	MK 2
A13020.25	–	20.25	0.7972	145.0	243.0	MK 2
A13020.5	–	20.50	0.8071	145.0	243.0	MK 2
A13013/16	13/16	20.64	0.8125	145.0	243.0	MK 2
A13020.75	–	20.75	0.8169	145.0	243.0	MK 2
A13021.0	–	21.00	0.8268	145.0	243.0	MK 2
A13021.25	–	21.25	0.8366	150.0	248.0	MK 2
A13021.5	–	21.50	0.8465	150.0	248.0	MK 2
A13021.75	–	21.75	0.8563	150.0	248.0	MK 2
A13022.0	–	22.00	0.8661	150.0	248.0	MK 2
A1307/8	7/8	22.22	0.8750	150.0	248.0	MK 2
A13022.25	–	22.25	0.8760	150.0	248.0	MK 2
A13022.5	–	22.50	0.8858	155.0	253.0	MK 2
A13057/64	57/64	22.62	0.8906	155.0	253.0	MK 2
A13022.75	–	22.75	0.8957	155.0	253.0	MK 2
A13023.0	–	23.00	0.9055	155.0	253.0	MK 2
A13029/32	29/32	23.02	0.9063	155.0	253.0	MK 2
A13023.25	–	23.25	0.9154	155.0	276.0	MK 3
A13023.5	–	23.50	0.9252	155.0	276.0	MK 3
A13023.75	–	23.75	0.9350	160.0	281.0	MK 3
A13015/16	15/16	23.81	0.9375	160.0	281.0	MK 3
A13024.0	–	24.00	0.9449	160.0	281.0	MK 3
A13061/64	61/64	24.21	0.9531	160.0	281.0	MK 3
A13024.5	–	24.50	0.9646	160.0	281.0	MK 3
A13024.75	–	24.75	0.9744	160.0	281.0	MK 3
A13025.0	–	25.00	0.9843	160.0	281.0	MK 3
A13025.25	–	25.25	0.9941	165.0	286.0	MK 3
A1301	1″	25.40	1.0000	165.0	286.0	MK 3
A13025.5	–	25.50	1.0039	165.0	286.0	MK 3
A13025.75	–	25.75	1.0138	165.0	286.0	MK 3

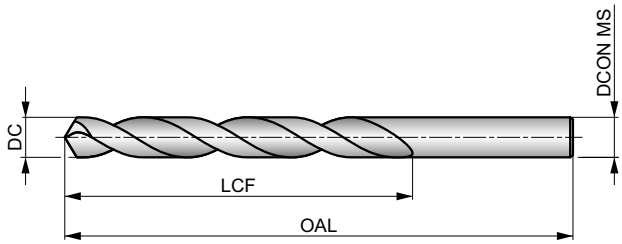
Product	DC	DC	DC	LCF	OAL	CZC MS
	(inch)	(mm)	(inch)	(mm)	(mm)	
A13026.0	–	26.00	1.0236	165.0	286.0	MK 3
A13026.25	–	26.25	1.0335	165.0	286.0	MK 3
A13026.5	–	26.50	1.0433	165.0	286.0	MK 3
A1301.1/16	1.1/16	26.99	1.0625	170.0	291.0	MK 3
A13027.0	–	27.00	1.0630	170.0	291.0	MK 3
A13027.5	–	27.50	1.0827	170.0	291.0	MK 3
A13028.0	–	28.00	1.1024	170.0	291.0	MK 3
A13028.5	–	28.50	1.1220	175.0	296.0	MK 3
A1301.1/8	1.1/8	28.58	1.1250	175.0	296.0	MK 3
A13029.0	–	29.00	1.1417	175.0	296.0	MK 3
A13029.5	–	29.50	1.1614	175.0	296.0	MK 3
A13030.0	–	30.00	1.1811	175.0	296.0	MK 3
A1301.3/16	1.3/16	30.16	1.1875	180.0	301.0	MK 3
A13030.5	–	30.50	1.2008	180.0	301.0	MK 3
A13031.0	–	31.00	1.2205	180.0	301.0	MK 3
A13031.5	–	31.50	1.2402	180.0	301.0	MK 3
A1301.1/4	1.1/4	31.75	1.2500	185.0	306.0	MK 3
A13032.0	–	32.00	1.2598	185.0	334.0	MK 4
A13032.5	–	32.50	1.2795	185.0	334.0	MK 4
A13033.0	–	33.00	1.2992	185.0	334.0	MK 4
A13033.5	–	33.50	1.3189	185.0	334.0	MK 4
A13034.0	–	34.00	1.3386	190.0	339.0	MK 4
A13034.5	–	34.50	1.3583	190.0	339.0	MK 4
A1301.3/8	1.3/8	34.93	1.3750	190.0	339.0	MK 4
A13035.0	–	35.00	1.3780	190.0	339.0	MK 4
A13035.5	–	35.50	1.3976	190.0	339.0	MK 4
A13036.0	–	36.00	1.4173	195.0	344.0	MK 4
A13037.0	–	37.00	1.4567	195.0	344.0	MK 4
A13037.5	–	37.50	1.4764	195.0	344.0	MK 4
A13038.0	–	38.00	1.4961	200.0	349.0	MK 4
A1301.1/2	1.1/2	38.10	1.5000	200.0	349.0	MK 4
A13038.5	–	38.50	1.5157	200.0	349.0	MK 4
A13039.0	–	39.00	1.5354	200.0	349.0	MK 4
A13039.5	–	39.50	1.5551	200.0	349.0	MK 4
A13040.0	–	40.00	1.5748	200.0	349.0	MK 4
A13041.0	–	41.00	1.6142	205.0	354.0	MK 4
A13042.0	–	42.00	1.6535	205.0	354.0	MK 4
A13043.0	–	43.00	1.6929	210.0	359.0	MK 4
A13044.0	–	44.00	1.7323	210.0	359.0	MK 4
A1301.3/4	1.3/4	44.45	1.7500	210.0	359.0	MK 4
A13045.0	–	45.00	1.7717	210.0	359.0	MK 4
A13046.0	–	46.00	1.8110	215.0	364.0	MK 4
A13048.0	–	48.00	1.8898	220.0	369.0	MK 4
A13049.0	–	49.00	1.9291	220.0	369.0	MK 4
A13050.0	–	50.00	1.9685	220.0	369.0	MK 4
A1302	2″	50.80	2.0000	225.0	374.0	MK 4

A002

DORMER

HSS Jobber Drill, TiN-Tip Coated

Versatile drill for both hand-held and machine drilling. A specially designed 118° split point which helps to self-center the drill when drilling by hand and provides more accurate sized holes. Suitable for many materials. TiN-Tip coating improves performance and extends tool life.



HSS	DIN 338	4×D
118°	TiN-Tip	
λ 20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 46 J	■ 52 J	■ 54 J	■ 40 J	■ 35 F	◪ 31 F	■ 27 F	■ 21 F	◪ 18 F	■ 16 F	◪ 13 F	◪ 11 E	◪ 27 F	◪ 23 F
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪ 24 F	◪ 20 F	◪ 14 G	◪ 12 G	◪ 11 G	◪ 16 C	■ 40 J	■ 30 E	■ 22 E	◪ 34 E	◪ 28 E	◪ 22 E	◪ 30 E	◪ 23 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 19 E	◪ 28 E	◪ 21 E	◪ 16 E	◪ 13 E	◪ 11 E	◪ 32 E	◪ 24 E	◪ 19 E	■ 41 K	■ 31 K	■ 21 J	◪ 51 I	◪ 46 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪ 33 I	◪ 56 H	◪ 33 I	◪ 17 G	■ 30 I	■ 50 H	◪ 35 F	◪ 23 F	◪ 13 D	◪ 7 B	◪ 9 E	◪ 4 A	◪ 7 E	◪ 3 A
S4.1	**S4.2**												
◪ 5 E	◪ 2 A												

DC < 2mm Bright; DC >= 2mm TiN Tipped and Split Point.
Products from this series are also available in set. Please see A087, A089 A094, A095 or A099.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A0021.0	–	1.00	0.0394	12.0	34.0	1.00
A0021.1	–	1.10	0.0433	14.0	36.0	1.10
A0023/64	3/64	1.19	0.0469	16.0	38.0	1.19
A0021.2	–	1.20	0.0472	16.0	38.0	1.20
A0021.3	–	1.30	0.0512	16.0	38.0	1.30
A0021.4	–	1.40	0.0551	18.0	40.0	1.40
A0021.5	–	1.50	0.0591	18.0	40.0	1.50
A0021/16	1/16	1.59	0.0625	20.0	43.0	1.59
A0021.6	–	1.60	0.0630	20.0	43.0	1.60
A0021.7	–	1.70	0.0669	20.0	43.0	1.70
A0021.8	–	1.80	0.0709	22.0	46.0	1.80
A0021.9	–	1.90	0.0748	22.0	46.0	1.90
A0025/64	5/64	1.98	0.0781	24.0	49.0	1.98
A0022.0	–	2.00	0.0787	24.0	49.0	2.00
A0022.1	–	2.10	0.0827	24.0	49.0	2.10
A0022.2	–	2.20	0.0866	27.0	53.0	2.20
A0022.3	–	2.30	0.0906	27.0	53.0	2.30
A0023/32	3/32	2.38	0.0938	30.0	57.0	2.38
A0022.4	–	2.40	0.0945	30.0	57.0	2.40
A0022.5	–	2.50	0.0984	30.0	57.0	2.50
A0022.6	–	2.60	0.1024	30.0	57.0	2.60
A0022.7	–	2.70	0.1063	33.0	61.0	2.70

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A0027/64	7/64	2.78	0.1094	33.0	61.0	2.78
A0022.8	–	2.80	0.1102	33.0	61.0	2.80
A0022.9	–	2.90	0.1142	33.0	61.0	2.90
A0023.0	–	3.00	0.1181	33.0	61.0	3.00
A0023.1	–	3.10	0.1220	36.0	65.0	3.10
A0021/8	1/8	3.18	0.1250	36.0	65.0	3.18
A0023.2	–	3.20	0.1260	36.0	65.0	3.20
A0023.25	–	3.25	0.1280	36.0	65.0	3.25
A0023.3	–	3.30	0.1299	36.0	65.0	3.30
A0023.4	–	3.40	0.1339	39.0	70.0	3.40
A0023.5	–	3.50	0.1378	39.0	70.0	3.50
A0029/64	9/64	3.57	0.1406	39.0	70.0	3.57
A0023.6	–	3.60	0.1417	39.0	70.0	3.60
A0023.7	–	3.70	0.1457	39.0	70.0	3.70
A0023.8	–	3.80	0.1496	43.0	75.0	3.80
A0023.9	–	3.90	0.1535	43.0	75.0	3.90
A0025/32	5/32	3.97	0.1563	43.0	75.0	3.97
A0024.0	–	4.00	0.1575	43.0	75.0	4.00
A0024.1	–	4.10	0.1614	43.0	75.0	4.10
A0024.2	–	4.20	0.1654	43.0	75.0	4.20
A0024.3	–	4.30	0.1693	47.0	80.0	4.30
A00211/64	11/64	4.37	0.1719	47.0	80.0	4.37

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A0024.4	–	4.40	0.1732	47.0	80.0	4.40
A0024.5	–	4.50	0.1772	47.0	80.0	4.50
A0024.6	–	4.60	0.1811	47.0	80.0	4.60
A0024.7	–	4.70	0.1850	47.0	80.0	4.70
A0023/16	3/16	4.76	0.1875	52.0	86.0	4.76
A0024.8	–	4.80	0.1890	52.0	86.0	4.80
A0024.9	–	4.90	0.1929	52.0	86.0	4.90
A0025.0	–	5.00	0.1969	52.0	86.0	5.00
A0025.1	–	5.10	0.2008	52.0	86.0	5.10
A00213/64	13/64	5.16	0.2031	52.0	86.0	5.16
A0025.2	–	5.20	0.2047	52.0	86.0	5.20
A0025.3	–	5.30	0.2087	52.0	86.0	5.30
A0025.4	–	5.40	0.2126	57.0	93.0	5.40
A0025.5	–	5.50	0.2165	57.0	93.0	5.50
A0027/32	7/32	5.56	0.2188	57.0	93.0	5.56
A0025.6	–	5.60	0.2205	57.0	93.0	5.60
A0025.7	–	5.70	0.2244	57.0	93.0	5.70
A0025.8	–	5.80	0.2283	57.0	93.0	5.80
A0025.9	–	5.90	0.2323	57.0	93.0	5.90
A00215/64	15/64	5.95	0.2344	57.0	93.0	5.95
A0026.0	–	6.00	0.2362	57.0	93.0	6.00
A0026.1	–	6.10	0.2402	63.0	101.0	6.10
A0026.2	–	6.20	0.2441	63.0	101.0	6.20
A0026.3	–	6.30	0.2480	63.0	101.0	6.30
A0021/4	1/4	6.35	0.2500	63.0	101.0	6.35
A0026.4	–	6.40	0.2520	63.0	101.0	6.40
A0026.5	–	6.50	0.2559	63.0	101.0	6.50
A0026.6	–	6.60	0.2598	63.0	101.0	6.60
A0026.7	–	6.70	0.2638	63.0	101.0	6.70
A00217/64	17/64	6.75	0.2656	69.0	109.0	6.75
A0026.8	–	6.80	0.2677	69.0	109.0	6.80
A0026.9	–	6.90	0.2717	69.0	109.0	6.90
A0027.0	–	7.00	0.2756	69.0	109.0	7.00
A0027.1	–	7.10	0.2795	69.0	109.0	7.10
A0029/32	9/32	7.14	0.2813	69.0	109.0	7.14
A0027.2	–	7.20	0.2835	69.0	109.0	7.20
A0027.3	–	7.30	0.2874	69.0	109.0	7.30
A0027.4	–	7.40	0.2913	69.0	109.0	7.40
A0027.5	–	7.50	0.2953	69.0	109.0	7.50
A00219/64	19/64	7.54	0.2969	75.0	117.0	7.54
A0027.6	–	7.60	0.2992	75.0	117.0	7.60
A0027.7	–	7.70	0.3031	75.0	117.0	7.70
A0027.8	–	7.80	0.3071	75.0	117.0	7.80
A0027.9	–	7.90	0.3110	75.0	117.0	7.90
A0025/16	5/16	7.94	0.3125	75.0	117.0	7.94
A0028.0	–	8.00	0.3150	75.0	117.0	8.00
A0028.1	–	8.10	0.3189	75.0	117.0	8.10
A0028.2	–	8.20	0.3228	75.0	117.0	8.20
A0028.3	–	8.30	0.3268	75.0	117.0	8.30
A00221/64	21/64	8.33	0.3281	75.0	117.0	8.33
A0028.4	–	8.40	0.3307	75.0	117.0	8.40
A0028.5	–	8.50	0.3346	75.0	117.0	8.50
A0028.6	–	8.60	0.3386	81.0	125.0	8.60
A0028.7	–	8.70	0.3425	81.0	125.0	8.70
A00211/32	11/32	8.73	0.3438	81.0	125.0	8.73
A0028.8	–	8.80	0.3465	81.0	125.0	8.80
A0028.9	–	8.90	0.3504	81.0	125.0	8.90
A0029.0	–	9.00	0.3543	81.0	125.0	9.00
A0029.1	–	9.10	0.3583	81.0	125.0	9.10
A00223/64	23/64	9.13	0.3594	81.0	125.0	9.13
A0029.2	–	9.20	0.3622	81.0	125.0	9.20
A0029.3	–	9.30	0.3661	81.0	125.0	9.30
A0029.4	–	9.40	0.3701	81.0	125.0	9.40
A0029.5	–	9.50	0.3740	81.0	125.0	9.50
A0023/8	3/8	9.52	0.3750	87.0	133.0	9.52
A0029.6	–	9.60	0.3780	87.0	133.0	9.60
A0029.7	–	9.70	0.3819	87.0	133.0	9.70

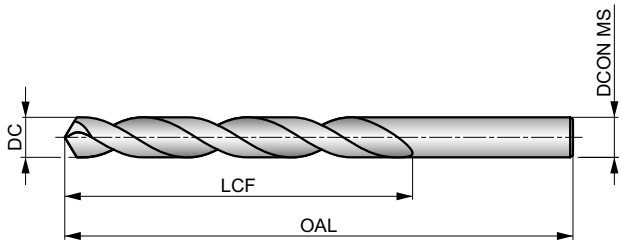
Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A0029.8	–	9.80	0.3858	87.0	133.0	9.80
A0029.9	–	9.90	0.3898	87.0	133.0	9.90
A00225/64	25/64	9.92	0.3906	87.0	133.0	9.92
A00210.0	–	10.00	0.3937	87.0	133.0	10.00
A00210.1	–	10.10	0.3976	87.0	133.0	10.10
A00210.2	–	10.20	0.4016	87.0	133.0	10.20
A00210.3	–	10.30	0.4055	87.0	133.0	10.30
A00213/32	13/32	10.32	0.4063	87.0	133.0	10.32
A00210.4	–	10.40	0.4094	87.0	133.0	10.40
A00210.5	–	10.50	0.4134	87.0	133.0	10.50
A00210.6	–	10.60	0.4173	87.0	133.0	10.60
A00210.7	–	10.70	0.4213	94.0	142.0	10.70
A00227/64	27/64	10.72	0.4219	94.0	142.0	10.72
A00210.8	–	10.80	0.4252	94.0	142.0	10.80
A00210.9	–	10.90	0.4291	94.0	142.0	10.90
A00211.0	–	11.00	0.4331	94.0	142.0	11.00
A00211.1	–	11.10	0.4370	94.0	142.0	11.10
A0027/16	7/16	11.11	0.4375	94.0	142.0	11.11
A00211.2	–	11.20	0.4409	94.0	142.0	11.20
A00211.3	–	11.30	0.4449	94.0	142.0	11.30
A00211.4	–	11.40	0.4488	94.0	142.0	11.40
A00211.5	–	11.50	0.4528	94.0	142.0	11.50
A00229/64	29/64	11.51	0.4531	94.0	142.0	11.51
A00211.6	–	11.60	0.4567	94.0	142.0	11.60
A00211.7	–	11.70	0.4606	94.0	142.0	11.70
A00211.8	–	11.80	0.4646	94.0	142.0	11.80
A00211.9	–	11.90	0.4685	101.0	151.0	11.90
A00215/32	15/32	11.91	0.4688	101.0	151.0	11.91
A00212.0	–	12.00	0.4724	101.0	151.0	12.00
A00212.1	–	12.10	0.4764	101.0	151.0	12.10
A00212.2	–	12.20	0.4803	101.0	151.0	12.20
A00212.3	–	12.30	0.4843	101.0	151.0	12.30
A00231/64	31/64	12.30	0.4844	101.0	151.0	12.30
A00212.4	–	12.40	0.4882	101.0	151.0	12.40
A00212.5	–	12.50	0.4921	101.0	151.0	12.50
A00212.6	–	12.60	0.4961	101.0	151.0	12.60
A00212.7	–	12.70	0.5000	101.0	151.0	12.70
A0021/2	1/2	12.70	0.5000	101.0	151.0	12.70
A00212.8	–	12.80	0.5039	101.0	151.0	12.80
A00212.9	–	12.90	0.5079	101.0	151.0	12.90
A00213.0	–	13.00	0.5118	101.0	151.0	13.00
A00233/64	33/64	13.10	0.5156	101.0	151.0	13.10
A00213.1	–	13.10	0.5157	101.0	151.0	13.10
A00213.2	–	13.20	0.5197	101.0	151.0	13.20
A00213.25	–	13.25	0.5217	108.0	160.0	13.25
A00213.3	–	13.30	0.5236	108.0	160.0	13.30
A00213.4	–	13.40	0.5276	108.0	160.0	13.40
A00217/32	17/32	13.49	0.5313	108.0	160.0	13.49
A00213.5	–	13.50	0.5315	108.0	160.0	13.50
A00213.6	–	13.60	0.5354	108.0	160.0	13.60
A00213.7	–	13.70	0.5394	108.0	160.0	13.70
A00213.75	–	13.75	0.5413	108.0	160.0	13.75
A00213.8	–	13.80	0.5433	108.0	160.0	13.80
A00213.9	–	13.90	0.5472	108.0	160.0	13.90
A00214.0	–	14.00	0.5512	108.0	160.0	14.00
A00214.25	–	14.25	0.5610	114.0	169.0	14.25
A0029/16	9/16	14.29	0.5625	114.0	169.0	14.29
A00214.5	–	14.50	0.5709	114.0	169.0	14.50
A00214.75	–	14.75	0.5807	114.0	169.0	14.75
A00215.0	–	15.00	0.5906	114.0	169.0	15.00
A00219/32	19/32	15.08	0.5938	120.0	178.0	15.08
A00215.25	–	15.25	0.6004	120.0	178.0	15.25
A00215.5	–	15.50	0.6102	120.0	178.0	15.50
A00215.75	–	15.75	0.6201	120.0	178.0	15.75
A0025/8	5/8	15.88	0.6250	120.0	178.0	15.88
A00216.0	–	16.00	0.6299	120.0	178.0	16.00

A002S

DORMER

HSS Jobber Drill, TiN-Tip Coated

Versatile drill for both hand-held and machine drilling. A specially designed 118° split point which helps to self-center the drill when drilling by hand and provides more accurate sized hole. Suitable for many materials. TiN-Tip coating improves performance and extends tool life.



HSS	DIN 338	4×D
118°	TiN-Tip	
λ 20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 46 J	■ 52 J	■ 54 J	■ 40 J	■ 35 F	◪ 31 F	■ 27 F	■ 21 F	◪ 18 F	■ 16 F	◪ 13 F	◪ 11 E	◪ 27 F	◪ 23 F
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪ 24 F	◪ 20 F	◪ 14 G	◪ 12 G	◪ 11 G	◪ 16 C	■ 40 J	■ 30 E	■ 22 E	◪ 34 E	◪ 28 E	◪ 22 E	◪ 30 E	◪ 23 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 19 E	◪ 28 E	◪ 21 E	◪ 16 E	◪ 13 E	◪ 11 E	◪ 32 E	◪ 24 E	◪ 19 E	■ 41 K	■ 31 K	■ 21 J	◪ 51 I	◪ 46 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪ 33 I	◪ 56 H	◪ 33 I	◪ 17 G	■ 30 I	■ 50 H	◪ 35 F	◪ 23 F	◪ 13 D	◪ 7 B	◪ 9 E	◪ 4 A	◪ 7 E	◪ 3 A
S4.1	**S4.2**												
◪ 5 E	◪ 2 A												

DC <= 5mm Sold in packs of 2.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A002S2.0	–	2.00	0.0787	24.0	49.0	2.00
A002S2.5	–	2.50	0.0984	30.0	57.0	2.50
A002S3.0	–	3.00	0.1181	33.0	61.0	3.00
A002S1/8	1/8	3.18	0.1250	36.0	65.0	3.18
A002S3.2	–	3.20	0.1260	36.0	65.0	3.20
A002S3.3	–	3.30	0.1299	36.0	65.0	3.30
A002S3.5	–	3.50	0.1378	39.0	70.0	3.50
A002S5/32	5/32	3.97	0.1563	43.0	75.0	3.97
A002S4.0	–	4.00	0.1575	43.0	75.0	4.00
A002S4.1	–	4.10	0.1614	43.0	75.0	4.10
A002S4.2	–	4.20	0.1654	43.0	75.0	4.20
A002S4.5	–	4.50	0.1772	47.0	80.0	4.50
A002S3/16	3/16	4.76	0.1875	52.0	86.0	4.76
A002S5.0	–	5.00	0.1969	52.0	86.0	5.00
A002S13/64	13/64	5.16	0.2031	52.0	86.0	5.16
A002S5.5	–	5.50	0.2165	57.0	93.0	5.50
A002S7/32	7/32	5.56	0.2188	57.0	93.0	5.56
A002S6.0	–	6.00	0.2362	57.0	93.0	6.00
A002S1/4	1/4	6.35	0.2500	63.0	101.0	6.35
A002S6.5	–	6.50	0.2559	63.0	101.0	6.50

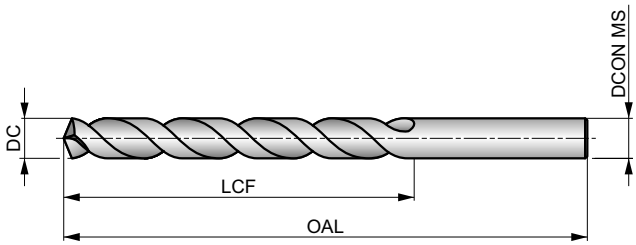
Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A002S6.8	–	6.80	0.2677	69.0	109.0	6.80
A002S7.0	–	7.00	0.2756	69.0	109.0	7.00
A002S7.5	–	7.50	0.2953	69.0	109.0	7.50
A002S5/16	5/16	7.94	0.3125	75.0	117.0	7.94
A002S8.0	–	8.00	0.3150	75.0	117.0	8.00
A002S8.2	–	8.20	0.3228	75.0	117.0	8.20
A002S8.5	–	8.50	0.3346	75.0	117.0	8.50
A002S9.0	–	9.00	0.3543	81.0	125.0	9.00
A002S9.5	–	9.50	0.3740	81.0	125.0	9.50
A002S3/8	3/8	9.52	0.3750	87.0	133.0	9.52
A002S10.0	–	10.00	0.3937	87.0	133.0	10.00
A002S10.2	–	10.20	0.4016	87.0	133.0	10.20
A002S10.5	–	10.50	0.4134	87.0	133.0	10.50
A002S11.0	–	11.00	0.4331	94.0	142.0	11.00
A002S11.5	–	11.50	0.4528	94.0	142.0	11.50
A002S12.0	–	12.00	0.4724	101.0	151.0	12.00
A002S12.5	–	12.50	0.4921	101.0	151.0	12.50
A002S1/2	1/2	12.70	0.5000	101.0	151.0	12.70
A002S13.0	–	13.00	0.5118	101.0	151.0	13.00

A108

DORMER

HSS Jobber Drill, Steam Tempered Finish (Designed for Stainless Steel)

First choice when drilling stainless steel with hand-held applications, but can also be used effectively in machines. The 135° split point helps to self-center and reduces the cutting forces. Steam tempered finish helps stop workpiece material from sticking to the cutting edge.



HSS	DIN 338	4×D
135°	ST	
λ>35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪33 I	◪37 I	◪38 I	◪28 I	◪25 G	◪22 E	◪19 F	◪15 F	◪13 E	◪11 F	◪10 E	◪8 D	◪21 E	◪17 E
M2.1	M2.2	M3.1	M3.2	M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2
◪18 E	◪15 E	■10 G	■9 G	■8 G	■10 D	◪30 H	◪22 F	◪17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	N3.1	N3.2	N3.3	N4.1	N4.2	N4.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2
◪27 H	◪59 H	◪35 I	◪18 G	◪30 J	◪28 H	◪14 F	■25 G	■16 E	◪7 B	◪9 G	◪8 E	◪7 G	◪6 E
S4.1	S4.2												
◪5 G	◪5 E												

DC > 1.5mm (1/16") Split Point.
Products from this series are also available in set. Please see A188.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1081.0	–	1.00	0.0394	12.0	34.0	1.00
A1081.1	–	1.10	0.0433	14.0	36.0	1.10
A1081.2	–	1.20	0.0472	16.0	38.0	1.20
A1081.3	–	1.30	0.0512	16.0	38.0	1.30
A1081.4	–	1.40	0.0551	18.0	40.0	1.40
A1081.5	–	1.50	0.0591	18.0	40.0	1.50
A1081/16	1/16	1.59	0.0625	20.0	43.0	1.59
A1081.6	–	1.60	0.0630	20.0	43.0	1.60
A1081.7	–	1.70	0.0669	20.0	43.0	1.70
A1081.8	–	1.80	0.0709	22.0	46.0	1.80
A1081.9	–	1.90	0.0748	22.0	46.0	1.90
A1085/64	5/64	1.98	0.0781	24.0	49.0	1.98
A1082.0	–	2.00	0.0787	24.0	49.0	2.00
A1082.1	–	2.10	0.0827	24.0	49.0	2.10
A1082.2	–	2.20	0.0866	27.0	53.0	2.20
A1082.3	–	2.30	0.0906	27.0	53.0	2.30
A1083/32	3/32	2.38	0.0938	30.0	57.0	2.38
A1082.4	–	2.40	0.0945	30.0	57.0	2.40
A1082.5	–	2.50	0.0984	30.0	57.0	2.50
A1082.6	–	2.60	0.1024	30.0	57.0	2.60
A1082.7	–	2.70	0.1063	33.0	61.0	2.70
A1087/64	7/64	2.78	0.1094	33.0	61.0	2.78

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1082.8	–	2.80	0.1102	33.0	61.0	2.80
A1082.9	–	2.90	0.1142	33.0	61.0	2.90
A1083.0	–	3.00	0.1181	33.0	61.0	3.00
A1083.1	–	3.10	0.1220	36.0	65.0	3.10
A1081/8	1/8	3.18	0.1250	36.0	65.0	3.18
A1083.2	–	3.20	0.1260	36.0	65.0	3.20
A1083.3	–	3.30	0.1299	36.0	65.0	3.30
A1083.4	–	3.40	0.1339	39.0	70.0	3.40
A1083.5	–	3.50	0.1378	39.0	70.0	3.50
A1089/64	9/64	3.57	0.1406	39.0	70.0	3.57
A1083.6	–	3.60	0.1417	39.0	70.0	3.60
A1083.7	–	3.70	0.1457	39.0	70.0	3.70
A1083.8	–	3.80	0.1496	43.0	75.0	3.80
A1083.9	–	3.90	0.1535	43.0	75.0	3.90
A1085/32	5/32	3.97	0.1563	43.0	75.0	3.97
A1084.0	–	4.00	0.1575	43.0	75.0	4.00
A1084.1	–	4.10	0.1614	43.0	75.0	4.10
A1084.2	–	4.20	0.1654	43.0	75.0	4.20
A1084.3	–	4.30	0.1693	47.0	80.0	4.30
A10811/64	11/64	4.37	0.1719	47.0	80.0	4.37
A1084.4	–	4.40	0.1732	47.0	80.0	4.40
A1084.5	–	4.50	0.1772	47.0	80.0	4.50

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1084.6	–	4.60	0.1811	47.0	80.0	4.60
A1084.7	–	4.70	0.1850	47.0	80.0	4.70
A1083/16	3/16	4.76	0.1875	52.0	86.0	4.76
A1084.8	–	4.80	0.1890	52.0	86.0	4.80
A1084.9	–	4.90	0.1929	52.0	86.0	4.90
A108N10	N10	4.92	0.1935	52.0	86.0	4.92
A1085.0	–	5.00	0.1969	52.0	86.0	5.00
A1085.1	–	5.10	0.2008	52.0	86.0	5.10
A10813/64	13/64	5.16	0.2031	52.0	86.0	5.16
A1085.2	–	5.20	0.2047	52.0	86.0	5.20
A1085.3	–	5.30	0.2087	52.0	86.0	5.30
A1085.4	–	5.40	0.2126	57.0	93.0	5.40
A1085.5	–	5.50	0.2165	57.0	93.0	5.50
A1087/32	7/32	5.56	0.2188	57.0	93.0	5.56
A1085.6	–	5.60	0.2205	57.0	93.0	5.60
A1085.7	–	5.70	0.2244	57.0	93.0	5.70
A1085.8	–	5.80	0.2283	57.0	93.0	5.80
A1085.9	–	5.90	0.2323	57.0	93.0	5.90
A10815/64	15/64	5.95	0.2344	57.0	93.0	5.95
A1086.0	–	6.00	0.2362	57.0	93.0	6.00
A1086.1	–	6.10	0.2402	63.0	101.0	6.10
A1086.2	–	6.20	0.2441	63.0	101.0	6.20
A1086.3	–	6.30	0.2480	63.0	101.0	6.30
A1081/4	1/4	6.35	0.2500	63.0	101.0	6.35
A1086.4	–	6.40	0.2520	63.0	101.0	6.40
A1086.5	–	6.50	0.2559	63.0	101.0	6.50
A1086.6	–	6.60	0.2598	63.0	101.0	6.60
A1086.7	–	6.70	0.2638	63.0	101.0	6.70
A10817/64	17/64	6.75	0.2656	69.0	109.0	6.75
A1086.8	–	6.80	0.2677	69.0	109.0	6.80
A1086.9	–	6.90	0.2717	69.0	109.0	6.90
A1087.0	–	7.00	0.2756	69.0	109.0	7.00
A1087.1	–	7.10	0.2795	69.0	109.0	7.10
A1089/32	9/32	7.14	0.2813	69.0	109.0	7.14
A1087.2	–	7.20	0.2835	69.0	109.0	7.20
A1087.3	–	7.30	0.2874	69.0	109.0	7.30
A1087.4	–	7.40	0.2913	69.0	109.0	7.40
A1087.5	–	7.50	0.2953	69.0	109.0	7.50
A10819/64	19/64	7.54	0.2969	75.0	117.0	7.54
A1087.6	–	7.60	0.2992	75.0	117.0	7.60
A1087.7	–	7.70	0.3031	75.0	117.0	7.70
A1087.8	–	7.80	0.3071	75.0	117.0	7.80
A1087.9	–	7.90	0.3110	75.0	117.0	7.90
A1085/16	5/16	7.94	0.3125	75.0	117.0	7.94
A1088.0	–	8.00	0.3150	75.0	117.0	8.00
A1088.1	–	8.10	0.3189	75.0	117.0	8.10
A1088.2	–	8.20	0.3228	75.0	117.0	8.20

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1088.3	–	8.30	0.3268	75.0	117.0	8.30
A10821/64	21/64	8.33	0.3281	75.0	117.0	8.33
A1088.4	–	8.40	0.3307	75.0	117.0	8.40
A1088.5	–	8.50	0.3346	75.0	117.0	8.50
A1088.6	–	8.60	0.3386	81.0	125.0	8.60
A1088.7	–	8.70	0.3425	81.0	125.0	8.70
A10811/32	11/32	8.73	0.3438	81.0	125.0	8.73
A1088.8	–	8.80	0.3465	81.0	125.0	8.80
A1088.9	–	8.90	0.3504	81.0	125.0	8.90
A1089.0	–	9.00	0.3543	81.0	125.0	9.00
A1089.1	–	9.10	0.3583	81.0	125.0	9.10
A10823/64	23/64	9.13	0.3594	81.0	125.0	9.13
A1089.2	–	9.20	0.3622	81.0	125.0	9.20
A1089.3	–	9.30	0.3661	81.0	125.0	9.30
A1089.4	–	9.40	0.3701	81.0	125.0	9.40
A1089.5	–	9.50	0.3740	81.0	125.0	9.50
A1083/8	3/8	9.52	0.3750	87.0	133.0	9.52
A1089.6	–	9.60	0.3780	87.0	133.0	9.60
A1089.7	–	9.70	0.3819	87.0	133.0	9.70
A1089.8	–	9.80	0.3858	87.0	133.0	9.80
A1089.9	–	9.90	0.3898	87.0	133.0	9.90
A10825/64	25/64	9.92	0.3906	87.0	133.0	9.92
A10810.0	–	10.00	0.3937	87.0	133.0	10.00
A10810.2	–	10.20	0.4016	87.0	133.0	10.20
A10813/32	13/32	10.32	0.4063	87.0	133.0	10.32
A10810.5	–	10.50	0.4134	87.0	133.0	10.50
A10827/64	27/64	10.72	0.4219	94.0	142.0	10.72
A10810.8	–	10.80	0.4252	94.0	142.0	10.80
A10811.0	–	11.00	0.4331	94.0	142.0	11.00
A1087/16	7/16	11.11	0.4375	94.0	142.0	11.11
A10811.5	–	11.50	0.4528	94.0	142.0	11.50
A10829/64	29/64	11.51	0.4531	94.0	142.0	11.51
A10811.8	–	11.80	0.4646	94.0	142.0	11.80
A10815/32	15/32	11.91	0.4688	101.0	151.0	11.91
A10812.0	–	12.00	0.4724	101.0	151.0	12.00
A10812.2	–	12.20	0.4803	101.0	151.0	12.20
A10831/64	31/64	12.30	0.4844	101.0	151.0	12.30
A10812.5	–	12.50	0.4921	101.0	151.0	12.50
A1081/2	1/2	12.70	0.5000	101.0	151.0	12.70
A10812.8	–	12.80	0.5039	101.0	151.0	12.80
A10813.0	–	13.00	0.5118	101.0	151.0	13.00
A10813.5	–	13.50	0.5315	108.0	160.0	13.50
A10814.0	–	14.00	0.5512	108.0	160.0	14.00
A10814.5	–	14.50	0.5709	114.0	169.0	14.50
A10815.0	–	15.00	0.5906	114.0	169.0	15.00
A10815.25	–	15.25	0.6004	120.0	178.0	15.25
A10816.0	–	16.00	0.6299	120.0	178.0	16.00

Material code (BMC)		HSS	HSS												
Basic standard group (BSG)		DIN 340	BS 328												
Usable length (ULDR)		6×D	10×D												
Application angle		118°	118°												
Coating		ST	ST												
Shank															
Spiral form		λ 20-35°	λ 20-35°												
Hand (Cutting direction)		R	R												
															
Product Family Code		A110	A125												
PSF cutting diameters range		0.50 - 1"	1.40 - 3/4												
		36	38												
P	P1	■	■												
	P2	■	◪												
	P3	◪	◪												
	P4	◪	◪												
M	M1	◪	◪												
	M2	◪	◪												
	M3	◪	◪												
	M4	◪	◪												
K	K1	◪	◪												
	K2	◪	◪												
	K3	◪	◪												
	K4	◪	◪												
	K5	◪	◪												
N	N1	◪	◪												
	N2	◪	◪												
	N3	◪	◪												
	N4	◪	◪												
	N5														
S	S1	◪	◪												
	S2	◪	◪												
	S3	◪	◪												
	S4	◪	◪												
H	H1														
	H2														
	H3														
	H4														

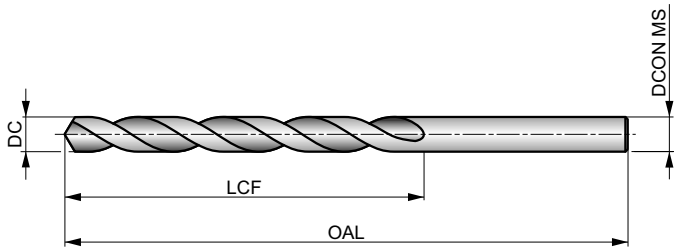
■ Primary use ◪ Possible use

A110

DORMER

HSS Long Series Drill, Steam Tempered Finish

For drilling deeper holes. Conventional 118° point provides strength and means an easy point to regrind, making it very cost-effective. Suitable for drilling many materials. Steam tempered finish retains cutting fluid and prevents chip to tool welding. For hand-held and machine drilling.



HSS	DIN 340	6×D
118°	ST	
λ20-35°	R	DC h8

DC <= 1mm; 1/16" Bright.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A110.5	–	0.50	0.0197	12.0	32.0	0.50
A110.6	–	0.60	0.0236	15.0	35.0	0.60
A110.7	–	0.70	0.0276	21.0	42.0	0.70
A1101/32	1/32	0.79	0.0313	25.0	46.0	0.79
A110.8	–	0.80	0.0315	25.0	46.0	0.80
A110.9	–	0.90	0.0354	29.0	51.0	0.90
A1101.0	–	1.00	0.0394	33.0	56.0	1.00
A1101.1	–	1.10	0.0433	37.0	60.0	1.10
A1101.2	–	1.20	0.0472	41.0	65.0	1.20
A1101.3	–	1.30	0.0512	41.0	65.0	1.30
A1101.4	–	1.40	0.0551	45.0	70.0	1.40
A1101.5	–	1.50	0.0591	45.0	70.0	1.50
A1101/16	1/16	1.59	0.0625	50.0	76.0	1.59
A1101.6	–	1.60	0.0630	50.0	76.0	1.60
A1101.7	–	1.70	0.0669	50.0	76.0	1.70
A1101.75	–	1.75	0.0689	53.0	80.0	1.75
A1101.8	–	1.80	0.0709	53.0	80.0	1.80
A1101.9	–	1.90	0.0748	53.0	80.0	1.90
A1105/64	5/64	1.98	0.0781	56.0	85.0	1.98
A1102.0	–	2.00	0.0787	56.0	85.0	2.00
A1102.05	–	2.05	0.0807	56.0	85.0	2.05
A1102.1	–	2.10	0.0827	56.0	85.0	2.10
A1102.2	–	2.20	0.0866	59.0	90.0	2.20
A1102.25	–	2.25	0.0886	59.0	90.0	2.25
A1102.3	–	2.30	0.0906	59.0	90.0	2.30
A1103/32	3/32	2.38	0.0938	62.0	95.0	2.38
A1102.4	–	2.40	0.0945	62.0	95.0	2.40
A1102.5	–	2.50	0.0984	62.0	95.0	2.50
A1102.6	–	2.60	0.1024	62.0	95.0	2.60
A1102.7	–	2.70	0.1063	66.0	100.0	2.70
A1107/64	7/64	2.78	0.1094	66.0	100.0	2.78
A1102.8	–	2.80	0.1102	66.0	100.0	2.80
A1102.9	–	2.90	0.1142	66.0	100.0	2.90

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1103.0	–	3.00	0.1181	66.0	100.0	3.00
A1103.1	–	3.10	0.1220	69.0	106.0	3.10
A1101/8	1/8	3.18	0.1250	69.0	106.0	3.18
A1103.2	–	3.20	0.1260	69.0	106.0	3.20
A1103.25	–	3.25	0.1280	69.0	106.0	3.25
A1103.3	–	3.30	0.1299	69.0	106.0	3.30
A1103.4	–	3.40	0.1339	73.0	112.0	3.40
A1103.5	–	3.50	0.1378	73.0	112.0	3.50
A1109/64	9/64	3.57	0.1406	73.0	112.0	3.57
A1103.6	–	3.60	0.1417	73.0	112.0	3.60
A1103.7	–	3.70	0.1457	73.0	112.0	3.70
A1103.75	–	3.75	0.1476	73.0	112.0	3.75
A1103.8	–	3.80	0.1496	78.0	119.0	3.80
A1103.9	–	3.90	0.1535	78.0	119.0	3.90
A1105/32	5/32	3.97	0.1563	78.0	119.0	3.97
A1104.0	–	4.00	0.1575	78.0	119.0	4.00
A1104.1	–	4.10	0.1614	78.0	119.0	4.10
A1104.2	–	4.20	0.1654	78.0	119.0	4.20
A1104.25	–	4.25	0.1673	78.0	119.0	4.25
A1104.3	–	4.30	0.1693	82.0	126.0	4.30
A11011/64	11/64	4.37	0.1719	82.0	126.0	4.37
A1104.4	–	4.40	0.1732	82.0	126.0	4.40
A1104.5	–	4.50	0.1772	82.0	126.0	4.50
A1104.6	–	4.60	0.1811	82.0	126.0	4.60
A1104.7	–	4.70	0.1850	82.0	126.0	4.70
A1104.75	–	4.75	0.1870	82.0	126.0	4.75
A1103/16	3/16	4.76	0.1875	87.0	132.0	4.76
A1104.8	–	4.80	0.1890	87.0	132.0	4.80
A1104.9	–	4.90	0.1929	87.0	132.0	4.90
A1105.0	–	5.00	0.1969	87.0	132.0	5.00
A1105.1	–	5.10	0.2008	87.0	132.0	5.10
A11013/64	13/64	5.16	0.2031	87.0	132.0	5.16
A1105.2	–	5.20	0.2047	87.0	132.0	5.20

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1105.25	–	5.25	0.2067	87.0	132.0	5.25
A1105.3	–	5.30	0.2087	87.0	132.0	5.30
A1105.4	–	5.40	0.2126	91.0	139.0	5.40
A1105.5	–	5.50	0.2165	91.0	139.0	5.50
A1107/32	7/32	5.56	0.2188	91.0	139.0	5.56
A1105.6	–	5.60	0.2205	91.0	139.0	5.60
A1105.7	–	5.70	0.2244	91.0	139.0	5.70
A1105.75	–	5.75	0.2264	91.0	139.0	5.75
A1105.8	–	5.80	0.2283	91.0	139.0	5.80
A1105.9	–	5.90	0.2323	91.0	139.0	5.90
A11015/64	15/64	5.95	0.2344	91.0	139.0	5.95
A1106.0	–	6.00	0.2362	91.0	139.0	6.00
A1106.1	–	6.10	0.2402	97.0	148.0	6.10
A1106.2	–	6.20	0.2441	97.0	148.0	6.20
A1106.25	–	6.25	0.2461	97.0	148.0	6.25
A1106.3	–	6.30	0.2480	97.0	148.0	6.30
A1101/4	1/4	6.35	0.2500	97.0	148.0	6.35
A1106.4	–	6.40	0.2520	97.0	148.0	6.40
A1106.5	–	6.50	0.2559	97.0	148.0	6.50
A1106.6	–	6.60	0.2598	97.0	148.0	6.60
A1106.7	–	6.70	0.2638	97.0	148.0	6.70
A11017/64	17/64	6.75	0.2656	102.0	156.0	6.75
A1106.75	–	6.75	0.2657	102.0	156.0	6.75
A1106.8	–	6.80	0.2677	102.0	156.0	6.80
A1106.9	–	6.90	0.2717	102.0	156.0	6.90
A1107.0	–	7.00	0.2756	102.0	156.0	7.00
A1107.1	–	7.10	0.2795	102.0	156.0	7.10
A1109/32	9/32	7.14	0.2813	102.0	156.0	7.14
A1107.2	–	7.20	0.2835	102.0	156.0	7.20
A1107.25	–	7.25	0.2854	102.0	156.0	7.25
A1107.3	–	7.30	0.2874	102.0	156.0	7.30
A1107.4	–	7.40	0.2913	102.0	156.0	7.40
A1107.5	–	7.50	0.2953	102.0	156.0	7.50
A1107.6	–	7.60	0.2992	109.0	165.0	7.60
A1107.7	–	7.70	0.3031	109.0	165.0	7.70
A1107.75	–	7.75	0.3051	109.0	165.0	7.75
A1107.8	–	7.80	0.3071	109.0	165.0	7.80
A1107.9	–	7.90	0.3110	109.0	165.0	7.90
A1105/16	5/16	7.94	0.3125	109.0	165.0	7.94
A1108.0	–	8.00	0.3150	109.0	165.0	8.00
A1108.1	–	8.10	0.3189	109.0	165.0	8.10
A1108.2	–	8.20	0.3228	109.0	165.0	8.20
A1108.25	–	8.25	0.3248	109.0	165.0	8.25
A1108.3	–	8.30	0.3268	109.0	165.0	8.30
A1108.4	–	8.40	0.3307	109.0	165.0	8.40
A1108.5	–	8.50	0.3346	109.0	165.0	8.50
A1108.6	–	8.60	0.3386	115.0	175.0	8.60
A1108.7	–	8.70	0.3425	115.0	175.0	8.70
A11011/32	11/32	8.73	0.3438	115.0	175.0	8.73
A1108.75	–	8.75	0.3445	115.0	175.0	8.75
A1108.8	–	8.80	0.3465	115.0	175.0	8.80

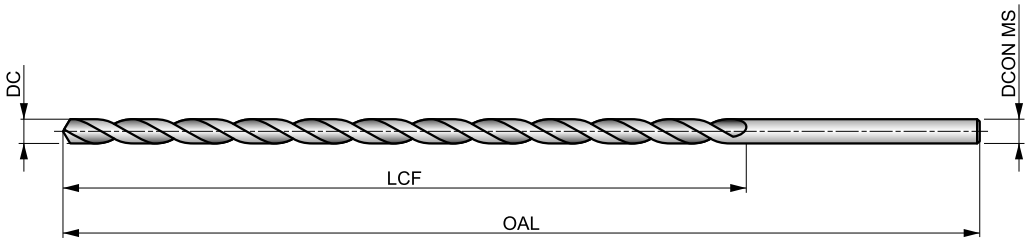
Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1109.0	–	9.00	0.3543	115.0	175.0	9.00
A1109.1	–	9.10	0.3583	115.0	175.0	9.10
A1109.2	–	9.20	0.3622	115.0	175.0	9.20
A1109.3	–	9.30	0.3661	115.0	175.0	9.30
A1109.5	–	9.50	0.3740	115.0	175.0	9.50
A1103/8	3/8	9.52	0.3750	121.0	184.0	9.52
A1109.6	–	9.60	0.3780	121.0	184.0	9.60
A1109.7	–	9.70	0.3819	121.0	184.0	9.70
A1109.8	–	9.80	0.3858	121.0	184.0	9.80
A1109.9	–	9.90	0.3898	121.0	184.0	9.90
A11010.0	–	10.00	0.3937	121.0	184.0	10.00
A11010.1	–	10.10	0.3976	121.0	184.0	10.10
A11010.2	–	10.20	0.4016	121.0	184.0	10.20
A11010.25	–	10.25	0.4035	121.0	184.0	10.25
A11010.3	–	10.30	0.4055	121.0	184.0	10.30
A11013/32	13/32	10.32	0.4063	121.0	184.0	10.32
A11010.5	–	10.50	0.4134	121.0	184.0	10.50
A11010.75	–	10.75	0.4232	128.0	195.0	10.75
A11010.8	–	10.80	0.4252	128.0	195.0	10.80
A11011.0	–	11.00	0.4331	128.0	195.0	11.00
A1107/16	7/16	11.11	0.4375	128.0	195.0	11.11
A11011.5	–	11.50	0.4528	128.0	195.0	11.50
A11011.75	–	11.75	0.4626	128.0	195.0	11.75
A11012.0	–	12.00	0.4724	134.0	205.0	12.00
A11012.1	–	12.10	0.4764	134.0	205.0	12.10
A11012.25	–	12.25	0.4823	134.0	205.0	12.25
A11012.5	–	12.50	0.4921	134.0	205.0	12.50
A1101/2	1/2	12.70	0.5000	134.0	205.0	12.70
A11013.0	–	13.00	0.5118	134.0	205.0	13.00
A11017/32	17/32	13.49	0.5313	140.0	214.0	13.49
A11013.5	–	13.50	0.5315	140.0	214.0	13.50
A11014.0	–	14.00	0.5512	140.0	214.0	14.00
A1109/16	9/16	14.29	0.5625	144.0	220.0	14.29
A11014.5	–	14.50	0.5709	144.0	220.0	14.50
A11015.0	–	15.00	0.5906	144.0	220.0	15.00
A11015.5	–	15.50	0.6102	149.0	227.0	15.50
A1105/8	5/8	15.88	0.6250	149.0	227.0	15.88
A11016.0	–	16.00	0.6299	149.0	227.0	16.00
A11016.5	–	16.50	0.6496	154.0	235.0	16.50
A11017.0	–	17.00	0.6693	154.0	235.0	17.00
A11017.5	–	17.50	0.6890	158.0	241.0	17.50
A11018.0	–	18.00	0.7087	158.0	241.0	18.00
A11018.5	–	18.50	0.7283	162.0	247.0	18.50
A11019.0	–	19.00	0.7480	162.0	247.0	19.00
A1103/4	3/4	19.05	0.7500	166.0	254.0	19.05
A11019.5	–	19.50	0.7677	166.0	254.0	19.50
A11020.0	–	20.00	0.7874	166.0	254.0	20.00
A11021.0	–	21.00	0.8268	171.0	261.0	21.00
A11022.0	–	22.00	0.8661	176.0	268.0	22.00
A1107/8	7/8	22.22	0.8750	176.0	268.0	22.22
A1101	1″	25.40	1.0000	190.0	290.0	25.40

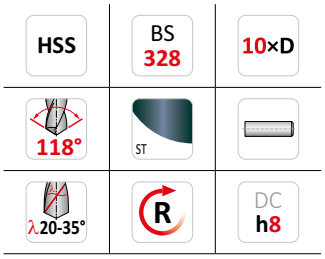
A125

DORMER

HSS Extra Long Series Drill, Steam Tempered Finish

With Steam tempered finish and recommended for very deep or difficult to reach holes. Conventional 118° point, providing strength and saving money on easy regrinds. Suitable for many materials. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Less suitable for hand-held drilling.





DC <= 2.2mm; 5/64" Bright.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1251.4X160	–	1.40	0.0551	100.0	160.0	1.40
A1251.5X125	–	1.50	0.0591	80.0	125.0	1.50
A1251.5X160	–	1.50	0.0591	100.0	160.0	1.50
A1251/16X125	1/16	1.59	0.0625	80.0	125.0	1.59
A1251/16X160	1/16	1.59	0.0625	100.0	160.0	1.59
A1251.8X160	–	1.80	0.0709	100.0	160.0	1.80
A1255/64X125	5/64	1.98	0.0781	80.0	125.0	1.98
A1255/64X160	5/64	1.98	0.0781	100.0	160.0	1.98
A1252.0X125	–	2.00	0.0787	80.0	125.0	2.00
A1252.0X160	–	2.00	0.0787	100.0	160.0	2.00
A1252.2X160	–	2.20	0.0866	100.0	160.0	2.20
A1253/32X125	3/32	2.38	0.0938	80.0	125.0	2.38
A1253/32X160	3/32	2.38	0.0938	100.0	160.0	2.38
A1252.5X125	–	2.50	0.0984	80.0	125.0	2.50
A1252.5X160	–	2.50	0.0984	100.0	160.0	2.50
A1257/64X125	7/64	2.78	0.1094	80.0	125.0	2.78
A1257/64X160	7/64	2.78	0.1094	100.0	160.0	2.78
A1253.0X160	–	3.00	0.1181	100.0	160.0	3.00
A1253.0X200	–	3.00	0.1181	150.0	200.0	3.00
A1253.0X250	–	3.00	0.1181	200.0	250.0	3.00
A1251/8X160	1/8	3.18	0.1250	100.0	160.0	3.18
A1251/8X200	1/8	3.18	0.1250	150.0	200.0	3.18
A1251/8X250	1/8	3.18	0.1250	200.0	250.0	3.18
A1251/8X315	1/8	3.18	0.1250	250.0	310.0	3.18
A1253.3X160	–	3.30	0.1299	100.0	160.0	3.30
A1253.5X160	–	3.50	0.1378	100.0	160.0	3.50
A1253.5X200	–	3.50	0.1378	150.0	200.0	3.50
A1253.5X250	–	3.50	0.1378	200.0	250.0	3.50
A1259/64X160	9/64	3.57	0.1406	100.0	160.0	3.57
A1259/64X200	9/64	3.57	0.1406	150.0	200.0	3.57
A1259/64X315	9/64	3.57	0.1406	250.0	310.0	3.57
A1255/32X160	5/32	3.97	0.1563	100.0	160.0	3.97
A1255/32X200	5/32	3.97	0.1563	150.0	200.0	3.97

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1255/32X250	5/32	3.97	0.1563	200.0	250.0	3.97
A1255/32X315	5/32	3.97	0.1563	250.0	310.0	3.97
A1254.0X160	–	4.00	0.1575	100.0	160.0	4.00
A1254.0X200	–	4.00	0.1575	150.0	200.0	4.00
A1254.0X250	–	4.00	0.1575	200.0	250.0	4.00
A1254.0X315	–	4.00	0.1575	250.0	310.0	4.00
A12511/64X160	11/64	4.37	0.1719	100.0	160.0	4.37
A12511/64X200	11/64	4.37	0.1719	150.0	200.0	4.37
A12511/64X315	11/64	4.37	0.1719	250.0	310.0	4.37
A1254.5X160	–	4.50	0.1772	100.0	160.0	4.50
A1254.5X200	–	4.50	0.1772	150.0	200.0	4.50
A1254.5X250	–	4.50	0.1772	200.0	250.0	4.50
A1254.5X315	–	4.50	0.1772	250.0	310.0	4.50
A1253/16X160	3/16	4.76	0.1875	100.0	160.0	4.76
A1253/16X200	3/16	4.76	0.1875	150.0	200.0	4.76
A1253/16X250	3/16	4.76	0.1875	200.0	250.0	4.76
A1253/16X315	3/16	4.76	0.1875	250.0	310.0	4.76
A1253/16X400	3/16	4.76	0.1875	300.0	400.0	4.76
A1255.0X160	–	5.00	0.1969	100.0	160.0	5.00
A1255.0X200	–	5.00	0.1969	150.0	200.0	5.00
A1255.0X250	–	5.00	0.1969	200.0	250.0	5.00
A1255.0X315	–	5.00	0.1969	250.0	310.0	5.00
A1255.0X400	–	5.00	0.1969	300.0	400.0	5.00
A12513/64X200	13/64	5.16	0.2031	150.0	200.0	5.16
A12513/64X250	13/64	5.16	0.2031	200.0	250.0	5.16
A12513/64X315	13/64	5.16	0.2031	250.0	310.0	5.16
A1255.5X200	–	5.50	0.2165	150.0	200.0	5.50
A1255.5X250	–	5.50	0.2165	200.0	250.0	5.50
A1255.5X315	–	5.50	0.2165	250.0	310.0	5.50
A1257/32X200	7/32	5.56	0.2188	150.0	200.0	5.56
A1257/32X250	7/32	5.56	0.2188	200.0	250.0	5.56
A12515/64X200	15/64	5.95	0.2344	150.0	200.0	5.95
A12515/64X315	15/64	5.95	0.2344	250.0	310.0	5.95

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1256.0X200	–	6.00	0.2362	150.0	200.0	6.00
A1256.0X250	–	6.00	0.2362	200.0	250.0	6.00
A1256.0X315	–	6.00	0.2362	250.0	310.0	6.00
A1256.0X400	–	6.00	0.2362	300.0	400.0	6.00
A1251/4X200	1/4	6.35	0.2500	150.0	200.0	6.35
A1251/4X250	1/4	6.35	0.2500	200.0	250.0	6.35
A1251/4X315	1/4	6.35	0.2500	250.0	310.0	6.35
A1251/4X400	1/4	6.35	0.2500	300.0	400.0	6.35
A1251/4X500	1/4	6.35	0.2500	400.0	460.0	6.35
A1256.5X200	–	6.50	0.2559	150.0	200.0	6.50
A1256.5X250	–	6.50	0.2559	200.0	250.0	6.50
A1256.5X315	–	6.50	0.2559	250.0	310.0	6.50
A12517/64X200	17/64	6.75	0.2656	150.0	200.0	6.75
A12517/64X250	17/64	6.75	0.2656	200.0	250.0	6.75
A12517/64X500	17/64	6.75	0.2656	400.0	460.0	6.75
A1257.0X200	–	7.00	0.2756	150.0	200.0	7.00
A1257.0X250	–	7.00	0.2756	200.0	250.0	7.00
A1257.0X315	–	7.00	0.2756	250.0	310.0	7.00
A1257.5X200	–	7.50	0.2953	150.0	200.0	7.50
A1257.5X250	–	7.50	0.2953	200.0	250.0	7.50
A1257.5X315	–	7.50	0.2953	250.0	310.0	7.50
A1255/16X200	5/16	7.94	0.3125	150.0	200.0	7.94
A1255/16X250	5/16	7.94	0.3125	200.0	250.0	7.94
A1255/16X315	5/16	7.94	0.3125	250.0	310.0	7.94
A1255/16X500	5/16	7.94	0.3125	400.0	460.0	7.94
A1258.0X250	–	8.00	0.3150	200.0	250.0	8.00
A1258.0X315	–	8.00	0.3150	250.0	310.0	8.00
A1258.0X400	–	8.00	0.3150	300.0	400.0	8.00
A12521/64X315	21/64	8.33	0.3281	250.0	310.0	8.33
A1258.5X250	–	8.50	0.3346	200.0	250.0	8.50
A1258.5X315	–	8.50	0.3346	250.0	310.0	8.50
A12511/32X250	11/32	8.73	0.3438	200.0	250.0	8.73
A12511/32X315	11/32	8.73	0.3438	250.0	310.0	8.73
A12511/32X400	11/32	8.73	0.3438	300.0	400.0	8.73
A12511/32X500	11/32	8.73	0.3438	400.0	460.0	8.73
A1259.0X250	–	9.00	0.3543	200.0	250.0	9.00
A1259.0X315	–	9.00	0.3543	250.0	310.0	9.00
A1259.0X400	–	9.00	0.3543	300.0	400.0	9.00
A1259.5X250	–	9.50	0.3740	200.0	250.0	9.50
A1259.5X315	–	9.50	0.3740	250.0	310.0	9.50

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1253/8X250	3/8	9.52	0.3750	200.0	250.0	9.52
A1253/8X315	3/8	9.52	0.3750	250.0	310.0	9.52
A1253/8X400	3/8	9.52	0.3750	300.0	400.0	9.52
A1253/8X500	3/8	9.52	0.3750	400.0	460.0	9.52
A12510.0X250	–	10.00	0.3937	200.0	250.0	10.00
A12510.0X315	–	10.00	0.3937	250.0	310.0	10.00
A12510.0X400	–	10.00	0.3937	300.0	400.0	10.00
A12513/32X250	13/32	10.32	0.4063	200.0	250.0	10.32
A12513/32X315	13/32	10.32	0.4063	250.0	310.0	10.32
A12510.5X250	–	10.50	0.4134	200.0	250.0	10.50
A12510.5X315	–	10.50	0.4134	250.0	310.0	10.50
A12510.5X400	–	10.50	0.4134	300.0	400.0	10.50
A12511.0X250	–	11.00	0.4331	200.0	250.0	11.00
A12511.0X315	–	11.00	0.4331	250.0	310.0	11.00
A12511.0X400	–	11.00	0.4331	300.0	400.0	11.00
A1257/16X250	7/16	11.11	0.4375	200.0	250.0	11.11
A1257/16X315	7/16	11.11	0.4375	250.0	310.0	11.11
A1257/16X400	7/16	11.11	0.4375	300.0	400.0	11.11
A12529/64X315	29/64	11.51	0.4531	250.0	310.0	11.51
A12512.0X250	–	12.00	0.4724	200.0	250.0	12.00
A12512.0X315	–	12.00	0.4724	250.0	310.0	12.00
A12512.0X400	–	12.00	0.4724	300.0	400.0	12.00
A12531/64X315	31/64	12.30	0.4844	250.0	310.0	12.30
A1251/2X250	1/2	12.70	0.5000	200.0	250.0	12.70
A1251/2X315	1/2	12.70	0.5000	250.0	310.0	12.70
A1251/2X400	1/2	12.70	0.5000	300.0	400.0	12.70
A12513.0X315	–	13.00	0.5118	250.0	310.0	13.00
A12513.0X400	–	13.00	0.5118	300.0	400.0	13.00
A12517/32X315	17/32	13.49	0.5313	250.0	310.0	13.49
A12514.0X315	–	14.00	0.5512	250.0	310.0	14.00
A12514.0X400	–	14.00	0.5512	300.0	400.0	14.00
A1259/16X315	9/16	14.29	0.5625	250.0	310.0	14.29
A12537/64X315	37/64	14.68	0.5781	250.0	310.0	14.68
A12519/32X315	19/32	15.08	0.5938	250.0	310.0	15.08
A12519/32X500	19/32	15.08	0.5938	400.0	460.0	15.08
A1255/8X315	5/8	15.88	0.6250	250.0	310.0	15.88
A1255/8X500	5/8	15.88	0.6250	400.0	460.0	15.88
A12511/16X315	11/16	17.46	0.6875	250.0	310.0	17.46
A1253/4X315	3/4	19.05	0.7500	250.0	310.0	19.05
A1253/4X500	3/4	19.05	0.7500	400.0	460.0	19.05

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E			
Basic standard group (BSG)	NAS 907	NAS 907	NAS 907	NAS 907	NAS 907	NAS 907	NAS 907	NAS 907	NAS 907	DIN 338			
Usable length (ULDR)	2.5×D	4×D	4×D	4×D	4×D	3×D	4×D	4×D	4×D	4×D			
Application angle	135°	118°	135°	135°	135°	135°	135°	135°	135°	135°			
Coating	ST	ST	ST	ST	ST	Bronze	Bronze	Bronze	Bronze	Bronze			
Shank													
Spiral form	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°			
Hand (Cutting direction)	R	R	R	R	R	R	R	R	R	R			
Product Family Code	R40C R41C R42C	R10A R15A R18A	R10B R15B R18B	500-6 501-6 502-6	500-12 501-12 502-12	R88CO R89CO	R10CO R15CO R18CO	CO500-6 CO501-6	CO500-12 CO501-12	2ACO			
PSF cutting diameters range	N60 - 1/2	1/16 - 1/2	1/16 - 1/2	N60 - 1/2	3/64 - 1/2	1/16 - 1/2	N80 - 11/16	1/16 - 1/4	1/16 - 1/4	1.00 - 13.00			
	42	44	46	48	50	52	53	55	56	57			
P	P1	■	■	◪			◪	◪	◪	◪	◪			
	P2	■	■	■	◪	◪	◪	◪	◪	◪	◪			
	P3	■	■	■	◪	◪	■	■	■	■	■			
	P4	◪	◪	◪	◪	◪	■	■	■	■	■			
M	M1	■	◪	◪	◪	◪	◪	◪	◪	◪	◪			
	M2	■	◪	◪	◪	◪	■	■	■	■	■			
	M3	◪	◪	◪	■	■	■	■	■	■	■			
	M4	◪	◪	◪	■	■	■	■	■	■	■			
K	K1	■	■	■	◪	◪	◪	◪	◪	◪	◪			
	K2	■	■	■	◪	◪	■	■	■	■	■			
	K3	■	◪	■	◪	◪	■	■	■	■	■			
	K4	◪	◪	■	■	■	■	■	■	■	■			
	K5	■	◪	◪	◪	◪	◪	◪	◪	◪	◪			
N	N1	◪	◪	◪			◪	◪	◪	◪	◪			
	N2	◪	◪	◪	■	■	◪	◪	◪	◪	◪			
	N3	◪	◪	◪	■	■	◪	◪	◪	◪	◪			
	N4	◪							◪	◪				
	N5													
S	S1	◪	◪	◪	■	■	■	■			■			
	S2	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪			
	S3	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪			
	S4	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪			
H	H1													
	H2													
	H3													
	H4													

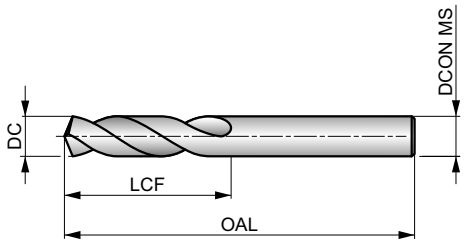
■ Primary use ◪ Possible use

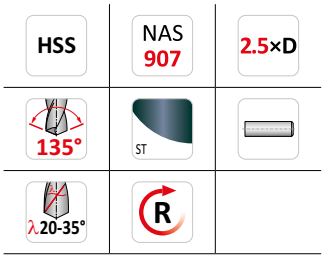
R40C/R41C/R42C

PRECISION

NAS 907 Type C HSS Stub Length Drill, Steam Tempered

Heavy duty versatile drill with steam tempered finish. A 135° self-centering split point reduces cutting forces and prevents the drill from walking when contacting the workpiece. The thicker web and short length makes this drill very rigid and suitable for hand held and machine drilling of many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 36 J	■ 40 J	■ 41 J	■ 31 J	■ 27 G	■ 24 F	■ 21 G	■ 17 G	■ 14 F	■ 12 G	◪ 10 F	◪ 9 E	■ 22 F	■ 19 F
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■ 20 F	■ 16 F	◪ 10 H	◪ 9 H	◪ 8 D	◪ 10 D	■ 32 J	■ 24 G	■ 18 G	■ 25 F	■ 20 F	■ 16 F	■ 22 F	■ 17 F
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■ 13 F	■ 20 F	■ 15 F	◪ 11 F	◪ 10 F	◪ 8 F	■ 23 F	■ 17 F	◪ 13 F	◪ 33 K	◪ 25 K	◪ 17 J	◪ 46 I	◪ 42 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪ 30 I	◪ 64 I	◪ 38 J	◪ 19 H	◪ 30 K	◪ 35 I	◪ 17 G	■ 27 G	◪ 16 E	◪ 8 C	◪ 11 F	◪ 6 B	◪ 8 F	◪ 4 B
S4.1	**S4.2**												
◪ 6 F	◪ 3 B												

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R41CN60 [1]	–	N60	–	0.0400	0.500	1.375	0.040
R41CN59 [1]	–	N59	–	0.0410	0.500	1.375	0.041
R41CN58 [1]	–	N58	–	0.0420	0.500	1.375	0.042
R41CN57 [1]	–	N57	–	0.0430	0.500	1.375	0.043
R41CN56 [1]	–	N56	–	0.0465	0.500	1.375	0.046
R41CN55 [1]	–	N55	–	0.0520	0.625	1.625	0.052
R41CN54 [1]	–	N54	–	0.0550	0.625	1.625	0.055
R41CN53 [1]	–	N53	–	0.0595	0.625	1.625	0.059
R40C1/16	1/16	–	–	0.0625	0.625	1.625	0.063
R41CN52	–	N52	–	0.0635	0.688	1.688	0.064
R41CN51	–	N51	–	0.0670	0.688	1.688	0.067
R41CN50	–	N50	–	0.0700	0.688	1.688	0.070
R41CN49	–	N49	–	0.0730	0.688	1.688	0.073
R41CN48	–	N48	–	0.0760	0.688	1.688	0.076
R40C5/64	5/64	–	–	0.0781	0.688	1.688	0.078
R41CN47	–	N47	–	0.0785	0.688	1.688	0.079
R41CN46	–	N46	–	0.0810	0.750	1.750	0.081
R41CN45	–	N45	–	0.0820	0.750	1.750	0.082
R41CN44	–	N44	–	0.0860	0.750	1.750	0.086
R41CN43	–	N43	–	0.0890	0.750	1.750	0.089
R41CN42	–	N42	–	0.0935	0.750	1.750	0.093
R40C3/32	3/32	–	–	0.0938	0.750	1.750	0.094
R41CN41	–	N41	–	0.0960	0.813	1.813	0.096
R41CN40	–	N40	–	0.0980	0.813	1.813	0.098

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R41CN39	–	N39	–	0.0995	0.813	1.813	0.100
R41CN38	–	N38	–	0.1015	0.813	1.813	0.102
R41CN37	–	N37	–	0.1040	0.813	1.813	0.104
R41CN36	–	N36	–	0.1065	0.813	1.813	0.106
R40C7/64	7/64	–	–	0.1094	0.813	1.813	0.109
R41CN35	–	N35	–	0.1100	0.875	1.875	0.110
R41CN34	–	N34	–	0.1110	0.875	1.875	0.111
R41CN33	–	N33	–	0.1130	0.875	1.875	0.113
R41CN32	–	N32	–	0.1160	0.875	1.875	0.116
R41CN31	–	N31	–	0.1200	0.875	1.875	0.120
R40C1/8	1/8	–	–	0.1250	0.875	1.875	0.125
R41CN30	–	N30	–	0.1285	0.938	1.938	0.129
R41CN29	–	N29	–	0.1360	0.938	1.938	0.136
R41CN28	–	N28	–	0.1405	0.938	1.938	0.141
R40C9/64	9/64	–	–	0.1406	0.938	1.938	0.141
R41CN27	–	N27	–	0.1440	1.000	2.063	0.144
R41CN26	–	N26	–	0.1470	1.000	2.063	0.147
R41CN25	–	N25	–	0.1495	1.000	2.063	0.149
R41CN24	–	N24	–	0.1520	1.000	2.063	0.152
R41CN23	–	N23	–	0.1540	1.000	2.063	0.154
R40C5/32	5/32	–	–	0.1563	1.000	2.063	0.156
R41CN22	–	N22	–	0.1570	1.063	2.125	0.157
R41CN21	–	N21	–	0.1590	1.063	2.125	0.159
R41CN20	–	N20	–	0.1610	1.063	2.125	0.161

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
R41CN19	–	N19	–	0.1660	1.063	2.125	0.166
R41CN18	–	N18	–	0.1695	1.063	2.125	0.170
R40C11/64	11/64	–	–	0.1719	1.063	2.125	0.172
R41CN17	–	N17	–	0.1730	1.125	2.188	0.173
R41CN16	–	N16	–	0.1770	1.125	2.188	0.177
R41CN15	–	N15	–	0.1800	1.125	2.188	0.180
R41CN14	–	N14	–	0.1820	1.125	2.188	0.182
R41CN13	–	N13	–	0.1850	1.125	2.188	0.185
R40C3/16	3/16	–	–	0.1875	1.125	2.188	0.188
R41CN12	–	N12	–	0.1890	1.188	2.250	0.189
R41CN11	–	N11	–	0.1910	1.188	2.250	0.191
R41CN10	–	N10	–	0.1935	1.188	2.250	0.194
R41CN9	–	N9	–	0.1960	1.188	2.250	0.196
R41CN8	–	N8	–	0.1990	1.188	2.250	0.199
R41CN7	–	N7	–	0.2010	1.188	2.250	0.201
R40C13/64	13/64	–	–	0.2031	1.188	2.250	0.203
R41CN6	–	N6	–	0.2040	1.250	2.375	0.204
R41CN5	–	N5	–	0.2055	1.250	2.375	0.205
R41CN4	–	N4	–	0.2090	1.250	2.375	0.209
R41CN3	–	N3	–	0.2130	1.250	2.375	0.213
R40C7/32	7/32	–	–	0.2188	1.250	2.375	0.219
R41CN2	–	N2	–	0.2210	1.313	2.438	0.221
R41CN1	–	N1	–	0.2280	1.313	2.438	0.228
R42CA	–	–	A	0.2340	1.313	2.438	0.234
R40C15/64	15/64	–	–	0.2344	1.313	2.438	0.234
R42CB	–	–	B	0.2380	1.375	2.500	0.238
R42CC	–	–	C	0.2420	1.375	2.500	0.242
R42CD	–	–	D	0.2460	1.375	2.500	0.246
R40C1/4	1/4	–	–	0.2500	1.375	2.500	0.250
R42CF	–	–	F	0.2570	1.438	2.625	0.257
R42CG	–	–	G	0.2610	1.438	2.625	0.261
R40C17/64	17/64	–	–	0.2656	1.438	2.625	0.266
R42CH	–	–	H	0.2660	1.500	2.688	0.266

[1] No split point.

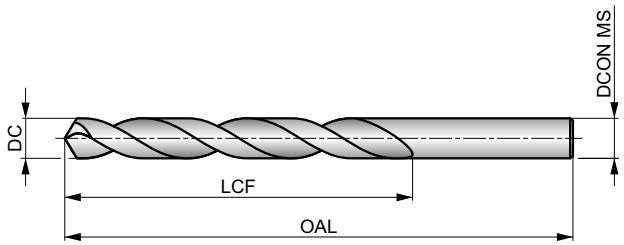
Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
R42CI	–	–	I	0.2720	1.500	2.688	0.272
R42CJ	–	–	J	0.2770	1.500	2.688	0.277
R42CK	–	–	K	0.2810	1.500	2.688	0.281
R40C9/32	9/32	–	–	0.2813	1.500	2.688	0.281
R42CM	–	–	M	0.2950	1.563	2.750	0.295
R40C19/64	19/64	–	–	0.2969	1.563	2.750	0.297
R42CL	–	–	L	0.2990	1.563	2.750	0.299
R42CN	–	–	N	0.3020	1.625	2.813	0.302
R40C5/16	5/16	–	–	0.3125	1.625	2.813	0.313
R42CO	–	–	O	0.3160	1.688	2.938	0.316
R42CP	–	–	P	0.3230	1.688	2.938	0.323
R40C21/64	21/64	–	–	0.3281	1.688	2.938	0.328
R42CQ	–	–	Q	0.3320	1.688	3.000	0.332
R42CR	–	–	R	0.3390	1.688	3.000	0.339
R40C11/32	11/32	–	–	0.3438	1.688	3.000	0.344
R42CS	–	–	S	0.3480	1.750	3.063	0.348
R42CT	–	–	T	0.3580	1.750	3.063	0.358
R40C23/64	23/64	–	–	0.3594	1.750	3.063	0.359
R42CU	–	–	U	0.3680	1.813	3.125	0.368
R40C3/8	3/8	–	–	0.3750	1.813	3.125	0.375
R42CV	–	–	V	0.3770	1.875	3.250	0.377
R42CW	–	–	W	0.3860	1.875	3.250	0.386
R40C25/64	25/64	–	–	0.3906	1.875	3.250	0.391
R42CX	–	–	X	0.3970	1.938	3.313	0.397
R42CY	–	–	Y	0.4040	1.938	3.313	0.404
R40C13/32	13/32	–	–	0.4063	1.938	3.313	0.406
R42CZ	–	–	Z	0.4130	2.000	3.375	0.413
R40C27/64	27/64	–	–	0.4219	2.000	3.375	0.422
R40C7/16	7/16	–	–	0.4375	2.063	3.438	0.438
R40C29/64	29/64	–	–	0.4531	2.125	3.563	0.453
R40C15/32	15/32	–	–	0.4688	2.125	3.625	0.469
R40C31/64	31/64	–	–	0.4844	2.188	3.688	0.484
R40C1/2	1/2	–	–	0.5000	2.250	3.750	0.500

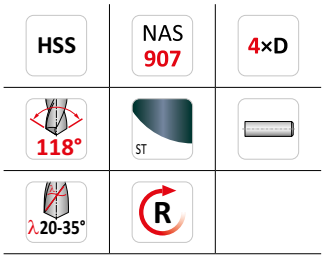
R10A/R15A/R18A

PRECISION

NAS 907 Type A HSS Jober Drill, Steam Tempered Finish

A very good performing drill with 118° self-centering split point for easier penetration and low thrust. Steam tempered finish for increased wear resistance and lubricity. Made to NAS 907 Type A Aerospace Standards.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■36 H	■40 H	■41 H	■31 H	■27 G	■24 E	■25 F	■20 F	◪17 E	◪15 F	◪13 E	◪10 D	◪30 E	◪26 E
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
◪27 E	◪22 E	◪18 C	◪13 G	◪11 G	◪10 C	◪15 C	◪13 C	■35 H	■26 D	■19 D	■27 E	■22 E	◪18 E
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■24 E	■18 E	◪15 E	■22 E	■17 E	◪12 E	◪11 E	◪9 E	■25 E	◪19 E	◪15 E	◪33 J	◪25 J	◪17 I
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**
◪46 H	◪42 H	◪30 H	◪68 H	◪40 F	◪20 H	◪28 F	◪20 D	◪11 C	◪9 E	◪8 B	◪7 E	◪6 B	◪5 E
S4.2													
◪5 B													

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R10A1/16	1/16	–	–	0.0625	7/8	1.7/8	0.063
R18AN52	–	N52	–	0.0635	7/8	1.7/8	0.064
R18AN51	–	N51	–	0.0670	1″	2″	0.067
R18AN50	–	N50	–	0.0700	1″	2″	0.070
R18AN49	–	N49	–	0.0730	1″	2″	0.073
R18AN48	–	N48	–	0.0760	1″	2″	0.076
R10A5/64	5/64	–	–	0.0781	1″	2″	0.078
R18AN47	–	N47	–	0.0785	1″	2″	0.079
R18AN46	–	N46	–	0.0810	1.1/8	2.1/8	0.081
R18AN45	–	N45	–	0.0820	1.1/8	2.1/8	0.082
R18AN44	–	N44	–	0.0860	1.1/8	2.1/8	0.086
R18AN43	–	N43	–	0.0890	1.1/4	2.1/4	0.089
R18AN42	–	N42	–	0.0935	1.1/4	2.1/4	0.093
R10A3/32	3/32	–	–	0.0938	1.1/4	2.1/4	0.094
R18AN41	–	N41	–	0.0960	1.3/8	2.3/8	0.096
R18AN40	–	N40	–	0.0980	1.3/8	2.3/8	0.098
R18AN39	–	N39	–	0.0995	1.3/8	2.3/8	0.100
R18AN38	–	N38	–	0.1015	1.7/16	2.1/2	0.102
R18AN37	–	N37	–	0.1040	1.7/16	2.1/2	0.104
R18AN36	–	N36	–	0.1065	1.7/16	2.1/2	0.106
R10A7/64	7/64	–	–	0.1094	1.1/2	2.5/8	0.109
R18AN35	–	N35	–	0.1100	1.1/2	2.5/8	0.110
R18AN34	–	N34	–	0.1110	1.1/2	2.5/8	0.111
R18AN33	–	N33	–	0.1130	1.1/2	2.5/8	0.113

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R18AN32	–	N32	–	0.1160	1.5/8	2.3/4	0.116
R18AN31	–	N31	–	0.1200	1.5/8	2.3/4	0.120
R10A1/8	1/8	–	–	0.1250	1.5/8	2.3/4	0.125
R18AN30	–	N30	–	0.1285	1.5/8	2.3/4	0.129
R18AN29	–	N29	–	0.1360	1.3/4	2.7/8	0.136
R18AN28	–	N28	–	0.1405	1.3/4	2.7/8	0.141
R10A9/64	9/64	–	–	0.1406	1.3/4	2.7/8	0.141
R18AN27	–	N27	–	0.1440	1.7/8	3″	0.144
R18AN26	–	N26	–	0.1470	1.7/8	3″	0.147
R18AN25	–	N25	–	0.1495	1.7/8	3″	0.149
R18AN24	–	N24	–	0.1520	2″	3.1/8	0.152
R18AN23	–	N23	–	0.1540	2″	3.1/8	0.154
R10A5/32	5/32	–	–	0.1563	2″	3.1/8	0.156
R18AN22	–	N22	–	0.1570	2″	3.1/8	0.157
R18AN21	–	N21	–	0.1590	2.1/8	3.1/4	0.159
R18AN20	–	N20	–	0.1610	2.1/8	3.1/4	0.161
R18AN19	–	N19	–	0.1660	2.1/8	3.1/4	0.166
R18AN18	–	N18	–	0.1695	2.1/8	3.1/4	0.170
R10A11/64	11/64	–	–	0.1719	2.1/8	3.1/4	0.172
R18AN17	–	N17	–	0.1730	2.3/16	3.3/8	0.173
R18AN16	–	N16	–	0.1770	2.3/16	3.3/8	0.177
R18AN15	–	N15	–	0.1800	2.3/16	3.3/8	0.180
R18AN14	–	N14	–	0.1820	2.3/16	3.3/8	0.182
R18AN13	–	N13	–	0.1850	2.5/16	3.1/2	0.185

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
R10A3/16	3/16	–	–	0.1875	2.5/16	3.1/2	0.188
R18AN12	–	N12	–	0.1890	2.5/16	3.1/2	0.189
R18AN11	–	N11	–	0.1910	2.5/16	3.1/2	0.191
R18AN10	–	N10	–	0.1935	2.7/16	3.5/8	0.194
R18AN9	–	N9	–	0.1960	2.7/16	3.5/8	0.196
R18AN8	–	N8	–	0.1990	2.7/16	3.5/8	0.199
R18AN7	–	N7	–	0.2010	2.7/16	3.5/8	0.201
R10A13/64	13/64	–	–	0.2031	2.7/16	3.5/8	0.203
R18AN6	–	N6	–	0.2040	2.1/2	3.3/4	0.204
R18AN5	–	N5	–	0.2055	2.1/2	3.3/4	0.205
R18AN4	–	N4	–	0.2090	2.1/2	3.3/4	0.209
R18AN3	–	N3	–	0.2130	2.1/2	3.3/4	0.213
R10A7/32	7/32	–	–	0.2188	2.1/2	3.3/4	0.219
R18AN2	–	N2	–	0.2210	2.5/8	3.7/8	0.221
R18AN1	–	N1	–	0.2280	2.5/8	3.7/8	0.228
R15AA	–	–	A	0.2340	2.5/8	3.7/8	0.234
R10A15/64	15/64	–	–	0.2344	2.5/8	3.7/8	0.234
R15AB	–	–	B	0.2380	2.3/4	4″	0.238
R15AC	–	–	C	0.2420	2.3/4	4″	0.242
R15AD	–	–	D	0.2460	2.3/4	4″	0.246
R10A1/4	1/4	–	–	0.2500	2.3/4	4″	0.250
R15AF	–	–	F	0.2570	2.7/8	4.1/8	0.257
R15AG	–	–	G	0.2610	2.7/8	4.1/8	0.261
R10A17/64	17/64	–	–	0.2656	2.7/8	4.1/8	0.266
R15AH	–	–	H	0.2660	2.7/8	4.1/8	0.266
R15AI	–	–	I	0.2720	2.7/8	4.1/8	0.272
R15AJ	–	–	J	0.2770	2.7/8	4.1/8	0.277
R15AK	–	–	K	0.2810	2.15/16	4.1/4	0.281
R10A9/32	9/32	–	–	0.2813	2.15/16	4.1/4	0.281

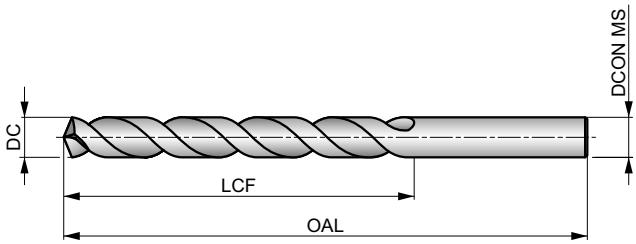
Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
R15AL	–	–	L	0.2900	2.15/16	4.1/4	0.290
R15AM	–	–	M	0.2950	3.1/16	4.3/8	0.295
R10A19/64	19/64	–	–	0.2969	3.1/16	4.3/8	0.297
R15AN	–	–	N	0.3020	3.1/16	4.3/8	0.302
R10A5/16	5/16	–	–	0.3125	3.3/16	4.1/2	0.313
R15AO	–	–	O	0.3160	3.3/16	4.1/2	0.316
R15AP	–	–	P	0.3230	3.5/16	4.5/8	0.323
R10A21/64	21/64	–	–	0.3281	3.5/16	4.5/8	0.328
R15AQ	–	–	Q	0.3320	3.7/16	4.3/4	0.332
R15AR	–	–	R	0.3390	3.7/16	4.3/4	0.339
R10A11/32	11/32	–	–	0.3438	3.7/16	4.3/4	0.344
R15AS	–	–	S	0.3480	3.1/2	4.7/8	0.348
R15AT	–	–	T	0.3580	3.1/2	4.7/8	0.358
R10A23/64	23/64	–	–	0.3594	3.1/2	4.7/8	0.359
R15AU	–	–	U	0.3680	3.5/8	5″	0.368
R10A3/8	3/8	–	–	0.3750	3.5/8	5″	0.375
R15AV	–	–	V	0.3770	3.5/8	5″	0.377
R15AW	–	–	W	0.3860	3.3/4	5.1/8	0.386
R10A25/64	25/64	–	–	0.3906	3.3/4	5.1/8	0.391
R15AX	–	–	X	0.3970	3.3/4	5.1/8	0.397
R15AY	–	–	Y	0.4040	3.7/8	5.1/4	0.404
R10A13/32	13/32	–	–	0.4063	3.7/8	5.1/4	0.406
R15AZ	–	–	Z	0.4130	3.7/8	5.1/4	0.413
R10A27/64	27/64	–	–	0.4219	3.15/16	5.3/8	0.422
R10A7/16	7/16	–	–	0.4375	4.1/16	5.1/2	0.438
R10A29/64	29/64	–	–	0.4531	4.3/16	5.5/8	0.453
R10A15/32	15/32	–	–	0.4688	4.5/16	5.3/4	0.469
R10A31/64	31/64	–	–	0.4844	4.3/8	5.7/8	0.484
R10A1/2	1/2	–	–	0.5000	4.1/2	6″	0.500

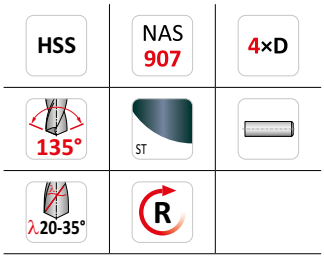
R10B/R15B/R18B

PRECISION

NAS 907 Type B HSS Jobber Drill, Steam Tempered

Heavy duty jobber drill with Low Thrust 135° self-centering split point for easier penetration. Steam tempered finish for increased wear resistance and lubricity. Made to NAS 907 Type B Aerospace Standards.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 H	◪40 H	◪41 H	■31 H	■27 G	■24 E	■25 F	■20 F	■17 E	◪15 F	◪13 E	◪10 D	◪30 E	◪26 E
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
◪27 E	◪22 E	◪18 C	◪13 G	■11 G	■10 C	◪15 C	◪13 C	■35 H	■26 D	■19 D	■27 E	■22 E	■18 E
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■24 E	■18 E	■15 E	■22 E	■17 E	■12 E	■11 E	■9 E	◪25 E	◪19 E	■15 E	◪33 J	◪25 J	◪17 I
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**
◪46 H	◪42 H	◪30 H	◪68 H	◪40 F	◪20 H	◪28 F	◪20 D	◪11 C	◪9 E	◪8 B	◪7 E	◪6 B	◪5 E
S4.2													
◪5 B													

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R10B1/16	1/16	–	–	0.0625	7/8	1.7/8	0.063
R18BN52	–	N52	–	0.0635	7/8	1.7/8	0.064
R18BN51	–	N51	–	0.0670	1″	2″	0.067
R18BN50	–	N50	–	0.0700	1″	2″	0.070
R18BN49	–	N49	–	0.0730	1″	2″	0.073
R18BN48	–	N48	–	0.0760	1″	2″	0.076
R10B5/64	5/64	–	–	0.0781	1″	2″	0.078
R18BN47	–	N47	–	0.0785	1″	2″	0.079
R18BN46	–	N46	–	0.0810	1.1/8	2.1/8	0.081
R18BN45	–	N45	–	0.0820	1.1/8	2.1/8	0.082
R18BN44	–	N44	–	0.0860	1.1/8	2.1/8	0.086
R18BN43	–	N43	–	0.0890	1.1/4	2.1/4	0.089
R18BN42	–	N42	–	0.0935	1.1/4	2.1/4	0.093
R10B3/32	3/32	–	–	0.0938	1.1/4	2.1/4	0.094
R18BN41	–	N41	–	0.0960	1.3/8	2.3/8	0.096
R18BN40	–	N40	–	0.0980	1.3/8	2.3/8	0.098
R18BN39	–	N39	–	0.0995	1.3/8	2.3/8	0.100
R18BN38	–	N38	–	0.1015	1.7/16	2.1/2	0.102
R18BN37	–	N37	–	0.1040	1.7/16	2.1/2	0.104
R18BN36	–	N36	–	0.1065	1.7/16	2.1/2	0.106
R10B7/64	7/64	–	–	0.1094	1.1/2	2.5/8	0.109
R18BN35	–	N35	–	0.1100	1.1/2	2.5/8	0.110
R18BN34	–	N34	–	0.1110	1.1/2	2.5/8	0.111
R18BN33	–	N33	–	0.1130	1.1/2	2.5/8	0.113

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R18BN32	–	N32	–	0.1160	1.5/8	2.3/4	0.116
R18BN31	–	N31	–	0.1200	1.5/8	2.3/4	0.120
R10B1/8	1/8	–	–	0.1250	1.5/8	2.3/4	0.125
R18BN30	–	N30	–	0.1285	1.5/8	2.3/4	0.129
R18BN29	–	N29	–	0.1360	1.3/4	2.7/8	0.136
R18BN28	–	N28	–	0.1405	1.3/4	2.7/8	0.141
R10B9/64	9/64	–	–	0.1406	1.3/4	2.7/8	0.141
R18BN27	–	N27	–	0.1440	1.7/8	3″	0.144
R18BN26	–	N26	–	0.1470	1.7/8	3″	0.147
R18BN25	–	N25	–	0.1495	1.7/8	3″	0.149
R18BN24	–	N24	–	0.1520	2″	3.1/8	0.152
R18BN23	–	N23	–	0.1540	2″	3.1/8	0.154
R10B5/32	5/32	–	–	0.1563	2″	3.1/8	0.156
R18BN22	–	N22	–	0.1570	2″	3.1/8	0.157
R18BN21	–	N21	–	0.1590	2.1/8	3.1/4	0.159
R18BN20	–	N20	–	0.1610	2.1/8	3.1/4	0.161
R18BN19	–	N19	–	0.1660	2.1/8	3.1/4	0.166
R18BN18	–	N18	–	0.1695	2.1/8	3.1/4	0.170
R10B11/64	11/64	–	–	0.1719	2.1/8	3.1/4	0.172
R18BN17	–	N17	–	0.1730	2.3/16	3.3/8	0.173
R18BN16	–	N16	–	0.1770	2.3/16	3.3/8	0.177
R18BN15	–	N15	–	0.1800	2.3/16	3.3/8	0.180
R18BN14	–	N14	–	0.1820	2.3/16	3.3/8	0.182
R18BN13	–	N13	–	0.1850	2.5/16	3.1/2	0.185

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
R10B3/16	3/16	–	–	0.1875	2.5/16	3.1/2	0.188
R18BN12	–	N12	–	0.1890	2.5/16	3.1/2	0.189
R18BN11	–	N11	–	0.1910	2.5/16	3.1/2	0.191
R18BN10	–	N10	–	0.1935	2.7/16	3.5/8	0.194
R18BN9	–	N9	–	0.1960	2.7/16	3.5/8	0.196
R18BN8	–	N8	–	0.1990	2.7/16	3.5/8	0.199
R18BN7	–	N7	–	0.2010	2.7/16	3.5/8	0.201
R10B13/64	13/64	–	–	0.2031	2.7/16	3.5/8	0.203
R18BN6	–	N6	–	0.2040	2.1/2	3.3/4	0.204
R18BN5	–	N5	–	0.2055	2.1/2	3.3/4	0.205
R18BN4	–	N4	–	0.2090	2.1/2	3.3/4	0.209
R18BN3	–	N3	–	0.2130	2.1/2	3.3/4	0.213
R10B7/32	7/32	–	–	0.2188	2.1/2	3.3/4	0.219
R18BN2	–	N2	–	0.2210	2.5/8	3.7/8	0.221
R18BN1	–	N1	–	0.2280	2.5/8	3.7/8	0.228
R15BA	–	–	A	0.2340	2.5/8	3.7/8	0.234
R10B15/64	15/64	–	–	0.2344	2.5/8	3.7/8	0.234
R15BB	–	–	B	0.2380	2.3/4	4″	0.238
R15BC	–	–	C	0.2420	2.3/4	4″	0.242
R15BD	–	–	D	0.2460	2.3/4	4″	0.246
R10B1/4	1/4	–	–	0.2500	2.3/4	4″	0.250
R15BF	–	–	F	0.2570	2.7/8	4.1/8	0.257
R15BG	–	–	G	0.2610	2.7/8	4.1/8	0.261
R10B17/64	17/64	–	–	0.2656	2.7/8	4.1/8	0.266
R15BH	–	–	H	0.2660	2.7/8	4.1/8	0.266
R15BI	–	–	I	0.2720	2.7/8	4.1/8	0.272
R15BJ	–	–	J	0.2770	2.7/8	4.1/8	0.277
R15BK	–	–	K	0.2810	2.15/16	4.1/4	0.281
R10B9/32	9/32	–	–	0.2813	2.15/16	4.1/4	0.281

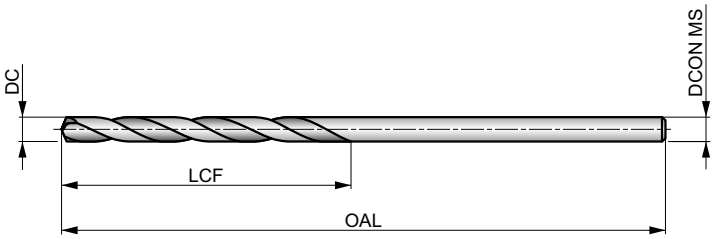
Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
R15BL	–	–	L	0.2900	2.15/16	4.1/4	0.290
R15BM	–	–	M	0.2950	3.1/16	4.3/8	0.295
R10B19/64	19/64	–	–	0.2969	3.1/16	4.3/8	0.297
R15BN	–	–	N	0.3020	3.1/16	4.3/8	0.302
R10B5/16	5/16	–	–	0.3125	3.3/16	4.1/2	0.313
R15BO	–	–	O	0.3160	3.3/16	4.1/2	0.316
R15BP	–	–	P	0.3230	3.5/16	4.5/8	0.323
R10B21/64	21/64	–	–	0.3281	3.5/16	4.5/8	0.328
R15BQ	–	–	Q	0.3320	3.7/16	4.3/4	0.332
R15BR	–	–	R	0.3390	3.7/16	4.3/4	0.339
R10B11/32	11/32	–	–	0.3438	3.7/16	4.3/4	0.344
R15BS	–	–	S	0.3480	3.1/2	4.7/8	0.348
R15BT	–	–	T	0.3580	3.1/2	4.7/8	0.358
R10B23/64	23/64	–	–	0.3594	3.1/2	4.7/8	0.359
R15BU	–	–	U	0.3680	3.5/8	5″	0.368
R10B3/8	3/8	–	–	0.3750	3.5/8	5″	0.375
R15BV	–	–	V	0.3770	3.5/8	5″	0.377
R15BW	–	–	W	0.3860	3.3/4	5.1/8	0.386
R10B25/64	25/64	–	–	0.3906	3.3/4	5.1/8	0.391
R15BX	–	–	X	0.3970	3.3/4	5.1/8	0.397
R15BY	–	–	Y	0.4040	3.7/8	5.1/4	0.404
R10B13/32	13/32	–	–	0.4063	3.7/8	5.1/4	0.406
R15BZ	–	–	Z	0.4130	3.7/8	5.1/4	0.413
R10B27/64	27/64	–	–	0.4219	3.15/16	5.3/8	0.422
R10B7/16	7/16	–	–	0.4375	4.1/16	5.1/2	0.438
R10B29/64	29/64	–	–	0.4531	4.3/16	5.5/8	0.453
R10B15/32	15/32	–	–	0.4688	4.5/16	5.3/4	0.469
R10B31/64	31/64	–	–	0.4844	4.3/8	5.7/8	0.484
R10B1/2	1/2	–	–	0.5000	4.1/2	6″	0.500

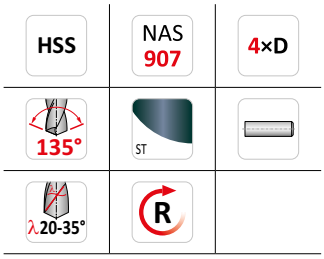
500-6/501-6/502-6

PRECISION

NAS 907 Type B HSS Aircraft Extension Drill, 6″ OAL

Long series drills made according to National Aerospace Standards with long over-all length combined with short flute length makes it ideal for drilling in difficult to reach areas. The 135° self-centering split point and steam tempered surface finish makes it suitable for drilling most materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2
◪25 F	■22 E	◪19 F	◪15 F	■13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E	◪18 E	◪15 E	■9 G	■8 G
M3.3	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**
■7 C	■9 C	◪30 I	◪22 F	◪17 F	◪25 E	◪20 E	■16 E	◪22 E	◪17 E	■13 E	◪20 E	◪15 E	■11 E
K4.4	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**
■10 E	■8 E	◪23 E	◪17 E	■13 E	■27 G	■24 F	◪27 H	■21 H	◪16 G	■23 F	■12 D	■6 B	◪8 E
S2.2	**S3.1**	**S3.2**	**S4.1**	**S4.2**									
◪4 A	◪6 E	◪3 A	◪5 E	◪2 A									

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
501-6N60 [1]	–	N60	–	0.0400	11/16	6″	0.040
501-6N59 [1]	–	N59	–	0.0410	11/16	6″	0.041
501-6N58 [1]	–	N58	–	0.0420	11/16	6″	0.042
501-6N57 [1]	–	N57	–	0.0430	3/4	6″	0.043
501-6N56 [1]	–	N56	–	0.0465	3/4	6″	0.046
500-63/64 [1]	3/64	–	–	0.0469	3/4	6″	0.047
501-6N55 [1]	–	N55	–	0.0520	7/8	6″	0.052
501-6N54 [1]	–	N54	–	0.0550	7/8	6″	0.055
501-6N53 [1]	–	N53	–	0.0595	7/8	6″	0.059
500-61/16	1/16	–	–	0.0625	7/8	6″	0.063
501-6N52	–	N52	–	0.0635	7/8	6″	0.064
501-6N51	–	N51	–	0.0670	1″	6″	0.067
501-6N50	–	N50	–	0.0700	1″	6″	0.070
501-6N49	–	N49	–	0.0730	1″	6″	0.073
501-6N48	–	N48	–	0.0760	1″	6″	0.076
500-65/64	5/64	–	–	0.0781	1″	6″	0.078
501-6N47	–	N47	–	0.0785	1″	6″	0.079
501-6N46	–	N46	–	0.0810	1.1/8	6″	0.081
501-6N45	–	N45	–	0.0820	1.1/8	6″	0.082
501-6N44	–	N44	–	0.0860	1.1/8	6″	0.086
501-6N43	–	N43	–	0.0890	1.1/4	6″	0.089
501-6N42	–	N42	–	0.0935	1.1/4	6″	0.093
500-63/32	3/32	–	–	0.0938	1.1/4	6″	0.094
501-6N41	–	N41	–	0.0960	1.3/8	6″	0.096
501-6N40	–	N40	–	0.0980	1.3/8	6″	0.098
501-6N39	–	N39	–	0.0995	1.3/8	6″	0.100

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
501-6N38	–	N38	–	0.1015	1.7/16	6″	0.102
501-6N37	–	N37	–	0.1040	1.7/16	6″	0.104
501-6N36	–	N36	–	0.1065	1.7/16	6″	0.106
500-67/64	7/64	–	–	0.1094	1.1/2	6″	0.109
501-6N35	–	N35	–	0.1100	1.1/2	6″	0.110
501-6N34	–	N34	–	0.1110	1.1/2	6″	0.111
501-6N33	–	N33	–	0.1130	1.1/2	6″	0.113
501-6N32	–	N32	–	0.1160	1.5/8	6″	0.116
501-6N31	–	N31	–	0.1200	1.5/8	6″	0.120
500-61/8	1/8	–	–	0.1250	1.5/8	6″	0.125
501-6N30	–	N30	–	0.1285	1.5/8	6″	0.129
501-6N29	–	N29	–	0.1360	1.3/4	6″	0.136
501-6N28	–	N28	–	0.1405	1.3/4	6″	0.141
500-69/64	9/64	–	–	0.1406	1.3/4	6″	0.141
501-6N27	–	N27	–	0.1440	1.7/8	6″	0.144
501-6N26	–	N26	–	0.1470	1.7/8	6″	0.147
501-6N25	–	N25	–	0.1495	1.7/8	6″	0.149
501-6N24	–	N24	–	0.1520	2″	6″	0.152
501-6N23	–	N23	–	0.1540	2″	6″	0.154
500-65/32	5/32	–	–	0.1563	2″	6″	0.156
501-6N22	–	N22	–	0.1570	2″	6″	0.157
501-6N21	–	N21	–	0.1590	2.1/8	6″	0.159
501-6N20	–	N20	–	0.1610	2.1/8	6″	0.161
501-6N19	–	N19	–	0.1660	2.1/8	6″	0.166
501-6N18	–	N18	–	0.1695	2.1/8	6″	0.170
500-611/64	11/64	–	–	0.1719	2.1/8	6″	0.172

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
501-6N17	–	N17	–	0.1730	2.3/16	6″	0.173
501-6N16	–	N16	–	0.1770	2.3/16	6″	0.177
501-6N15	–	N15	–	0.1800	2.3/16	6″	0.180
501-6N14	–	N14	–	0.1820	2.3/16	6″	0.182
501-6N13	–	N13	–	0.1850	2.5/16	6″	0.185
500-63/16	3/16	–	–	0.1875	2.5/16	6″	0.188
501-6N12	–	N12	–	0.1890	2.5/16	6″	0.189
501-6N11	–	N11	–	0.1910	2.5/16	6″	0.191
501-6N10	–	N10	–	0.1935	2.7/16	6″	0.194
501-6N9	–	N9	–	0.1960	2.7/16	6″	0.196
501-6N8	–	N8	–	0.1990	2.7/16	6″	0.199
501-6N7	–	N7	–	0.2010	2.7/16	6″	0.201
500-613/64	13/64	–	–	0.2031	2.7/16	6″	0.203
501-6N6	–	N6	–	0.2040	2.1/2	6″	0.204
501-6N5	–	N5	–	0.2055	2.1/2	6″	0.205
501-6N4	–	N4	–	0.2090	2.1/2	6″	0.209
501-6N3	–	N3	–	0.2130	2.1/2	6″	0.213
500-67/32	7/32	–	–	0.2188	2.1/2	6″	0.219
501-6N2	–	N2	–	0.2210	2.5/8	6″	0.221
501-6N1	–	N1	–	0.2280	2.5/8	6″	0.228
502-6A	–	–	A	0.2340	2.5/8	6″	0.234
500-615/64	15/64	–	–	0.2344	2.5/8	6″	0.234
502-6B	–	–	B	0.2380	2.3/4	6″	0.238
502-6C	–	–	C	0.2420	2.3/4	6″	0.242
502-6D	–	–	D	0.2460	2.3/4	6″	0.246
500-61/4	1/4	–	–	0.2500	2.3/4	6″	0.250
502-6F	–	–	F	0.2570	2.7/8	6″	0.257
502-6G	–	–	G	0.2610	2.7/8	6″	0.261
500-617/64	17/64	–	–	0.2656	2.7/8	6″	0.266
502-6H	–	–	H	0.2660	2.7/8	6″	0.266
502-6I	–	–	I	0.2720	2.7/8	6″	0.272
502-6J	–	–	J	0.2770	2.7/8	6″	0.277

[1] No split point.

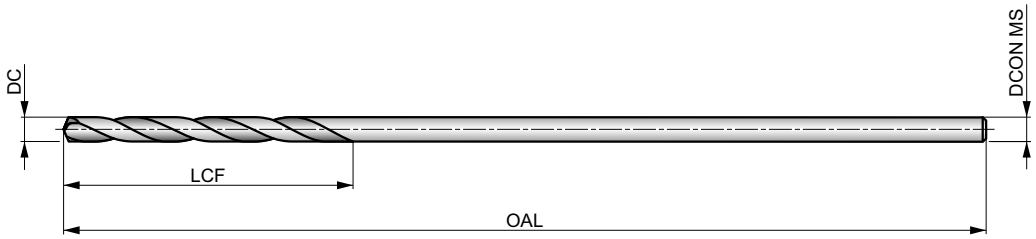
Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
502-6K	–	–	K	0.2810	2.15/16	6″	0.281
500-69/32	9/32	–	–	0.2813	2.15/16	6″	0.281
502-6L	–	–	L	0.2900	2.15/16	6″	0.290
502-6M	–	–	M	0.2950	3.1/16	6″	0.295
500-619/64	19/64	–	–	0.2969	3.1/16	6″	0.297
502-6N	–	–	N	0.3020	3.1/16	6″	0.302
500-65/16	5/16	–	–	0.3125	3.3/16	6″	0.313
502-6O	–	–	O	0.3160	3.3/16	6″	0.316
502-6P	–	–	P	0.3230	3.5/16	6″	0.323
500-621/64	21/64	–	–	0.3281	3.5/16	6″	0.328
502-6Q	–	–	Q	0.3320	3.7/16	6″	0.332
502-6R	–	–	R	0.3390	3.7/16	6″	0.339
500-611/32	11/32	–	–	0.3438	3.7/16	6″	0.344
502-6S	–	–	S	0.3480	3.1/2	6″	0.348
502-6T	–	–	T	0.3580	3.1/2	6″	0.358
500-623/64	23/64	–	–	0.3594	3.1/2	6″	0.359
502-6U	–	–	U	0.3680	3.5/8	6″	0.368
500-63/8	3/8	–	–	0.3750	3.5/8	6″	0.375
502-6V	–	–	V	0.3772	3.5/8	6″	0.377
502-6W	–	–	W	0.3860	3.3/4	6″	0.386
500-625/64	25/64	–	–	0.3906	3.3/4	6″	0.391
502-6X	–	–	X	0.3970	3.3/4	6″	0.397
502-6Y	–	–	Y	0.4040	3.7/8	6″	0.404
500-613/32	13/32	–	–	0.4063	3.7/8	6″	0.406
502-6Z	–	–	Z	0.4130	3.7/8	6″	0.413
500-627/64	27/64	–	–	0.4219	3.15/16	6″	0.422
500-67/16	7/16	–	–	0.4375	4.1/16	6″	0.438
500-629/64	29/64	–	–	0.4531	4.3/16	6″	0.453
500-615/32	15/32	–	–	0.4688	4.5/16	6″	0.469
500-631/64	31/64	–	–	0.4844	4.3/8	6″	0.484
500-61/2	1/2	–	–	0.5000	4.1/2	6″	0.500

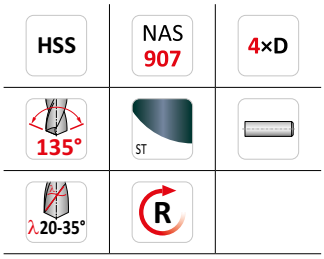
500-12/501-12/502-12

PRECISION

NAS 907 Type B HSS Aircraft Extension Drill, 12″ OAL

Extra-long series drills made according to National Aerospace Standards with extra-long over-all length combined with short flute length makes it ideal for drilling in difficult to reach areas. The 135° self-centering split point and steam tempered surface finish makes it suitable for drilling most materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2	M2.1	M2.2	M3.1	M3.2
◪25 F	■22 E	◪19 F	◪15 F	■13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E	◪18 E	◪15 E	■9 G	■8 G
M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2	K4.3
■7 C	■9 C	◪30 I	◪22 F	◪17 F	◪25 E	◪20 E	■16 E	◪22 E	◪17 E	■13 E	◪20 E	◪15 E	■11 E
K4.4	K4.5	K5.1	K5.2	K5.3	N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3	S2.1
■10 E	■8 E	◪23 E	◪17 E	■13 E	■27 G	■24 F	◪27 H	■21 H	◪16 G	■23 F	■12 D	■6 B	◪8 E
S2.2	S3.1	S3.2	S4.1	S4.2									
◪4 A	◪6 E	◪3 A	◪5 E	◪2 A									

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
500-123/64	3/64	–	–	0.0469	3/4	12″	0.047
500-121/16	1/16	–	–	0.0625	7/8	12″	0.063
501-12N50	–	N50	–	0.0700	1″	12″	0.070
501-12N49	–	N49	–	0.0730	1″	12″	0.073
500-125/64	5/64	–	–	0.0781	1″	12″	0.078
501-12N47	–	N47	–	0.0785	1″	12″	0.079
501-12N46	–	N46	–	0.0810	1.1/8	12″	0.081
501-12N45	–	N45	–	0.0820	1.1/8	12″	0.082
501-12N44	–	N44	–	0.0860	1.1/8	12″	0.086
501-12N43	–	N43	–	0.0890	1.1/4	12″	0.089
501-12N42	–	N42	–	0.0935	1.1/4	12″	0.093
500-123/32	3/32	–	–	0.0938	1.1/4	12″	0.094
501-12N41	–	N41	–	0.0960	1.3/8	12″	0.096
501-12N40	–	N40	–	0.0980	1.3/8	12″	0.098
501-12N37	–	N37	–	0.1040	1.7/16	12″	0.104
501-12N36	–	N36	–	0.1065	1.7/16	12″	0.106
500-127/64	7/64	–	–	0.1094	1.1/2	12″	0.109
501-12N31	–	N31	–	0.1200	1.5/8	12″	0.120
500-121/8	1/8	–	–	0.1250	1.5/8	12″	0.125
501-12N30	–	N30	–	0.1285	1.5/8	12″	0.129
501-12N29	–	N29	–	0.1360	1.3/4	12″	0.136
500-129/64	9/64	–	–	0.1406	1.3/4	12″	0.141
501-12N27	–	N27	–	0.1440	1.7/8	12″	0.144
501-12N26	–	N26	–	0.1470	1.7/8	12″	0.147
501-12N25	–	N25	–	0.1495	1.7/8	12″	0.149
501-12N23	–	N23	–	0.1540	2″	12″	0.154

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
500-125/32	5/32	–	–	0.1563	2″	12″	0.156
501-12N22	–	N22	–	0.1570	2″	12″	0.157
501-12N21	–	N21	–	0.1590	2.1/8	12″	0.159
501-12N20	–	N20	–	0.1610	2.1/8	12″	0.161
501-12N19	–	N19	–	0.1660	2.1/8	12″	0.166
501-12N18	–	N18	–	0.1695	2.1/8	12″	0.170
500-1211/64	11/64	–	–	0.1719	2.1/8	12″	0.172
501-12N17	–	N17	–	0.1730	2.3/16	12″	0.173
501-12N16	–	N16	–	0.1770	2.3/16	12″	0.177
501-12N13	–	N13	–	0.1850	2.5/16	12″	0.185
500-123/16	3/16	–	–	0.1875	2.5/16	12″	0.188
501-12N12	–	N12	–	0.1890	2.5/16	12″	0.189
501-12N11	–	N11	–	0.1910	2.5/16	12″	0.191
501-12N10	–	N10	–	0.1935	2.7/16	12″	0.194
501-12N9	–	N9	–	0.1960	2.7/16	12″	0.196
501-12N7	–	N7	–	0.2010	2.7/16	12″	0.201
500-1213/64	13/64	–	–	0.2031	2.7/16	12″	0.203
501-12N5	–	N5	–	0.2055	2.1/2	12″	0.205
501-12N4	–	N4	–	0.2090	2.1/2	12″	0.209
501-12N3	–	N3	–	0.2130	2.1/2	12″	0.213
500-127/32	7/32	–	–	0.2188	2.1/2	12″	0.219
501-12N1	–	N1	–	0.2280	2.5/8	12″	0.228
502-12A	–	–	A	0.2340	2.5/8	12″	0.234
500-1215/64	15/64	–	–	0.2344	2.5/8	12″	0.234
502-12B	–	–	B	0.2380	2.3/4	12″	0.238
502-12C	–	–	C	0.2420	2.3/4	12″	0.242

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
502-12D	–	–	D	0.2460	2.3/4	12″	0.246
500-121/4	1/4	–	–	0.2500	2.3/4	12″	0.250
502-12F	–	–	F	0.2570	2.7/8	12″	0.257
502-12G	–	–	G	0.2610	2.7/8	12″	0.261
500-1217/64	17/64	–	–	0.2656	2.7/8	12″	0.266
502-12H	–	–	H	0.2660	2.7/8	12″	0.266
502-12I	–	–	I	0.2720	2.7/8	12″	0.272
502-12J	–	–	J	0.2770	2.7/8	12″	0.277
502-12K	–	–	K	0.2810	2.15/16	12″	0.281
500-129/32	9/32	–	–	0.2813	2.15/16	12″	0.281
502-12L	–	–	L	0.2900	2.15/16	12″	0.290
502-12M	–	–	M	0.2950	3.1/16	12″	0.295
500-1219/64	19/64	–	–	0.2969	3.1/16	12″	0.297
502-12N	–	–	N	0.3020	3.1/16	12″	0.302
500-125/16	5/16	–	–	0.3125	3.3/16	12″	0.313
502-12O	–	–	O	0.3160	3.3/16	12″	0.316
502-12P	–	–	P	0.3230	3.5/16	12″	0.323
500-1221/64	21/64	–	–	0.3281	3.5/16	12″	0.328
502-12Q	–	–	Q	0.3320	3.7/16	12″	0.332
502-12R	–	–	R	0.3390	3.7/16	12″	0.339

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCONMS (inch)
500-1211/32	11/32	–	–	0.3438	3.7/16	12″	0.344
502-12S	–	–	S	0.3480	3.1/2	12″	0.348
502-12T	–	–	T	0.3580	3.1/2	12″	0.358
500-1223/64	23/64	–	–	0.3594	3.1/2	12″	0.359
502-12U	–	–	U	0.3680	3.5/8	12″	0.368
500-123/8	3/8	–	–	0.3750	3.5/8	12″	0.375
502-12V	–	–	V	0.3770	3.5/8	12″	0.377
502-12W	–	–	W	0.3860	3.3/4	12″	0.386
500-1225/64	25/64	–	–	0.3906	3.3/4	12″	0.391
502-12X	–	–	X	0.3970	3.3/4	12″	0.397
502-12Y	–	–	Y	0.4040	3.7/8	12″	0.404
500-1213/32	13/32	–	–	0.4063	3.7/8	12″	0.406
502-12Z	–	–	Z	0.4130	3.7/8	12″	0.413
500-1227/64	27/64	–	–	0.4219	3.15/16	12″	0.422
500-127/16	7/16	–	–	0.4375	4.1/16	12″	0.438
500-1229/64	29/64	–	–	0.4531	4.3/16	12″	0.453
500-1215/32	15/32	–	–	0.4688	4.5/16	12″	0.469
500-1231/64	31/64	–	–	0.4844	4.3/8	12″	0.484
500-121/2	1/2	–	–	0.5000	4.1/2	12″	0.500

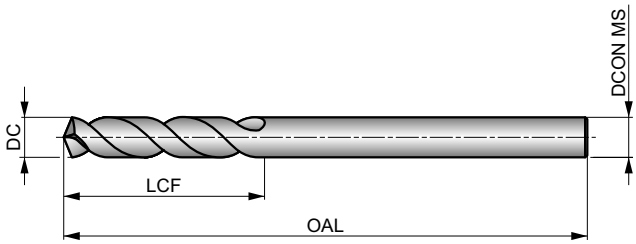
R88CO/R89CO

PRECISION

NAS 907 Type D HSS-E (8%) Cobalt Heavy Duty Jobber Drill

A jobber drill with shorter flute length and longer shank for more rigidity. Great drill when more reach is required for drilling shallow holes or thinner materials. Bronze tempered surface finish with low thrust 135° self-centering split point for easier penetration. Made to NAS 907 Type D Aerospace Standards.

HSS-E	NAS 907	3×D
135°	Bronze	
λ 20-35°	R	



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 H	◪40 H	◪41 H	◪31 H	◪27 G	■24 E	■25 F	■20 F	■17 E	■15 F	■13 E	■10 D	◪30 E	◪26 E
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**
■27 E	■22 E	■18 C	■13 G	■11 G	■10 C	■15 C	◪35 H	■26 D	■19 D	◪27 E	◪22 E	■18 E	◪24 E
K3.2	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**
◪18 E	■15 E	◪22 E	◪17 E	■12 E	■11 E	■9 E	◪25 E	◪19 E	■15 E	◪33 J	◪25 J	◪17 I	◪46 H
N2.2	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪42 H	◪30 H	◪68 H	◪40 F	◪20 H	■28 F	■20 D	■11 C	■9 E	◪8 B	■7 E	◪6 B	■5 E	◪5 B

Product	DC (inch)	DC (Wire gauge size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R88C01/16	1/16	–	0.0625	7/16	1.7/8	0.063
R89C0N52	–	N52	0.0635	7/16	1.7/8	0.064
R89C0N51	–	N51	0.0670	1/2	2″	0.067
R89C0N50	–	N50	0.0700	1/2	2″	0.070
R89C0N49	–	N49	0.0730	1/2	2″	0.073
R88C05/64	5/64	–	0.0781	1/2	2″	0.078
R89C0N46	–	N46	0.0810	9/16	2.1/8	0.081
R89C0N45	–	N45	0.0820	9/16	2.1/8	0.082
R89C0N44	–	N44	0.0860	9/16	2.1/8	0.086
R89C0N43	–	N43	0.0890	5/8	2.1/4	0.089
R89C0N42	–	N42	0.0935	5/8	2.1/4	0.093
R88C03/32	3/32	–	0.0938	5/8	2.1/4	0.094
R89C0N41	–	N41	0.0960	5/8	2.3/8	0.096
R89C0N40	–	N40	0.0980	13/16	2.3/8	0.098
R89C0N39	–	N39	0.0995	13/16	2.3/8	0.100
R89C0N36	–	N36	0.1065	13/16	2.1/2	0.106
R88C07/64	7/64	–	0.1094	13/16	2.5/8	0.109
R89C0N31	–	N31	0.1200	7/8	2.3/4	0.120
R88C01/8	1/8	–	0.1250	7/8	2.3/4	0.125
R89C0N30	–	N30	0.1285	15/16	2.3/4	0.129
R89C0N29	–	N29	0.1360	15/16	2.7/8	0.136
R88C09/64	9/64	–	0.1406	15/16	2.7/8	0.141
R89C0N27	–	N27	0.1440	1″	3″	0.144
R89C0N26	–	N26	0.1470	1″	3″	0.147
R89C0N25	–	N25	0.1495	1″	3″	0.149
R89C0N24	–	N24	0.1520	1″	3.1/8	0.152
R88C05/32	5/32	–	0.1563	1″	3.1/8	0.156
R89C0N22	–	N22	0.1570	1.1/16	3.1/8	0.157
R89C0N21	–	N21	0.1590	1.1/16	3.1/4	0.159
R89C0N20	–	N20	0.1610	1.1/16	3.1/4	0.161
R88C011/64	11/64	–	0.1719	1.1/16	3.1/4	0.172
R89C0N16	–	N16	0.1770	1.1/8	3.3/8	0.177

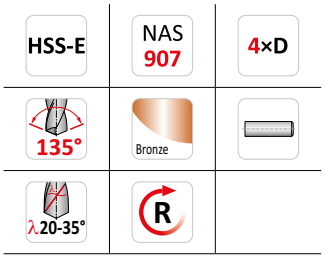
Product	DC (inch)	DC (Wire gauge size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R89C0N13	–	N13	0.1850	1.1/8	3.1/2	0.185
R88C03/16	3/16	–	0.1875	1.1/8	3.1/2	0.188
R89C0N12	–	N12	0.1890	1.1/8	3.1/2	0.189
R89C0N11	–	N11	0.1910	1.3/16	3.1/2	0.191
R89C0N10	–	N10	0.1935	1.3/16	3.5/8	0.194
R89C0N9	–	N9	0.1960	1.3/16	3.5/8	0.196
R89C0N8	–	N8	0.1990	1.3/16	3.5/8	0.199
R89C0N7	–	N7	0.2010	1.3/16	3.5/8	0.201
R88C013/64	13/64	–	0.2031	1.3/16	3.5/8	0.203
R89C0N6	–	N6	0.2040	1.1/4	3.3/4	0.204
R89C0N5	–	N5	0.2055	1.1/4	3.3/4	0.205
R89C0N3	–	N3	0.2130	1.1/4	3.3/4	0.213
R88C07/32	7/32	–	0.2188	1.1/4	3.3/4	0.219
R88C015/64	15/64	–	0.2344	1.5/16	3.7/8	0.234
R88C01/4	1/4	–	0.2500	1.3/8	4″	0.250
R88C017/64	17/64	–	0.2656	1.7/16	4.1/8	0.266
R88C09/32	9/32	–	0.2813	1.1/2	4.1/4	0.281
R88C019/64	19/64	–	0.2969	1.9/16	4.3/8	0.297
R88C05/16	5/16	–	0.3125	1.5/8	4.1/2	0.313
R88C021/64	21/64	–	0.3281	1.11/16	4.5/8	0.328
R88C011/32	11/32	–	0.3438	1.11/16	4.3/4	0.344
R88C023/64	23/64	–	0.3594	1.3/4	4.7/8	0.359
R88C03/8	3/8	–	0.3750	1.13/16	5″	0.375
R88C025/64	25/64	–	0.3906	1.7/8	5.1/8	0.391
R88C013/32	13/32	–	0.4063	1.15/16	5.1/4	0.406
R88C027/64	27/64	–	0.4219	2″	5.3/8	0.422
R88C07/16	7/16	–	0.4375	2.1/16	5.1/2	0.438
R88C029/64	29/64	–	0.4531	2.1/8	5.5/8	0.453
R88C015/32	15/32	–	0.4688	2.1/8	5.3/4	0.469
R88C031/64	31/64	–	0.4844	2.3/16	5.7/8	0.484
R88C01/2	1/2	–	0.5000	2.1/4	6″	0.500

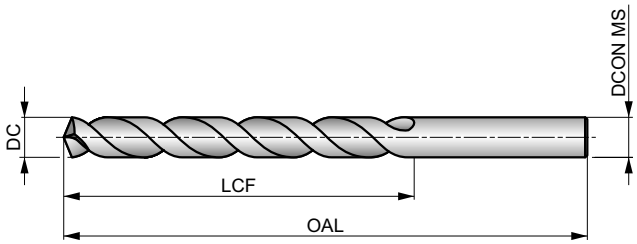
R10CO/R15CO/R18CO

PRECISION

NAS 907 Type J HSS-E (8%) Cobalt Heavy Duty Jobber Drill

High quality drill producing accurate sized holes with a better finish. Low thrust 135° self-centering split point for easier penetration. Bronze tempered surface finish helps stop work piece material from sticking to the cutting edges of the drill. Made to NAS 907 Type J Aerospace Standards.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 H	◪40 H	◪41 H	◪31 H	◪27 G	■24 E	■25 F	■20 F	■17 E	■15 F	■13 E	■10 D	◪30 E	◪26 E
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**
■27 E	■22 E	■18 C	■13 G	■11 G	■10 C	■15 C	◪35 H	■26 D	■19 D	◪27 E	◪22 E	■18 E	◪24 E
K3.2	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**
◪18 E	■15 E	◪22 E	◪17 E	■12 E	■11 E	■9 E	◪25 E	◪19 E	■15 E	◪33 J	◪25 J	◪17 I	◪46 H
N2.2	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪42 H	◪30 H	◪68 H	◪40 F	◪20 H	■28 F	■20 D	■11 C	■9 E	◪8 B	■7 E	◪6 B	■5 E	◪5 B

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R18CON80 [1]	–	N80	–	0.0135	1/8	3/4	0.013
R18CON79 [1]	–	N79	–	0.0145	1/8	3/4	0.015
R10C01/64 [1]	1/64	–	–	0.0156	3/16	3/4	0.016
R18CON78 [1]	–	N78	–	0.0160	3/16	7/8	0.016
R18CON77 [1]	–	N77	–	0.0180	3/16	7/8	0.018
R18CON76 [1]	–	N76	–	0.0200	3/16	7/8	0.020
R18CON75 [1]	–	N75	–	0.0210	1/4	1″	0.021
R18CON74 [1]	–	N74	–	0.0225	1/4	1″	0.022
R18CON73 [1]	–	N73	–	0.0240	5/16	1.1/8	0.024
R18CON72 [1]	–	N72	–	0.0250	5/16	1.1/8	0.025
R18CON71 [1]	–	N71	–	0.0260	3/8	1.1/4	0.026
R18CON70 [1]	–	N70	–	0.0280	3/8	1.1/4	0.028
R18CON69 [1]	–	N69	–	0.0292	1/2	1.3/8	0.029
R18CON68 [1]	–	N68	–	0.0310	1/2	1.3/8	0.031
R10C01/32 [1]	1/32	–	–	0.0313	1/2	1.3/8	0.031
R18CON67 [1]	–	N67	–	0.0320	1/2	1.3/8	0.032
R18CON66 [1]	–	N66	–	0.0330	1/2	1.3/8	0.033
R18CON65 [1]	–	N65	–	0.0350	5/8	1.1/2	0.035
R18CON64 [1]	–	N64	–	0.0360	5/8	1.1/2	0.036
R18CON63 [1]	–	N63	–	0.0370	5/8	1.1/2	0.037
R18CON62 [1]	–	N62	–	0.0380	5/8	1.1/2	0.038
R18CON61 [1]	–	N61	–	0.0390	11/16	1.5/8	0.039
R18CON60	–	N60	–	0.0400	11/16	1.5/8	0.040
R18CON59	–	N59	–	0.0410	11/16	1.5/8	0.041
R18CON58	–	N58	–	0.0420	11/16	1.5/8	0.042
R18CON57	–	N57	–	0.0430	3/4	1.3/4	0.043

Product	DC (inch)	DC (Wire gauge size)	DC (Letter size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
R18CON56	–	N56	–	0.0465	3/4	1.3/4	0.046
R10C03/64	3/64	–	–	0.0469	3/4	1.3/4	0.047
R18CON55	–	N55	–	0.0520	7/8	1.7/8	0.052
R18CON54	–	N54	–	0.0550	7/8	1.7/8	0.055
R18CON53	–	N53	–	0.0595	7/8	1.7/8	0.059
R10C01/16	1/16	–	–	0.0625	7/8	1.7/8	0.063
R18CON52	–	N52	–	0.0635	7/8	1.7/8	0.064
R18CON51	–	N51	–	0.0670	1″	2″	0.067
R18CON50	–	N50	–	0.0700	1″	2″	0.070
R18CON49	–	N49	–	0.0730	1″	2″	0.073
R18CON48	–	N48	–	0.0760	1″	2″	0.076
R10C05/64	5/64	–	–	0.0781	1″	2″	0.078
R18CON47	–	N47	–	0.0785	1″	2″	0.079
R18CON46	–	N46	–	0.0810	1.1/8	2.1/8	0.081
R18CON45	–	N45	–	0.0820	1.1/8	2.1/8	0.082
R18CON44	–	N44	–	0.0860	1.1/8	2.1/8	0.086
R18CON43	–	N43	–	0.0890	1.1/4	2.1/4	0.089
R18CON42	–	N42	–	0.0935	1.1/4	2.1/4	0.093
R10C03/32	3/32	–	–	0.0938	1.1/4	2.1/4	0.094
R18CON41	–	N41	–	0.0960	1.3/8	2.3/8	0.096
R18CON40	–	N40	–	0.0980	1.3/8	2.3/8	0.098
R18CON39	–	N39	–	0.0995	1.3/8	2.3/8	0.100
R18CON38	–	N38	–	0.1015	1.7/16	2.1/2	0.102
R18CON37	–	N37	–	0.1040	1.7/16	2.1/2	0.104
R18CON36	–	N36	–	0.1065	1.7/16	2.1/2	0.106
R10C07/64	7/64	–	–	0.1094	1.1/2	2.5/8	0.109

Product	DC	DC	DC	DC	LCF	OAL	DCONMS
	(inch)	(Wire gauge size)	(Letter size)	(inch)	(inch)	(inch)	(inch)
R18CON35	–	N35	–	0.1100	1.1/2	2.5/8	0.110
R18CON34	–	N34	–	0.1110	1.1/2	2.5/8	0.111
R18CON33	–	N33	–	0.1130	1.1/2	2.5/8	0.113
R18CON32	–	N32	–	0.1160	1.5/8	2.3/4	0.116
R18CON31	–	N31	–	0.1200	1.5/8	2.3/4	0.120
R10C01/8	1/8	–	–	0.1250	1.5/8	2.3/4	0.125
R18CON30	–	N30	–	0.1285	1.5/8	2.3/4	0.129
R18CON29	–	N29	–	0.1360	1.3/4	2.7/8	0.136
R18CON28	–	N28	–	0.1405	1.3/4	2.7/8	0.141
R10C09/64	9/64	–	–	0.1406	1.3/4	2.7/8	0.141
R18CON27	–	N27	–	0.1440	1.7/8	3″	0.144
R18CON26	–	N26	–	0.1470	1.7/8	3″	0.147
R18CON25	–	N25	–	0.1495	1.7/8	3″	0.149
R18CON24	–	N24	–	0.1520	2″	3.1/8	0.152
R18CON23	–	N23	–	0.1540	2″	3.1/8	0.154
R10C05/32	5/32	–	–	0.1563	2″	3.1/8	0.156
R18CON22	–	N22	–	0.1570	2″	3.1/8	0.157
R18CON21	–	N21	–	0.1590	2.1/8	3.1/4	0.159
R18CON20	–	N20	–	0.1610	2.1/8	3.1/4	0.161
R18CON19	–	N19	–	0.1660	2.1/8	3.1/4	0.166
R18CON18	–	N18	–	0.1695	2.1/8	3.1/4	0.170
R10C011/64	11/64	–	–	0.1719	2.1/8	3.1/4	0.172
R18CON17	–	N17	–	0.1730	2.3/16	3.3/8	0.173
R18CON16	–	N16	–	0.1770	2.3/16	3.3/8	0.177
R18CON15	–	N15	–	0.1800	2.3/16	3.3/8	0.180
R18CON14	–	N14	–	0.1820	2.3/16	3.3/8	0.182
R18CON13	–	N13	–	0.1850	2.5/16	3.1/2	0.185
R10C03/16	3/16	–	–	0.1875	2.5/16	3.1/2	0.188
R18CON12	–	N12	–	0.1890	2.5/16	3.1/2	0.189
R18CON11	–	N11	–	0.1910	2.5/16	3.1/2	0.191
R18CON10	–	N10	–	0.1935	2.7/16	3.5/8	0.194
R18CON9	–	N9	–	0.1960	2.7/16	3.5/8	0.196
R18CON8	–	N8	–	0.1990	2.7/16	3.5/8	0.199
R18CON7	–	N7	–	0.2010	2.7/16	3.5/8	0.201
R10C013/64	13/64	–	–	0.2031	2.7/16	3.5/8	0.203
R18CON6	–	N6	–	0.2040	2.1/2	3.3/4	0.204
R18CON5	–	N5	–	0.2055	2.1/2	3.3/4	0.205
R18CON4	–	N4	–	0.2090	2.1/2	3.3/4	0.209
R18CON3	–	N3	–	0.2130	2.1/2	3.3/4	0.213
R10C07/32	7/32	–	–	0.2188	2.1/2	3.3/4	0.219
R18CON2	–	N2	–	0.2210	2.5/8	3.7/8	0.221
R18CON1	–	N1	–	0.2280	2.5/8	3.7/8	0.228
R15C0A	–	–	A	0.2340	2.5/8	3.7/8	0.234
R10C015/64	15/64	–	–	0.2344	2.5/8	3.7/8	0.234
R15C0B	–	–	B	0.2380	2.3/4	4″	0.238
R15C0C	–	–	C	0.2420	2.3/4	4″	0.242
R15C0D	–	–	D	0.2460	2.3/4	4″	0.246
R10C01/4	1/4	–	–	0.2500	2.3/4	4″	0.250
R15C0F	–	–	F	0.2570	2.7/8	4.1/8	0.257

[1] No split point.

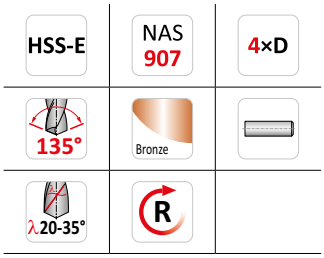
Product	DC	DC	DC	DC	LCF	OAL	DCONMS
	(inch)	(Wire gauge size)	(Letter size)	(inch)	(inch)	(inch)	(inch)
R15C0G	–	–	G	0.2610	2.7/8	4.1/8	0.261
R10C017/64	17/64	–	–	0.2656	2.7/8	4.1/8	0.266
R15C0H	–	–	H	0.2660	2.7/8	4.1/8	0.266
R15C0I	–	–	I	0.2720	2.7/8	4.1/8	0.272
R15C0J	–	–	J	0.2770	2.7/8	4.1/8	0.277
R15C0K	–	–	K	0.2810	2.15/16	4.1/4	0.281
R10C09/32	9/32	–	–	0.2813	2.15/16	4.1/4	0.281
R15C0L	–	–	L	0.2900	2.15/16	4.1/4	0.290
R15C0M	–	–	M	0.2950	3.1/16	4.3/8	0.295
R10C019/64	19/64	–	–	0.2969	3.1/16	4.3/8	0.297
R15C0N	–	–	N	0.3020	3.1/16	4.3/8	0.302
R10C05/16	5/16	–	–	0.3125	3.3/16	4.1/2	0.313
R15C0O	–	–	O	0.3160	3.3/16	4.1/2	0.316
R15C0P	–	–	P	0.3230	3.5/16	4.5/8	0.323
R10C021/64	21/64	–	–	0.3281	3.5/16	4.5/8	0.328
R15C0Q	–	–	Q	0.3320	3.7/16	4.3/4	0.332
R15C0R	–	–	R	0.3390	3.7/16	4.3/4	0.339
R10C011/32	11/32	–	–	0.3438	3.7/16	4.3/4	0.344
R15C0S	–	–	S	0.3480	3.1/2	4.7/8	0.348
R15C0T	–	–	T	0.3580	3.1/2	4.7/8	0.358
R10C023/64	23/64	–	–	0.3594	3.1/2	4.7/8	0.359
R15C0U	–	–	U	0.3680	3.5/8	5″	0.368
R10C03/8	3/8	–	–	0.3750	3.5/8	5″	0.375
R15C0V	–	–	V	0.3770	3.5/8	5″	0.377
R15C0W	–	–	W	0.3860	3.3/4	5.1/8	0.386
R10C025/64	25/64	–	–	0.3906	3.3/4	5.1/8	0.391
R15C0X	–	–	X	0.3970	3.3/4	5.1/8	0.397
R15C0Y	–	–	Y	0.4040	3.7/8	5.1/4	0.404
R10C013/32	13/32	–	–	0.4063	3.7/8	5.1/4	0.406
R15C0Z	–	–	Z	0.4130	3.7/8	5.1/4	0.413
R10C027/64	27/64	–	–	0.4219	3.15/16	5.3/8	0.422
R10C07/16	7/16	–	–	0.4375	4.1/16	5.1/2	0.438
R10C029/64	29/64	–	–	0.4531	4.3/16	5.5/8	0.453
R10C015/32	15/32	–	–	0.4688	4.5/16	5.3/4	0.469
R10C031/64	31/64	–	–	0.4844	4.3/8	5.7/8	0.484
R10C01/2	1/2	–	–	0.5000	4.1/2	6″	0.500
R10C033/64	33/64	–	–	0.5156	4.13/16	6.5/8	0.516
R10C017/32	17/32	–	–	0.5313	4.13/16	6.5/8	0.531
R10C035/64	35/64	–	–	0.5469	4.13/16	6.5/8	0.547
R10C09/16	9/16	–	–	0.5625	4.13/16	6.5/8	0.563
R10C037/64	37/64	–	–	0.5781	4.13/16	6.5/8	0.578
R10C019/32	19/32	–	–	0.5938	5.3/16	7.1/8	0.594
R10C039/64	39/64	–	–	0.6094	5.3/16	7.1/8	0.609
R10C05/8	5/8	–	–	0.6250	5.3/16	7.1/8	0.625
R10C041/64	41/64	–	–	0.6406	5.3/16	7.1/8	0.641
R10C021/32	21/32	–	–	0.6563	5.3/16	7.1/8	0.656
R10C043/64	43/64	–	–	0.6719	5.5/8	7.5/8	0.672
R10C011/16	11/16	–	–	0.6875	5.5/8	7.5/8	0.688

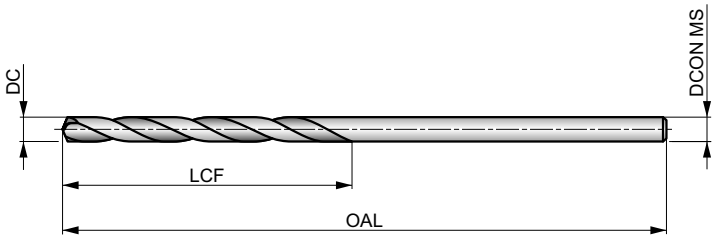
CO500-6/CO501-6

PRECISION

NAS 907 Type B HSS-E Aircraft Extension Drill, 6" OAL

Long series drills made according to National Aerospace Standards with long over-all length combined with short flute length makes it ideal for drilling in difficult to reach areas. The cobalt material, 135° split point and bronze tempered surface finish improves tool life when drilling most materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 G	◪40 G	◪41 G	◪31 G	◪27 E	■24 D	■25 E	■20 E	■17 D	■15 E	■13 D	■10 B	◪30 H	◪26 H
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
■27 H	■22 H	◪18 D	■13 F	■11 F	■10 D	■15 D	◪13 D	◪35 H	■26 H	■19 H	◪27 F	◪22 F	■18 D
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
◪24 F	◪18 F	■15 D	◪22 F	◪17 F	■12 D	■11 D	■9 D	◪25 F	◪19 F	■15 D	◪32 I	◪24 I	◪16 H
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪42 G	◪37 G	◪27 G	◪54 G	◪32 H	◪16 E	◪35 I	◪26 G	◪12 E	■6 D	■8 B	◪7 B	■6 B	◪5 B
S4.1	**S4.2**												
■5 B	◪4 B												

Product	DC (inch)	DC (Wire gauge size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
CO500-61/16	1/16	–	0.0625	7/8	6"	0.063
CO501-6N52	–	N52	0.0635	7/8	6"	0.064
CO501-6N51	–	N51	0.0670	1"	6"	0.067
CO501-6N50	–	N50	0.0700	1"	6"	0.070
CO501-6N49	–	N49	0.0730	1"	6"	0.073
CO501-6N48	–	N48	0.0760	1"	6"	0.076
CO500-65/64	5/64	–	0.0781	1"	6"	0.078
CO501-6N47	–	N47	0.0785	1"	6"	0.079
CO501-6N46	–	N46	0.0810	1.1/8	6"	0.081
CO501-6N45	–	N45	0.0820	1.1/8	6"	0.082
CO501-6N44	–	N44	0.0860	1.1/8	6"	0.086
CO501-6N43	–	N43	0.0890	1.1/4	6"	0.089
CO501-6N42	–	N42	0.0935	1.1/4	6"	0.093
CO500-63/32	3/32	–	0.0938	1.1/4	6"	0.094
CO501-6N41	–	N41	0.0960	1.3/8	6"	0.096
CO501-6N40	–	N40	0.0980	1.3/8	6"	0.098
CO501-6N39	–	N39	0.0995	1.3/8	6"	0.100
CO501-6N38	–	N38	0.1015	1.7/16	6"	0.102
CO501-6N37	–	N37	0.1040	1.7/16	6"	0.104
CO501-6N36	–	N36	0.1065	1.7/16	6"	0.106
CO500-67/64	7/64	–	0.1094	1.1/2	6"	0.109
CO501-6N35	–	N35	0.1100	1.1/2	6"	0.110
CO501-6N34	–	N34	0.1110	1.1/2	6"	0.111
CO501-6N33	–	N33	0.1130	1.1/2	6"	0.113
CO501-6N32	–	N32	0.1160	1.5/8	6"	0.116
CO501-6N31	–	N31	0.1200	1.5/8	6"	0.120
CO500-61/8	1/8	–	0.1250	1.5/8	6"	0.125
CO501-6N30	–	N30	0.1285	1.5/8	6"	0.129
CO501-6N29	–	N29	0.1360	1.3/4	6"	0.136
CO501-6N28	–	N28	0.1405	1.3/4	6"	0.141
CO500-69/64	9/64	–	0.1406	1.3/4	6"	0.141
CO501-6N27	–	N27	0.1440	1.7/8	6"	0.144
CO501-6N26	–	N26	0.1470	1.7/8	6"	0.147

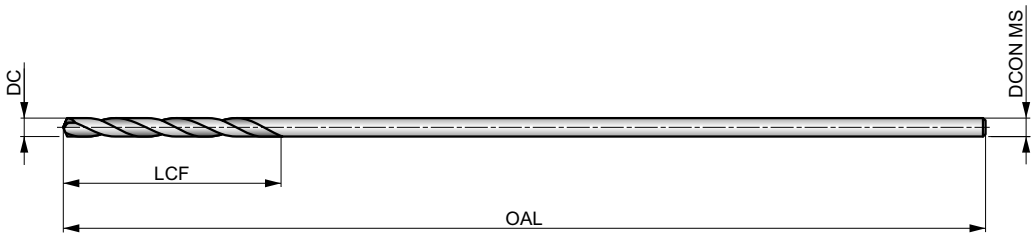
Product	DC (inch)	DC (Wire gauge size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
CO501-6N25	–	N25	0.1495	1.7/8	6"	0.149
CO501-6N24	–	N24	0.1520	2"	6"	0.152
CO501-6N23	–	N23	0.1540	2"	6"	0.154
CO500-65/32	5/32	–	0.1563	2"	6"	0.156
CO501-6N22	–	N22	0.1570	2"	6"	0.157
CO501-6N21	–	N21	0.1590	2.1/8	6"	0.159
CO501-6N20	–	N20	0.1610	2.1/8	6"	0.161
CO501-6N19	–	N19	0.1660	2.1/8	6"	0.166
CO501-6N18	–	N18	0.1695	2.1/8	6"	0.170
CO500-611/64	11/64	–	0.1719	2.1/8	6"	0.172
CO501-6N17	–	N17	0.1730	2.3/16	6"	0.173
CO501-6N16	–	N16	0.1770	2.3/16	6"	0.177
CO501-6N15	–	N15	0.1800	2.3/16	6"	0.180
CO501-6N14	–	N14	0.1820	2.3/16	6"	0.182
CO501-6N13	–	N13	0.1850	2.5/16	6"	0.185
CO500-63/16	3/16	–	0.1875	2.5/16	6"	0.188
CO501-6N12	–	N12	0.1890	2.5/16	6"	0.189
CO501-6N11	–	N11	0.1910	2.5/16	6"	0.191
CO501-6N10	–	N10	0.1935	2.7/16	6"	0.194
CO501-6N9	–	N9	0.1960	2.7/16	6"	0.196
CO501-6N8	–	N8	0.1990	2.7/16	6"	0.199
CO501-6N7	–	N7	0.2010	2.7/16	6"	0.201
CO500-613/64	13/64	–	0.2031	2.7/16	6"	0.203
CO501-6N6	–	N6	0.2040	2.1/2	6"	0.204
CO501-6N5	–	N5	0.2055	2.1/2	6"	0.205
CO501-6N4	–	N4	0.2090	2.1/2	6"	0.209
CO501-6N3	–	N3	0.2130	2.1/2	6"	0.213
CO500-67/32	7/32	–	0.2188	2.1/2	6"	0.219
CO501-6N2	–	N2	0.2210	2.5/8	6"	0.221
CO501-6N1	–	N1	0.2280	2.5/8	6"	0.228
CO500-615/64	15/64	–	0.2344	2.5/8	6"	0.234
CO500-61/4	1/4	–	0.2500	2.3/4	6"	0.250

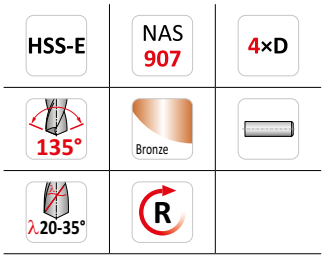
CO500-12/CO501-12

PRECISION

NAS 907 Type B HSS-E Aircraft Extension Drill, 12″ OAL

Extra-long series drills made according to National Aerospace Standards with extra-long over-all length combined with short flute length makes it ideal for drilling in difficult to reach areas. The cobalt material, 135° split point and bronze tempered surface finish improves tool life when drilling most materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 G	◪40 G	◪41 G	◪31 G	◪27 E	■24 D	■25 E	■20 E	■17 D	■15 E	■13 D	■10 B	◪30 H	◪26 H
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
■27 H	■22 H	◪18 D	■13 F	■11 F	■10 D	■15 D	◪13 D	◪35 H	■26 H	■19 H	◪27 F	◪22 F	■18 D
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
◪24 F	◪18 F	■15 D	◪22 F	◪17 F	■12 D	■11 D	■9 D	◪25 F	◪19 F	■15 D	◪32 I	◪24 I	◪16 H
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪42 G	◪37 G	◪27 G	◪54 G	◪32 H	◪16 E	◪35 I	◪26 G	◪12 E	■6 D	■8 B	◪7 B	■6 B	◪5 B
S4.1	**S4.2**												
■5 B	◪4 B												

Product	DC (inch)	DC (Wire gauge size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
C0500-121/16	1/16	–	0.0625	7/8	12″	0.063
C0500-125/64	5/64	–	0.0781	1″	12″	0.078
C0500-123/32	3/32	–	0.0938	1.1/4	12″	0.094
C0501-12N40	–	N40	0.0980	1.3/8	12″	0.098
C0500-127/64	7/64	–	0.1094	1.1/2	12″	0.109
C0500-121/8	1/8	–	0.1250	1.5/8	12″	0.125
C0501-12N30	–	N30	0.1285	1.5/8	12″	0.129
C0501-12N29	–	N29	0.1360	1.3/4	12″	0.136
C0500-129/64	9/64	–	0.1406	1.3/4	12″	0.141
C0500-125/32	5/32	–	0.1563	2″	12″	0.156
C0501-12N21	–	N21	0.1590	2.1/8	12″	0.159

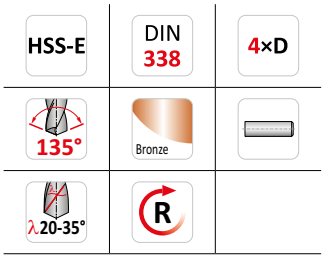
Product	DC (inch)	DC (Wire gauge size)	DC (inch)	LCF (inch)	OAL (inch)	DCON MS (inch)
C0501-12N20	–	N20	0.1610	2.1/8	12″	0.161
C0500-1211/64	11/64	–	0.1719	2.1/8	12″	0.172
C0501-12N16	–	N16	0.1770	2.3/16	12″	0.177
C0500-123/16	3/16	–	0.1875	2.5/16	12″	0.188
C0501-12N11	–	N11	0.1910	2.5/16	12″	0.191
C0501-12N10	–	N10	0.1935	2.7/16	12″	0.194
C0500-1213/64	13/64	–	0.2031	2.7/16	12″	0.203
C0500-127/32	7/32	–	0.2188	2.1/2	12″	0.219
C0501-12N2	–	N2	0.2210	2.5/8	12″	0.221
C0500-1215/64	15/64	–	0.2344	2.5/8	12″	0.234
C0500-121/4	1/4	–	0.2500	2.3/4	12″	0.250

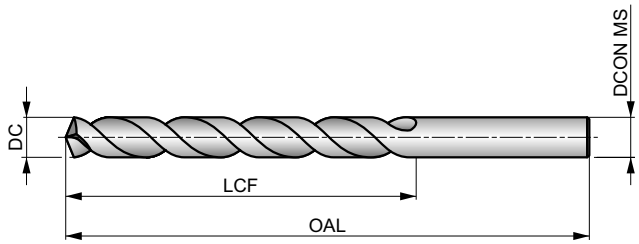
2ACO

PRECISION

NAS 907 Type J HSS-E Heavy Duty Jobber Drill, Bronze Tempered Surface Finish, Metric Sizes

High quality drill producing accurate sized holes with a better finish. Low thrust 135° self-centering split point for easier penetration. Bronze tempered surface finish helps stop work piece material from sticking to the cutting edges of the drill. Made to NAS 907 Type J Aerospace Standards.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 H	◪40 H	◪41 H	◪31 H	◪27 G	■24 E	■25 F	■20 F	■17 E	■15 F	■13 E	■10 D	◪30 E	◪26 E
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**
■27 E	■22 E	■18 C	■13 G	■11 G	■10 C	■15 C	◪35 H	■26 D	■19 D	◪27 E	◪22 E	■18 E	◪24 E
K3.2	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**
◪18 E	■15 E	◪22 E	◪17 E	■12 E	■11 E	■9 E	◪25 E	◪19 E	■15 E	◪33 J	◪25 J	◪17 I	◪46 H
N2.2	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪42 H	◪30 H	◪68 H	◪40 F	◪20 H	■28 F	■20 D	■11 C	■9 E	◪8 B	■7 E	◪6 B	■5 E	◪5 B

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
2ACO1.0	1.00	0.0394	12.0	34.0	1.00
2ACO1.05	1.05	0.0413	12.0	34.0	1.05
2ACO1.1	1.10	0.0433	14.0	36.0	1.10
2ACO1.15	1.15	0.0453	14.0	36.0	1.15
2ACO1.2	1.20	0.0472	16.0	38.0	1.20
2ACO1.25	1.25	0.0492	16.0	38.0	1.25
2ACO1.3	1.30	0.0512	16.0	38.0	1.30
2ACO1.35	1.35	0.0531	18.0	40.0	1.35
2ACO1.4	1.40	0.0551	18.0	40.0	1.40
2ACO1.45	1.45	0.0571	18.0	40.0	1.45
2ACO1.5	1.50	0.0591	18.0	40.0	1.50
2ACO1.55	1.55	0.0610	20.0	43.0	1.55
2ACO1.6	1.60	0.0630	20.0	43.0	1.60
2ACO1.65	1.65	0.0650	20.0	43.0	1.65
2ACO1.7	1.70	0.0669	20.0	43.0	1.70
2ACO1.75	1.75	0.0689	22.0	46.0	1.75
2ACO1.8	1.80	0.0709	22.0	46.0	1.80
2ACO1.85	1.85	0.0728	22.0	46.0	1.85
2ACO1.9	1.90	0.0748	22.0	46.0	1.90
2ACO1.95	1.95	0.0768	24.0	49.0	1.95
2ACO2.0	2.00	0.0787	24.0	49.0	2.00
2ACO2.05	2.05	0.0807	24.0	49.0	2.05
2ACO2.1	2.10	0.0827	24.0	49.0	2.10
2ACO2.2	2.20	0.0866	27.0	53.0	2.20
2ACO2.3	2.30	0.0906	27.0	53.0	2.30
2ACO2.35	2.35	0.0925	27.0	53.0	2.35

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
2ACO2.4	2.40	0.0945	30.0	57.0	2.40
2ACO2.5	2.50	0.0984	30.0	57.0	2.50
2ACO2.6	2.60	0.1024	30.0	57.0	2.60
2ACO2.7	2.70	0.1063	33.0	61.0	2.70
2ACO2.8	2.80	0.1102	33.0	61.0	2.80
2ACO2.9	2.90	0.1142	33.0	61.0	2.90
2ACO3.0	3.00	0.1181	33.0	61.0	3.00
2ACO3.1	3.10	0.1220	36.0	65.0	3.10
2ACO3.2	3.20	0.1260	36.0	65.0	3.20
2ACO3.25	3.25	0.1280	36.0	65.0	3.25
2ACO3.3	3.30	0.1299	36.0	65.0	3.30
2ACO3.4	3.40	0.1339	39.0	70.0	3.40
2ACO3.5	3.50	0.1378	39.0	70.0	3.50
2ACO3.6	3.60	0.1417	39.0	70.0	3.60
2ACO3.7	3.70	0.1457	39.0	70.0	3.70
2ACO3.75	3.75	0.1476	39.0	70.0	3.75
2ACO3.8	3.80	0.1496	43.0	75.0	3.80
2ACO4.0	4.00	0.1575	43.0	75.0	4.00
2ACO4.1	4.10	0.1614	43.0	75.0	4.10
2ACO4.2	4.20	0.1654	43.0	75.0	4.20
2ACO4.25	4.25	0.1673	43.0	75.0	4.25
2ACO4.3	4.30	0.1693	47.0	80.0	4.30
2ACO4.4	4.40	0.1732	47.0	80.0	4.40
2ACO4.5	4.50	0.1772	47.0	80.0	4.50
2ACO4.7	4.70	0.1850	47.0	80.0	4.70
2ACO4.8	4.80	0.1890	52.0	86.0	4.80

Product	DC	DC	LCF	OAL	DCON MS
	(mm)	(inch)	(mm)	(mm)	(mm)
2AC05.0	5.00	0.1969	52.0	86.0	5.00
2AC05.1	5.10	0.2008	52.0	86.0	5.10
2AC05.2	5.20	0.2047	52.0	86.0	5.20
2AC05.25	5.25	0.2067	52.0	86.0	5.25
2AC05.3	5.30	0.2087	52.0	86.0	5.30
2AC05.5	5.50	0.2165	57.0	93.0	5.50
2AC05.6	5.60	0.2205	57.0	93.0	5.60
2AC05.7	5.70	0.2244	57.0	93.0	5.70
2AC05.9	5.90	0.2323	57.0	93.0	5.90
2AC06.0	6.00	0.2362	57.0	93.0	6.00
2AC06.1	6.10	0.2402	63.0	101.0	6.10
2AC06.2	6.20	0.2441	63.0	101.0	6.20
2AC06.3	6.30	0.2480	63.0	101.0	6.30
2AC06.4	6.40	0.2520	63.0	101.0	6.40
2AC06.5	6.50	0.2559	63.0	101.0	6.50
2AC06.6	6.60	0.2598	63.0	101.0	6.60
2AC06.7	6.70	0.2638	63.0	101.0	6.70
2AC06.8	6.80	0.2677	69.0	109.0	6.80
2AC06.9	6.90	0.2717	69.0	109.0	6.90
2AC07.0	7.00	0.2756	69.0	109.0	7.00
2AC07.1	7.10	0.2795	69.0	109.0	7.10
2AC07.2	7.20	0.2835	69.0	109.0	7.20
2AC07.25	7.25	0.2854	69.0	109.0	7.25
2AC07.3	7.30	0.2874	69.0	109.0	7.30
2AC07.5	7.50	0.2953	69.0	109.0	7.50
2AC07.8	7.80	0.3071	75.0	117.0	7.80
2AC07.9	7.90	0.3110	75.0	117.0	7.90

Product	DC	DC	LCF	OAL	DCON MS
	(mm)	(inch)	(mm)	(mm)	(mm)
2AC08.0	8.00	0.3150	75.0	117.0	8.00
2AC08.2	8.20	0.3228	75.0	117.0	8.20
2AC08.4	8.40	0.3307	75.0	117.0	8.40
2AC08.5	8.50	0.3346	75.0	117.0	8.50
2AC08.8	8.80	0.3465	81.0	125.0	8.80
2AC08.9	8.90	0.3504	81.0	125.0	8.90
2AC09.0	9.00	0.3543	81.0	125.0	9.00
2AC09.1	9.10	0.3583	81.0	125.0	9.10
2AC09.2	9.20	0.3622	81.0	125.0	9.20
2AC09.3	9.30	0.3661	81.0	125.0	9.30
2AC09.4	9.40	0.3701	81.0	125.0	9.40
2AC09.5	9.50	0.3740	81.0	125.0	9.50
2AC09.6	9.60	0.3780	87.0	133.0	9.60
2AC09.7	9.70	0.3819	87.0	133.0	9.70
2AC09.8	9.80	0.3858	87.0	133.0	9.80
2AC010.0	10.00	0.3937	87.0	133.0	10.00
2AC010.2	10.20	0.4016	87.0	133.0	10.20
2AC010.5	10.50	0.4134	87.0	133.0	10.50
2AC010.8	10.80	0.4252	94.0	142.0	10.80
2AC011.0	11.00	0.4331	94.0	142.0	11.00
2AC011.2	11.20	0.4409	94.0	142.0	11.20
2AC011.5	11.50	0.4528	94.0	142.0	11.50
2AC011.8	11.80	0.4646	94.0	142.0	11.80
2AC012.0	12.00	0.4724	101.0	151.0	12.00
2AC012.2	12.20	0.4803	101.0	151.0	12.20
2AC012.5	12.50	0.4921	101.0	151.0	12.50
2AC013.0	13.00	0.5118	101.0	151.0	13.00

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS	
Coating	Bright	Bright	Bright	Bright	Bright	Bright	Bright	Bright	TiAlN	Bright	Bright	
Basic standard group (BSG)	DIN 334C	DIN 335C	DORMER	DIN 335A	ANSI	DIN 335C	DIN 335C	DIN 335C	DIN 335C	DORMER	DORMER	
Hand (Cutting direction)	R	R	R	R	R	R	R	R	R	R	R	
Shank												
Application angle	60°	82°	90°	90°		90°	90°	90°	90°	90°	90°	90°
												
Product Family Code	G135	G154	G129	G132	B690	G142	G136	G106	G506	G107	G600	G236
PSF cutting diameters range	6.30 - 25.00	6.30 - 25.00	6.00 - 31.50	8.00 - 20.00	1/4 - 1"	5.00 - 31.00	4.30 - 31.00	6.30 - 50.00	6.30 - 50.00	6.30 - 20.50	6.30 - 25.00	Set
	60	61	62	63	64	65	66	67	68	69	70	71
P	P1	■	■	■		■	■	■	■	■	■	■	
	P2	■	■	■	◪	■	■	■	■	■	■	■	
	P3	◪	■	◪	◪	■	■	■	■	■	■	■	
	P4	◪	◪		■		◪	◪	◪	■	■	◪	
M	M1	◪	◪	◪		◪	■	◪	◪	◪	◪	◪	
	M2	◪	◪	◪		◪	◪	◪	◪	◪	◪	◪	
	M3				◪		◪						
	M4				◪		◪						
K	K1	◪	◪	◪	■	◪		◪	■	■	◪	◪	
	K2	◪	◪	◪	◪	◪		◪	◪	■	◪	◪	
	K3	◪	◪	◪	◪	◪		◪	◪	■	◪	◪	
	K4				◪					◪	◪		
	K5	◪	◪		◪			◪	◪	■	◪	◪	
N	N1	◪	◪	■	◪	■	■	◪	◪	◪	◪	◪	
	N2	■	◪	◪	■	◪	◪	◪	◪	■	◪	◪	
	N3	■	■	■	◪	■	■	■	■	■	■	◪	
	N4	◪	◪	◪	◪	◪	■	◪	◪	◪	◪		
	N5												
S	S1												
	S2												
	S3												
	S4												
H	H1												
	H2												
	H3												
	H4												

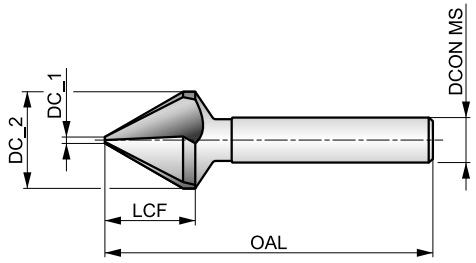
■ Primary use ◪ Possible use

G135

DORMER

HSS Straight Shank 60° Countersink, Bright Finish

With a 60° angle to chamfer holes for special fasteners and removing burrs from drilled holes in diameters up to 25.0 mm. For use in both machine and hand-held operations. Suitable to chamfer holes in many materials.



HSS	Bright	DIN 334C
R		60°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	◪ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 8 C	◪ 6 C	◪ 7 C
M2.2	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 6 C	◪ 20 F	◪ 15 D	◪ 21 C	◪ 17 C	◪ 18 C	◪ 14 C	◪ 19 C	◪ 15 C	◪ 40 G	■ 30 G	◪ 20 F	■ 20 F	◪ 18 F
N3.1	**N3.2**	**N3.3**	**N4.1**	**N4.2**									
■ 21 F	■ 12 F	◪ 6 D	◪ 40 G	◪ 35 G									

DCON MS tolerance h9.

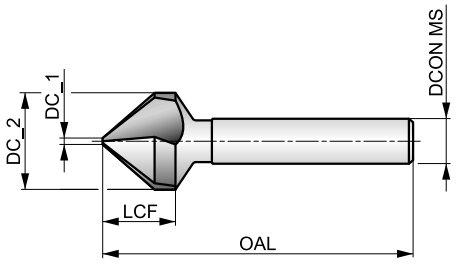
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G1356.3	6.30	1.60	6.8	45.0	5.00	3
G1358.0	8.00	2.00	8.5	50.0	6.00	3
G13510.0	10.00	2.50	7.6	50.0	6.00	3
G13512.5	12.50	3.20	11.7	56.0	8.00	3
G13516.0	16.00	4.00	14.5	63.0	10.00	3
G13520.0	20.00	5.00	17.5	67.0	10.00	3
G13525.0	25.00	6.30	20.5	71.0	10.00	3

G154

DORMER

HSS Straight Shank 82° Countersink, Bright Finish

An 82° Countersink for flat head cap screws and to chamfer holes. Versatile tool that can be used in both hand-held and machine applications. Suitable to chamfer holes in many materials.



HSS	Bright	DIN 335C
R		82°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	■ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 8 C	◪ 6 C	◪ 7 C
M2.2	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 6 C	◪ 20 F	◪ 15 D	◪ 21 C	◪ 17 C	◪ 18 C	◪ 14 C	◪ 14 C	◪ 10 C	◪ 40 G	■ 30 G	◪ 20 F	■ 20 F	◪ 18 F
N3.1	**N3.2**	**N3.3**	**N4.1**	**N4.2**									
■ 21 F	■ 12 F	◪ 6 D	◪ 40 G	◪ 35 G									

DCON MS tolerance h9.

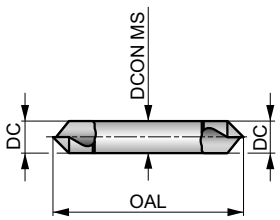
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G1546.3	6.30	1.50	5.5	45.0	5.00	3
G1548.3	8.30	2.00	6.5	50.0	6.00	3
G15410.4	10.40	2.50	7.6	50.0	6.00	3
G15412.4	12.40	2.80	8.5	56.0	8.00	3
G15416.5	16.50	3.20	10.5	60.0	10.00	3
G15420.5	20.50	3.50	13.0	63.0	10.00	3
G15425.0	25.00	3.80	15.5	67.0	10.00	3

G129

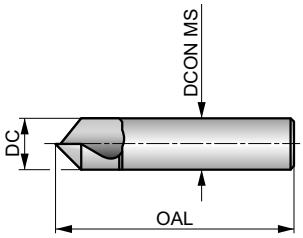
HSS Straight Shank Single Flute 90° Countersink, Bright Finish

A 90° Countersink with bright finish to chamfer and for removing burrs from drilled holes. The single-flute design reduces vibration and chatter for a smooth chamfering operation. Suitable to chamfer holes in mild steels and medium strength non-ferrous materials, such as aluminium.

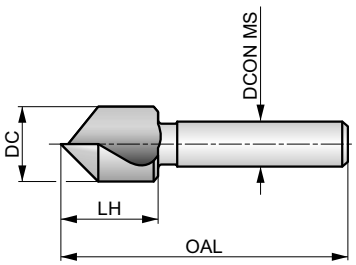
DC = 6 mm



DC = 8 mm



DC ≥ 10 mm



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	M1.1	M1.2	M2.1	K1.1	K1.2	K2.1
■21 D	■24 D	■25 D	■18 D	■16 C	◪14 A	■13 B	◪11 B	◪8 B	◪6 B	◪7 B	◪18 D	◪13 C	◪19 A

K2.2	K3.1	K3.2	N1.1	N1.2	N1.3	N2.1	N2.2	N3.1	N3.2	N3.3	N4.1	N4.2
◪15 A	◪16 A	◪12 A	■34 D	■25 D	◪16 C	◪16 C	◪14 C	■17 C	■9 C	◪5 B	◪35 D	◪30 D

DCON MS tolerance h9.

Product	DC (mm)	LH (mm)	OAL (mm)	DCON MS (mm)	NOF
G1296.0	6.00	–	45.0	6.00	1
G1298.0	8.00	–	50.0	8.00	1
G12910.0	10.00	17.0	49.0	8.00	1
G12912.5	12.50	17.0	49.0	8.00	1
G12916.0	16.00	20.0	56.0	10.00	1
G12920.0	20.00	24.0	60.0	10.00	1
G12925.0	25.00	25.0	75.0	12.00	1
G12931.5	31.50	29.0	80.0	12.00	1

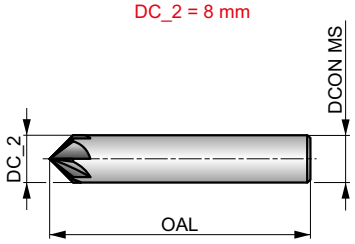
G132

DORMER

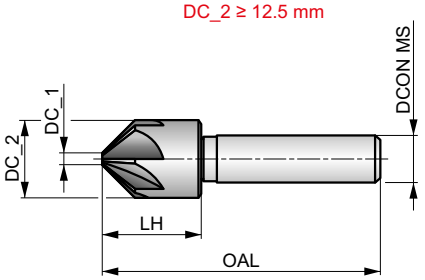
HSS Straight Shank Multi-Flute 90° Countersink, Bright Finish

A 90° Countersink designed for chamfering holes to accommodate standard fasteners and clean burrs from drilled holes. Multiple flutes to reduce chatter and vibration, giving a smooth chamfering operation. Versatile tool for use in hand-held and machine applications. Suitable to chamfer holes in many materials.

DC_2 = 8 mm



DC_2 ≥ 12.5 mm



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P2.2	P2.3	P3.2	P3.3	P4.1	P4.2	P4.3	M3.3	M4.1	K1.1	K1.2	K1.3	K2.2	K2.3
◪18 E	■16 D	◪13 D	■11 B	◪10 D	■8 C	■7 B	◪3 A	◪4 A	◪20 F	■15 D	■11 D	◪17 C	■14 D

K3.1	K3.2	K3.3	K4.1	K4.2	K5.1	K5.2	K5.3	N1.3	N2.3	N3.2	N4.3
■18 E	◪14 E	◪11 D	◪17 C	◪13 C	◪19	◪15	■11 D	◪20 F	■13 F	◪12 F	◪5 G

DCON MS tolerance h9.

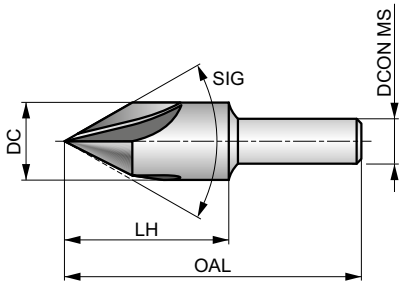
Product	DC_2 (mm)	DC_1 (mm)	LH (mm)	OAL (mm)	DCON MS (mm)	NOF
G1328.0	8.00	–	–	48.0	8.00	5
G13212.5	12.50	2.00	15.5	48.0	8.00	5
G13216.0	16.00	3.20	19.5	56.0	10.00	7
G13220.0	20.00	5.00	23.0	60.0	10.00	7

B690

DORMER

HSS Straight Shank Center Reamer, 60°, 82°, 90° or 100° Countersink Angles

Primarily used for reaming center-drilled holes, lathe centers in shafts and countersink angles for screw heads and rivets. Available in 60°, 82°, 90° or 100° countersink angles. The uneven number of flutes promotes smooth finishes by eliminating chatter while improving accuracy.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	M1.1	M1.2	M2.1	K1.1	K1.2	K2.1
■ 21 D	■ 24 D	■ 25 D	■ 18 D	■ 16 C	◪ 14 A	■ 13 B	◪ 11 B	◪ 8 B	◪ 6 B	◪ 7 B	◪ 18 D	◪ 13 C	◪ 19 A

K2.2	K3.1	K3.2	N1.1	N1.2	N1.3	N2.1	N2.2	N3.1	N3.2	N3.3	N4.1	N4.2
◪ 15 A	◪ 16 A	◪ 12 A	■ 34 D	■ 25 D	■ 16 C	◪ 16 C	◪ 14 C	■ 17 C	■ 9 C	◪ 5 B	◪ 35 D	◪ 30 D

Product	DC (inch)	DC (inch)	SIG (°)	DCON MS (inch)	OAL (inch)	NOF
B6901/4X60	1/4	0.2500	60	3/16	1.1/2	3
B6901/4X82	1/4	0.2500	82	3/16	1.1/2	3
B6901/4X90	1/4	0.2500	90	3/16	1.1/2	3
B6901/4X100	1/4	0.2500	100	3/16	1.1/2	3
B6903/8X60	3/8	0.3750	60	1/4	1.3/4	3
B6903/8X82	3/8	0.3750	82	1/4	1.3/4	3
B6903/8X90	3/8	0.3750	90	1/4	1.3/4	3
B6903/8X100	3/8	0.3750	100	1/4	1.3/4	3
B6901/2X60	1/2	0.5000	60	3/8	2″	3
B6901/2X82	1/2	0.5000	82	3/8	2″	3
B6901/2X90	1/2	0.5000	90	3/8	2″	3
B6901/2X100	1/2	0.5000	100	3/8	2″	3

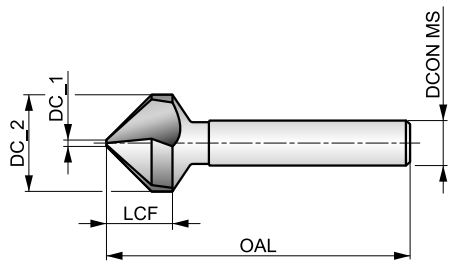
Product	DC (inch)	DC (inch)	SIG (°)	DCON MS (inch)	OAL (inch)	NOF
B6905/8X60	5/8	0.6250	60	3/8	2.1/4	3
B6905/8X82	5/8	0.6250	82	3/8	2.1/4	3
B6905/8X90	5/8	0.6250	90	3/8	2.1/4	3
B6905/8X100	5/8	0.6250	100	3/8	2.1/4	3
B6903/4X60	3/4	0.7500	60	1/2	2.5/8	3
B6903/4X82	3/4	0.7500	82	1/2	2.5/8	3
B6903/4X90	3/4	0.7500	90	1/2	2.5/8	3
B6903/4X100	3/4	0.7500	100	1/2	2.5/8	3
B6901X60	1″	1.0000	60	1/2	3″	3
B6901X82	1″	1.0000	82	1/2	3″	3
B6901X90	1″	1.0000	90	1/2	3″	3
B6901X100	1″	1.0000	100	1/2	3″	3

G142

DORMER

HSS Straight Shank, 90° Countersink, Bright Finish, for Stainless Steel

A 90° Countersink designed for chamfering holes for standard fasteners and to clean burrs from drilled holes. Increased relief to provide a sharper edge, which improves performance when machining sticky materials, such as stainless steels and non-ferrous materials. Can be used in hand-held and machine applications.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	■ 13 D	◪ 11 B	■ 10 D	◪ 8 B	■ 11 C	■ 9 C	■ 10 C

M2.2	M3.1	M3.2	M4.1	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	N4.1
◪ 8 C	■ 7 B	◪ 6 B	◪ 4 A	■ 40 G	■ 30 G	◪ 20 F	◪ 20 F	◪ 18 F	◪ 20 F	■ 34 F	■ 20 F	■ 10 D	■ 40 G

N4.2
■ 35 G

DCON MS tolerance h9.

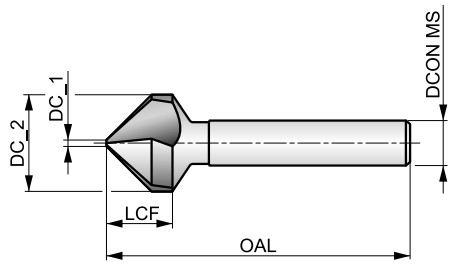
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G1425.0	5.00	1.50	4.5	40.0	4.00	3
G1426.3	6.30	1.50	5.5	45.0	5.00	3
G1428.0	8.00	2.00	6.1	50.0	6.00	3
G1428.3	8.30	2.00	6.5	50.0	6.00	3
G14210.0	10.00	2.50	7.6	50.0	6.00	3
G14210.4	10.40	2.50	7.6	50.0	6.00	3
G14212.4	12.40	2.80	8.5	56.0	8.00	3
G14215.0	15.00	3.20	9.5	60.0	10.00	3
G14216.5	16.50	3.20	10.5	60.0	10.00	3
G14220.5	20.50	3.50	13.0	63.0	10.00	3
G14223.0	23.00	3.80	13.7	67.0	10.00	3
G14225.0	25.00	3.80	15.5	67.0	10.00	3
G14231.0	31.00	4.20	18.5	71.0	12.00	3

G136

DORMER

HSS Straight Shank 90° Countersink, Bright Finish

A 90° Countersink designed to chamfer holes and for removing burrs from drilled holes. Reduced shank allows larger diameter countersinks in standard holders and chucks. Versatile tool, which can be used in hand-held and machine applications. Suitable to chamfer holes in many materials.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	■ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 8 C	◪ 6 C	◪ 7 C
M2.2	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 6 C	◪ 20 F	◪ 15 D	◪ 21 C	◪ 17 C	◪ 18 C	◪ 14 C	◪ 19 C	◪ 15 C	◪ 40 G	■ 30 G	◪ 20 F	■ 20 F	◪ 18 F
N3.1	**N3.2**	**N3.3**	**N4.1**	**N4.2**									
■ 21 F	■ 12 F	◪ 6 D	◪ 40 G	◪ 35 G									

DCON MS tolerance h9.
Products from this series are also available in set. Please see G236.

Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G1364.3	4.30	1.30	4.0	40.0	4.00	3
G1365.0	5.00	1.50	4.5	40.0	4.00	3
G1365.3	5.30	1.50	4.5	40.0	4.00	3
G1365.8	5.80	1.50	5.0	45.0	5.00	3
G1366.0	6.00	1.50	5.0	45.0	5.00	3
G1366.3	6.30	1.50	5.5	45.0	5.00	3
G1367.0	7.00	1.80	5.5	50.0	6.00	3
G1367.3	7.30	1.80	6.1	50.0	6.00	3
G1368.0	8.00	2.00	6.1	50.0	6.00	3
G1368.3	8.30	2.00	6.5	50.0	6.00	3
G1369.4	9.40	2.20	7.2	50.0	6.00	3
G13610.0	10.00	2.50	7.6	50.0	6.00	3
G13610.4	10.40	2.50	7.6	50.0	6.00	3

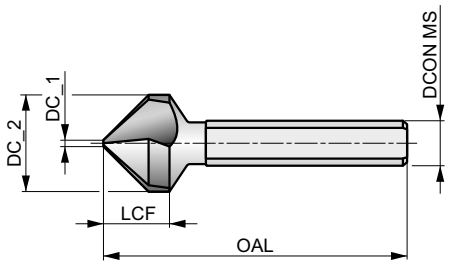
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G13611.5	11.50	2.80	8.0	56.0	8.00	3
G13612.4	12.40	2.80	8.5	56.0	8.00	3
G13613.4	13.40	2.90	9.0	56.0	8.00	3
G13615.0	15.00	3.20	9.5	60.0	10.00	3
G13616.5	16.50	3.20	10.5	60.0	10.00	3
G13619.0	19.00	3.50	11.7	63.0	10.00	3
G13620.5	20.50	3.50	13.0	63.0	10.00	3
G13623.0	23.00	3.80	13.7	67.0	10.00	3
G13625.0	25.00	3.80	15.5	67.0	10.00	3
G13626.0	26.00	3.80	15.5	67.0	10.00	3
G13628.0	28.00	4.00	16.5	71.0	12.00	3
G13630.0	30.00	4.20	18.5	71.0	12.00	3
G13631.0	31.00	4.20	18.5	71.0	12.00	3

G106

DORMER

HSS Tri-Flat Straight Shank 90° Countersink, Bright Finish

A 90° Countersink designed for chamfering standard fastener holes and removing burrs from drilled holes. Shank with three ground flats gives improved holding in three jaw chucks. Suitable to chamfer holes in many materials.



HSS	Bright	DIN 335C
R		90°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	■ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 8 C	◪ 6 C	◪ 7 C
M2.2	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 6 C	■ 20 F	■ 15 D	◪ 21 C	◪ 17 C	◪ 18 C	◪ 14 C	◪ 19 C	◪ 15 C	◪ 40 G	■ 30 G	◪ 20 F	◪ 20 F	◪ 18 F
N3.1	**N3.2**	**N3.3**	**N4.1**	**N4.2**									
■ 21 F	◪ 12 F	◪ 6 D	◪ 40 G	◪ 35 G									

DCON MS tolerance h9.
Products from this series are also available in set. Please see G236.

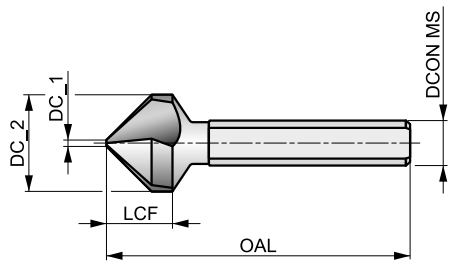
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G1066.3	6.30	1.50	5.6	45.0	5.00	3
G1068.3	8.30	2.00	6.9	50.0	6.00	3
G10610.4	10.40	2.50	7.8	50.0	6.00	3
G10612.4	12.40	2.80	8.6	56.0	8.00	3
G10616.5	16.50	3.20	11.1	60.0	10.00	3
G10620.5	20.50	3.50	12.9	63.0	10.00	3
G10625.0	25.00	3.80	15.7	67.0	10.00	3
G10631.0	31.00	4.20	18.5	71.0	12.00	3
G10634.0	34.00	4.50	19.0	103.0	16.00	3
G10637.0	37.00	4.50	21.2	118.0	16.00	3
G10640.0	40.00	4.50	20.0	118.0	16.00	3
G10650.0	50.00	5.00	23.6	126.0	16.00	3

G506

DORMER

HSS Tri-Flat Straight Shank 90° Countersink, TiAlN Coated

A 90° Countersink designed for chamfering standard fastener holes and removing burrs from drilled holes. Shank with three ground flats gives improved holding in three jaw chucks, especially when using in hand-held power tools. TiAlN coating extends tool life. Suitable to chamfer holes in many materials.



HSS | TiAlN | DIN 335C | R | 90°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■40 E	■45 E	■46 E	■34 E	■30 D	■27 B	■28 D	■22 D	■19 B	■16 D	■14 B	◪11 B	◪11 C	◪9 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**
◪10 C	◪9 C	◪8 B	■41 F	■30 D	◪23 D	■42 C	■34 C	◪27 C	■37 C	■28 C	◪23 C	◪34 C	◪26 C
K4.3	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**
◪19 C	■39 C	■29 C	◪23 C	◪60 G	◪45 G	■30 F	■30 F	■27 F	■19 F	■32 F	■18 F	◪9 D	◪62 G
N4.2													
◪55 G													

DCON MS tolerance h9.
Products from this series are also available in set. Please see G236.

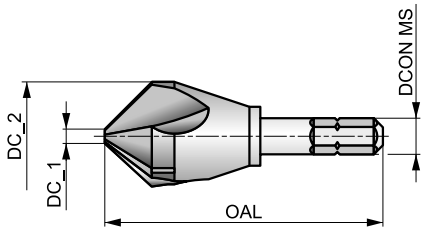
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G5066.3	6.30	1.50	5.6	45.0	5.00	3
G5068.3	8.30	2.00	6.9	50.0	6.00	3
G50610.4	10.40	2.50	7.8	50.0	6.00	3
G50612.4	12.40	2.80	8.6	56.0	8.00	3
G50616.5	16.50	3.20	11.1	60.0	10.00	3
G50620.5	20.50	3.50	12.9	63.0	10.00	3
G50625.0	25.00	3.80	15.7	67.0	10.00	3
G50631.0	31.00	4.20	18.5	71.0	12.00	3
G50637.0	37.00	4.50	21.2	118.0	16.00	3
G50640.0	40.00	4.50	20.0	118.0	16.00	3
G50650.0	50.00	5.00	23.6	126.0	16.00	3

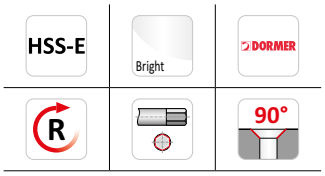
G107

DORMER

HSS-E Hexagon Drive 90° Countersink, Bright Finish

A versatile countersink with a hexagonal shank which makes it easier to hold with electric screwdriver adaptors. The 90° countersink produces chamfers for standard fasteners and clean burrs from drilled holes. Suitable to chamfer holes in many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	■ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 11 C	◪ 9 C	◪ 10 C
M2.2	**M2.3**	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K4.1**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**
◪ 9 C	◪ 8 B	■ 20 F	◪ 15 D	■ 21 C	◪ 17 C	■ 18 C	◪ 14 C	◪ 15 C	■ 19 C	◪ 15 C	◪ 40 G	■ 30 G	◪ 20 F
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**						
◪ 20 F	◪ 18 F	◪ 20 F	■ 21 F	◪ 12 F	◪ 6 D	◪ 40 G	◪ 35 G						

6.35; 1/4" hex shank; DIN 74.

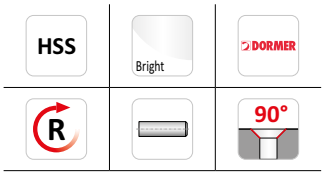
Product	DC_2 (mm)	DC_1 (mm)	OAL (mm)	DCON MS (inch)	CZC MS	NOF
G1076.3	6.30	1.50	50.0	1/4"	M2-M3	3
G10710.4	10.40	2.50	50.0	1/4"	M5	3
G10712.4	12.40	2.80	50.0	1/4"	M6	3
G10716.5	16.50	3.20	50.0	1/4"	M8	3
G10720.5	20.50	3.50	50.0	1/4"	M10	3

G600

DORMER

HSS Straight Shank Long Reach 90° Countersink, Bright Finish

The extended shank gives the ability to chamfer holes in areas which are difficult to reach. The 90° countersink produces chamfers for standard fasteners and clean burrs from drilled holes. Suitable to chamfer holes in many materials.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 20 E	■ 22 E	■ 23 E	■ 17 E	■ 15 D	◪ 13 B	■ 12 D	■ 9 D	◪ 8 B	■ 7 D	◪ 6 B	◪ 8 C	◪ 6 C	◪ 7 C
M2.2	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 6 C	■ 17 E	◪ 12 C	◪ 18 B	◪ 14 B	◪ 15 B	◪ 11 B	◪ 16 B	◪ 12 B	◪ 35 G	◪ 25 G	◪ 15 F	◪ 15 F	◪ 13 F
N3.1	**N3.2**	**N3.3**											
■ 16 E	◪ 10 E	◪ 5 C											

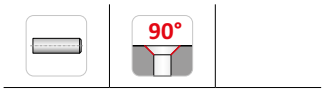
DCON MS tolerance h9.

Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G6006.3	6.30	1.30	5.6	154.0	5.00	3
G6008.3	8.30	1.80	6.9	155.0	6.00	3
G60010.4	10.40	2.20	7.8	157.0	6.00	3
G60012.4	12.40	2.50	8.6	158.0	8.00	3
G60015.0	15.00	2.80	10.3	159.0	10.00	3
G60016.5	16.50	2.80	11.1	161.0	10.00	3
G60020.5	20.50	3.00	12.9	164.0	10.00	3
G60025.0	25.00	3.20	15.7	168.0	10.00	3

G236

Sets of Countersink in a Cylindrical Plastic Drum

Sets containing a variety of sizes of different 90° countersinks. There are 5 different sets filled either with G106, G136 or G560 available. Suitable for many materials.



A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
G2361	1	G136	6	6.30 mm, 8.30 mm, 10.40 mm, 12.40 mm, 16.50 mm, 20.50 mm
G2362	2	G136	4	6.30 mm, 10.40 mm, 16.50 mm, 20.50 mm
G2363	3	G560	6	6.30 mm, 8.30 mm, 10.40 mm, 12.40 mm, 16.50 mm, 20.50 mm
G2364	4	G106	6	6.30 mm, 8.30 mm, 10.40 mm, 12.40 mm, 16.50 mm, 20.50 mm
G2365	5	G506	6	6.30 mm, 8.30 mm, 10.40 mm, 12.40 mm, 16.50 mm, 20.50 mm

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS-E	HSS	HSS	HSS	HSS	HSS	HSS	HSS
Coating	Bright ST	Bright	Bright	Bright	Bright ST	Bright	Bright ST	Bright	Bright	Bright	Bright	Bright	ST Bronze
Basic standard group (BSG)	DIN 206	ANSI	ANSI	ANSI	BS 328	DIN 2179	DIN 9	DIN 9	ANSI	ANSI	ANSI	ANSI	ANSI
Hand (Cutting direction)	R	R	R	R	R	R	R	R	R	R	R	R	R
Shank													
Reamer form	B				A		A	B					
Achievable hole tolerance (TCHA)	H7												
Taper gradient - millimeter (Rate of taper)					1:48	1:50	1:50	1:50	1:48	1:48	1:48		
Product Family Code	B100	B610	B620	B650	B301	B953	B903	B952	B630	B660	B670	B680	B122
PSF cutting diameters range	1.50 - 40.00	N60 - 1.1/2	1/16 - 1"	1/8 - 1"	3/32 - 1/2	2.00 - 12.00	1.50 - 20.00	1.20 - 40.00	7/0 - N10	N0 - N10	N0 - N10	1/8 - 1"	3/8 - 1"
	74	76	78	79	80	81	82	83	84	85	86	87	88
P P1	■	■	■	■	■	■	■	■	■	■	■	■	■
P2	■	■	■	■	■	■	■	■	■	■	■	■	■
P3	◪	■	■	■	■	◪	■	■	■	■	■	■	◪
P4	◪	■	■	◪	◪	◪	◪	◪	■	◪	◪	◪	
M M1	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪
M2	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪	◪
M3													
M4													
K K1	■	■	■	■	■	■	◪	◪	■	■	■	■	
K2	◪	■	■	■	■	■	■	■	■	■	■	■	
K3	■	◪	◪	■	◪	◪	◪	◪	■	■	■	■	
K4													
K5													
N N1	■	◪	■	■	■	◪	■	■	■	■	■	■	◪
N2	■	◪	■	■	■	■	■	■	■	■	■	■	◪
N3	■	■	■	■	■	◪	■	■	■	■	■	■	■
N4	◪	◪		◪	◪	◪	◪	◪	◪	◪	◪	◪	◪
N5													
S S1													
S2													
S3													
S4													
H H1													
H2													
H3													
H4													

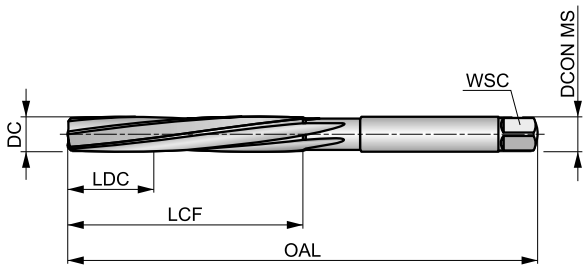
■ Primary use ◪ Possible use

B100

DORMER

HSS Straight Shank Hand Reamer with H7 Accuracy, Bright and ST Finish

Primarily designed for reaming by hand. It has a precision ground, left-hand helix with right-hand (clockwise) cutting for smooth reaming, creating a more accurate hole size and good surface finish. Suitable for reaming many materials, including steels.



HSS	 Bright ST	DIN 206
R		B
H7		

Workpiece material group suitability.

P1.1 ■	P1.2 ■	P1.3 ■	P2.1 ■	P2.2 ■	P2.3 ◪	P3.1 ■	P3.2 ◪	P3.3 ◪	P4.1 ◪	P4.2 ◪	P4.3 ◪	M1.1 ◪	M1.2 ◪
M2.1 ◪	K1.1 ■	K1.2 ■	K1.3 ◪	K2.1 ■	K2.2 ■	K2.3 ◪	K3.1 ■	K3.2 ◪	N1.1 ◪	N1.2 ■	N1.3 ■	N2.1 ■	N2.2 ■
N2.3 ◪	N3.1 ■	N3.2 ■	N3.3 ◪	N4.1 ◪	N4.2 ◪								

DCON MS tolerance e9.

	DC (inch)	DC (mm)	OAL (mm)	LCF (mm)	LDC (mm)	NOF	WSC (mm)	DCON MS (mm)
B1001.5	–	1.50	41.0	20.0	5.00	3	1.12	1.50
B1002.0	–	2.00	50.0	25.0	6.00	4	1.60	2.00
B1003/32	3/32	2.38	54.0	27.0	7.00	4	1.80	2.38
B1002.5	–	2.50	58.0	29.0	7.00	4	2.10	2.50
B1003.0	–	3.00	62.0	31.0	8.00	6	2.40	3.00
B1001/8	1/8	3.18	66.0	33.0	8.00	6	2.40	3.18
B1003.2	–	3.20	66.0	33.0	8.00	6	2.40	3.20
B1003.5	–	3.50	71.0	35.0	9.00	6	2.70	3.50
B1005/32	5/32	3.97	76.0	38.0	10.00	6	3.00	3.97
B1004.0	–	4.00	76.0	38.0	10.00	6	3.00	4.00
B1004.5	–	4.50	81.0	41.0	10.00	6	3.40	4.50
B1003/16	3/16	4.76	87.0	44.0	11.00	6	3.80	4.76
B1005.0	–	5.00	87.0	44.0	11.00	6	3.80	5.00
B1005.5	–	5.50	93.0	47.0	12.00	6	4.30	5.50
B1007/32	7/32	5.56	93.0	47.0	12.00	6	4.30	5.56
B1006.0	–	6.00	93.0	47.0	12.00	6	4.90	6.00
B1001/4	1/4	6.35	100.0	50.0	13.00	6	4.90	6.35
B1006.5	–	6.50	100.0	50.0	13.00	6	4.90	6.50
B10017/64	17/64	6.75	107.0	54.0	14.00	6	5.50	6.75
B1007.0	–	7.00	107.0	54.0	14.00	6	5.50	7.00
B1009/32	9/32	7.14	107.0	54.0	14.00	6	6.20	7.14
B1007.5	–	7.50	107.0	54.0	14.00	6	6.20	7.50
B1005/16	5/16	7.94	115.0	58.0	15.00	6	6.20	7.94
B1008.0	–	8.00	115.0	58.0	15.00	6	6.20	8.00
B10021/64	21/64	8.33	115.0	58.0	15.00	6	7.00	8.33
B1008.5	–	8.50	115.0	58.0	15.00	6	7.00	8.50
B10011/32	11/32	8.73	124.0	62.0	16.00	6	7.00	8.73

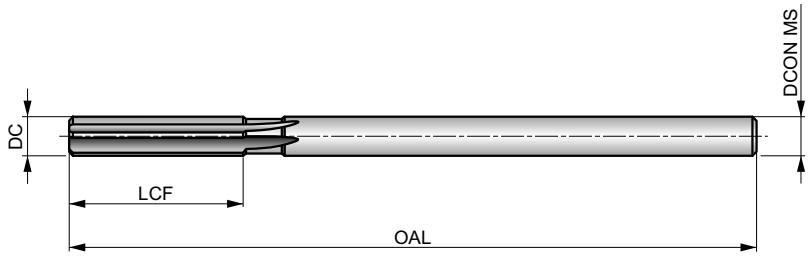
	DC	DC	OAL	LCF	LDC	NOF	WSC	DCON MS
	(inch)	(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
B1009.0	–	9.00	124.0	62.0	16.00	6	7.00	9.00
B1009.5	–	9.50	124.0	62.0	16.00	6	8.00	9.50
B1003/8	3/8	9.52	124.0	62.0	17.00	6	8.00	9.52
B10010.0	–	10.00	133.0	66.0	17.00	6	8.00	10.00
B10013/32	13/32	10.32	133.0	66.0	17.00	6	8.00	10.32
B10010.5	–	10.50	133.0	66.0	17.00	6	8.00	10.50
B10011.0	–	11.00	142.0	71.0	18.00	6	9.00	11.00
B1007/16	7/16	11.11	142.0	71.0	18.00	6	9.00	11.11
B10011.5	–	11.50	142.0	71.0	18.00	6	9.00	11.50
B10012.0	–	12.00	152.0	76.0	19.00	6	9.00	12.00
B10012.5	–	12.50	152.0	76.0	19.00	6	10.00	12.50
B1001/2	1/2	12.70	152.0	76.0	19.00	6	10.00	12.70
B10013.0	–	13.00	152.0	76.0	19.00	6	10.00	13.00
B10013.5	–	13.50	163.0	81.0	20.00	8	11.00	13.50
B10014.0	–	14.00	163.0	81.0	20.00	8	11.00	14.00
B1009/16	9/16	14.29	163.0	81.0	20.00	8	11.00	14.29
B10014.5	–	14.50	163.0	81.0	20.00	8	11.00	14.50
B10015.0	–	15.00	163.0	81.0	20.00	8	12.00	15.00
B1005/8	5/8	15.88	175.0	87.0	22.00	8	12.00	15.88
B10016.0	–	16.00	175.0	87.0	22.00	8	12.00	16.00
B10017.0	–	17.00	175.0	87.0	22.00	8	13.00	17.00
B10018.0	–	18.00	188.0	93.0	23.00	8	14.50	18.00
B10019.0	–	19.00	188.0	93.0	23.00	8	14.50	19.00
B1003/4	3/4	19.05	188.0	93.0	25.00	8	14.50	19.05
B10020.0	–	20.00	201.0	100.0	25.00	8	16.00	20.00
B10021.0	–	21.00	201.0	100.0	25.00	8	16.00	21.00
B10022.0	–	22.00	215.0	107.0	27.00	8	18.00	22.00
B1007/8	7/8	22.22	215.0	107.0	27.00	8	18.00	22.22
B10023.0	–	23.00	215.0	107.0	27.00	8	18.00	23.00
B10024.0	–	24.00	231.0	115.0	29.00	8	18.00	24.00
B10025.0	–	25.00	231.0	115.0	29.00	8	20.00	25.00
B1001	1″	25.40	231.0	115.0	29.00	8	20.00	25.40
B10026.0	–	26.00	231.0	115.0	29.00	8	20.00	26.00
B10028.0	–	28.00	247.0	124.0	31.00	10	22.00	28.00
B10030.0	–	30.00	247.0	124.0	31.00	10	24.00	30.00
B10032.0	–	32.00	265.0	133.0	33.00	10	24.00	32.00
B10035.0	–	35.00	284.0	142.0	36.00	10	29.00	35.00
B10040.0	–	40.00	305.0	152.0	38.00	10	32.00	40.00

B610

DORMER

HSS Straight Shank Straight Flute Chucking Reamer, Bright Finish

Versatile general purpose chucking reamers have shorter and deeper flutes than hand reamers and are designed for efficient machine reaming of most materials. A huge size range available including fractional, wire gauge, letter, and including incremental decimal sizes produced per ANSI B94.2-1983 (R1988).



HSS | Bright | ANSI

R

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪19 C	■22 C	■23 C	■16 C	◪14 C	◪12 B	■11 B	◪9 B	◪7 A	■5 B	◪4 A	◪	◪9 C	◪8 B
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪7 B	■14 E	◪10 D	◪7 D	■14 C	◪11 C	◪9 C	◪12 C	◪9 C	◪22 F	◪16 F	◪9 F	◪25 E	◪22 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**									
◪14 E	■45 D	■26 E	◪12 D	◪28 B									

	DC (inch)	DC (Wire gauge size)	DC (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	NOF
B610N60	–	N60	0.0400	0.039	1/2	2.1/2	4
B610N59	–	N59	0.0410	0.039	1/2	2.1/2	4
B610N58	–	N58	0.0420	0.039	1/2	2.1/2	4
B610N57	–	N57	0.0430	0.039	1/2	2.1/2	4
B610N56	–	N56	0.0465	0.045	1/2	2.1/2	4
B6103/64	3/64	–	0.0469	0.045	1/2	2.1/2	4
B610N55	–	N55	0.0520	0.051	1/2	2.1/2	4
B610N54	–	N54	0.0550	0.051	1/2	2.1/2	4
B610N53	–	N53	0.0595	0.059	1/2	2.1/2	4
B6101/16	1/16	–	0.0625	0.059	1/2	2.1/2	4
B610N52	–	N52	0.0635	0.059	1/2	2.1/2	4
B610N51	–	N51	0.0670	0.066	3/4	3″	4
B610N50	–	N50	0.0700	0.066	3/4	3″	4
B610N49	–	N49	0.0730	0.066	3/4	3″	4
B610N48	–	N48	0.0760	0.072	3/4	3″	4
B6105/64	5/64	–	0.0781	0.072	3/4	3″	4
B610N47	–	N47	0.0785	0.072	3/4	3″	4
B610N46	–	N46	0.0810	0.077	3/4	3″	4
B610N45	–	N45	0.0820	0.077	3/4	3″	4
B610N44	–	N44	0.0860	0.081	3/4	3″	4
B610N43	–	N43	0.0890	0.081	3/4	3″	4
B610N42	–	N42	0.0935	0.088	3/4	3″	4
B6103/32	3/32	–	0.0938	0.088	3/4	3″	4
B610N41	–	N41	0.0960	0.093	7/8	3.1/2	4
B610N40	–	N40	0.0980	0.093	7/8	3.1/2	4
B610N39	–	N39	0.0995	0.093	7/8	3.1/2	4
B610N38	–	N38	0.1015	0.095	7/8	3.1/2	4
B610N37	–	N37	0.1040	0.095	7/8	3.1/2	4

	DC (inch)	DC (Wire gauge size)	DC (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	NOF
B610N36	–	N36	0.1065	0.103	7/8	3.1/2	4
B6107/64	7/64	–	0.1094	0.103	7/8	3.1/2	4
B610N35	–	N35	0.1100	0.103	7/8	3.1/2	4
B610N34	–	N34	0.1110	0.105	7/8	3.1/2	4
B610N33	–	N33	0.1130	0.105	7/8	3.1/2	4
B610N32	–	N32	0.1160	0.112	7/8	3.1/2	4
B610N31	–	N31	0.1200	0.112	7/8	3.1/2	4
B610.1230	–	–	0.1230	0.112	7/8	3.1/2	4
B610.1240	–	–	0.1240	0.119	7/8	3.1/2	4
B610.1247	–	–	0.1247	0.119	7/8	3.1/2	4
B6101/8	1/8	–	0.1250	0.119	7/8	3.1/2	4
B610.1260	–	–	0.1260	0.119	7/8	3.1/2	4
B610N30	–	N30	0.1285	0.119	7/8	3.1/2	4
B610N29	–	N29	0.1360	0.128	1″	4″	4
B610N28	–	N28	0.1400	0.135	1″	4″	4
B6109/64	9/64	–	0.1410	0.135	1″	4″	4
B610N27	–	N27	0.1440	0.135	1″	4″	4
B610N26	–	N26	0.1470	0.143	1″	4″	4
B610N25	–	N25	0.1495	0.143	1″	4″	4
B610N24	–	N24	0.1520	0.146	1″	4″	4
B610N23	–	N23	0.1540	0.146	1″	4″	4
B6105/32	5/32	–	0.1562	0.151	1″	4″	6
B610N22	–	N22	0.1570	0.151	1″	4″	6
B610N21	–	N21	0.1590	0.153	1.1/8	4.1/2	6
B610N20	–	N20	0.1610	0.153	1.1/8	4.1/2	6
B610N19	–	N19	0.1660	0.160	1.1/8	4.1/2	6
B610N18	–	N18	0.1695	0.160	1.1/8	4.1/2	6
B61011/64	11/64	–	0.1719	0.165	1.1/8	4.1/2	6

	DC	DC	DC	DCON MS	LCF	OAL	NOF
	(inch)	(Wire gauge size)	(inch)	(inch)	(inch)	(inch)	
B610N17	–	N17	0.1730	0.165	1.1/8	4.1/2	6
B610N16	–	N16	0.1770	0.170	1.1/8	4.1/2	6
B610N15	–	N15	0.1800	0.175	1.1/8	4.1/2	6
B610N14	–	N14	0.1820	0.175	1.1/8	4.1/2	6
B610N13	–	N13	0.1850	0.180	1.1/8	4.1/2	6
B610.1855	–	–	0.1855	0.180	1.1/8	4.1/2	6
B610.1865	–	–	0.1865	0.180	1.1/8	4.1/2	6
B610.1870	–	–	0.1870	0.180	1.1/8	4.1/2	6
B6103/16	3/16	–	0.1875	0.180	1.1/8	4.1/2	6
B610.1885	–	–	0.1885	0.180	1.1/8	4.1/2	6
B610N12	–	N12	0.1890	0.180	1.1/8	4.1/2	6
B610N11	–	N11	0.1910	0.186	1.1/4	5″	6
B610N10	–	N10	0.1935	0.186	1.1/4	5″	6
B610N9	–	N9	0.1960	0.190	1.1/4	5″	6
B610N8	–	N8	0.1990	0.190	1.1/4	5″	6
B610N7	–	N7	0.2010	0.195	1.1/4	5″	6
B61013/64	13/64	–	0.2031	0.195	1.1/4	5″	6
B610N6	–	N6	0.2040	0.195	1.1/4	5″	6
B610N5	–	N5	0.2055	0.202	1.1/4	5″	6
B610N4	–	N4	0.2090	0.202	1.1/4	5″	6
B610N3	–	N3	0.2130	0.207	1.1/4	5″	6
B6107/32	7/32	–	0.2188	0.207	1.1/4	5″	6
B610N2	–	N2	0.2210	0.217	1.1/2	6″	6
B610N1	–	N1	0.2280	0.217	1.1/2	6″	6
B610A	–	–	0.2340	0.227	1.1/2	6″	6
B61015/64	15/64	–	0.2344	0.227	1.1/2	6″	6
B610B	–	–	0.2380	0.233	1.1/2	6″	6
B610C	–	–	0.2420	0.233	1.1/2	6″	6
B610D	–	–	0.2460	0.233	1.1/2	6″	6
B610.2480	–	–	0.2480	0.233	1.1/2	6″	6
B610.2490	–	–	0.2490	0.240	1.1/2	6″	6
B610.2495	–	–	0.2495	0.240	1.1/2	6″	6
B6101/4	1/4	–	0.2500	0.240	1.1/2	6″	6
B610.2510	–	–	0.2510	0.240	1.1/2	6″	6
B610F	–	–	0.2570	0.248	1.1/2	6″	6
B610G	–	–	0.2610	0.248	1.1/2	6″	6
B61017/64	17/64	–	0.2656	0.248	1.1/2	6″	6
B610H	–	–	0.2660	0.248	1.1/2	6″	6
B610LETTERI	–	–	0.2720	0.248	1.1/2	6″	6
B610J	–	–	0.2770	0.248	1.1/2	6″	6
B610K	–	–	0.2810	0.248	1.1/2	6″	6
B6109/32	9/32	–	0.2812	0.248	1.1/2	6″	6
B610L	–	–	0.2900	0.279	1.1/2	6″	6
B610M	–	–	0.2950	0.279	1.1/2	6″	6
B61019/64	19/64	–	0.2969	0.279	1.1/2	6″	6
B610N	–	–	0.3020	0.279	1.1/2	6″	6
B610.3105	–	–	0.3105	0.279	1.1/2	6″	6
B610.3115	–	–	0.3115	0.279	1.1/2	6″	6
B610.3120	–	–	0.3120	0.279	1.1/2	6″	6
B6105/16	5/16	–	0.3125	0.279	1.1/2	6″	6
B610.3135	–	–	0.3135	0.279	1.1/2	6″	6
B610O	–	–	0.3160	0.279	1.1/2	6″	6
B610P	–	–	0.3230	0.279	1.1/2	6″	6
B61021/64	21/64	–	0.3281	0.279	1.1/2	6″	6
B610Q	–	–	0.3320	0.279	1.1/2	6″	6
B610R	–	–	0.3390	0.279	1.1/2	6″	6
B61011/32	11/32	–	0.3438	0.279	1.1/2	6″	6
B610S	–	–	0.3480	0.310	1.3/4	7″	6
B610T	–	–	0.3580	0.310	1.3/4	7″	6
B61023/64	23/64	–	0.3594	0.310	1.3/4	7″	6
B610U	–	–	0.3680	0.310	1.3/4	7″	6
B610.3730	–	–	0.3730	0.310	1.3/4	7″	6

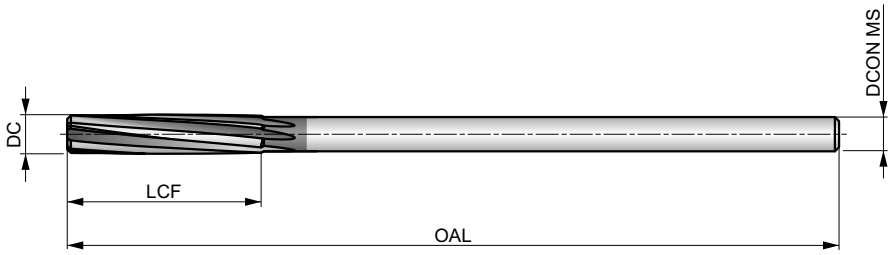
	DC	DC	DC	DCON MS	LCF	OAL	NOF
	(inch)	(Wire gauge size)	(inch)	(inch)	(inch)	(inch)	
B610.3740	–	–	0.3740	0.310	1.3/4	7″	6
B610.3745	–	–	0.3745	0.310	1.3/4	7″	6
B6103/8	3/8	–	0.3750	0.310	1.3/4	7″	6
B610.3760	–	–	0.3760	0.310	1.3/4	7″	6
B610V	–	–	0.3770	0.310	1.3/4	7″	6
B610W	–	–	0.3860	0.310	1.3/4	7″	6
B61025/64	25/64	–	0.3910	0.310	1.3/4	7″	6
B610X	–	–	0.3970	0.310	1.3/4	7″	6
B610Y	–	–	0.4040	0.310	1.3/4	7″	6
B61013/32	13/32	–	0.4062	0.310	1.3/4	7″	6
B610Z	–	–	0.4130	0.373	1.3/4	7″	6
B61027/64	27/64	–	0.4219	0.373	1.3/4	7″	6
B610.4355	–	–	0.4355	0.373	1.3/4	7″	6
B610.4365	–	–	0.4365	0.373	1.3/4	7″	6
B610.4370	–	–	0.4370	0.373	1.3/4	7″	6
B6107/16	7/16	–	0.4375	0.373	1.3/4	7″	6
B610.4385	–	–	0.4385	0.373	1.3/4	7″	6
B61029/64	29/64	–	0.4531	0.373	1.3/4	7″	6
B61015/32	15/32	–	0.4688	0.373	1.3/4	7″	6
B61031/64	31/64	–	0.4844	0.435	2″	8″	6
B610.4980	–	–	0.4980	0.435	2″	8″	6
B610.4990	–	–	0.4990	0.435	2″	8″	6
B610.4995	–	–	0.4995	0.435	2″	8″	6
B6101/2	1/2	–	0.5000	0.435	2″	8″	6
B610.5010	–	–	0.5010	0.435	2″	8″	6
B61033/64	33/64	–	0.5156	0.435	2″	8″	6
B61017/32	17/32	–	0.5312	0.435	2″	8″	6
B61035/64	35/64	–	0.5469	0.435	2″	8″	8
B6109/16	9/16	–	0.5625	0.435	2″	8″	8
B61037/64	37/64	–	0.5781	0.435	2″	8″	8
B61019/32	19/32	–	0.5938	0.435	2″	8″	8
B61039/64	39/64	–	0.6094	0.562	2.1/4	9″	8
B6105/8	5/8	–	0.6250	0.562	2.1/4	9″	8
B61041/64	41/64	–	0.6410	0.562	2.1/4	9″	8
B61021/32	21/32	–	0.6562	0.562	2.1/4	9″	8
B61043/64	43/64	–	0.6719	0.562	2.1/4	9″	8
B61011/16	11/16	–	0.6875	0.562	2.1/4	9″	8
B61045/64	45/64	–	0.7031	0.562	2.1/4	9″	8
B61023/32	23/32	–	0.7188	0.562	2.1/4	9″	8
B61047/64	47/64	–	0.7344	0.625	2.1/2	9.1/2	8
B6103/4	3/4	–	0.7500	0.625	2.1/2	9.1/2	8
B61049/64	49/64	–	0.7656	0.625	2.1/2	9.1/2	8
B61025/32	25/32	–	0.7812	0.625	2.1/2	9.1/2	8
B61051/64	51/64	–	0.7969	0.625	2.1/2	9.1/2	8
B61013/16	13/16	–	0.8125	0.625	2.1/2	9.1/2	8
B61053/64	53/64	–	0.8281	0.625	2.1/2	9.1/2	8
B61027/32	27/32	–	0.8438	0.625	2.1/2	9.1/2	8
B61055/64	55/64	–	0.8594	0.750	2.5/8	10″	8
B6107/8	7/8	–	0.8750	0.750	2.5/8	10″	8
B61057/64	57/64	–	0.8910	0.750	2.5/8	10″	8
B61029/32	29/32	–	0.9062	0.750	2.5/8	10″	8
B61059/64	59/64	–	0.9219	0.750	2.5/8	10″	8
B61015/16	15/16	–	0.9375	0.750	2.5/8	10″	8
B61061/64	61/64	–	0.9531	0.750	2.5/8	10″	8
B61031/32	31/32	–	0.9688	0.750	2.5/8	10″	8
B61063/64	63/64	–	0.9844	0.875	2.3/4	10.1/2	8
B6101	1″	–	1.0000	0.875	2.3/4	10.1/2	8
B6101.1/16	1.1/16	–	1.0625	0.875	2.3/4	10.1/2	8
B6101.1/8	1.1/8	–	1.1250	0.875	2.7/8	11″	8
B6101.3/16	1.3/16	–	1.1875	1.000	2.7/8	11″	8
B6101.1/4	1.1/4	–	1.2500	1.000	3″	11.1/2	8
B6101.3/8	1.3/8	–	1.3750	1.000	3.1/4	12″	8
B6101.1/2	1.1/2	–	1.5000	1.250	3.1/2	12.1/2	8

B620

DORMER

HSS Straight Shank Slow Spiral Flute Chucking Reamer, Bright Finish

Versatile general purpose chucking reamers have shorter and deeper straight flutes than hand reamers and are designed for efficient machine reaming of most materials. A huge size range available including fractional, wire gauge, letter, and including incremental decimal sizes. Produced per ANSI B94.2-1983 (R1988).



HSS | Bright | ANSI

R

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■21 C	■24 C	■25 C	■18 C	■16 C	◪14 B	■13 B	◪11 B	◪9 B	■8 B	◪7 B	◪5 A	◪11 C	◪10 B
M2.1	**M2.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**
◪9 B	◪8 B	■16 E	◪12 D	◪9 D	■16 C	◪13 C	◪10 C	◪14 C	◪11 C	◪24 F	■18 F	◪11 F	■27 E
N2.2	**N2.3**	**N3.1**	**N3.2**	**N3.3**									
◪24 E	◪16 E	■47 D	■28 E	◪14 D									

	DC (inch)	DC (Wire gauge size)	DC (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	NOF
B6201/16	1/16	–	0.0625	0.059	1/2	2.1/2	4
B6205/64	5/64	–	0.0781	0.072	3/4	3″	4
B6203/32	3/32	–	0.0938	0.088	3/4	3″	4
B6207/64	7/64	–	0.1094	0.103	7/8	3.1/2	4
B6201/8	1/8	–	0.1250	0.119	7/8	3.1/2	4
B6205/32	5/32	–	0.1562	0.151	1″	4″	6
B62011/64	11/64	–	0.1719	0.165	1.1/8	4.1/2	6
B6203/16	3/16	–	0.1875	0.180	1.1/8	4.1/2	6
B62013/64	13/64	–	0.2031	0.195	1.1/4	5″	6
B6207/32	7/32	–	0.2188	0.207	1.1/4	5″	6
B6201/4	1/4	–	0.2500	0.240	1.1/2	6″	6
B62017/64	17/64	–	0.2656	0.248	1.1/2	6″	6
B6209/32	9/32	–	0.2812	0.248	1.1/2	6″	6
B6205/16	5/16	–	0.3125	0.279	1.1/2	6″	6

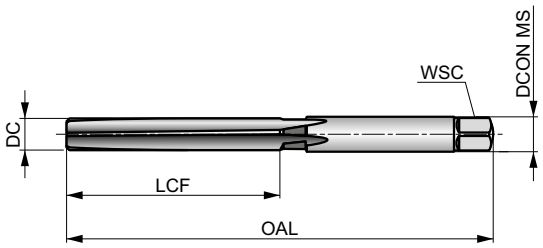
	DC (inch)	DC (Wire gauge size)	DC (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	NOF
B62011/32	11/32	–	0.3438	0.279	1.1/2	6″	6
B6203/8	3/8	–	0.3750	0.310	1.3/4	7″	6
B62025/64	25/64	–	0.3910	0.310	1.3/4	7″	6
B62013/32	13/32	–	0.4062	0.310	1.3/4	7″	6
B6207/16	7/16	–	0.4375	0.373	1.3/4	7″	6
B62031/64	31/64	–	0.4844	0.435	2″	8″	6
B6201/2	1/2	–	0.5000	0.435	2″	8″	6
B62017/32	17/32	–	0.5312	0.435	2″	8″	6
B6209/16	9/16	–	0.5625	0.435	2″	8″	8
B6205/8	5/8	–	0.6250	0.562	2.1/4	9″	8
B62011/16	11/16	–	0.6875	0.562	2.1/4	9″	8
B6203/4	3/4	–	0.7500	0.625	2.1/2	9.1/2	8
B6207/8	7/8	–	0.8750	0.750	2.5/8	10″	8
B6201	1″	–	1.0000	0.875	2.3/4	10.1/2	8

B650

DORMER

HSS Straight Flute Hand Reamer, Bright Finish

Heavy duty hand reamer with straight flutes used for finishing drilled holes by hand. Square drive allows rotating the tool using a wrench or mounting the tool stationary for rotating parts. Suitable for reaming most materials, including steels. Produced per ANSI B94.2-1983 (R1988).



HSS | Bright | ANSI

R

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■	■	■	■	■	◪	■	◪	◪	◪	◪	◪	◪	◪

M2.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	N1.1	N1.2	N1.3	N2.1	N2.2
◪	■	■	◪	■	■	◪	■	◪	◪	■	■	■	■

N2.3	N3.1	N3.2	N3.3	N4.1	N4.2
◪	■	■	◪	◪	◪

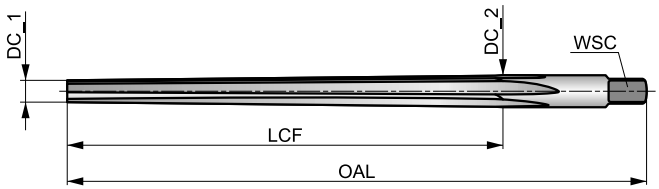
	DC (inch)	DC (inch)	LCF (inch)	OAL (inch)	NOF
B6501/8	1/8	0.1250	1.1/2	3″	6
B6503/16	3/16	0.1875	1.3/4	3.1/2	6
B6501/4	1/4	0.2500	2″	4″	6
B6505/16	5/16	0.3125	2.1/4	4.1/2	6
B6503/8	3/8	0.3750	2.1/2	5″	6
B6507/16	7/16	0.4375	2.3/4	5.1/2	6
B6501/2	1/2	0.5000	3″	6″	6
B6509/16	9/16	0.5625	3.1/4	6.1/2	8
B6505/8	5/8	0.6250	3.1/2	7″	8
B6503/4	3/4	0.7500	4.3/16	8.3/8	8
B6507/8	7/8	0.8750	4.7/8	9.3/4	8
B6501	1″	1.0000	5.7/16	10.7/8	8

B301

DORMER

HSS Straight Shank Taper Pin Hand Reamer 1:48 Taper, Bright and ST Finish

Designed to finish tapered holes to accept standard 1 to 48 ratio imperial taper pins. With a reduced small diameter, the tool easily locates and centers in the pre-drilled hole to improve accuracy and performance. Suitable for reaming in many materials.



HSS	Bright ST	BS 328
R		A
1:48		

Workpiece material group suitability.

P1.1 ■	P1.2 ■	P1.3 ■	P2.1 ■	P2.2 ■	P2.3 ◪	P3.1 ■	P3.2 ◪	P3.3 ◪	P4.1 ◪	P4.2 ◪	P4.3 ◪	M1.1 ◪	M1.2 ◪
M2.1 ◪	K1.1 ■	K1.2 ■	K1.3 ◪	K2.1 ■	K2.2 ■	K2.3 ◪	K3.1 ■	K3.2 ◪	N1.1 ◪	N1.2 ■	N1.3 ■	N2.1 ■	N2.2 ■
N2.3 ◪	N3.1 ■	N3.2 ■	N3.3 ◪	N4.1 ◪	N4.2 ◪								

DC <= 1/4 limit of tolerance +0.0030; DC >=9/32 limit of tolerance +0.0050.

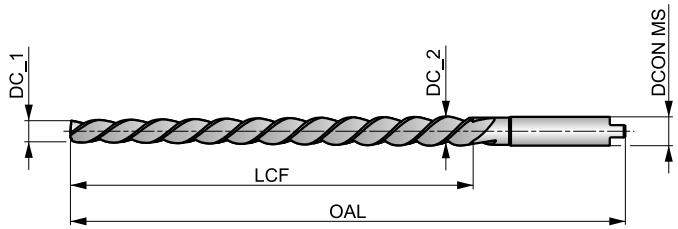
	nom d	DC_1	DC_2	OAL	LCF	NOF	WSC	DCON MS
		(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
B3013/32	3/32	1.75	2.41	57.0	32.0	4	2.00	2.41
B3011/8	1/8	2.30	3.23	70.0	44.0	4	2.50	3.23
B3015/32	5/32	2.95	4.01	76.0	51.0	4	3.10	4.01
B3013/16	3/16	3.50	4.95	102.0	70.0	4	4.00	4.95
B3011/4	1/4	4.64	6.43	117.0	86.0	6	5.00	6.43
B3015/16	5/16	5.84	8.03	143.0	105.0	6	6.30	8.03
B3013/8	3/8	7.03	9.68	165.0	127.0	6	8.00	9.68
B3011/2	1/2	9.41	12.85	210.0	165.0	6	10.00	12.85

B953

DORMER

HSS-E Straight Shank Taper Pin Hand Reamer 1:50 Taper, Bright Finish

With a high spiral, left-hand helix and right-hand cutting. The taper on the reamer is designed to finish tapered holes to take standard 1 to 50 ratio metric taper pins, while the taper point has a reduced diameter to improve performance. Suitable for reaming in many materials.



HSS-E	Bright	DIN 2179
R		1:50

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■10 B	■12 B	■13 B	■9 B	■8 B	◪6 A	■7 A	◪6 A	◪3 A	■4 A	◪3 A	◪2 A	◪11 C	◪10 B
M2.1	**M2.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**
◪9 B	◪8 B	■10 C	■6 B	◪4 B	■8 A	■6 A	◪4 A	■7 A	◪4 A	◪14 D	■12 D	■9 D	■16 C
N2.2	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**								
■14 C	◪10 C	■22 B	■14 C	◪6 B	◪22 B								

DCON MS tolerance h9.

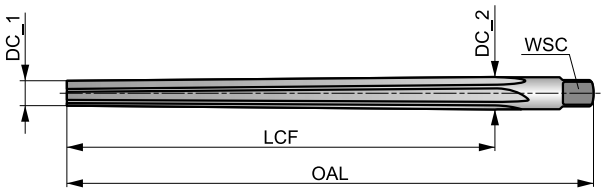
	nom d	DC_1	DC_2	OAL	LCF	NOF	DCON MS
		(mm)	(mm)	(mm)	(mm)		(mm)
B9532.0	2.0	1.90	2.86	86.0	48.0	3	3.15
B9532.5	2.5	2.40	3.36	86.0	48.0	3	3.15
B9533.0	3.0	2.90	4.06	100.0	58.0	3	4.00
B9534.0	4.0	3.90	5.26	112.0	68.0	3	5.00
B9535.0	5.0	4.90	6.36	122.0	73.0	3	6.30
B9536.0	6.0	5.90	8.00	160.0	105.0	3	8.00
B9536.5	6.5	6.40	8.78	188.0	119.0	3	8.50
B9538.0	8.0	7.90	10.80	207.0	145.0	3	10.00
B95310.0	10.0	9.90	13.40	245.0	175.0	3	12.50
B95312.0	12.0	11.80	16.00	290.0	210.0	3	16.00

B903

DORMER

HSS Straight Shank Taper Pin Hand Reamer 1:50 Taper, Bright and ST Finish

Designed to finish tapered holes to accept standard 1 to 50 ratio metric taper pins. The diameter of the small end is reduced to make it easier to locate and center the reamer in the hole. Suitable for reaming in many materials.



HSS	Bright ST	DIN 9
R		A
1:50		

Workpiece material group suitability.

P1.1 ■	P1.2 ■	P1.3 ■	P2.1 ■	P2.2 ■	P2.3 ◪	P3.1 ■	P3.2 ◪	P3.3 ◪	P4.1 ◪	P4.2 ◪	P4.3 ◪	M1.1 ◪	M1.2 ◪
M2.1 ◪	K1.1 ■	K1.2 ■	K1.3 ◪	K2.1 ■	K2.2 ■	K2.3 ◪	K3.1 ■	K3.2 ◪	N1.1 ◪	N1.2 ■	N1.3 ■	N2.1 ■	N2.2 ■
N2.3 ◪	N3.1 ■	N3.2 ■	N3.3 ◪	N4.1 ◪	N4.2 ◪								

DCON MS tolerance h11; DC <= 5mm limmit of tolerance +0.0750; DC < 5mm limmit of tolerance +0.1250.

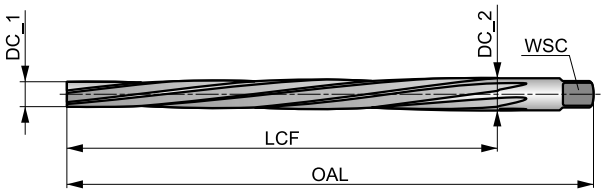
	nom d	DC_1	DC_2	OAL	LCF	NOF	WSC	DCON MS
		(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
B9031.5	1.5	1.40	2.14	57.0	37.0	4	1.80	2.14
B9032.0	2.0	1.90	2.86	68.0	48.0	4	2.24	2.86
B9032.5	2.5	2.40	3.36	68.0	48.0	4	2.80	3.36
B9033.0	3.0	2.90	4.06	80.0	58.0	4	3.15	4.00
B9034.0	4.0	3.90	5.26	93.0	68.0	4	4.00	5.00
B9035.0	5.0	4.90	6.36	100.0	73.0	4	5.00	6.30
B9036.0	6.0	5.90	8.00	135.0	105.0	6	6.30	7.90
B9038.0	8.0	7.90	10.80	180.0	145.0	6	8.00	10.50
B90310.0	10.0	9.90	13.40	215.0	175.0	6	10.00	13.30
B90312.0	12.0	11.80	16.00	255.0	210.0	8	11.20	16.00
B90313.0	13.0	12.86	16.74	255.0	210.0	8	12.50	16.74
B90314.0	14.0	13.86	17.74	255.0	210.0	8	12.50	17.74
B90316.0	16.0	15.80	20.40	280.0	230.0	8	14.00	20.40
B90320.0	20.0	19.80	24.80	310.0	250.0	8	18.00	24.80

B952

DORMER

HSS Straight Shank Taper Pin Hand Reamer 1:50 Taper, Bright Finish

With left-hand helix and right-hand cutting, gives smooth reaming for a more accurate hole size and better finish. The small end diameter has been reduced, making it easier to locate and center the reamer in the hole. Suitable for reaming in many materials.



HSS	Bright	DIN 9
R		B
1:50		

Workpiece material group suitability.

P1.1 ■	P1.2 ■	P1.3 ■	P2.1 ■	P2.2 ■	P2.3 ◪	P3.1 ■	P3.2 ◪	P3.3 ◪	P4.1 ◪	P4.2 ◪	P4.3 ◪	M1.1 ◪	M1.2 ◪
M2.1 ◪	K1.1 ■	K1.2 ■	K1.3 ◪	K2.1 ■	K2.2 ■	K2.3 ◪	K3.1 ■	K3.2 ◪	N1.1 ◪	N1.2 ■	N1.3 ■	N2.1 ■	N2.2 ■
N2.3 ◪	N3.1 ■	N3.2 ■	N3.3 ◪	N4.1 ◪	N4.2 ◪								

DCON MS tolerance h11; DC <= 2.5mm Straight flute, form A.

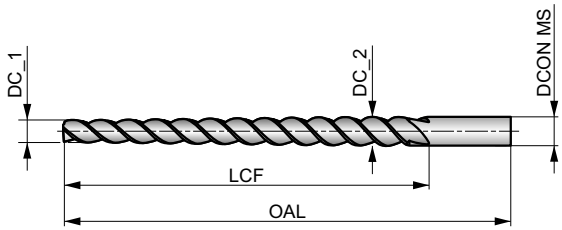
	nom d	DC_1	DC_2	OAL	LCF	NOF	WSC	DCON MS
		(mm)	(mm)	(mm)	(mm)		(mm)	(mm)
B9521.2	1.2	1.10	1.74	50.0	32.0	3	2.40	3.15
B9521.5	1.5	1.40	2.14	57.0	37.0	3	2.40	3.15
B9522.0	2.0	1.90	2.86	68.0	48.0	3	2.40	3.15
B9522.5	2.5	2.40	3.36	68.0	48.0	4	2.40	3.15
B9523.0	3.0	2.90	4.06	80.0	58.0	5	3.00	4.00
B9523.5	3.5	3.40	4.66	87.0	63.0	5	3.40	4.50
B9524.0	4.0	3.90	5.26	93.0	68.0	5	3.80	5.00
B9525.0	5.0	4.90	6.36	100.0	73.0	5	4.90	6.30
B9526.0	6.0	5.90	8.00	135.0	105.0	6	6.20	8.00
B9527.0	7.0	6.90	9.40	160.0	125.0	6	7.00	9.00
B9528.0	8.0	7.90	10.80	180.0	145.0	6	8.00	10.00
B9529.0	9.0	8.90	12.10	195.0	160.0	6	9.00	11.20
B95210.0	10.0	9.90	13.40	215.0	175.0	6	10.00	12.50
B95212.0	12.0	11.80	16.00	255.0	210.0	8	11.00	14.00
B95213.0	13.0	12.80	17.00	255.0	210.0	8	12.00	16.00
B95214.0	14.0	13.80	18.00	255.0	210.0	8	12.00	16.00
B95216.0	16.0	15.80	20.40	280.0	230.0	8	14.50	18.00
B95220.0	20.0	19.80	24.80	310.0	250.0	8	18.00	22.40
B95225.0	25.0	24.70	30.70	370.0	300.0	10	22.00	28.00
B95230.0	30.0	29.70	36.10	400.0	320.0	10	24.00	31.50
B95240.0	40.0	39.70	46.50	430.0	340.0	12	32.00	40.00

B630

DORMER

HSS Straight Shank Machine Reamer, Taper Pin Type, Bright Finish

Slow right hand spiral allows these reamers to perform smoother chatter-free operation than straight flute reamers. Recommended for more difficult to ream materials, produces better surface finishes, great for interruptions and can aid in chip evacuation from blind holes. Produced per ANSI B94.2-1983 (R1988).



HSS	Bright	ANSI
R		1:48

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■10 B	■12 B	■13 B	■9 B	■8 B	◪6 A	■7 A	◪6 A	◪3 A	■4 A	◪3 A	◪2 A	◪11 C	◪10 B
M2.1	M2.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	N1.1	N1.2	N1.3	N2.1
◪9 B	◪8 B	■10 C	■6 B	◪4 B	■8 A	■6 A	◪4 A	■7 A	◪4 A	◪14 D	■12 D	■9 D	■16 C
N2.2	N2.3	N3.1	N3.2	N3.3	N4.1								
■14 C	◪10 C	■22 B	■14 C	◪6 B	◪22 B								

	nom d	DC_1 (inch)	DC_2 (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	NOF
B6307/0	7/0	0.0497	0.0666	5/64	13/16	1.13/16	2
B6306/0	6/0	0.0611	0.0810	3/32	15/16	1.15/16	2
B6305/0	5/0	0.0719	0.0966	7/64	1.3/16	2.3/16	2
B6304/0	4/0	0.0869	0.1142	1/8	1.5/16	2.5/16	2
B6303/0	3/0	0.1029	0.1300	9/64	1.5/16	5.5/16	2
B6302/0	2/0	0.1137	0.1462	5/32	1.9/16	2.9/16	3
B630N1	1	0.1447	0.1798	3/16	1.11/16	2.15/16	3
B630N2	2	0.1600	0.2010	13/64	1.15/16	3.3/16	3

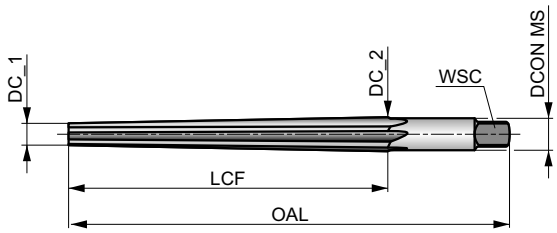
	nom d	DC_1 (inch)	DC_2 (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	NOF
B630N3	3	0.1813	0.2294	15/64	2.5/16	3.11/16	3
B630N4	4	0.2071	0.2600	17/64	2.9/16	4.1/16	3
B630N5	5	0.2410	0.2994	5/16	2.13/16	4.5/16	3
B630N6	6	0.2773	0.3540	23/64	3.11/16	5.7/16	3
B630N7	7	0.3297	0.4220	13/32	4.7/16	6.5/16	3
B630N8	8	0.3971	0.5050	7/16	5.3/16	7.3/16	3
B630N9	9	0.4800	0.6066	9/16	6.1/16	8.5/16	4
B630N10	10	0.5799	0.7216	5/8	6.13/16	9.5/16	4

B660

DORMER

HSS Straight Flute Hand Reamer, Taper Pin Type, Bright Finish

Designed to convert a straight drilled hole into a tapered hole (1/4" per foot) for standard taper pins (ASA B5.20-1958). Square drive allows rotating the tool using a wrench or mounting the tool stationary for rotating parts. Suitable for reaming most materials, including steels. Produced per ANSI B94.2-1983 (R1988).



HSS | Bright | ANSI

R | 1:48

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■	■	■	■	■	◪	■	◪	◪	◪	◪	◪	◪	◪

M2.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	N1.1	N1.2	N1.3	N2.1	N2.2
◪	■	■	◪	■	■	◪	■	◪	◪	■	■	■	■

N2.3	N3.1	N3.2	N3.3	N4.1	N4.2
◪	■	■	◪	◪	◪

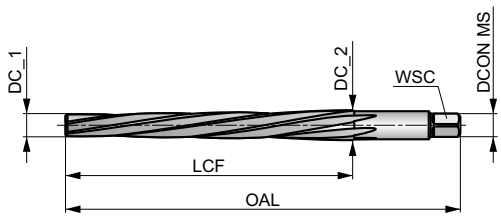
	nom d	DC_1 (inch)	DC_2 (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	WSC (inch)	NOF
B660N0	0	0.1287	0.1638	11/64	1.11/16	2.15/16	0.130	6
B660N1	1	0.1447	0.1798	3/16	1.11/16	2.15/16	0.140	6
B660N2	2	0.1600	0.2010	13/64	1.15/16	3.3/16	0.150	6
B660N3	3	0.1813	0.2294	15/64	2.5/16	3.11/16	0.175	6
B660N4	4	0.2071	0.2600	17/64	2.9/16	4.1/16	0.200	6
B660N5	5	0.2410	0.2994	5/16	2.13/16	4.5/16	0.235	6
B660N6	6	0.2773	0.3540	23/64	3.11/16	5.7/16	0.270	6
B660N7	7	0.3297	0.4220	13/32	4.7/16	6.5/16	0.305	6
B660N8	8	0.3971	0.5050	7/16	5.3/16	7.3/16	0.330	6
B660N9	9	0.4800	0.6066	9/16	6.1/16	8.5/16	0.420	8
B660N10	10	0.5799	0.7216	5/8	6.13/16	9.5/16	0.470	8

B670

DORMER

HSS Spiral Flute Hand Reamer, Taper Pin Type, Bright Finish

Right hand cut with left hand slow spiral to ream a tapered hole (1/4" per foot) for standard taper pins (ASA B5.20-1958). Square drive allows rotating the tool or mounting the tool static for rotating parts. Spiral flute improves surface finish by assisting in chip evacuation. Produced per ANSI B94.2-1983 (R1988).



HSS | Bright | ANSI

R | 1:48

Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■	■	■	■	■	◪	■	◪	◪	◪	◪	◪	◪	◪
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪	■	■	◪	■	■	◪	■	◪	◪	■	■	■	■
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**								
◪	■	■	◪	◪	◪								

Nom d is the Taper Pin number per American Standard Taper Pin Specification (ASA B5.20-1958)

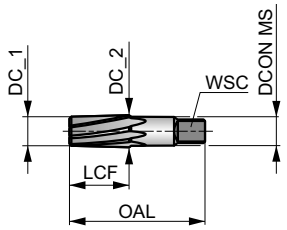
	nom d	DC_1 (inch)	DC_2 (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	WSC (inch)	NOF
B670N0	0	0.1287	0.1638	11/64	1.11/16	2.15/16	0.130	6
B670N1	1	0.1447	0.1798	3/16	1.11/16	2.15/16	0.140	6
B670N2	2	0.1600	0.2010	13/64	1.15/16	3.3/16	0.150	6
B670N3	3	0.1813	0.2294	15/64	2.5/16	3.11/16	0.175	6
B670N4	4	0.2071	0.2600	17/64	2.9/16	4.1/16	0.200	6
B670N5	5	0.2410	0.2994	5/16	2.13/16	4.5/16	0.235	6
B670N6	6	0.2773	0.3540	23/64	3.11/16	5.7/16	0.270	6
B670N7	7	0.3297	0.4220	13/32	4.7/16	6.5/16	0.305	6
B670N8	8	0.3971	0.5050	7/16	5.3/16	7.3/16	0.330	6
B670N9	9	0.4800	0.6066	9/16	6.1/16	8.5/16	0.420	8
B670N10	10	0.5799	0.7216	5/8	6.13/16	9.5/16	0.470	8

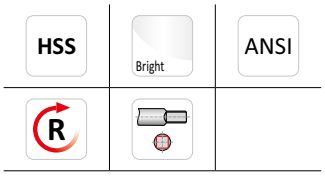
B680

DORMER

HSS Spiral Flute Hand Reamer, NPT Taper Pipe Type, Bright Finish

Right hand cut with left hand spiral to ream a tapered hole (3/4" per foot) prior to NPT tapping. Square drive allows rotating the tool or mounting the tool static for rotating parts. Spiral flute improves surface finish by assisting in chip evacuation. Produced per ANSI B94.2-1983 (R1988).





Workpiece material group suitability.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■	■	■	■	■	◪	■	◪	◪	◪	◪	◪	◪	◪
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪	■	■	◪	■	■	◪	■	◪	◪	■	■	■	■
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**								
◪	■	■	◪	◪	◪								

Nom d is the NPT pipe thread size.

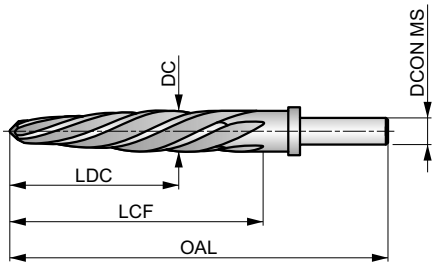
	nom d	DC_1 (inch)	DC_2 (inch)	DCON MS (inch)	LCF (inch)	OAL (inch)	WSC (inch)	NOF
B6801/8	1/8	0.3160	0.3620	0.438	3/4	2.1/8	0.328	6
B6801/4	1/4	0.4060	0.4720	0.563	1.1/16	2.7/16	0.421	6
B6803/8	3/8	0.5400	0.6060	0.700	1.1/16	2.9/16	0.531	8
B6801/2	1/2	0.6650	0.7510	0.688	1.3/8	3.1/8	0.575	8
B6803/4	3/4	0.8760	0.9620	0.906	1.3/8	3.1/4	0.679	10
B6801	1"	1.1030	1.2120	1.125	1.3/4	3.3/4	0.843	10

B122

DORMER

HSS Reduced Shank Hand Car Reamer, Steam and Bronze Tempered Surface Finish

Designed to re-align holes in thin walled sheets of steel, prior to bolting or riveting them together. It is designed to be used by hand. The small Pilot diameter makes it easy to locate and align the tool into pre-drilled holes. Suitable in many materials.



HSS | ST Bronze | ANSI

R

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P3.1	M1.1	M1.2	M2.1	N1.1	N1.2	N2.1	N2.2	N3.1
■ 15 C	■ 16 C	■ 17 C	■ 13 C	◪ 11 C	◪ 7 B	◪ 11 C	◪ 10 B	◪ 9 B	◪ 23 F	◪ 17 F	◪ 23 E	◪ 21 E	■ 34 D

N3.2	N4.1	N4.2
■ 20 E	◪ 22 B	◪ 21 B

	DC	DC	OAL	LCF	NOF	DCON MS
	(inch)	(inch)	(inch)	(inch)		(inch)
B1223/8	3/8	0.3750	4.5/8	2.1/2	4	3/8
B1221/2	1/2	0.5000	5.7/8	3.3/4	5	1/2
B1229/16	9/16	0.5625	5.7/8	3.3/4	5	1/2
B1225/8	5/8	0.6250	6.3/8	4.1/4	5	1/2
B12211/16	11/16	0.6875	6.3/8	4.1/4	5	1/2
B1223/4	3/4	0.7500	6.7/8	4.1/2	5	1/2
B12213/16	13/16	0.8125	6.7/8	4.1/2	5	1/2
B1227/8	7/8	0.8750	6.7/8	4.1/2	5	1/2
B12215/16	15/16	0.9375	6.7/8	4.1/2	5	1/2
B1221	1″	1.0000	6.7/8	4.1/2	5	1/2

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	
Basic standard group (BSG)	DIN ANSI	DIN 338	DIN 338	DIN 338	DIN 338	DIN 338	DIN 338	
Usable length (ULDR)	2.5×D	4×D	4×D	4×D	4×D	4×D	4×D	
Application angle	135°	118°	118°	118°	118°	118°	135°	
Coating	TiN-Tip	TiN-Tip	TiN-Tip	TiN-Tip	TiN-Tip	TiN-Tip	ST	
Shank								
Spiral form	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°	λ >35°	
Hand (Cutting direction)	R	R	R	R	R	R	R	
								
Product Family Code	A088	A089	A087	A094	A095	A099 Drillboy	A188	
PSF cutting diameters range	Set	Set	Set	Set	Set	Set	Set	
	92	92	93	93	94	94	95	
P	P1							
	P2							
	P3							
	P4							
M	M1							
	M2							
	M3							
	M4							
K	K1							
	K2							
	K3							
	K4							
	K5							
N	N1							
	N2							
	N3							
	N4							
	N5							
S	S1							
	S2							
	S3							
	S4							
H	H1							
	H2							
	H3							
	H4							

■ Primary use ◪ Possible use

	A295	A190	A191	A191_2	M900	M901	M902	A080
	HSS-E	HSS	HSS	HSS	Cr steel			
	DIN 338	DIN 338	DIN 338	DIN 338				
	4×D	4×D	4×D	4×D				
	135°	118°	118°	118°				
	Bronze	ST	Bright	ST				
	λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°				
	R	R	R	R	L			
								
					NEW	NEW	NEW	
	Set	Set	Set	Set	Size 1 - 9	Set	Set	Set
	95	96	97	97	98	99	99	99
P1					■			
P2					■			
P3					■			
P4					■			
M1					■			
M2					■			
M3					◪			
M4								
K1					■			
K2					■			
K3					■			
K4					■			
K5					■			
N1					■			
N2					■			
N3					■			
N4					■			
N5								
S1								
S2								
S3								
S4								
H1								
H2								
H3								
H4								

■ Primary use ◪ Possible use

A088

DORMER

HSS Stub Drill Set with A022 Drills, TiN-Tip Coated

A set containing 24 different diameters of the A022 stub drill in a sturdy case, for a wide range of hole sizes covered with a single purchase. The drills are suitable for use both in machines and hand-held drilling in many applications. TiN-Tip coating improves performance and extends tool life.

HSS	DIN ANSI	2.5×D
135°	TiN-Tip	
λ20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
A088200S	200S	A022	24	1.0 mm - 10.5 mm x 0.5 mm + 3.3 mm, 4.2 mm, 6.8 mm, 10.2 mm

A089

DORMER

HSS Jobber Drill Set with A002 Drills, TiN-Tip Coated

A set containing 5 different diameters of the popular A002 drill in a handy container, covering many diameters with a single purchase. The drills are suitable for use both in machines and hand-held drilling in many applications. TiN-Tip coating improves performance and extends tool life.

HSS	DIN 338	4×D
118°	TiN-Tip	
λ20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
A08910	10	A002	5	A0024.0, A0025.0, A0026.0, A0028.0, A00210.0

A087

HSS Jobber Drill Set with A002 Drills, TiN-Tip Coated

A set containing 19 different diameters of the popular A002 drill in an easy to carry compact case, with sizes clearly displayed for easy selection. The drills are suitable for use both in machines and hand-held drilling, and in many applications. TiN-Tip coating improves performance and extends tool life.

HSS	DIN 338	4×D
118°	TiN-Tip	
λ 20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set. 1.0mm =< DC >= 2.9mm 118° 4 Facet Point.

Product	Nr.	A	B	C
A087201	201	A002	19	1.0 mm - 10.0 mm x 0.5 mm

A094

HSS Jobber Drill Set with A002 Drills, TiN-Tip Coated

A set containing A002 drills of different metric diameters in a cleverly designed rotating dispenser which makes selecting the required size very simple. Rotate the clear plastic top, until the required size is highlighted by the hole in the case, and turn the set upside down to remove the drill.

HSS	DIN 338	4×D
118°	TiN-Tip	
λ 20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set. 1.0mm =< DC >= 2.9mm 118° 4 Facet Point.

Product	Nr.	A	B	C
A094413	413	A002	13	1.5 mm - 6.5 mm x 0.5 mm + 3.3 mm, 4.2 mm
A094419	419	A002	19	1.0 mm - 10.0 mm x 0.5 mm

A095

DORMER

HSS Jobber Drill Set with A002 Drills, TiN-Tip Coated

Different sets in metric or fractional sizes of our A002 drills in a useful plastic storage case. The set keeps all drills together, with sizes clearly displayed for easy selection. The drills are suitable for use in both machines and hand-held applications. TiN-Tip coating improves performance and extends tool life.

HSS	DIN 338	4×D
118°	TiN-Tip	
λ20-35°	R	DC h8

1.0mm =< DC >= 2.9mm 118° 4 Facet Point. A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
A09518	18	A002	29	1/16 inch - 1/2 inch x 1/64 inch
A095200	200	A002	24	1.0 mm - 10.5 mm x 0.5 mm + 3.3 mm, 4.2 mm, 6.8 mm, 10.2 mm
A095201	201	A002	19	1.0 mm - 10.0 mm x 0.5 mm
A095202	202	A002	51	1.0 mm - 6.0 mm x 0.1 mm
A095203	203	A002	41	6.0 mm - 10.0 mm x 0.1 mm
A095204	204	A002	25	1.0 mm - 13.0 mm x 0.5 mm
A095206	206	A002	29	1.0 mm - 13.0 mm x 0.5 mm + 3.3 mm, 4.2 mm, 6.8 mm, 10.2 mm
A095209	209	A002	91	1.0 mm - 10.0 mm x 0.1 mm

A099 Drillboy

DORMER

Drillboy with HSS Jobber A002 Drills, TiN-Tip Coated

A free standing counter top dispenser containing a wide range of sizes of A002 drills. Designed to stand on a counter top or other suitable flat surface for a prominent display and where the drills can be easily removed as and when needed. Easy to refill with further A002 drills, it will give years of service.

HSS	DIN 338	4×D
118°	TiN-Tip	
λ20-35°	R	DC h8

1.0mm =< DC >= 2.9mm 118° 4 Facet Point. A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
A099DRILLBOYXL	DRILLBOY	A002	55	3 x (1.0, 1.5, 2.0, 2.5, 3.0, 3.3, 3.5, 4.0) + 2 x (4.2, 4.5, 5.0, 5.5, 6.0, 6.5, 6.8, 7.0, 7.5, 8.0) + 8.5, 9.0, 9.5, 10.0, 10.2, 10.5, 11.0, 11.5, 12.0, 12.5, 13.0 mm

A188

DORMER

HSS Jobber Drill Set with A108 Drills, Steam Tempered Finish

A set of different metric sizes of our A108 drills in a useful plastic storage case. Can be used in many different machine and hand-held applications.

HSS	DIN 338	4×D
135°	ST	
λ>35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set. DC > 1.5mm; 1/16" Split Point

Product	Nr.	A	B	C
A188201	201	A108	19	1.0 mm - 10.0 mm x 0.5 mm
A188204	204	A108	25	1.0 mm - 13.0 mm x 0.5 mm

A295

DORMER

HSS-E (8% Cobalt) Jobber Drill Set with A777 Drills, Bronze Tempered Surface Finish

A set of different fractional sizes of our A777 drills in a useful plastic storage case. The set keeps all of the drills together in order, with sizes clearly displayed for easy selection. The A777 drills are designed with a 135° split point to help self-center the drill and reduce the cutting forces.

HSS-E	DIN 338	4×D
135°	Bronze	
λ20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set. DC <= 1.4mm 4 Facet Point.

Product	Nr.	A	B	C
A295219	219	A777	19	1.0 mm - 10.0 mm x 0.5 mm
A295225	225	A777	25	1.0 mm - 13.0 mm x 0.5 mm

A190

HSS Jobber Drill Set with A100 Drills, Steam Tempered Finish

Drill set containing A100 jobber drills with conventional 118° point. Provided in metric or fractional size sets in a handy plastic case which makes selecting the required drill size very simple.

HSS	DIN 338	4×D
118°	ST	
λ 20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set. DC <= 1mm; 3/64"; N60 Bright.

Product	Nr.	A	B	C
A1903	3	A100	21	1/16 inch - 3/8 inch x 1/64 inch
A19012	12	A100	60	No.1 - No.60
A19018	18	A100	29	1/16 inch - 1/2 inch x 1/64 inch
A19020	20	A100	15	1/16 inch - 1/2 inch x 1/32 inch
A190201	201	A100	19	1.0 mm - 10.0 mm x 0.5 mm
A190202	202	A100	51	1.0 mm - 6.0 mm x 0.1 mm
A190203	203	A100	41	6.0 mm - 10.0 mm x 0.1 mm
A190204	204	A100	25	1.0 mm - 13.0 mm x 0.5 mm
A190206	206	A100	29	1.0 mm - 13.0 mm x 0.5 mm + 3.3 mm, 4.2 mm, 6.8 mm, 10.2 mm
A190209 [1)]	209	A100	91	1.0 mm - 10.0 mm x 0.1 mm

[1)] Sold in 2 boxes: box 1 contains sizes (1.0-5.9 x 0.1mm); box 2 contains sizes (6.0-10.0 x 0.1mm).

A191

DORMER

HSS Jobber Drill Set with A100 Drills, Steam Tempered Finish

A set containing A100 drills of different metric diameters in an easy to carry compact case with sizes clearly displayed and easy drill selection. A100 jobber drills with Conventional 118° point. Provided in metric or wire size sets in a handy plastic case which makes selecting the required drill size very simple.

HSS	DIN 338	4×D
118°	Bright	
λ 20-35°	R	DC h8

A=Styles in Set, B=No. in Set, C=Diameters in Set. DC <= 1mm; 3/64"; N60 Bright.

Product	Nr.	A	B	C
A19131M	31M	A100	20	0.3 mm - 1.0 mm x 0.05 mm + 0.38 mm, 0.52 mm, 0.58 mm, 0.78 mm, 0.82 mm

A191_2

DORMER

HSS Jobber Drill Set with A100 Drills, Steam Tempered Finish

A set containing A100 drills of different metric diameters in a cleverly designed rotating dispenser which makes selecting the required size very simple. Rotate the clear plastic top, until the required size is highlighted by the hole in the case, and turn the set upside down to remove the drill.

HSS	DIN 338	4×D
118°	ST	
λ 20-35°	R	DC h8

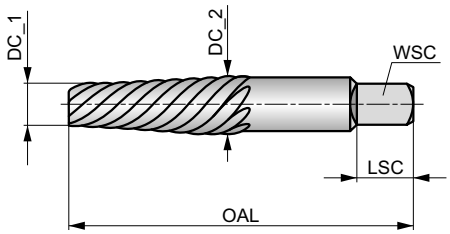
A=Styles in Set, B=No. in Set, C=Diameters in Set. DC <= 1mm; 3/64"; N60 Bright.

Product	Nr.	A	B	C
A191413	413	A100	13	1.5 mm - 6.5 mm x 0.5 mm + 3.3 mm, 4.2 mm
A191419	419	A100	19	1.0 mm - 10.0 mm x 0.5 mm

M900

Screw Extractor

Screw extractor is used counter-clockwise to remove broken right-handed bolts from threaded holes without damaging threads. It's necessary to drill guide hole of proper size before using the extractor.



Drill Size A: To be used on low or medium tensile strength screws. B: To be used on high tensile strength screws

Product		A	B		A	B	DC_1	DC_2	WSC	LSC	OAL
		(mm)	(mm)	(inch)	(inch)	(inch)	(mm)	(mm)	(mm)	(mm)	(mm)
M9001	M5 - M6	2	2	3/16" -1/4"	5/64	5/64	1.37	3.20	2.60	5.1	51.1
M9002	M6 - M8	2.8	3	1/4" - 5/16"	7/64	1/8	2.18	4.80	3.90	6.7	61.1
M9003	M8 - M12	4	4.2	5/16" - 7/16"	5/32	11/64	3.18	6.40	4.80	7.5	68.7
M9004	M12 - M14	5.5	6	7/16" - 9/16"	7/32	15/64	4.37	8.00	6.00	8	76.7
M9005	M14 - M20	7.2	8	9/16" - 3/4"	9/32	5/16	6.35	11.10	8.30	11.5	86.1
M9006	M20 - M30	10.5	11	3/4" - 1"	13/32	7/16	9.53	15.90	11.90	13.1	94.4
M9007	M30 - M42	13.5	14.5	1" - 1.3/8"	17/32	9/16	12.30	19.10	14.30	17.9	107.4
M9008	M42 - M45	20.5	21.5	1.3/8" - 1.3/4"	13/16	27/32	18.65	25.10	19.80	19.4	114.3
M9009	M45 - M50	27	28	1.3/4 - 2.1/8	1.1/16	1.3/32	24.61	32.30	24.60	22.6	121.3

M901

Screw Extractor Set

Set of Screw Extractor sizes M9001 - M9005 or M9001 - M9006.

A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
M901A	A	M900	5	M9001-M9005
M901B	B	M900	6	M9001-M9006

M902

Bolt Removal Kit

Tools for removing broken right-handed bolts come in a set of four. First, use the P100 burr to flatten the bolt. Second, use the P101 burr to create a starting cone. Third, use the HSS-E stub drill A117 to drill a hole for the extractor. Finally, use the screw extractor in a counter-clockwise motion to remove the broken bolt without damaging the threads.

A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
M902M6-M8	M6-M8	M900, P100, P101, A117	4	P1004.9, P1014.9, A1173.0, M9002
M902M8-M10	M8-M10	M900, P100, P101, A117	4	P1006.4, P1016.4, A1174.0, M9003
M902M10-M12	M10-M12	M900, P100, P101, A117	4	P1007.8, P1017.8, A1174.2, M9003
M902M12-M14	M12-M14	M900, P100, P101, A117	4	P1009.3, P1019.3, A1176.0, M9004
M902M14-M16	M14-M16	M900, P100, P101, A117	4	P10010.7, P10110.7, A1178.0, M9005

A080

Empty Dispenser

The dispenser is supplied empty so the drills can be purchased separately, choosing quantities to suit counter sales. It comes in red plastic, marked with a Dormer logo and an image of various Dormer drills. Metric or Fractional drill diameters are marked on the three shelves.

Empty Dispenser. C-Sizes in box.

Product	Nr.	C
A080M1EMPTY	M1EMPTY	(1.00, 1.50, 2.00, 2.50, 3.00, 3.50, 4.00, 4.50, 5.00, 5.50, 6.00, 6.50, 7.00, 7.50, 8.00, 8.50, 9.00, 9.50, 10.00, 10.50, 11.00, 11.50, 12.00) mm
A080F1EMPTY	F1EMPTY	(1/16, 5/64, 3/32, 7/64, 1/8, 9/64, 5/32, 11/64, 3/16, 13/64, 7/32, 15/64, 1/4, 17/64, 9/32, 19/64, 5/16, 21/64, 11/32, 3/8, 13/32, 7/16, 1/2) inch

**TOOLS FOR MIXED MANUFACTURING.
TYPICALLY USED WITH CONVENTIONAL
MACHINES WITH MACHINE FEED AND CNC.**

Material code (BMC)	HSS-E	HSS	HSS-E	HSS-E	HSS-E	HM							
Basic standard group (BSG)	DIN 1899	DIN 1897	DIN 1897	DIN 1897	DIN ANSI	DIN 6539							
Usable length (ULDR)	2.5×D	2.5×D	2.5×D	2.5×D	3×D	2.5×D							
Application angle	118°	130°	130°	135°	130°	120°							
Coating	Bright	TiN	Bronze	Bronze	Bright	TiN-Tip							
Shank													
Spiral form	λ 20-35°	λ 32-40°	λ 20-35°	λ 20-35°	λ >35°	λ 20-35°							
Hand (Cutting direction)	R	R	R	R	R	R							
		ADX			PFX	NEW							
Product Family Code	A720	A520	A620	A117	A920	R023							
PSF cutting diameters range	0.15 - 1.40	3.00 - 13.00	2.50 - 13.00	1.00 - 13.00	1.00 - 20.00	1.00 - 12.00							
	104	105	107	108	110	112							
P	P1	■	■	◪	◪	■	■							
	P2	■	■	◪	◪	■	■							
	P3	■	■	◪	◪	■	■							
	P4	◪	■	◪	■	■	■							
M	M1	◪	■	■	■	■								
	M2	◪	■	■	■	■								
	M3	◪	■	■	■	■								
	M4	◪	■	■	■	■								
K	K1	■	■	◪	◪	◪	■							
	K2	◪	■	◪	◪	◪	■							
	K3	◪	■	◪	◪	◪	■							
	K4	◪	■	◪	■	◪	◪							
	K5	◪	■	◪	◪	◪	■							
N	N1	◪	◪	◪	◪	◪	■							
	N2	◪	■	◪	◪	◪	◪							
	N3	◪	■	◪	◪	◪	◪							
	N4	◪	■	◪	◪	◪	■							
	N5													
S	S1	◪	■	◪	■	■								
	S2	◪	◪	◪	■	■								
	S3	◪	◪	◪	■	■								
	S4	◪	◪	◪	■	■								
H	H1						◪							
	H2						◪							
	H3						◪							
	H4													

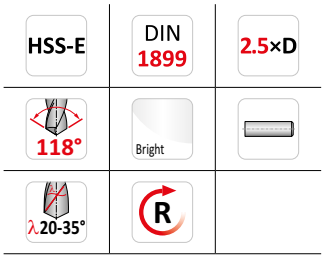
■ Primary use ◪ Possible use

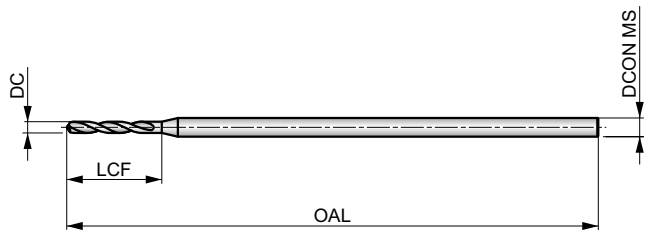
A720

DORMER

HSS-E (5% Cobalt) Micro Drill, Bright Finish

Micro drill in very small diameters ranging from 0.15 mm to 1.40 mm. To make tool holding easier, all drills have either a 1.00 mm or 1.50 mm shank diameter. The drills all have a 118°, 4-facet point which is a great aid to self-centering and reduces the cutting forces.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■36 A	■40 A	■41 A	■31 A	■27 A	◪24 A	■25 A	■20 A	◪17 A	■15 A	◪13 A	◪10 A	◪30 A	◪26 A
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪27 A	◪22 A	◪12 A	◪10 A	◪9 A	◪15 A	■30 A	■22 A	■17 A	◪25 A	◪20 A	◪16 A	◪22 A	◪17 A
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 A	◪20 A	◪15 A	◪11 A	◪10 A	◪8 A	◪23 A	◪17 A	◪13 A	◪35 A	◪26 A	◪18 A	◪42 A	◪37 A
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**
◪27 A	◪68 A	◪40 A	◪20 A	◪48 A	◪25 A	◪23 A	◪17 A	◪8 A	◪9 A	◪6 A	◪7 A	◪4 A	◪5 A
S4.2													
◪3 A													

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A720.15	0.15	0.0059	1.0	25.0	1.00
A720.18	0.18	0.0070	1.4	25.0	1.00
A720.2	0.20	0.0079	1.8	25.0	1.00
A720.22	0.22	0.0087	1.8	25.0	1.00
A720.25	0.25	0.0098	2.2	25.0	1.00
A720.27	0.27	0.0106	2.2	25.0	1.00
A720.28	0.28	0.0110	2.2	25.0	1.00
A720.3	0.30	0.0118	2.2	25.0	1.00
A720.35	0.35	0.0138	2.8	25.0	1.00
A720.4	0.40	0.0157	3.6	25.0	1.00
A720.45	0.45	0.0177	3.6	25.0	1.00
A720.5	0.50	0.0197	4.0	25.0	1.00
A720.55	0.55	0.0217	4.5	25.0	1.00

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A720.6	0.60	0.0236	4.5	25.0	1.00
A720.62	0.62	0.0244	5.0	25.0	1.00
A720.65	0.65	0.0256	5.0	25.0	1.00
A720.7	0.70	0.0276	5.6	25.0	1.00
A720.75	0.75	0.0295	5.6	25.0	1.00
A720.8	0.80	0.0315	6.3	25.0	1.50
A720.85	0.85	0.0335	6.3	25.0	1.50
A720.9	0.90	0.0354	7.1	25.0	1.50
A720.95	0.95	0.0374	7.1	25.0	1.50
A7201.0	1.00	0.0394	8.0	25.0	1.50
A7201.05	1.05	0.0413	8.0	25.0	1.50
A7201.3	1.30	0.0512	10.0	25.0	1.50
A7201.4	1.40	0.0551	11.2	25.0	1.50

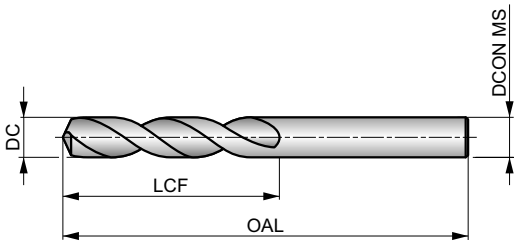
A520

DORMER

ADX HSS Stub Drill, TiN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). A 130° thinned point which helps with self-centering and reduces cutting forces. This drill should be used in machines with constant feed only. TiN coating extends the tool life.

ADX



HSS	DIN 1897	2.5×D
130°	TiN	
λ32-40°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 53 M	■ 59 M	■ 61 M	■ 45 M	■ 40 K	■ 35 G	■ 31 I	■ 25 I	■ 21 G	■ 19 I	■ 16 G	◪ 13 E	■ 41 I	■ 35 I
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■ 37 I	■ 30 I	■ 19 I	■ 16 I	■ 14 I	■ 20 G	■ 48 M	■ 36 K	■ 27 K	■ 37 J	■ 30 J	■ 24 F	■ 33 J	■ 25 J
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■ 20 F	■ 30 J	■ 23 J	■ 17 F	■ 14 F	■ 12 F	■ 34 J	■ 26 J	■ 20 F	◪ 55 I	◪ 41 I	■ 28 M	■ 57 K	■ 51 K
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
■ 37 K	■ 85 K	■ 50 I	◪ 25 E	◪ 65 G	■ 50 G	■ 35 F	■ 34 I	■ 20 G	◪ 4 B	◪ 15 G	◪ 10 E	◪ 11 G	◪ 7 E
S4.1	**S4.2**												
◪ 9 G	◪ 6 E												

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A5203.0	–	3.00	0.1181	16.0	46.0	3.00
A5203.1	–	3.10	0.1220	18.0	49.0	3.10
A5201/8	1/8	3.18	0.1250	18.0	49.0	3.18
A5203.2	–	3.20	0.1260	18.0	49.0	3.20
A5203.3	–	3.30	0.1299	18.0	49.0	3.30
A5203.4	–	3.40	0.1339	20.0	52.0	3.40
A5203.5	–	3.50	0.1378	20.0	52.0	3.50
A5203.6	–	3.60	0.1417	20.0	52.0	3.60
A5203.7	–	3.70	0.1457	20.0	52.0	3.70
A5203.8	–	3.80	0.1496	22.0	55.0	3.80
A5203.9	–	3.90	0.1535	22.0	55.0	3.90
A5204.0	–	4.00	0.1575	22.0	55.0	4.00
A5204.1	–	4.10	0.1614	22.0	55.0	4.10
A5204.2	–	4.20	0.1654	22.0	55.0	4.20
A5204.3	–	4.30	0.1693	24.0	58.0	4.30
A52011/64	11/64	4.37	0.1719	24.0	58.0	4.37
A5204.4	–	4.40	0.1732	24.0	58.0	4.40
A5204.5	–	4.50	0.1772	24.0	58.0	4.50
A5204.6	–	4.60	0.1811	24.0	58.0	4.60
A5204.7	–	4.70	0.1850	24.0	58.0	4.70
A5203/16	3/16	4.76	0.1875	26.0	62.0	4.76
A5204.8	–	4.80	0.1890	26.0	62.0	4.80
A5204.9	–	4.90	0.1929	26.0	62.0	4.90
A5205.0	–	5.00	0.1969	26.0	62.0	5.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A5205.1	–	5.10	0.2008	26.0	62.0	5.10
A5205.2	–	5.20	0.2047	26.0	62.0	5.20
A5205.3	–	5.30	0.2087	26.0	62.0	5.30
A5205.4	–	5.40	0.2126	28.0	66.0	5.40
A5205.5	–	5.50	0.2165	28.0	66.0	5.50
A5207/32	7/32	5.56	0.2188	28.0	66.0	5.56
A5205.6	–	5.60	0.2205	28.0	66.0	5.60
A5205.7	–	5.70	0.2244	28.0	66.0	5.70
A5205.8	–	5.80	0.2283	28.0	66.0	5.80
A5205.9	–	5.90	0.2323	28.0	66.0	5.90
A5206.0	–	6.00	0.2362	28.0	66.0	6.00
A5206.1	–	6.10	0.2402	31.0	70.0	6.10
A5206.2	–	6.20	0.2441	31.0	70.0	6.20
A5206.3	–	6.30	0.2480	31.0	70.0	6.30
A5201/4	1/4	6.35	0.2500	31.0	70.0	6.35
A5206.4	–	6.40	0.2520	31.0	70.0	6.40
A5206.5	–	6.50	0.2559	31.0	70.0	6.50
A5206.6	–	6.60	0.2598	31.0	70.0	6.60
A5206.7	–	6.70	0.2638	31.0	70.0	6.70
A52017/64	17/64	6.75	0.2656	34.0	74.0	6.75
A5206.8	–	6.80	0.2677	34.0	74.0	6.80
A5206.9	–	6.90	0.2717	34.0	74.0	6.90
A5207.0	–	7.00	0.2756	34.0	74.0	7.00
A5207.1	–	7.10	0.2795	34.0	74.0	7.10

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A5209/32	9/32	7.14	0.2813	34.0	74.0	7.14
A5207.2	–	7.20	0.2835	34.0	74.0	7.20
A5207.4	–	7.40	0.2913	34.0	74.0	7.40
A5207.5	–	7.50	0.2953	34.0	74.0	7.50
A5207.8	–	7.80	0.3071	37.0	79.0	7.80
A5207.9	–	7.90	0.3110	37.0	79.0	7.90
A5205/16	5/16	7.94	0.3125	37.0	79.0	7.94
A5208.0	–	8.00	0.3150	37.0	79.0	8.00
A5208.1	–	8.10	0.3189	37.0	79.0	8.10
A5208.2	–	8.20	0.3228	37.0	79.0	8.20
A5208.3	–	8.30	0.3268	37.0	79.0	8.30
A5208.4	–	8.40	0.3307	37.0	79.0	8.40
A5208.5	–	8.50	0.3346	37.0	79.0	8.50
A5208.6	–	8.60	0.3386	40.0	84.0	8.60
A5208.7	–	8.70	0.3425	40.0	84.0	8.70
A52011/32	11/32	8.73	0.3438	40.0	84.0	8.73
A5208.8	–	8.80	0.3465	40.0	84.0	8.80
A5209.0	–	9.00	0.3543	40.0	84.0	9.00
A5209.1	–	9.10	0.3583	40.0	84.0	9.10
A5209.5	–	9.50	0.3740	40.0	84.0	9.50
A5203/8	3/8	9.52	0.3750	43.0	89.0	9.52
A5209.6	–	9.60	0.3780	43.0	89.0	9.60
A5209.7	–	9.70	0.3819	43.0	89.0	9.70
A52025/64	25/64	9.92	0.3906	43.0	89.0	9.92

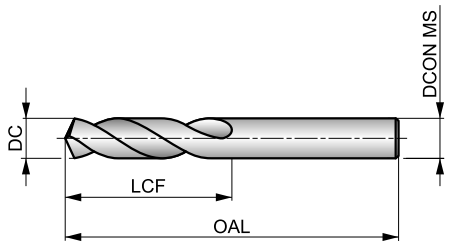
Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A52010.0	–	10.00	0.3937	43.0	89.0	10.00
A52010.1	–	10.10	0.3976	43.0	89.0	10.10
A52010.2	–	10.20	0.4016	43.0	89.0	10.20
A52010.3	–	10.30	0.4055	43.0	89.0	10.30
A52013/32	13/32	10.32	0.4063	43.0	89.0	10.32
A52010.5	–	10.50	0.4134	43.0	89.0	10.50
A52027/64	27/64	10.72	0.4219	47.0	95.0	10.72
A52010.8	–	10.80	0.4252	47.0	95.0	10.80
A52011.0	–	11.00	0.4331	47.0	95.0	11.00
A52011.1	–	11.10	0.4370	47.0	95.0	11.10
A5207/16	7/16	11.11	0.4375	47.0	95.0	11.11
A52011.3	–	11.30	0.4449	47.0	95.0	11.30
A52011.5	–	11.50	0.4528	47.0	95.0	11.50
A52011.7	–	11.70	0.4606	47.0	95.0	11.70
A52011.8	–	11.80	0.4646	47.0	95.0	11.80
A52012.0	–	12.00	0.4724	51.0	102.0	12.00
A52012.1	–	12.10	0.4764	51.0	102.0	12.10
A52012.2	–	12.20	0.4803	51.0	102.0	12.20
A52031/64	31/64	12.30	0.4844	51.0	102.0	12.30
A52012.5	–	12.50	0.4921	51.0	102.0	12.50
A5201/2	1/2	12.70	0.5000	51.0	102.0	12.70
A52012.8	–	12.80	0.5039	51.0	102.0	12.80
A52013.0	–	13.00	0.5118	51.0	102.0	13.00

A620

DORMER

HSS-E (5% Cobalt) Stub Drill, Bronze Tempered Surface Finish

Drill with 130° point angle which helps self-centering and reduces the cutting forces. The bronze finish is a thin oxide layer and it is an indication for Cobalt. Suitable for drilling in many materials. Should not be used in hand-held devices.



HSS-E	DIN 1897	2.5×D
130°	Bronze	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪40 H	◪45 H	◪46 H	◪34 H	◪30 G	◪27 F	◪27 G	◪21 G	◪18 F	◪16 G	◪13 F	◪11 E	■30 F	■26 F
M2.1	M2.2	M3.1	M3.2	M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2
■27 F	■22 F	■13 H	■11 H	■10 H	■15 D	◪34 K	◪25 F	◪19 F	◪27 F	◪22 F	◪18 F	◪24 F	◪18 F
K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2
◪15 F	◪22 F	◪17 F	◪12 F	◪11 F	◪9 F	◪25 F	◪19 F	◪15 F	◪40 K	◪30 K	◪20 J	◪49 I	◪44 I
N2.3	N3.1	N3.2	N3.3	N4.1	N4.2	N4.3	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2
◪32 I	◪68 J	◪40 K	◪20 I	◪40 L	◪32 K	◪18 I	◪30 G	◪18 F	◪10 C	◪12 F	◪8 C	◪9 F	◪6 C
S4.1	S4.2												
◪7 F	◪5 C												

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A6202.5	2.50	0.0984	14.0	43.0	2.50
A6202.6	2.60	0.1024	14.0	43.0	2.60
A6202.7	2.70	0.1063	16.0	46.0	2.70
A6202.8	2.80	0.1102	16.0	46.0	2.80
A6202.9	2.90	0.1142	16.0	46.0	2.90
A6203.0	3.00	0.1181	16.0	46.0	3.00
A6203.1	3.10	0.1220	18.0	49.0	3.10
A6203.2	3.20	0.1260	18.0	49.0	3.20
A6203.3	3.30	0.1299	18.0	49.0	3.30
A6203.4	3.40	0.1339	20.0	52.0	3.40
A6203.5	3.50	0.1378	20.0	52.0	3.50
A6204.0	4.00	0.1575	22.0	55.0	4.00
A6204.1	4.10	0.1614	22.0	55.0	4.10
A6204.2	4.20	0.1654	22.0	55.0	4.20
A6204.3	4.30	0.1693	24.0	58.0	4.30
A6204.5	4.50	0.1772	24.0	58.0	4.50
A6204.7	4.70	0.1850	24.0	58.0	4.70
A6204.9	4.90	0.1929	26.0	62.0	4.90
A6205.0	5.00	0.1969	26.0	62.0	5.00
A6205.1	5.10	0.2008	26.0	62.0	5.10
A6205.2	5.20	0.2047	26.0	62.0	5.20
A6205.3	5.30	0.2087	26.0	62.0	5.30
A6205.5	5.50	0.2165	28.0	66.0	5.50
A6205.6	5.60	0.2205	28.0	66.0	5.60
A6206.0	6.00	0.2362	28.0	66.0	6.00

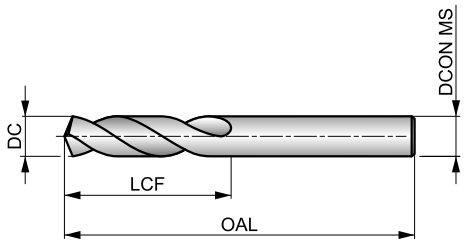
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A6206.2	6.20	0.2441	31.0	70.0	6.20
A6206.3	6.30	0.2480	31.0	70.0	6.30
A6206.5	6.50	0.2559	31.0	70.0	6.50
A6206.8	6.80	0.2677	34.0	74.0	6.80
A6206.9	6.90	0.2717	34.0	74.0	6.90
A6207.0	7.00	0.2756	34.0	74.0	7.00
A6207.5	7.50	0.2953	34.0	74.0	7.50
A6207.8	7.80	0.3071	37.0	79.0	7.80
A6208.0	8.00	0.3150	37.0	79.0	8.00
A6208.2	8.20	0.3228	37.0	79.0	8.20
A6208.5	8.50	0.3346	37.0	79.0	8.50
A6208.7	8.70	0.3425	40.0	84.0	8.70
A6209.0	9.00	0.3543	40.0	84.0	9.00
A6209.5	9.50	0.3740	40.0	84.0	9.50
A62010.0	10.00	0.3937	43.0	89.0	10.00
A62010.2	10.20	0.4016	43.0	89.0	10.20
A62010.3	10.30	0.4055	43.0	89.0	10.30
A62010.5	10.50	0.4134	43.0	89.0	10.50
A62010.8	10.80	0.4252	47.0	95.0	10.80
A62011.0	11.00	0.4331	47.0	95.0	11.00
A62011.5	11.50	0.4528	47.0	95.0	11.50
A62012.0	12.00	0.4724	51.0	102.0	12.00
A62012.5	12.50	0.4921	51.0	102.0	12.50
A62013.0	13.00	0.5118	51.0	102.0	13.00

A117

DORMER

HSS-E (8% Cobalt) Stub Drill, Bronze Tempered Surface Finish

Drill recommended for use in difficult materials and applications. A 135° split point makes self-centering easier and also reduces the cutting forces. Can be relied on to produce a precise hole and quality finish. The bronze finish is a thin oxide layer and it is an indication for Cobalt.



HSS-E	DIN 1897	2.5×D
135°	Bronze	
λ20-35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪40 H	◪45 H	◪46 H	◪34 H	◪30 G	■27 F	◪27 G	◪21 G	■18 F	◪16 G	■13 F	■11 E	■30 F	■26 F
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■27 F	■22 F	■13 H	■11 H	■10 H	■15 D	◪34 K	◪25 F	◪19 F	◪27 F	◪22 F	■18 F	◪24 F	◪18 F
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■15 F	◪22 F	◪17 F	■12 F	■11 F	■9 F	◪25 F	◪19 F	■15 F	◪35 K	◪26 K	◪18 J	◪48 I	◪43 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪31 I	◪68 J	◪40 K	◪20 I	◪35 M	◪28 K	◪17 I	■30 G	■18 F	■10 C	■12 F	■8 C	■9 F	■6 C
S4.1	**S4.2**												
■7 F	■5 C												

DC <= 1.5mm 118° point; DC < 3.00mm 5% cobalt.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1171.0	–	1.00	0.0394	6.0	26.0	1.00
A1171.1	–	1.10	0.0433	7.0	28.0	1.10
A1171.2	–	1.20	0.0472	8.0	30.0	1.20
A1171.3	–	1.30	0.0512	8.0	30.0	1.30
A1171.4	–	1.40	0.0551	9.0	32.0	1.40
A1171.5	–	1.50	0.0591	9.0	32.0	1.50
A1171.6	–	1.60	0.0630	10.0	34.0	1.60
A1171.7	–	1.70	0.0669	10.0	34.0	1.70
A1171.8	–	1.80	0.0709	11.0	36.0	1.80
A1171.9	–	1.90	0.0748	11.0	36.0	1.90
A1172.0	–	2.00	0.0787	12.0	38.0	2.00
A1172.1	–	2.10	0.0827	12.0	38.0	2.10
A1172.2	–	2.20	0.0866	13.0	40.0	2.20
A1172.3	–	2.30	0.0906	13.0	40.0	2.30
A1172.4	–	2.40	0.0945	14.0	43.0	2.40
A1172.5	–	2.50	0.0984	14.0	43.0	2.50
A1172.6	–	2.60	0.1024	14.0	43.0	2.60
A1172.7	–	2.70	0.1063	16.0	46.0	2.70
A1172.8	–	2.80	0.1102	16.0	46.0	2.80
A1172.9	–	2.90	0.1142	16.0	46.0	2.90
A1173.0	–	3.00	0.1181	16.0	46.0	3.00
A1173.1	–	3.10	0.1220	18.0	49.0	3.10
A1171/8	1/8	3.18	0.1250	18.0	49.0	3.18

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1173.2	–	3.20	0.1260	18.0	49.0	3.20
A1173.3	–	3.30	0.1299	18.0	49.0	3.30
A1173.4	–	3.40	0.1339	20.0	52.0	3.40
A1173.5	–	3.50	0.1378	20.0	52.0	3.50
A1173.6	–	3.60	0.1417	20.0	52.0	3.60
A1173.7	–	3.70	0.1457	20.0	52.0	3.70
A1173.8	–	3.80	0.1496	22.0	55.0	3.80
A1173.9	–	3.90	0.1535	22.0	55.0	3.90
A1175/32	5/32	3.97	0.1563	22.0	55.0	3.97
A1174.0	–	4.00	0.1575	22.0	55.0	4.00
A1174.1	–	4.10	0.1614	22.0	55.0	4.10
A1174.2	–	4.20	0.1654	22.0	55.0	4.20
A1174.3	–	4.30	0.1693	24.0	58.0	4.30
A1174.4	–	4.40	0.1732	24.0	58.0	4.40
A1174.5	–	4.50	0.1772	24.0	58.0	4.50
A1174.6	–	4.60	0.1811	24.0	58.0	4.60
A1174.7	–	4.70	0.1850	24.0	58.0	4.70
A1173/16	3/16	4.76	0.1875	26.0	62.0	4.76
A1174.8	–	4.80	0.1890	26.0	62.0	4.80
A1174.9	–	4.90	0.1929	26.0	62.0	4.90
A1175.0	–	5.00	0.1969	26.0	62.0	5.00
A1175.1	–	5.10	0.2008	26.0	62.0	5.10
A1175.2	–	5.20	0.2047	26.0	62.0	5.20

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1175.3	–	5.30	0.2087	26.0	62.0	5.30
A1175.4	–	5.40	0.2126	28.0	66.0	5.40
A1175.5	–	5.50	0.2165	28.0	66.0	5.50
A1175.6	–	5.60	0.2205	28.0	66.0	5.60
A1175.7	–	5.70	0.2244	28.0	66.0	5.70
A1175.8	–	5.80	0.2283	28.0	66.0	5.80
A1175.9	–	5.90	0.2323	28.0	66.0	5.90
A1176.0	–	6.00	0.2362	28.0	66.0	6.00
A1176.1	–	6.10	0.2402	31.0	70.0	6.10
A1176.2	–	6.20	0.2441	31.0	70.0	6.20
A1176.3	–	6.30	0.2480	31.0	70.0	6.30
A1171/4	1/4	6.35	0.2500	31.0	70.0	6.35
A1176.4	–	6.40	0.2520	31.0	70.0	6.40
A1176.5	–	6.50	0.2559	31.0	70.0	6.50
A1176.6	–	6.60	0.2598	31.0	70.0	6.60
A1176.7	–	6.70	0.2638	31.0	70.0	6.70
A1176.8	–	6.80	0.2677	34.0	74.0	6.80
A1176.9	–	6.90	0.2717	34.0	74.0	6.90
A1177.0	–	7.00	0.2756	34.0	74.0	7.00
A1177.1	–	7.10	0.2795	34.0	74.0	7.10
A1177.2	–	7.20	0.2835	34.0	74.0	7.20
A1177.3	–	7.30	0.2874	34.0	74.0	7.30
A1177.4	–	7.40	0.2913	34.0	74.0	7.40
A1177.5	–	7.50	0.2953	34.0	74.0	7.50
A1177.6	–	7.60	0.2992	37.0	79.0	7.60
A1177.7	–	7.70	0.3031	37.0	79.0	7.70
A1177.8	–	7.80	0.3071	37.0	79.0	7.80

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1177.9	–	7.90	0.3110	37.0	79.0	7.90
A1175/16	5/16	7.94	0.3125	37.0	79.0	7.94
A1178.0	–	8.00	0.3150	37.0	79.0	8.00
A1178.1	–	8.10	0.3189	37.0	79.0	8.10
A1178.2	–	8.20	0.3228	37.0	79.0	8.20
A1178.3	–	8.30	0.3268	37.0	79.0	8.30
A1178.4	–	8.40	0.3307	37.0	79.0	8.40
A1178.5	–	8.50	0.3346	37.0	79.0	8.50
A1178.6	–	8.60	0.3386	40.0	84.0	8.60
A1178.7	–	8.70	0.3425	40.0	84.0	8.70
A1178.8	–	8.80	0.3465	40.0	84.0	8.80
A1178.9	–	8.90	0.3504	40.0	84.0	8.90
A1179.0	–	9.00	0.3543	40.0	84.0	9.00
A1179.1	–	9.10	0.3583	40.0	84.0	9.10
A1179.2	–	9.20	0.3622	40.0	84.0	9.20
A1179.3	–	9.30	0.3661	40.0	84.0	9.30
A1179.5	–	9.50	0.3740	40.0	84.0	9.50
A1179.9	–	9.90	0.3898	43.0	89.0	9.90
A11710.0	–	10.00	0.3937	43.0	89.0	10.00
A11710.2	–	10.20	0.4016	43.0	89.0	10.20
A11710.5	–	10.50	0.4134	43.0	89.0	10.50
A11711.0	–	11.00	0.4331	47.0	95.0	11.00
A11711.5	–	11.50	0.4528	47.0	95.0	11.50
A11712.0	–	12.00	0.4724	51.0	102.0	12.00
A1171/2	1/2	12.70	0.5000	51.0	102.0	12.70
A11713.0	–	13.00	0.5118	51.0	102.0	13.00

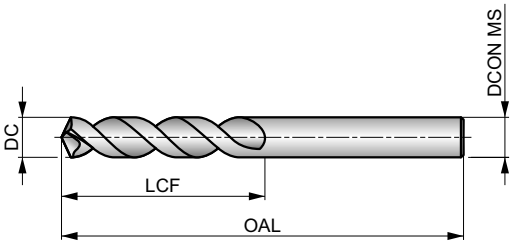
A920

DORMER

PFX HSS-E (5% Cobalt) Stub Drill, Bright Finish

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H10 hole tolerance). Self-centering 130° point angle and special parabolic flute design help to drill deep holes in a single pass. Suitable for many materials.

PFX



HSS-E	DIN ANSI	3×D
130°	Bright	
λ>35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■42 J	■47 J	■49 J	■36 J	■32 I	■28 E	■34 I	■27 I	■23 E	■20 I	■17 E	■14 E	■21 F	■17 F
M2.1	M2.2	M3.1	M3.2	M3.3	M4.1	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2
■18 F	■15 F	■8 F	■7 F	■6 F	■9 D	◪34 L	◪25 L	◪19 L	◪32 L	◪26 L	◪21 J	◪28 L	◪22 L
K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2
◪17 J	◪26 L	◪20 L	◪14 J	◪12 J	◪10 J	◪30 L	◪22 L	◪17 J	◪75 L	◪56 L	■38 N	◪62 N	◪55 N
N2.3	N3.1	N3.2	N3.3	N4.1	N4.2	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2	S4.1
◪40 N	◪112 J	◪66 J	◪33 H	◪55 J	◪40 H	■30 G	■18 G	■10 C	■12 G	■8 E	■9 G	■6 E	■7 G
S4.2													
■5 E													

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9201.0	–	1.00	0.0394	6.0	26.0	1.00
A9203/64	3/64	1.19	0.0469	13.0	35.0	1.19
A9201.2	–	1.20	0.0472	8.0	30.0	1.20
A9201.25	–	1.25	0.0492	8.0	30.0	1.25
A9201.3	–	1.30	0.0512	8.0	30.0	1.30
A9201.35	–	1.35	0.0531	9.0	32.0	1.35
A9201.4	–	1.40	0.0551	9.0	32.0	1.40
A9201.5	–	1.50	0.0591	9.0	32.0	1.50
A9201.55	–	1.55	0.0610	10.0	34.0	1.55
A9201/16	1/16	1.59	0.0625	16.0	41.0	1.59
A9201.6	–	1.60	0.0630	10.0	34.0	1.60
A9201.7	–	1.70	0.0669	10.0	34.0	1.70
A9201.8	–	1.80	0.0709	11.0	36.0	1.80
A9201.9	–	1.90	0.0748	11.0	36.0	1.90
A9205/64	5/64	1.98	0.0781	17.0	43.0	1.98
A9202.0	–	2.00	0.0787	12.0	38.0	2.00
A9202.1	–	2.10	0.0827	12.0	38.0	2.10
A9202.15	–	2.15	0.0846	13.0	40.0	2.15
A9202.2	–	2.20	0.0866	13.0	40.0	2.20
A9202.3	–	2.30	0.0906	13.0	40.0	2.30
A9202.35	–	2.35	0.0925	14.0	43.0	2.35
A9203/32	3/32	2.38	0.0938	19.0	41.0	2.38
A9202.4	–	2.40	0.0945	14.0	43.0	2.40
A9202.5	–	2.50	0.0984	14.0	43.0	2.50

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9202.6	–	2.60	0.1024	14.0	43.0	2.60
A9202.7	–	2.70	0.1063	16.0	46.0	2.70
A9207/64	7/64	2.78	0.1094	21.0	46.0	2.78
A9202.8	–	2.80	0.1102	16.0	46.0	2.80
A9202.9	–	2.90	0.1142	16.0	46.0	2.90
A9203.0	–	3.00	0.1181	16.0	46.0	3.00
A9203.1	–	3.10	0.1220	18.0	49.0	3.10
A9201/8	1/8	3.18	0.1250	22.0	48.0	3.18
A9203.2	–	3.20	0.1260	18.0	49.0	3.20
A9203.3	–	3.30	0.1299	18.0	49.0	3.30
A9203.4	–	3.40	0.1339	20.0	52.0	3.40
A9203.5	–	3.50	0.1378	20.0	52.0	3.50
A9209/64	9/64	3.57	0.1406	24.0	49.0	3.57
A9203.6	–	3.60	0.1417	20.0	52.0	3.60
A9203.7	–	3.70	0.1457	20.0	52.0	3.70
A9203.8	–	3.80	0.1496	22.0	55.0	3.80
A9205/32	5/32	3.97	0.1563	25.0	52.0	3.97
A9204.0	–	4.00	0.1575	22.0	55.0	4.00
A9204.1	–	4.10	0.1614	22.0	55.0	4.10
A9204.2	–	4.20	0.1654	22.0	55.0	4.20
A9204.3	–	4.30	0.1693	24.0	58.0	4.30
A92011/64	11/64	4.37	0.1719	27.0	54.0	4.37
A9204.4	–	4.40	0.1732	24.0	58.0	4.40
A9204.5	–	4.50	0.1772	24.0	58.0	4.50

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A9204.6	–	4.60	0.1811	24.0	58.0	4.60
A9203/16	3/16	4.76	0.1875	29.0	56.0	4.76
A9204.8	–	4.80	0.1890	26.0	62.0	4.80
A9204.9	–	4.90	0.1929	26.0	62.0	4.90
A9205.0	–	5.00	0.1969	26.0	62.0	5.00
A9205.1	–	5.10	0.2008	26.0	62.0	5.10
A92013/64	13/64	5.16	0.2031	30.0	57.0	5.16
A9205.2	–	5.20	0.2047	26.0	62.0	5.20
A9205.3	–	5.30	0.2087	26.0	62.0	5.30
A9205.4	–	5.40	0.2126	28.0	66.0	5.40
A9205.5	–	5.50	0.2165	28.0	66.0	5.50
A9207/32	7/32	5.56	0.2188	32.0	60.0	5.56
A9205.6	–	5.60	0.2205	28.0	66.0	5.60
A9205.7	–	5.70	0.2244	28.0	66.0	5.70
A9205.9	–	5.90	0.2323	28.0	66.0	5.90
A9206.0	–	6.00	0.2362	28.0	66.0	6.00
A9206.2	–	6.20	0.2441	31.0	70.0	6.20
A9201/4	1/4	6.35	0.2500	35.0	64.0	6.35
A9206.4	–	6.40	0.2520	31.0	70.0	6.40
A9206.5	–	6.50	0.2559	31.0	70.0	6.50
A9206.6	–	6.60	0.2598	31.0	70.0	6.60
A9206.7	–	6.70	0.2638	31.0	70.0	6.70
A92017/64	17/64	6.75	0.2656	37.0	67.0	6.75
A9206.8	–	6.80	0.2677	34.0	74.0	6.80
A9206.9	–	6.90	0.2717	34.0	74.0	6.90
A9207.0	–	7.00	0.2756	34.0	74.0	7.00
A9207.1	–	7.10	0.2795	34.0	74.0	7.10
A9209/32	9/32	7.14	0.2813	38.0	68.0	7.14
A9207.5	–	7.50	0.2953	34.0	74.0	7.50
A92019/64	19/64	7.54	0.2969	40.0	70.0	7.54
A9207.8	–	7.80	0.3071	37.0	79.0	7.80
A9205/16	5/16	7.94	0.3125	41.0	71.0	7.94
A9208.0	–	8.00	0.3150	37.0	79.0	8.00
A9208.3	–	8.30	0.3268	37.0	79.0	8.30

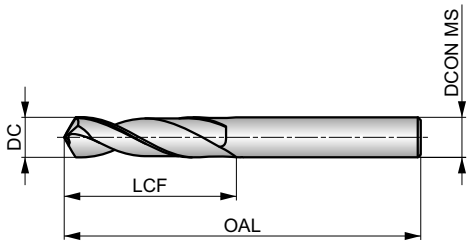
Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A9208.4	–	8.40	0.3307	37.0	79.0	8.40
A9208.5	–	8.50	0.3346	37.0	79.0	8.50
A9208.6	–	8.60	0.3386	40.0	84.0	8.60
A9208.7	–	8.70	0.3425	40.0	84.0	8.70
A9209.0	–	9.00	0.3543	40.0	84.0	9.00
A9209.5	–	9.50	0.3740	40.0	84.0	9.50
A9203/8	3/8	9.52	0.3750	46.0	79.0	9.52
A92025/64	25/64	9.92	0.3906	48.0	83.0	9.92
A92010.0	–	10.00	0.3937	43.0	89.0	10.00
A92010.2	–	10.20	0.4016	43.0	89.0	10.20
A92010.3	–	10.30	0.4055	43.0	89.0	10.30
A92010.5	–	10.50	0.4134	43.0	89.0	10.50
A92027/64	27/64	10.72	0.4219	51.0	86.0	10.72
A92010.8	–	10.80	0.4252	47.0	95.0	10.80
A92011.0	–	11.00	0.4331	47.0	95.0	11.00
A9207/16	7/16	11.11	0.4375	52.0	87.0	11.11
A92011.5	–	11.50	0.4528	47.0	95.0	11.50
A92011.8	–	11.80	0.4646	47.0	95.0	11.80
A92012.0	–	12.00	0.4724	51.0	102.0	12.00
A92012.5	–	12.50	0.4921	51.0	102.0	12.50
A9201/2	1/2	12.70	0.5000	57.0	95.0	12.70
A92013.0	–	13.00	0.5118	51.0	102.0	13.00
A92014.0	–	14.00	0.5512	54.0	107.0	14.00
A92014.5	–	14.50	0.5709	56.0	111.0	14.50
A92016.0	–	16.00	0.6299	58.0	115.0	16.00
A92016.5	–	16.50	0.6496	60.0	119.0	16.50
A92021/32	21/32	16.67	0.6563	73.0	114.0	16.67
A92017.0	–	17.00	0.6693	60.0	119.0	17.00
A92017.5	–	17.50	0.6890	62.0	123.0	17.50
A92018.0	–	18.00	0.7087	62.0	123.0	18.00
A92023/32	23/32	18.26	0.7188	76.0	121.0	18.26
A92019.0	–	19.00	0.7480	64.0	127.0	19.00
A92025/32	25/32	19.84	0.7813	83.0	130.0	19.84
A92020.0	–	20.00	0.7874	66.0	131.0	20.00

R023

DORMER

Solid Carbide Stub Drill, TiN tip Coated

Versatile entry-level drill with 120° point angle with four facet split point geometry for reduced thrust force and CTW flute construction for enhanced penetration rates. TiN tip coating improves performance and extends tool life. Suitable for both CNC machines and conventional machines across a wide range of workpiece materials.



HM	DIN 6539	2.5×D
120°	TiN-Tip	
λ20-35°	R	DC h7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
■99 T	■111 T	■115 T	■85 T	■75 T	■66 T	■66 T	■53 T	■45 T	■40 S	■34 S	■27 S	■75 U	■56 U
K1.3	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**
■42 U	■68 U	■55 U	■44 U	■60 U	■46 U	■37 U	◪55 T	◪42 T	◪31 T	◪26 T	◪22 T	■63 U	■47 U
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N4.1**	**N4.2**	**H1.1**	**H2.1**	**H3.1**
■37 U	■150 W	■113 W	■75 W	◪129 W	◪116 W	◪84 W	◪317 W	◪190 W	■60 V	■100 V	◪34 S	◪20 S	◪22 S

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R0231.0	1.00	0.0394	6.0	26.0	1.00
R0231.1	1.10	0.0433	7.0	28.0	1.10
R0231.2	1.20	0.0472	8.0	30.0	1.20
R0231.3	1.30	0.0512	8.0	30.0	1.30
R0231.4	1.40	0.0551	9.0	32.0	1.40
R0231.5	1.50	0.0591	9.0	32.0	1.50
R0231.6	1.60	0.0630	10.0	34.0	1.60
R0231.7	1.70	0.0669	10.0	34.0	1.70
R0231.8	1.80	0.0709	11.0	36.0	1.80
R0231.9	1.90	0.0748	11.0	36.0	1.90
R0232.0	2.00	0.0787	12.0	38.0	2.00
R0232.1	2.10	0.0827	12.0	38.0	2.10
R0232.2	2.20	0.0866	13.0	40.0	2.20
R0232.3	2.30	0.0906	13.0	40.0	2.30
R0232.4	2.40	0.0945	14.0	43.0	2.40
R0232.5	2.50	0.0984	14.0	43.0	2.50
R0232.6	2.60	0.1024	14.0	43.0	2.60
R0232.7	2.70	0.1063	16.0	46.0	2.70
R0232.8	2.80	0.1102	16.0	46.0	2.80
R0232.9	2.90	0.1142	16.0	46.0	2.90
R0233.0	3.00	0.1181	16.0	46.0	3.00
R0233.1	3.10	0.1220	18.0	49.0	3.10
R0233.2	3.20	0.1260	18.0	49.0	3.20
R0233.3	3.30	0.1299	18.0	49.0	3.30
R0233.4	3.40	0.1339	20.0	52.0	3.40
R0233.5	3.50	0.1378	20.0	52.0	3.50
R0233.6	3.60	0.1417	20.0	52.0	3.60
R0233.7	3.70	0.1457	20.0	52.0	3.70

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R0233.8	3.80	0.1496	22.0	55.0	3.80
R0233.9	3.90	0.1535	22.0	55.0	3.90
R0234.0	4.00	0.1575	22.0	55.0	4.00
R0234.1	4.10	0.1614	22.0	55.0	4.10
R0234.2	4.20	0.1654	22.0	55.0	4.20
R0234.3	4.30	0.1693	24.0	58.0	4.30
R0234.4	4.40	0.1732	24.0	58.0	4.40
R0234.5	4.50	0.1772	24.0	58.0	4.50
R0234.6	4.60	0.1811	24.0	58.0	4.60
R0234.7	4.70	0.1850	24.0	58.0	4.70
R0234.8	4.80	0.1890	26.0	62.0	4.80
R0234.9	4.90	0.1929	26.0	62.0	4.90
R0235.0	5.00	0.1969	26.0	62.0	5.00
R0235.1	5.10	0.2008	26.0	62.0	5.10
R0235.2	5.20	0.2047	26.0	62.0	5.20
R0235.3	5.30	0.2087	26.0	62.0	5.30
R0235.4	5.40	0.2126	28.0	66.0	5.40
R0235.5	5.50	0.2165	28.0	66.0	5.50
R0235.6	5.60	0.2205	28.0	66.0	5.60
R0235.7	5.70	0.2244	28.0	66.0	5.70
R0235.8	5.80	0.2283	28.0	66.0	5.80
R0235.9	5.90	0.2323	28.0	66.0	5.90
R0236.0	6.00	0.2362	28.0	66.0	6.00
R0236.1	6.10	0.2402	31.0	70.0	6.10
R0236.2	6.20	0.2441	31.0	70.0	6.20
R0236.3	6.30	0.2480	31.0	70.0	6.30
R0236.4	6.40	0.2520	31.0	70.0	6.40
R0236.5	6.50	0.2559	31.0	70.0	6.50

Product	DC	DC	LCF	OAL	DCON MS
	(mm)	(inch)	(mm)	(mm)	(mm)
R0236.6	6.60	0.2598	31.0	70.0	6.60
R0236.7	6.70	0.2638	31.0	70.0	6.70
R0236.8	6.80	0.2677	34.0	74.0	6.80
R0236.9	6.90	0.2717	34.0	74.0	6.90
R0237.0	7.00	0.2756	34.0	74.0	7.00
R0237.1	7.10	0.2795	34.0	74.0	7.10
R0237.2	7.20	0.2835	34.0	74.0	7.20
R0237.3	7.30	0.2874	34.0	74.0	7.30
R0237.4	7.40	0.2913	34.0	74.0	7.40
R0237.5	7.50	0.2953	34.0	74.0	7.50
R0237.6	7.60	0.2992	37.0	79.0	7.60
R0237.7	7.70	0.3031	37.0	79.0	7.70
R0237.8	7.80	0.3071	37.0	79.0	7.80
R0237.9	7.90	0.3110	37.0	79.0	7.90
R0238.0	8.00	0.3150	37.0	79.0	8.00
R0238.1	8.10	0.3189	37.0	79.0	8.10
R0238.2	8.20	0.3228	37.0	79.0	8.20
R0238.3	8.30	0.3268	37.0	79.0	8.30
R0238.4	8.40	0.3307	37.0	79.0	8.40
R0238.5	8.50	0.3346	37.0	79.0	8.50

Product	DC	DC	LCF	OAL	DCON MS
	(mm)	(inch)	(mm)	(mm)	(mm)
R0238.6	8.60	0.3386	40.0	84.0	8.60
R0238.7	8.70	0.3425	40.0	84.0	8.70
R0238.8	8.80	0.3465	40.0	84.0	8.80
R0238.9	8.90	0.3504	40.0	84.0	8.90
R0239.0	9.00	0.3543	40.0	84.0	9.00
R0239.1	9.10	0.3583	40.0	84.0	9.10
R0239.2	9.20	0.3622	40.0	84.0	9.20
R0239.3	9.30	0.3661	40.0	84.0	9.30
R0239.4	9.40	0.3701	40.0	84.0	9.40
R0239.5	9.50	0.3740	40.0	84.0	9.50
R0239.6	9.60	0.3780	43.0	89.0	9.60
R0239.7	9.70	0.3819	43.0	89.0	9.70
R0239.8	9.80	0.3858	43.0	89.0	9.80
R0239.9	9.90	0.3898	43.0	89.0	9.90
R02310.0	10.00	0.3937	43.0	89.0	10.00
R02310.2	10.20	0.4016	43.0	89.0	10.20
R02310.5	10.50	0.4134	43.0	89.0	10.50
R02311.0	11.00	0.4331	47.0	95.0	11.00
R02311.5	11.50	0.4528	47.0	95.0	11.50
R02312.0	12.00	0.4724	51.0	102.0	12.00

Material code (BMC)		HSS-E	HSS-E	HSS	HSS-E	HM								
Basic standard group (BSG)		DIN 338	DIN 338	DIN 338	DORMER	DIN 338								
Usable length (ULDR)		4×D	4×D	4×D	5×D	4×D								
Application angle		135°	130°	130°	130°	120°								
Coating		Bronze	Bright	TiN	TiAlN Top	TiN-Tip								
Shank					DIN 6535HA									
Spiral form		λ 20-35°	VA	λ 32-40°	λ >35°	λ 20-35°								
Hand (Cutting direction)		R	R	R	R	R								
Cooling (CSP)														
				 ADX	 ADX	 NEW								
Product Family Code		A777	A147	A510	A553	R003								
PSF cutting diameters range		0.30 - 16.00	0.30 - 15.0	3.00 - 14.00	5.00 - 18.00	1.00 - 14.00								
		116	118	120	122	123								
P	P1	◪	◪	■	■	■								
	P2	◪	◪	■	■	■								
	P3	◪	◪	■	■	■								
	P4	■	◪	■	■	■								
M	M1	◪	■	■	■									
	M2	◪	■	■	■									
	M3	◪	■	■	■									
	M4	◪	◪	◪	◪									
K	K1	◪	◪	■	■	■								
	K2	◪	◪	■	■	■								
	K3	◪	◪	■	■	■								
	K4	■	◪	■	■	◪								
	K5	◪	◪	■	■	■								
N	N1	◪	◪	◪	◪	■								
	N2	◪	◪	■	■	◪								
	N3	◪	◪	■	■	■								
	N4		◪	■	■	■								
	N5													
S	S1	■	■	◪	◪									
	S2	◪	◪	◪	◪									
	S3	◪	◪	◪	◪									
	S4	◪	◪	◪	◪									
H	H1					◪								
	H2					◪								
	H3					◪								
	H4													

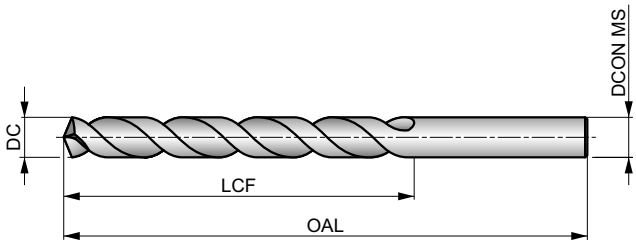
■ Primary use ◪ Possible use

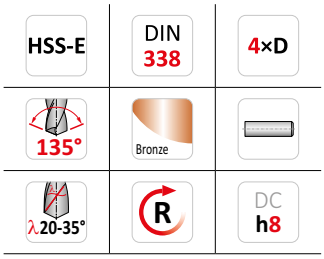
A777

DORMER

HSS-E (8% Cobalt) Jobber Drill, Bronze Tempered Surface Finish

A top performer, producing accurate sized holes with a quality finish in high strength materials. The 135° split point helps to self-center. The bronze finish is a thin oxide layer formed on the tool surface and is an indication for 8% Cobalt HSS-E Drill.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪36 H	◪40 H	◪41 H	◪31 H	◪27 G	■24 E	◪25 F	◪20 F	■17 E	◪15 F	■13 E	■10 D	◪30 E	◪26 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪27 E	◪22 E	◪13 G	◪11 G	◪10 G	◪15 C	◪35 H	◪26 D	◪19 D	◪27 E	◪22 E	■18 E	◪24 E	◪18 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■15 E	◪22 E	◪17 E	■12 E	■11 E	■9 E	◪25 E	◪19 E	■15 E	◪33 J	◪25 J	◪17 I	◪46 H	◪42 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**	
◪30 H	◪68 H	◪40 F	◪20 H	■28 F	■20 D	■11 C	■9 E	◪8 B	■7 E	◪6 B	■5 E	◪5 B	

NAS907J. DC <= 1.4mm 4 Facet Point.
Products from this series are also available in set. Please see A295.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A777.3	–	0.30	0.0118	3.0	19.0	0.30
A777.35	–	0.35	0.0138	4.0	19.0	0.35
A777.4	–	0.40	0.0157	5.0	20.0	0.40
A777.45	–	0.45	0.0177	5.0	20.0	0.45
A777.5	–	0.50	0.0197	6.0	22.0	0.50
A777.55	–	0.55	0.0217	7.0	24.0	0.55
A777.6	–	0.60	0.0236	7.0	24.0	0.60
A777.65	–	0.65	0.0256	8.0	26.0	0.65
A777.7	–	0.70	0.0276	9.0	28.0	0.70
A777.8	–	0.80	0.0315	10.0	30.0	0.80
A777.9	–	0.90	0.0354	11.0	32.0	0.90
A777.95	–	0.95	0.0374	11.0	32.0	0.95
A7771.0	–	1.00	0.0394	12.0	34.0	1.00
A7771.1	–	1.10	0.0433	14.0	36.0	1.10
A7771.2	–	1.20	0.0472	16.0	38.0	1.20
A7771.3	–	1.30	0.0512	16.0	38.0	1.30
A7771.4	–	1.40	0.0551	18.0	40.0	1.40
A7771.5	–	1.50	0.0591	18.0	40.0	1.50
A7771/16	1/16	1.59	0.0625	20.0	43.0	1.59
A7771.6	–	1.60	0.0630	20.0	43.0	1.60
A7771.7	–	1.70	0.0669	20.0	43.0	1.70
A7771.8	–	1.80	0.0709	22.0	46.0	1.80
A7771.9	–	1.90	0.0748	22.0	46.0	1.90
A7775/64	5/64	1.98	0.0781	24.0	49.0	1.98

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A7772.0	–	2.00	0.0787	24.0	49.0	2.00
A7772.1	–	2.10	0.0827	24.0	49.0	2.10
A7772.2	–	2.20	0.0866	27.0	53.0	2.20
A7772.3	–	2.30	0.0906	27.0	53.0	2.30
A7773/32	3/32	2.38	0.0938	30.0	57.0	2.38
A7772.4	–	2.40	0.0945	30.0	57.0	2.40
A7772.5	–	2.50	0.0984	30.0	57.0	2.50
A7772.6	–	2.60	0.1024	30.0	57.0	2.60
A7772.7	–	2.70	0.1063	33.0	61.0	2.70
A7777/64	7/64	2.78	0.1094	33.0	61.0	2.78
A7772.8	–	2.80	0.1102	33.0	61.0	2.80
A7772.9	–	2.90	0.1142	33.0	61.0	2.90
A7773.0	–	3.00	0.1181	33.0	61.0	3.00
A7773.1	–	3.10	0.1220	36.0	65.0	3.10
A7771/8	1/8	3.18	0.1250	36.0	65.0	3.18
A7773.2	–	3.20	0.1260	36.0	65.0	3.20
A7773.3	–	3.30	0.1299	36.0	65.0	3.30
A7773.4	–	3.40	0.1339	39.0	70.0	3.40
A7773.5	–	3.50	0.1378	39.0	70.0	3.50
A7779/64	9/64	3.57	0.1406	39.0	70.0	3.57
A7773.6	–	3.60	0.1417	39.0	70.0	3.60
A7773.7	–	3.70	0.1457	39.0	70.0	3.70
A7773.8	–	3.80	0.1496	43.0	75.0	3.80
A7773.9	–	3.90	0.1535	43.0	75.0	3.90

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A7775/32	5/32	3.97	0.1563	43.0	75.0	3.97
A7774.0	–	4.00	0.1575	43.0	75.0	4.00
A7774.1	–	4.10	0.1614	43.0	75.0	4.10
A7774.2	–	4.20	0.1654	43.0	75.0	4.20
A7774.3	–	4.30	0.1693	47.0	80.0	4.30
A77711/64	11/64	4.37	0.1719	47.0	80.0	4.37
A7774.4	–	4.40	0.1732	47.0	80.0	4.40
A7774.5	–	4.50	0.1772	47.0	80.0	4.50
A7774.6	–	4.60	0.1811	47.0	80.0	4.60
A7774.7	–	4.70	0.1850	47.0	80.0	4.70
A7773/16	3/16	4.76	0.1875	52.0	86.0	4.76
A7774.8	–	4.80	0.1890	52.0	86.0	4.80
A7774.9	–	4.90	0.1929	52.0	86.0	4.90
A7775.0	–	5.00	0.1969	52.0	86.0	5.00
A7775.1	–	5.10	0.2008	52.0	86.0	5.10
A77713/64	13/64	5.16	0.2031	52.0	86.0	5.16
A7775.2	–	5.20	0.2047	52.0	86.0	5.20
A7775.3	–	5.30	0.2087	52.0	86.0	5.30
A7775.4	–	5.40	0.2126	57.0	93.0	5.40
A7775.5	–	5.50	0.2165	57.0	93.0	5.50
A7777/32	7/32	5.56	0.2188	57.0	93.0	5.56
A7775.6	–	5.60	0.2205	57.0	93.0	5.60
A7775.7	–	5.70	0.2244	57.0	93.0	5.70
A7775.8	–	5.80	0.2283	57.0	93.0	5.80
A7775.9	–	5.90	0.2323	57.0	93.0	5.90
A77715/64	15/64	5.95	0.2344	57.0	93.0	5.95
A7776.0	–	6.00	0.2362	57.0	93.0	6.00
A7776.1	–	6.10	0.2402	63.0	101.0	6.10
A7776.2	–	6.20	0.2441	63.0	101.0	6.20
A7776.3	–	6.30	0.2480	63.0	101.0	6.30
A7771/4	1/4	6.35	0.2500	63.0	101.0	6.35
A7776.4	–	6.40	0.2520	63.0	101.0	6.40
A7776.5	–	6.50	0.2559	63.0	101.0	6.50
A7776.6	–	6.60	0.2598	63.0	101.0	6.60
A7776.7	–	6.70	0.2638	63.0	101.0	6.70
A77717/64	17/64	6.75	0.2656	69.0	109.0	6.75
A7776.8	–	6.80	0.2677	69.0	109.0	6.80
A7776.9	–	6.90	0.2717	69.0	109.0	6.90
A7777.0	–	7.00	0.2756	69.0	109.0	7.00
A7777.1	–	7.10	0.2795	69.0	109.0	7.10
A7779/32	9/32	7.14	0.2813	69.0	109.0	7.14
A7777.2	–	7.20	0.2835	69.0	109.0	7.20
A7777.3	–	7.30	0.2874	69.0	109.0	7.30
A7777.4	–	7.40	0.2913	69.0	109.0	7.40
A7777.5	–	7.50	0.2953	69.0	109.0	7.50
A77719/64	19/64	7.54	0.2969	75.0	117.0	7.54
A7777.6	–	7.60	0.2992	75.0	117.0	7.60
A7777.7	–	7.70	0.3031	75.0	117.0	7.70
A7777.8	–	7.80	0.3071	75.0	117.0	7.80
A7777.9	–	7.90	0.3110	75.0	117.0	7.90
A7775/16	5/16	7.94	0.3125	75.0	117.0	7.94
A7778.0	–	8.00	0.3150	75.0	117.0	8.00

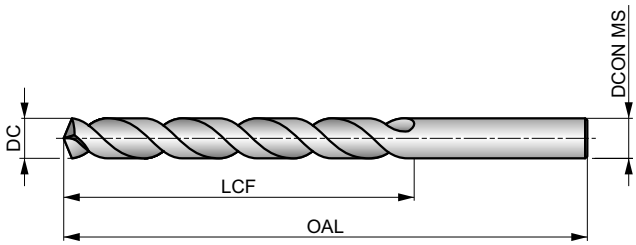
Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A7778.1	–	8.10	0.3189	75.0	117.0	8.10
A7778.2	–	8.20	0.3228	75.0	117.0	8.20
A7778.3	–	8.30	0.3268	75.0	117.0	8.30
A77721/64	21/64	8.33	0.3281	75.0	117.0	8.33
A7778.4	–	8.40	0.3307	75.0	117.0	8.40
A7778.5	–	8.50	0.3346	75.0	117.0	8.50
A7778.6	–	8.60	0.3386	81.0	125.0	8.60
A7778.7	–	8.70	0.3425	81.0	125.0	8.70
A77711/32	11/32	8.73	0.3438	81.0	125.0	8.73
A7778.8	–	8.80	0.3465	81.0	125.0	8.80
A7778.9	–	8.90	0.3504	81.0	125.0	8.90
A7779.0	–	9.00	0.3543	81.0	125.0	9.00
A7779.1	–	9.10	0.3583	81.0	125.0	9.10
A77723/64	23/64	9.13	0.3594	81.0	125.0	9.13
A7779.2	–	9.20	0.3622	81.0	125.0	9.20
A7779.3	–	9.30	0.3661	81.0	125.0	9.30
A7779.4	–	9.40	0.3701	81.0	125.0	9.40
A7779.5	–	9.50	0.3740	81.0	125.0	9.50
A7773/8	3/8	9.52	0.3750	87.0	133.0	9.52
A7779.6	–	9.60	0.3780	87.0	133.0	9.60
A7779.7	–	9.70	0.3819	87.0	133.0	9.70
A7779.8	–	9.80	0.3858	87.0	133.0	9.80
A7779.9	–	9.90	0.3898	87.0	133.0	9.90
A77725/64	25/64	9.92	0.3906	87.0	133.0	9.92
A77710.0	–	10.00	0.3937	87.0	133.0	10.00
A77710.1	–	10.10	0.3976	87.0	133.0	10.10
A77710.2	–	10.20	0.4016	87.0	133.0	10.20
A77713/32	13/32	10.32	0.4063	87.0	133.0	10.32
A77710.5	–	10.50	0.4134	87.0	133.0	10.50
A77727/64	27/64	10.72	0.4219	94.0	142.0	10.72
A77710.8	–	10.80	0.4252	94.0	142.0	10.80
A77711.0	–	11.00	0.4331	94.0	142.0	11.00
A7777/16	7/16	11.11	0.4375	94.0	142.0	11.11
A77711.2	–	11.20	0.4409	94.0	142.0	11.20
A77711.5	–	11.50	0.4528	94.0	142.0	11.50
A77729/64	29/64	11.51	0.4531	94.0	142.0	11.51
A77711.8	–	11.80	0.4646	94.0	142.0	11.80
A77715/32	15/32	11.91	0.4688	101.0	151.0	11.91
A77712.0	–	12.00	0.4724	101.0	151.0	12.00
A77712.2	–	12.20	0.4803	101.0	151.0	12.20
A77731/64	31/64	12.30	0.4844	101.0	151.0	12.30
A77712.5	–	12.50	0.4921	101.0	151.0	12.50
A7771/2	1/2	12.70	0.5000	101.0	151.0	12.70
A77712.8	–	12.80	0.5039	101.0	151.0	12.80
A77713.0	–	13.00	0.5118	101.0	151.0	13.00
A77713.5	–	13.50	0.5315	108.0	160.0	13.50
A77714.0	–	14.00	0.5512	108.0	160.0	14.00
A77714.5	–	14.50	0.5709	114.0	169.0	14.50
A77715.0	–	15.00	0.5906	114.0	169.0	15.00
A77715.5	–	15.50	0.6102	120.0	178.0	15.50
A77716.0	–	16.00	0.6299	120.0	178.0	16.00

A147

DORMER

HSS-E (5% Cobalt) Jobber Drill, Bright Finish (Designed for Stainless Steel)

Versatile and hard-working drill which satisfies all machine drilling requirements in stainless steels, but can also be used for hand-held operations. A 130° split point helps to self-center the drill and reduces the cutting forces. Bright finish.



HSS-E	DIN 338	4×D
130°	Bright	
VA	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪33 I	◪37 I	◪38 I	◪28 I	◪25 G	◪22 E	◪19 F	◪15 F	◪13 E	◪11 F	◪10 E	◪8 D	■21 E	■17 E
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
■18 E	■15 E	◪13 B	■10 G	■9 G	■8 G	■10 D	◪9 B	◪30 H	◪22 F	◪17 F	◪25 E	◪20 E	◪16 E
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3
◪22 E	◪17 E	◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I
N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	N4.1	N4.2	N4.3	S1.1	S1.2	S1.3	S2.1	S2.2
◪42 H	◪37 H	◪27 H	◪59 H	◪35 I	◪18 G	◪30 J	◪28 H	◪14 F	■25 G	■16 E	◪7 B	◪9 G	◪8 E
S3.1	S3.2	S4.1	S4.2										
◪7 G	◪6 E	◪5 G	◪5 E										

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A147.3	–	0.30	0.0118	3.0	19.0	0.30
A147.4	–	0.40	0.0157	5.0	20.0	0.40
A147.5	–	0.50	0.0197	6.0	22.0	0.50
A147.6	–	0.60	0.0236	7.0	24.0	0.60
A147.7	–	0.70	0.0276	9.0	28.0	0.70
A147.8	–	0.80	0.0315	10.0	30.0	0.80
A147.9	–	0.90	0.0354	11.0	32.0	0.90
A1471.0	–	1.00	0.0394	12.0	34.0	1.00
A1471.1	–	1.10	0.0433	14.0	36.0	1.10
A1471.2	–	1.20	0.0472	16.0	38.0	1.20
A1471.3	–	1.30	0.0512	16.0	38.0	1.30
A1471.4	–	1.40	0.0551	18.0	40.0	1.40
A1471.5	–	1.50	0.0591	18.0	40.0	1.50
A1471/16	1/16	1.59	0.0625	20.0	43.0	1.59
A1471.6	–	1.60	0.0630	20.0	43.0	1.60
A1471.7	–	1.70	0.0669	20.0	43.0	1.70
A1471.8	–	1.80	0.0709	22.0	46.0	1.80
A1471.9	–	1.90	0.0748	22.0	46.0	1.90
A1472.0	–	2.00	0.0787	24.0	49.0	2.00
A1472.1	–	2.10	0.0827	24.0	49.0	2.10
A1472.2	–	2.20	0.0866	27.0	53.0	2.20
A1472.3	–	2.30	0.0906	27.0	53.0	2.30
A1473/32	3/32	2.38	0.0938	30.0	57.0	2.38
A1472.4	–	2.40	0.0945	30.0	57.0	2.40

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A1472.5	–	2.50	0.0984	30.0	57.0	2.50
A1472.6	–	2.60	0.1024	30.0	57.0	2.60
A1472.7	–	2.70	0.1063	33.0	61.0	2.70
A1472.8	–	2.80	0.1102	33.0	61.0	2.80
A1472.9	–	2.90	0.1142	33.0	61.0	2.90
A1473.0	–	3.00	0.1181	33.0	61.0	3.00
A1473.1	–	3.10	0.1220	36.0	65.0	3.10
A1471/8	1/8	3.18	0.1250	36.0	65.0	3.18
A1473.2	–	3.20	0.1260	36.0	65.0	3.20
A1473.3	–	3.30	0.1299	36.0	65.0	3.30
A1473.4	–	3.40	0.1339	39.0	70.0	3.40
A1473.5	–	3.50	0.1378	39.0	70.0	3.50
A1473.6	–	3.60	0.1417	39.0	70.0	3.60
A1473.7	–	3.70	0.1457	39.0	70.0	3.70
A1473.8	–	3.80	0.1496	43.0	75.0	3.80
A1473.9	–	3.90	0.1535	43.0	75.0	3.90
A1475/32	5/32	3.97	0.1563	43.0	75.0	3.97
A1474.0	–	4.00	0.1575	43.0	75.0	4.00
A1474.1	–	4.10	0.1614	43.0	75.0	4.10
A1474.2	–	4.20	0.1654	43.0	75.0	4.20
A1474.3	–	4.30	0.1693	47.0	80.0	4.30
A1474.4	–	4.40	0.1732	47.0	80.0	4.40
A1474.5	–	4.50	0.1772	47.0	80.0	4.50
A1474.6	–	4.60	0.1811	47.0	80.0	4.60

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1474.7	–	4.70	0.1850	47.0	80.0	4.70
A1473/16	3/16	4.76	0.1875	52.0	86.0	4.76
A1474.8	–	4.80	0.1890	52.0	86.0	4.80
A1474.9	–	4.90	0.1929	52.0	86.0	4.90
A1475.0	–	5.00	0.1969	52.0	86.0	5.00
A1475.1	–	5.10	0.2008	52.0	86.0	5.10
A1475.2	–	5.20	0.2047	52.0	86.0	5.20
A1475.3	–	5.30	0.2087	52.0	86.0	5.30
A1475.4	–	5.40	0.2126	57.0	93.0	5.40
A1475.5	–	5.50	0.2165	57.0	93.0	5.50
A1475.6	–	5.60	0.2205	57.0	93.0	5.60
A1475.7	–	5.70	0.2244	57.0	93.0	5.70
A1475.8	–	5.80	0.2283	57.0	93.0	5.80
A1475.9	–	5.90	0.2323	57.0	93.0	5.90
A1476.0	–	6.00	0.2362	57.0	93.0	6.00
A1476.1	–	6.10	0.2402	63.0	101.0	6.10
A1476.2	–	6.20	0.2441	63.0	101.0	6.20
A1476.3	–	6.30	0.2480	63.0	101.0	6.30
A1471/4	1/4	6.35	0.2500	63.0	101.0	6.35
A1476.4	–	6.40	0.2520	63.0	101.0	6.40
A1476.5	–	6.50	0.2559	63.0	101.0	6.50
A1476.6	–	6.60	0.2598	63.0	101.0	6.60
A1476.7	–	6.70	0.2638	63.0	101.0	6.70
A1476.8	–	6.80	0.2677	69.0	109.0	6.80
A1476.9	–	6.90	0.2717	69.0	109.0	6.90
A1477.0	–	7.00	0.2756	69.0	109.0	7.00
A1477.1	–	7.10	0.2795	69.0	109.0	7.10
A1477.2	–	7.20	0.2835	69.0	109.0	7.20
A1477.3	–	7.30	0.2874	69.0	109.0	7.30
A1477.4	–	7.40	0.2913	69.0	109.0	7.40
A1477.5	–	7.50	0.2953	69.0	109.0	7.50

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A1477.7	–	7.70	0.3031	75.0	117.0	7.70
A1477.8	–	7.80	0.3071	75.0	117.0	7.80
A1477.9	–	7.90	0.3110	75.0	117.0	7.90
A1478.0	–	8.00	0.3150	75.0	117.0	8.00
A1478.1	–	8.10	0.3189	75.0	117.0	8.10
A1478.2	–	8.20	0.3228	75.0	117.0	8.20
A1478.3	–	8.30	0.3268	75.0	117.0	8.30
A1478.4	–	8.40	0.3307	75.0	117.0	8.40
A1478.5	–	8.50	0.3346	75.0	117.0	8.50
A1478.6	–	8.60	0.3386	81.0	125.0	8.60
A1478.7	–	8.70	0.3425	81.0	125.0	8.70
A1478.8	–	8.80	0.3465	81.0	125.0	8.80
A1478.9	–	8.90	0.3504	81.0	125.0	8.90
A1479.0	–	9.00	0.3543	81.0	125.0	9.00
A1479.1	–	9.10	0.3583	81.0	125.0	9.10
A1479.2	–	9.20	0.3622	81.0	125.0	9.20
A1479.5	–	9.50	0.3740	81.0	125.0	9.50
A1479.7	–	9.70	0.3819	87.0	133.0	9.70
A1479.8	–	9.80	0.3858	87.0	133.0	9.80
A14710.0	–	10.00	0.3937	87.0	133.0	10.00
A14710.2	–	10.20	0.4016	87.0	133.0	10.20
A14710.5	–	10.50	0.4134	87.0	133.0	10.50
A14711.0	–	11.00	0.4331	94.0	142.0	11.00
A14711.5	–	11.50	0.4528	94.0	142.0	11.50
A14712.0	–	12.00	0.4724	101.0	151.0	12.00
A14712.5	–	12.50	0.4921	101.0	151.0	12.50
A14713.0	–	13.00	0.5118	101.0	151.0	13.00
A14713.5	–	13.50	0.5315	108.0	160.0	13.50
A14714.0	–	14.00	0.5512	108.0	160.0	14.00
A14715.0	–	15.00	0.5906	114.0	169.0	15.00

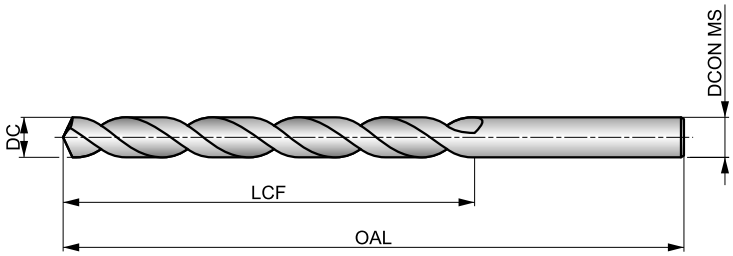
A510

DORMER

ADX HSS Jobber Drill, TiN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). A 130° thinned point aids self-centering. This drill should be used in machines with constant feed only. TiN coating improves performance and extends the tool life. Suitable for drilling many materials.

ADX



HSS	DIN 338	4×D
130°	TiN	
λ32-40°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■53 M	■59 M	■61 M	■45 M	■40 K	■35 F	■31 H	■25 H	■21 F	■19 H	■16 F	◪13 D	■38 G	■32 G
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■34 G	■28 G	■16 I	■14 I	◪13 I	◪19 G	■42 K	■31 J	■23 J	■34 J	■28 J	■22 F	■30 J	■23 J
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■19 F	■28 J	■21 J	■16 F	■13 F	■11 F	■32 J	■24 J	■19 F	◪50 G	◪38 G	■25 M	■48 I	■43 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
■31 I	■85 I	■50 I	◪25 D	■65 G	■50 G	■35 F	◪32 G	◪20 H	◪4 B	◪12 E	◪8 E	◪9 E	◪6 E
S4.1	**S4.2**												
◪7 E	◪5 E												

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A5103.0	–	3.00	0.1181	33.0	61.0	3.00
A5103.1	–	3.10	0.1220	36.0	65.0	3.10
A5101/8	1/8	3.18	0.1250	36.0	65.0	3.18
A5103.2	–	3.20	0.1260	36.0	65.0	3.20
A5103.3	–	3.30	0.1299	36.0	65.0	3.30
A5103.4	–	3.40	0.1339	39.0	70.0	3.40
A5103.5	–	3.50	0.1378	39.0	70.0	3.50
A5109/64	9/64	3.57	0.1406	39.0	70.0	3.57
A5103.6	–	3.60	0.1417	39.0	70.0	3.60
A5103.7	–	3.70	0.1457	39.0	70.0	3.70
A5103.8	–	3.80	0.1496	43.0	75.0	3.80
A5103.9	–	3.90	0.1535	43.0	75.0	3.90
A5105/32	5/32	3.97	0.1563	43.0	75.0	3.97
A5104.0	–	4.00	0.1575	43.0	75.0	4.00
A5104.1	–	4.10	0.1614	43.0	75.0	4.10
A5104.2	–	4.20	0.1654	43.0	75.0	4.20
A5104.3	–	4.30	0.1693	47.0	80.0	4.30
A5104.4	–	4.40	0.1732	47.0	80.0	4.40
A5104.5	–	4.50	0.1772	47.0	80.0	4.50
A5104.6	–	4.60	0.1811	47.0	80.0	4.60
A5104.7	–	4.70	0.1850	47.0	80.0	4.70
A5103/16	3/16	4.76	0.1875	52.0	86.0	4.76
A5104.8	–	4.80	0.1890	52.0	86.0	4.80
A5104.9	–	4.90	0.1929	52.0	86.0	4.90

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A5105.0	–	5.00	0.1969	52.0	86.0	5.00
A5105.1	–	5.10	0.2008	52.0	86.0	5.10
A51013/64	13/64	5.16	0.2031	52.0	86.0	5.16
A5105.2	–	5.20	0.2047	52.0	86.0	5.20
A5105.3	–	5.30	0.2087	52.0	86.0	5.30
A5105.4	–	5.40	0.2126	57.0	93.0	5.40
A5105.5	–	5.50	0.2165	57.0	93.0	5.50
A5107/32	7/32	5.56	0.2188	57.0	93.0	5.56
A5105.6	–	5.60	0.2205	57.0	93.0	5.60
A5105.7	–	5.70	0.2244	57.0	93.0	5.70
A5105.8	–	5.80	0.2283	57.0	93.0	5.80
A5105.9	–	5.90	0.2323	57.0	93.0	5.90
A51015/64	15/64	5.95	0.2344	57.0	93.0	5.95
A5106.0	–	6.00	0.2362	57.0	93.0	6.00
A5106.1	–	6.10	0.2402	63.0	101.0	6.10
A5106.2	–	6.20	0.2441	63.0	101.0	6.20
A5106.3	–	6.30	0.2480	63.0	101.0	6.30
A5101/4	1/4	6.35	0.2500	63.0	101.0	6.35
A5106.4	–	6.40	0.2520	63.0	101.0	6.40
A5106.5	–	6.50	0.2559	63.0	101.0	6.50
A5106.6	–	6.60	0.2598	63.0	101.0	6.60
A5106.7	–	6.70	0.2638	63.0	101.0	6.70
A51017/64	17/64	6.75	0.2656	69.0	109.0	6.75
A5106.8	–	6.80	0.2677	69.0	109.0	6.80

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A5106.9	–	6.90	0.2717	69.0	109.0	6.90
A5107.0	–	7.00	0.2756	69.0	109.0	7.00
A5107.1	–	7.10	0.2795	69.0	109.0	7.10
A5109/32	9/32	7.14	0.2813	69.0	109.0	7.14
A5107.2	–	7.20	0.2835	69.0	109.0	7.20
A5107.3	–	7.30	0.2874	69.0	109.0	7.30
A5107.4	–	7.40	0.2913	69.0	109.0	7.40
A5107.5	–	7.50	0.2953	69.0	109.0	7.50
A51019/64	19/64	7.54	0.2969	75.0	117.0	7.54
A5107.6	–	7.60	0.2992	75.0	117.0	7.60
A5107.8	–	7.80	0.3071	75.0	117.0	7.80
A5105/16	5/16	7.94	0.3125	75.0	117.0	7.94
A5108.0	–	8.00	0.3150	75.0	117.0	8.00
A5108.1	–	8.10	0.3189	75.0	117.0	8.10
A5108.2	–	8.20	0.3228	75.0	117.0	8.20
A5108.3	–	8.30	0.3268	75.0	117.0	8.30
A5108.5	–	8.50	0.3346	75.0	117.0	8.50
A5108.6	–	8.60	0.3386	81.0	125.0	8.60
A5108.7	–	8.70	0.3425	81.0	125.0	8.70
A51011/32	11/32	8.73	0.3438	81.0	125.0	8.73
A5108.8	–	8.80	0.3465	81.0	125.0	8.80
A5108.9	–	8.90	0.3504	81.0	125.0	8.90
A5109.0	–	9.00	0.3543	81.0	125.0	9.00
A5109.1	–	9.10	0.3583	81.0	125.0	9.10
A5109.2	–	9.20	0.3622	81.0	125.0	9.20
A5109.3	–	9.30	0.3661	81.0	125.0	9.30
A5109.4	–	9.40	0.3701	81.0	125.0	9.40
A5109.5	–	9.50	0.3740	81.0	125.0	9.50
A5103/8	3/8	9.52	0.3750	87.0	133.0	9.52

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A5109.6	–	9.60	0.3780	87.0	133.0	9.60
A5109.7	–	9.70	0.3819	87.0	133.0	9.70
A5109.8	–	9.80	0.3858	87.0	133.0	9.80
A5109.9	–	9.90	0.3898	87.0	133.0	9.90
A51025/64	25/64	9.92	0.3906	87.0	133.0	9.92
A51010.0	–	10.00	0.3937	87.0	133.0	10.00
A51010.1	–	10.10	0.3976	87.0	133.0	10.10
A51010.2	–	10.20	0.4016	87.0	133.0	10.20
A51010.3	–	10.30	0.4055	87.0	133.0	10.30
A51013/32	13/32	10.32	0.4063	87.0	133.0	10.32
A51010.4	–	10.40	0.4094	87.0	133.0	10.40
A51010.5	–	10.50	0.4134	87.0	133.0	10.50
A51027/64	27/64	10.72	0.4219	94.0	142.0	10.72
A51010.8	–	10.80	0.4252	94.0	142.0	10.80
A51011.0	–	11.00	0.4331	94.0	142.0	11.00
A51011.1	–	11.10	0.4370	94.0	142.0	11.10
A5107/16	7/16	11.11	0.4375	94.0	142.0	11.11
A51011.5	–	11.50	0.4528	94.0	142.0	11.50
A51011.7	–	11.70	0.4606	94.0	142.0	11.70
A51011.8	–	11.80	0.4646	94.0	142.0	11.80
A51015/32	15/32	11.91	0.4688	101.0	151.0	11.91
A51012.0	–	12.00	0.4724	101.0	151.0	12.00
A51012.3	–	12.30	0.4843	101.0	151.0	12.30
A51031/64	31/64	12.30	0.4844	101.0	151.0	12.30
A51012.5	–	12.50	0.4921	101.0	151.0	12.50
A5101/2	1/2	12.70	0.5000	101.0	151.0	12.70
A51013.0	–	13.00	0.5118	101.0	151.0	13.00
A51014.0	–	14.00	0.5512	108.0	160.0	14.00

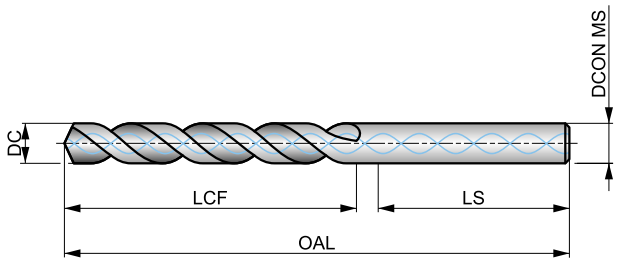
A553

ADX HSS-E (5% Cobalt) Jobber Drill, TiALN Top Coated with Coolant Feed

High performance drill, able to produce high quality, accurate holes at high speeds and feeds (H9 hole tolerance). A 130° thinned point and TiAlN Top coating improves performance and extends the tool life. This drill should be used in CNC machines only. Suitable for drilling many materials.

ADX

HSS-E	DORMER	5×D
130°	TiAlN Top	DIN 6535HA
λ>35°	R	
DC h8		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■80 L	■89 L	■92 L	■68 L	■60 L	■53 F	■41 H	■33 H	■28 F	■25 H	■21 F	■17 D	■55 G	■46 G
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■49 G	■40 G	■22 I	■19 I	◪17 I	◪27 G	■70 K	■52 J	■39 J	■55 J	■45 J	■36 F	■49 J	■37 J
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■30 F	■45 J	■34 J	■25 F	■22 F	■18 F	■51 J	■39 J	■30 F	◪70 H	◪53 H	■35 M	■85 I	■76 I
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
■55 I	■144 I	■85 I	◪43 G	■90 G	■45 G	◪30 E	◪8 C	◪20 E	◪14 G	◪15 E	◪10 G	◪12 E	◪8 G

DCON MS tolerance h6.

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
A5535.0	5.00	0.1969	36.0	79.0	36.0	6.00
A5535.5	5.50	0.2165	40.0	79.0	36.0	6.00
A5536.0	6.00	0.2362	43.0	79.0	36.0	6.00
A5538.0	8.00	0.3150	58.0	94.0	36.0	8.00
A5538.5	8.50	0.3346	75.0	130.0	40.0	10.00
A5539.0	9.00	0.3543	75.0	130.0	40.0	10.00
A5539.5	9.50	0.3740	75.0	130.0	40.0	10.00
A55310.3	10.30	0.4055	87.0	150.0	45.0	12.00
A55311.0	11.00	0.4331	94.0	150.0	45.0	12.00

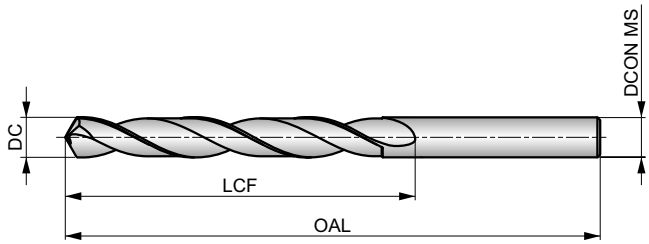
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
A55311.3	11.30	0.4449	94.0	150.0	45.0	12.00
A55311.5	11.50	0.4528	94.0	150.0	45.0	12.00
A55312.0	12.00	0.4724	94.0	150.0	45.0	12.00
A55312.5	12.50	0.4921	101.0	160.0	45.0	14.00
A55313.0	13.00	0.5118	101.0	160.0	45.0	14.00
A55313.5	13.50	0.5315	101.0	160.0	45.0	14.00
A55314.0	14.00	0.5512	101.0	160.0	45.0	14.00
A55315.0	15.00	0.5906	108.0	170.0	48.0	16.00
A55318.0	18.00	0.7087	130.0	190.0	48.0	18.00

R003

DORMER

Solid Carbide Jobber Drill, TiN tip Coated

Versatile entry-level drill with 120° point angle with four facet split point geometry for reduced thrust force and CTW flute construction for enhanced penetration rates. TiN tip coating improves performance and extends tool life. Suitable for both CNC machines and conventional machines across a wide range of workpiece materials.



HM	DIN 338	4×D
120°	TiN-Tip	
λ20-35°	R	DC h7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
■99 S	■111 S	■115 S	■85 S	■75 S	■66 S	■66 S	■53 S	■45 S	■40 S	■34 S	■27 S	■75 T	■56 T
K1.3	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**
■42 T	■68 T	■55 T	■44 T	■60 T	■46 T	■37 T	◪55 T	◪42 T	◪31 T	◪26 T	◪22 T	■63 T	■47 T
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N4.1**	**N4.2**	**H1.1**	**H2.1**	**H3.1**
■37 T	■150 V	■113 V	■75 V	◪129 V	◪116 V	◪84 V	■317 V	■190 V	■60 U	■100 U	◪34 S	◪20 S	◪22 S

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R0031.0	–	1.00	0.0394	12.0	34.0	1.00
R003N60	N60	1.02	0.0400	12.0	34.0	1.02
R0031.1	–	1.10	0.0433	14.0	36.0	1.10
R003N56	N56	1.18	0.0465	16.0	38.0	1.18
R0033/64	3/64	1.19	0.0469	16.0	38.0	1.19
R0031.2	–	1.20	0.0472	16.0	38.0	1.20
R0031.3	–	1.30	0.0512	16.0	38.0	1.30
R003N54	N54	1.40	0.0550	18.0	40.0	1.40
R0031.4	–	1.40	0.0551	18.0	40.0	1.40
R0031.5	–	1.50	0.0591	18.0	40.0	1.50
R003N53	N53	1.51	0.0595	20.0	43.0	1.51
R0031/16	1/16	1.59	0.0625	20.0	43.0	1.59
R0031.6	–	1.60	0.0630	20.0	43.0	1.60
R003N52	N52	1.61	0.0635	20.0	43.0	1.61
R0031.7	–	1.70	0.0669	20.0	43.0	1.70
R003N51	N51	1.70	0.0670	22.0	46.0	1.70
R003N50	N50	1.78	0.0700	22.0	46.0	1.78
R0031.8	–	1.80	0.0709	22.0	46.0	1.80
R0031.9	–	1.90	0.0748	22.0	46.0	1.90
R003N48	N48	1.93	0.0760	24.0	49.0	1.93
R0035/64	5/64	1.98	0.0781	24.0	49.0	1.98
R003N47	N47	1.99	0.0785	24.0	49.0	1.99
R0032.0	–	2.00	0.0787	24.0	49.0	2.00
R003N46	N46	2.06	0.0810	24.0	49.0	2.06
R0032.1	–	2.10	0.0827	24.0	49.0	2.10
R003N44	N44	2.18	0.0860	27.0	53.0	2.18
R0032.2	–	2.20	0.0866	27.0	53.0	2.20
R003N43	N43	2.26	0.0890	27.0	53.0	2.26

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R0032.3	–	2.30	0.0906	27.0	53.0	2.30
R0033/32	3/32	2.38	0.0937	30.0	57.0	2.38
R0032.4	–	2.40	0.0945	30.0	57.0	2.40
R003N41	N41	2.44	0.0960	30.0	57.0	2.44
R0032.5	–	2.50	0.0984	30.0	57.0	2.50
R003N39	N39	2.53	0.0995	30.0	57.0	2.53
R003N38	N38	2.58	0.1015	30.0	57.0	2.58
R0032.6	–	2.60	0.1024	30.0	57.0	2.60
R003N37	N37	2.64	0.1040	30.0	57.0	2.64
R0032.7	–	2.70	0.1063	33.0	61.0	2.70
R003N36	N36	2.71	0.1065	33.0	61.0	2.71
R0037/64	7/64	2.78	0.1094	33.0	61.0	2.78
R0032.8	–	2.80	0.1102	33.0	61.0	2.80
R003N33	N33	2.87	0.1130	33.0	61.0	2.87
R0032.9	–	2.90	0.1142	33.0	61.0	2.90
R003N32	N32	2.95	0.1160	33.0	61.0	2.95
R0033.0	–	3.00	0.1181	33.0	61.0	3.00
R003N31	N31	3.05	0.1200	36.0	65.0	3.05
R0033.1	–	3.10	0.1220	36.0	65.0	3.10
R0031/8	1/8	3.17	0.1250	36.0	65.0	3.17
R0033.2	–	3.20	0.1260	36.0	65.0	3.20
R0033.3	–	3.30	0.1299	36.0	65.0	3.30
R0033.4	–	3.40	0.1339	39.0	70.0	3.40
R003N29	N29	3.45	0.1360	39.0	70.0	3.45
R0033.5	–	3.50	0.1378	39.0	70.0	3.50
R003N28	N28	3.57	0.1405	39.0	70.0	3.57
R0039/64	9/64	3.57	0.1406	39.0	70.0	3.57
R0033.6	–	3.60	0.1417	39.0	70.0	3.60

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
R0033.7	–	3.70	0.1457	39.0	70.0	3.70
R003N26	N26	3.73	0.1470	39.0	70.0	3.73
R003N25	N25	3.80	0.1495	43.0	75.0	3.80
R0033.8	–	3.80	0.1496	43.0	75.0	3.80
R0033.9	–	3.90	0.1535	43.0	75.0	3.90
R0035/32	5/32	3.97	0.1563	43.0	75.0	3.97
R0034.0	–	4.00	0.1575	43.0	75.0	4.00
R003N21	N21	4.04	0.1590	43.0	75.0	4.04
R003N20	N20	4.09	0.1610	43.0	75.0	4.09
R0034.1	–	4.10	0.1614	43.0	75.0	4.10
R0034.2	–	4.20	0.1654	43.0	75.0	4.20
R003N19	N19	4.22	0.1660	43.0	75.0	4.22
R0034.3	–	4.30	0.1693	47.0	80.0	4.30
R00311/64	11/64	4.37	0.1719	47.0	80.0	4.37
R003N17	N17	4.39	0.1730	47.0	80.0	4.39
R0034.4	–	4.40	0.1732	47.0	80.0	4.40
R0034.5	–	4.50	0.1772	47.0	80.0	4.50
R003N15	N15	4.57	0.1800	47.0	80.0	4.57
R0034.6	–	4.60	0.1811	47.0	80.0	4.60
R0034.7	–	4.70	0.1850	47.0	80.0	4.70
R0033/16	3/16	4.76	0.1875	52.0	86.0	4.76
R003N12	N12	4.80	0.1890	52.0	86.0	4.80
R0034.8	–	4.80	0.1890	52.0	86.0	4.80
R003N11	N11	4.85	0.1910	52.0	86.0	4.85
R0034.9	–	4.90	0.1929	52.0	86.0	4.90
R003N10	N10	4.92	0.1935	52.0	86.0	4.92
R0035.0	–	5.00	0.1969	52.0	86.0	5.00
R0035.1	–	5.10	0.2008	52.0	86.0	5.10
R003N7	N7	5.11	0.2010	52.0	86.0	5.11
R00313/64	13/64	5.16	0.2031	52.0	86.0	5.16
R0035.2	–	5.20	0.2047	52.0	86.0	5.20
R0035.3	–	5.30	0.2087	52.0	86.0	5.30
R0035.4	–	5.40	0.2126	57.0	93.0	5.40
R003N3	N3	5.41	0.2130	57.0	93.0	5.41
R0035.5	–	5.50	0.2165	57.0	93.0	5.50
R0037/32	7/32	5.56	0.2187	57.0	93.0	5.56
R0035.6	–	5.60	0.2205	57.0	93.0	5.60
R003N2	N2	5.61	0.2210	57.0	93.0	5.61
R0035.7	–	5.70	0.2244	57.0	93.0	5.70
R0035.8	–	5.80	0.2283	57.0	93.0	5.80
R0035.9	–	5.90	0.2323	57.0	93.0	5.90
R00315/64	15/64	5.95	0.2344	57.0	93.0	5.95
R0036.0	–	6.00	0.2362	57.0	93.0	6.00
R0036.1	–	6.10	0.2402	63.0	101.0	6.10
R003C	C	6.15	0.2420	63.0	101.0	6.15
R0036.2	–	6.20	0.2441	63.0	101.0	6.20
R0036.3	–	6.30	0.2480	63.0	101.0	6.30
R0031/4	1/4	6.35	0.2500	63.0	101.0	6.35
R0036.4	–	6.40	0.2520	63.0	101.0	6.40
R0036.5	–	6.50	0.2559	63.0	101.0	6.50
R003F	F	6.53	0.2570	63.0	101.0	6.53
R0036.6	–	6.60	0.2598	63.0	101.0	6.60
R0036.7	–	6.70	0.2638	63.0	101.0	6.70
R00317/64	17/64	6.75	0.2656	69.0	109.0	6.75
R0036.8	–	6.80	0.2677	69.0	109.0	6.80
R0036.9	–	6.90	0.2717	69.0	109.0	6.90

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
R003I	I	6.91	0.2720	69.0	109.0	6.91
R0037.0	–	7.00	0.2756	69.0	109.0	7.00
R0037.1	–	7.10	0.2795	69.0	109.0	7.10
R0039/32	9/32	7.14	0.2813	69.0	109.0	7.14
R0037.2	–	7.20	0.2835	69.0	109.0	7.20
R0037.3	–	7.30	0.2874	69.0	109.0	7.30
R0037.4	–	7.40	0.2913	69.0	109.0	7.40
R0037.5	–	7.50	0.2953	69.0	109.0	7.50
R00319/64	19/64	7.54	0.2969	75.0	117.0	7.54
R0037.6	–	7.60	0.2992	75.0	117.0	7.60
R0037.7	–	7.70	0.3031	75.0	117.0	7.70
R0037.8	–	7.80	0.3071	75.0	117.0	7.80
R0037.9	–	7.90	0.3110	75.0	117.0	7.90
R0035/16	5/16	7.94	0.3125	75.0	117.0	7.94
R0038.0	–	8.00	0.3150	75.0	117.0	8.00
R0038.1	–	8.10	0.3189	75.0	117.0	8.10
R0038.2	–	8.20	0.3228	75.0	117.0	8.20
R0038.3	–	8.30	0.3268	75.0	117.0	8.30
R00321/64	21/64	8.33	0.3281	75.0	117.0	8.33
R0038.4	–	8.40	0.3307	75.0	117.0	8.40
R003Q	Q	8.43	0.3320	75.0	117.0	8.43
R0038.5	–	8.50	0.3346	75.0	117.0	8.50
R0038.6	–	8.60	0.3386	81.0	125.0	8.60
R003R	R	8.61	0.3390	81.0	125.0	8.61
R0038.7	–	8.70	0.3425	81.0	125.0	8.70
R00311/32	11/32	8.73	0.3437	81.0	125.0	8.73
R0038.8	–	8.80	0.3465	81.0	125.0	8.80
R0038.9	–	8.90	0.3504	81.0	125.0	8.90
R0039.0	–	9.00	0.3543	81.0	125.0	9.00
R0039.1	–	9.10	0.3583	81.0	125.0	9.10
R00323/64	23/64	9.13	0.3594	81.0	125.0	9.13
R0039.2	–	9.20	0.3622	81.0	125.0	9.20
R0039.3	–	9.30	0.3661	81.0	125.0	9.30
R003U	U	9.35	0.3680	81.0	125.0	9.35
R0039.4	–	9.40	0.3701	81.0	125.0	9.40
R0039.5	–	9.50	0.3740	81.0	125.0	9.50
R0033/8	3/8	9.53	0.3750	87.0	133.0	9.53
R0039.6	–	9.60	0.3780	87.0	133.0	9.60
R0039.7	–	9.70	0.3819	87.0	133.0	9.70
R0039.8	–	9.80	0.3858	87.0	133.0	9.80
R003W	W	9.80	0.3860	87.0	133.0	9.80
R0039.9	–	9.90	0.3898	87.0	133.0	9.90
R00310.0	–	10.00	0.3937	87.0	133.0	10.00
R00310.2	–	10.20	0.4016	87.0	133.0	10.20
R00313/32	13/32	10.32	0.4063	87.0	133.0	10.32
R00310.5	–	10.50	0.4134	87.0	133.0	10.50
R00327/64	27/64	10.72	0.4219	94.0	142.0	10.72
R00311.0	–	11.00	0.4331	94.0	142.0	11.00
R0037/16	7/16	11.11	0.4375	94.0	142.0	11.11
R00311.5	–	11.50	0.4528	94.0	142.0	11.50
R00329/64	29/64	11.51	0.4531	94.0	142.0	11.51
R00315/32	15/32	11.91	0.4687	101.0	151.0	11.91
R00312.0	–	12.00	0.4724	101.0	151.0	12.00
R0031/2	1/2	12.70	0.5000	101.0	151.0	12.70
R00313.0	–	13.00	0.5118	101.0	151.0	13.00
R00314.0	–	14.00	0.5512	108.0	160.0	14.00

Material code (BMC)		HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS						
Basic standard group (BSG)		DIN ANSI	DIN ANSI	DIN 1869-1	DIN 1869-2	DIN 1869-3	DIN 1870(2)						
Usable length (ULDR)		6×D	10×D	15×D	20×D	25×D	20×D						
Application angle		130°	130°	130°	130°	130°	130°						
Coating		Bright	Bright	Bright	Bright	Bright	Bright ST						
Shank													
Spiral form		λ>35°	λ>35°	λ>35°	λ>35°	λ>35°	λ>35°						
Hand (Cutting direction)		R	R	R	R	R	R						
		PFX	PFX	PFX	PFX	PFX							
Product Family Code		A900	A940	A976	A977	A978	A952						
PSF cutting diameters range		1.00 - 20.00	1.00 - 19.00	1.50 - 14.00	1.50 - 14.00	3.00 - 10.00	8.00 - 30.00						
		126	128	130	131	132	133						
P	P1	■	■	◪	◪	◪	■						
	P2	■	■	■	■	■	■						
	P3	■	■	■	■	■	◪						
	P4	■	■	■	■	■	◪						
M	M1	■	■	◪	◪	◪	◪						
	M2	■	■	◪	◪	◪	◪						
	M3	■	■	◪	◪	◪	◪						
	M4	■	■	◪	◪	◪	◪						
K	K1	◪					◪						
	K2	◪	◪	◪	◪	◪	◪						
	K3	◪	◪	◪	◪	◪	◪						
	K4	◪	◪	◪	◪	◪	◪						
	K5	◪	◪	◪	◪	◪	◪						
N	N1	◪	◪				◪						
	N2	◪	◪				◪						
	N3	◪	◪	◪	◪	◪	◪						
	N4	◪	◪				◪						
	N5												
S	S1	■	■	◪	◪	◪	◪						
	S2	■					◪						
	S3	■					◪						
	S4	■					◪						
H	H1												
	H2												
	H3												
	H4												

■ Primary use ◪ Possible use

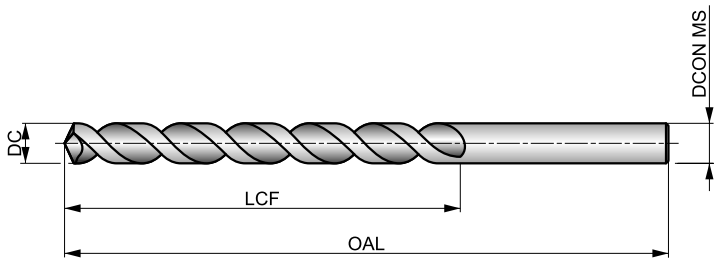
A900

DORMER

PFX HSS-E (5% Cobalt) Jobber Drill, Bright Finish

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H10 hole tolerance). Self-centering 130° point angle and special parabolic flute design help to drill deep holes in a single pass. Suitable for many materials.

PFX



HSS-E	DIN ANSI	6×D
130°	Bright	
λ>35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■34 H	■39 H	■40 H	■30 H	■26 H	■23 E	■31 H	■25 H	■21 E	■19 H	■16 E	■13 E	■21 E	■17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■18 E	■15 E	■8 E	■7 E	■6 E	■9 C	◪24 J	◪18 J	◪13 J	◪23 J	◪19 J	◪15 I	◪21 J	◪16 J
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 I	◪19 J	◪14 J	◪11 I	◪9 I	◪8 I	◪22 J	◪16 J	◪13 I	◪60 J	◪45 J	■30 N	◪62 N	◪55 N
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**
◪40 N	◪90 H	◪53 I	◪27 G	◪55 I	◪40 G	■22 E	■15 E	■6 C	■9 G	■8 C	■7 G	■6 C	■5 G
S4.2													
■5 C													

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9001.0	–	1.00	0.0394	12.0	34.0	1.00
A9001.1	–	1.10	0.0433	14.0	36.0	1.10
A9001.2	–	1.20	0.0472	16.0	38.0	1.20
A9001.25	–	1.25	0.0492	16.0	36.0	1.25
A9001.3	–	1.30	0.0512	16.0	38.0	1.30
A9001.4	–	1.40	0.0551	18.0	40.0	1.40
A9001.5	–	1.50	0.0591	18.0	40.0	1.50
A9001.55	–	1.55	0.0610	20.0	43.0	1.55
A9001/16	1/16	1.59	0.0625	22.0	48.0	1.59
A9001.6	–	1.60	0.0630	20.0	43.0	1.60
A9001.7	–	1.70	0.0669	20.0	43.0	1.70
A9001.75	–	1.75	0.0689	22.0	46.0	1.75
A9001.8	–	1.80	0.0709	22.0	46.0	1.80
A9001.9	–	1.90	0.0748	22.0	46.0	1.90
A9005/64	5/64	1.98	0.0781	25.0	51.0	1.98
A9002.0	–	2.00	0.0787	24.0	49.0	2.00
A9002.1	–	2.10	0.0827	24.0	49.0	2.10
A9002.2	–	2.20	0.0866	27.0	53.0	2.20
A9002.3	–	2.30	0.0906	27.0	53.0	2.30
A9003/32	3/32	2.38	0.0937	32.0	57.0	2.38
A9002.4	–	2.40	0.0945	30.0	57.0	2.40
A9002.5	–	2.50	0.0984	30.0	57.0	2.50
A9002.6	–	2.60	0.1024	30.0	57.0	2.60
A9002.7	–	2.70	0.1063	33.0	61.0	2.70

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9007/64	7/64	2.78	0.1094	38.0	67.0	2.78
A9002.8	–	2.80	0.1102	33.0	61.0	2.80
A9002.9	–	2.90	0.1142	33.0	61.0	2.90
A9003.0	–	3.00	0.1181	33.0	61.0	3.00
A9003.1	–	3.10	0.1220	36.0	65.0	3.10
A9001/8	1/8	3.18	0.1250	41.0	70.0	3.18
A9003.2	–	3.20	0.1260	36.0	65.0	3.20
A9003.3	–	3.30	0.1299	36.0	65.0	3.30
A9003.4	–	3.40	0.1339	39.0	70.0	3.40
A9003.5	–	3.50	0.1378	39.0	70.0	3.50
A9009/64	9/64	3.57	0.1406	44.0	73.0	3.57
A9003.6	–	3.60	0.1417	39.0	70.0	3.60
A9003.7	–	3.70	0.1457	39.0	70.0	3.70
A9003.8	–	3.80	0.1496	43.0	75.0	3.80
A9003.9	–	3.90	0.1535	43.0	75.0	3.90
A9005/32	5/32	3.97	0.1563	51.0	79.0	3.97
A9004.0	–	4.00	0.1575	43.0	75.0	4.00
A9004.1	–	4.10	0.1614	43.0	75.0	4.10
A9004.2	–	4.20	0.1654	43.0	75.0	4.20
A9004.3	–	4.30	0.1693	47.0	80.0	4.30
A90011/64	11/64	4.37	0.1719	54.0	83.0	4.37
A9004.5	–	4.50	0.1772	47.0	80.0	4.50
A9004.6	–	4.60	0.1811	47.0	80.0	4.60
A9004.7	–	4.70	0.1850	47.0	80.0	4.70

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A9003/16	3/16	4.76	0.1875	59.0	89.0	4.76
A9004.9	–	4.90	0.1929	52.0	86.0	4.90
A9005.0	–	5.00	0.1969	52.0	86.0	5.00
A9005.1	–	5.10	0.2008	52.0	86.0	5.10
A90013/64	13/64	5.16	0.2031	62.0	92.0	5.16
A9005.2	–	5.20	0.2047	52.0	86.0	5.20
A9005.3	–	5.30	0.2087	52.0	86.0	5.30
A9005.4	–	5.40	0.2126	57.0	93.0	5.40
A9005.5	–	5.50	0.2165	57.0	93.0	5.50
A9007/32	7/32	5.56	0.2188	64.0	95.0	5.56
A9005.6	–	5.60	0.2205	57.0	93.0	5.60
A9005.7	–	5.70	0.2244	57.0	93.0	5.70
A9005.8	–	5.80	0.2283	57.0	93.0	5.80
A9005.9	–	5.90	0.2323	57.0	93.0	5.90
A9006.0	–	6.00	0.2362	57.0	93.0	6.00
A9006.1	–	6.10	0.2402	63.0	101.0	6.10
A9006.2	–	6.20	0.2441	63.0	101.0	6.20
A9006.3	–	6.30	0.2480	63.0	101.0	6.30
A9001/4	1/4	6.35	0.2500	70.0	102.0	6.35
A9006.4	–	6.40	0.2520	63.0	101.0	6.40
A9006.5	–	6.50	0.2559	63.0	101.0	6.50
A9006.6	–	6.60	0.2598	63.0	101.0	6.60
A9006.7	–	6.70	0.2638	63.0	101.0	6.70
A90017/64	17/64	6.75	0.2656	73.0	105.0	6.75
A9006.8	–	6.80	0.2677	69.0	109.0	6.80
A9006.9	–	6.90	0.2717	69.0	109.0	6.90
A9007.0	–	7.00	0.2756	69.0	109.0	7.00
A9007.1	–	7.10	0.2795	69.0	109.0	7.10
A9007.2	–	7.20	0.2835	69.0	109.0	7.20
A9007.4	–	7.40	0.2913	69.0	109.0	7.40
A9007.5	–	7.50	0.2953	69.0	109.0	7.50
A9005/16	5/16	7.94	0.3125	81.0	114.0	7.94
A9008.0	–	8.00	0.3150	75.0	117.0	8.00
A9008.1	–	8.10	0.3189	75.0	117.0	8.10
A9008.5	–	8.50	0.3346	75.0	117.0	8.50

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A9008.7	–	8.70	0.3425	81.0	125.0	8.70
A90011/32	11/32	8.73	0.3438	87.0	121.0	8.73
A9008.8	–	8.80	0.3465	81.0	125.0	8.80
A9009.0	–	9.00	0.3543	81.0	125.0	9.00
A9009.5	–	9.50	0.3740	81.0	125.0	9.50
A9003/8	3/8	9.52	0.3750	92.0	127.0	9.52
A90010.0	–	10.00	0.3937	87.0	133.0	10.00
A90010.2	–	10.20	0.4016	87.0	133.0	10.20
A90010.3	–	10.30	0.4055	87.0	133.0	10.30
A90010.5	–	10.50	0.4134	87.0	133.0	10.50
A90011.0	–	11.00	0.4331	94.0	142.0	11.00
A90011.5	–	11.50	0.4528	94.0	142.0	11.50
A90011.8	–	11.80	0.4646	94.0	142.0	11.80
A90015/32	15/32	11.91	0.4688	110.0	146.0	11.91
A90012.0	–	12.00	0.4724	101.0	151.0	12.00
A90031/64	31/64	12.30	0.4844	111.0	149.0	12.30
A90012.5	–	12.50	0.4921	101.0	151.0	12.50
A9001/2	1/2	12.70	0.5000	101.0	151.0	12.70
A90013.0	–	13.00	0.5118	101.0	151.0	13.00
A90013.5	–	13.50	0.5315	108.0	160.0	13.50
A90014.0	–	14.00	0.5512	108.0	160.0	14.00
A9009/16	9/16	14.29	0.5625	122.0	168.0	14.29
A90015.0	–	15.00	0.5906	114.0	169.0	15.00
A90016.0	–	16.00	0.6299	120.0	178.0	16.00
A90017.0	–	17.00	0.6693	125.0	184.0	17.00
A90011/16	11/16	17.46	0.6875	143.0	194.0	17.46
A90018.0	–	18.00	0.7087	130.0	191.0	18.00
A90023/32	23/32	18.26	0.7188	130.0	191.0	18.26
A90018.5	–	18.50	0.7283	135.0	198.0	18.50
A90047/64	47/64	18.65	0.7344	135.0	198.0	18.65
A9003/4	3/4	19.05	0.7500	135.0	198.0	19.05
A90049/64	49/64	19.45	0.7656	135.0	198.0	19.45
A90019.5	–	19.50	0.7677	140.0	205.0	19.50
A90025/32	25/32	19.84	0.7813	140.0	205.0	19.84
A90020.0	–	20.00	0.7874	140.0	205.0	20.00

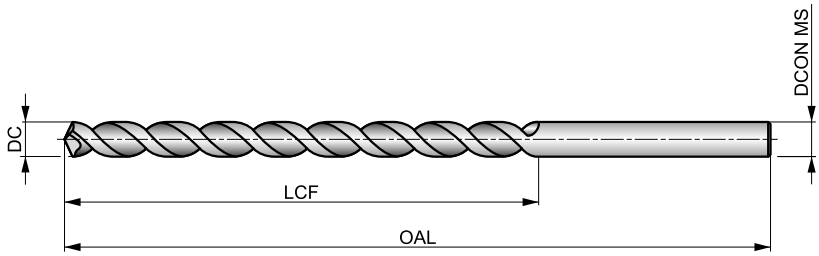
A940

DORMER

PFX HSS-E (5% Cobalt) Long Series Drill, Bright Finish

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H10 hole tolerance). Self-centering 130° point angle and special parabolic flute design help to drill extra deep holes in a single pass. Suitable for many materials.

PFX



HSS-E	DIN ANSI	10×D
130°	Bright	
λ>35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■29 F	■33 F	■34 F	■25 F	■22 G	■19 C	■25 G	■20 G	■17 C	■15 G	■13 C	■10 C	■21 C	■17 C
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**
■18 C	■15 C	■8 E	■7 E	■6 E	■9 B	◪20 I	◪16 I	◪13 H	◪17 I	◪13 I	◪11 H	◪16 I	◪12 I
K4.3	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**
◪9 H	◪8 H	◪6 H	◪18 I	◪14 I	◪11 H	◪53 H	◪40 H	■27 N	◪62 N	◪55 N	◪40 N	◪119 G	◪70 F
N3.3	**N4.1**	**N4.2**	**S1.1**	**S1.2**	**S1.3**								
◪35 F	◪55 H	◪40 F	■18 E	■13 C	■6 C								

DC >= 9.6mm less than 10xD.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9401.0	–	1.00	0.0394	33.0	56.0	1.00
A9401.1	–	1.10	0.0433	37.0	60.0	1.10
A9403/64	3/64	1.19	0.0469	29.0	57.0	1.19
A9401.2	–	1.20	0.0472	41.0	65.0	1.20
A9401.3	–	1.30	0.0512	41.0	65.0	1.30
A9401.4	–	1.40	0.0551	45.0	70.0	1.40
A9401.5	–	1.50	0.0591	45.0	70.0	1.50
A9401/16	1/16	1.59	0.0625	44.0	76.0	1.59
A9401.6	–	1.60	0.0630	50.0	76.0	1.60
A9401.7	–	1.70	0.0669	50.0	76.0	1.70
A9401.8	–	1.80	0.0709	53.0	80.0	1.80
A9401.9	–	1.90	0.0748	53.0	80.0	1.90
A9405/64	5/64	1.98	0.0781	51.0	95.0	1.98
A9402.0	–	2.00	0.0787	56.0	85.0	2.00
A9402.1	–	2.10	0.0827	56.0	85.0	2.10
A9402.2	–	2.20	0.0866	59.0	90.0	2.20
A9402.3	–	2.30	0.0906	59.0	90.0	2.30
A9403/32	3/32	2.38	0.0938	57.0	108.0	2.38
A9402.4	–	2.40	0.0945	62.0	95.0	2.40
A9402.5	–	2.50	0.0984	62.0	95.0	2.50
A9402.6	–	2.60	0.1024	62.0	95.0	2.60
A9402.7	–	2.70	0.1063	66.0	100.0	2.70
A9407/64	7/64	2.78	0.1094	64.0	117.0	2.78
A9402.8	–	2.80	0.1102	66.0	100.0	2.80
A9402.9	–	2.90	0.1142	66.0	100.0	2.90

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9403.0	–	3.00	0.1181	66.0	100.0	3.00
A9403.1	–	3.10	0.1220	69.0	106.0	3.10
A9401/8	1/8	3.18	0.1250	70.0	130.0	3.18
A9403.2	–	3.20	0.1260	69.0	106.0	3.20
A9403.3	–	3.30	0.1299	69.0	106.0	3.30
A9403.4	–	3.40	0.1339	73.0	112.0	3.40
A9403.5	–	3.50	0.1378	73.0	112.0	3.50
A9409/64	9/64	3.57	0.1406	76.0	137.0	3.57
A9403.6	–	3.60	0.1417	73.0	112.0	3.60
A9403.7	–	3.70	0.1457	73.0	112.0	3.70
A9403.8	–	3.80	0.1496	78.0	119.0	3.80
A9403.9	–	3.90	0.1535	78.0	119.0	3.90
A9405/32	5/32	3.97	0.1563	76.0	137.0	3.97
A9404.0	–	4.00	0.1575	78.0	119.0	4.00
A9404.1	–	4.10	0.1614	78.0	119.0	4.10
A9404.2	–	4.20	0.1654	78.0	119.0	4.20
A9404.3	–	4.30	0.1693	82.0	126.0	4.30
A9404.4	–	4.40	0.1732	82.0	126.0	4.40
A9404.5	–	4.50	0.1772	82.0	126.0	4.50
A9404.6	–	4.60	0.1811	82.0	126.0	4.60
A9403/16	3/16	4.76	0.1875	86.0	146.0	4.76
A9404.8	–	4.80	0.1890	87.0	132.0	4.80
A9404.9	–	4.90	0.1929	87.0	132.0	4.90
A9405.0	–	5.00	0.1969	87.0	132.0	5.00
A9405.1	–	5.10	0.2008	87.0	132.0	5.10

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A9405.2	–	5.20	0.2047	87.0	132.0	5.20
A9405.3	–	5.30	0.2087	87.0	132.0	5.30
A9405.4	–	5.40	0.2126	91.0	139.0	5.40
A9405.5	–	5.50	0.2165	91.0	139.0	5.50
A9405.8	–	5.80	0.2283	91.0	139.0	5.80
A9405.9	–	5.90	0.2323	91.0	139.0	5.90
A9406.0	–	6.00	0.2362	91.0	139.0	6.00
A9406.1	–	6.10	0.2402	97.0	148.0	6.10
A9406.2	–	6.20	0.2441	97.0	148.0	6.20
A9401/4	1/4	6.35	0.2500	95.0	156.0	6.35
A9406.4	–	6.40	0.2520	97.0	148.0	6.40
A9406.5	–	6.50	0.2559	97.0	148.0	6.50
A9406.6	–	6.60	0.2598	97.0	148.0	6.60
A9406.7	–	6.70	0.2638	97.0	148.0	6.70
A94017/64	17/64	6.75	0.2656	98.0	159.0	6.75
A9406.8	–	6.80	0.2677	102.0	156.0	6.80
A9406.9	–	6.90	0.2717	102.0	156.0	6.90
A9407.0	–	7.00	0.2756	102.0	156.0	7.00
A9407.2	–	7.20	0.2835	102.0	156.0	7.20
A9407.3	–	7.30	0.2874	102.0	156.0	7.30
A9407.5	–	7.50	0.2953	102.0	156.0	7.50
A9407.8	–	7.80	0.3071	109.0	165.0	7.80
A9405/16	5/16	7.94	0.3125	102.0	162.0	7.94
A9408.0	–	8.00	0.3150	109.0	165.0	8.00
A9408.2	–	8.20	0.3228	109.0	165.0	8.20
A9408.3	–	8.30	0.3268	109.0	165.0	8.30
A9408.5	–	8.50	0.3346	109.0	165.0	8.50
A9408.6	–	8.60	0.3386	115.0	175.0	8.60
A9408.7	–	8.70	0.3425	115.0	175.0	8.70
A94011/32	11/32	8.73	0.3438	105.0	165.0	8.73

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
A9409.0	–	9.00	0.3543	115.0	175.0	9.00
A9409.5	–	9.50	0.3740	115.0	175.0	9.50
A9409.8	–	9.80	0.3858	121.0	184.0	9.80
A94010.0	–	10.00	0.3937	121.0	184.0	10.00
A94010.2	–	10.20	0.4016	121.0	184.0	10.20
A94010.3	–	10.30	0.4055	121.0	184.0	10.30
A94013/32	13/32	10.32	0.4063	111.0	178.0	10.32
A94010.5	–	10.50	0.4134	121.0	184.0	10.50
A94027/64	27/64	10.72	0.4219	117.0	184.0	10.72
A94011.0	–	11.00	0.4331	128.0	195.0	11.00
A9407/16	7/16	11.11	0.4375	117.0	184.0	11.11
A94011.5	–	11.50	0.4528	128.0	195.0	11.50
A94029/64	29/64	11.51	0.4531	121.0	190.0	11.51
A94011.8	–	11.80	0.4646	128.0	195.0	11.80
A94012.0	–	12.00	0.4724	134.0	205.0	12.00
A94012.2	–	12.20	0.4803	134.0	205.0	12.20
A94031/64	31/64	12.30	0.4844	121.0	197.0	12.30
A94012.5	–	12.50	0.4921	134.0	205.0	12.50
A94013.0	–	13.00	0.5118	134.0	205.0	13.00
A94017/32	17/32	13.49	0.5313	121.0	203.0	13.49
A94014.0	–	14.00	0.5512	140.0	214.0	14.00
A9409/16	9/16	14.29	0.5625	124.0	210.0	14.29
A94014.5	–	14.50	0.5709	144.0	220.0	14.50
A94015.0	–	15.00	0.5906	144.0	220.0	15.00
A94015.5	–	15.50	0.6102	149.0	227.0	15.50
A94016.0	–	16.00	0.6299	149.0	227.0	16.00
A94021/32	21/32	16.67	0.6563	130.0	229.0	16.67
A94017.0	–	17.00	0.6693	154.0	235.0	17.00
A94011/16	11/16	17.46	0.6875	137.0	235.0	17.46
A94019.0	–	19.00	0.7480	162.0	247.0	19.00

A976

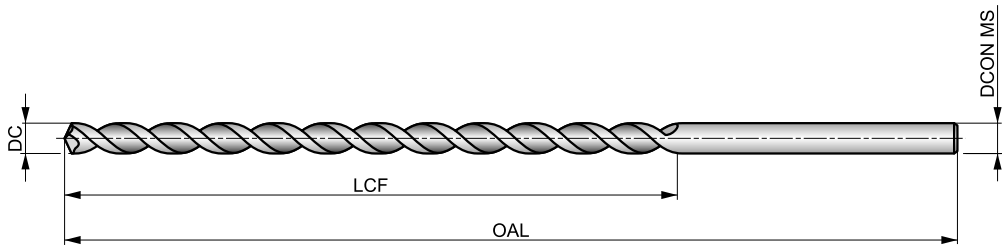
DORMER

PFX HSS-E (5% Cobalt) Extra Long Series Drill (DIN 1869 Series 1), Bright Finish

Recommended for drilling very deep holes or for applications where extra reach is needed. Specially designed parabolic flutes eliminate the need to drill deep holes in short steps (pecking). A 130° point. Centering with a short 3xD PFX drill is recommended (to keep same DC tolerance). Suitable for drilling many materials.

PFX

HSS-E	DIN 1869-1	15×D
130°	Bright	
λ>35°	R	DC h8



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪29 C	◪33 C	◪34 C	◪25 C	■22 C	■19 A	■18 C	■14 C	■12 A	■11 C	■9 A	■7 A	◪16 B	◪14 B
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**
◪15 B	◪12 B	◪8 C	◪7 C	◪6 C	◪8 A	◪20 C	◪16 C	◪13 A	◪17 C	◪13 C	◪11 A	◪16 C	◪12 C
K4.3	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N3.1**	**S1.1**	**S1.2**	**S1.3**				
◪9 A	◪8 A	◪6 A	◪18 C	◪14 C	◪11 A	◪30 D	◪15 C	◪11 A	◪5 A				

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9761.5	–	1.50	0.0591	75.0	115.0	1.50
A9762.0X125	–	2.00	0.0787	85.0	125.0	2.00
A9762.1X125	–	2.10	0.0827	85.0	125.0	2.10
A9762.2X135	–	2.20	0.0866	90.0	135.0	2.20
A9762.3X135	–	2.30	0.0906	90.0	135.0	2.30
A9762.4X140	–	2.40	0.0945	95.0	140.0	2.40
A9762.5X140	–	2.50	0.0984	95.0	140.0	2.50
A9762.6X140	–	2.60	0.1024	95.0	140.0	2.60
A9762.7X150	–	2.70	0.1063	100.0	150.0	2.70
A9762.8X150	–	2.80	0.1102	100.0	150.0	2.80
A9762.9X150	–	2.90	0.1142	100.0	150.0	2.90
A9763.0X150	–	3.00	0.1181	100.0	150.0	3.00
A9763.1X155	–	3.10	0.1220	105.0	155.0	3.10
A9761/8	1/8	3.18	0.1250	105.0	155.0	3.18
A9763.2X155	–	3.20	0.1260	105.0	155.0	3.20
A9763.3X155	–	3.30	0.1299	105.0	155.0	3.30
A9763.4X165	–	3.40	0.1339	115.0	165.0	3.40
A9763.5X165	–	3.50	0.1378	115.0	165.0	3.50
A9763.6X165	–	3.60	0.1417	115.0	165.0	3.60
A9763.7X165	–	3.70	0.1457	115.0	165.0	3.70
A9763.8X175	–	3.80	0.1496	120.0	175.0	3.80
A9763.9X175	–	3.90	0.1535	120.0	175.0	3.90
A9765/32	5/32	3.97	0.1563	120.0	175.0	3.97
A9764.0X175	–	4.00	0.1575	120.0	175.0	4.00
A9764.1X175	–	4.10	0.1614	120.0	175.0	4.10
A9764.2X175	–	4.20	0.1654	120.0	175.0	4.20
A9764.3X185	–	4.30	0.1693	125.0	185.0	4.30
A9764.5X185	–	4.50	0.1772	125.0	185.0	4.50
A9764.6X185	–	4.60	0.1811	125.0	185.0	4.60
A9764.7X185	–	4.70	0.1850	125.0	185.0	4.70
A9763/16	3/16	4.76	0.1875	135.0	195.0	4.76
A9764.8X195	–	4.80	0.1890	135.0	195.0	4.80
A9765.0X195	–	5.00	0.1969	135.0	195.0	5.00

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9765.1X195	–	5.10	0.2008	135.0	195.0	5.10
A9765.2X195	–	5.20	0.2047	135.0	195.0	5.20
A9765.3X195	–	5.30	0.2087	135.0	195.0	5.30
A9765.5X205	–	5.50	0.2165	140.0	205.0	5.50
A9765.7X205	–	5.70	0.2244	140.0	205.0	5.70
A9765.8X205	–	5.80	0.2283	140.0	205.0	5.80
A9765.9X205	–	5.90	0.2323	140.0	205.0	5.90
A9766.0X205	–	6.00	0.2362	140.0	205.0	6.00
A9766.1X215	–	6.10	0.2402	150.0	215.0	6.10
A9766.2X215	–	6.20	0.2441	150.0	215.0	6.20
A9761/4	1/4	6.35	0.2500	150.0	215.0	6.35
A9766.4X215	–	6.40	0.2520	150.0	215.0	6.40
A9766.5X215	–	6.50	0.2559	150.0	215.0	6.50
A9766.7X215	–	6.70	0.2638	150.0	215.0	6.70
A9766.8X225	–	6.80	0.2677	155.0	225.0	6.80
A9767.0X225	–	7.00	0.2756	155.0	225.0	7.00
A9767.5X225	–	7.50	0.2953	155.0	225.0	7.50
A9765/16	5/16	7.94	0.3125	165.0	240.0	7.94
A9768.0X240	–	8.00	0.3150	165.0	240.0	8.00
A9768.5X240	–	8.50	0.3346	165.0	240.0	8.50
A97611/32	11/32	8.73	0.3438	175.0	250.0	8.73
A9769.0X250	–	9.00	0.3543	175.0	250.0	9.00
A9769.5X250	–	9.50	0.3740	175.0	250.0	9.50
A9763/8	3/8	9.52	0.3750	185.0	265.0	9.52
A97610.0X265	–	10.00	0.3937	185.0	265.0	10.00
A97610.5	–	10.50	0.4134	185.0	265.0	10.50
A97611.0	–	11.00	0.4331	195.0	280.0	11.00
A9767/16	7/16	11.11	0.4375	195.0	280.0	11.11
A97611.5	–	11.50	0.4528	195.0	280.0	11.50
A97612.0	–	12.00	0.4724	205.0	295.0	12.00
A97612.5	–	12.50	0.4921	205.0	295.0	12.50
A97613.0	–	13.00	0.5118	205.0	295.0	13.00
A97614.0 [1]	–	14.00	0.5512	215.0	310.0	14.00

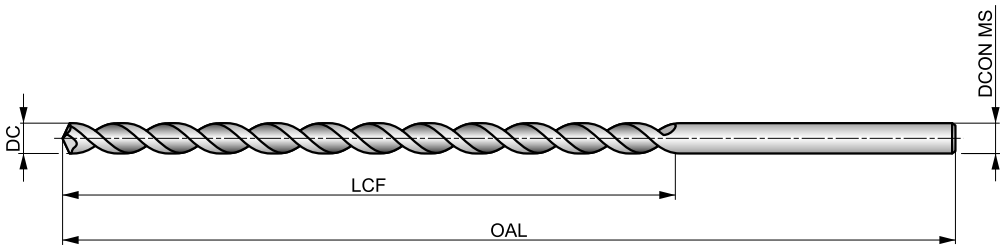
A977

DORMER

PFX HSS-E (5% Cobalt) Extra Long Drill (DIN 1869 Series 2), Bright Finish

Recommended for drilling very deep holes and in applications where extra reach is needed. Specially designed parabolic flutes eliminate the need to drill deep holes in short steps (pecking). A 130° point. Centering with a short 3xD PFX drill is recommended (to keep same DC tolerance). Suitable for drilling many materials.

PFX



HSS-E	DIN 1869-2	20×D
130°	Bright	
λ>35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪29 B	◪33 B	◪34 B	◪25 B	■22 B	■19 A	■18 B	■14 B	■12 A	■11 B	■9 A	■7 A	◪16 B	◪14 B
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**
◪15 B	◪12 B	◪8 B	◪7 B	◪6 B	◪8 A	◪20 B	◪16 B	◪13 A	◪17 B	◪13 B	◪11 A	◪16 B	◪12 B
K4.3	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N3.1**	**S1.1**	**S1.2**	**S1.3**				
◪9 A	◪8 A	◪6 A	◪18 B	◪14 B	◪11 A	◪30 C	◪15 B	◪11 A	◪5 A				

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9771.5 [1]	–	1.50	0.0591	100.0	150.0	1.50
A9771/16 [1]	1/16	1.59	0.0625	100.0	150.0	1.59
A9772.0 [1]	–	2.00	0.0787	110.0	160.0	2.00
A9773/32 [1]	3/32	2.38	0.0938	115.0	170.0	2.38
A9773.0X190	–	3.00	0.1181	130.0	190.0	3.00
A9771/8	1/8	3.18	0.1250	135.0	200.0	3.18
A9773.5X210	–	3.50	0.1378	145.0	210.0	3.50
A9774.0X220	–	4.00	0.1575	150.0	220.0	4.00
A9774.5X235	–	4.50	0.1772	160.0	235.0	4.50
A9773/16	3/16	4.76	0.1875	170.0	245.0	4.76
A9775.0X245	–	5.00	0.1969	170.0	245.0	5.00
A9775.5X260	–	5.50	0.2165	180.0	260.0	5.50
A9776.0X260	–	6.00	0.2362	180.0	260.0	6.00
A9771/4	1/4	6.35	0.2500	190.0	275.0	6.35

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9776.5X275	–	6.50	0.2559	190.0	275.0	6.50
A9777.0X290	–	7.00	0.2756	200.0	290.0	7.00
A9778.0X305	–	8.00	0.3150	210.0	305.0	8.00
A9778.5X305	–	8.50	0.3346	210.0	305.0	8.50
A9779.0X320	–	9.00	0.3543	220.0	320.0	9.00
A9779.5X320	–	9.50	0.3740	220.0	320.0	9.50
A97710.0X340	–	10.00	0.3937	235.0	340.0	10.00
A97710.5	–	10.50	0.4134	235.0	340.0	10.50
A97711.0	–	11.00	0.4331	250.0	365.0	11.00
A97711.5	–	11.50	0.4528	250.0	365.0	11.50
A97712.0	–	12.00	0.4724	260.0	375.0	12.00
A97712.5	–	12.50	0.4921	260.0	375.0	12.50
A97713.0	–	13.00	0.5118	260.0	375.0	13.00
A97714.0 [1]	–	14.00	0.5512	270.0	390.0	14.00

[1] Dormer Standard.

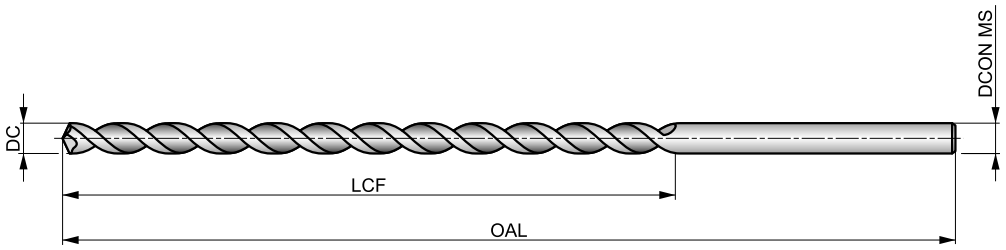
A978

DORMER

PFX HSS-E (5% Cobalt) Extra Long Drill (DIN 1869 Series 3), Bright Finish

Recommended for extra deep holes and in applications where extra reach is needed. Specially designed parabolic flutes eliminate the need to drill deep holes in short steps (pecking). A 130° point. Centering with a short 3xD PFX drill is recommended (to keep same DC tolerance). Suitable for drilling many materials.

PFX



HSS-E	DIN 1869-3	25×D
130°	Bright	
λ>35°	R	DC h8

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪29 A	◪33 A	◪34 A	◪25 A	■22 A	■19 A	■18 A	■14 A	■12 A	■11 A	■9 A	■7 A	◪16 A	◪14 A
M2.1	M2.2	M3.1	M3.2	M3.3	M4.1	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1	K4.2
◪15 A	◪12 A	◪8 A	◪7 A	◪6 A	◪8 A	◪20 A	◪16 A	◪13 A	◪17 A	◪13 A	◪11 A	◪16 A	◪12 A
K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N3.1	S1.1	S1.2	S1.3				
◪9 A	◪8 A	◪6 A	◪18 A	◪14 A	◪11 A	◪30 B	◪15 A	◪11 A	◪5 A				

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
A9783.0 [1]	–	3.00	0.1181	160.0	240.0	3.00
A9783.5X265	–	3.50	0.1378	180.0	265.0	3.50
A9784.0X280	–	4.00	0.1575	190.0	280.0	4.00
A9784.5X295	–	4.50	0.1772	200.0	295.0	4.50
A9785.0X315	–	5.00	0.1969	210.0	315.0	5.00
A9786.0X330	–	6.00	0.2362	225.0	330.0	6.00
A9781/4	1/4	6.35	0.2500	235.0	350.0	6.35
A9786.5X350	–	6.50	0.2559	235.0	350.0	6.50
A9787.0X370	–	7.00	0.2756	250.0	370.0	7.00
A9788.0X390	–	8.00	0.3150	265.0	390.0	8.00
A9788.5X390	–	8.50	0.3346	265.0	390.0	8.50
A9789.0X410	–	9.00	0.3543	280.0	410.0	9.00
A9789.5X410	–	9.50	0.3740	280.0	410.0	9.50
A97810.0X430	–	10.00	0.3937	295.0	430.0	10.00

[1] Dormer Standard.

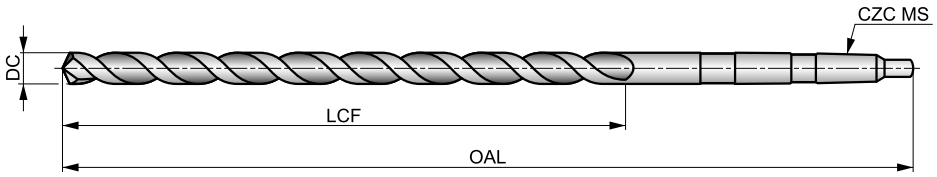
A952

DORMER

HSS PFX Extra Long Series Taper Shank Drill (DIN 1870 Series 2), Bright Finish

A versatile drill with a special parabolic flute design for drilling deep holes in a single pass. The drill has a self-centering 130° point (centering with a short PFX Drill is recommended) so the force needed to drill the hole is reduced. Suitable for drilling many materials.

HSS	DIN 1870(2)	20×D
130°	Bright ST	
λ>35°	R	DC h8



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■25 G	■28 G	■29 G	■22 G	■19 E	◪17 C	◪12 D	◪9 D	◪8 C	◪7 D	◪6 C	◪5 B	◪16 C	◪14 C
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪15 C	◪12 C	◪7 E	◪6 E	◪5 E	◪12 A	◪22 G	◪16 D	◪12 D	◪16 C	◪13 C	◪10 C	◪14 C	◪11 C
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪9 C	◪13 C	◪10 C	◪7 C	◪6 C	◪5 C	◪15 C	◪11 C	◪9 C	◪30 H	◪23 H	◪15 G	◪37 F	◪33 F
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪24 F	◪56 F	◪33 G	◪17 D	◪30 J	◪30 H	◪10 F	◪18 D	◪10 B	◪6 A	◪7 C	◪4 A	◪5 C	◪3 A
S4.1	**S4.2**												
◪4 C	◪2 A												

DC >= 14.5mm less than 20xD; DC > 23mm Bright.

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	CZC MS
A9528.0	8.00	0.3150	210.0	330.0	MK 1
A9529.0	9.00	0.3543	220.0	345.0	MK 1
A95210.0	10.00	0.3937	235.0	360.0	MK 1
A95211.0	11.00	0.4331	250.0	375.0	MK 1
A95213.0	13.00	0.5118	260.0	395.0	MK 1
A95214.0	14.00	0.5512	275.0	410.0	MK 1
A95215.0	15.00	0.5906	275.0	425.0	MK 2
A95216.0	16.00	0.6299	295.0	445.0	MK 2
A95217.0	17.00	0.6693	295.0	445.0	MK 2
A95219.0	19.00	0.7480	310.0	465.0	MK 2

Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	CZC MS
A95220.0	20.00	0.7874	325.0	490.0	MK 2
A95221.0	21.00	0.8268	325.0	490.0	MK 2
A95223.0	23.00	0.9055	345.0	515.0	MK 2
A95224.0	24.00	0.9449	365.0	555.0	MK 3
A95225.0	25.00	0.9843	365.0	555.0	MK 3
A95226.0	26.00	1.0236	365.0	555.0	MK 3
A95227.0	27.00	1.0630	385.0	580.0	MK 3
A95228.0	28.00	1.1024	385.0	580.0	MK 3
A95229.0	29.00	1.1417	385.0	580.0	MK 3
A95230.0	30.00	1.1811	385.0	580.0	MK 3

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	HSS	
Basic standard group (BSG)	DORMER	DIN 373	ANSI	ANSI	ANSI	ANSI	ANSI	DIN 8374	DIN 8376	DORMER	DORMER	
Usable length (ULDR)								4×D	4×D	2.5×D	2.5×D	
Application angle	20°	180°						90°	180°	180°	90°	
Coating	Bright	Bright	Bright	Bright	Bright	Bright	Bright	ST	ST	ST	ST	
Shank												
Spiral form								λ20-35°	λ20-35°			
Hand (Cutting direction)	R	R	R	R		R	R	R	R	R	R	
Product Family Code	G314	G125	G702	G703	G704	G705	G706	A400	A402	A413	A412	
PSF cutting diameters range	4.00 - 9.00	6.50 - 20.00	1/4 - 2"	1/2 - 2.1/8	1/8 - 1.1/2	1/4 - 15/16	1/4 - 1"	M3 - M8	M3 - M10	M3 - M10	M3 - M10	
	136	137	138	139	140	141	142	143	144	145	146	
P P1	■	■	■	■		■	■	■	■	■	■	
P2	◪	■	■	■		■	■	■	■	■	■	
P3	◪	◪	■	■		■	■	■	■	■	■	
P4		◪	◪	◪		◪	◪	◪	◪	◪	◪	
M M1	◪	◪	◪	◪		◪	◪	◪	◪	■	■	
M2	◪	◪	◪	◪		◪	◪	◪	◪	■	■	
M3								◪	◪	◪	◪	
M4								◪	◪	◪	◪	
K K1	◪	◪	■	■		■	■	■	■	■	■	
K2		◪	■	■		■	■	◪	◪	◪	◪	
K3		◪	◪	◪		◪	◪	◪	◪	◪	◪	
K4		◪	◪	◪		◪	◪	◪	◪	◪	◪	
K5		◪	■	■		■	■	◪	◪	◪	◪	
N N1	■	■	■	■		■	■	◪	◪	◪	◪	
N2	◪	◪	◪	◪		◪	◪	◪	◪	◪	◪	
N3	■	■	■	■		■	■	◪	◪	◪	◪	
N4	■	◪	■	■		■	■	◪	◪	◪	◪	
N5												
S S1								◪	◪	◪	◪	
S2								◪	◪	◪	◪	
S3								◪	◪	◪	◪	
S4								◪	◪	◪	◪	
H H1												
H2												
H3												
H4												

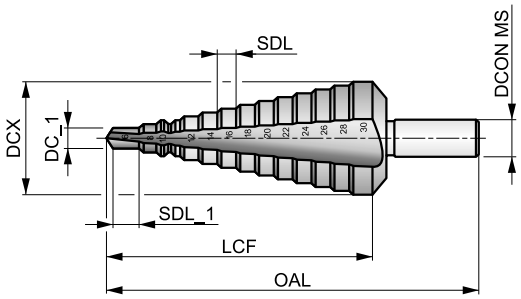
■ Primary use ◪ Possible use

G314

DORMER

HSS Cone Cut Step Drill for Thin Sheet Materials, Bright Finish

Cone cut step drills have a multi-step design which allows for gradual enlargement of holes to the diameter required. The reduced plain shank means all diameters can be held in a standard chuck and holder. Suitable to enlarge holes in many materials.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	M1.1	M1.2	M2.1	K1.1	N1.1	N1.2
■ 20	■ 22	■ 23	■ 17	◪ 15	◪ 13	■ 12	◪ 9	◪ 8	◪ 6	◪ 7	◪ 17	■ 30	■ 23

N1.3	N2.1	N2.2	N3.1	N3.2	N3.3	N4.1	N4.2
◪ 15	◪ 31	◪ 28	■ 34	■ 20	◪ 10	■ 30	■ 20

SDI = Step diameter increments.

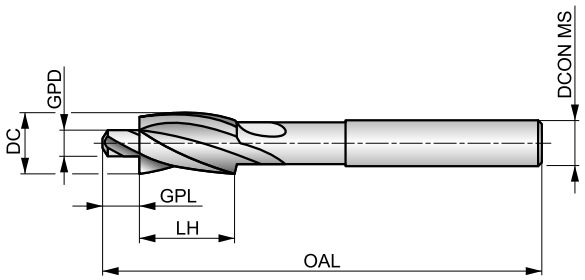
Product	Nr.	DC_1 (mm)	DCX (mm)	SDL (mm)	SDI (mm)	SDL_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)
G314412	412	4.00	12.00	5.00	4 - 5 - 6 - 7 - 8 - 9 - 10 - 11 - 12	5.00	61.0	80.0	6.00
G3141220	1220	12.00	20.00	4.00	12 - 13 - 14 - 15 - 16 - 17 - 18 - 19 - 20	4.00	55.0	76.0	9.00
G3142030	2030	20.00	30.00	4.00	20 - 21 - 22 - 23 - 24 - 25 - 26 - 27 - 28 - 29 - 30	4.00	67.0	88.0	12.00
G3143040	3040	30.00	40.00	4.00	30 - 31 - 32 - 33 - 34 - 35 - 36 - 37 - 38 - 39 - 40	4.00	74.0	98.0	13.00
G314420	420	4.00	20.00	4.00	4 - 6 - 8 - 10 - 12 - 14 - 16 - 18 - 20	4.00	48.0	76.0	8.00
G314630	630	6.00	30.00	4.00	6 - 8 - 10 - 12 - 14 - 16 - 18 - 20 - 22 - 24 - 26 - 28 - 30	4.00	73.0	98.0	10.00
G314M	M	9.00	36.00	3.00	9 - 12 - 15 - 18 - 21 - 24 - 27 - 30 - 33 - 36	3.00	57.0	86.0	12.00

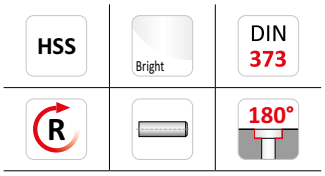
G125

DORMER

HSS Straight Shank 180° Counterbore, Bright Finish

Counterbore with a 180° angle designed to create holes for standard socket head and cap screws. It has a solid Pilot (available for different pre-machined hole size tolerances), which helps to accurately guide the counterbore in standard metric sized holes. Suitable to counterbore holes in many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 20 E	■ 22 E	■ 23 E	■ 17 E	■ 15 D	◪ 13 C	■ 12 D	◪ 9 D	◪ 8 C	◪ 7 D	◪ 6 C	◪ 8 D	◪ 6 D	◪ 7 D
M2.2	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K4.1**	**K4.2**	**K5.1**	**K5.2**
◪ 6 D	◪ 5 C	■ 17 E	◪ 12 E	◪ 11 E	■ 15 D	◪ 12 D	◪ 10 C	◪ 13 D	◪ 10 D	◪ 12 D	◪ 9 D	■ 14 D	◪ 10 D
N1.1	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**			
◪ 30 G	■ 23 G	■ 15 G	◪ 31 G	◪ 28 G	◪ 20 G	■ 34 C	■ 20 C	◪ 10 C	■ 30 C	◪ 20 C			

DCON MS tolerance h9.

Product	DC (mm)	GPD (mm)	CZC MS	GPL (mm)	OAL (mm)	LH (mm)	DCON MS (mm)	NOF
G1256.5X3.2 [1]	6.50	3.20	M 3 f	4.50	71.0	14.0	5.00	3
G1256.5X3.4 [2]	6.50	3.40	M 3 m	4.50	71.0	14.0	5.00	3
G1258.0X3.3 [3]	8.00	3.30	M 4 t	5.00	71.0	14.0	5.00	3
G1258.0X4.3 [1]	8.00	4.30	M 4 f	5.00	71.0	14.0	5.00	3
G1258.0X4.5 [2]	8.00	4.50	M 4 m	5.00	71.0	14.0	5.00	3
G12510.0X4.2 [3]	10.00	4.20	M 5 t	5.50	80.0	18.0	8.00	3
G12510.0X5.3 [1]	10.00	5.30	M 5 f	5.50	80.0	18.0	8.00	3
G12510.0X5.5 [2]	10.00	5.50	M 5 m	5.50	80.0	18.0	8.00	3
G12511.0X5.0 [3]	11.00	5.00	M 6 t	6.00	80.0	18.0	8.00	3
G12511.0X6.4 [1]	11.00	6.40	M 6 f	6.00	80.0	18.0	8.00	3
G12511.0X6.6 [2]	11.00	6.60	M 6 m	6.00	80.0	18.0	8.00	3
G12515.0X6.8 [3]	15.00	6.80	M 8 t	8.00	100.0	22.0	12.50	3
G12515.0X8.4 [1]	15.00	8.40	M 8 f	8.00	100.0	22.0	12.50	3
G12515.0X9.0 [2]	15.00	9.00	M 8 m	8.00	100.0	22.0	12.50	3
G12518.0X8.5 [3]	18.00	8.50	M 10 t	10.00	100.0	22.0	12.50	3
G12518.0X10.5 [1]	18.00	10.50	M 10 f	10.00	100.0	22.0	12.50	3
G12518.0X11.0 [2]	18.00	11.00	M 10 m	10.00	100.0	22.0	12.50	3
G12520.0X10.2 [3]	20.00	10.20	M 12 t	10.00	100.0	22.0	12.50	3
G12520.0X13.0 [1]	20.00	13.00	M 12 f	10.00	100.0	22.0	12.50	3
G12520.0X13.5 [2]	20.00	13.50	M 12 m	10.00	100.0	22.0	12.50	3

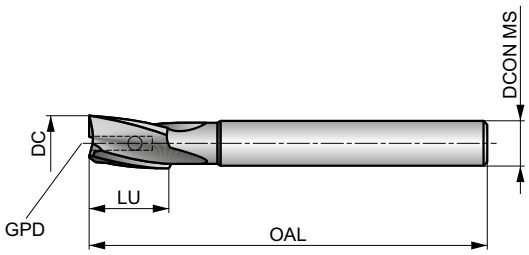
[1] f= for through hole fine.
[2] m= for through hole medium.
[3] t= for tap hole.

G702

DORMER

HSS Counterbore Body with Reduced Shank, Interchangeable Pilot Type

Cylinrical shank counterbore body used in conjunction with detachable pilots to enlarge the top of a preformed hole by cutting a flat bottom counterbore. A non-cutting detachable pilot G704 is mounted in the body which follows the existing hole to guide and center the counterbore cutting operation.



HSS | Bright | ANSI

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 20 E	■ 22 E	■ 23 E	■ 17 E	■ 15 D	◪ 13 C	■ 12 D	◪ 9 D	◪ 8 C	◪ 7 D	◪ 6 C	◪	◪ 8 D	◪ 6 D
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K4.1**	**K4.2**	**K5.1**
◪ 7 D	◪ 6 D	◪ 5 C	■ 17 E	◪ 12 E	◪ 11 E	■ 15 D	◪ 12 D	◪ 10 C	◪ 13 D	◪ 10 D	◪ 12 D	◪ 9 D	■ 14 D
K5.2	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
◪ 10 D	◪ 30 G	■ 23 G	■ 15 G	◪ 31 G	◪ 28 G	◪ 20 G	■ 34 C	■ 20 C	◪ 10 C	■ 30 C	◪ 20 C		

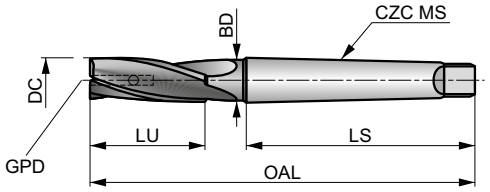
Product	DC (inch)	DC (inch)	LU (inch)	OAL (inch)	DCON MS (inch)	NOF	GPD (inch)	GPDN (inch)	GPDX (inch)
G7021/4	1/4	0.2500	3/4	3.13/16	15/64	3	3/32	1/8	3/16
G7029/32	9/32	0.2813	3/4	3.13/16	17/64	3	3/32	1/8	7/32
G7025/16	5/16	0.3125	3/4	3.13/16	19/64	3	3/32	1/8	1/4
G70211/32	11/32	0.3438	3/4	3.13/16	5/16	3	3/32	1/8	9/32
G7023/8	3/8	0.3750	1"	4.1/16	5/16	3	5/32	3/16	5/16
G70213/32	13/32	0.4063	1"	4.1/16	3/8	3	5/32	3/16	11/32
G7027/16	7/16	0.4375	1"	4.1/16	3/8	3	5/32	3/16	3/8
G70215/32	15/32	0.4688	1.1/4	4.5/16	7/16	3	3/16	3/16	13/32
G7021/2	1/2	0.5000	1.1/4	4.5/16	7/16	3	3/16	3/16	7/16
G7029/16	9/16	0.5625	1.1/4	4.5/16	1/2	3	3/16	3/16	1/2
G70219/32	19/32	0.5938	1.1/4	5.1/8	1/2	3	3/16	3/16	17/32
G7025/8	5/8	0.6250	1.1/4	5.1/8	1/2	3	3/16	3/16	9/16
G70211/16	11/16	0.6875	1.1/4	5.1/8	1/2	3	3/16	3/16	5/8
G7023/4	3/4	0.7500	1.1/2	5.3/8	1/2	3	1/4	5/16	11/16
G70225/32	25/32	0.7813	1.1/2	5.3/8	5/8	3	1/4	5/16	23/32
G70213/16	13/16	0.8125	1.1/2	5.3/8	5/8	3	1/4	5/16	3/4
G70227/32	27/32	0.8438	1.1/2	5.3/8	3/4	3	1/4	5/16	25/32
G7027/8	7/8	0.8750	1.1/2	5.3/8	3/4	3	1/4	5/16	13/16
G7021	1"	1.0000	1.3/4	6.3/8	3/4	3	5/16	3/8	15/16
G7022	2"	2.0000	2.1/2	8.3/8	1.1/2	5	1/2	9/16	1.15/16

G703

DORMER

HSS Counterbore Body with Taper Shank, Interchangeable Pilot Type

Counterbore body with Morse Taper shank used in conjunction with detachable pilots to enlarge the top of a preformed hole by cutting a flat bottom counterbore. A non-cutting detachable pilot G704 is mounted in the body which follows the existing hole to guide and center the counterbore cutting operation.



HSS | Bright | ANSI

R

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 20 E	■ 22 E	■ 23 E	■ 17 E	■ 15 D	◪ 13 C	■ 12 D	◪ 9 D	◪ 8 C	◪ 7 D	◪ 6 C	◪	◪ 8 D	◪ 6 D
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K4.1**	**K4.2**	**K5.1**
◪ 7 D	◪ 6 D	◪ 5 C	■ 17 E	◪ 12 E	◪ 11 E	■ 15 D	◪ 12 D	◪ 10 C	◪ 13 D	◪ 10 D	◪ 12 D	◪ 9 D	■ 14 D
K5.2	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
◪ 10 D	◪ 30 G	■ 23 G	■ 15 G	◪ 31 G	◪ 28 G	◪ 20 G	■ 34 C	■ 20 C	◪ 10 C	■ 30 C	◪ 20 C		

Product	DC (inch)	DC (inch)	LU (inch)	OAL (inch)	CZC MS	BD (inch)	LS (inch)	NOF	GPD (inch)	GPDN (inch)	GPDX (inch)
G7031/2	1/2	0.5000	1.1/4	4.5/16	1	29/64	2.9/16	3	3/16	1/4	7/16
G70311/16	11/16	0.6875	1.1/4	5.1/8	2	5/8	3.1/8	3	3/16	1/4	5/8
G7033/4	3/4	0.7500	1.1/2	5.3/8	2	21/32	3.1/8	3	1/4	5/16	11/16
G70313/16	13/16	0.8125	1.1/2	5.3/8	2	21/32	3.1/8	3	1/4	5/16	3/4
G7037/8	7/8	0.8750	1.1/2	5.3/8	2	21/32	3.1/8	3	1/4	5/16	13/16
G70315/16	15/16	0.9375	1.1/2	6.1/8	3	7/8	3.7/8	3	1/4	5/16	7/8
G7031	1″	1.0000	1.3/4	6.3/8	3	7/8	3.7/8	3	5/16	3/8	15/16
G7031.1/16	1.1/16	1.0625	1.3/4	6.3/8	3	7/8	3.7/8	3	5/16	3/8	1″
G7031.1/8	1.1/8	1.1250	1.3/4	6.3/8	3	7/8	3.7/8	3	5/16	3/8	1.1/16
G7031.3/16	1.3/16	1.1875	1.3/4	6.3/8	3	7/8	3.7/8	3	5/16	3/8	1.1/8
G7031.1/4	1.1/4	1.2500	2″	6.5/8	3	7/8	3.7/8	5	3/8	7/16	1.3/16
G7031.3/8	1.3/8	1.3750	2″	6.5/8	3	7/8	3.7/8	5	3/8	7/16	1.5/16
G7031.1/2	1.1/2	1.5000	2″	7.7/8	4	1.3/16	4.7/8	5	3/8	7/16	1.7/16
G7031.5/8	1.5/8	1.6250	2.1/4	8.1/8	4	1.3/8	4.7/8	5	7/16	1/2	1.9/16
G7032	2″	2.0000	2.1/2	8.3/8	4	1.1/2	4.7/8	5	1/2	9/16	1.5/16
G7032.1/8	2.1/8	2.1250	2.1/2	9.7/8	5	1.3/4	6.1/8	5	1/2	9/16	2.1/16

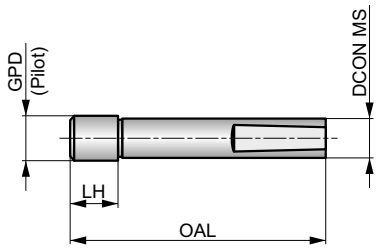
G704

DORMER

HSS Counterbore Pilot, Detachable

Non-cutting detachable pilots for use with counterbore bodies to follow existing hole in the workpiece. Several pilots with the same mounting (shank) diameter will fit the mounting diameter in the counterbore body. Be sure the pilot mounting diameter is matched properly to the body's mounting diameter

HSS	Bright	ANSI



Product	GPD (inch)	DCON MS (inch)	LH (inch)	OAL (inch)
G7041/8X3/32	1/8	3/32	0.125	1.1/4
G7045/32X3/32	5/32	3/32	0.188	1.5/16
G7043/16X3/32	3/16	3/32	0.188	1.5/16
G7047/32X3/32	7/32	3/32	0.250	1.3/8
G7041/4X3/32	1/4	3/32	0.250	1.3/8
G7041/8X1/8	1/8	1/8	0.125	1.7/16
G7045/32X1/8	5/32	1/8	0.188	1.1/2
G7043/16X1/8	3/16	1/8	0.188	1.1/2
G7047/32X1/8	7/32	1/8	0.250	1.9/16
G7041/4X1/8	1/4	1/8	0.250	1.9/16
G7049/32X1/8	9/32	1/8	0.313	1.5/8
G7045/16X1/8	5/16	1/8	0.313	1.5/8
G7043/8X1/8	3/8	1/8	0.375	1.11/16
G7047/16X1/8	7/16	1/8	0.438	1.3/4
G7041/2X1/8	1/2	1/8	0.500	1.13/16
G7043/16X5/32	3/16	5/32	0.188	1.9/16
G7047/32X5/32	7/32	5/32	0.250	1.5/8
G7041/4X5/32	1/4	5/32	0.250	1.5/8
G7049/32X5/32	9/32	5/32	0.313	1.11/16
G7045/16X5/32	5/16	5/32	0.313	1.11/16
G7043/8X5/32	3/8	5/32	0.375	1.3/4
G7043/16X3/16	3/16	3/16	0.250	1.7/8
G7047/32X3/16	7/32	3/16	0.250	1.7/8
G7041/4X3/16	1/4	3/16	0.250	1.7/8
G7049/32X3/16	9/32	3/16	0.313	1.15/16
G7045/16X3/16	5/16	3/16	0.313	1.15/16
G70411/32X3/16	11/32	3/16	0.375	2″
G7043/8X3/16	3/8	3/16	0.375	2″
G70413/32X3/16	13/32	3/16	0.438	2.1/16
G7047/16X3/16	7/16	3/16	0.438	2.1/16
G70415/32X3/16	15/32	3/16	0.500	2.1/8
G7041/2X3/16	1/2	3/16	0.500	2.1/8
G7049/16X3/16	9/16	3/16	0.563	2.3/16
G7045/8X3/16	5/8	3/16	0.563	2.3/16
G70413/16X3/16	13/16	3/16	0.813	2.7/16
G7047/8X3/16	7/8	3/16	0.875	2.1/2
G7041/4X1/4	1/4	1/4	0.250	1.11/16
G7049/32X1/4	9/32	1/4	0.313	1.3/4
G7045/16X1/4	5/16	1/4	0.313	1.3/4

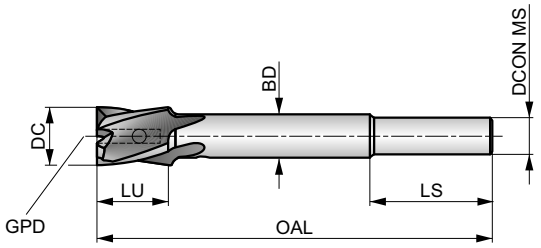
Product	GPD (inch)	DCON MS (inch)	LH (inch)	OAL (inch)
G7043/8X1/4	3/8	1/4	0.375	1.13/16
G7047/16X1/4	7/16	1/4	0.438	1.7/8
G7041/2X1/4	1/2	1/4	0.500	1.15/16
G70417/32X1/4	17/32	1/4	0.563	2″
G7049/16X1/4	9/16	1/4	0.563	2″
G7045/8X1/4	5/8	1/4	0.625	2.1/16
G70411/16X1/4	11/16	1/4	0.688	2.1/8
G7043/4X1/4	3/4	1/4	0.750	2.3/16
G70413/16X1/4	13/16	1/4	0.875	2.5/16
G7041X1/4	1″	1/4	1.000	2.7/16
G7043/8X5/16	3/8	5/16	0.375	2″
G7047/16X5/16	7/16	5/16	0.438	2.1/16
G7041/2X5/16	1/2	5/16	0.500	2.1/8
G7049/16X5/16	9/16	5/16	0.563	2.3/16
G7045/8X5/16	5/8	5/16	0.625	2.1/4
G70411/16X5/16	11/16	5/16	0.688	2.5/16
G7043/4X5/16	3/4	5/16	0.750	2.3/8
G70413/16X5/16	13/16	5/16	0.875	2.1/2
G70415/16X5/16	15/16	5/16	1.000	2.5/8
G7041X5/16	1″	5/16	1.000	2.5/8
G7047/16X3/8	7/16	3/8	0.438	2.5/16
G7041/2X3/8	1/2	3/8	0.500	2.3/8
G7049/16X3/8	9/16	3/8	0.563	2.7/16
G7045/8X3/8	5/8	3/8	0.625	2.1/2
G70411/16X3/8	11/16	3/8	0.688	2.9/16
G7043/4X3/8	3/4	3/8	0.750	2.5/8
G70413/16X3/8	13/16	3/8	0.875	2.3/4
G7047/8X3/8	7/8	3/8	0.875	2.3/4
G70415/16X3/8	15/16	3/8	1.000	2.5/8
G7049/16X7/16	9/16	7/16	0.625	2.7/8
G70411/16X7/16	11/16	7/16	0.750	3″
G7043/4X7/16	3/4	7/16	0.750	3″
G70413/16X7/16	13/16	7/16	0.875	3.1/8
G7047/8X7/16	7/8	7/16	0.875	3.1/8
G70415/16X7/16	15/16	7/16	1.000	3.1/4
G7041X7/16	1″	7/16	1.000	3.1/4
G7049/16X1/2	9/16	1/2	0.625	3.1/8
G7041X1/2	1″	1/2	1.000	3.1/2
G7041.1/2X1/2	1.1/2	1/2	1.500	4″

G705

DORMER

HSS Counterbore Body, Aircraft Long Series, Interchangeable Pilot Type

Cylindrical shank aircraft long series counterbore body used in conjunction with detachable pilots to enlarge the top of a preformed hole by cutting a flat bottom counterbore. A non-cutting detachable pilot G704 is mounted in the body which follows the existing hole to guide and center the counterbore cutting operation.



HSS	Bright	ANSI
R		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 20 E	■ 22 E	■ 23 E	■ 17 E	■ 15 D	◪ 13 C	■ 12 D	◪ 9 D	◪ 8 C	◪ 7 D	◪ 6 C	◪ 8 D	◪ 6 D	◪ 7 D
M2.2	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K4.1**	**K4.2**	**K5.1**	**K5.2**
◪ 6 D	◪ 5 C	■ 17 E	◪ 12 E	◪ 11 E	■ 15 D	◪ 12 D	◪ 10 C	◪ 13 D	◪ 10 D	◪ 12 D	◪ 9 D	■ 14 D	◪ 10 D
N1.1	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**			
◪ 30 G	■ 23 G	■ 15 G	◪ 31 G	◪ 28 G	◪ 20 G	■ 34 C	■ 20 C	◪ 10 C	■ 30 C	◪ 20 C			

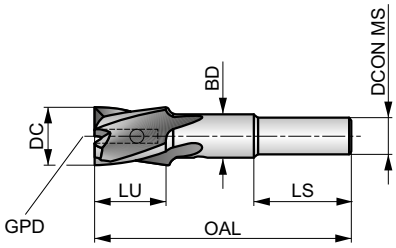
Product	DC (inch)	DC (inch)	LU (inch)	OAL (inch)	DCON MS (inch)	LS (inch)	BD (inch)	NOF	GPD (inch)	GPDN (inch)	GPDX (inch)
G7051/4	1/4	0.2500	1/2	4	15/64	15/64	15/64	4	3/32	1/8	3/16
G7055/16	5/16	0.3125	1/2	4	19/64	19/64	19/64	4	3/32	1/8	1/4
G7053/8	3/8	0.3750	5/8	4	5/16	5/16	5/16	4	3/32	1/8	5/16
G7057/16	7/16	0.4375	5/8	4	3/8	3/8	3/8	4	1/8	3/16	3/8
G7051/2	1/2	0.5000	5/8	4.1/4	7/16	7/16	7/16	4	1/8	1/8	7/16
G70517/32	17/32	0.5313	5/8	4.1/4	1/2	1/2	1/2	4	1/8	1/8	1/2
G7059/16	9/16	0.5625	5/8	4.1/4	1/2	1/2	1/2	4	1/8	1/8	1/2
G70519/32	19/32	0.5938	5/8	4.1/4	1/2	9/16	9/16	4	1/8	1/8	1/2
G7055/8	5/8	0.6250	5/8	4.1/4	1/2	9/16	9/16	4	1/8	1/8	1/2
G70521/32	21/32	0.6563	5/8	5.3/8	1/2	9/16	9/16	4	3/16	3/16	5/8
G70511/16	11/16	0.6875	5/8	5.3/8	1/2	5/8	5/8	4	3/16	3/16	5/8
G7053/4	3/4	0.7500	3/4	5.3/8	1/2	11/16	11/16	4	3/16	3/16	5/8
G70525/32	25/32	0.7813	3/4	5.3/8	1/2	11/16	11/16	4	3/16	3/16	5/8
G70513/16	13/16	0.8125	3/4	5.3/8	1/2	3/4	3/4	4	3/16	3/16	5/8
G7057/8	7/8	0.8750	15/16	5.3/8	1/2	3/4	3/4	4	3/16	3/16	13/16
G70515/16	15/16	0.9375	15/16	5.3/8	1/2	3/4	3/4	4	3/16	3/16	7/8

G706

DORMER

HSS Counterbore Body, Aircraft Short Series, Interchangeable Pilot Type

Cylindrical shank aircraft short series counterbore body used in conjunction with detachable pilots to enlarge the top of a preformed hole by cutting a flat bottom counterbore. A non-cutting detachable pilot G704 is mounted in the body which follows the existing hole to guide and center the counterbore cutting operation.



HSS	Bright	ANSI
R		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

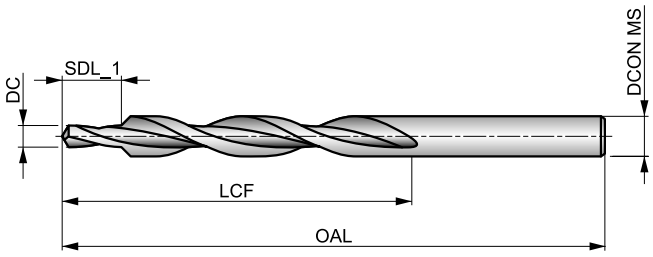
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 20 E	■ 22 E	■ 23 E	■ 17 E	■ 15 D	◪ 13 C	■ 12 D	◪ 9 D	◪ 8 C	◪ 7 D	◪ 6 C	◪ 8 D	◪ 6 D	◪ 7 D
M2.2	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K4.1**	**K4.2**	**K5.1**	**K5.2**
◪ 6 D	◪ 5 C	■ 17 E	◪ 12 E	◪ 11 E	■ 15 D	◪ 12 D	◪ 10 C	◪ 13 D	◪ 10 D	◪ 12 D	◪ 9 D	■ 14 D	◪ 10 D
N1.1	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**			
◪ 30 G	■ 23 G	■ 15 G	◪ 31 G	◪ 28 G	◪ 20 G	■ 34 C	■ 20 C	◪ 10 C	■ 30 C	◪ 20 C			

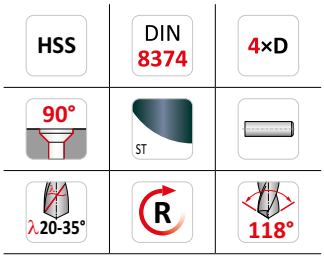
Product	DC (inch)	DC (inch)	LU (inch)	OAL (inch)	DCON MS (inch)	LS (inch)	BD (inch)	NOF	GPD (inch)	GPDN (inch)	GPDX (inch)
G7061/4	1/4	0.2500	1/2	2.3/8	1/4	1.1/8	15/64	4	3/32	1/8	3/16
G7065/16	5/16	0.3125	1/2	2.3/8	1/4	7/8	17/64	4	3/32	1/8	1/4
G70611/32	11/32	0.3438	1/2	2.3/8	1/4	7/8	19/64	4	3/32	1/8	9/32
G7063/8	3/8	0.3750	1/2	2.3/8	1/4	7/8	5/16	4	3/32	3/16	5/16
G70613/32	13/32	0.4063	1/2	2.13/16	1/4	7/8	5/16	4	1/8	3/16	11/32
G7067/16	7/16	0.4375	1/2	2.13/16	1/4	7/8	5/16	4	1/8	3/16	3/8
G70615/32	15/32	0.4688	1/2	2.13/16	1/4	7/8	5/16	4	1/8	1/4	13/32
G7061/2	1/2	0.5000	1/2	2.13/16	1/4	7/8	3/8	4	1/8	1/4	7/16
G70617/32	17/32	0.5313	1/2	2.13/16	1/4	7/8	3/8	4	1/8	1/4	15/32
G7069/16	9/16	0.5625	1/2	2.13/16	1/4	7/8	3/8	4	1/8	1/4	1/2
G70611/16	11/16	0.6875	1/2	2.13/16	1/4	7/8	1/2	4	1/8	1/4	5/8
G7063/4	3/4	0.7500	1/2	2.13/16	1/4	7/8	1/2	4	3/16	5/16	11/16
G70613/16	13/16	0.8125	1/2	2.13/16	1/4	7/8	1/2	4	3/16	5/16	3/4
G7067/8	7/8	0.8750	1/2	2.13/16	1/4	7/8	1/2	4	3/16	5/16	13/16
G7061	1″	1.0000	1/2	2.13/16	1/4	7/8	1/2	4	3/16	3/8	15/16

A400

HSS Subland Drill, Steam Tempered Finish

A versatile tool, designed to drill chamfered clearance holes for standard metric screws. A 118° point angle on the drill Pilot and a 90° Countersink. Suitable for both CNC and conventional machines. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■29 G	■33 G	■34 G	■25 G	■22 E	◪19 C	■15 E	■12 E	◪10 C	■9 E	◪7 C	◪6 C	◪22 E	◪19 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪20 E	◪16 E	◪10 G	◪9 G	◪8 G	◪12 C	■30 G	■22 E	■17 E	◪23 E	◪19 E	◪15 C	◪21 E	◪16 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 C	◪19 E	◪14 E	◪11 C	◪9 C	◪8 C	◪22 E	◪16 E	◪13 C	◪45 E	◪34 E	◪23 E	◪49 E	◪44 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪32 E	◪68 E	◪40 E	◪20 E	◪30 I	◪23 E	◪14 C	◪8 A	◪8 C	◪6 A	◪6 C	◪4 A	◪5 C	◪3 A

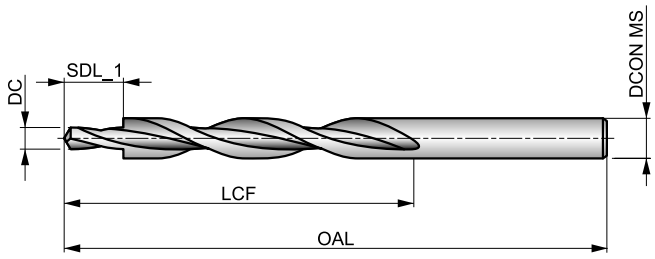
Product	TDZ	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	SDL_1 (mm)	DCON MS (mm)
A400M3	M3	3.20	0.1260	57.0	93.0	9.00	6.00
A400M4	M4	4.30	0.1693	75.0	117.0	11.00	8.00
A400M5	M5	5.30	0.2087	87.0	133.0	13.00	10.00
A400M6	M6	6.40	0.2520	94.0	142.0	15.00	11.50
A400M8	M8	8.40	0.3307	114.0	169.0	19.00	15.00

A402

DORMER

HSS Subland Drill, Steam Tempered Finish

Includes a 118° Pilot and 180° counterbore with specific Pilot diameter and length, recommended for creating counterbored clearance holes for standard metric screws. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for drilling many materials.



HSS	DIN 8376	4×D
180°	ST	
λ20-35°	R	118°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■29 G	■33 G	■34 G	■25 G	■22 E	◪19 C	■15 E	■12 E	◪10 C	■9 E	◪7 C	◪6 C	◪22 E	◪19 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪20 E	◪16 E	◪10 G	◪9 G	◪8 G	◪12 C	■30 G	■22 E	■17 E	◪23 E	◪19 E	◪15 C	◪21 E	◪16 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 C	◪19 E	◪14 E	◪11 C	◪9 C	◪8 C	◪22 E	◪16 E	◪13 C	◪45 E	◪34 E	◪23 E	◪49 E	◪44 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪32 E	◪68 E	◪40 E	◪20 E	◪30 I	◪23 E	◪14 C	◪8 A	◪8 C	◪6 A	◪6 C	◪4 A	◪5 C	◪3 A

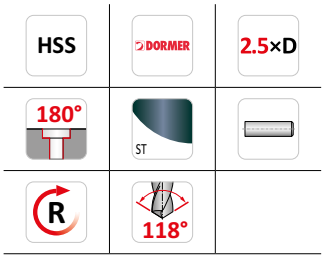
Product	TDZ	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	SDL_1 (mm)	DCON MS (mm)
A402M3	M3	3.40	0.1339	57.0	93.0	9.00	6.00
A402M4	M4	4.50	0.1772	75.0	117.0	11.00	8.00
A402M5	M5	5.50	0.2165	87.0	133.0	13.00	10.00
A402M6	M6	6.60	0.2598	94.0	142.0	15.00	11.00
A402M8	M8	9.00	0.3543	114.0	169.0	19.00	15.00
A402M10	M10	11.00	0.4331	130.0	191.0	23.00	18.00

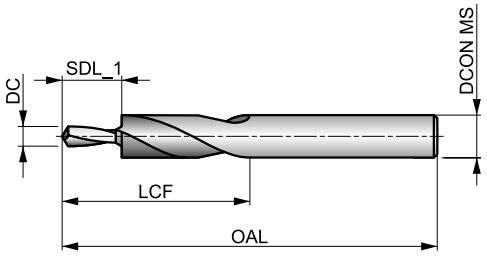
A413

DORMER

HSS Step Drill, Steam Tempered Finish

A versatile tool recommended for creating counterbored clearance holes for standard metric screws. A 118° Pilot and 180° counterbore. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for both CNC and conventional machines. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■29 I	■33 I	■34 I	■25 I	■22 G	◪19 E	■15 G	■12 G	◪10 E	■9 G	◪7 E	◪6 C	■22 G	■19 G
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■20 G	■16 G	◪10 I	◪9 I	◪8 I	◪12 E	■30 G	■22 E	■17 E	◪23 E	◪19 E	◪15 E	◪21 E	◪16 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪19 E	◪14 E	◪11 E	◪9 E	◪8 E	◪22 E	◪16 E	◪13 E	◪45 G	◪34 G	◪23 G	◪42 G	◪37 G
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪27 G	◪68 G	◪40 G	◪20 G	◪30 I	◪27 G	◪16 E	◪8 C	◪11 G	◪6 C	◪8 G	◪4 C	◪6 G	◪3 C

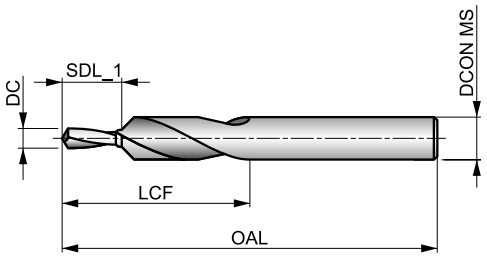
Product	TDZ	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	SDL_1 (mm)	DCON MS (mm)
A413M3	M3	3.40	0.1339	28.0	66.0	9.00	6.00
A413M4	M4	4.50	0.1772	37.0	79.0	11.00	8.00
A413M5	M5	5.50	0.2165	43.0	89.0	13.00	10.00
A413M6	M6	6.60	0.2598	47.0	95.0	15.00	11.00
A413M8	M8	9.00	0.3543	56.0	111.0	19.00	15.00
A413M10	M10	11.00	0.4331	62.0	123.0	23.00	18.00

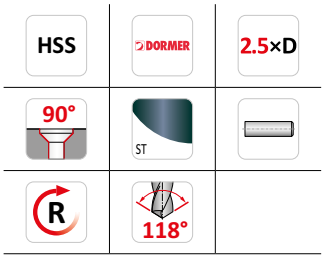
A412

DORMER

HSS Step Drill, Steam Tempered Finish

Designed to drill chamfered clearance holes for standard metric screws. A 118° point angle on the drill Pilot with a 90° chamfer. Steam tempered finish retains cutting fluid and prevents chip to tool welding. Suitable for drilling many materials. It is suitable for both CNC and conventional machines.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 29 I	■ 33 I	■ 34 I	■ 25 I	■ 22 G	◪ 19 E	■ 15 G	■ 12 G	◪ 10 E	■ 9 G	◪ 7 E	◪ 6 C	■ 22 G	■ 19 G
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
■ 20 G	■ 16 G	◪ 10 I	◪ 9 I	◪ 8 I	◪ 12 E	■ 30 G	■ 22 E	■ 17 E	◪ 23 E	◪ 19 E	◪ 15 E	◪ 21 E	◪ 16 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 13 E	◪ 19 E	◪ 14 E	◪ 11 E	◪ 9 E	◪ 8 E	◪ 22 E	◪ 16 E	◪ 13 E	◪ 45 G	◪ 34 G	◪ 23 G	◪ 42 G	◪ 37 G
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**
◪ 27 G	◪ 68 G	◪ 40 G	◪ 20 G	◪ 30 I	◪ 27 G	◪ 16 E	◪ 8 C	◪ 11 G	◪ 6 C	◪ 8 G	◪ 4 C	◪ 6 G	◪ 3 C

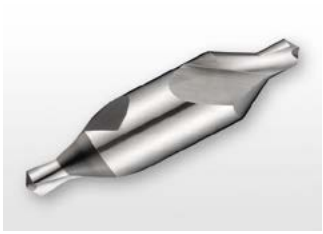
Product	TDZ	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	SDL_1 (mm)	DCON MS (mm)
A412M3	M3	3.40	0.1339	31.0	70.0	9.00	6.60
A412M4	M4	4.50	0.1772	40.0	84.0	11.00	9.00
A412M5	M5	5.50	0.2165	47.0	95.0	13.00	11.00
A412M6	M6	6.60	0.2598	51.0	102.0	15.00	13.00
A412M8	M8	9.00	0.3543	62.0	123.0	19.00	17.20
A412M10	M10	11.00	0.4331	70.0	141.0	23.00	21.50

Material code (BMC)	HSS	HSS	HSS-E	HSS-E	HSS	HSS	HSS	HSS-E	HM	HSS	
Basic standard group (BSG)	DIN 333A	DIN 333A	DIN 333A	DIN 333A	DIN 333R	DORMER	BS 328	DORMER	DIN 333A		
Usable length (ULDR)	1×D	1×D	1×D	1×D	1×D	1×D	1×D	1×D	1×D	1×D	
Application angle	60°	60°	60°	60°	R	60°	60°	60°	60°	60°	
Coating	Bright	TiN	Bright	TiAlN	Bright	Bright	Bright	Bright	Bright	Bright	
Shank											
Hand (Cutting direction)	R	R	R	R	R	R	R	R	R	R	
Product Family Code	A200	A205	A206	A266	A210	A201	A225	A242	R200	A296	
PSF cutting diameters range	0.50 - 12.50	1.00 - 5.00	1.00 - 5.00	1.00 - 5.00	0.50 - 8.00	0.63 - 6.00	3/64 - 5/16	1.00 - 5.00	1.00 - 5.00	Set	
	148	149	150	151	152	153	154	155	156	156	
P	P1	■	■	■	■	■	■	■	■	■	
	P2	■	■	■	■	■	■	■	■	■	
	P3	■	■	■	■	■	■	■	■	■	
	P4	◪	◪	◪	◪	◪	◪	◪	◪	■	
M	M1	◪	◪	◪	◪	◪	◪	◪	◪		
	M2	◪	◪	◪	◪	◪	◪	◪	◪		
	M3	◪	◪	◪	◪	◪	◪	◪	◪		
	M4	◪	◪	◪	◪	◪	◪	◪	◪		
K	K1	■	■	■	■	■	■	■	■	■	
	K2	◪	◪	◪	◪	◪	◪	◪	◪	■	
	K3	◪	◪	◪	◪	◪	◪	◪	◪	■	
	K4	◪	◪	◪	◪	◪	◪	◪	◪	■	
	K5	◪	◪	◪	◪	◪	◪	◪	◪	■	
N	N1	◪	◪	◪	◪	◪	◪	◪	◪	■	
	N2	◪	◪	◪	◪	◪	◪	◪	◪	■	
	N3	◪	◪	◪	◪	◪	◪	◪	◪	■	
	N4	◪	◪	◪	◪	◪	◪	◪	◪		
	N5										
S	S1	◪	◪	◪	◪	◪	◪	◪	◪		
	S2	◪	◪	◪	◪	◪	◪	◪	◪		
	S3	◪	◪	◪	◪	◪	◪	◪	◪		
	S4	◪	◪	◪	◪	◪	◪	◪	◪		
H	H1										
	H2										
	H3										
	H4										

■ Primary use ◪ Possible use

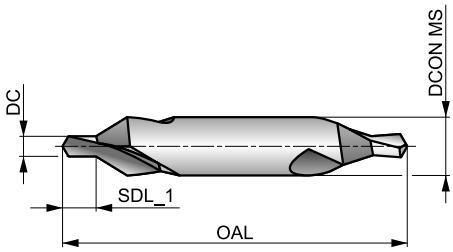
A200

DORMER



HSS Centre Drill with 118° Point angle and 60° Countersink, Bright Finish

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. Suitable for many materials.



HSS	DIN 333A	1×D
60°	Bright	
R	118°	

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 I	■37 I	■38 I	■28 I	■25 G	◪22 E	■19 F	■15 F	◪13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 E	◪15 E	◪9 G	◪8 G	◪7 G	◪10 C	■30 I	■22 F	■17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪27 H	◪56 H	◪33 I	◪17 G	◪30 J	◪28 H	◪14 F	◪24 F	◪13 D	◪7 B	◪7 E	◪6 A	◪5 E	◪4 A
S4.1	**S4.2**												
◪4 E	◪3 A												

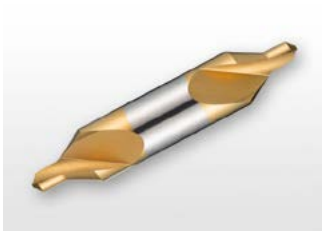
Products from this series are also available in set. Please see A296.

Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
A200.5X3.15 [1]	0.50	0.0197	0.9 - 0.6	25.0	3.15
A200.8X3.15 [1]	0.80	0.0315	1.3 - 1.0	25.0	3.15
A2001.0X3.15	1.00	0.0394	1.7 - 1.3	31.0	3.15
A2001.25X3.15	1.25	0.0492	2.0 - 1.6	31.0	3.15
A2001.6X4.0	1.60	0.0630	2.6 - 2.0	35.0	4.00
A2002.0X5.0	2.00	0.0787	3.1 - 2.5	40.0	5.00
A2002.5X6.3	2.50	0.0984	3.8 - 3.1	45.0	6.30
A2003.15X8.0	3.15	0.1240	4.6 - 3.9	50.0	8.00
A2004.0X10.0	4.00	0.1575	5.9 - 5.0	55.0	10.00
A2005.0X12.5	5.00	0.1969	7.2 - 6.3	63.0	12.50
A2006.3X16.0	6.30	0.2480	8.9 - 8.0	71.0	16.00
A2008.0X20.0	8.00	0.3150	11.1 - 10.1	80.0	20.00
A20010.0X25.0	10.00	0.3937	13.8 - 12.8	100.0	25.00
A20012.5X31.5	12.50	0.4921	17.5 - 16.5	125.0	31.50

[1] Single Ended Only.

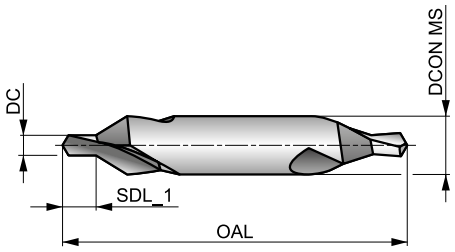
A205

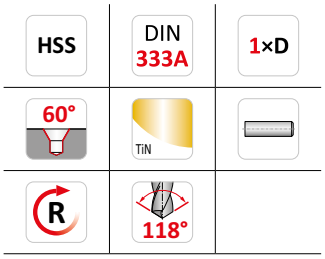
DORMER



HSS Centre Drill with 118° Point angle and 60° Countersink, TiN Coated

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. TiN coating improves performance and extends tool life. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■40 I	■45 I	■46 I	■34 I	■30 G	◪27 E	■24 F	■19 F	◪16 E	■14 F	◪12 E	◪10 D	◪25 E	◪21 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪22 E	◪18 E	◪12 G	◪10 G	◪9 G	◪12 C	■36 I	■27 F	■20 F	◪30 E	◪24 E	◪19 E	◪26 E	◪20 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪16 E	◪24 E	◪18 E	◪13 E	◪11 E	◪10 E	◪27 E	◪21 E	◪16 E	◪40 J	◪30 J	◪20 I	◪49 H	◪44 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪32 H	◪68 H	◪40 I	◪20 G	◪36 J	◪34 H	◪17 F	◪29 F	◪16 D	◪8 B	◪8 E	◪7 A	◪6 E	◪5 A
S4.1	**S4.2**												
◪5 E	◪4 A												

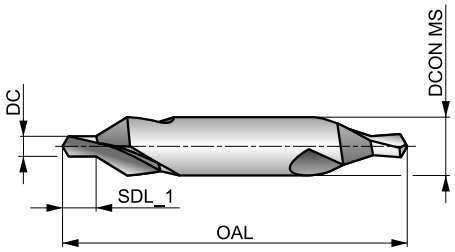
Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
A2051.0X3.15	1.00	0.0394	1.7 - 1.3	31.0	3.15
A2051.25X3.15	1.25	0.0492	2.0 - 1.6	31.0	3.15
A2051.6X4.0	1.60	0.0630	2.6 - 2.0	35.0	4.00
A2052.0X5.0	2.00	0.0787	3.1 - 2.5	40.0	5.00
A2052.5X6.3	2.50	0.0984	3.8 - 3.1	45.0	6.30
A2053.15X8.0	3.15	0.1240	4.6 - 3.9	50.0	8.00
A2054.0X10.0	4.00	0.1575	5.9 - 5.0	55.0	10.00
A2055.0X12.5	5.00	0.1969	7.2 - 6.3	63.0	12.50

A206

DORMER

HSS-E Centre Drill with 118° Point angle and 60° Countersink, Bright Finish

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. Suitable for drilling many materials.



HSS-E	DIN 333A	1×D
60°	Bright	
R	118°	

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■40 I	■45 I	■46 I	■34 I	■30 G	◪27 E	■24 F	■19 F	◪16 E	■14 F	◪12 E	◪10 D	◪25 E	◪21 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪22 E	◪18 E	◪12 G	◪10 G	◪9 G	◪12 C	■36 I	■27 F	■20 F	◪30 E	◪24 E	◪19 E	◪26 E	◪20 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪16 E	◪24 E	◪18 E	◪13 E	◪11 E	◪10 E	◪27 E	◪21 E	◪16 E	◪40 J	◪30 J	◪20 I	◪49 H	◪44 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪32 H	◪68 H	◪40 I	◪20 G	◪36 J	◪34 H	◪17 F	◪29 F	◪16 D	◪8 B	◪8 E	◪7 A	◪6 E	◪5 A
S4.1	**S4.2**												
◪5 E	◪4 A												

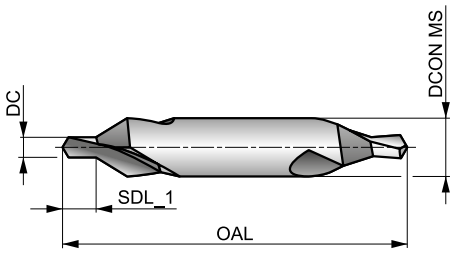
Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
A2061.0X3.15	1.00	0.0394	1.7 - 1.3	31.0	3.15
A2061.25X3.15	1.25	0.0492	2.0 - 1.6	31.0	3.15
A2061.6X4.0	1.60	0.0630	2.6 - 2.0	35.0	4.00
A2062.0X5.0	2.00	0.0787	3.1 - 2.5	40.0	5.00
A2062.5X6.3	2.50	0.0984	3.8 - 3.1	45.0	6.30
A2063.15X8.0	3.15	0.1240	4.6 - 3.9	50.0	8.00
A2064.0X10.0	4.00	0.1575	5.9 - 5.0	55.0	10.00
A2065.0X12.5	5.00	0.1969	7.2 - 6.3	63.0	12.50

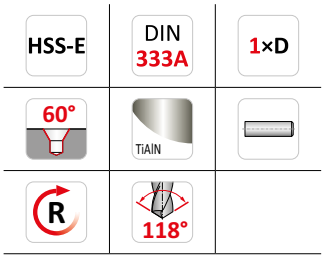
A266

DORMER

HSS-E Centre Drill with 118° Pilot and 60° Countersink, TiALN Coated

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. TiAlN coating improves performance and extends tool life. Suitable for drilling many materials.





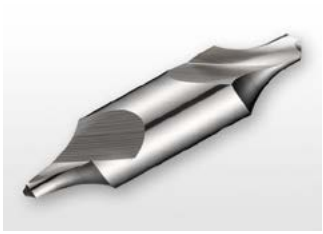
Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■40 I	■45 I	■46 I	■34 I	■30 G	◪27 E	■24 F	■19 F	◪16 E	■14 F	◪12 E	◪10 D	◪25 E	◪21 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪22 E	◪18 E	◪12 G	◪10 G	◪9 G	◪12 C	■36 I	■27 F	■20 F	◪30 E	◪24 E	◪19 E	◪26 E	◪20 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪16 E	◪24 E	◪18 E	◪13 E	◪11 E	◪10 E	◪27 E	◪21 E	◪16 E	◪40 J	◪30 J	◪20 I	◪49 H	◪44 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪32 H	◪68 H	◪40 I	◪20 G	◪36 J	◪34 H	◪17 F	◪29 F	◪16 D	◪8 B	◪8 E	◪7 A	◪6 E	◪5 A
S4.1	**S4.2**												
◪5 E	◪4 A												

Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
A2661.0X3.15	1.00	0.0394	1.7 - 1.3	31.0	3.15
A2661.25X3.15	1.25	0.0492	2.0 - 1.6	31.0	3.15
A2661.6X4.0	1.60	0.0630	2.6 - 2.0	35.0	4.00
A2662.0X5.0	2.00	0.0787	3.1 - 2.5	40.0	5.00
A2662.5X6.3	2.50	0.0984	3.8 - 3.1	45.0	6.30
A2663.15X8.0	3.15	0.1240	4.6 - 3.9	50.0	8.00
A2664.0X10.0	4.00	0.1575	5.9 - 5.0	55.0	10.00
A2665.0X12.5	5.00	0.1969	7.2 - 6.3	63.0	12.50

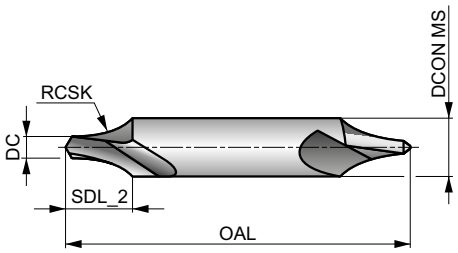
A210

DORMER



HSS Center Drill, 118° Point angle and Concave Countersink, Bright Finish

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. Can be used to machine a number of materials.



HSS	DIN 333R	1×D
R	Bright	
R	118°	

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 I	■37 I	■38 I	■28 I	■25 G	◪22 E	■19 F	■15 F	◪13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 E	◪15 E	◪9 G	◪8 G	◪7 G	◪10 C	■30 I	■22 F	■17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪27 H	◪56 H	◪33 I	◪17 G	◪30 J	◪28 H	◪14 F	◪24 F	◪13 D	◪7 B	◪7 E	◪6 A	◪5 E	◪4 A
S4.1	**S4.2**												
◪4 E	◪3 A												

Product	DC (mm)	DC (inch)	SDL_2 (mm)	OAL (mm)	RCSK (mm)	DCON MS (mm)
A210.5X3.15 [1]	0.50	0.0197	2.6 - 2.3	25.0	2.50 - 2.00	3.15
A210.8X3.15 [1]	0.80	0.0315	2.9 - 2.6	25.0	3.15 - 2.50	3.15
A2101.0X3.15	1.00	0.0394	3.3 - 3.0	31.0	3.65 - 2.90	3.15
A2101.25X3.15	1.25	0.0492	3.6 - 3.3	31.0	3.95 - 3.15	3.15
A2101.6X4.0	1.60	0.0630	4.7 - 4.2	35.0	5.00 - 4.00	4.00
A2102.0X5.0	2.00	0.0787	5.4 - 5.0	40.0	6.25 - 5.00	5.00
A2102.5X6.3	2.50	0.0984	6.8 - 6.3	45.0	7.88 - 6.30	6.30
A2103.15X8.0	3.15	0.1240	8.5 - 8.0	50.0	10.00 - 8.00	8.00
A2104.0X10.0	4.00	0.1575	10.6 - 10.0	55.0	12.50 - 10.00	10.00
A2105.0X12.5	5.00	0.1969	13.1 - 12.5	63.0	15.63 - 12.50	12.50
A2106.3X16.0	6.30	0.2480	16.6 - 16.0	71.0	20.00 - 16.00	16.00
A2108.0X20.0	8.00	0.3150	20.7 - 20.0	80.0	25.00 - 20.00	20.00

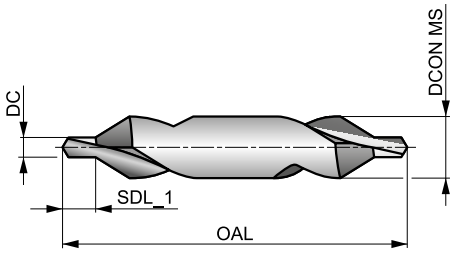
[1] Single Ended Only.

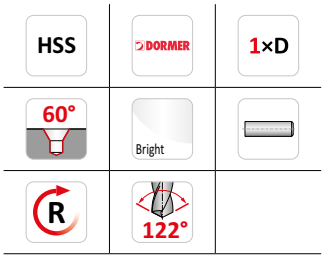
A201

DORMER

HSS Centre Drill with 122° Point angle and 60° Countersink, Bright Finish

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

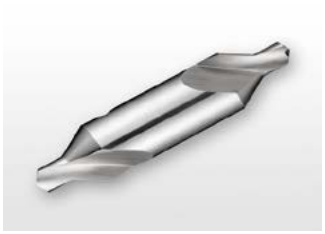
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 I	■37 I	■38 I	■28 I	■25 G	◪22 E	■19 F	■15 F	◪13 E	■11 F	◪10 E	◪8 D	◪21 E	◪17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪18 E	◪15 E	◪9 G	◪8 G	◪7 G	◪10 C	■30 I	■22 F	■17 F	◪25 E	◪20 E	◪16 E	◪22 E	◪17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪13 E	◪20 E	◪15 E	◪11 E	◪10 E	◪8 E	◪23 E	◪17 E	◪13 E	◪33 J	◪25 J	◪17 I	◪42 H	◪37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪27 H	◪56 H	◪33 I	◪17 G	◪30 J	◪28 H	◪14 F	◪24 F	◪13 D	◪7 B	◪7 E	◪6 A	◪5 E	◪4 A
S4.1	**S4.2**												
◪4 E	◪3 A												

Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
A201.63X3.15 [1]	0.63	0.0248	1.2 - 0.9	20.0	3.15
A201.75X3.5	0.75	0.0295	1.3 - 1.0	35.0	3.50
A2011.0X4.0	1.00	0.0394	2.1 - 1.5	35.0	4.00
A2011.5X5.0	1.50	0.0591	2.8 - 2.0	40.0	5.00
A2011.6X5.0	1.60	0.0630	2.4 - 2.0	40.0	5.00
A2012.0X6.0	2.00	0.0787	4.0 - 3.0	45.0	6.00
A2012.0X6.3	2.00	0.0787	2.9 - 2.5	45.0	6.30
A2012.5X8.0	2.50	0.0984	4.5 - 3.5	50.0	8.00
A2013.0X8.0	3.00	0.1181	4.4 - 3.9	50.0	8.00
A2013.0X10.0	3.00	0.1181	5.0 - 4.0	56.0	10.00
A2013.15X10.0	3.15	0.1240	4.4 - 3.9	56.0	10.00
A2014.0X12.0	4.00	0.1575	6.2 - 5.0	66.0	12.00
A2015.0X14.0	5.00	0.1969	7.7 - 6.5	78.0	14.00
A2016.0X18.0	6.00	0.2362	9.2 - 8.0	90.0	18.00

[1] Single Ended Only.

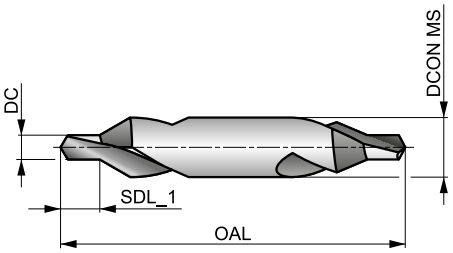
A225

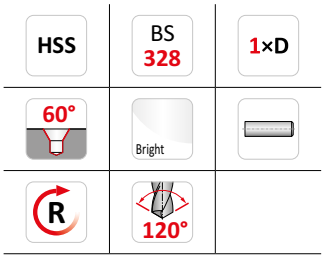
DORMER



HSS Centre Drill with 120° Point angle and 60° Countersink, Bright Finish

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. British Standard 328. The two drilling ends give increased productivity per tool. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 33 I	■ 37 I	■ 38 I	■ 28 I	■ 25 G	◪ 22 E	■ 19 F	■ 15 F	◪ 13 E	■ 11 F	◪ 10 E	◪ 8 D	◪ 21 E	◪ 17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪ 18 E	◪ 15 E	◪ 9 G	◪ 8 G	◪ 7 G	◪ 10 C	■ 30 I	■ 22 F	■ 17 F	◪ 25 E	◪ 20 E	◪ 16 E	◪ 22 E	◪ 17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 13 E	◪ 20 E	◪ 15 E	◪ 11 E	◪ 10 E	◪ 8 E	◪ 23 E	◪ 17 E	◪ 13 E	◪ 33 J	◪ 25 J	◪ 17 I	◪ 42 H	◪ 37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪ 27 H	◪ 56 H	◪ 33 I	◪ 17 G	◪ 30 J	◪ 28 H	◪ 14 F	◪ 24 F	◪ 13 D	◪ 7 B	◪ 7 E	◪ 6 A	◪ 5 E	◪ 4 A
S4.1	**S4.2**												
◪ 4 E	◪ 3 A												

Products from this series are also available in set. Please see A296.

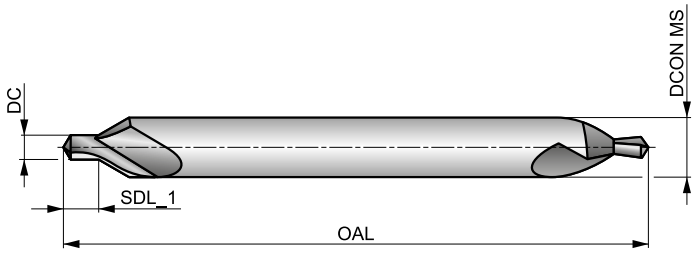
Product	Nr.	DC (inch)	DC (inch)	SDL_1 (inch)	OAL (inch)	DCON MS (inch)
A225BS1	BS1	3/64	0.0469	5/64 - 1/16	1.1/2	1/8
A225BS2	BS2	1/16	0.0625	3/32 - 5/64	1.3/4	3/16
A225BS3	BS3	3/32	0.0938	5/32 - 1/8	2"	1/4
A225BS4	BS4	1/8	0.1250	3/16 - 5/32	2.1/4	5/16
A225BS5	BS5	3/16	0.1875	9/32 - 1/4	2.1/2	7/16
A225BS5A	BS5A	7/32	0.2188	5/16 - 9/32	2.3/4	1/2
A225BS6	BS6	1/4	0.2500	3/8 - 5/16	3"	5/8
A225BS7	BS7	5/16	0.3125	15/32 - 13/32	3.1/2	3/4

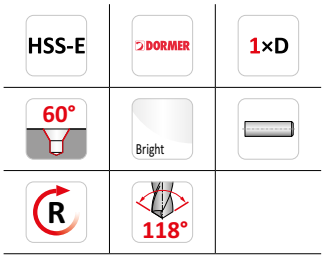
A242

DORMER

HSS-E (5% Co) Long Center Drill, 118° Point, 60° Countersink, Bright Finish

Designed to start a precise hole in the end of a shaft so it can be securely held prior to machining. The two drilling ends give increased productivity per tool. Suitable for drilling many materials.





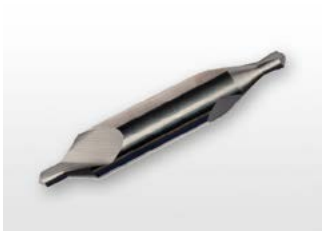
Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 33 I	■ 37 I	■ 38 I	■ 28 I	■ 25 G	◪ 22 E	■ 19 F	■ 15 F	◪ 13 E	■ 11 F	◪ 10 E	◪ 8 D	◪ 21 E	◪ 17 E
M2.1	**M2.2**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**
◪ 18 E	◪ 15 E	◪ 9 G	◪ 8 G	◪ 7 G	◪ 10 C	■ 30 I	■ 22 F	■ 17 F	◪ 25 E	◪ 20 E	◪ 16 E	◪ 22 E	◪ 17 E
K3.3	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 13 E	◪ 20 E	◪ 15 E	◪ 11 E	◪ 10 E	◪ 8 E	◪ 23 E	◪ 17 E	◪ 13 E	◪ 33 J	◪ 25 J	◪ 17 I	◪ 42 H	◪ 37 H
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
◪ 27 H	◪ 56 H	◪ 33 I	◪ 17 G	◪ 30 J	◪ 28 H	◪ 14 F	◪ 24 F	◪ 13 D	◪ 7 B	◪ 7 E	◪ 6 A	◪ 5 E	◪ 4 A
S4.1	**S4.2**												
◪ 4 E	◪ 3 A												

Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
A2421.0X4.0	1.00	0.0394	1.7 - 1.3	100.0	4.00
A2421.5X5.0	1.50	0.0591	2.6 - 2.0	100.0	5.00
A2422.0X6.0	2.00	0.0787	3.1 - 2.5	100.0	6.00
A2422.5X8.0	2.50	0.0984	3.8 - 3.1	100.0	8.00
A2423.0X8.0	3.00	0.1181	4.6 - 3.9	100.0	8.00
A2423.0X10.0	3.00	0.1181	4.6 - 3.9	100.0	10.00
A2424.0X10.0	4.00	0.1575	5.9 - 5.0	100.0	10.00
A2424.0X12.0	4.00	0.1575	5.9 - 5.0	100.0	12.00
A2425.0X12.0	5.00	0.1969	7.2 - 6.3	100.0	12.00

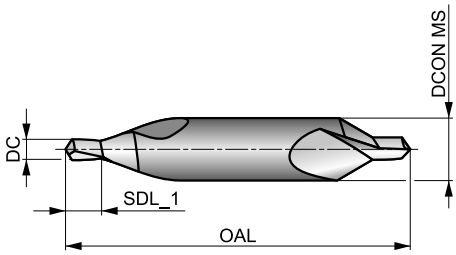
R200

DORMER



Solid Carbide Center Drill with 118° Point and 60° Countersink, Bright Finish

Recommended for starting a precise hole in the end of a shaft so it can be securely held prior to machining. Suitable to machine a number of materials and has two drilling ends to give increased productivity per tool. Includes a 118° point angle and 60° countersink. Suitable for all CNC machines.



HM	DIN 333A	1×D
60°	Bright	
R		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
■60 H	■67 H	■69 H	■51 H	■45 F	■40 D	■44 E	■36 E	■30 D	■26 E	■22 D	■18 C	■40 H	■30 E
K1.3	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**
■22 E	■37 D	■30 D	■24 D	■33 D	■25 D	■20 D	■30 D	■23 D	■17 D	■14 D	■12 D	■34 D	■26 D
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**				
■20 D	■120 I	■90 I	■60 H	■154 G	■138 G	■100 G	■169 G	■100 H	■50 F				

Product	DC (mm)	DC (inch)	SDL_1 (mm)	OAL (mm)	DCON MS (mm)
R2001.0X3.15	1.00	0.0394	1.7 - 1.3	31.0	3.15
R2001.25X3.15	1.25	0.0492	2.0 - 1.6	31.0	3.15
R2001.6X4.0	1.60	0.0630	2.6 - 2.0	35.0	4.00
R2002.0X5.0	2.00	0.0787	3.1 - 2.5	40.0	5.00
R2002.5X6.3	2.50	0.0984	3.8 - 3.1	45.0	6.30
R2003.15X8.0	3.15	0.1240	4.6 - 3.9	50.0	8.00
R2004.0X10.0	4.00	0.1575	5.9 - 5.0	55.0	10.00
R2005.0X12.5	5.00	0.1969	7.2 - 6.3	63.0	12.50

A296

DORMER

HSS Centre Drill Set

A set of five center drills which come in a handy plastic case to keep all your drills together. Recommended for starting a precise hole in the end of a shaft it can be securely held prior to machining. The two drilling ends gives increased productivity per tool.

A296200 - 118° point DIN333A, A296225 - 120° point BS328. A=Styles in Set, B=No. in Set, C=Diameters in Set.

Product	Nr.	A	B	C
A296200	200	A200	5	1.00 mm, 2.00 mm, 2.50 mm, 3.15 mm, 4.00 mm
A296225	225	A225	5	BS1, BS2, BS3, BS4, BS5

Material code (BMC)	HSS	HSS-E	HSS	HSS-E	HM	HSS	HSS	HSS	HSS
Coating	TiN	Bright	TiAlN	AlTiCN	Bright	TiAlN	Bright	Bright	TiN
Basic standard group (BSG)	DIN 334C	DORMER	DIN 335C	DIN 335C	DIN 335C	DIN 335C	DIN 334D	DIN 335D	DIN 335D
Hand (Cutting direction)	R	R	R	R	R	R	R	R	R
Shank									
Application angle	60°	90°	90°	90°	90°	100°	60°	90°	90°
Product Family Code	G335	G149	G560	G570	G400	G171	G137	G138	G338
PSF cutting diameters range	6.30 - 25.00	5.00 - 25.00	6.30 - 31.00	6.30 - 31.00	6.30 - 31.00	6.30 - 25.00	31.50 - 50.00	25.00 - 63.00	25.00 - 50.00
	158	159	160	161	162	163	164	165	166
P P1	■	■	■	◪	■	■	■	■	■
P2	■	■	■	◪	■	■	■	■	■
P3	■	■	■	■	■	■	◪	◪	■
P4	■		■	■	■	■	◪	◪	■
M M1	◪	◪	◪	■	■	◪	◪	◪	◪
M2	◪	◪	◪	■	◪	◪	◪	◪	◪
M3	◪			■	◪				
M4				◪	◪				
K K1	■	◪	■	■	■	■	◪	◪	■
K2	■	◪	■	■	■	■	◪	◪	■
K3	■	◪	■	■	■	■	◪	◪	■
K4	◪		◪	◪	■	◪			◪
K5	■	◪	■	■	■	■	◪	◪	■
N N1	■	■	◪	◪	■	◪	◪	◪	■
N2	■	◪	■	◪	■	■	◪	◪	■
N3	■	■	■	◪	■	■	■	■	■
N4	◪	◪	◪		■	◪	◪	◪	◪
N5									
S S1					■				
S2					◪				
S3					◪				
S4					◪				
H H1					■				
H2					■				
H3					◪				
H4					◪				

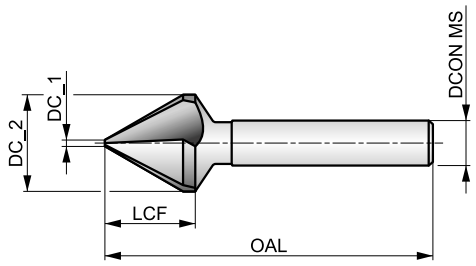
■ Primary use ◪ Possible use

G335

DORMER

HSS Straight Shank 60° Countersink, TiN Coated

For 60° countersink chamfer holes to accommodate special fasteners and removing burrs from drilled holes. TiN coating improves performance and extends tool life. Versatile tool that can be used in both hand-held and machine applications. Suitable to chamfer holes in many materials.



HSS | TiN | DIN 334C | R | 60°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 E	■37 E	■38 E	■28 E	■25 D	■22 B	■23 D	■18 D	■15 B	■13 D	■11 B	◪9 B	◪10 C	◪8 C
M2.1	**M3.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**
◪9 C	◪8 B	■34 F	■25 D	◪19 D	■35 C	■28 C	◪23 C	■31 C	■24 C	◪19 C	◪29 C	◪22 C	◪16 C
K5.1	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**
■32 C	■24 C	◪19 C	■53 G	■40 G	■27 F	■27 F	■24 F	■17 F	■28 F	■16 F	◪8 D	◪58 G	◪50 G

DCON MS tolerance h9.

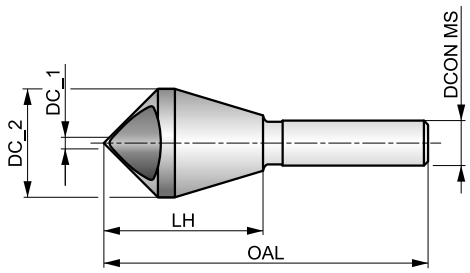
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G3356.3	6.30	1.60	6.8	45.0	5.00	3
G3358.0	8.00	2.00	8.5	50.0	6.00	3
G33510.0	10.00	2.50	7.6	50.0	6.00	3
G33512.5	12.50	3.20	11.7	56.0	8.00	3
G33516.0	16.00	4.00	14.5	63.0	10.00	3
G33520.0	20.00	5.00	17.5	67.0	10.00	3
G33525.0	25.00	6.30	20.5	71.0	10.00	3

G149

DORMER

HSS-E Straight Shank Cross-Hole 90° Countersink, Bright Finish

A 90° Countersink designed to chamfer holes and for removing burrs from drilled holes. The special cross-hole design directs chips away from the cutting edge to give a smooth chamfering operation. Suitable to chamfer holes in many materials.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	M1.1	M1.2	M2.1	K1.1	K2.1	K3.1
◪21 D	■24 D	■25 D	■18 D	■16 C	◪14 A	■16 B	◪13 B	◪8 B	◪6 B	◪7 B	◪18 D	◪19 A	◪16 A

K5.1	N1.1	N1.2	N1.3	N2.1	N2.2	N3.1	N3.2	N3.3	N4.1	N4.2
◪14 A	■34 D	■25 D	■16 C	◪16 C	◪14 C	■17 C	■9 C	■5 B	◪17 D	◪5 D

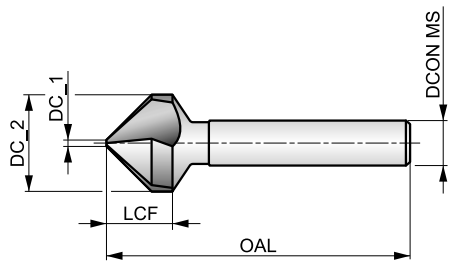
Product	DC_2	DC_1	LH	OAL	DCON MS	DC	NOF
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
G1495	5.00	2.00	19.0	45.0	6.00	10.00	1
G14910	10.00	5.00	23.0	48.0	8.00	14.00	1
G14915	15.00	10.00	34.0	65.0	10.00	21.00	1
G14920	20.00	15.00	43.0	84.0	12.00	28.00	1
G14925	25.00	20.00	48.0	102.0	15.00	35.00	1

G560

DORMER

HSS Straight Shank 90° Countersink, TiAlN Coated

A 90° Countersink designed for chamfering standard fastener holes and removing burrs from drilled holes. Reduced shank allows larger diameter countersinks in standard holders and chucks. Versatile tool, which can be used in hand-held and machine applications. TiAlN coating improves performance and extends tool life.



HSS | TiAlN | DIN 335C | R | 90°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■40 E	■45 E	■46 E	■34 E	■30 D	■27 B	■28 D	■22 D	■19 B	■16 D	■14 B	◪11 B	◪11 C	◪9 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**
◪10 C	◪9 C	◪8 B	■41 F	■30 D	◪23 D	■42 C	■34 C	◪27 C	■37 C	■28 C	◪23 C	◪34 C	◪26 C
K4.3	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**
◪19 C	■39 C	■29 C	◪23 C	◪60 G	◪45 G	■30 F	■30 F	■27 F	■19 F	■32 F	■18 F	◪9 D	◪62 G
N4.2													
◪55 G													

DCON MS tolerance h9.
Products from this series are also available in set. Please see G236.

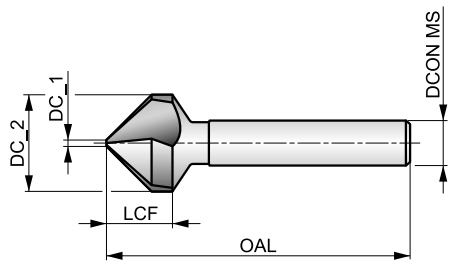
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G5606.3	6.30	1.50	5.5	45.0	5.00	3
G5608.0	8.00	2.00	6.1	50.0	6.00	3
G5608.3	8.30	2.00	6.5	50.0	6.00	3
G56010.0	10.00	2.50	7.6	50.0	6.00	3
G56010.4	10.40	2.50	7.6	50.0	6.00	3
G56012.4	12.40	2.80	8.5	56.0	8.00	3
G56016.5	16.50	3.20	10.5	60.0	10.00	3
G56020.5	20.50	3.50	13.0	63.0	10.00	3
G56025.0	25.00	3.80	15.5	67.0	10.00	3
G56031.0	31.00	4.20	18.5	71.0	12.00	3

G570

DORMER

HSS-E Straight Shank 90° Countersink, AlTiCN Coated

A 90° Countersink designed for chamfering holes to accommodate standard fasteners and clean burrs from drilled holes. Can be used in machine and hand-held applications. Particularly suited to chamfering holes in hard and abrasive materials. AlTiCN coating improves performance and extends tool life.



HSS-E | AlTiCN | DIN 335C | R | 90°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
◪40 E	◪45 E	◪46 E	◪34 E	◪30 D	■27 B	■28 D	■22 D	■19 B	■16 D	■14 B	◪11 B	■23 C	■20 C
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
■21 C	■17 C	◪14 A	■14 B	■12 B	◪11 B	■15 A	◪13 A	■41 C	■30 C	◪23 C	■42 C	■34 C	◪27 C
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
■37 C	■28 C	◪23 C	◪34 C	◪26 C	◪19 C	■39 C	■29 C	◪23 C	◪60 G	◪45 G	◪30 F	◪30 F	◪27 F
N2.3	**N3.1**	**N3.2**	**N3.3**										
◪19 F	◪32 F	◪18 F	◪9 D										

DCON MS tolerance h9.

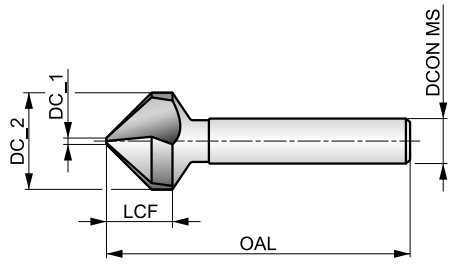
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G5706.3	6.30	1.50	6.5	45.0	5.00	3
G5708.3	8.30	2.00	8.2	50.0	6.00	3
G57010.4	10.40	2.50	9.7	50.0	6.00	3
G57012.4	12.40	2.80	10.6	56.0	8.00	3
G57016.5	16.50	3.20	13.9	60.0	10.00	3
G57020.5	20.50	3.50	17.1	63.0	10.00	3
G57025.0	25.00	3.80	21.4	67.0	10.00	3
G57031.0	31.00	4.20	24.4	71.0	12.00	3

G400

DORMER

Carbide Straight Shank 90° Countersink, Bright Finish

High performance 90° countersink with bright finish, designed for use with CNC machines where high productivity and quality are required. Can be used for chamfering holes in hard and abrasive materials. A 90° angle is designed to chamfer holes for standard fasteners with 90° heads.



HM	Bright	DIN 335C
R		90°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 64 E	■ 72 E	■ 74 E	■ 55 E	■ 48 D	■ 43 B	■ 45 D	■ 36 D	■ 30 B	■ 26 D	■ 23 B	■ 18 A	■ 24 C	■ 21 C
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
■ 22 C	◪ 18 C	◪ 15 B	■ 20 B	◪ 17 B	◪ 15 B	◪ 15 A	◪ 13 A	■ 45 F	■ 33 D	■ 25 D	■ 46 C	■ 37 C	◪ 30 C
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■ 41 C	■ 31 C	◪ 25 C	■ 38 C	■ 28 C	■ 21 C	◪ 18 C	◪ 15 C	■ 43 C	■ 32 C	■ 25 C	◪ 75 G	■ 55 G	■ 40 F
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**
■ 40 F	■ 36 F	■ 26 F	■ 42 F	■ 25 F	◪ 13 D	■ 17 E	■ 12 C	■ 10 A	◪ 9 A	■ 8 B	◪ 7 A	■ 6 B	◪ 5 A
S4.1	**S4.2**	**H1.1**	**H2.1**	**H2.2**	**H3.1**	**H3.2**	**H4.1**	**H4.2**					
■ 5 B	◪ 4 A	■ 12 A	■ 7 A	◪ 6 B	■ 8 A	◪ 7 B	■ 5 A	◪ 4 B					

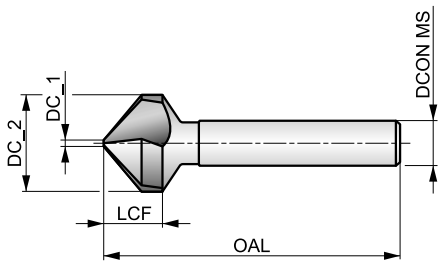
DCON MS tolerance h6.

Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G4006.3	6.30	1.50	5.0	45.0	5.00	3
G4008.3	8.30	2.00	6.0	50.0	6.00	3
G40010.4	10.40	2.50	7.1	50.0	6.00	3
G40012.4	12.40	2.80	8.0	56.0	8.00	3
G40016.5	16.50	3.20	10.0	60.0	10.00	3
G40020.5	20.50	3.50	12.5	63.0	10.00	3
G40025.0	25.00	3.80	15.0	67.0	10.00	3
G40031.0	31.00	4.20	18.0	71.0	12.00	3

G171

HSS Straight Shank 100° Countersink, TiAlN Coated

A 100° Countersink designed for chamfering standard fastener holes and removing burrs. A versatile tool with a TiAlN coating which improves performance and extends tool life. Versatile tool that can be used in both hand-held and machine applications. Suitable to chamfer holes in many materials.



HSS | TiAlN | DIN 335C | R | 100°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 40 E	■ 45 E	■ 46 E	■ 34 E	■ 30 D	■ 27 B	■ 28 D	■ 22 D	■ 19 B	■ 16 D	■ 14 B	◪ 11 B	◪ 11 C	◪ 9 C
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K5.1**
◪ 10 C	■ 41 F	■ 30 D	◪ 23 D	■ 42 C	■ 34 C	◪ 27 C	■ 37 C	■ 28 C	◪ 23 C	◪ 34 C	◪ 26 C	◪ 19 C	■ 39 C
K5.2	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**	
■ 29 C	◪ 23 C	◪ 60 G	◪ 45 G	■ 30 F	■ 30 F	■ 27 F	■ 19 F	■ 32 F	■ 18 F	◪ 9 D	◪ 62 G	◪ 55 G	

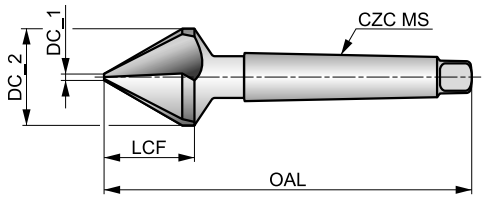
DCON MS tolerance h9.

Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	NOF
G1716.3	6.30	1.50	4.5	44.0	5.00	3
G1718.3	8.30	2.00	5.5	49.0	6.00	3
G17110.4	10.40	2.50	6.6	49.0	6.00	3
G17112.4	12.40	2.80	7.0	53.0	8.00	3
G17116.5	16.50	3.20	9.0	56.0	10.00	3
G17120.5	20.50	3.50	11.0	61.0	10.00	3
G17125.0	25.00	3.80	13.5	65.0	10.00	3

G137

HSS Taper Shank 60° Countersink, Bright Finish

Countersinks with bright finish and a 60° angle to chamfer holes for special fasteners and removing burrs from drilled holes. Taper shank design allows the tool to be used in machine applications where it is held directly in the spindle. Suitable to chamfer holes in many materials.



HSS | Bright | DIN 334D

R | 60°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	◪ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 8 C	◪ 6 C	◪ 7 C
M2.2	**K1.1**	**K1.2**	**K2.1**	**K2.2**	**K3.1**	**K3.2**	**K5.1**	**K5.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 6 C	◪ 20 F	◪ 15 D	◪ 21 C	◪ 17 C	◪ 18 C	◪ 14 C	◪ 19 C	◪ 15 C	◪ 40 G	■ 30 G	◪ 20 F	■ 20 F	◪ 18 F
N3.1	**N3.2**	**N3.3**	**N4.1**	**N4.2**									
■ 21 F	■ 12 F	◪ 6 D	◪ 40 G	◪ 35 G									

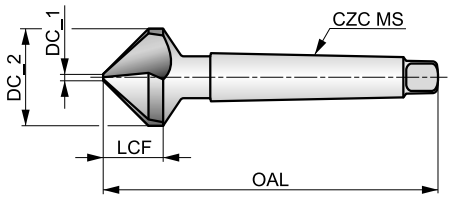
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	CZC MS	NOF
G13731.5	31.50	10.00	23.0	118.0	MK 2	3
G13740.0	40.00	12.50	28.5	150.0	MK 3	3
G13750.0	50.00	16.00	36.0	160.0	MK 3	3

G138

DORMER

HSS Taper Shank 90° Countersink, Bright Finish

A 90° Countersink designed for chamfering standard fastener holes and removing burrs from drilled holes. Taper shank design allows the tool to be used in machine applications where it is held directly in the spindle. Suitable to chamfer holes in many materials.



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 23 E	■ 26 E	■ 27 E	■ 20 E	■ 18 D	◪ 16 B	■ 16 D	◪ 13 D	◪ 11 B	■ 10 D	◪ 8 B	◪ 8	◪ 6	◪ 7

M2.2	K1.1	K1.2	K2.1	K2.2	K3.1	K3.2	K5.1	K5.2	N1.1	N1.2	N1.3	N2.1	N2.2
◪ 6	◪ 20 F	◪ 15 D	◪ 21 C	◪ 17 C	◪ 18 C	◪ 14 C	◪ 19 C	◪ 15 C	◪ 40 G	■ 30 G	◪ 20 F	■ 20 F	◪ 18 F

N3.1	N3.2	N3.3	N4.1	N4.2
■ 21 F	■ 12 F	◪ 6 D	◪ 40 G	◪ 35 G

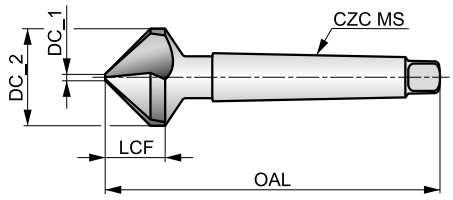
Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	CZC MS	NOF
G13825.0	25.00	3.80	15.5	106.0	MK 2	3
G13830.0	30.00	4.20	18.5	112.0	MK 2	3
G13831.0	31.00	4.20	20.0	112.0	MK 2	3
G13834.0	34.00	4.50	19.5	118.0	MK 2	3
G13837.0	37.00	4.80	21.7	118.0	MK 2	3
G13840.0	40.00	10.00	20.5	140.0	MK 3	3
G13850.0	50.00	14.00	24.1	150.0	MK 3	3
G13863.0	63.00	16.00	28.5	180.0	MK 4	3

G338

DORMER

HSS Taper Shank 90° Countersink, TiN Coated

A 90° Countersink designed for chamfering standard fastener holes and removing burrs. Improved performance when machining for long periods at high speed. Taper shank design allows it to be held directly in the spindle. TiN Coating improves performance and extends tool life. Suitable for many materials.



HSS | TiN | DIN 335D | R | 90°

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 280.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■33 E	■37 E	■38 E	■28 E	■25 D	■22 B	■23 D	■18 D	■15 B	■13 D	■11 B	◪9 B	◪11 C	◪9 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**
◪10 C	◪9 C	◪8 B	■34 F	■25 D	◪19 D	■35 C	■28 C	◪23 C	■31 C	■24 C	◪19 C	◪29 C	◪22 C
K4.3	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**
◪16 C	■32 C	■24 C	◪19 C	■53 G	■40 G	■27 F	■27 F	■24 F	■17 F	■28 F	■16 F	◪8 D	◪58 G
N4.2													
◪50 G													

Product	DC_2 (mm)	DC_1 (mm)	LCF (mm)	OAL (mm)	CZC MS	NOF
G33825.0	25.00	3.80	15.5	106.0	MK 2	3
G33831.0	31.00	4.20	20.0	112.0	MK 2	3
G33837.0	37.00	4.80	21.7	118.0	MK 2	3
G33840.0	40.00	10.00	20.5	140.0	MK 3	3
G33850.0	50.00	14.00	24.1	150.0	MK 3	3

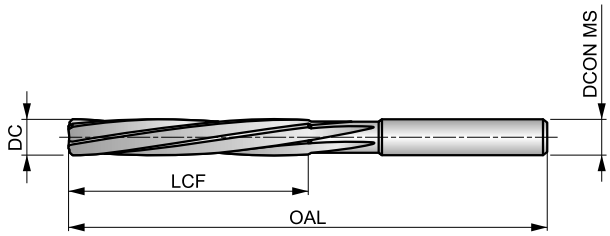
Material code (BMC)	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS-E	HSS	HSS	
Coating	Bright ST	Bright	Bright	Bright	Bright ST	Bright	Bright ST	ST	
Basic standard group (BSG)	BS 328	DIN 212	DIN 212	DIN 208	BS 328	DIN 2180	DIN 311	ANSI	
Hand (Cutting direction)	R	R	R	R	R	R	R	R	
Shank		DIN 6535HA							
Reamer form	B	B	B	B	B				
Achievable hole tolerance (TCHA)	H7	H7	ø.95-5.5 +0.004 ø5.51-12 +0.005	H7	H7		k11		
Taper gradient - millimeter (Rate of taper)						1:50			
Product Family Code	B901	B180	B170	B161	B101	B954	B121	B640	
PSF cutting diameters range	1.50 - 1/2	1.50 - 20.00	1.00 - 12.00	3.00 - 50.00	3.00 - 50.00	8.00 - 30.00	12.00 - 25.00	7/16 - 1.1/16	
	168	169	171	173	174	175	176	177	
P	P1	■	■	■	■	■	■	■	■
	P2	■	■	■	■	■	■	■	■
	P3	■	■	■	■	■	◪	■	■
	P4	◪	◪	◪	◪	◪	◪	◪	■
M	M1	◪	◪	◪	◪	◪	◪		
	M2	◪	◪	◪	◪		◪		
	M3								
	M4								
K	K1	■	■	■	■	■	■	■	■
	K2	■	■	■	■	■	■	■	■
	K3	◪	◪	◪	◪	◪	◪	◪	◪
	K4								
	K5								
N	N1	■	■	■	■	■	■	■	■
	N2	■	■	■	■	■	■	■	■
	N3	■	■	■	■	■	■	■	■
	N4	◪	◪	◪	◪	◪	◪	◪	◪
	N5								
S	S1								
	S2								
	S3								
	S4								
H	H1								
	H2								
	H3								
	H4								

■ Primary use ◪ Possible use

B901

HSS-E Straight Shank Machine Reamer, H7 Accuracy, Bright and ST Finish

The precision ground geometry, with left-hand helix and right-hand cutting, improves hole size and surface finish. The reamer has a straight shank for high performance machine reaming. Suitable for reaming in many materials.



HSS-E	Bright ST	BS 328
R		B
H7		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 15 C	■ 16 C	■ 17 C	■ 13 C	■ 11 C	◪ 10 B	■ 7 B	■ 6 B	◪ 5 B	■ 4 B	◪ 4 B	◪ 3 A	◪ 10 C	◪ 8 C
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪ 9 C	■ 14 E	■ 10 D	◪ 8 D	■ 12 C	■ 10 C	◪ 8 C	◪ 11 C	◪ 8 C	◪ 23 F	■ 17 F	■ 12 F	■ 25 E	■ 22 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**								
◪ 14 E	■ 34 D	■ 20 E	■ 10 D	◪ 22 B	◪ 21 B								

Product	DC (inch)	DC (mm)	OAL (mm)	LCF (mm)	NOF	DCON MS (mm)
B9011.5	–	1.50	44.0	21.0	4	1.50
B9012.0	–	2.00	50.0	25.0	4	2.00
B9013/32	3/32	2.38	58.0	29.0	4	2.38
B9012.5	–	2.50	58.0	29.0	4	2.50
B9013.0	–	3.00	62.0	31.0	4	3.00
B9011/8	1/8	3.18	66.0	33.0	4	3.18
B9015/32	5/32	3.97	76.0	38.0	6	3.97
B9014.0	–	4.00	76.0	38.0	6	4.00
B9013/16	3/16	4.76	87.0	44.0	6	4.76
B9015.0	–	5.00	87.0	44.0	6	5.00
B90115/64	15/64	5.95	93.0	47.0	6	5.95
B9016.0	–	6.00	93.0	47.0	6	6.00

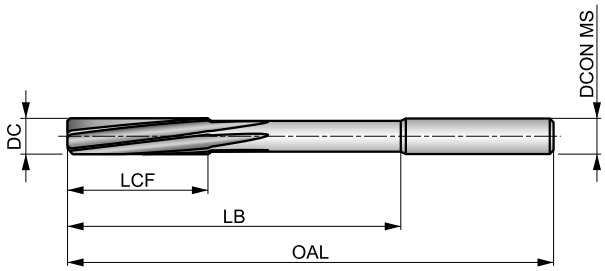
Product	DC (inch)	DC (mm)	OAL (mm)	LCF (mm)	NOF	DCON MS (mm)
B9011/4	1/4	6.35	100.0	50.0	6	6.35
B9017.0	–	7.00	107.0	54.0	6	7.00
B9019/32	9/32	7.14	107.0	54.0	6	7.14
B9015/16	5/16	7.94	115.0	58.0	6	7.94
B9018.0	–	8.00	115.0	58.0	6	8.00
B9019.0	–	9.00	124.0	62.0	6	9.00
B9013/8	3/8	9.52	133.0	66.0	6	9.52
B90110.0	–	10.00	133.0	66.0	6	10.00
B90111.0	–	11.00	142.0	71.0	6	11.00
B9017/16	7/16	11.11	142.0	71.0	6	11.11
B90112.0	–	12.00	152.0	76.0	6	12.00
B9011/2	1/2	12.70	152.0	76.0	6	12.70

B180

DORMER

HSS-E Straight Shank Machine Reamer with H7 Accuracy, Bright Finish

High performance reamer for CNC machines and held in high accuracy tool holders or chucks. The precision ground left-hand helix and right-hand cutting action ensures smooth reaming and improved surface finish and hole size. Suitable for reaming in many materials.



HSS-E	Bright	DIN 212
R	DIN 6535HA	B
H7		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■21 C	■24 C	■25 C	■18 C	■16 C	◪14 B	■13 B	■11 B	◪9 B	■8 B	◪7 B	◪5 A	◪11 C	◪10 B
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪9 B	■16 E	■12 D	◪9 D	■16 C	■13 C	◪10 C	■14 C	◪11 C	◪24 F	■18 F	■11 F	◪27 E	■24 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**									
■16 E	■47 D	■28 E	◪14 D	◪30 B									

DCON MS tolerance h6.

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B1801.5	1.50	40.0	8.0	18.00	3	2.00
B1801.6	1.60	43.0	9.0	20.00	3	2.00
B1801.7	1.70	43.0	9.0	20.00	3	2.00
B1801.8	1.80	46.0	10.0	22.00	4	2.00
B1801.9	1.90	46.0	10.0	22.00	4	2.00
B1802.0	2.00	49.0	11.0	24.00	4	2.00
B1802.1	2.10	49.0	11.0	24.00	4	2.00
B1802.2	2.20	53.0	12.0	26.00	4	3.00
B1802.3	2.30	53.0	12.0	26.00	4	3.00
B1802.4	2.40	57.0	14.0	28.00	4	3.00
B1802.5	2.50	57.0	14.0	28.00	4	3.00
B1802.6	2.60	57.0	14.0	28.00	4	3.00
B1802.7	2.70	61.0	15.0	32.00	6	3.00
B1802.8	2.80	61.0	15.0	32.00	6	3.00
B1802.9	2.90	61.0	15.0	32.00	6	3.00
B1803.0	3.00	61.0	15.0	32.00	6	3.00
B1803.1	3.10	65.0	16.0	35.00	6	4.00
B1803.2	3.20	65.0	16.0	35.00	6	4.00
B1803.3	3.30	65.0	16.0	35.00	6	4.00
B1803.4	3.40	70.0	18.0	40.00	6	4.00
B1803.5	3.50	70.0	18.0	40.00	6	4.00
B1803.6	3.60	70.0	18.0	40.00	6	4.00
B1803.9	3.90	75.0	19.0	43.00	6	4.00
B1804.0	4.00	75.0	19.0	43.00	6	4.00
B1804.1	4.10	75.0	19.0	43.00	6	4.00
B1804.2	4.20	75.0	19.0	43.00	6	4.00
B1804.3	4.30	80.0	21.0	47.00	6	5.00

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B1804.5	4.50	80.0	21.0	47.00	6	5.00
B1804.6	4.60	80.0	21.0	47.00	6	5.00
B1804.7	4.70	80.0	21.0	47.00	6	5.00
B1804.8	4.80	86.0	23.0	52.00	6	5.00
B1804.9	4.90	86.0	23.0	52.00	6	5.00
B1805.0	5.00	86.0	23.0	52.00	6	5.00
B1805.1	5.10	86.0	23.0	52.00	6	5.00
B1805.2	5.20	86.0	23.0	52.00	6	5.00
B1805.3	5.30	86.0	23.0	52.00	6	5.00
B1805.4	5.40	93.0	26.0	57.00	6	6.00
B1805.5	5.50	93.0	26.0	57.00	6	6.00
B1805.6	5.60	93.0	26.0	57.00	6	6.00
B1805.7	5.70	93.0	26.0	57.00	6	6.00
B1805.9	5.90	93.0	26.0	57.00	6	6.00
B1806.0	6.00	93.0	26.0	57.00	6	6.00
B1806.1	6.10	101.0	28.0	63.00	6	6.00
B1806.2	6.20	101.0	28.0	63.00	6	6.00
B1806.3	6.30	101.0	28.0	63.00	6	6.00
B1806.4	6.40	101.0	28.0	63.00	6	6.00
B1806.5	6.50	101.0	28.0	63.00	6	6.00
B1806.6	6.60	101.0	28.0	63.00	6	6.00
B1806.7	6.70	101.0	28.0	63.00	6	6.00
B1806.8	6.80	109.0	31.0	69.00	6	8.00
B1807.0	7.00	109.0	31.0	69.00	6	8.00
B1807.1	7.10	109.0	31.0	69.00	6	8.00
B1807.2	7.20	109.0	31.0	69.00	6	8.00
B1807.5	7.50	109.0	31.0	69.00	6	8.00

Product	DC	OAL	LCF	LB	NOF	DCON MS
	(mm)	(mm)	(mm)	(mm)		(mm)
B1807.8	7.80	117.0	33.0	75.00	6	8.00
B1807.9	7.90	117.0	33.0	75.00	6	8.00
B1808.0	8.00	117.0	33.0	75.00	6	8.00
B1808.1	8.10	117.0	33.0	75.00	6	8.00
B1808.2	8.20	117.0	33.0	75.00	6	8.00
B1808.3	8.30	117.0	33.0	75.00	6	8.00
B1808.4	8.40	117.0	33.0	75.00	6	8.00
B1808.5	8.50	117.0	33.0	75.00	6	8.00
B1808.7	8.70	125.0	36.0	81.00	6	10.00
B1808.8	8.80	125.0	36.0	81.00	6	10.00
B1809.0	9.00	125.0	36.0	81.00	6	10.00
B1809.5	9.50	125.0	36.0	81.00	6	10.00

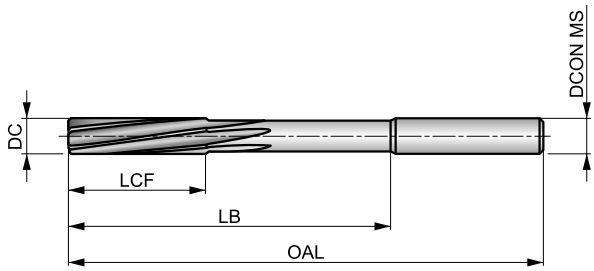
Product	DC	OAL	LCF	LB	NOF	DCON MS
	(mm)	(mm)	(mm)	(mm)		(mm)
B1809.6	9.60	133.0	38.0	87.00	6	10.00
B18010.0	10.00	133.0	38.0	87.00	6	10.00
B18011.0	11.00	142.0	41.0	96.00	6	10.00
B18012.0	12.00	151.0	44.0	105.00	6	10.00
B18013.0	13.00	151.0	44.0	105.00	6	10.00
B18014.0	14.00	160.0	47.0	110.00	8	14.00
B18015.0	15.00	162.0	50.0	112.00	8	14.00
B18016.0	16.00	170.0	52.0	120.00	8	14.00
B18017.0	17.00	175.0	54.0	123.00	8	14.00
B18018.0	18.00	182.0	56.0	130.00	8	14.00
B18019.0	19.00	189.0	58.0	131.00	8	16.00
B18020.0	20.00	195.0	60.0	137.00	8	16.00

B170

DORMER

HSS-E Straight Shank Machine Reamer - 0.01mm Increments, Bright Finish

Different increment sizes allows you to produce accurate hole sizes and additional hole tolerances. With a left-hand helix and right-hand cutting action, the precision ground geometry provides smooth reaming and improves hole size and surface finish. Suitable for reaming in many materials.



HSS-E	Bright	DIN 212
R		B
ø.95-5.5 +0.004 ø5.51-12 +0.005		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■21 C	■24 C	■25 C	■18 C	■16 C	◪14 B	■13 B	■11 B	◪9 B	■8 B	◪7 B	◪5 A	◪11 C	◪10 B
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪9 B	■16 E	■12 D	◪9 D	■16 C	■13 C	◪10 C	■14 C	◪11 C	◪24 D	■18 F	■11 F	◪27 E	■24 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**									
■16 E	■47 D	■28 E	◪14 D	◪30 B									

DCON MS tolerance h9.

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B1701.0	1.00	34.0	5.5	15.00	3	1.00
B1701.05	1.05	34.0	5.5	15.00	3	1.00
B1701.49	1.49	40.0	8.0	18.00	3	1.50
B1701.5	1.50	40.0	8.0	18.00	3	1.50
B1701.52	1.52	43.0	9.0	20.00	3	1.60
B1701.98	1.98	49.0	11.0	24.00	4	2.00
B1701.99	1.99	49.0	11.0	24.00	4	2.00
B1702.0	2.00	49.0	11.0	24.00	4	2.00
B1702.01	2.01	49.0	11.0	24.00	4	2.00
B1702.02	2.02	49.0	11.0	24.00	4	2.00
B1702.03	2.03	49.0	11.0	24.00	4	2.00
B1702.05	2.05	49.0	11.0	24.00	4	2.00
B1702.5	2.50	57.0	14.0	28.00	4	2.50
B1702.51	2.51	57.0	14.0	28.00	4	2.50
B1702.98	2.98	61.0	15.0	32.00	6	3.00
B1702.99	2.99	61.0	15.0	32.00	6	3.00
B1703.0	3.00	61.0	15.0	32.00	6	3.00
B1703.01	3.01	65.0	16.0	35.00	6	3.20
B1703.02	3.02	65.0	16.0	35.00	6	3.20
B1703.03	3.03	65.0	16.0	35.00	6	3.20
B1703.05	3.05	65.0	16.0	35.00	6	3.20
B1703.98	3.98	75.0	19.0	43.00	6	4.00
B1703.99	3.99	75.0	19.0	43.00	6	4.00
B1704.0	4.00	75.0	19.0	43.00	6	4.00
B1704.01	4.01	75.0	19.0	43.00	6	4.00
B1704.02	4.02	75.0	19.0	43.00	6	4.00
B1704.03	4.03	75.0	19.0	43.00	6	4.00

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B1704.04	4.04	75.0	19.0	43.00	6	4.00
B1704.05	4.05	75.0	19.0	43.00	6	4.00
B1704.98	4.98	86.0	23.0	52.00	6	5.00
B1704.99	4.99	86.0	23.0	52.00	6	5.00
B1705.0	5.00	86.0	23.0	52.00	6	5.00
B1705.01	5.01	86.0	23.0	52.00	6	5.00
B1705.02	5.02	86.0	23.0	52.00	6	5.00
B1705.03	5.03	86.0	23.0	52.00	6	5.00
B1705.04	5.04	86.0	23.0	52.00	6	5.00
B1705.05	5.05	86.0	23.0	52.00	6	5.00
B1705.5	5.50	93.0	26.0	57.00	6	5.60
B1705.98	5.98	93.0	26.0	57.00	6	5.60
B1705.99	5.99	93.0	26.0	57.00	6	5.60
B1706.0	6.00	93.0	26.0	57.00	6	5.60
B1706.01	6.01	101.0	28.0	63.00	6	6.30
B1706.02	6.02	101.0	28.0	63.00	6	6.30
B1706.03	6.03	101.0	28.0	63.00	6	6.30
B1706.04	6.04	101.0	28.0	63.00	6	6.30
B1706.05	6.05	101.0	28.0	63.00	6	6.30
B1706.51	6.51	101.0	28.0	63.00	6	6.30
B1706.98	6.98	109.0	31.0	69.00	6	7.10
B1706.99	6.99	109.0	31.0	69.00	6	7.10
B1707.0	7.00	109.0	31.0	69.00	6	7.10
B1707.01	7.01	109.0	31.0	69.00	6	7.10
B1707.02	7.02	109.0	31.0	69.00	6	7.10
B1707.05	7.05	109.0	31.0	69.00	6	7.10
B1707.98	7.98	117.0	33.0	75.00	6	8.00

Product	DC	OAL	LCF	LB	NOF	DCON MS
	(mm)	(mm)	(mm)	(mm)		(mm)
B1707.99	7.99	117.0	33.0	75.00	6	8.00
B1708.0	8.00	117.0	33.0	75.00	6	8.00
B1708.01	8.01	117.0	33.0	75.00	6	8.00
B1708.02	8.02	117.0	33.0	75.00	6	8.00
B1708.03	8.03	117.0	33.0	75.00	6	8.00
B1708.04	8.04	117.0	33.0	75.00	6	8.00
B1708.05	8.05	117.0	33.0	75.00	6	8.00
B1708.98	8.98	125.0	36.0	81.00	6	9.00
B1709.0	9.00	125.0	36.0	81.00	6	9.00
B1709.01	9.01	125.0	36.0	81.00	6	9.00
B1709.02	9.02	125.0	36.0	81.00	6	9.00
B1709.05	9.05	125.0	36.0	81.00	6	9.00
B1709.5	9.50	125.0	36.0	81.00	6	9.00
B1709.51	9.51	133.0	38.0	87.00	6	10.00

Product	DC	OAL	LCF	LB	NOF	DCON MS
	(mm)	(mm)	(mm)	(mm)		(mm)
B1709.52	9.52	133.0	38.0	87.00	6	10.00
B1709.98	9.98	133.0	38.0	87.00	6	10.00
B1709.99	9.99	133.0	38.0	87.00	6	10.00
B17010.0	10.00	133.0	38.0	87.00	6	10.00
B17010.01	10.01	133.0	38.0	87.00	6	10.00
B17010.02	10.02	133.0	38.0	87.00	6	10.00
B17010.03	10.03	133.0	38.0	87.00	6	10.00
B17010.04	10.04	133.0	38.0	87.00	6	10.00
B17010.05	10.05	133.0	38.0	87.00	6	10.00
B17010.98	10.98	142.0	41.0	96.00	6	10.00
B17011.98	11.98	151.0	44.0	105.00	6	10.00
B17011.99	11.99	151.0	44.0	105.00	6	10.00
B17012.0	12.00	151.0	44.0	105.00	6	10.00

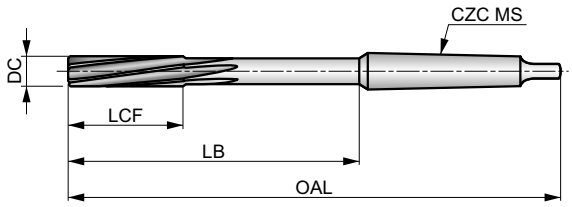
B161

DORMER

HSS-E Taper Shank Machine Reamer with H7 Accuracy, Bright Finish

The precision ground left-hand helix and right-hand cutting action, ensures smooth reaming and improved surface finish and hole size. Suitable for reaming in many materials.

HSS-E	Bright	DIN 208
R		B
H7		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■21 C	■24 C	■25 C	■18 C	■16 C	◪14 B	■13 B	■11 B	◪9 B	■8 B	◪7 B	◪5 A	◪11 C	◪10 B
M2.1	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**
◪9 B	■16 E	■12 D	◪9 D	■16 C	■13 C	◪10 C	■14 C	◪11 C	◪24 F	■18 F	■11 F	◪27 E	■24 E
N2.3	**N3.1**	**N3.2**	**N3.3**	**N4.1**									
■16 E	■47 D	■28 E	◪14 D	◪30 B									

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	CZC MS
B1613.0	3.00	113.0	15.0	47.50	6	MK 1
B1614.0	4.00	124.0	19.0	58.50	6	MK 1
B1615.0	5.00	133.0	23.0	67.50	6	MK 1
B1616.0	6.00	138.0	26.0	72.50	6	MK 1
B1617.0	7.00	150.0	31.0	84.50	6	MK 1
B1618.0	8.00	156.0	33.0	90.50	6	MK 1
B1619.0	9.00	162.0	36.0	96.50	6	MK 1
B16110.0	10.00	168.0	38.0	102.50	6	MK 1
B16111.0	11.00	175.0	41.0	109.50	6	MK 1
B16112.0	12.00	182.0	44.0	116.50	6	MK 1
B16113.0	13.00	182.0	44.0	116.50	6	MK 1
B16114.0	14.00	189.0	47.0	123.50	8	MK 1
B16115.0	15.00	204.0	50.0	124.00	8	MK 2
B16116.0	16.00	210.0	52.0	130.00	8	MK 2
B16117.0	17.00	214.0	54.0	134.00	8	MK 2
B16118.0	18.00	219.0	56.0	139.00	8	MK 2
B16119.0	19.00	223.0	58.0	143.00	8	MK 2
B16120.0	20.00	228.0	60.0	148.00	8	MK 2

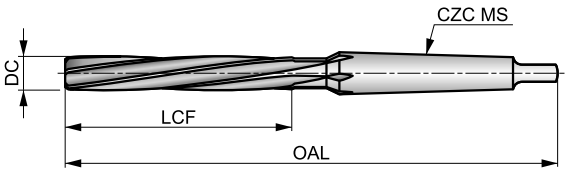
Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	CZC MS
B16121.0	21.00	232.0	62.0	152.00	8	MK 2
B16122.0	22.00	237.0	64.0	157.00	8	MK 2
B16123.0	23.00	241.0	66.0	161.00	8	MK 2
B16124.0	24.00	268.0	68.0	169.00	8	MK 3
B16125.0	25.00	268.0	68.0	169.00	8	MK 3
B16126.0	26.00	273.0	70.0	174.00	8	MK 3
B16127.0	27.00	277.0	71.0	178.00	10	MK 3
B16128.0	28.00	277.0	71.0	178.00	10	MK 3
B16130.0	30.00	281.0	73.0	182.00	10	MK 3
B16132.0	32.00	317.0	77.0	193.00	10	MK 4
B16134.0	34.00	321.0	78.0	197.00	10	MK 4
B16135.0	35.00	321.0	78.0	197.00	10	MK 4
B16138.0	38.00	329.0	81.0	205.00	10	MK 4
B16140.0	40.00	329.0	81.0	205.00	10	MK 4
B16142.0	42.00	333.0	82.0	209.00	12	MK 4
B16145.0	45.00	336.0	83.0	212.00	12	MK 4
B16150.0	50.00	344.0	86.0	220.00	12	MK 4

B101

DORMER

HSS-E Taper Shank Machine Reamer with H7 Accuracy

Taper Shank machine reamer according to BS 328. The precision ground left-hand helix and right-hand cutting action, ensures smooth reaming and improved surface finish and hole size. Suitable for reaming in many materials.



HSS-E	Bright ST	BS 328
R		B
H7		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 15 C	■ 16 C	■ 17 C	■ 13 C	■ 11 C	◪ 10 B	■ 7 B	■ 6 B	◪ 5 B	■ 4 B	◪ 4 B	◪ 3 A	◪ 7 B	◪ 6 A
K1.1	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**
■ 14 E	■ 10 D	◪ 8 D	■ 12 C	■ 10 C	◪ 8 C	■ 11 C	◪ 8 C	◪ 23 F	■ 17 F	■ 9 F	◪ 25 E	■ 18 E	■ 14 E
N3.1	**N3.2**	**N3.3**	**N4.1**										
■ 34 D	■ 20 E	◪ 10 D	◪ 22 B										

Product	DC (inch)	DC (mm)	OAL (mm)	LCF (mm)	NOF	CZC MS
B1013.0	–	3.00	112.0	33.0	4	MK 1
B1014.0	–	4.00	117.0	38.0	6	MK 1
B1013/16	3/16	4.76	124.0	44.0	6	MK 1
B1015.0	–	5.00	124.0	44.0	6	MK 1
B1016.0	–	6.00	127.0	47.0	6	MK 1
B1011/4	1/4	6.35	130.0	50.0	6	MK 1
B1015/16	5/16	7.94	138.0	58.0	6	MK 1
B1018.0	–	8.00	138.0	58.0	6	MK 1
B1013/8	3/8	9.52	146.0	66.0	6	MK 1
B10110.0	–	10.00	146.0	66.0	6	MK 1
B10111.0	–	11.00	151.0	71.0	6	MK 1
B1017/16	7/16	11.11	151.0	71.0	6	MK 1
B10112.0	–	12.00	156.0	76.0	6	MK 1
B1011/2	1/2	12.70	156.0	76.0	6	MK 1
B10113.0	–	13.00	156.0	76.0	6	MK 1
B10114.0	–	14.00	161.0	81.0	8	MK 1
B1019/16	9/16	14.29	181.0	81.0	8	MK 2
B10115.0	–	15.00	181.0	81.0	8	MK 2
B1015/8	5/8	15.88	187.0	87.0	8	MK 2
B10116.0	–	16.00	187.0	87.0	8	MK 2
B10116.5	–	16.50	187.0	87.0	8	MK 2
B10117.0	–	17.00	187.0	87.0	8	MK 2

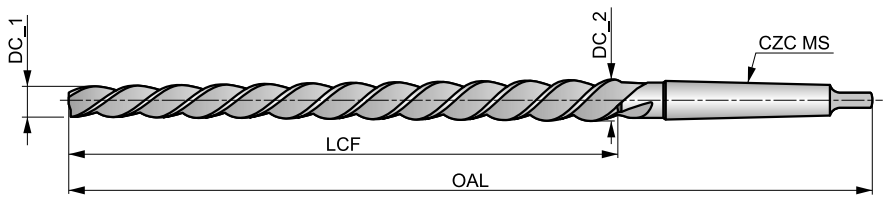
Product	DC (inch)	DC (mm)	OAL (mm)	LCF (mm)	NOF	CZC MS
B10118.0	–	18.00	193.0	93.0	8	MK 2
B10119.0	–	19.00	193.0	93.0	8	MK 2
B1013/4	3/4	19.05	200.0	100.0	8	MK 2
B10120.0	–	20.00	200.0	100.0	8	MK 2
B10121.0	–	21.00	200.0	100.0	8	MK 2
B10122.0	–	22.00	207.0	107.0	8	MK 2
B1017/8	7/8	22.22	207.0	107.0	8	MK 2
B10123.0	–	23.00	207.0	107.0	8	MK 2
B10124.0	–	24.00	242.0	115.0	8	MK 3
B10125.0	–	25.00	242.0	115.0	10	MK 3
B1011	1″	25.40	242.0	115.0	10	MK 3
B10126.0	–	26.00	242.0	115.0	10	MK 3
B10128.0	–	28.00	251.0	124.0	10	MK 3
B10129.0	–	29.00	251.0	124.0	10	MK 3
B10130.0	–	30.00	251.0	124.0	10	MK 3
B1011.1/4	1.1/4	31.75	260.0	133.0	10	MK 3
B10135.0	–	35.00	302.0	142.0	10	MK 4
B10140.0	–	40.00	312.0	152.0	10	MK 4
B10141.0	–	41.00	312.0	152.0	10	MK 4
B10144.0	–	44.00	323.0	163.0	10	MK 4
B10150.0	–	50.00	334.0	174.0	12	MK 4

B954

DORMER

HSS-E Taper Shank Taper Pin Machine Reamer 1:50 Taper

Smooth reaming with improved accuracy and performance is achieved through the specially designed high spiral left-hand helix and right-hand cutting. Designed to finish tapered holes and accepts standard 1 to 50 ratio metric taper pins. Suitable for reaming in many materials.



HSS-E	Bright	DIN 2180
R		1:50

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■10 B	■12 B	■13 B	■9 B	■8 B	◪6 A	■7 A	■6 A	◪3 A	■4 A	◪3 A	◪2 A	◪11 C	◪10 B
M2.1	**M2.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**
◪9 B	◪8 B	■10 C	■6 B	◪4 B	■8 A	■6 A	◪4 A	■11 A	◪8 A	◪14 F	■12 F	■9 F	■16 E
N2.2	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**								
■14 E	◪10 E	■22 D	■14 E	◪6 D	◪22 B								

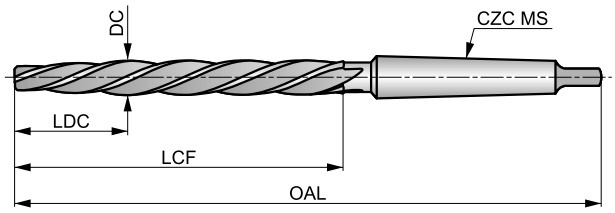
Product	nom d	DC_1	DC_2	OAL	LCF	NOF	CZC MS
		(mm)	(mm)	(mm)	(mm)		
B9548.0	8.0	7.90	10.80	227.0	145.0	3	MK 1
B95410.0	10.0	9.90	13.40	257.0	175.0	3	MK 1
B95412.0	12.0	11.80	16.00	315.0	210.0	3	MK 2
B95413.0	13.0	12.86	16.74	295.0	194.0	3	MK 2
B95414.0	14.0	13.86	17.74	295.0	194.0	3	MK 2
B95416.0	16.0	15.80	20.40	335.0	230.0	3	MK 2
B95420.0	20.0	19.80	24.80	377.0	250.0	3	MK 3
B95425.0	25.0	24.70	30.70	427.0	300.0	3	MK 3
B95430.0	30.0	29.70	36.10	475.0	320.0	4	MK 4

B121

DORMER

HSS Taper Shank Machine Bridge Reamer

Designed to re-align holes in large fabrications, where two or more workpieces are joined, before bolting or riveting them. The small Pilot diameter from the 1 to 10 ratio taper lead simplifies the need to locate and align the tool in pre-drilled holes. Suitable for reaming in many materials.



HSS	Bright ST	DIN 311
R		k11

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
■ 15 C	■ 16 C	■ 17 C	■ 13 C	■ 11 C	◪ 10 B	■ 7 B	■ 6 B	◪ 5 B	■ 4 B	◪ 4 B	◪ 3 A	■ 14 E	■ 10 D
K1.3	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**
◪ 8 D	■ 12 C	■ 10 C	◪ 8 C	◪ 11 C	◪ 8 C	◪ 23 F	■ 17 F	■ 9 F	◪ 21 E	■ 18 E	◪ 14 E	■ 34 D	■ 20 E
N3.3	**N4.1**												
◪ 10 D	◪ 21 B												

With 1:10 starting taper (LDC).

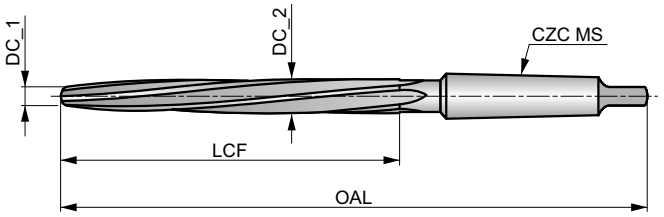
Product	DC (mm)	OAL (mm)	LCF (mm)	LDC (mm)	NOF	CZC MS
B12112.0	12.00	199.0	105.0	39.00	4	MK 2
B12114.0	14.00	209.0	115.0	42.00	4	MK 2
B12116.0	16.00	229.0	135.0	48.00	4	MK 2
B12117.0	17.00	251.0	135.0	51.00	4	MK 3
B12118.0	18.00	261.0	145.0	58.00	4	MK 3
B12120.0	20.00	271.0	155.0	62.00	4	MK 3
B12121.0	21.00	271.0	155.0	62.00	4	MK 3
B12122.0	22.00	281.0	165.0	66.00	4	MK 3
B12124.0	24.00	296.0	180.0	72.00	4	MK 3
B12125.0	25.00	296.0	180.0	72.00	4	MK 3

B640

DORMER

HSS Taper Shank Bridge Reamer, Steam Tempered

Used for re-aligning holes in large fabrications such as I-beams, where two or more workpieces are to be joined by bolting or riveting. The smaller starting end with long taper lead allows the operator to align the mismatched pre-drilled holes by reaming away the mismatch. Produced per ANSI B94.2-1983 (R1988).



HSS | ST | ANSI

R

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
■ 15 C	■ 16 C	■ 17 C	■ 13 C	■ 11 C	◪ 10 B	■ 7 B	■ 6 B	◪ 5 B	■ 4 B	◪ 4 B	◪ 3 A	■ 14 E	■ 10 D

K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2
◪ 8 D	■ 12 C	■ 10 C	◪ 8 C	◪ 11 C	◪ 8 C	◪ 23 F	■ 17 F	■ 9 F	◪ 21 E	■ 18 E	◪ 14 E	■ 34 D	■ 20 E

N3.3	N4.1
◪ 10 D	◪ 21 B

Product	nom d	DC_1 (inch)	DC_2 (inch)	CZC MS	LCF (inch)	OAL (inch)	NOF
B6407/16	7/16	0.2500	0.4375	2	4.3/8	8.1/4	5
B6401/2	1/2	0.2813	0.5000	2	5.1/8	9″	5
B6409/16	9/16	0.3438	0.5625	2	5.1/8	9″	5
B6405/8	5/8	0.3750	0.6250	2	6.1/8	10″	5
B64011/16	11/16	0.3906	0.6875	3	7.1/8	11.3/4	5
B6403/4	3/4	0.4375	0.7500	3	7.3/8	12″	5
B64013/16	13/16	0.5000	0.8125	3	7.3/8	12″	5
B6407/8	7/8	0.5625	0.8750	3	7.3/8	12″	5
B64015/16	15/16	0.6250	0.9375	3	7.3/8	12″	5
B6401	1″	0.6875	1.0000	3	7.3/8	12″	5
B6401.1/16	1.1/16	0.7500	1.0625	3	7.3/8	12″	5

TOOLS FOR PROCESS SECURITY AND PRODUCTIVITY.
TYPICALLY USED WITH CNC AND AUTOMATED MANUFACTURING.

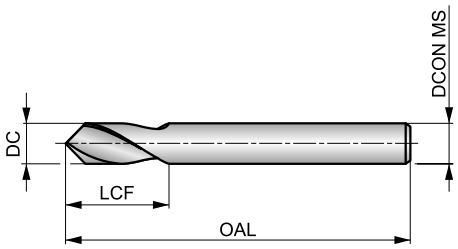
Material code (BMC)		HM	HM	HM	HM
Basic standard group (BSG)		DORMER	DORMER	DORMER	DORMER
Usable length (ULDR)		1×D	1×D	1×D	1×D
Application angle		90°	90°	120°	150°
Coating		Bright	TiAlN	Bright	TiAlN
Shank			DIN 6535HA		
Spiral form		λ 20-35°	λ 20-35°	λ 20-35°	λ 20-35°
Hand (Cutting direction)		R	R	R	R
					
Product Family Code		R123	R6011	R122	R125
PSF cutting diameters range		5.00 - 20.00	6.00 - 16.00	5.00 - 20.00	5.00 - 16.00
		182	183	184	185
P	P1	■	■	■	■
	P2	■	■	■	■
	P3	■	■	■	■
	P4	■	■	■	■
M	M1	■	■	■	■
	M2	■	■	■	■
	M3	■	■	■	■
	M4				
K	K1	■	■	■	■
	K2	■	■	■	■
	K3	■	■	■	■
	K4	■	■	■	■
	K5	■	■	■	■
N	N1	■	■	■	■
	N2	■	■	■	■
	N3	■	■	■	■
	N4	■	■	■	■
	N5				
S	S1	■	■	■	■
	S2	■	■	■	■
	S3	■	■	■	■
	S4	■	■	■	■
H	H1	■	■	■	■
	H2	◪	◪	◪	◪
	H3	◪	◪	◪	◪
	H4				

■ Primary use ◪ Possible use

R123

Solid Carbide Spotting Drill, 90° Point

The precision engineered point angle provides an accurate guide to help with centering of follow-up drilling of the hole. A 90° point helps with self-centering and reduces cutting forces when drilling into a variety of materials.



HM	DORMER	1×D
90°	Bright	
λ20-35°	R	DC h6

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■99 S	■111 S	■115 S	■85 S	■75 S	■66 S	■66 S	■53 S	■45 S	■40 S	■34 S	■27 S	■73 S	■61 S
M2.1	M2.2	M3.1	M3.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1
■65 S	■53 S	■52 S	■45 S	■75 T	■56 T	■42 T	■68 T	■55 T	■44 T	■60 T	■46 T	■37 T	■55 T
K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1
■42 T	■31 T	■26 T	■22 T	■63 T	■47 T	■37 T	■200 V	■150 V	■100 V	■172 V	■155 V	■112 V	■423 V
N3.2	N3.3	N4.1	N4.2	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2	S4.1	S4.2	H1.1
■250 V	■125 V	■60 X	■100 V	■45 T	■35 T	■25 S	■40 S	■28 S	■30 S	■20 S	■23 S	■16 S	■56 S
H2.1	H2.2	H3.1	H3.2										
◪33 S	◪36 S	◪37 S	◪30 S										

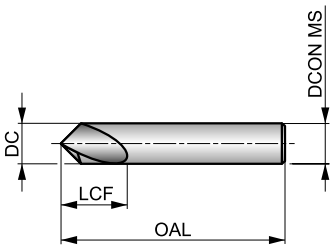
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R1235.0	5.00	0.1969	16.0	62.0	5.00
R1236.0	6.00	0.2362	17.0	66.0	6.00
R1238.0	8.00	0.3150	22.0	79.0	8.00
R12310.0	10.00	0.3937	26.0	89.0	10.00
R12312.0	12.00	0.4724	30.0	102.0	12.00
R12316.0	16.00	0.6299	34.0	115.0	16.00
R12320.0	20.00	0.7874	40.0	131.0	20.00

R6011

DORMER

Solid Carbide Spotting Drill, 90° Point, TiAlN Coated

The precision engineered point angle provides an accurate guide to help with centering of follow-up drilling of the hole. A 90° point helps with self-centering and reduces cutting forces when drilling into the material. TiAlN coating improves performance and extends the tool life. Suitable for drilling many materials.



HM	DORMER	1×D
90°	TiAlN	DIN 6535HA
λ20-35°	R	DC h6

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■119 S	■134 S	■138 S	■102 S	■90 S	■80 S	■81 S	■65 S	■55 S	■48 S	■41 S	■34 S	■82 S	■70 S
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
■73 S	■60 S	■58 S	■50 S	■80 T	■59 T	■44 T	■86 T	■70 T	■56 T	■76 T	■58 T	■47 T	■71 T
K4.2	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**
■53 T	■39 T	■33 T	■28 T	■80 T	■60 T	■46 T	■200 V	■150 V	■100 V	■172 V	■155 V	■112 V	■423 V
N3.2	**N3.3**	**N4.1**	**N4.2**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**	**H1.1**
■250 V	■125 V	■60 X	■100 V	■55 T	■45 T	■35 S	■53 S	■42 S	■40 S	■30 S	■31 S	■24 S	■56 S
H2.1	**H2.2**	**H3.1**	**H3.2**										
◪33 S	◪36 S	◪37 S	◪30 S										

DCON MS tolerance h6.

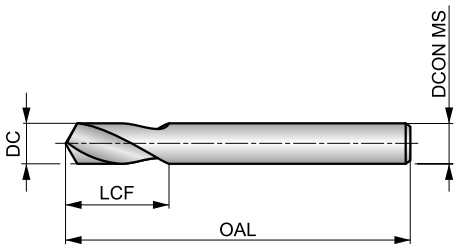
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R60116.0	6.00	0.2362	16.0	50.0	6.00
R601110.0	10.00	0.3937	25.0	70.0	10.00
R601116.0	16.00	0.6299	26.0	90.0	16.00

R122

DORMER

Solid Carbide Spotting Drill, 120° Point

The precision engineered point angle provides an accurate guide to help with centering of follow-up drilling of the hole. A 120° point angle helps with self-centering and reduces cutting forces when drilling a variety of materials.



HM	DORMER	1×D
120°	Bright	
λ20-35°	R	DC h6

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

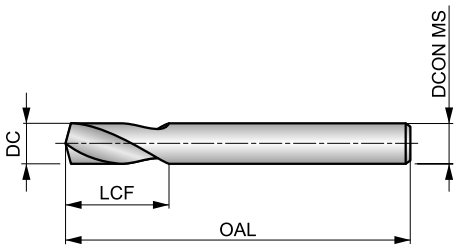
P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■99 S	■111 S	■115 S	■85 S	■75 S	■66 S	■66 S	■53 S	■45 S	■40 S	■34 S	■27 S	■73 S	■61 S
M2.1	M2.2	M3.1	M3.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	K4.1
■65 S	■53 S	■52 S	■45 S	■75 T	■56 T	■42 T	■68 T	■55 T	■44 T	■60 T	■46 T	■37 T	■55 T
K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1
■42 T	■31 T	■26 T	■22 T	■63 T	■47 T	■37 T	■200 V	■150 V	■100 V	■172 V	■155 V	■112 V	■423 V
N3.2	N3.3	N4.1	N4.2	S1.1	S1.2	S1.3	S2.1	S2.2	S3.1	S3.2	S4.1	S4.2	H1.1
■250 V	■125 V	■60 X	■100 V	■45 T	■35 T	■25 S	■40 S	■28 S	■30 S	■20 S	■23 S	■16 S	■56 S
H2.1	H2.2	H3.1	H3.2										
◪33 S	◪36 S	◪37 S	◪30 S										

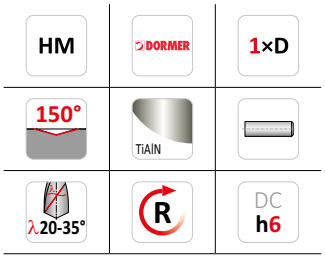
Product	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R1225.0	5.00	0.1969	16.0	62.0	5.00
R1226.0	6.00	0.2362	17.0	66.0	6.00
R1228.0	8.00	0.3150	22.0	79.0	8.00
R12210.0	10.00	0.3937	26.0	89.0	10.00
R12212.0	12.00	0.4724	30.0	102.0	12.00
R12216.0	16.00	0.6299	34.0	115.0	16.00
R12220.0	20.00	0.7874	40.0	131.0	20.00

R125

Solid Carbide Spotting Drill, 150° Point, TiAlN Coated

The precision engineered point angle provides an accurate guide to help with centering of follow-up drilling of the hole. A 150° point helps with self-centering and reduces cutting forces when drilling into the material. TiAlN coating improves performance and extends the tool life. Suitable for drilling many materials.





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■119 S	■134 S	■138 S	■102 S	■90 S	■80 S	■81 S	■65 S	■55 S	■48 S	■41 S	■34 S	■82 S	■70 S
M2.1	**M2.2**	**M3.1**	**M3.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**
■73 S	■60 S	■58 S	■50 S	■80 T	■59 T	■44 T	■86 T	■70 T	■56 T	■76 T	■58 T	■47 T	■71 T
K4.2	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**
■53 T	■39 T	■33 T	■28 T	■80 T	■60 T	■46 T	■200 V	■150 V	■100 V	■172 V	■155 V	■112 V	■423 V
N3.2	**N3.3**	**N4.1**	**N4.2**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**	**H1.1**
■250 V	■125 V	■60 X	■100 V	■55 T	■45 T	■35 S	■53 S	■42 S	■40 S	■30 S	■31 S	■24 S	■56 S
H2.1	**H2.2**	**H3.1**	**H3.2**										
◪33 S	◪36 S	◪37 S	◪30 S										

DCON MS tolerance h6.

Product	DC	LCF	OAL	DCON MS
	(mm)	(mm)	(mm)	(mm)
R1255.0	5.00	16.0	62.0	5.00
R1256.0	6.00	17.0	66.0	6.00
R1258.0	8.00	22.0	79.0	8.00
R12510.0	10.00	26.0	89.0	10.00
R12512.0	12.00	30.0	102.0	12.00
R12516.0	16.00	34.0	115.0	16.00

Material code (BMC)	HM	HM	HM	HM	HM	HM	HM	HM	HM	HM			
Basic standard group (BSG)	DIN 6539	DIN 338	DIN 6537K	DIN 6537K	DIN 6537L	DIN 6537L	DORMER	DIN 6537K	DIN 6537L	DORMER			
Usable length (ULDR)	2.5×D	4×D	3×D	3×D	5×D	5×D	8×D	3×D	5×D	3×D			
Application angle	130°	130°	140°	140°	140°	140°	140°	140°	140°	90°			
Coating	TiN	TiN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN	TiAlN			
Shank			DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA	DIN 6535HA			
Spiral form	λ20-35°	λ20-35°	CTW	CTW	CTW	CTW	CTW	CTW	CTW	λ20-35°			
Hand (Cutting direction)	R	R	R	R	R	R	R	R	R	R			
Cooling (CSP)													
	 CDX	 CDX	 FORCE X	 FORCE X	 FORCE X	 FORCE X	 FORCE X	 FORCE M	 FORCE M				
Product Family Code	R520	R510	R458	R457	R454	R453	R459	R467	R463	R7131			
PSF cutting diameters range	3.00 - 16.50	3.00 - 14.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 20.00	3.00 - 16.00	3.00 - 16.00	3.00 - 16.00	3.30 - 10.40			
	188	190	191	195	199	203	207	210	213	216			
P	P1	■	■	■	■	■	■	■			■			
	P2	■	■	■	■	■	■	■			■			
	P3	■	■	■	■	■	■	■			■			
	P4	■	■	■	■	■	■	■			■			
M	M1	◪	◪	◪	◪	◪	◪	◪	■	■	■			
	M2	◪	◪	◪	◪	◪	◪	◪	■	■	■			
	M3			◪	◪	◪	◪	◪	■	■	■			
	M4			◪	◪	◪	◪	◪	■	■	■			
K	K1	■	■	■	■	■	■	■			■			
	K2	■	■	■	■	■	■	■			■			
	K3	■	■	■	■	■	■	■			■			
	K4	■	■	■	■	■	■	■			■			
	K5	■	■	■	■	■	■	■			■			
N	N1	■	■	■	■	■	■	◪			■			
	N2	■	■	■	■	■	■	■			■			
	N3			■	■	■	■	◪			■			
	N4	■	■											
	N5													
S	S1	◪	◪	◪	■	◪	■		■	■				
	S2								◪	◪				
	S3								◪	◪				
	S4								◪	◪				
H	H1	◪	◪	■	■	■	■							
	H2	◪	◪	◪	◪	◪	◪							
	H3	◪	◪	◪	◪	◪	◪							
	H4													

■ Primary use ◪ Possible use

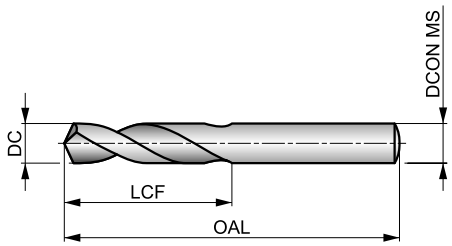
R520

DORMER

CDX Solid Carbide Stub Drill, TiN Coated

High performance Stub Drill, able to produce high quality and accurate holes at high speeds and feeds (H8 hole tolerance). The 130° point angle helps with self-centering and reduces cutting forces. TiN coating improves performance and extends the tool life. Suitable for all CNC machines and many materials.

CDX



HM	DIN 6539	2.5×D
130°	TiN	
λ20-35°	R	DC h7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 119 X	■ 134 X	■ 138 X	■ 102 X	■ 90 X	■ 80 X	■ 81 X	■ 65 X	■ 55 X	■ 48 X	■ 41 X	■ 34 W	◪ 69 W	◪ 58 W
M2.1	**M2.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**
◪ 61 W	◪ 50 W	■ 90 Y	■ 67 Y	■ 50 Y	■ 80 X	■ 65 X	■ 52 X	■ 71 X	■ 54 X	■ 44 X	■ 66 X	■ 49 X	■ 36 X
K4.4	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N4.1**	**N4.2**	**S1.1**
■ 31 X	■ 26 X	■ 74 X	■ 56 X	■ 43 X	■ 225 Z	■ 169 Z	■ 113 Z	■ 231 Y	■ 208 Y	■ 150 Y	■ 75 Z	■ 115 V	◪ 60 W
S1.2	**S1.3**	**H1.1**	**H2.1**	**H2.2**	**H3.1**	**H3.2**							
◪ 45 V	◪ 35 U	◪ 65 U	◪ 38 U	◪ 36 T	◪ 43 U	◪ 35 U							

DCON MS tolerance h7.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R5203.0	–	3.00	0.1181	16.0	46.0	3.00
R5203.1	–	3.10	0.1220	18.0	49.0	3.10
R5201/8	1/8	3.18	0.1250	18.0	49.0	3.18
R5203.2	–	3.20	0.1260	18.0	49.0	3.20
R5203.3	–	3.30	0.1299	18.0	49.0	3.30
R5203.4	–	3.40	0.1339	20.0	52.0	3.40
R5203.5	–	3.50	0.1378	20.0	52.0	3.50
R5203.6	–	3.60	0.1417	20.0	52.0	3.60
R5203.7	–	3.70	0.1457	20.0	52.0	3.70
R5203.8	–	3.80	0.1496	22.0	55.0	3.80
R5203.9	–	3.90	0.1535	22.0	55.0	3.90
R5204.0	–	4.00	0.1575	22.0	55.0	4.00
R5204.1	–	4.10	0.1614	22.0	55.0	4.10
R5204.2	–	4.20	0.1654	22.0	55.0	4.20
R5204.3	–	4.30	0.1693	24.0	58.0	4.30
R5204.4	–	4.40	0.1732	24.0	58.0	4.40
R5204.5	–	4.50	0.1772	24.0	58.0	4.50
R5204.6	–	4.60	0.1811	24.0	58.0	4.60
R5204.7	–	4.70	0.1850	24.0	58.0	4.70
R5204.8	–	4.80	0.1890	26.0	62.0	4.80
R5204.9	–	4.90	0.1929	26.0	62.0	4.90
R5205.0	–	5.00	0.1969	26.0	62.0	5.00
R5205.1	–	5.10	0.2008	26.0	62.0	5.10
R5205.2	–	5.20	0.2047	26.0	62.0	5.20
R5205.3	–	5.30	0.2087	26.0	62.0	5.30

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R5205.4	–	5.40	0.2126	28.0	66.0	5.40
R5205.5	–	5.50	0.2165	28.0	66.0	5.50
R5205.6	–	5.60	0.2205	28.0	66.0	5.60
R5205.8	–	5.80	0.2283	28.0	66.0	5.80
R5205.9	–	5.90	0.2323	28.0	66.0	5.90
R5206.0	–	6.00	0.2362	28.0	66.0	6.00
R5206.1	–	6.10	0.2402	31.0	70.0	6.10
R5206.2	–	6.20	0.2441	31.0	70.0	6.20
R5206.3	–	6.30	0.2480	31.0	70.0	6.30
R5201/4	1/4	6.35	0.2500	31.0	70.0	6.35
R5206.4	–	6.40	0.2520	31.0	70.0	6.40
R5206.5	–	6.50	0.2559	31.0	70.0	6.50
R5206.6	–	6.60	0.2598	31.0	70.0	6.60
R5206.7	–	6.70	0.2638	31.0	70.0	6.70
R5206.8	–	6.80	0.2677	34.0	74.0	6.80
R5206.9	–	6.90	0.2717	34.0	74.0	6.90
R5207.0	–	7.00	0.2756	34.0	74.0	7.00
R5207.1	–	7.10	0.2795	34.0	74.0	7.10
R5207.2	–	7.20	0.2835	34.0	74.0	7.20
R5207.3	–	7.30	0.2874	34.0	74.0	7.30
R5207.4	–	7.40	0.2913	34.0	74.0	7.40
R5207.5	–	7.50	0.2953	34.0	74.0	7.50
R5207.6	–	7.60	0.2992	37.0	79.0	7.60
R5207.7	–	7.70	0.3031	37.0	79.0	7.70
R5207.8	–	7.80	0.3071	37.0	79.0	7.80

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
R5205/16	5/16	7.94	0.3126	37.0	79.0	7.94
R5208.0	–	8.00	0.3150	37.0	79.0	8.00
R5208.1	–	8.10	0.3189	37.0	79.0	8.10
R5208.2	–	8.20	0.3228	37.0	79.0	8.20
R5208.3	–	8.30	0.3268	37.0	79.0	8.30
R5208.4	–	8.40	0.3307	37.0	79.0	8.40
R5208.5	–	8.50	0.3346	37.0	79.0	8.50
R5208.6	–	8.60	0.3386	40.0	84.0	8.60
R5208.7	–	8.70	0.3425	40.0	84.0	8.70
R5208.8	–	8.80	0.3465	40.0	84.0	8.80
R5209.0	–	9.00	0.3543	40.0	84.0	9.00
R5209.1	–	9.10	0.3583	40.0	84.0	9.10
R5209.3	–	9.30	0.3661	40.0	84.0	9.30
R5209.5	–	9.50	0.3740	40.0	84.0	9.50
R5203/8	3/8	9.52	0.3748	43.0	89.0	9.52
R5209.6	–	9.60	0.3780	43.0	89.0	9.60
R5209.7	–	9.70	0.3819	43.0	89.0	9.70
R5209.8	–	9.80	0.3858	43.0	89.0	9.80
R52010.0	–	10.00	0.3937	43.0	89.0	10.00
R52010.1	–	10.10	0.3976	43.0	89.0	10.10
R52010.2	–	10.20	0.4016	43.0	89.0	10.20

Product	DC	DC	DC	LCF	OAL	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)
R52010.3	–	10.30	0.4055	43.0	89.0	10.30
R52010.4	–	10.40	0.4094	43.0	89.0	10.40
R52010.5	–	10.50	0.4134	43.0	89.0	10.50
R52011.0	–	11.00	0.4331	47.0	95.0	11.00
R5207/16	7/16	11.11	0.4374	47.0	95.0	11.11
R52011.2	–	11.20	0.4409	47.0	95.0	11.20
R52011.5	–	11.50	0.4528	47.0	95.0	11.50
R52012.0	–	12.00	0.4724	51.0	102.0	12.00
R52012.5	–	12.50	0.4921	51.0	102.0	12.50
R5201/2	1/2	12.70	0.5000	51.0	102.0	12.70
R52013.0	–	13.00	0.5118	51.0	102.0	13.00
R52013.5	–	13.50	0.5315	54.0	107.0	13.50
R52014.0	–	14.00	0.5512	54.0	107.0	14.00
R52014.2	–	14.20	0.5591	56.0	111.0	14.20
R52014.25	–	14.25	0.5610	56.0	111.0	14.25
R52014.5	–	14.50	0.5709	56.0	111.0	14.50
R52015.0	–	15.00	0.5906	56.0	111.0	15.00
R52015.1	–	15.10	0.5945	58.0	115.0	15.10
R5205/8	5/8	15.88	0.6252	58.0	115.0	15.88
R52016.0	–	16.00	0.6299	58.0	115.0	16.00
R52016.5	–	16.50	0.6496	60.0	119.0	16.50

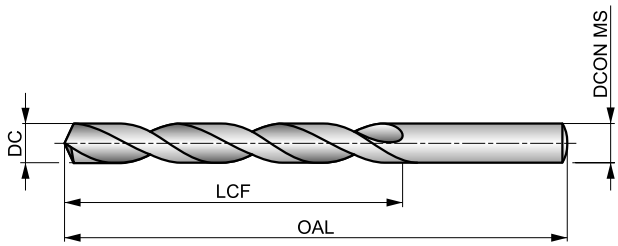
R510

DORMER

CDX Solid Carbide Jobber Drill, TiN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H8 hole tolerance). The 130° point helps with self-centering and reduces cutting forces. TiN coating improves performance and extends the life of the tool. Suitable for all CNC machines and many materials.

CDX



HM	DIN 338	4×D
130°	TiN	
λ 20-35°	R	DC h7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 119 W	■ 134 W	■ 138 W	■ 102 W	■ 90 W	■ 80 V	■ 81 W	■ 65 W	■ 55 V	■ 48 W	■ 41 V	■ 34 V	◪ 69 V	◪ 58 V
M2.1	**M2.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**
◪ 61 V	◪ 50 V	■ 90 X	■ 67 X	■ 50 X	■ 80 W	■ 65 W	■ 52 W	■ 71 W	■ 54 W	■ 44 W	■ 66 W	■ 49 W	■ 36 W
K4.4	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N4.1**	**N4.2**	**S1.1**
■ 31 W	■ 26 W	■ 74 W	■ 56 W	■ 43 W	■ 225 Y	■ 169 Y	■ 113 Y	■ 231 X	■ 208 X	■ 150 X	■ 75 X	■ 115 V	◪ 45 V
H1.1	**H2.1**	**H2.2**	**H3.1**	**H3.2**									
◪ 65 T	◪ 38 T	◪ 36 S	◪ 43 T	◪ 35 T									

DCON MS tolerance h7.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R5103.0	–	3.00	0.1181	33.0	61.0	3.00
R5101/8	1/8	3.18	0.1250	36.0	65.0	3.18
R5103.2	–	3.20	0.1260	36.0	65.0	3.20
R5103.3	–	3.30	0.1299	36.0	65.0	3.30
R5103.4	–	3.40	0.1339	39.0	70.0	3.40
R5103.5	–	3.50	0.1378	39.0	70.0	3.50
R5103.7	–	3.70	0.1457	39.0	70.0	3.70
R5103.9	–	3.90	0.1535	43.0	75.0	3.90
R5104.0	–	4.00	0.1575	43.0	75.0	4.00
R5104.1	–	4.10	0.1614	43.0	75.0	4.10
R5104.2	–	4.20	0.1654	43.0	75.0	4.20
R5104.3	–	4.30	0.1693	47.0	80.0	4.30
R5104.5	–	4.50	0.1772	47.0	80.0	4.50
R5104.7	–	4.70	0.1850	47.0	80.0	4.70
R5103/16	3/16	4.76	0.1874	52.0	86.0	4.76
R5104.9	–	4.90	0.1929	52.0	86.0	4.90
R5105.0	–	5.00	0.1969	52.0	86.0	5.00
R5105.1	–	5.10	0.2008	52.0	86.0	5.10
R5105.5	–	5.50	0.2165	57.0	93.0	5.50
R5105.6	–	5.60	0.2205	57.0	93.0	5.60
R5105.7	–	5.70	0.2244	57.0	93.0	5.70
R5106.0	–	6.00	0.2362	57.0	93.0	6.00
R5101/4	1/4	6.35	0.2500	63.0	101.0	6.35
R5106.5	–	6.50	0.2559	63.0	101.0	6.50
R5106.6	–	6.60	0.2598	63.0	101.0	6.60
R5106.8	–	6.80	0.2677	69.0	109.0	6.80
R5107.0	–	7.00	0.2756	69.0	109.0	7.00
R5107.3	–	7.30	0.2874	69.0	109.0	7.30

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R5107.4	–	7.40	0.2913	69.0	109.0	7.40
R5107.5	–	7.50	0.2953	69.0	109.0	7.50
R5107.8	–	7.80	0.3071	75.0	117.0	7.80
R5105/16	5/16	7.94	0.3126	75.0	117.0	7.94
R5108.0	–	8.00	0.3150	75.0	117.0	8.00
R5108.5	–	8.50	0.3346	75.0	117.0	8.50
R5108.7	–	8.70	0.3425	81.0	125.0	8.70
R5108.8	–	8.80	0.3465	81.0	125.0	8.80
R5109.0	–	9.00	0.3543	81.0	125.0	9.00
R5109.2	–	9.20	0.3622	81.0	125.0	9.20
R5109.3	–	9.30	0.3661	81.0	125.0	9.30
R5109.5	–	9.50	0.3740	81.0	125.0	9.50
R5103/8	3/8	9.52	0.3748	87.0	133.0	9.52
R5109.9	–	9.90	0.3898	87.0	133.0	9.90
R51010.0	–	10.00	0.3937	87.0	133.0	10.00
R51010.2	–	10.20	0.4016	87.0	133.0	10.20
R51010.3	–	10.30	0.4055	87.0	133.0	10.30
R51010.4	–	10.40	0.4094	87.0	133.0	10.40
R51010.5	–	10.50	0.4134	87.0	133.0	10.50
R51010.8	–	10.80	0.4252	94.0	142.0	10.80
R51011.0	–	11.00	0.4331	94.0	142.0	11.00
R5107/16	7/16	11.11	0.4374	94.0	142.0	11.11
R51011.2	–	11.20	0.4409	94.0	142.0	11.20
R51011.5	–	11.50	0.4528	94.0	142.0	11.50
R51012.0	–	12.00	0.4724	101.0	151.0	12.00
R5101/2	1/2	12.70	0.5000	101.0	151.0	12.70
R51013.0	–	13.00	0.5118	101.0	151.0	13.00
R51014.0	–	14.00	0.5512	108.0	160.0	14.00

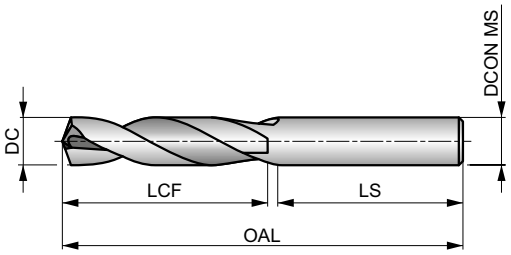
R458

DORMER

FORCE X Solid Carbide 3XD Drill, TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). Self centering 140°, 4-facet split point and CTW flute construction for enhanced penetration rates. TiAlN coating increases surface hardness and improves tool life.

FORCE X



HM	DIN 6537K	3×D
140°	TiAlN	DIN 6535HA
CTW	R	DC m7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 143 W	■ 160 W	■ 166 W	■ 122 W	■ 108 W	■ 95 V	■ 106 V	■ 86 V	■ 72 V	■ 63 V	■ 54 V	■ 44 U	◪ 60 U	◪ 51 U
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
◪ 54 U	◪ 44 U	◪ 37 T	◪ 33 T	◪ 28 T	◪ 26 T	◪ 24 T	◪ 21 T	■ 88 W	■ 65 W	■ 49 W	■ 78 V	■ 64 V	■ 51 V
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■ 70 V	■ 54 V	■ 43 V	■ 65 V	■ 49 V	■ 36 V	■ 30 V	■ 26 V	■ 73 V	■ 55 V	■ 42 V	■ 200 W	■ 150 W	■ 100 W
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**H1.1**	**H2.1**	**H2.2**	**H3.1**	**H3.2**
■ 246 V	■ 222 V	■ 160 V	■ 298 V	■ 176 V	■ 88 V	◪ 44 U	◪ 36 U	◪ 32 T	■ 45 U	◪ 26 U	◪ 24 U	◪ 30 U	◪ 24 U

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4583.0	–	3.00	0.1181	20.0	62.0	36.0	6.00
R4583.1	–	3.10	0.1220	20.0	62.0	36.0	6.00
R4581/8	1/8	3.18	0.1250	20.0	62.0	36.0	6.00
R4583.2	–	3.20	0.1260	20.0	62.0	36.0	6.00
R458N30	N30	3.26	0.1283	20.0	62.0	36.0	6.00
R4583.3	–	3.30	0.1299	20.0	62.0	36.0	6.00
R4583.4	–	3.40	0.1339	20.0	62.0	36.0	6.00
R458N29	N29	3.45	0.1360	20.0	62.0	36.0	6.00
R4583.5	–	3.50	0.1378	20.0	62.0	36.0	6.00
R458N28	N28	3.57	0.1406	20.0	62.0	36.0	6.00
R4589/64	9/64	3.57	0.1406	20.0	62.0	36.0	6.00
R4583.6	–	3.60	0.1417	20.0	62.0	36.0	6.00
R458N27	N27	3.66	0.1441	20.0	62.0	36.0	6.00
R4583.7	–	3.70	0.1457	20.0	62.0	36.0	6.00
R4583.73	–	3.73	0.1469	24.0	66.0	36.0	6.00
R458N26	N26	3.73	0.1469	24.0	66.0	36.0	6.00
R458N25	N25	3.80	0.1496	24.0	66.0	36.0	6.00
R4583.8	–	3.80	0.1496	24.0	66.0	36.0	6.00
R458N24	N24	3.86	0.1520	24.0	66.0	36.0	6.00
R4583.9	–	3.90	0.1535	24.0	66.0	36.0	6.00
R458N23	N23	3.91	0.1539	24.0	66.0	36.0	6.00
R4585/32	5/32	3.97	0.1563	24.0	66.0	36.0	6.00
R458N22	N22	3.99	0.1571	24.0	66.0	36.0	6.00
R4584.0	–	4.00	0.1575	24.0	66.0	36.0	6.00
R458N21	N21	4.04	0.1591	24.0	66.0	36.0	6.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R458N20	N20	4.09	0.1610	24.0	66.0	36.0	6.00
R4584.1	–	4.10	0.1614	24.0	66.0	36.0	6.00
R4584.2	–	4.20	0.1654	24.0	66.0	36.0	6.00
R458N19	N19	4.22	0.1661	24.0	66.0	36.0	6.00
R4584.3	–	4.30	0.1693	24.0	66.0	36.0	6.00
R458N18	N18	4.31	0.1697	24.0	66.0	36.0	6.00
R45811/64	11/64	4.37	0.1719	24.0	66.0	36.0	6.00
R458N17	N17	4.39	0.1728	24.0	66.0	36.0	6.00
R4584.4	–	4.40	0.1732	24.0	66.0	36.0	6.00
R4584.5	–	4.50	0.1772	24.0	66.0	36.0	6.00
R458N16	N16	4.50	0.1772	24.0	66.0	36.0	6.00
R458N15	N15	4.57	0.1799	24.0	66.0	36.0	6.00
R4584.6	–	4.60	0.1811	24.0	66.0	36.0	6.00
R458N14	N14	4.62	0.1819	24.0	66.0	36.0	6.00
R458N13	N13	4.70	0.1850	24.0	66.0	36.0	6.00
R4584.7	–	4.70	0.1850	24.0	66.0	36.0	6.00
R4583/16	3/16	4.76	0.1875	28.0	66.0	36.0	6.00
R4584.8	–	4.80	0.1890	28.0	66.0	36.0	6.00
R458N12	N12	4.80	0.1890	28.0	66.0	36.0	6.00
R458N11	N11	4.85	0.1909	28.0	66.0	36.0	6.00
R4584.9	–	4.90	0.1929	28.0	66.0	36.0	6.00
R458N10	N10	4.92	0.1937	28.0	66.0	36.0	6.00
R458N9	N9	4.98	0.1961	28.0	66.0	36.0	6.00
R4585.0	–	5.00	0.1969	28.0	66.0	36.0	6.00
R458N8	N8	5.06	0.1992	28.0	66.0	36.0	6.00
R4585.1	–	5.10	0.2008	28.0	66.0	36.0	6.00
R458N7	N7	5.11	0.2010	28.0	66.0	36.0	6.00
R45813/64	13/64	5.16	0.2031	28.0	66.0	36.0	6.00
R458N6	N6	5.18	0.2039	28.0	66.0	36.0	6.00
R4585.2	–	5.20	0.2047	28.0	66.0	36.0	6.00
R458N5	N5	5.22	0.2055	28.0	66.0	36.0	6.00
R4585.3	–	5.30	0.2087	28.0	66.0	36.0	6.00
R458N4	N4	5.31	0.2091	28.0	66.0	36.0	6.00
R4585.4	–	5.40	0.2126	28.0	66.0	36.0	6.00
R458N3	N3	5.41	0.2130	28.0	66.0	36.0	6.00
R4585.5	–	5.50	0.2165	28.0	66.0	36.0	6.00
R4587/32	7/32	5.56	0.2188	28.0	66.0	36.0	6.00
R4585.6	–	5.60	0.2205	28.0	66.0	36.0	6.00
R458N2	N2	5.61	0.2209	28.0	66.0	36.0	6.00
R4585.7	–	5.70	0.2244	28.0	66.0	36.0	6.00
R458N1	N1	5.79	0.2280	28.0	66.0	36.0	6.00
R4585.8	–	5.80	0.2283	28.0	66.0	36.0	6.00
R4585.9	–	5.90	0.2323	28.0	66.0	36.0	6.00
R45815/64	15/64	5.95	0.2344	28.0	66.0	36.0	6.00
R4586.0	–	6.00	0.2362	28.0	66.0	36.0	6.00
R458B	B	6.05	0.2380	34.0	79.0	36.0	8.00
R4586.1	–	6.10	0.2402	34.0	79.0	36.0	8.00
R458C	C	6.15	0.2421	34.0	79.0	36.0	8.00
R4586.2	–	6.20	0.2441	34.0	79.0	36.0	8.00
R458D	D	6.25	0.2461	34.0	79.0	36.0	8.00
R4586.3	–	6.30	0.2480	34.0	79.0	36.0	8.00
R4581/4	1/4	6.35	0.2500	34.0	79.0	36.0	8.00
R4586.4	–	6.40	0.2520	34.0	79.0	36.0	8.00
R4586.5	–	6.50	0.2559	34.0	79.0	36.0	8.00
R458F	F	6.53	0.2571	34.0	79.0	36.0	8.00
R4586.6	–	6.60	0.2598	34.0	79.0	36.0	8.00
R458G	G	6.63	0.2610	34.0	79.0	36.0	8.00
R4586.7	–	6.70	0.2638	34.0	79.0	36.0	8.00
R45817/64	17/64	6.75	0.2656	34.0	79.0	36.0	8.00
R458H	H	6.76	0.2661	34.0	79.0	36.0	8.00
R4586.8	–	6.80	0.2677	34.0	79.0	36.0	8.00
R4586.9	–	6.90	0.2717	34.0	79.0	36.0	8.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R458I	I	6.91	0.2720	34.0	79.0	36.0	8.00
R4587.0	–	7.00	0.2756	34.0	79.0	36.0	8.00
R458J	J	7.04	0.2772	34.0	79.0	36.0	8.00
R4587.1	–	7.10	0.2795	41.0	79.0	36.0	8.00
R4589/32	9/32	7.14	0.2813	41.0	79.0	36.0	8.00
R4587.2	–	7.20	0.2835	41.0	79.0	36.0	8.00
R4587.3	–	7.30	0.2874	41.0	79.0	36.0	8.00
R458L	L	7.37	0.2902	41.0	79.0	36.0	8.00
R4587.4	–	7.40	0.2913	41.0	79.0	36.0	8.00
R4587.5	–	7.50	0.2953	41.0	79.0	36.0	8.00
R45819/64	19/64	7.54	0.2969	41.0	79.0	36.0	8.00
R4587.6	–	7.60	0.2992	41.0	79.0	36.0	8.00
R458N	N	7.67	0.3020	41.0	79.0	36.0	8.00
R4587.7	–	7.70	0.3031	41.0	79.0	36.0	8.00
R4587.8	–	7.80	0.3071	41.0	79.0	36.0	8.00
R4587.9	–	7.90	0.3110	41.0	79.0	36.0	8.00
R4585/16	5/16	7.94	0.3125	41.0	79.0	36.0	8.00
R4588.0	–	8.00	0.3150	41.0	79.0	36.0	8.00
R458O	O	8.03	0.3161	47.0	89.0	40.0	10.00
R4588.1	–	8.10	0.3189	47.0	89.0	40.0	10.00
R4588.2	–	8.20	0.3228	47.0	89.0	40.0	10.00
R4588.3	–	8.30	0.3268	47.0	89.0	40.0	10.00
R45821/64	21/64	8.33	0.3281	47.0	89.0	40.0	10.00
R4588.4	–	8.40	0.3307	47.0	89.0	40.0	10.00
R458Q	Q	8.43	0.3319	47.0	89.0	40.0	10.00
R4588.5	–	8.50	0.3346	47.0	89.0	40.0	10.00
R4588.6	–	8.60	0.3386	47.0	89.0	40.0	10.00
R458R	R	8.61	0.3390	47.0	89.0	40.0	10.00
R4588.7	–	8.70	0.3425	47.0	89.0	40.0	10.00
R45811/32	11/32	8.73	0.3438	47.0	89.0	40.0	10.00
R4588.8	–	8.80	0.3465	47.0	89.0	40.0	10.00
R458S	S	8.84	0.3480	47.0	89.0	40.0	10.00
R4588.9	–	8.90	0.3504	47.0	89.0	40.0	10.00
R4589.0	–	9.00	0.3543	47.0	89.0	40.0	10.00
R458T	T	9.09	0.3579	47.0	89.0	40.0	10.00
R4589.1	–	9.10	0.3583	47.0	89.0	40.0	10.00
R45823/64	23/64	9.13	0.3594	47.0	89.0	40.0	10.00
R4589.2	–	9.20	0.3622	47.0	89.0	40.0	10.00
R4589.3	–	9.30	0.3661	47.0	89.0	40.0	10.00
R458U	U	9.35	0.3681	47.0	89.0	40.0	10.00
R4589.4	–	9.40	0.3701	47.0	89.0	40.0	10.00
R4589.5	–	9.50	0.3740	47.0	89.0	40.0	10.00
R4583/8	3/8	9.53	0.3750	47.0	89.0	40.0	10.00
R458V	V	9.58	0.3772	47.0	89.0	40.0	10.00
R4589.6	–	9.60	0.3780	47.0	89.0	40.0	10.00
R4589.7	–	9.70	0.3819	47.0	89.0	40.0	10.00
R4589.8	–	9.80	0.3858	47.0	89.0	40.0	10.00
R4589.9	–	9.90	0.3898	47.0	89.0	40.0	10.00
R45825/64	25/64	9.92	0.3906	47.0	89.0	40.0	10.00
R45810.0	–	10.00	0.3937	47.0	89.0	40.0	10.00
R458X	X	10.08	0.3969	55.0	102.0	45.0	12.00
R45810.1	–	10.10	0.3976	55.0	102.0	45.0	12.00
R45810.2	–	10.20	0.4016	55.0	102.0	45.0	12.00
R458Y	Y	10.26	0.4039	55.0	102.0	45.0	12.00
R45810.3	–	10.30	0.4055	55.0	102.0	45.0	12.00
R45813/32	13/32	10.32	0.4063	55.0	102.0	45.0	12.00
R45810.4	–	10.40	0.4094	55.0	102.0	45.0	12.00
R45810.5	–	10.50	0.4134	55.0	102.0	45.0	12.00
R45810.6	–	10.60	0.4173	55.0	102.0	45.0	12.00
R45810.7	–	10.70	0.4213	55.0	102.0	45.0	12.00
R45827/64	27/64	10.72	0.4219	55.0	102.0	45.0	12.00
R45810.8	–	10.80	0.4252	55.0	102.0	45.0	12.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R45810.9	–	10.90	0.4291	55.0	102.0	45.0	12.00
R45811.0	–	11.00	0.4331	55.0	102.0	45.0	12.00
R45811.1	–	11.10	0.4370	55.0	102.0	45.0	12.00
R4587/16	7/16	11.11	0.4375	55.0	102.0	45.0	12.00
R45811.2	–	11.20	0.4409	55.0	102.0	45.0	12.00
R45811.3	–	11.30	0.4449	55.0	102.0	45.0	12.00
R45811.4	–	11.40	0.4488	55.0	102.0	45.0	12.00
R45811.5	–	11.50	0.4528	55.0	102.0	45.0	12.00
R45829/64	29/64	11.51	0.4531	55.0	102.0	45.0	12.00
R45811.6	–	11.60	0.4567	55.0	102.0	45.0	12.00
R45811.7	–	11.70	0.4606	55.0	102.0	45.0	12.00
R45811.8	–	11.80	0.4646	55.0	102.0	45.0	12.00
R45811.9	–	11.90	0.4685	55.0	102.0	45.0	12.00
R45815/32	15/32	11.91	0.4688	55.0	102.0	45.0	12.00
R45812.0	–	12.00	0.4724	55.0	102.0	45.0	12.00
R45812.1	–	12.10	0.4764	60.0	107.0	45.0	14.00
R45812.2	–	12.20	0.4803	60.0	107.0	45.0	14.00
R45831/64	31/64	12.30	0.4844	60.0	107.0	45.0	14.00
R45812.5	–	12.50	0.4921	60.0	107.0	45.0	14.00
R45812.7	–	12.70	0.5000	60.0	107.0	45.0	14.00
R4581/2	1/2	12.70	0.5000	60.0	107.0	45.0	14.00
R45812.8	–	12.80	0.5039	60.0	107.0	45.0	14.00
R45813.0	–	13.00	0.5118	60.0	107.0	45.0	14.00
R45833/64	33/64	13.10	0.5156	60.0	107.0	45.0	14.00
R45813.3	–	13.30	0.5236	60.0	107.0	45.0	14.00
R45817/32	17/32	13.49	0.5313	60.0	107.0	45.0	14.00
R45813.5	–	13.50	0.5315	60.0	107.0	45.0	14.00
R45813.8	–	13.80	0.5433	60.0	107.0	45.0	14.00
R45835/64	35/64	13.89	0.5469	60.0	107.0	45.0	14.00
R45814.0	–	14.00	0.5512	60.0	107.0	45.0	14.00
R45814.25	–	14.25	0.5610	65.0	115.0	48.0	16.00
R4589/16	9/16	14.29	0.5625	65.0	115.0	48.0	16.00
R45814.5	–	14.50	0.5709	65.0	115.0	48.0	16.00
R45837/64	37/64	14.68	0.5781	65.0	115.0	48.0	16.00
R45814.8	–	14.80	0.5827	65.0	115.0	48.0	16.00
R45815.0	–	15.00	0.5906	65.0	115.0	48.0	16.00
R45819/32	19/32	15.08	0.5938	65.0	115.0	48.0	16.00
R45815.1	–	15.10	0.5945	65.0	115.0	48.0	16.00
R45815.3	–	15.30	0.6024	65.0	115.0	48.0	16.00
R45839/64	39/64	15.48	0.6094	65.0	115.0	48.0	16.00
R45815.5	–	15.50	0.6102	65.0	115.0	48.0	16.00
R45815.8	–	15.80	0.6220	65.0	115.0	48.0	16.00
R4585/8	5/8	15.88	0.6250	65.0	115.0	48.0	16.00
R45816.0	–	16.00	0.6299	65.0	115.0	48.0	16.00
R45841/64	41/64	16.27	0.6406	73.0	123.0	48.0	18.00
R45816.5	–	16.50	0.6496	73.0	123.0	48.0	18.00
R45821/32	21/32	16.67	0.6563	73.0	123.0	48.0	18.00
R45817.0	–	17.00	0.6693	73.0	123.0	48.0	18.00
R45843/64	43/64	17.07	0.6720	73.0	123.0	48.0	18.00
R45811/16	11/16	17.46	0.6874	73.0	123.0	48.0	18.00
R45817.5	–	17.50	0.6890	73.0	123.0	48.0	18.00
R45817.8	–	17.80	0.7008	73.0	123.0	48.0	18.00
R45845/64	45/64	17.86	0.7031	73.0	123.0	48.0	18.00
R45818.0	–	18.00	0.7087	73.0	123.0	48.0	18.00
R45823/32	23/32	18.26	0.7189	79.0	131.0	50.0	20.00
R45818.5	–	18.50	0.7283	79.0	131.0	50.0	20.00
R45847/64	47/64	18.65	0.7343	79.0	131.0	50.0	20.00
R45819.0	–	19.00	0.7480	79.0	131.0	50.0	20.00
R4583/4	–	19.05	0.7500	79.0	131.0	50.0	20.00
R45819.5	–	19.50	0.7677	79.0	131.0	50.0	20.00
R45819.8	–	19.80	0.7795	79.0	131.0	50.0	20.00
R45820.0	–	20.00	0.7874	79.0	131.0	50.0	20.00

R457

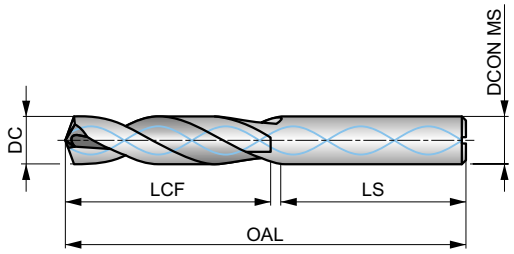
DORMER

FORCE X Solid Carbide 3XD Drill with Coolant Feed, TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). Self centering 140°, 4-facet split point and CTW flute construction for enhanced penetration rates. Coolant holes to enhance chip evacuation. TiAlN coating increases surface hardness and improves tool life.

FORCE X

HM	DIN 6537K	3×D
140°	TiAlN	DIN 6535HA
CTW	R	
DC m7		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 179 W	■ 200 W	■ 207 W	■ 153 W	■ 135 W	■ 119 V	■ 133 V	■ 107 V	■ 90 V	■ 79 V	■ 67 V	■ 55 U	◪ 75 V	◪ 64 V
M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	K1.1	K1.2	K1.3	K2.1	K2.2	K2.3
◪ 67 V	◪ 55 V	◪ 46 U	◪ 41 V	◪ 35 V	◪ 32 V	◪ 30 U	◪ 26 U	■ 110 W	■ 81 W	■ 61 W	■ 98 V	■ 80 V	■ 64 V
K3.1	K3.2	K3.3	K4.1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2	K5.3	N1.1	N1.2	N1.3
■ 87 V	■ 67 V	■ 54 V	■ 81 V	■ 61 V	■ 45 V	■ 38 V	■ 32 V	■ 91 V	■ 69 V	■ 53 V	■ 250 W	■ 188 W	■ 125 W
N2.1	N2.2	N2.3	N3.1	N3.2	N3.3	S1.1	S1.2	S1.3	H1.1	H2.1	H2.2	H3.1	H3.2
■ 308 V	■ 277 V	■ 200 V	■ 373 W	■ 220 W	■ 110 W	■ 55 V	■ 45 V	■ 40 U	■ 56 U	◪ 33 U	◪ 30 U	◪ 37 U	◪ 30 U

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4573.0	–	3.00	0.1181	20.0	62.0	36.0	6.00
R4573.1	–	3.10	0.1220	20.0	62.0	36.0	6.00
R4571/8	1/8	3.18	0.1250	20.0	62.0	36.0	6.00
R4573.2	–	3.20	0.1260	20.0	62.0	36.0	6.00
R457N30	N30	3.26	0.1283	20.0	62.0	36.0	6.00
R4573.3	–	3.30	0.1299	20.0	62.0	36.0	6.00
R4573.4	–	3.40	0.1339	20.0	62.0	36.0	6.00
R457N29	N29	3.45	0.1360	20.0	62.0	36.0	6.00
R4573.5	–	3.50	0.1378	20.0	62.0	36.0	6.00
R457N28	N28	3.57	0.1406	20.0	62.0	36.0	6.00
R4579/64	9/64	3.57	0.1406	20.0	62.0	36.0	6.00
R4573.6	–	3.60	0.1417	20.0	62.0	36.0	6.00
R457N27	N27	3.66	0.1441	20.0	62.0	36.0	6.00
R4573.7	–	3.70	0.1457	20.0	62.0	36.0	6.00
R457N26	N26	3.73	0.1469	24.0	66.0	36.0	6.00
R457N25	N25	3.80	0.1496	24.0	66.0	36.0	6.00
R4573.8	–	3.80	0.1496	24.0	66.0	36.0	6.00
R457N24	N24	3.86	0.1520	24.0	66.0	36.0	6.00
R4573.9	–	3.90	0.1535	24.0	66.0	36.0	6.00
R457N23	N23	3.91	0.1539	24.0	66.0	36.0	6.00
R4575/32	5/32	3.97	0.1563	24.0	66.0	36.0	6.00
R457N22	N22	3.99	0.1571	24.0	66.0	36.0	6.00
R4574.0	–	4.00	0.1575	24.0	66.0	36.0	6.00
R457N21	N21	4.04	0.1591	24.0	66.0	36.0	6.00
R4574.05	–	4.05	0.1594	24.0	66.0	36.0	6.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R457N20	N20	4.09	0.1610	24.0	66.0	36.0	6.00
R4574.1	–	4.10	0.1614	24.0	66.0	36.0	6.00
R4574.2	–	4.20	0.1654	24.0	66.0	36.0	6.00
R4574.3	–	4.30	0.1693	24.0	66.0	36.0	6.00
R457N18	N18	4.31	0.1697	24.0	66.0	36.0	6.00
R45711/64	11/64	4.37	0.1719	24.0	66.0	36.0	6.00
R457N17	N17	4.39	0.1728	24.0	66.0	36.0	6.00
R4574.4	–	4.40	0.1732	24.0	66.0	36.0	6.00
R4574.5	–	4.50	0.1772	24.0	66.0	36.0	6.00
R457N16	N16	4.50	0.1772	24.0	66.0	36.0	6.00
R457N15	N15	4.57	0.1799	24.0	66.0	36.0	6.00
R4574.6	–	4.60	0.1811	24.0	66.0	36.0	6.00
R457N14	N14	4.62	0.1819	24.0	66.0	36.0	6.00
R4574.7	–	4.70	0.1850	24.0	66.0	36.0	6.00
R4573/16	3/16	4.76	0.1875	28.0	66.0	36.0	6.00
R4574.8	–	4.80	0.1890	28.0	66.0	36.0	6.00
R457N11	N11	4.85	0.1909	28.0	66.0	36.0	6.00
R4574.9	–	4.90	0.1929	28.0	66.0	36.0	6.00
R457N9	N9	4.98	0.1961	28.0	66.0	36.0	6.00
R4575.0	–	5.00	0.1969	28.0	66.0	36.0	6.00
R4575.05	–	5.05	0.1988	28.0	66.0	36.0	6.00
R457N8	N8	5.06	0.1992	28.0	66.0	36.0	6.00
R4575.1	–	5.10	0.2008	28.0	66.0	36.0	6.00
R457N7	N7	5.11	0.2010	28.0	66.0	36.0	6.00
R45713/64	13/64	5.16	0.2031	28.0	66.0	36.0	6.00
R457N6	N6	5.18	0.2039	28.0	66.0	36.0	6.00
R4575.2	–	5.20	0.2047	28.0	66.0	36.0	6.00
R457N5	N5	5.22	0.2055	28.0	66.0	36.0	6.00
R4575.3	–	5.30	0.2087	28.0	66.0	36.0	6.00
R457N4	N4	5.31	0.2091	28.0	66.0	36.0	6.00
R4575.4	–	5.40	0.2126	28.0	66.0	36.0	6.00
R457N3	N3	5.41	0.2130	28.0	66.0	36.0	6.00
R4575.5	–	5.50	0.2165	28.0	66.0	36.0	6.00
R4577/32	7/32	5.56	0.2188	28.0	66.0	36.0	6.00
R4575.6	–	5.60	0.2205	28.0	66.0	36.0	6.00
R457N2	N2	5.61	0.2209	28.0	66.0	36.0	6.00
R4575.7	–	5.70	0.2244	28.0	66.0	36.0	6.00
R457N1	N1	5.79	0.2280	28.0	66.0	36.0	6.00
R4575.8	–	5.80	0.2283	28.0	66.0	36.0	6.00
R4575.9	–	5.90	0.2323	28.0	66.0	36.0	6.00
R457A	A	5.94	0.2339	28.0	66.0	36.0	6.00
R45715/64	15/64	5.95	0.2344	28.0	66.0	36.0	6.00
R4576.0	–	6.00	0.2362	28.0	66.0	36.0	6.00
R457B	B	6.05	0.2380	34.0	79.0	36.0	8.00
R4576.05	–	6.05	0.2382	34.0	79.0	36.0	8.00
R4576.1	–	6.10	0.2402	34.0	79.0	36.0	8.00
R457C	C	6.15	0.2421	34.0	79.0	36.0	8.00
R4576.2	–	6.20	0.2441	34.0	79.0	36.0	8.00
R457D	D	6.25	0.2461	34.0	79.0	36.0	8.00
R4576.3	–	6.30	0.2480	34.0	79.0	36.0	8.00
R4571/4	1/4	6.35	0.2500	34.0	79.0	36.0	8.00
R4576.4	–	6.40	0.2520	34.0	79.0	36.0	8.00
R4576.5	–	6.50	0.2559	34.0	79.0	36.0	8.00
R457F	F	6.53	0.2571	34.0	79.0	36.0	8.00
R4576.6	–	6.60	0.2598	34.0	79.0	36.0	8.00
R457G	G	6.63	0.2610	34.0	79.0	36.0	8.00
R4576.7	–	6.70	0.2638	34.0	79.0	36.0	8.00
R45717/64	17/64	6.75	0.2656	34.0	79.0	36.0	8.00
R4576.8	–	6.80	0.2677	34.0	79.0	36.0	8.00
R4576.9	–	6.90	0.2717	34.0	79.0	36.0	8.00
R457I	I	6.91	0.2720	34.0	79.0	36.0	8.00
R4577.0	–	7.00	0.2756	34.0	79.0	36.0	8.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R457J	J	7.04	0.2772	41.0	79.0	36.0	8.00
R4577.1	–	7.10	0.2795	41.0	79.0	36.0	8.00
R4579/32	9/32	7.14	0.2813	41.0	79.0	36.0	8.00
R4577.2	–	7.20	0.2835	41.0	79.0	36.0	8.00
R4577.3	–	7.30	0.2874	41.0	79.0	36.0	8.00
R4577.4	–	7.40	0.2913	41.0	79.0	36.0	8.00
R4577.5	–	7.50	0.2953	41.0	79.0	36.0	8.00
R45719/64	19/64	7.54	0.2969	41.0	79.0	36.0	8.00
R4577.6	–	7.60	0.2992	41.0	79.0	36.0	8.00
R457N	N	7.67	0.3020	41.0	79.0	36.0	8.00
R4577.7	–	7.70	0.3031	41.0	79.0	36.0	8.00
R4577.8	–	7.80	0.3071	41.0	79.0	36.0	8.00
R4577.9	–	7.90	0.3110	41.0	79.0	36.0	8.00
R4575/16	5/16	7.94	0.3125	41.0	79.0	36.0	8.00
R4578.0	–	8.00	0.3150	41.0	79.0	36.0	8.00
R457O	O	8.03	0.3161	47.0	89.0	40.0	10.00
R4578.05	–	8.05	0.3169	47.0	89.0	40.0	10.00
R4578.1	–	8.10	0.3189	47.0	89.0	40.0	10.00
R4578.2	–	8.20	0.3228	47.0	89.0	40.0	10.00
R457P	P	8.20	0.3228	47.0	89.0	40.0	10.00
R4578.3	–	8.30	0.3268	47.0	89.0	40.0	10.00
R45721/64	21/64	8.33	0.3281	47.0	89.0	40.0	10.00
R4578.4	–	8.40	0.3307	47.0	89.0	40.0	10.00
R457Q	Q	8.43	0.3319	47.0	89.0	40.0	10.00
R4578.5	–	8.50	0.3346	47.0	89.0	40.0	10.00
R4578.6	–	8.60	0.3386	47.0	89.0	40.0	10.00
R457R	R	8.61	0.3390	47.0	89.0	40.0	10.00
R4578.7	–	8.70	0.3425	47.0	89.0	40.0	10.00
R45711/32	11/32	8.73	0.3438	47.0	89.0	40.0	10.00
R4578.8	–	8.80	0.3465	47.0	89.0	40.0	10.00
R457S	S	8.84	0.3480	47.0	89.0	40.0	10.00
R4578.9	–	8.90	0.3504	47.0	89.0	40.0	10.00
R4579.0	–	9.00	0.3543	47.0	89.0	40.0	10.00
R4579.1	–	9.10	0.3583	47.0	89.0	40.0	10.00
R45723/64	23/64	9.13	0.3594	47.0	89.0	40.0	10.00
R4579.2	–	9.20	0.3622	47.0	89.0	40.0	10.00
R4579.3	–	9.30	0.3661	47.0	89.0	40.0	10.00
R457U	U	9.35	0.3681	47.0	89.0	40.0	10.00
R4579.4	–	9.40	0.3701	47.0	89.0	40.0	10.00
R4579.5	–	9.50	0.3740	47.0	89.0	40.0	10.00
R4573/8	3/8	9.53	0.3750	47.0	89.0	40.0	10.00
R457V	V	9.58	0.3772	47.0	89.0	40.0	10.00
R4579.6	–	9.60	0.3780	47.0	89.0	40.0	10.00
R4579.7	–	9.70	0.3819	47.0	89.0	40.0	10.00
R4579.8	–	9.80	0.3858	47.0	89.0	40.0	10.00
R457W	W	9.80	0.3858	47.0	89.0	40.0	10.00
R4579.9	–	9.90	0.3898	47.0	89.0	40.0	10.00
R45725/64	25/64	9.92	0.3906	47.0	89.0	40.0	10.00
R45710.0	–	10.00	0.3937	47.0	89.0	40.0	10.00
R45710.05	–	10.05	0.3957	55.0	102.0	45.0	12.00
R457X	X	10.08	0.3969	55.0	102.0	45.0	12.00
R45710.1	–	10.10	0.3976	55.0	102.0	45.0	12.00
R45710.2	–	10.20	0.4016	55.0	102.0	45.0	12.00
R457Y	Y	10.26	0.4039	55.0	102.0	45.0	12.00
R45710.3	–	10.30	0.4055	55.0	102.0	45.0	12.00
R45713/32	13/32	10.32	0.4063	55.0	102.0	45.0	12.00
R45710.4	–	10.40	0.4094	55.0	102.0	45.0	12.00
R457Z	Z	10.49	0.4130	55.0	102.0	45.0	12.00
R45710.5	–	10.50	0.4134	55.0	102.0	45.0	12.00
R45710.6	–	10.60	0.4173	55.0	102.0	45.0	12.00
R45727/64	27/64	10.72	0.4219	55.0	102.0	45.0	12.00
R45710.8	–	10.80	0.4252	55.0	102.0	45.0	12.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R45711.0	–	11.00	0.4331	55.0	102.0	45.0	12.00
R4577/16	7/16	11.11	0.4375	55.0	102.0	45.0	12.00
R45711.2	–	11.20	0.4409	55.0	102.0	45.0	12.00
R45711.3	–	11.30	0.4449	55.0	102.0	45.0	12.00
R45711.4	–	11.40	0.4488	55.0	102.0	45.0	12.00
R45711.5	–	11.50	0.4528	55.0	102.0	45.0	12.00
R45729/64	29/64	11.51	0.4531	55.0	102.0	45.0	12.00
R45711.6	–	11.60	0.4567	55.0	102.0	45.0	12.00
R45711.8	–	11.80	0.4646	55.0	102.0	45.0	12.00
R45715/32	15/32	11.91	0.4688	55.0	102.0	45.0	12.00
R45712.0	–	12.00	0.4724	55.0	102.0	45.0	12.00
R45712.05	–	12.05	0.4744	60.0	107.0	45.0	14.00
R45712.1	–	12.10	0.4764	60.0	107.0	45.0	14.00
R45712.2	–	12.20	0.4803	60.0	107.0	45.0	14.00
R45731/64	31/64	12.30	0.4844	60.0	107.0	45.0	14.00
R45712.5	–	12.50	0.4921	60.0	107.0	45.0	14.00
R45712.7	–	12.70	0.5000	60.0	107.0	45.0	14.00
R4571/2	1/2	12.70	0.5000	60.0	107.0	45.0	14.00
R45712.8	–	12.80	0.5039	60.0	107.0	45.0	14.00
R45713.0	–	13.00	0.5118	60.0	107.0	45.0	14.00
R45733/64	33/64	13.10	0.5156	60.0	107.0	45.0	14.00
R45713.3	–	13.30	0.5236	60.0	107.0	45.0	14.00
R45717/32	17/32	13.49	0.5313	60.0	107.0	45.0	14.00
R45713.5	–	13.50	0.5315	60.0	107.0	45.0	14.00
R45713.8	–	13.80	0.5433	60.0	107.0	45.0	14.00
R45735/64	35/64	13.89	0.5469	60.0	107.0	45.0	14.00
R45714.0	–	14.00	0.5512	60.0	107.0	45.0	14.00
R45714.25	–	14.25	0.5610	65.0	115.0	48.0	16.00
R4579/16	9/16	14.29	0.5625	65.0	115.0	48.0	16.00
R45714.5	–	14.50	0.5709	65.0	115.0	48.0	16.00
R45737/64	37/64	14.68	0.5781	65.0	115.0	48.0	16.00
R45714.8	–	14.80	0.5827	65.0	115.0	48.0	16.00
R45715.0	–	15.00	0.5906	65.0	115.0	48.0	16.00
R45719/32	19/32	15.08	0.5938	65.0	115.0	48.0	16.00
R45715.1	–	15.10	0.5945	65.0	115.0	48.0	16.00
R45715.3	–	15.30	0.6024	65.0	115.0	48.0	16.00
R45739/64	39/64	15.48	0.6094	65.0	115.0	48.0	16.00
R45715.5	–	15.50	0.6102	65.0	115.0	48.0	16.00
R45715.8	–	15.80	0.6220	65.0	115.0	48.0	16.00
R4575/8	5/8	15.88	0.6250	65.0	115.0	48.0	16.00
R45716.0	–	16.00	0.6299	65.0	115.0	48.0	16.00
R45741/64	41/64	16.27	0.6406	73.0	123.0	48.0	18.00
R45716.5	–	16.50	0.6496	73.0	123.0	48.0	18.00
R45721/32	21/32	16.67	0.6563	73.0	123.0	48.0	18.00
R45717.0	–	17.00	0.6693	73.0	123.0	48.0	18.00
R45743/64	43/64	17.07	0.6720	73.0	123.0	48.0	18.00
R45711/16	11/16	17.46	0.6874	73.0	123.0	48.0	18.00
R45717.5	–	17.50	0.6890	73.0	123.0	48.0	18.00
R45745/64	45/64	17.86	0.7031	73.0	123.0	48.0	18.00
R45718.0	–	18.00	0.7087	73.0	123.0	48.0	18.00
R45723/32	23/32	18.26	0.7189	79.0	131.0	50.0	20.00
R45718.5	–	18.50	0.7283	79.0	131.0	50.0	20.00
R45747/64	47/64	18.65	0.7343	79.0	131.0	50.0	20.00
R45718.8	–	18.80	0.7402	79.0	131.0	50.0	20.00
R45719.0	–	19.00	0.7480	79.0	131.0	50.0	20.00
R4573/4	3/4	19.05	0.7500	79.0	131.0	50.0	20.00
R45719.5	–	19.50	0.7677	79.0	131.0	50.0	20.00
R45719.8	–	19.80	0.7795	79.0	131.0	50.0	20.00
R45720.0	–	20.00	0.7874	79.0	131.0	50.0	20.00

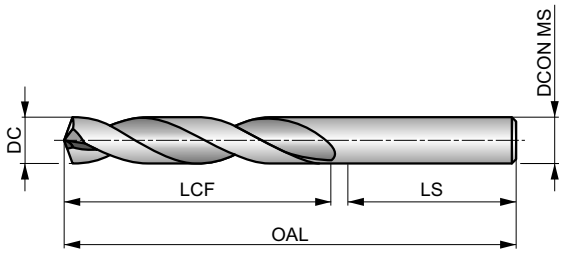
R454

DORMER

FORCE X Solid Carbide 5XD Drill, TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). Self centering 140°, 4-facet split point and CTW flute construction for enhanced penetration rates. TiAlN coating increases surface hardness and improves tool life.

FORCE X



HM	DIN 6537L	5×D
140°	TiAlN	DIN 6535HA
CTW	R	DC m7

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 134 V	■ 150 V	■ 155 V	■ 115 V	■ 101 V	■ 89 V	■ 100 V	■ 80 V	■ 68 V	■ 59 V	■ 50 V	■ 41 U	◪ 56 U	◪ 48 U
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
◪ 50 U	◪ 41 U	◪ 35 T	◪ 31 T	◪ 26 T	◪ 24 T	◪ 23 T	◪ 20 T	■ 83 W	■ 61 W	■ 46 W	■ 74 V	■ 60 V	■ 48 V
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■ 65 V	■ 50 V	■ 41 V	■ 61 V	■ 46 V	■ 34 V	■ 29 V	■ 24 V	■ 68 V	■ 52 V	■ 40 V	■ 188 W	■ 141 W	■ 94 W
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**H1.1**	**H2.1**	**H2.2**	**H3.1**	**H3.2**
■ 231 V	■ 208 V	■ 150 V	■ 280 V	■ 165 V	■ 83 V	◪ 41 U	◪ 34 U	◪ 30 T	■ 42 U	◪ 25 U	◪ 23 U	◪ 28 U	◪ 23 U

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4543.0	–	3.00	0.1181	28.0	66.0	36.0	6.00
R4543.1	–	3.10	0.1220	28.0	66.0	36.0	6.00
R4541/8	1/8	3.18	0.1250	28.0	66.0	36.0	6.00
R4543.2	–	3.20	0.1260	28.0	66.0	36.0	6.00
R454N30	N30	3.26	0.1283	28.0	66.0	36.0	6.00
R4543.3	–	3.30	0.1299	28.0	66.0	36.0	6.00
R4543.4	–	3.40	0.1339	28.0	66.0	36.0	6.00
R454N29	N29	3.45	0.1360	28.0	66.0	36.0	6.00
R4543.5	–	3.50	0.1378	28.0	66.0	36.0	6.00
R454N28	N28	3.57	0.1406	28.0	66.0	36.0	6.00
R4549/64	9/64	3.57	0.1406	28.0	66.0	36.0	6.00
R4543.6	–	3.60	0.1417	28.0	66.0	36.0	6.00
R454N27	N27	3.66	0.1441	28.0	66.0	36.0	6.00
R4543.7	–	3.70	0.1457	28.0	66.0	36.0	6.00
R454N26	N26	3.73	0.1469	36.0	74.0	36.0	6.00
R4543.8	–	3.80	0.1496	36.0	74.0	36.0	6.00
R454N24	N24	3.86	0.1520	36.0	74.0	36.0	6.00
R4543.9	–	3.90	0.1535	36.0	74.0	36.0	6.00
R4545/32	5/32	3.97	0.1563	36.0	74.0	36.0	6.00
R4544.0	–	4.00	0.1575	36.0	74.0	36.0	6.00
R454N21	N21	4.04	0.1591	36.0	74.0	36.0	6.00
R454N20	N20	4.09	0.1610	36.0	74.0	36.0	6.00
R4544.1	–	4.10	0.1614	36.0	74.0	36.0	6.00
R4544.2	–	4.20	0.1654	36.0	74.0	36.0	6.00
R454N19	N19	4.22	0.1661	36.0	74.0	36.0	6.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R4544.3	–	4.30	0.1693	36.0	74.0	36.0	6.00
R45411/64	11/64	4.37	0.1719	36.0	74.0	36.0	6.00
R4544.4	–	4.40	0.1732	36.0	74.0	36.0	6.00
R4544.5	–	4.50	0.1772	36.0	74.0	36.0	6.00
R454N16	N16	4.50	0.1772	36.0	74.0	36.0	6.00
R454N15	N15	4.57	0.1799	36.0	74.0	36.0	6.00
R4544.6	–	4.60	0.1811	36.0	74.0	36.0	6.00
R454N14	N14	4.62	0.1819	36.0	74.0	36.0	6.00
R4544.7	–	4.70	0.1850	36.0	74.0	36.0	6.00
R4543/16	3/16	4.76	0.1875	44.0	82.0	36.0	6.00
R4544.8	–	4.80	0.1890	44.0	82.0	36.0	6.00
R454N11	N11	4.85	0.1909	44.0	82.0	36.0	6.00
R4544.9	–	4.90	0.1929	44.0	82.0	36.0	6.00
R454N10	N10	4.92	0.1937	44.0	82.0	36.0	6.00
R454N9	N9	4.98	0.1961	44.0	82.0	36.0	6.00
R4545.0	–	5.00	0.1969	44.0	82.0	36.0	6.00
R454N8	N8	5.06	0.1992	44.0	82.0	36.0	6.00
R4545.1	–	5.10	0.2008	44.0	82.0	36.0	6.00
R454N7	N7	5.11	0.2010	44.0	82.0	36.0	6.00
R45413/64	13/64	5.16	0.2031	44.0	82.0	36.0	6.00
R454N6	N6	5.18	0.2039	44.0	82.0	36.0	6.00
R4545.2	–	5.20	0.2047	44.0	82.0	36.0	6.00
R454N5	N5	5.22	0.2055	44.0	82.0	36.0	6.00
R454N4	N4	5.31	0.2091	44.0	82.0	36.0	6.00
R454N3	N3	5.41	0.2130	44.0	82.0	36.0	6.00
R4545.5	–	5.50	0.2165	44.0	82.0	36.0	6.00
R4547/32	7/32	5.56	0.2188	44.0	82.0	36.0	6.00
R4545.6	–	5.60	0.2205	44.0	82.0	36.0	6.00
R454N2	N2	5.61	0.2209	44.0	82.0	36.0	6.00
R4545.7	–	5.70	0.2244	44.0	82.0	36.0	6.00
R454N1	N1	5.79	0.2280	44.0	82.0	36.0	6.00
R4545.8	–	5.80	0.2283	44.0	82.0	36.0	6.00
R454A	A	5.94	0.2339	44.0	82.0	36.0	6.00
R45415/64	15/64	5.95	0.2344	44.0	82.0	36.0	6.00
R4546.0	–	6.00	0.2362	44.0	82.0	36.0	6.00
R454B	B	6.05	0.2380	53.0	91.0	36.0	8.00
R4546.1	–	6.10	0.2402	53.0	91.0	36.0	8.00
R454C	C	6.15	0.2421	53.0	91.0	36.0	8.00
R4546.2	–	6.20	0.2441	53.0	91.0	36.0	8.00
R454D	D	6.25	0.2461	53.0	91.0	36.0	8.00
R4546.3	–	6.30	0.2480	53.0	91.0	36.0	8.00
R4541/4	1/4	6.35	0.2500	53.0	91.0	36.0	8.00
R454E	E	6.35	0.2500	53.0	91.0	36.0	8.00
R4546.4	–	6.40	0.2520	53.0	91.0	36.0	8.00
R4546.5	–	6.50	0.2559	53.0	91.0	36.0	8.00
R454F	F	6.53	0.2571	53.0	91.0	36.0	8.00
R4546.6	–	6.60	0.2598	53.0	91.0	36.0	8.00
R454G	G	6.63	0.2610	53.0	91.0	36.0	8.00
R4546.7	–	6.70	0.2638	53.0	91.0	36.0	8.00
R45417/64	17/64	6.75	0.2656	53.0	91.0	36.0	8.00
R454H	H	6.76	0.2661	53.0	91.0	36.0	8.00
R4546.8	–	6.80	0.2677	53.0	91.0	36.0	8.00
R4546.9	–	6.90	0.2717	53.0	91.0	36.0	8.00
R454I	I	6.91	0.2720	53.0	91.0	36.0	8.00
R4547.0	–	7.00	0.2756	53.0	91.0	36.0	8.00
R454J	J	7.04	0.2772	53.0	91.0	36.0	8.00
R4547.1	–	7.10	0.2795	53.0	91.0	36.0	8.00
R4549/32	9/32	7.14	0.2813	53.0	91.0	36.0	8.00
R4547.3	–	7.30	0.2874	53.0	91.0	36.0	8.00
R454L	L	7.37	0.2902	53.0	91.0	36.0	8.00
R4547.4	–	7.40	0.2913	53.0	91.0	36.0	8.00
R4547.5	–	7.50	0.2953	53.0	91.0	36.0	8.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R45419/64	19/64	7.54	0.2969	53.0	91.0	36.0	8.00
R4547.6	–	7.60	0.2992	53.0	91.0	36.0	8.00
R454N	N	7.67	0.3020	53.0	91.0	36.0	8.00
R4547.7	–	7.70	0.3031	53.0	91.0	36.0	8.00
R4547.8	–	7.80	0.3071	53.0	91.0	36.0	8.00
R4547.9	–	7.90	0.3110	53.0	91.0	36.0	8.00
R4545/16	5/16	7.94	0.3125	53.0	91.0	36.0	8.00
R4548.0	–	8.00	0.3150	53.0	91.0	36.0	8.00
R454O	O	8.03	0.3161	61.0	103.0	40.0	10.00
R4548.1	–	8.10	0.3189	61.0	103.0	40.0	10.00
R4548.2	–	8.20	0.3228	61.0	103.0	40.0	10.00
R45421/64	21/64	8.33	0.3281	61.0	103.0	40.0	10.00
R4548.4	–	8.40	0.3307	61.0	103.0	40.0	10.00
R454Q	Q	8.43	0.3319	61.0	103.0	40.0	10.00
R4548.5	–	8.50	0.3346	61.0	103.0	40.0	10.00
R4548.6	–	8.60	0.3386	61.0	103.0	40.0	10.00
R454R	R	8.61	0.3390	61.0	103.0	40.0	10.00
R4548.7	–	8.70	0.3425	61.0	103.0	40.0	10.00
R45411/32	11/32	8.73	0.3438	61.0	103.0	40.0	10.00
R4548.8	–	8.80	0.3465	61.0	103.0	40.0	10.00
R454S	S	8.84	0.3480	61.0	103.0	40.0	10.00
R4548.9	–	8.90	0.3504	61.0	103.0	40.0	10.00
R4549.0	–	9.00	0.3543	61.0	103.0	40.0	10.00
R4549.1	–	9.10	0.3583	61.0	103.0	40.0	10.00
R45423/64	23/64	9.13	0.3594	61.0	103.0	40.0	10.00
R4549.3	–	9.30	0.3661	61.0	103.0	40.0	10.00
R454U	U	9.35	0.3681	61.0	103.0	40.0	10.00
R4549.4	–	9.40	0.3701	61.0	103.0	40.0	10.00
R4549.5	–	9.50	0.3740	61.0	103.0	40.0	10.00
R4543/8	3/8	9.53	0.3750	61.0	103.0	40.0	10.00
R4549.6	–	9.60	0.3780	61.0	103.0	40.0	10.00
R4549.7	–	9.70	0.3819	61.0	103.0	40.0	10.00
R4549.8	–	9.80	0.3858	61.0	103.0	40.0	10.00
R4549.9	–	9.90	0.3898	61.0	103.0	40.0	10.00
R454W	W	9.80	0.3858	61.0	103.0	40.0	10.00
R45425/64	25/64	9.92	0.3906	61.0	103.0	40.0	10.00
R45410.0	–	10.00	0.3937	61.0	103.0	40.0	10.00
R454X	X	10.08	0.3969	70.0	118.0	45.0	12.00
R45410.1	–	10.10	0.3976	70.0	118.0	45.0	12.00
R45410.2	–	10.20	0.4016	70.0	118.0	45.0	12.00
R454Y	Y	10.26	0.4039	70.0	118.0	45.0	12.00
R45410.3	–	10.30	0.4055	70.0	118.0	45.0	12.00
R45413/32	13/32	10.32	0.4063	70.0	118.0	45.0	12.00
R45410.4	–	10.40	0.4094	70.0	118.0	45.0	12.00
R454Z	Z	10.49	0.4130	70.0	118.0	45.0	12.00
R45410.5	–	10.50	0.4134	70.0	118.0	45.0	12.00
R45410.6	–	10.60	0.4173	70.0	118.0	45.0	12.00
R45427/64	27/64	10.72	0.4219	70.0	118.0	45.0	12.00
R45411.0	–	11.00	0.4331	70.0	118.0	45.0	12.00
R4547/16	7/16	11.11	0.4375	70.0	118.0	45.0	12.00
R45411.2	–	11.20	0.4409	70.0	118.0	45.0	12.00
R45411.4	–	11.40	0.4488	70.0	118.0	45.0	12.00
R45411.5	–	11.50	0.4528	70.0	118.0	45.0	12.00
R45429/64	29/64	11.51	0.4531	70.0	118.0	45.0	12.00
R45411.6	–	11.60	0.4567	70.0	118.0	45.0	12.00
R45411.8	–	11.80	0.4646	70.0	118.0	45.0	12.00
R45415/32	15/32	11.91	0.4688	70.0	118.0	45.0	12.00
R45412.0	–	12.00	0.4724	70.0	118.0	45.0	12.00
R45412.1	–	12.10	0.4764	76.0	124.0	45.0	14.00
R45412.2	–	12.20	0.4803	76.0	124.0	45.0	14.00
R45431/64	31/64	12.30	0.4844	76.0	124.0	45.0	14.00
R45412.5	–	12.50	0.4921	76.0	124.0	45.0	14.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R45412.7	–	12.70	0.5000	76.0	124.0	45.0	14.00
R4541/2	1/2	12.70	0.5000	76.0	124.0	45.0	14.00
R45412.8	–	12.80	0.5039	76.0	124.0	45.0	14.00
R45413.0	–	13.00	0.5118	76.0	124.0	45.0	14.00
R45433/64	33/64	13.10	0.5156	76.0	124.0	45.0	14.00
R45417/32	17/32	13.49	0.5313	76.0	124.0	45.0	14.00
R45413.5	–	13.50	0.5315	76.0	124.0	45.0	14.00
R45413.8	–	13.80	0.5433	76.0	124.0	45.0	14.00
R45435/64	35/64	13.89	0.5469	76.0	124.0	45.0	14.00
R45414.0	–	14.00	0.5512	76.0	124.0	45.0	14.00
R45414.25	–	14.25	0.5610	82.0	133.0	48.0	16.00
R4549/16	9/16	14.29	0.5625	82.0	133.0	48.0	16.00
R45414.5	–	14.50	0.5709	82.0	133.0	48.0	16.00
R45437/64	37/64	14.68	0.5781	82.0	133.0	48.0	16.00
R45414.8	–	14.80	0.5827	82.0	133.0	48.0	16.00
R45415.0	–	15.00	0.5906	82.0	133.0	48.0	16.00
R45419/32	19/32	15.08	0.5938	82.0	133.0	48.0	16.00
R45415.1	–	15.10	0.5945	82.0	133.0	48.0	16.00
R45439/64	39/64	15.48	0.6094	82.0	133.0	48.0	16.00
R45415.5	–	15.50	0.6102	82.0	133.0	48.0	16.00
R45415.8	–	15.80	0.6220	82.0	133.0	48.0	16.00
R4545/8	5/8	15.88	0.6250	82.0	133.0	48.0	16.00
R45416.0	–	16.00	0.6299	82.0	133.0	48.0	16.00
R45441/64	41/64	16.27	0.6406	91.0	143.0	48.0	18.00
R45416.5	–	16.50	0.6496	91.0	143.0	48.0	18.00
R45421/32	21/32	16.67	0.6563	91.0	143.0	48.0	18.00
R45417.0	–	17.00	0.6693	91.0	143.0	48.0	18.00
R45443/64	43/64	17.07	0.6720	91.0	143.0	48.0	18.00
R45411/16	11/16	17.46	0.6874	91.0	143.0	48.0	18.00
R45417.5	–	17.50	0.6890	91.0	143.0	48.0	18.00
R45417.8	–	17.80	0.7008	91.0	143.0	48.0	18.00
R45445/64	45/64	17.86	0.7031	91.0	143.0	48.0	18.00
R45418.0	–	18.00	0.7087	91.0	143.0	48.0	18.00
R45423/32	23/32	18.26	0.7189	99.0	153.0	50.0	20.00
R45418.5	–	18.50	0.7283	99.0	153.0	50.0	20.00
R45447/64	47/64	18.65	0.7343	99.0	153.0	50.0	20.00
R45419.0	–	19.00	0.7480	99.0	153.0	50.0	20.00
R4543/4	3/4	19.05	0.7500	99.0	153.0	50.0	20.00
R45419.5	–	19.50	0.7677	99.0	153.0	50.0	20.00
R45419.8	–	19.80	0.7795	99.0	153.0	50.0	20.00
R45420.0	–	20.00	0.7874	99.0	153.0	50.0	20.00

R453

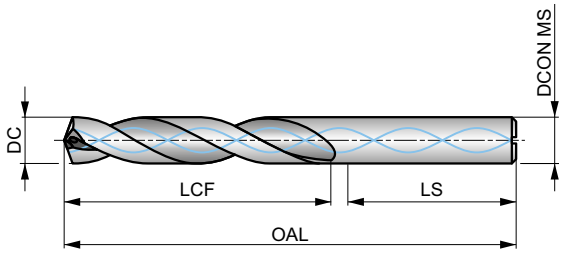
DORMER

FORCE X Solid Carbide 5XD Drill with Coolant Feed, TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). Self centering 140°, 4-facet split point and CTW flute construction for enhanced penetration rates. Coolant holes to enhance chip evacuation. TiAlN coating increases surface hardness and improves tool life.

FORCE X

HM	DIN 6537L	5×D
140°	TiAlN	DIN 6535HA
CTW	R	
DC m7		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 170 V	■ 190 V	■ 197 V	■ 145 V	■ 128 V	■ 113 V	■ 126 V	■ 102 V	■ 86 V	■ 75 V	■ 64 V	■ 52 U	◪ 71 V	◪ 61 V
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
◪ 64 V	◪ 52 V	◪ 44 U	◪ 39 V	◪ 33 V	◪ 30 V	◪ 29 U	◪ 25 U	■ 105 W	■ 77 W	■ 58 W	■ 93 V	■ 76 V	■ 61 V
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■ 83 V	■ 64 V	■ 51 V	■ 77 V	■ 58 V	■ 43 V	■ 36 V	■ 30 V	■ 86 V	■ 66 V	■ 50 V	■ 238 W	■ 179 W	■ 119 W
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**S1.1**	**S1.2**	**S1.3**	**H1.1**	**H2.1**	**H2.2**	**H3.1**	**H3.2**
■ 293 V	■ 263 V	■ 190 V	■ 354 W	■ 209 W	■ 105 W	■ 52 V	■ 43 V	■ 38 U	■ 53 U	◪ 31 U	◪ 29 U	◪ 35 U	◪ 29 U

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4533.0	–	3.00	0.1181	28.0	66.0	36.0	6.00
R4533.1	–	3.10	0.1220	28.0	66.0	36.0	6.00
R4531/8	1/8	3.18	0.1250	28.0	66.0	36.0	6.00
R4533.2	–	3.20	0.1260	28.0	66.0	36.0	6.00
R453N30	N30	3.26	0.1283	28.0	66.0	36.0	6.00
R4533.3	–	3.30	0.1299	28.0	66.0	36.0	6.00
R4533.4	–	3.40	0.1339	28.0	66.0	36.0	6.00
R453N29	N29	3.45	0.1360	28.0	66.0	36.0	6.00
R4533.5	–	3.50	0.1378	28.0	66.0	36.0	6.00
R453N28	N28	3.57	0.1406	28.0	66.0	36.0	6.00
R4539/64	9/64	3.57	0.1406	28.0	66.0	36.0	6.00
R4533.6	–	3.60	0.1417	28.0	66.0	36.0	6.00
R453N27	N27	3.66	0.1441	28.0	66.0	36.0	6.00
R4533.7	–	3.70	0.1457	28.0	66.0	36.0	6.00
R453N26	N26	3.73	0.1469	36.0	74.0	36.0	6.00
R4533.8	–	3.80	0.1496	36.0	74.0	36.0	6.00
R453N24	N24	3.86	0.1520	36.0	74.0	36.0	6.00
R4533.9	–	3.90	0.1535	36.0	74.0	36.0	6.00
R453N23	N23	3.91	0.1539	36.0	74.0	36.0	6.00
R4535/32	5/32	3.97	0.1563	36.0	74.0	36.0	6.00
R453N22	N22	3.99	0.1571	36.0	74.0	36.0	6.00
R4534.0	–	4.00	0.1575	36.0	74.0	36.0	6.00
R453N21	N21	4.04	0.1591	36.0	74.0	36.0	6.00
R4534.05	–	4.05	0.1594	36.0	74.0	36.0	6.00
R453N20	N20	4.09	0.1610	36.0	74.0	36.0	6.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R4534.1	–	4.10	0.1614	36.0	74.0	36.0	6.00
R4534.2	–	4.20	0.1654	36.0	74.0	36.0	6.00
R453N19	N19	4.22	0.1661	36.0	74.0	36.0	6.00
R4534.3	–	4.30	0.1693	36.0	74.0	36.0	6.00
R453N18	N18	4.31	0.1697	36.0	74.0	36.0	6.00
R45311/64	11/64	4.37	0.1719	36.0	74.0	36.0	6.00
R4534.4	–	4.40	0.1732	36.0	74.0	36.0	6.00
R4534.5	–	4.50	0.1772	36.0	74.0	36.0	6.00
R453N16	N16	4.50	0.1772	36.0	74.0	36.0	6.00
R453N15	N15	4.57	0.1799	36.0	74.0	36.0	6.00
R4534.6	–	4.60	0.1811	36.0	74.0	36.0	6.00
R453N14	N14	4.62	0.1819	36.0	74.0	36.0	6.00
R4534.7	–	4.70	0.1850	36.0	74.0	36.0	6.00
R4533/16	3/16	4.76	0.1875	44.0	82.0	36.0	6.00
R4534.8	–	4.80	0.1890	44.0	82.0	36.0	6.00
R453N12	N12	4.80	0.1890	44.0	82.0	36.0	6.00
R453N11	N11	4.85	0.1909	44.0	82.0	36.0	6.00
R4534.9	–	4.90	0.1929	44.0	82.0	36.0	6.00
R453N10	N10	4.92	0.1937	44.0	82.0	36.0	6.00
R453N9	N9	4.98	0.1961	44.0	82.0	36.0	6.00
R4535.0	–	5.00	0.1969	44.0	82.0	36.0	6.00
R4535.05	–	5.05	0.1988	44.0	82.0	36.0	6.00
R453N8	N8	5.06	0.1992	44.0	82.0	36.0	6.00
R4535.1	–	5.10	0.2008	44.0	82.0	36.0	6.00
R453N7	N7	5.11	0.2010	44.0	82.0	36.0	6.00
R45313/64	13/64	5.16	0.2031	44.0	82.0	36.0	6.00
R4535.2	–	5.20	0.2047	44.0	82.0	36.0	6.00
R453N5	N5	5.22	0.2055	44.0	82.0	36.0	6.00
R4535.3	–	5.30	0.2087	44.0	82.0	36.0	6.00
R453N4	N4	5.31	0.2091	44.0	82.0	36.0	6.00
R4535.4	–	5.40	0.2126	44.0	82.0	36.0	6.00
R453N3	N3	5.41	0.2130	44.0	82.0	36.0	6.00
R4535.5	–	5.50	0.2165	44.0	82.0	36.0	6.00
R4537/32	7/32	5.56	0.2188	44.0	82.0	36.0	6.00
R4535.6	–	5.60	0.2205	44.0	82.0	36.0	6.00
R453N2	N2	5.61	0.2209	44.0	82.0	36.0	6.00
R4535.7	–	5.70	0.2244	44.0	82.0	36.0	6.00
R453N1	N1	5.79	0.2280	44.0	82.0	36.0	6.00
R4535.8	–	5.80	0.2283	44.0	82.0	36.0	6.00
R4535.9	–	5.90	0.2323	44.0	82.0	36.0	6.00
R453A	A	5.94	0.2339	44.0	82.0	36.0	6.00
R45315/64	15/64	5.95	0.2344	44.0	82.0	36.0	6.00
R4536.0	–	6.00	0.2362	44.0	82.0	36.0	6.00
R453B	B	6.05	0.2380	53.0	91.0	36.0	8.00
R4536.05	–	6.05	0.2382	53.0	91.0	36.0	8.00
R4536.1	–	6.10	0.2402	53.0	91.0	36.0	8.00
R453C	C	6.15	0.2421	53.0	91.0	36.0	8.00
R4536.2	–	6.20	0.2441	53.0	91.0	36.0	8.00
R453D	D	6.25	0.2461	53.0	91.0	36.0	8.00
R4536.3	–	6.30	0.2480	53.0	91.0	36.0	8.00
R4531/4	1/4	6.35	0.2500	53.0	91.0	36.0	8.00
R4536.4	–	6.40	0.2520	53.0	91.0	36.0	8.00
R4536.5	–	6.50	0.2559	53.0	91.0	36.0	8.00
R453F	F	6.53	0.2571	53.0	91.0	36.0	8.00
R4536.6	–	6.60	0.2598	53.0	91.0	36.0	8.00
R453G	G	6.63	0.2610	53.0	91.0	36.0	8.00
R4536.7	–	6.70	0.2638	53.0	91.0	36.0	8.00
R45317/64	17/64	6.75	0.2656	53.0	91.0	36.0	8.00
R4536.8	–	6.80	0.2677	53.0	91.0	36.0	8.00
R4536.9	–	6.90	0.2717	53.0	91.0	36.0	8.00
R453I	I	6.91	0.2720	53.0	91.0	36.0	8.00
R4537.0	–	7.00	0.2756	53.0	91.0	36.0	8.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R453J	J	7.04	0.2772	53.0	91.0	36.0	8.00
R4537.1	–	7.10	0.2795	53.0	91.0	36.0	8.00
R453K	K	7.14	0.2811	53.0	91.0	36.0	8.00
R4539/32	9/32	7.14	0.2813	53.0	91.0	36.0	8.00
R4537.2	–	7.20	0.2835	53.0	91.0	36.0	8.00
R4537.3	–	7.30	0.2874	53.0	91.0	36.0	8.00
R453L	L	7.37	0.2902	53.0	91.0	36.0	8.00
R4537.4	–	7.40	0.2913	53.0	91.0	36.0	8.00
R453M	M	7.49	0.2949	53.0	91.0	36.0	8.00
R4537.5	–	7.50	0.2953	53.0	91.0	36.0	8.00
R45319/64	19/64	7.54	0.2969	53.0	91.0	36.0	8.00
R4537.6	–	7.60	0.2992	53.0	91.0	36.0	8.00
R453N	N	7.67	0.3020	53.0	91.0	36.0	8.00
R4537.7	–	7.70	0.3031	53.0	91.0	36.0	8.00
R4537.8	–	7.80	0.3071	53.0	91.0	36.0	8.00
R4537.9	–	7.90	0.3110	53.0	91.0	36.0	8.00
R4535/16	5/16	7.94	0.3125	53.0	91.0	36.0	8.00
R4538.0	–	8.00	0.3150	53.0	91.0	36.0	8.00
R453O	O	8.03	0.3161	61.0	103.0	40.0	10.00
R4538.05	–	8.05	0.3169	61.0	103.0	40.0	10.00
R4538.1	–	8.10	0.3189	61.0	103.0	40.0	10.00
R4538.2	–	8.20	0.3228	61.0	103.0	40.0	10.00
R453P	P	8.20	0.3228	61.0	103.0	40.0	10.00
R4538.3	–	8.30	0.3268	61.0	103.0	40.0	10.00
R45321/64	21/64	8.33	0.3281	61.0	103.0	40.0	10.00
R4538.4	–	8.40	0.3307	61.0	103.0	40.0	10.00
R453Q	Q	8.43	0.3319	61.0	103.0	40.0	10.00
R4538.5	–	8.50	0.3346	61.0	103.0	40.0	10.00
R4538.6	–	8.60	0.3386	61.0	103.0	40.0	10.00
R453R	R	8.61	0.3390	61.0	103.0	40.0	10.00
R4538.7	–	8.70	0.3425	61.0	103.0	40.0	10.00
R45311/32	11/32	8.73	0.3438	61.0	103.0	40.0	10.00
R4538.8	–	8.80	0.3465	61.0	103.0	40.0	10.00
R453S	S	8.84	0.3480	61.0	103.0	40.0	10.00
R4538.9	–	8.90	0.3504	61.0	103.0	40.0	10.00
R4539.0	–	9.00	0.3543	61.0	103.0	40.0	10.00
R4539.1	–	9.10	0.3583	61.0	103.0	40.0	10.00
R45323/64	23/64	9.13	0.3594	61.0	103.0	40.0	10.00
R4539.2	–	9.20	0.3622	61.0	103.0	40.0	10.00
R4539.3	–	9.30	0.3661	61.0	103.0	40.0	10.00
R453U	U	9.35	0.3681	61.0	103.0	40.0	10.00
R4539.4	–	9.40	0.3701	61.0	103.0	40.0	10.00
R4539.5	–	9.50	0.3740	61.0	103.0	40.0	10.00
R4533/8	3/8	9.53	0.3750	61.0	103.0	40.0	10.00
R4539.6	–	9.60	0.3780	61.0	103.0	40.0	10.00
R4539.7	–	9.70	0.3819	61.0	103.0	40.0	10.00
R4539.8	–	9.80	0.3858	61.0	103.0	40.0	10.00
R453W	W	9.80	0.3858	61.0	103.0	40.0	10.00
R4539.9	–	9.90	0.3898	61.0	103.0	40.0	10.00
R45325/64	25/64	9.92	0.3906	61.0	103.0	40.0	10.00
R45310.0	–	10.00	0.3937	61.0	103.0	40.0	10.00
R45310.05	–	10.05	0.3957	70.0	118.0	45.0	12.00
R453X	X	10.08	0.3969	70.0	118.0	45.0	12.00
R45310.1	–	10.10	0.3976	70.0	118.0	45.0	12.00
R45310.2	–	10.20	0.4016	70.0	118.0	45.0	12.00
R453Y	Y	10.26	0.4039	70.0	118.0	45.0	12.00
R45310.3	–	10.30	0.4055	70.0	118.0	45.0	12.00
R45313/32	13/32	10.32	0.4063	70.0	118.0	45.0	12.00
R45310.4	–	10.40	0.4094	70.0	118.0	45.0	12.00
R45310.5	–	10.50	0.4134	70.0	118.0	45.0	12.00
R45310.6	–	10.60	0.4173	70.0	118.0	45.0	12.00
R45327/64	27/64	10.72	0.4219	70.0	118.0	45.0	12.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R45310.8	–	10.80	0.4252	70.0	118.0	45.0	12.00
R45311.0	–	11.00	0.4331	70.0	118.0	45.0	12.00
R4537/16	7/16	11.11	0.4375	70.0	118.0	45.0	12.00
R45311.2	–	11.20	0.4409	70.0	118.0	45.0	12.00
R45311.3	–	11.30	0.4449	70.0	118.0	45.0	12.00
R45311.4	–	11.40	0.4488	70.0	118.0	45.0	12.00
R45311.5	–	11.50	0.4528	70.0	118.0	45.0	12.00
R45329/64	29/64	11.51	0.4531	70.0	118.0	45.0	12.00
R45311.6	–	11.60	0.4567	70.0	118.0	45.0	12.00
R45311.8	–	11.80	0.4646	70.0	118.0	45.0	12.00
R45315/32	15/32	11.91	0.4688	70.0	118.0	45.0	12.00
R45312.0	–	12.00	0.4724	70.0	118.0	45.0	12.00
R45312.05	–	12.05	0.4744	76.0	124.0	45.0	14.00
R45312.2	–	12.20	0.4803	76.0	124.0	45.0	14.00
R45331/64	31/64	12.30	0.4844	76.0	124.0	45.0	14.00
R45312.5	–	12.50	0.4921	76.0	124.0	45.0	14.00
R45312.7	–	12.70	0.5000	76.0	124.0	45.0	14.00
R4531/2	1/2	12.70	0.5000	76.0	124.0	45.0	14.00
R45312.8	–	12.80	0.5039	76.0	124.0	45.0	14.00
R45313.0	–	13.00	0.5118	76.0	124.0	45.0	14.00
R45333/64	33/64	13.10	0.5156	76.0	124.0	45.0	14.00
R45313.3	–	13.30	0.5236	76.0	124.0	45.0	14.00
R45317/32	17/32	13.49	0.5313	76.0	124.0	45.0	14.00
R45313.5	–	13.50	0.5315	76.0	124.0	45.0	14.00
R45313.8	–	13.80	0.5433	76.0	124.0	45.0	14.00
R45335/64	35/64	13.89	0.5469	76.0	124.0	45.0	14.00
R45314.0	–	14.00	0.5512	76.0	124.0	45.0	14.00
R45314.25	–	14.25	0.5610	82.0	133.0	48.0	16.00
R4539/16	9/16	14.29	0.5625	82.0	133.0	48.0	16.00
R45314.5	–	14.50	0.5709	82.0	133.0	48.0	16.00
R45337/64	37/64	14.68	0.5781	82.0	133.0	48.0	16.00
R45314.8	–	14.80	0.5827	82.0	133.0	48.0	16.00
R45315.0	–	15.00	0.5906	82.0	133.0	48.0	16.00
R45319/32	19/32	15.08	0.5938	82.0	133.0	48.0	16.00
R45315.1	–	15.10	0.5945	82.0	133.0	48.0	16.00
R45315.3	–	15.30	0.6024	82.0	133.0	48.0	16.00
R45315.5	–	15.50	0.6102	82.0	133.0	48.0	16.00
R45315.8	–	15.80	0.6220	82.0	133.0	48.0	16.00
R4535/8	5/8	15.88	0.6250	82.0	133.0	48.0	16.00
R45316.0	–	16.00	0.6299	82.0	133.0	48.0	16.00
R45341/64	41/64	16.27	0.6406	91.0	143.0	48.0	18.00
R45316.5	–	16.50	0.6496	91.0	143.0	48.0	18.00
R45321/32	21/32	16.67	0.6563	91.0	143.0	48.0	18.00
R45317.0	–	17.00	0.6693	91.0	143.0	48.0	18.00
R45343/64	43/64	17.07	0.6720	91.0	143.0	48.0	18.00
R45311/16	11/16	17.46	0.6874	91.0	143.0	48.0	18.00
R45317.5	–	17.50	0.6890	91.0	143.0	48.0	18.00
R45317.8	–	17.80	0.7008	91.0	143.0	48.0	18.00
R45345/64	45/64	17.86	0.7031	91.0	143.0	48.0	18.00
R45318.0	–	18.00	0.7087	91.0	143.0	48.0	18.00
R45323/32	23/32	18.26	0.7189	99.0	153.0	50.0	20.00
R45318.5	–	18.50	0.7283	99.0	153.0	50.0	20.00
R45347/64	47/64	18.65	0.7343	99.0	153.0	50.0	20.00
R45319.0	–	19.00	0.7480	99.0	153.0	50.0	20.00
R4533/4	3/4	19.05	0.7500	99.0	153.0	50.0	20.00
R45319.5	–	19.50	0.7677	99.0	153.0	50.0	20.00
R45319.8	–	19.80	0.7795	99.0	153.0	50.0	20.00
R45320.0	–	20.00	0.7874	99.0	153.0	50.0	20.00

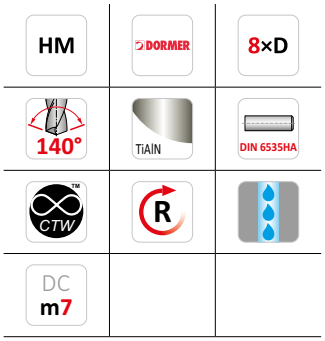
R459

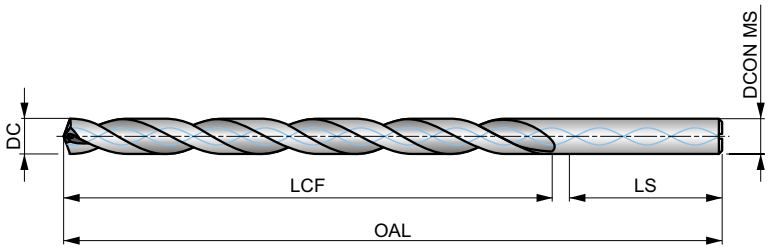
DORMER

FORCE X Solid Carbide 8XD Drill with Coolant Feed, TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance). Self centering 140°, 4-facet split point and CTW flute construction for enhanced penetration rates. Coolant holes to enhance chip evacuation. TiAlN coating increases surface hardness and improves tool life.

FORCE X





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■ 143 V	■ 160 V	■ 166 V	■ 122 V	■ 108 U	■ 95 U	■ 106 U	■ 86 U	■ 72 U	■ 63 U	■ 54 U	■ 44 T	◪ 60 V	◪ 51 V
M2.1	**M2.2**	**M2.3**	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**M4.2**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**
◪ 54 V	◪ 44 V	◪ 37 U	◪ 33 V	◪ 28 V	◪ 26 V	◪ 24 U	◪ 21 U	■ 88 W	■ 65 W	■ 49 W	■ 78 V	■ 64 V	■ 51 V
K3.1	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**
■ 70 V	■ 54 V	■ 43 V	■ 65 V	■ 49 V	■ 36 V	■ 30 V	■ 26 V	■ 73 V	■ 55 V	■ 42 V	◪ 200 W	◪ 150 W	■ 100 W
N2.1	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**								
■ 246 V	■ 222 V	■ 160 V	◪ 298 V	◪ 176 V	◪ 88 V								

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4593.0	–	3.00	0.1181	37.0	79.0	36.0	6.00
R4593.1	–	3.10	0.1220	37.0	79.0	36.0	6.00
R4591/8	1/8	3.18	0.1250	37.0	79.0	36.0	6.00
R4593.2	–	3.20	0.1260	37.0	79.0	36.0	6.00
R4593.3	–	3.30	0.1299	37.0	79.0	36.0	6.00
R4593.4	–	3.40	0.1339	37.0	79.0	36.0	6.00
R4593.5	–	3.50	0.1378	37.0	79.0	36.0	6.00
R4599/64	9/64	3.57	0.1406	37.0	79.0	36.0	6.00
R4593.6	–	3.60	0.1417	37.0	79.0	36.0	6.00
R4593.7	–	3.70	0.1457	37.0	79.0	36.0	6.00
R4593.8	–	3.80	0.1496	48.0	90.0	36.0	6.00
R4593.9	–	3.90	0.1535	48.0	90.0	36.0	6.00
R4595/32	5/32	3.97	0.1563	48.0	90.0	36.0	6.00
R4594.0	–	4.00	0.1575	48.0	90.0	36.0	6.00
R4594.1	–	4.10	0.1614	48.0	90.0	36.0	6.00
R4594.2	–	4.20	0.1654	48.0	90.0	36.0	6.00
R4594.3	–	4.30	0.1693	48.0	90.0	36.0	6.00
R45911/64	11/64	4.37	0.1719	48.0	90.0	36.0	6.00
R4594.4	–	4.40	0.1732	48.0	90.0	36.0	6.00
R4594.5	–	4.50	0.1772	48.0	90.0	36.0	6.00
R4594.6	–	4.60	0.1811	48.0	90.0	36.0	6.00
R4594.7	–	4.70	0.1850	62.0	104.0	36.0	6.00
R4593/16	3/16	4.76	0.1875	62.0	104.0	36.0	6.00
R4594.8	–	4.80	0.1890	62.0	104.0	36.0	6.00
R4594.9	–	4.90	0.1929	62.0	104.0	36.0	6.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R4595.0	–	5.00	0.1969	62.0	104.0	36.0	6.00
R4595.1	–	5.10	0.2008	62.0	104.0	36.0	6.00
R45913/64	13/64	5.16	0.2031	62.0	104.0	36.0	6.00
R4595.2	–	5.20	0.2047	62.0	104.0	36.0	6.00
R4595.3	–	5.30	0.2087	62.0	104.0	36.0	6.00
R4595.4	–	5.40	0.2126	62.0	104.0	36.0	6.00
R4595.5	–	5.50	0.2165	62.0	104.0	36.0	6.00
R4597/32	7/32	5.56	0.2188	62.0	104.0	36.0	6.00
R4595.6	–	5.60	0.2205	62.0	104.0	36.0	6.00
R4595.7	–	5.70	0.2244	62.0	104.0	36.0	6.00
R4595.8	–	5.80	0.2283	62.0	104.0	36.0	6.00
R4595.9	–	5.90	0.2323	62.0	104.0	36.0	6.00
R45915/64	15/64	5.95	0.2344	62.0	104.0	36.0	6.00
R4596.0	–	6.00	0.2362	62.0	104.0	36.0	6.00
R4596.1	–	6.10	0.2402	84.0	126.0	36.0	8.00
R4596.2	–	6.20	0.2441	84.0	126.0	36.0	8.00
R4596.3	–	6.30	0.2480	84.0	126.0	36.0	8.00
R4591/4	1/4	6.35	0.2500	84.0	126.0	36.0	8.00
R4596.4	–	6.40	0.2520	84.0	126.0	36.0	8.00
R4596.5	–	6.50	0.2559	84.0	126.0	36.0	8.00
R4596.6	–	6.60	0.2598	84.0	126.0	36.0	8.00
R4596.7	–	6.70	0.2638	84.0	126.0	36.0	8.00
R45917/64	17/64	6.75	0.2656	84.0	126.0	36.0	8.00
R4596.8	–	6.80	0.2677	84.0	126.0	36.0	8.00
R4596.9	–	6.90	0.2717	84.0	126.0	36.0	8.00
R4597.0	–	7.00	0.2756	84.0	126.0	36.0	8.00
R4597.1	–	7.10	0.2795	84.0	126.0	36.0	8.00
R4599/32	9/32	7.14	0.2813	84.0	126.0	36.0	8.00
R4597.2	–	7.20	0.2835	84.0	126.0	36.0	8.00
R4597.3	–	7.30	0.2874	84.0	126.0	36.0	8.00
R4597.4	–	7.40	0.2913	84.0	126.0	36.0	8.00
R4597.5	–	7.50	0.2953	84.0	126.0	36.0	8.00
R45919/64	19/64	7.54	0.2969	84.0	126.0	36.0	8.00
R4597.6	–	7.60	0.2992	84.0	126.0	36.0	8.00
R4597.7	–	7.70	0.3031	84.0	126.0	36.0	8.00
R4597.8	–	7.80	0.3071	84.0	126.0	36.0	8.00
R4597.9	–	7.90	0.3110	84.0	126.0	36.0	8.00
R4595/16	5/16	7.94	0.3125	84.0	126.0	36.0	8.00
R4598.0	–	8.00	0.3150	84.0	126.0	36.0	8.00
R4598.1	–	8.10	0.3189	106.0	152.0	40.0	10.00
R4598.2	–	8.20	0.3228	106.0	152.0	40.0	10.00
R4598.3	–	8.30	0.3268	106.0	152.0	40.0	10.00
R45921/64	21/64	8.33	0.3281	106.0	152.0	40.0	10.00
R4598.4	–	8.40	0.3307	106.0	152.0	40.0	10.00
R4598.5	–	8.50	0.3346	106.0	152.0	40.0	10.00
R4598.6	–	8.60	0.3386	106.0	152.0	40.0	10.00
R4598.7	–	8.70	0.3425	106.0	152.0	40.0	10.00
R45911/32	11/32	8.73	0.3438	106.0	152.0	40.0	10.00
R4598.8	–	8.80	0.3465	106.0	152.0	40.0	10.00
R4598.9	–	8.90	0.3504	106.0	152.0	40.0	10.00
R4599.0	–	9.00	0.3543	106.0	152.0	40.0	10.00
R4599.1	–	9.10	0.3583	106.0	152.0	40.0	10.00
R45923/64	23/64	9.13	0.3594	106.0	152.0	40.0	10.00
R4599.2	–	9.20	0.3622	106.0	152.0	40.0	10.00
R4599.3	–	9.30	0.3661	106.0	152.0	40.0	10.00
R4599.4	–	9.40	0.3701	106.0	152.0	40.0	10.00
R4599.5	–	9.50	0.3740	106.0	152.0	40.0	10.00
R4593/8	3/8	9.53	0.3750	106.0	152.0	40.0	10.00
R4599.6	–	9.60	0.3780	106.0	152.0	40.0	10.00
R4599.7	–	9.70	0.3819	106.0	152.0	40.0	10.00
R4599.8	–	9.80	0.3858	106.0	152.0	40.0	10.00
R4599.9	–	9.90	0.3898	106.0	152.0	40.0	10.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R45925/64	25/64	9.92	0.3906	106.0	152.0	40.0	10.00
R45910.0	–	10.00	0.3937	106.0	152.0	40.0	10.00
R45910.2	–	10.20	0.4016	128.0	180.0	45.0	12.00
R45910.3	–	10.30	0.4055	128.0	180.0	45.0	12.00
R45913/32	13/32	10.32	0.4063	128.0	180.0	45.0	12.00
R45910.4	–	10.40	0.4094	128.0	180.0	45.0	12.00
R45910.5	–	10.50	0.4134	128.0	180.0	45.0	12.00
R45927/64	27/64	10.72	0.4219	128.0	180.0	45.0	12.00
R45910.8	–	10.80	0.4252	128.0	180.0	45.0	12.00
R45911.0	–	11.00	0.4331	128.0	180.0	45.0	12.00
R4597/16	7/16	11.11	0.4375	128.0	180.0	45.0	12.00
R45911.2	–	11.20	0.4409	128.0	180.0	45.0	12.00
R45911.3	–	11.30	0.4449	128.0	180.0	45.0	12.00
R45911.5	–	11.50	0.4528	128.0	180.0	45.0	12.00
R45929/64	29/64	11.51	0.4531	128.0	180.0	45.0	12.00
R45911.8	–	11.80	0.4646	128.0	180.0	45.0	12.00
R45915/32	15/32	11.91	0.4688	128.0	180.0	45.0	12.00
R45912.0	–	12.00	0.4724	128.0	180.0	45.0	12.00
R45912.2	–	12.20	0.4803	151.0	202.0	48.0	14.00
R45931/64	31/64	12.30	0.4844	151.0	202.0	48.0	14.00
R45912.5	–	12.50	0.4921	151.0	202.0	48.0	14.00
R4591/2	1/2	12.70	0.5000	151.0	202.0	48.0	14.00
R45912.8	–	12.80	0.5039	151.0	202.0	48.0	14.00
R45913.0	–	13.00	0.5118	151.0	202.0	48.0	14.00
R45933/64	33/64	13.10	0.5156	151.0	202.0	48.0	14.00
R45917/32	17/32	13.49	0.5313	151.0	202.0	48.0	14.00
R45913.5	–	13.50	0.5315	151.0	202.0	48.0	14.00
R45935/64	35/64	13.89	0.5469	151.0	202.0	48.0	14.00
R45914.0	–	14.00	0.5512	151.0	202.0	48.0	14.00
R45914.25	–	14.25	0.5610	172.0	227.0	48.0	16.00
R4599/16	9/16	14.29	0.5625	172.0	227.0	48.0	16.00
R45914.5	–	14.50	0.5709	172.0	227.0	48.0	16.00
R45937/64	37/64	14.68	0.5781	172.0	227.0	48.0	16.00
R45915.0	–	15.00	0.5906	172.0	227.0	48.0	16.00
R45919/32	19/32	15.08	0.5938	172.0	227.0	48.0	16.00
R45915.1	–	15.10	0.5945	172.0	227.0	48.0	16.00
R45915.5	–	15.50	0.6102	172.0	227.0	48.0	16.00
R4595/8	5/8	15.88	0.6250	172.0	227.0	48.0	16.00
R45916.0	–	16.00	0.6299	172.0	227.0	48.0	16.00

R467

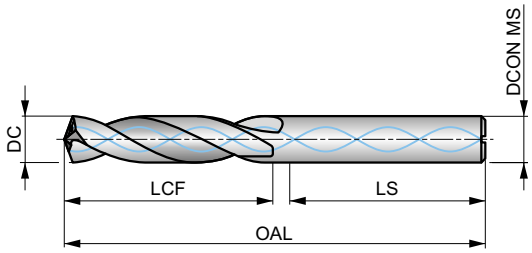
DORMER

FORCE M Solid Carbide 3XD Drill with Coolant Feed, TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance in stainless steel and heat resistant materials). A 140°, 4-facet split point and CTW flute construction. Coolant holes enhance chip evacuation. TiAlN coating increases surface hardness and improves tool life.

FORCE M

HM	DIN 6537K	3×D
140°	TiAlN	DIN 6535HA
CTW	R	
DC m7		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

M1.1	M1.2	M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	S1.1	S1.2	S1.3	S2.1
■117 G	■99 G	■104 G	■85 G	■71 E	■87 G	■75 G	■68 F	■60 F	■52 E	■55 V	■45 V	■40 U	◪60 U

S2.2	S3.1	S3.2	S4.1	S4.2
◪56 U	◪45 U	◪40 U	◪35 U	◪32 U

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4673.0	–	3.00	0.1181	20.0	62.0	36.0	6.00
R4673.1	–	3.10	0.1220	20.0	62.0	36.0	6.00
R4671/8	1/8	3.18	0.1250	20.0	62.0	36.0	6.00
R4673.2	–	3.20	0.1260	20.0	62.0	36.0	6.00
R4673.3	–	3.30	0.1299	20.0	62.0	36.0	6.00
R4673.4	–	3.40	0.1339	20.0	62.0	36.0	6.00
R467N29	N29	3.45	0.1360	20.0	62.0	36.0	6.00
R4673.5	–	3.50	0.1378	20.0	62.0	36.0	6.00
R4679/64	9/64	3.57	0.1406	20.0	62.0	36.0	6.00
R4673.6	–	3.60	0.1417	20.0	62.0	36.0	6.00
R4673.7	–	3.70	0.1457	20.0	62.0	36.0	6.00
R4673.8	–	3.80	0.1496	24.0	66.0	36.0	6.00
R4673.9	–	3.90	0.1535	24.0	66.0	36.0	6.00
R4675/32	5/32	3.97	0.1563	24.0	66.0	36.0	6.00
R4674.0	–	4.00	0.1575	24.0	66.0	36.0	6.00
R4674.05	–	4.05	0.1594	24.0	66.0	36.0	6.00
R4674.1	–	4.10	0.1614	24.0	66.0	36.0	6.00
R4674.2	–	4.20	0.1654	24.0	66.0	36.0	6.00
R4674.3	–	4.30	0.1693	24.0	66.0	36.0	6.00
R46711/64	11/64	4.37	0.1719	24.0	66.0	36.0	6.00
R4674.4	–	4.40	0.1732	24.0	66.0	36.0	6.00
R4674.5	–	4.50	0.1772	24.0	66.0	36.0	6.00
R4674.6	–	4.60	0.1811	24.0	66.0	36.0	6.00
R4674.7	–	4.70	0.1850	24.0	66.0	36.0	6.00
R4673/16	3/16	4.76	0.1875	28.0	66.0	36.0	6.00
R4674.8	–	4.80	0.1890	28.0	66.0	36.0	6.00
R4674.9	–	4.90	0.1929	28.0	66.0	36.0	6.00
R4675.0	–	5.00	0.1969	28.0	66.0	36.0	6.00
R4675.05	–	5.05	0.1988	28.0	66.0	36.0	6.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R4675.1	–	5.10	0.2008	28.0	66.0	36.0	6.00
R467N7	N7	5.11	0.2010	28.0	66.0	36.0	6.00
R46713/64	13/64	5.16	0.2031	28.0	66.0	36.0	6.00
R4675.2	–	5.20	0.2047	28.0	66.0	36.0	6.00
R467N5	N5	5.22	0.2055	28.0	66.0	36.0	6.00
R4675.3	–	5.30	0.2087	28.0	66.0	36.0	6.00
R4675.4	–	5.40	0.2126	28.0	66.0	36.0	6.00
R4675.5	–	5.50	0.2165	28.0	66.0	36.0	6.00
R4677/32	7/32	5.56	0.2188	28.0	66.0	36.0	6.00
R4675.6	–	5.60	0.2205	28.0	66.0	36.0	6.00
R4675.7	–	5.70	0.2244	28.0	66.0	36.0	6.00
R4675.8	–	5.80	0.2283	28.0	66.0	36.0	6.00
R4675.9	–	5.90	0.2323	28.0	66.0	36.0	6.00
R46715/64	15/64	5.95	0.2344	28.0	66.0	36.0	6.00
R4676.0	–	6.00	0.2362	28.0	66.0	36.0	6.00
R4676.05	–	6.05	0.2382	34.0	79.0	36.0	8.00
R4676.1	–	6.10	0.2402	34.0	79.0	36.0	8.00
R4676.2	–	6.20	0.2441	34.0	79.0	36.0	8.00
R4676.3	–	6.30	0.2480	34.0	79.0	36.0	8.00
R4671/4	1/4	6.35	0.2500	34.0	79.0	36.0	8.00
R4676.4	–	6.40	0.2520	34.0	79.0	36.0	8.00
R4676.5	–	6.50	0.2559	34.0	79.0	36.0	8.00
R4676.6	–	6.60	0.2598	34.0	79.0	36.0	8.00
R4676.7	–	6.70	0.2638	34.0	79.0	36.0	8.00
R46717/64	17/64	6.75	0.2656	34.0	79.0	36.0	8.00
R4676.8	–	6.80	0.2677	34.0	79.0	36.0	8.00
R4676.9	–	6.90	0.2717	34.0	79.0	36.0	8.00
R4677.0	–	7.00	0.2756	34.0	79.0	36.0	8.00
R4677.1	–	7.10	0.2795	41.0	79.0	36.0	8.00
R4679/32	9/32	7.14	0.2813	41.0	79.0	36.0	8.00
R4677.2	–	7.20	0.2835	41.0	79.0	36.0	8.00
R4677.3	–	7.30	0.2874	41.0	79.0	36.0	8.00
R4677.4	–	7.40	0.2913	41.0	79.0	36.0	8.00
R4677.5	–	7.50	0.2953	41.0	79.0	36.0	8.00
R46719/64	19/64	7.54	0.2969	41.0	79.0	36.0	8.00
R4677.6	–	7.60	0.2992	41.0	79.0	36.0	8.00
R4677.7	–	7.70	0.3031	41.0	79.0	36.0	8.00
R4677.8	–	7.80	0.3071	41.0	79.0	36.0	8.00
R4675/16	5/16	7.94	0.3125	41.0	79.0	36.0	8.00
R4678.0	–	8.00	0.3150	41.0	79.0	36.0	8.00
R4678.05	–	8.05	0.3169	47.0	89.0	40.0	10.00
R4678.1	–	8.10	0.3189	47.0	89.0	40.0	10.00
R4678.2	–	8.20	0.3228	47.0	89.0	40.0	10.00
R4678.3	–	8.30	0.3268	47.0	89.0	40.0	10.00
R4678.4	–	8.40	0.3307	47.0	89.0	40.0	10.00
R4678.5	–	8.50	0.3346	47.0	89.0	40.0	10.00
R4678.6	–	8.60	0.3386	47.0	89.0	40.0	10.00
R4678.7	–	8.70	0.3425	47.0	89.0	40.0	10.00
R46711/32	11/32	8.73	0.3438	47.0	89.0	40.0	10.00
R4678.8	–	8.80	0.3465	47.0	89.0	40.0	10.00
R4678.9	–	8.90	0.3504	47.0	89.0	40.0	10.00
R4679.0	–	9.00	0.3543	47.0	89.0	40.0	10.00
R4679.1	–	9.10	0.3583	47.0	89.0	40.0	10.00
R46723/64	23/64	9.13	0.3594	47.0	89.0	40.0	10.00
R4679.3	–	9.30	0.3661	47.0	89.0	40.0	10.00
R4679.4	–	9.40	0.3701	47.0	89.0	40.0	10.00
R4679.5	–	9.50	0.3740	47.0	89.0	40.0	10.00
R4673/8	3/8	9.53	0.3750	47.0	89.0	40.0	10.00
R4679.6	–	9.60	0.3780	47.0	89.0	40.0	10.00
R4679.7	–	9.70	0.3819	47.0	89.0	40.0	10.00
R4679.8	–	9.80	0.3858	47.0	89.0	40.0	10.00
R4679.9	–	9.90	0.3898	47.0	89.0	40.0	10.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R46725/64	25/64	9.92	0.3906	47.0	89.0	40.0	10.00
R46710.0	–	10.00	0.3937	47.0	89.0	40.0	10.00
R46710.05	–	10.05	0.3957	55.0	102.0	45.0	12.00
R46710.1	–	10.10	0.3976	55.0	102.0	45.0	12.00
R46710.2	–	10.20	0.4016	55.0	102.0	45.0	12.00
R46710.3	–	10.30	0.4055	55.0	102.0	45.0	12.00
R46713/32	13/32	10.32	0.4063	55.0	102.0	45.0	12.00
R46710.4	–	10.40	0.4094	55.0	102.0	45.0	12.00
R46710.5	–	10.50	0.4134	55.0	102.0	45.0	12.00
R46710.6	–	10.60	0.4173	55.0	102.0	45.0	12.00
R46727/64	27/64	10.72	0.4219	55.0	102.0	45.0	12.00
R46710.9	–	10.90	0.4291	55.0	102.0	45.0	12.00
R46711.0	–	11.00	0.4331	55.0	102.0	45.0	12.00
R4677/16	7/16	11.11	0.4375	55.0	102.0	45.0	12.00
R46711.2	–	11.20	0.4409	55.0	102.0	45.0	12.00
R46711.4	–	11.40	0.4488	55.0	102.0	45.0	12.00
R46711.5	–	11.50	0.4528	55.0	102.0	45.0	12.00
R46729/64	29/64	11.51	0.4531	55.0	102.0	45.0	12.00
R46711.8	–	11.80	0.4646	55.0	102.0	45.0	12.00
R46715/32	15/32	11.91	0.4688	55.0	102.0	45.0	12.00
R46712.0	–	12.00	0.4724	55.0	102.0	45.0	12.00
R46712.05	–	12.05	0.4744	60.0	107.0	45.0	14.00
R46712.1	–	12.10	0.4764	60.0	107.0	45.0	14.00
R46712.2	–	12.20	0.4803	60.0	107.0	45.0	14.00
R46731/64	31/64	12.30	0.4844	60.0	107.0	45.0	14.00
R46712.5	–	12.50	0.4921	60.0	107.0	45.0	14.00
R46712.7	–	12.70	0.5000	60.0	107.0	45.0	14.00
R4671/2	1/2	12.70	0.5000	60.0	107.0	45.0	14.00
R46713.0	–	13.00	0.5118	60.0	107.0	45.0	14.00
R46733/64	33/64	13.10	0.5156	60.0	107.0	45.0	14.00
R46717/32	17/32	13.49	0.5313	60.0	107.0	45.0	14.00
R46713.5	–	13.50	0.5315	60.0	107.0	45.0	14.00
R46735/64	35/64	13.89	0.5469	60.0	107.0	45.0	14.00
R46714.0	–	14.00	0.5512	60.0	107.0	45.0	14.00
R46714.25	–	14.25	0.5610	65.0	115.0	48.0	16.00
R4679/16	9/16	14.29	0.5625	65.0	115.0	48.0	16.00
R46714.5	–	14.50	0.5709	65.0	115.0	48.0	16.00
R46737/64	37/64	14.68	0.5781	65.0	115.0	48.0	16.00
R46715.0	–	15.00	0.5906	65.0	115.0	48.0	16.00
R46719/32	19/32	15.08	0.5938	65.0	115.0	48.0	16.00
R46715.1	–	15.10	0.5945	65.0	115.0	48.0	16.00
R46715.3	–	15.30	0.6024	65.0	115.0	48.0	16.00
R46715.5	–	15.50	0.6102	65.0	115.0	48.0	16.00
R4675/8	5/8	15.88	0.6250	65.0	115.0	48.0	16.00
R46716.0	–	16.00	0.6299	65.0	115.0	48.0	16.00

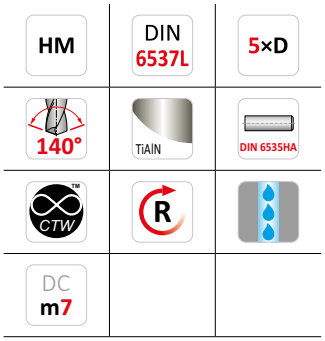
R463

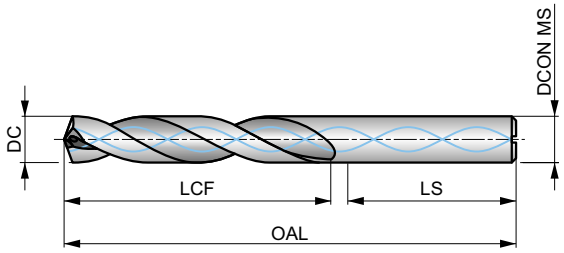
DORMER

FORCE M Solid Carbide 5XD Drill with Coolant Feed. TiAlN Coated

High performance drill, able to produce high quality and accurate holes at high speeds and feeds (H9 hole tolerance in stainless steel and heat resistant materials). A 140°, 4-facet split point and CTW flute construction. Coolant holes enhance chip evacuation. TiAlN coating increases surface hardness and improves tool life.

FORCE M





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

M1.1	M1.2	M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2	S1.1	S1.2	S1.3	S2.1
■111 G	■94 G	■99 G	■81 G	■67 E	■83 G	■71 G	■65 F	■57 F	■49 E	■52 V	■43 V	■38 U	◪57 U

S2.2	S3.1	S3.2	S4.1	S4.2
◪53 U	◪43 U	◪38 U	◪33 U	◪30 U

DCON MS tolerance h6.

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	LS (mm)	DCON MS (mm)
R4633.0	–	3.00	0.1181	28.0	66.0	36.0	6.00
R4633.1	–	3.10	0.1220	28.0	66.0	36.0	6.00
R4631/8	1/8	3.18	0.1250	28.0	66.0	36.0	6.00
R4633.2	–	3.20	0.1260	28.0	66.0	36.0	6.00
R4633.3	–	3.30	0.1299	28.0	66.0	36.0	6.00
R4633.4	–	3.40	0.1339	28.0	66.0	36.0	6.00
R463N29	N29	3.45	0.1360	28.0	66.0	36.0	6.00
R4633.5	–	3.50	0.1378	28.0	66.0	36.0	6.00
R4639/64	9/64	3.57	0.1406	28.0	66.0	36.0	6.00
R4633.6	–	3.60	0.1417	28.0	66.0	36.0	6.00
R4633.7	–	3.70	0.1457	28.0	66.0	36.0	6.00
R4633.8	–	3.80	0.1496	36.0	74.0	36.0	6.00
R4633.9	–	3.90	0.1535	36.0	74.0	36.0	6.00
R4635/32	5/32	3.97	0.1563	36.0	74.0	36.0	6.00
R4634.0	–	4.00	0.1575	36.0	74.0	36.0	6.00
R4634.05	–	4.05	0.1594	36.0	74.0	36.0	6.00
R4634.1	–	4.10	0.1614	36.0	74.0	36.0	6.00
R4634.2	–	4.20	0.1654	36.0	74.0	36.0	6.00
R4634.3	–	4.30	0.1693	36.0	74.0	36.0	6.00
R46311/64	11/64	4.37	0.1719	36.0	74.0	36.0	6.00
R4634.4	–	4.40	0.1732	36.0	74.0	36.0	6.00
R4634.5	–	4.50	0.1772	36.0	74.0	36.0	6.00
R4634.6	–	4.60	0.1811	36.0	74.0	36.0	6.00
R4634.7	–	4.70	0.1850	36.0	74.0	36.0	6.00
R4633/16	3/16	4.76	0.1875	44.0	82.0	36.0	6.00
R4634.8	–	4.80	0.1890	44.0	82.0	36.0	6.00
R4634.9	–	4.90	0.1929	44.0	82.0	36.0	6.00
R4635.0	–	5.00	0.1969	44.0	82.0	36.0	6.00
R4635.05	–	5.05	0.1988	44.0	82.0	36.0	6.00

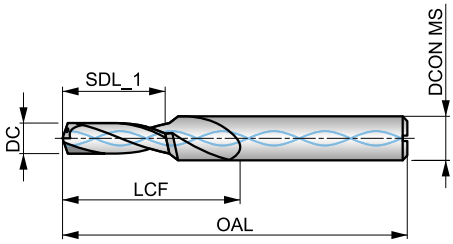
Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R4635.1	–	5.10	0.2008	44.0	82.0	36.0	6.00
R463N7	N7	5.11	0.2010	44.0	82.0	36.0	6.00
R46313/64	13/64	5.16	0.2031	44.0	82.0	36.0	6.00
R4635.2	–	5.20	0.2047	44.0	82.0	36.0	6.00
R463N5	N5	5.22	0.2055	44.0	82.0	36.0	6.00
R4635.3	–	5.30	0.2087	44.0	82.0	36.0	6.00
R4635.5	–	5.50	0.2165	44.0	82.0	36.0	6.00
R4637/32	7/32	5.56	0.2188	44.0	82.0	36.0	6.00
R4635.6	–	5.60	0.2205	44.0	82.0	36.0	6.00
R4635.7	–	5.70	0.2244	44.0	82.0	36.0	6.00
R4635.8	–	5.80	0.2283	44.0	82.0	36.0	6.00
R4635.9	–	5.90	0.2323	44.0	82.0	36.0	6.00
R46315/64	15/64	5.95	0.2344	44.0	82.0	36.0	6.00
R4636.0	–	6.00	0.2362	44.0	82.0	36.0	6.00
R4636.05	–	6.05	0.2382	53.0	91.0	36.0	8.00
R4636.1	–	6.10	0.2402	53.0	91.0	36.0	8.00
R4636.2	–	6.20	0.2441	53.0	91.0	36.0	8.00
R4636.3	–	6.30	0.2480	53.0	91.0	36.0	8.00
R4631/4	1/4	6.35	0.2500	53.0	91.0	36.0	8.00
R4636.4	–	6.40	0.2520	53.0	91.0	36.0	8.00
R4636.5	–	6.50	0.2559	53.0	91.0	36.0	8.00
R4636.6	–	6.60	0.2598	53.0	91.0	36.0	8.00
R4636.7	–	6.70	0.2638	53.0	91.0	36.0	8.00
R46317/64	17/64	6.75	0.2656	53.0	91.0	36.0	8.00
R4636.8	–	6.80	0.2677	53.0	91.0	36.0	8.00
R4636.9	–	6.90	0.2717	53.0	91.0	36.0	8.00
R4637.0	–	7.00	0.2756	53.0	91.0	36.0	8.00
R4637.1	–	7.10	0.2795	53.0	91.0	36.0	8.00
R4637.2	–	7.20	0.2835	53.0	91.0	36.0	8.00
R4637.3	–	7.30	0.2874	53.0	91.0	36.0	8.00
R4637.4	–	7.40	0.2913	53.0	91.0	36.0	8.00
R4637.5	–	7.50	0.2953	53.0	91.0	36.0	8.00
R4637.6	–	7.60	0.2992	53.0	91.0	36.0	8.00
R4637.7	–	7.70	0.3031	53.0	91.0	36.0	8.00
R4637.8	–	7.80	0.3071	53.0	91.0	36.0	8.00
R4637.9	–	7.90	0.3110	53.0	91.0	36.0	8.00
R4635/16	5/16	7.94	0.3125	53.0	91.0	36.0	8.00
R4638.0	–	8.00	0.3150	53.0	91.0	36.0	8.00
R4638.05	–	8.05	0.3169	61.0	103.0	40.0	10.00
R4638.1	–	8.10	0.3189	61.0	103.0	40.0	10.00
R4638.2	–	8.20	0.3228	61.0	103.0	40.0	10.00
R4638.3	–	8.30	0.3268	61.0	103.0	40.0	10.00
R46321/64	21/64	8.33	0.3281	61.0	103.0	40.0	10.00
R4638.4	–	8.40	0.3307	61.0	103.0	40.0	10.00
R4638.5	–	8.50	0.3346	61.0	103.0	40.0	10.00
R4638.6	–	8.60	0.3386	61.0	103.0	40.0	10.00
R4638.7	–	8.70	0.3425	61.0	103.0	40.0	10.00
R46311/32	11/32	8.73	0.3438	61.0	103.0	40.0	10.00
R4638.8	–	8.80	0.3465	61.0	103.0	40.0	10.00
R4638.9	–	8.90	0.3504	61.0	103.0	40.0	10.00
R4639.0	–	9.00	0.3543	61.0	103.0	40.0	10.00
R4639.1	–	9.10	0.3583	61.0	103.0	40.0	10.00
R46323/64	23/64	9.13	0.3594	61.0	103.0	40.0	10.00
R4639.2	–	9.20	0.3622	61.0	103.0	40.0	10.00
R4639.3	–	9.30	0.3661	61.0	103.0	40.0	10.00
R4639.4	–	9.40	0.3701	61.0	103.0	40.0	10.00
R4639.5	–	9.50	0.3740	61.0	103.0	40.0	10.00
R4633/8	3/8	9.53	0.3750	61.0	103.0	40.0	10.00
R4639.6	–	9.60	0.3780	61.0	103.0	40.0	10.00
R4639.7	–	9.70	0.3819	61.0	103.0	40.0	10.00
R4639.8	–	9.80	0.3858	61.0	103.0	40.0	10.00
R4639.9	–	9.90	0.3898	61.0	103.0	40.0	10.00

Product	DC	DC	DC	LCF	OAL	LS	DCON MS
	(inch)	(mm)	(inch)	(mm)	(mm)	(mm)	(mm)
R46310.0	–	10.00	0.3937	61.0	103.0	40.0	10.00
R46310.05	–	10.05	0.3957	70.0	118.0	45.0	12.00
R46310.1	–	10.10	0.3976	70.0	118.0	45.0	12.00
R46310.2	–	10.20	0.4016	70.0	118.0	45.0	12.00
R46310.3	–	10.30	0.4055	70.0	118.0	45.0	12.00
R46313/32	13/32	10.32	0.4063	70.0	118.0	45.0	12.00
R46310.4	–	10.40	0.4094	70.0	118.0	45.0	12.00
R46310.5	–	10.50	0.4134	70.0	118.0	45.0	12.00
R46327/64	27/64	10.72	0.4219	70.0	118.0	45.0	12.00
R46310.8	–	10.80	0.4252	70.0	118.0	45.0	12.00
R46311.0	–	11.00	0.4331	70.0	118.0	45.0	12.00
R4637/16	7/16	11.11	0.4375	70.0	118.0	45.0	12.00
R46311.2	–	11.20	0.4409	70.0	118.0	45.0	12.00
R46311.3	–	11.30	0.4449	70.0	118.0	45.0	12.00
R46311.4	–	11.40	0.4488	70.0	118.0	45.0	12.00
R46311.5	–	11.50	0.4528	70.0	118.0	45.0	12.00
R46329/64	29/64	11.51	0.4531	70.0	118.0	45.0	12.00
R46311.6	–	11.60	0.4567	70.0	118.0	45.0	12.00
R46311.8	–	11.80	0.4646	70.0	118.0	45.0	12.00
R46315/32	15/32	11.91	0.4688	70.0	118.0	45.0	12.00
R46312.0	–	12.00	0.4724	70.0	118.0	45.0	12.00
R46312.05	–	12.05	0.4744	76.0	124.0	45.0	14.00
R46312.2	–	12.20	0.4803	76.0	124.0	45.0	14.00
R46331/64	31/64	12.30	0.4844	76.0	124.0	45.0	14.00
R46312.5	–	12.50	0.4921	76.0	124.0	45.0	14.00
R46312.7	–	12.70	0.5000	76.0	124.0	45.0	14.00
R4631/2	1/2	12.70	0.5000	76.0	124.0	45.0	14.00
R46312.8	–	12.80	0.5039	76.0	124.0	45.0	14.00
R46313.0	–	13.00	0.5118	76.0	124.0	45.0	14.00
R46333/64	33/64	13.10	0.5156	76.0	124.0	45.0	14.00
R46313.5	–	13.50	0.5315	76.0	124.0	45.0	14.00
R46313.8	–	13.80	0.5433	76.0	124.0	45.0	14.00
R46314.0	–	14.00	0.5512	76.0	124.0	45.0	14.00
R46314.25	–	14.25	0.5610	82.0	133.0	48.0	16.00
R46314.5	–	14.50	0.5709	82.0	133.0	48.0	16.00
R46315.0	–	15.00	0.5906	82.0	133.0	48.0	16.00
R46315.3	–	15.30	0.6024	82.0	133.0	48.0	16.00
R46315.5	–	15.50	0.6102	82.0	133.0	48.0	16.00
R46315.8	–	15.80	0.6220	82.0	133.0	48.0	16.00
R46316.0	–	16.00	0.6299	82.0	133.0	48.0	16.00

R7131

Solid Carbide Step Drill, TiAlN Coated with Coolant Feed

Versatile, with specific Pilot diameters and lengths for achieving hole size and depth for metric threads. Drill and chamfer in one operation reduces cycle time and tooling inventory. A 140° point angle and 90° countersink. TiAlN coating improves performance and extends the tool life. Suitable for drilling many materials.



HM	DORMER	3×D
90°	TiAlN	DIN 6535HA
λ 20-35°	R	
DC m7		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	M1.1	M1.2	M2.1
■ 139 W	■ 156 W	■ 161 W	■ 119 W	■ 105 W	■ 93 V	■ 96 V	■ 77 V	■ 65 V	■ 57 V	■ 48 V	■ 62 V	■ 52 V	■ 55 V
M2.2	**M3.1**	**M3.2**	**M3.3**	**M4.1**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**
■ 45 V	■ 47 V	■ 40 V	■ 36 U	■ 35 U	■ 90 W	■ 67 W	■ 50 W	■ 92 V	■ 75 V	■ 60 V	■ 82 V	■ 62 V	■ 50 V
K4.1	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**
■ 76 V	■ 57 V	■ 42 V	■ 36 V	■ 30 V	■ 86 V	■ 64 V	■ 50 V	■ 250 W	■ 188 W	■ 125 W	■ 308 V	■ 277 V	■ 200 V
N3.1	**N3.2**	**N3.3**											
■ 373 W	■ 220 W	■ 110 W											

DCON MS tolerance h6.

Product	DC (mm)	DC (inch)	SDL_1 (mm)	LCF (mm)	OAL (mm)	DCON MS (mm)	TDZ
R71313.3	3.30	0.1299	11.40	20.0	66.0	6.00	M4
R71314.2	4.20	0.1654	13.60	24.0	66.0	6.00	M5
R71315.0	5.00	0.1969	16.50	28.0	79.0	8.00	M6
R71316.8	6.80	0.2677	21.00	34.0	89.0	10.00	M8
R71318.5	8.50	0.3346	25.50	47.0	102.0	12.00	M10
R713110.2	10.20	0.4016	30.00	55.0	107.0	14.00	M12
R713110.4	10.40	0.4094	30.00	55.0	107.0	14.00	M12

Material code (BMC)	HSS	HSS	HSS	HSS	HSS	HM	HM						
Basic standard group (BSG)	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER	DORMER						
Usable length (ULDR)	1.5×D	3×D	5×D	8×D	12×D								
Application angle						140°	140°						
Coating	Bright Ni	Bright Ni	Bright Ni	Bright Ni	Bright Ni	Ti-phon	Ti-phon						
Shank	ISO 9766	DIN 6535HB DIN 6535HE	DIN 6535HB DIN 6535HE	DIN 6535HB DIN 6535HE									
Hand (Cutting direction)	R	R	R	R	R	R	R						
Cooling (CSP)													
	HYDRA	HYDRA	HYDRA	HYDRA	HYDRA	HYDRA	HYDRA	HYDRA	HYDRA				
Product Family Code	H851	H853	H855	H858	H8512	R950	R960	H860	H861				
PSF cutting diameters range	31/64 - 30.00	12.00 - 42.50	12.00 - 42.50	14.00 - 42.50	14.00 - 25.00	15/32 - 42.00	15/32 - 30.50	N1 - N7	N1 - N5				
	218	219	221	223	224	225	227	229	229				
P	P1						◪	■					
	P2						■	◪					
	P3						■						
	P4						■						
M	M1							■					
	M2							■					
	M3							■					
	M4							■					
K	K1							■					
	K2						■	◪					
	K3						■	◪					
	K4						■	◪					
	K5						■	◪					
N	N1												
	N2												
	N3												
	N4												
	N5												
S	S1							◪					
	S2							◪					
	S3							◪					
	S4							◪					
H	H1												
	H2												
	H3												
	H4												

■ Primary use ◪ Possible use

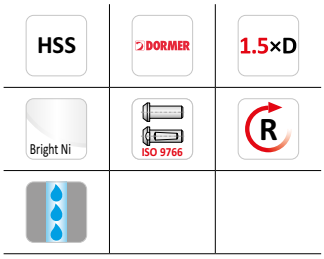
H851

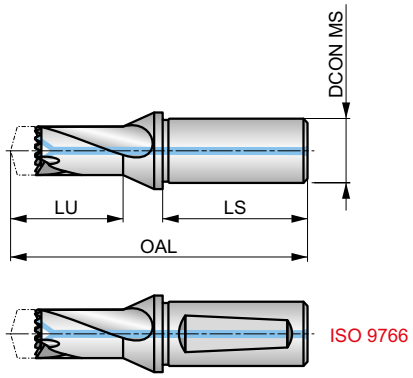
DORMER

HYDRA Body 1.5XD, with Coolant Feed, Bright Nickel Plating

Used with R950 and R960 HYDRA heads. A range of head diameters can be used with the same body. Coolant holes aligned with the heads offer efficient cooling. Flanged shank prevents the drill from wandering in the holder. Nickel plated surface protects from rust and corrosion, and improves chip evacuation.

HYDRA





Four (4) screws and one (1) screwdriver are included with a drill body, DCON MS tolerance h6.

Product	DCON MS (inch)	DCON MS (mm)	LU (mm)	OAL (mm)	LS (mm)	ADINTMS
H85131/64	5/8	15.88	25.50	88.5	47.6	Cylindrical
H85117/32	5/8	15.88	30.90	93.9	47.6	Cylindrical
H85112.0	–	16.00	25.50	88.5	48.0	ISO 9766
H85112.5	–	16.00	25.80	88.8	48.0	ISO 9766
H85113.0	–	16.00	27.00	90.0	48.0	ISO 9766
H85114.0	–	16.00	30.90	93.9	48.0	ISO 9766
H85139/64	3/4	19.05	32.30	97.3	50.8	Cylindrical
H85141/64	3/4	19.05	34.90	99.9	50.8	Cylindrical
H85111/16	3/4	19.05	36.40	101.4	50.8	Cylindrical
H85123/32	3/4	19.05	39.00	104.0	50.8	Cylindrical
H85115.0	–	20.00	32.30	97.3	50.0	ISO 9766
H85116.0	–	20.00	34.90	99.9	50.0	ISO 9766
H85117.0	–	20.00	36.40	101.4	50.0	ISO 9766
H85118.0	–	20.00	39.00	104.0	50.0	ISO 9766
H85119.0	–	25.00	40.40	111.4	56.0	ISO 9766
H85120.0	–	25.00	43.00	114.0	56.0	ISO 9766
H85121.0	–	25.00	44.50	115.5	56.0	ISO 9766
H85122.0	–	25.00	46.10	117.1	56.0	ISO 9766
H85123.0	–	25.00	47.00	118.0	56.0	ISO 9766
H85149/64	1″	25.40	40.40	111.4	57.1	Cylindrical
H85151/64	1″	25.40	43.00	114.0	57.1	Cylindrical
H85127/32	1″	25.40	44.50	115.5	57.1	Cylindrical
H85157/64	1″	25.40	46.10	117.1	57.1	Cylindrical
H85159/64	1″	25.40	47.00	118.0	57.1	Cylindrical
H85131/32	1″	25.40	49.30	124.3	57.1	Cylindrical
H8511.1/64	1.1/4	31.75	49.70	124.7	60.3	Cylindrical
H8511.3/64	1.1/4	31.75	52.30	127.3	60.3	Cylindrical
H8511.3/32	1.1/4	31.75	52.80	127.8	60.3	Cylindrical
H8511.3/16	1.1/4	31.75	58.40	133.4	60.3	Cylindrical
H85124.0	–	32.00	49.30	124.3	60.0	ISO 9766
H85125.0	–	32.00	49.70	124.7	60.0	ISO 9766
H85126.0	–	32.00	52.30	127.3	60.0	ISO 9766
H85127.0	–	32.00	52.80	127.8	60.0	ISO 9766
H85128.0	–	32.00	54.40	129.4	60.0	ISO 9766
H85129.0	–	32.00	55.80	130.8	60.0	ISO 9766
H85130.0	–	32.00	58.40	133.4	60.0	ISO 9766

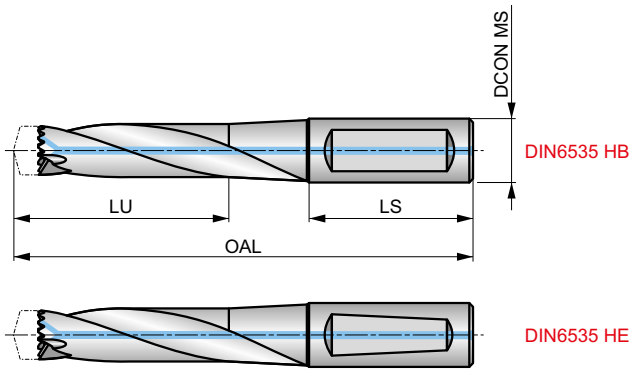
H853

DORMER

HYDRA Body 3XD, with Coolant Feed, Bright Nickel Plating

Used with R950 and R960 HYDRA heads. A range of head diameters can be used with the same body. Coolant holes aligned with the heads offer efficient cooling. Bright Nickel plated surface protects from rust and corrosion, and improves chip evacuation.

HYDRA



HSS	DORMER	3×D
Bright Ni	DIN 6535HB DIN 6535HE	R

Four (4) screws and one (1) screwdriver are included with a drill body, DCON MS tolerance h6.

Product	DCON MS (inch)	DCON MS (mm)	LU (mm)	OAL (mm)	LS (mm)	ADINTMS
H85312.0	–	16.00	44.00	105.0	48.0	DIN6535HE
H85331/64	5/8	15.88	44.00	105.0	48.0	DIN6535HB
H85312.5	–	16.00	44.00	105.0	48.0	DIN6535HE
H8531/2	5/8	15.88	44.00	105.0	48.0	DIN6535HB
H85313.0	–	16.00	47.00	110.0	48.0	DIN6535HE
H85317/32	5/8	15.88	47.00	110.0	48.0	DIN6535HB
H85314.0	–	16.00	52.50	116.5	48.0	DIN6535HE
H8539/16	3/4	19.05	52.50	116.5	48.0	DIN6535HB
H85315.0	–	20.00	55.50	126.5	50.0	DIN6535HE
H85339/64	3/4	19.05	55.50	126.5	50.0	DIN6535HB
H85316.0	–	20.00	59.50	131.5	50.0	DIN6535HE
H85341/64	3/4	19.05	59.50	131.5	50.0	DIN6535HB
H85317.0	–	20.00	62.50	136.5	50.0	DIN6535HE
H85311/16	3/4	19.05	62.50	136.5	50.0	DIN6535HB
H85318.0	–	20.00	66.50	141.5	50.0	DIN6535HE
H85323/32	3/4	19.05	66.50	141.5	50.0	DIN6535HB
H85319.0	–	25.00	69.50	156.5	56.0	DIN6535HE
H85349/64	1″	25.40	69.50	156.5	56.0	DIN6535HB
H85320.0	–	25.00	73.50	156.5	56.0	DIN6535HE
H85351/64	1″	25.40	73.50	156.5	56.0	DIN6535HB
H85321.0	–	25.00	76.50	156.5	56.0	DIN6535HE
H85327/32	1″	25.40	76.50	156.5	56.0	DIN6535HB
H85322.0	–	25.00	80.10	161.5	56.0	DIN6535HE
H85357/64	1″	25.40	80.10	161.5	56.0	DIN6535HB
H85323.0	–	25.00	82.50	160.5	56.0	DIN6535HE
H85359/64	1″	25.40	82.50	160.5	56.0	DIN6535HB
H85324.0	–	32.00	86.20	170.2	60.0	DIN6535HE
H85331/32	1″	25.40	86.20	170.2	60.0	DIN6535HB
H85325.0	–	32.00	88.00	170.0	60.0	DIN6535HE
H8531.1/64	1.1/4	31.75	88.00	170.0	60.0	DIN6535HB
H85326.0	–	32.00	92.00	175.0	60.0	DIN6535HE
H8531.3/64	1.1/4	31.75	92.00	175.0	60.0	DIN6535HB
H85327.0	–	32.00	94.00	175.0	60.0	DIN6535HE
H8531.3/32	1.1/4	31.75	94.00	175.0	60.0	DIN6535HB

Product	DCON MS	DCON MS	LU	OAL	LS	ADINTMS
	(inch)	(mm)	(mm)	(mm)	(mm)	
H85328.0	–	32.00	97.00	180.0	60.0	DIN6535HE
H8531.1/8	1.1/4	31.75	97.00	180.0	60.0	DIN6535HB
H85329.0	–	32.00	100.00	185.0	60.0	DIN6535HE
H8531.11/64	1.1/4	31.75	100.00	185.0	60.0	DIN6535HB
H85330.0	–	32.00	104.00	185.0	60.0	DIN6535HE
H8531.3/16	1.1/4	31.75	104.00	185.0	60.0	DIN6535HB
H85332.0	–	32.00	111.50	196.5	60.0	DIN6535HE
H85333.5	–	32.00	116.50	201.5	60.0	DIN6535HE
H85335.0	–	40.00	121.50	216.5	70.0	DIN6535HB
H85336.5	–	40.00	125.50	221.5	70.0	DIN6535HB
H85338.0	–	40.00	131.50	226.5	70.0	DIN6535HB
H85339.5	–	40.00	136.50	231.5	70.0	DIN6535HB
H85341.0	–	40.00	146.50	246.5	70.0	DIN6535HB
H85342.5	–	40.00	151.60	251.6	70.0	DIN6535HB

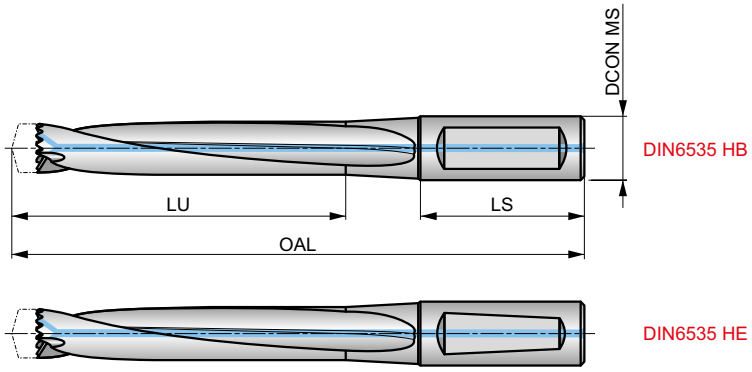
H855

DORMER

HYDRA Body 5XD, with Coolant Feed, Bright Nickel Plating

Used with R950 and R960 HYDRA heads. A range of head diameters can be used with the same body. Coolant holes aligned with the heads offer efficient cooling. Bright Nickel plated surface protects from rust and corrosion, and improves chip evacuation.

HYDRA



HSS	DORMER	5×D
Bright Ni	DIN 6535HB DIN 6535HE	R

Four (4) screws and one (1) screwdriver are included with a drill body, DCON MS tolerance h6.

Product	DCON MS (inch)	DCON MS (mm)	LU (mm)	OAL (mm)	LS (mm)	ADINTMS
H85512.0	–	16.00	69.00	130.0	48.0	DIN6535HE
H85531/64	5/8	15.88	69.00	130.0	48.0	DIN6535HB
H85512.5	–	16.00	69.00	130.0	48.0	DIN6535HE
H8551/2	5/8	15.88	69.00	130.0	48.0	DIN6535HB
H85513.0	–	16.00	74.00	140.0	48.0	DIN6535HE
H85517/32	5/8	15.88	74.00	140.0	48.0	DIN6535HB
H85514.0	–	16.00	81.50	146.5	48.0	DIN6535HE
H8559/16	3/4	19.05	81.50	146.5	48.0	DIN6535HB
H85515.0	–	20.00	86.50	156.5	50.0	DIN6535HE
H85539/64	3/4	19.05	86.50	156.5	50.0	DIN6535HB
H85516.0	–	20.00	92.50	166.5	50.0	DIN6535HE
H85541/64	3/4	19.05	92.50	166.5	50.0	DIN6535HB
H85517.0	–	20.00	97.50	171.5	50.0	DIN6535HE
H85511/16	3/4	19.05	97.50	171.5	50.0	DIN6535HB
H85518.0	–	20.00	103.50	176.5	50.0	DIN6535HE
H85523/32	3/4	19.05	103.50	176.5	50.0	DIN6535HB
H85519.0	–	25.00	108.50	191.5	56.0	DIN6535HE
H85549/64	1″	25.40	108.50	191.5	56.0	DIN6535HB
H85520.0	–	25.00	114.50	196.5	56.0	DIN6535HE
H85551/64	1″	25.40	114.50	196.5	56.0	DIN6535HB
H85521.0	–	25.00	119.50	196.5	56.0	DIN6535HE
H85527/32	1″	25.40	119.50	196.5	56.0	DIN6535HB
H85522.0	–	25.00	125.10	201.1	56.0	DIN6535HE
H85557/64	1″	25.40	125.10	201.1	56.0	DIN6535HB
H85523.0	–	25.00	129.50	210.5	56.0	DIN6535HE
H85559/64	1″	25.40	129.50	210.5	56.0	DIN6535HB
H85524.0	–	32.00	135.20	220.2	60.0	DIN6535HE
H85531/32	1″	25.40	135.20	220.2	60.0	DIN6535HB
H85525.0	–	32.00	140.00	225.0	60.0	DIN6535HE
H8551.1/64	1.1/4	31.75	140.00	225.0	60.0	DIN6535HB
H85526.0	–	32.00	146.00	230.0	60.0	DIN6535HE
H8551.3/64	1.1/4	31.75	146.00	230.0	60.0	DIN6535HB
H85527.0	–	32.00	151.00	235.0	60.0	DIN6535HE
H8551.3/32	1.1/4	31.75	151.00	235.0	60.0	DIN6535HB

Product	DCON MS	DCON MS	LU	OAL	LS	ADINTMS
	(inch)	(mm)	(mm)	(mm)	(mm)	
H85528.0	–	32.00	157.00	240.0	60.0	DIN6535HE
H8551.1/8	1.1/4	31.75	157.00	240.0	60.0	DIN6535HB
H85529.0	–	32.00	162.00	245.0	60.0	DIN6535HE
H8551.11/64	1.1/4	31.75	162.00	245.0	60.0	DIN6535HB
H85530.0	–	32.00	167.00	255.0	60.0	DIN6535HE
H8551.3/16	1.1/4	31.75	167.00	255.0	60.0	DIN6535HB
H85532.0	–	32.00	176.50	261.5	60.0	DIN6535HE
H85533.5	–	32.00	186.50	271.5	60.0	DIN6535HE
H85535.0	–	40.00	196.50	291.5	70.0	DIN6535HB
H85536.5	–	40.00	201.50	296.5	70.0	DIN6535HB
H85538.0	–	40.00	211.50	306.5	70.0	DIN6535HB
H85539.5	–	40.00	221.50	316.5	70.0	DIN6535HB
H85541.0	–	40.00	226.50	325.6	70.0	DIN6535HB
H85542.5	–	40.00	236.50	336.5	70.0	DIN6535HB

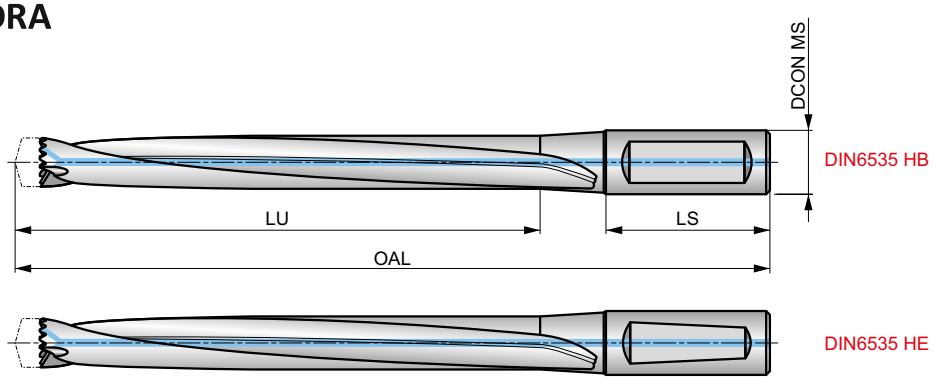
H858

DORMER

HYDRA Body 8XD, with Coolant Feed, Bright Nickel Plating

Used with R950 and R960 HYDRA heads. A range of head diameters can be used with the same body. Coolant holes aligned with the heads offer efficient cooling. Bright Nickel plated surface protects from rust and corrosion, and improves chip evacuation.

HYDRA



HSS	DORMER	8×D
Bright Ni	DIN 6535HB DIN 6535HE	R

Four (4) screws and one (1) screwdriver are included with a drill body, DCON MS tolerance h6.

Product	DCON MS (mm)	LU (mm)	OAL (mm)	LS (mm)	ADINTMS
H85814.0	16.00	124.50	191.5	48.0	DIN6535HE
H85815.0	20.00	133.50	201.5	50.0	DIN6535HE
H85816.0	20.00	141.50	211.5	50.0	DIN6535HE
H85817.0	20.00	150.50	221.5	50.0	DIN6535HE
H85818.0	20.00	158.50	226.5	50.0	DIN6535HE
H85819.0	25.00	167.50	251.5	56.0	DIN6535HE
H85820.0	25.00	175.50	264.5	56.0	DIN6535HE
H85821.0	25.00	184.50	266.5	56.0	DIN6535HE
H85822.0	25.00	192.10	271.1	56.0	DIN6535HE
H85823.0	25.00	200.50	280.5	56.0	DIN6535HE
H85824.0	32.00	208.20	295.2	60.0	DIN6535HE
H85825.0	32.00	217.00	300.0	60.0	DIN6535HE
H85826.0	32.00	225.00	310.0	60.0	DIN6535HE
H85827.0	32.00	234.00	320.0	60.0	DIN6535HE
H85828.0	32.00	242.00	325.0	60.0	DIN6535HE
H85829.0	32.00	251.00	335.0	60.0	DIN6535HE
H85830.0	32.00	259.00	345.0	60.0	DIN6535HE
H85832.0	32.00	271.50	356.5	60.0	DIN6535HE
H85833.5	32.00	286.50	371.5	60.0	DIN6535HE
H85835.0	40.00	301.50	396.5	70.0	DIN6535HB
H85836.5	40.00	311.50	406.5	70.0	DIN6535HB
H85838.0	40.00	326.50	421.5	70.0	DIN6535HB
H85839.5	40.00	336.50	431.5	70.0	DIN6535HB
H85841.0	40.00	351.50	451.5	70.0	DIN6535HB
H85842.5	40.00	361.50	461.5	70.0	DIN6535HB

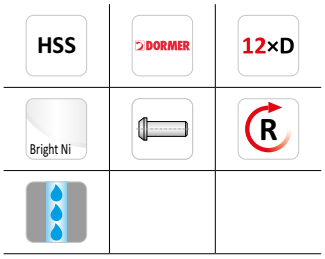
H8512

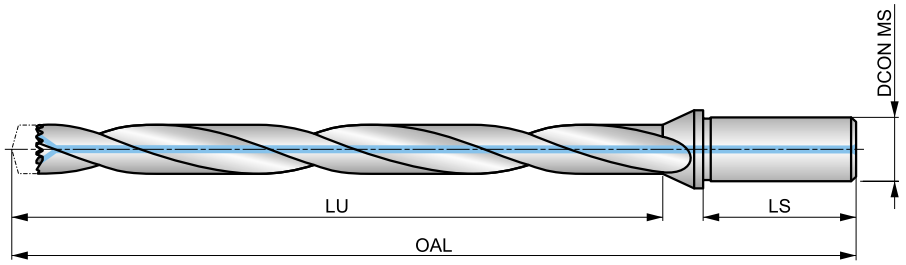
DORMER

HYDRA Body 12XD, with Coolant Feed, Bright Nickel Plating

Used with R950 and R960 HYDRA heads. A range of head diameters can be used with the same body. Coolant holes aligned with the heads offer efficient cooling. Flanged shank prevents the drill from wandering in the holder. Nickel plated surface protects from rust and corrosion, and improves chip evacuation.

HYDRA



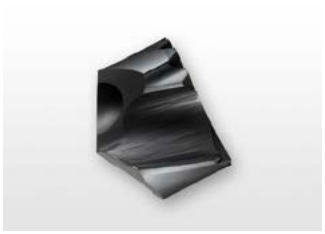


Four (4) screws and one (1) screwdriver are included with a drill body, DCON MS tolerance h6.

Product	DCON MS (mm)	LU (mm)	OAL (mm)	LS (mm)
H851214.0	16.00	168.00	236.0	48.0
H851215.0	20.00	180.00	250.3	50.0
H851216.0	20.00	192.00	262.6	50.0
H851217.0	20.00	204.00	275.0	50.0
H851218.0	20.00	216.00	287.2	50.0
H851219.0	25.00	228.00	305.6	56.0
H851220.0	25.00	240.00	317.8	56.0
H851221.0	25.00	252.00	330.1	56.0
H851222.0	25.00	264.00	343.0	56.0
H851223.0	25.00	276.00	354.8	56.0
H851224.0	32.00	288.00	371.7	60.0
H851225.0	32.00	300.00	383.8	60.0

R950

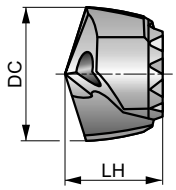
DORMER



HYDRA Solid Carbide Drill Head for Steels, Ti-phon Coated

Highly cost-effective and accurately designed replaceable carbide head for high performance in steels and harder materials. A 140° split point helps with self-centering and reduces cutting forces. Ti-phon coating prevents edge build-up and greatly improves chip flow, with superior wear resistance and edge strength.

HYDRA



HM | DORMER | 140° | Ti-phon | R | DC h7

H851	Apply starting values for speed and feed with a correction factor of **1.10**
H853	Apply starting values for speed and feed with a correction factor of **1.00**
H855	Apply starting values for speed and feed with a correction factor of **0.80**
H858	Apply starting values for speed and feed with a correction factor of **0.60**
H8512	Apply starting values for speed and feed with a correction factor of **0.50**

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M2.3	M4.2
◪133 W	◪148 W	◪154 W	◪114 W	■100 W	■88 W	■125 W	■101 W	■85 W	■75 W	■63 W	■52 T	◪41 T	◪35 T
K2.1	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**	**K5.1**	**K5.2**	**K5.3**
■108 V	■88 V	■70 V	■96 V	■73 V	■59 V	■89 V	■67 V	■49 V	■42 V	■35 V	■100 V	■76 V	■58 V

Product	DC (inch)	DC (mm)	DC (inch)	LH (mm)
R95015/32	15/32	11.91	0.4688	9.1
R95012.0	–	12.00	0.4724	9.1
R95012.1	–	12.10	0.4764	9.1
R95012.2	–	12.20	0.4803	9.1
R95031/64	31/64	12.30	0.4844	9.1
R95012.5	–	12.50	0.4921	9.4
R95012.6	–	12.60	0.4961	9.4
R9501/2	1/2	12.70	0.5000	9.4
R95012.8	–	12.80	0.5039	9.4
R95012.9	–	12.90	0.5079	9.4
R95013.0	–	13.00	0.5118	9.7
R95033/64	33/64	13.10	0.5156	9.7
R95013.2	–	13.20	0.5197	9.7
R95017/32	17/32	13.49	0.5313	9.7
R95013.5	–	13.50	0.5315	10.3
R95013.6	–	13.60	0.5354	10.3
R95013.7	–	13.70	0.5394	10.3
R95013.8	–	13.80	0.5433	10.3
R95035/64	35/64	13.89	0.5469	10.3
R95014.0	–	14.00	0.5512	10.3
R95014.1	–	14.10	0.5551	10.3
R95014.2	–	14.20	0.5591	10.3
R9509/16	9/16	14.29	0.5625	10.3
R95014.5	–	14.50	0.5709	10.3
R95014.6	–	14.60	0.5748	11.0
R95037/64	37/64	14.68	0.5781	11.0
R95014.7	–	14.70	0.5787	11.0
R95014.8	–	14.80	0.5827	11.0
R95015.0	–	15.00	0.5906	11.0
R95019/32	19/32	15.08	0.5938	11.0

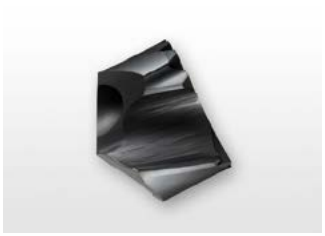
Product	DC (inch)	DC (mm)	DC (inch)	LH (mm)
R95015.1	–	15.10	0.5945	11.0
R95015.2	–	15.20	0.5984	11.0
R95015.24	–	15.24	0.6000	11.0
R95039/64	39/64	15.48	0.6094	11.0
R95015.5	–	15.50	0.6102	11.0
R95015.6	–	15.60	0.6142	11.6
R95015.7	–	15.70	0.6181	11.6
R9505/8	5/8	15.88	0.6250	11.6
R95016.0	–	16.00	0.6299	11.6
R95016.08	–	16.08	0.6331	11.6
R95016.1	–	16.10	0.6339	11.6
R95016.2	–	16.20	0.6378	11.6
R95041/64	41/64	16.27	0.6406	11.6
R95016.3	–	16.30	0.6417	11.6
R95016.5	–	16.50	0.6496	11.6
R95016.6	–	16.60	0.6535	12.2
R95021/32	21/32	16.67	0.6563	12.2
R95016.7	–	16.70	0.6575	12.2
R95017.0	–	17.00	0.6693	12.2
R95043/64	43/64	17.07	0.6719	12.2
R95017.1	–	17.10	0.6732	12.2
R95017.2	–	17.20	0.6772	12.2
R95011/16	11/16	17.46	0.6875	12.2
R95017.5	–	17.50	0.6890	12.2
R95017.6	–	17.60	0.6929	12.9
R95017.7	–	17.70	0.6969	12.9
R95045/64	45/64	17.86	0.7031	12.9
R95018.0	–	18.00	0.7087	12.9
R95018.1	–	18.10	0.7126	12.9
R95018.2	–	18.20	0.7165	12.9

Product	DC	DC	DC	LH
	(inch)	(mm)	(inch)	(mm)
R95023/32	23/32	18.26	0.7188	12.9
R95018.5	–	18.50	0.7283	12.9
R95018.6	–	18.60	0.7323	13.5
R95047/64	47/64	18.65	0.7344	13.5
R95018.7	–	18.70	0.7362	13.5
R95018.9	–	18.90	0.7441	13.5
R95019.0	–	19.00	0.7480	13.5
R9503/4	3/4	19.05	0.7500	13.5
R95019.1	–	19.10	0.7520	13.5
R95019.2	–	19.20	0.7559	13.5
R95019.25	–	19.25	0.7579	13.5
R95019.3	–	19.30	0.7598	13.5
R95019.35	–	19.35	0.7618	13.5
R95049/64	49/64	19.45	0.7656	13.5
R95019.5	–	19.50	0.7677	13.5
R95019.6	–	19.60	0.7717	14.1
R95019.7	–	19.70	0.7756	14.1
R95025/32	25/32	19.84	0.7813	14.1
R95020.0	–	20.00	0.7874	14.1
R95051/64	51/64	20.24	0.7969	14.1
R95020.5	–	20.50	0.8071	14.1
R95013/16	13/16	20.64	0.8125	14.8
R95021.0	–	21.00	0.8268	14.8
R95053/64	53/64	21.03	0.8281	14.8
R95027/32	27/32	21.43	0.8438	14.8
R95021.5	–	21.50	0.8465	14.8
R95055/64	55/64	21.83	0.8594	15.0
R95022.0	–	22.00	0.8661	15.0
R9507/8	7/8	22.22	0.8750	15.0
R95022.5	–	22.50	0.8858	15.0
R95057/64	57/64	22.62	0.8906	15.0
R95022.7	–	22.70	0.8937	15.0
R95023.0	–	23.00	0.9055	15.1
R95029/32	29/32	23.02	0.9063	15.1
R95059/64	59/64	23.42	0.9219	15.1
R95023.5	–	23.50	0.9252	15.1
R95015/16	15/16	23.81	0.9375	15.4
R95024.0	–	24.00	0.9449	15.4
R95061/64	61/64	24.21	0.9531	15.4
R95024.5	–	24.50	0.9646	15.4
R95031/32	31/32	24.61	0.9688	15.4
R95025.0	–	25.00	0.9844	15.8
R95063/64	63/64	25.00	0.9844	15.8
R9501	1″	25.40	1.0000	15.8
R95025.5	–	25.50	1.0039	15.8
R95025.6	–	25.60	1.0079	15.8
R95025.65	–	25.65	1.0098	15.8
R9501.1/64	1.1/64	25.80	1.0156	15.8
R95026.0	–	26.00	1.0236	16.4
R9501.1/32	1.1/32	26.19	1.0313	16.4

Product	DC	DC	DC	LH
	(inch)	(mm)	(inch)	(mm)
R95026.5	–	26.50	1.0433	16.4
R9501.3/64	1.3/64	26.59	1.0469	16.4
R9501.1/16	1.1/16	26.99	1.0625	17.1
R95027.0	–	27.00	1.0630	17.1
R9501.5/64	1.5/64	27.38	1.0781	17.1
R95027.5	–	27.50	1.0827	17.1
R9501.3/32	1.3/32	27.78	1.0938	17.1
R95028.0	–	28.00	1.1024	17.7
R9501.7/64	1.7/64	28.18	1.1094	17.7
R95028.5	–	28.50	1.1220	17.7
R9501.1/8	1.1/8	28.58	1.1250	17.7
R9501.9/64	1.9/64	28.97	1.1406	18.3
R95029.0	–	29.00	1.1417	18.3
R9501.5/32	1.5/32	29.37	1.1563	18.3
R95029.5	–	29.50	1.1614	18.3
R9501.11/64	1.11/64	29.77	1.1719	18.3
R95030.0	–	30.00	1.1811	19.0
R9501.3/16	1.3/16	30.16	1.1875	19.0
R95030.5	–	30.50	1.2008	19.0
R9501.7/32	1.7/32	30.96	1.2188	21.0
R95031.0	–	31.00	1.2205	21.0
R9501.1/4	1.1/4	31.75	1.2500	21.0
R95032.0	–	32.00	1.2598	21.0
R95032.5	–	32.50	1.2795	21.0
R9501.19/64	1.19/64	32.94	1.2969	21.0
R95033.0	–	33.00	1.2992	21.0
R95033.5	–	33.50	1.3189	21.0
R95034.0	–	34.00	1.3386	23.0
R9501.11/32	1.11/32	34.13	1.3438	23.0
R95034.5	–	34.50	1.3583	23.0
R9501.3/8	1.3/8	34.93	1.3750	23.0
R95035.0	–	35.00	1.3780	23.0
R95036.0	–	36.00	1.4173	23.0
R9501.27/64	1.27/64	36.12	1.4219	23.0
R95036.5	–	36.50	1.4370	23.0
R95037.0	–	37.00	1.4567	25.0
R9501.15/32	1.15/32	37.31	1.4688	25.0
R95037.5	–	37.50	1.4764	25.0
R95038.0	–	38.00	1.4961	25.0
R9501.1/2	1.1/2	38.10	1.5000	25.0
R95038.5	–	38.50	1.5157	25.0
R9501.17/32	1.17/32	38.89	1.5313	25.0
R95039.0	–	39.00	1.5354	25.0
R95039.5	–	39.50	1.5551	25.0
R9501.9/16	1.9/16	39.69	1.5625	27.0
R95040.0	–	40.00	1.5748	27.0
R95041.0	–	41.00	1.6142	27.0
R9501.5/8	1.5/8	41.28	1.6250	27.0
R95042.0	–	42.00	1.6535	27.0

R960

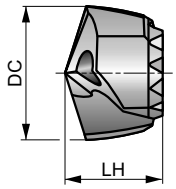
DORMER



HYDRA Solid Carbide Drill Head for Stainless Steels, Ti-phon Coated

Highly cost-effective and accurately designed replaceable carbide head for high performance in stainless steels. A 140° split point helps with self-centering and reduces cutting forces. Ti-phon coating prevents edge build-up and greatly improves chip flow, with superior wear resistance and edge strength.

HYDRA



HM | DORMER | 140° | Ti-phon | R | DC h7

H851	Apply starting values for speed and feed with a correction factor of **1.10**
H853	Apply starting values for speed and feed with a correction factor of **1.00**
H855	Apply starting values for speed and feed with a correction factor of **0.80**
H858	Apply starting values for speed and feed with a correction factor of **0.60**
H8512	Apply starting values for speed and feed with a correction factor of **0.50**

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	M1.1	M1.2	M2.1	M2.2	M2.3	M3.1	M3.2	M3.3	M4.1	M4.2
■ 133 W	■ 148 W	■ 154 W	■ 114 W	■ 82 V	■ 70 V	■ 73 V	■ 60 V	◪ 50 T	■ 58 T	■ 50 T	■ 45 T	■ 40 T	◪ 34 T
K1.1	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K4.1**	**K4.2**	**K4.3**	**K4.4**	**K4.5**
■ 120 V	■ 89 V	■ 67 V	◪ 108 V	◪ 88 V	◪ 70 V	◪ 96 V	◪ 73 V	◪ 59 V	◪ 89 V	◪ 67 V	◪ 49 V	◪ 42 V	◪ 35 V
K5.1	**K5.2**	**K5.3**	**S1.1**	**S1.2**	**S1.3**	**S2.1**	**S2.2**	**S3.1**	**S3.2**	**S4.1**	**S4.2**		
◪ 100 V	◪ 76 V	◪ 58 V	◪ 45 T	◪ 35 T	◪ 30 S	◪ 40 S	◪ 35 S	◪ 30 S	◪ 25 S	◪ 23 S	◪ 20 S		

Product	DC (inch)	DC (mm)	DC (inch)	LH (mm)
R96015/32	15/32	11.91	0.4688	9.1
R96012.0	–	12.00	0.4724	9.1
R96012.1	–	12.10	0.4764	9.1
R96012.2	–	12.20	0.4803	9.1
R96031/64	31/64	12.30	0.4844	9.1
R96012.5	–	12.50	0.4921	9.4
R96012.6	–	12.60	0.4961	9.4
R9601/2	1/2	12.70	0.5000	9.4
R96012.8	–	12.80	0.5039	9.4
R96012.9	–	12.90	0.5079	9.4
R96013.0	–	13.00	0.5118	9.7
R96033/64	33/64	13.10	0.5156	9.7
R96013.2	–	13.20	0.5197	9.7
R96017/32	17/32	13.49	0.5313	9.7
R96013.5	–	13.50	0.5315	10.3
R96013.6	–	13.60	0.5354	10.3
R96013.7	–	13.70	0.5394	10.3
R96013.8	–	13.80	0.5433	10.3
R96035/64	35/64	13.89	0.5469	10.3
R96014.0	–	14.00	0.5512	10.3
R96014.1	–	14.10	0.5551	10.3
R96014.2	–	14.20	0.5591	10.3
R9609/16	9/16	14.29	0.5625	10.3
R96014.5	–	14.50	0.5709	10.3
R96014.6	–	14.60	0.5748	11.0
R96037/64	37/64	14.68	0.5781	11.0
R96014.7	–	14.70	0.5787	11.0
R96014.8	–	14.80	0.5827	11.0

Product	DC (inch)	DC (mm)	DC (inch)	LH (mm)
R96015.0	–	15.00	0.5906	11.0
R96019/32	19/32	15.08	0.5938	11.0
R96015.1	–	15.10	0.5945	11.0
R96015.2	–	15.20	0.5984	11.0
R96015.24	–	15.24	0.6000	11.0
R96039/64	39/64	15.48	0.6094	11.0
R96015.5	–	15.50	0.6102	11.0
R96015.6	–	15.60	0.6142	11.6
R96015.7	–	15.70	0.6181	11.6
R9605/8	5/8	15.88	0.6250	11.6
R96016.0	–	16.00	0.6299	11.6
R96016.08	–	16.08	0.6331	11.6
R96016.1	–	16.10	0.6339	11.6
R96016.2	–	16.20	0.6378	11.6
R96041/64	41/64	16.27	0.6406	11.6
R96016.3	–	16.30	0.6417	11.6
R96016.5	–	16.50	0.6496	11.6
R96016.6	–	16.60	0.6535	12.2
R96021/32	21/32	16.67	0.6563	12.2
R96016.7	–	16.70	0.6575	12.2
R96017.0	–	17.00	0.6693	12.2
R96043/64	43/64	17.07	0.6719	12.2
R96017.1	–	17.10	0.6732	12.2
R96017.2	–	17.20	0.6772	12.2
R96011/16	11/16	17.46	0.6875	12.2
R96017.5	–	17.50	0.6890	12.2
R96017.6	–	17.60	0.6929	12.9
R96017.7	–	17.70	0.6969	12.9

Product	DC	DC	DC	LH
	(inch)	(mm)	(inch)	(mm)
R96045/64	45/64	17.86	0.7031	12.9
R96018.0	–	18.00	0.7087	12.9
R96018.1	–	18.10	0.7126	12.9
R96018.2	–	18.20	0.7165	12.9
R96023/32	23/32	18.26	0.7188	12.9
R96018.5	–	18.50	0.7283	12.9
R96018.6	–	18.60	0.7323	13.5
R96047/64	47/64	18.65	0.7344	13.5
R96018.7	–	18.70	0.7362	13.5
R96018.9	–	18.90	0.7441	13.5
R96019.0	–	19.00	0.7480	13.5
R9603/4	3/4	19.05	0.7500	13.5
R96019.1	–	19.10	0.7520	13.5
R96019.2	–	19.20	0.7559	13.5
R96019.25	–	19.25	0.7579	13.5
R96019.3	–	19.30	0.7598	13.5
R96019.35	–	19.35	0.7618	13.5
R96049/64	49/64	19.45	0.7656	13.5
R96019.5	–	19.50	0.7677	13.5
R96019.6	–	19.60	0.7717	14.1
R96019.7	–	19.70	0.7756	14.1
R96025/32	25/32	19.84	0.7813	14.1
R96020.0	–	20.00	0.7874	14.1
R96051/64	51/64	20.24	0.7969	14.1
R96020.5	–	20.50	0.8071	14.1
R96013/16	13/16	20.64	0.8125	14.8
R96021.0	–	21.00	0.8268	14.8
R96053/64	53/64	21.03	0.8281	14.8
R96027/32	27/32	21.43	0.8438	14.8
R96021.5	–	21.50	0.8465	14.8
R96055/64	55/64	21.83	0.8594	15.0
R96022.0	–	22.00	0.8661	15.0
R9607/8	7/8	22.22	0.8750	15.0
R96022.5	–	22.50	0.8858	15.0
R96057/64	57/64	22.62	0.8906	15.0
R96022.7	–	22.70	0.8937	15.0

Product	DC	DC	DC	LH
	(inch)	(mm)	(inch)	(mm)
R96023.0	–	23.00	0.9055	15.1
R96029/32	29/32	23.02	0.9063	15.1
R96059/64	59/64	23.42	0.9219	15.1
R96023.5	–	23.50	0.9252	15.1
R96015/16	15/16	23.81	0.9375	15.4
R96024.0	–	24.00	0.9449	15.4
R96061/64	61/64	24.21	0.9531	15.4
R96024.5	–	24.50	0.9646	15.4
R96031/32	31/32	24.61	0.9688	15.4
R96025.0	–	25.00	0.9844	15.8
R96063/64	63/64	25.00	0.9844	15.8
R9601	1″	25.40	1.0000	15.8
R96025.5	–	25.50	1.0039	15.8
R96025.65	–	25.65	1.0098	15.8
R9601.1/64	1.1/64	25.80	1.0156	15.8
R96026.0	–	26.00	1.0236	16.4
R9601.1/32	1.1/32	26.19	1.0313	16.4
R96026.5	–	26.50	1.0433	16.4
R9601.3/64	1.3/64	26.59	1.0469	16.4
R9601.1/16	1.1/16	26.99	1.0625	17.1
R96027.0	–	27.00	1.0630	17.1
R9601.5/64	1.5/64	27.38	1.0781	17.1
R96027.5	–	27.50	1.0827	17.1
R9601.3/32	1.3/32	27.78	1.0938	17.1
R96028.0	–	28.00	1.1024	17.7
R9601.7/64	1.7/64	28.18	1.1094	17.7
R96028.5	–	28.50	1.1220	17.7
R9601.1/8	1.1/8	28.58	1.1250	17.7
R9601.9/64	1.9/64	28.97	1.1406	18.3
R96029.0	–	29.00	1.1417	18.3
R9601.5/32	1.5/32	29.37	1.1563	18.3
R96029.5	–	29.50	1.1614	18.3
R9601.11/64	1.11/64	29.77	1.1719	18.3
R96030.0	–	30.00	1.1811	19.0
R9601.3/16	1.3/16	30.16	1.1875	19.0
R96030.5	–	30.50	1.2008	19.0

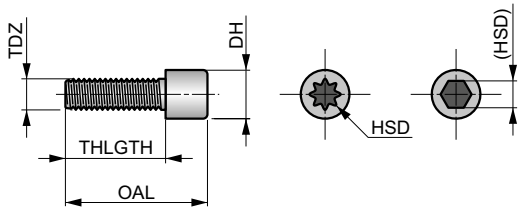
H860

DORMER

HYDRA Screws

Replacement screws used to securely hold HYDRA heads in place.

HYDRA



Product	Nr.	TDZ	OAL (mm)	THLGTH (mm)	DH (mm)	HSD
H860N1	1	M2.2	7.5	5.70	3.5	8IP
H860N2	2	M2.5	9.0	7.00	4.1	10IP
H860N3	3	M3.0	10.5	8.00	4.9	15IP
H860N4	4	M3.5	11.5	8.80	5.5	15IP
H860N5	5	M4.0	12.5	9.50	6.0	20IP
H860N6	6	M4.5	14.3	10.80	6.8	25IP
H860N7	7	M5.0	20.0	15.00	8.5	4

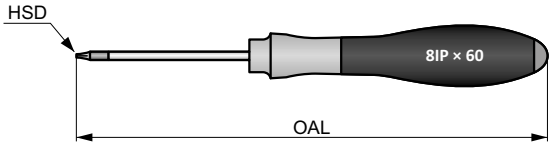
H861

DORMER

HYDRA Screw Driver

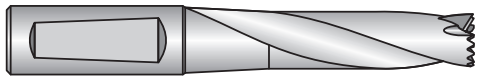
Screwdrivers used to tighten HYDRA screws.

HYDRA



Product	Nr.	HSD	OAL (mm)
H861N1	N1	8IP	164.0
H861N2	N2	10IP	191.0
H861N3	N3	15IP	191.0
H861N4	N4	20IP	218.0
H861N5	N5	25IP	218.0

HIGH PERFORMANCE REPLACEABLE HEAD DRILLS

SetUp								
DC	**H851** 1.5×D	**H853** 3×D	**H855** 5×D	**H858** 8×D	**H8512** 12×D	**R950**	**R960**	**H860**	**H861**
									
Range	12.00 – 30.50 15/32" – 1.3/16"	12.00 – 42.50 15/32" – 1.5/8"	12.00 – 42.50 15/32" – 1.5/8"	13.50 – 42.50 35/64" – 1.5/8"	13.50 – 25.65 35/64" – 1.1/64"	12.00 – 42.00 15/32" – 1.5/8"	12.00 – 30.50 15/32" – 1.3/16"	N1 – N7	N1 – N6
Pages	218	219	221	223	224	225	227	229	229

DC	**H851** 1.5×D	**H853** 3×D	**H855** 5×D	**H858** 8×D	**H8512** 12×D	**R950**	**R960**	**H860**	**H861**
15/32"	H85112.0 H85131/64	H85312.0 H85331/64	H85512.0 H85531/64	–	–	R95015/32	R96015/32	H860N1	H861N1
12.0						R95012.0	R96012.0		
12.1						R95012.1	R96012.1		
12.2						R95012.2	R96012.2		
31/64"						R95031/64	R96031/64		
12.5	H85112.5	H85312.5 H8531/2	H85512.5 H8551/2	–	–	R95012.5	R96012.5		
12.6						R95012.6	R96012.6		
1/2"						R9501/2	R9601/2		
12.8						R95012.8	R96012.8		
12.9						R95012.9	R96012.9		
13.0	H85113.0 H85117/32	H85313.0 H85317/32	H85513.0 H85517/32	–	–	R95013.0	R96013.0		
33/64"						R95033/64	R96033/64		
13.2						R95013.2	R96013.2		
17/32"						R95017/32	R96017/32		
13.5	H85114.0	H85314.0 H8539/16	H85514.0 H8559/16	H85814.0	H851214.0	R95013.5	R96013.5		
13.6						R95013.6	R96013.6		
13.7						R95013.7	R96013.7		
13.8						R95013.8	R96013.8		
35/64"						R95035/64	R96035/64		
14.0						R95014.0	R96014.0		
14.1						R95014.1	R96014.1		
14.2						R95014.2	R96014.2		
9/16"						R9509/16	R9609/16		
14.5						R95014.5	R96014.5		
14.6	H85115.0 H85139/64	H85315.0 H85339/64	H85515.0 H85539/64	H85815.0	H851215.0	R95014.6	R96014.6		
37/64"						R95037/64	R96037/64		
14.7						R95014.7	R96014.7		
14.8						R95014.8	R96014.8		
15.0						R95015.0	R96015.0		
19/32"						R95019/32	R96019/32		
15.1						R95015.1	R96015.1		
15.2						R95015.2	R96015.2		
15.24						R95015.24	R96015.24		
39/64"						R95039/64	R96039/64		
15.5						R95015.5	R96015.5		

HIGH PERFORMANCE REPLACEABLE HEAD DRILLS

DC	H851 1.5×D	H853 3×D	H855 5×D	H858 8×D	H8512 12×D	R950	R960	H860	H861
15.6	H85116.0 H85141/64	H85316.0 H85341/64	H85516.0 H85541/64	H85816.0	H851216.0	R95015.6	R96015.6	H860N2	H861N2
15.7						R95015.7	R96015.7		
5/8″						R9505/8	R9605/8		
16.0						R95016.0	R96016.0		
16.08						R95016.08	R96016.08		
16.1						R95016.1	R96016.1		
16.2						R95016.2	R96016.2		
16.3						R95016.3	R96016.3		
41/64″						R95041/64	R96041/64		
16.5						R95016.5	R96016.5		
16.6	H85117.0 H85111/16	H85317.0 H85311/16	H85517.0 H85511/16	H85817.0	H851217.0	R95016.6	R96016.6		
21/32″						R95021/32	R96021/32		
16.7						R95016.7	R96016.7		
17.0						R95017.0	R96017.0		
43/64″						R95043/64	R96043/64		
17.1						R95017.1	R96017.1		
17.2						R95017.2	R96017.2		
11/16″						R95011/16	R96011/16		
17.5						R95017.5	R96017.5		
17.6	H85118.0 H85123/32	H85318.0 H85323/32	H85518.0 H85523/32	H85818.0	H851218.0	R95017.6	R96017.6		
17.7						R95017.7	R96017.7		
45/64″						R95045/64	R96045/64		
18.0						R95018.0	R96018.0		
18.1						R95018.1	R96018.1		
18.2						R95018.2	R96018.2		
23/32″						R95023/32	R96023/32		
18.5						R95018.5	R96018.5		
18.6	H85119.0 H85149/64	H85319.0 H85349/64	H85519.0 H85549/64	H85819.0	H851219.0	R95018.6	R96018.6	H860N3	H861N3
47/64″						R95047/64	R96047/64		
18.7						R95018.7	R96018.7		
18.9						R95018.9	R96018.9		
19.0						R95019.0	R96019.0		
3/4″						R9503/4	R9603/4		
19.1						R95019.1	R96019.1		
19.2						R95019.2	R96019.2		
19.25						R95019.25	R96019.25		
19.3						R95019.3	R96019.3		
19.35						R95019.35	R96019.35		
49/64″						R95049/64	R96049/64		
19.5						R95019.5	R96019.5		
19.6	H85120.0 H85151/64	H85320.0 H85351/64	H85520.0 H85551/64	H85820.0	H851220.0	R95019.6	R96019.6		
19.7						R95019.7	R96019.7		
25/32″						R95025/32	R96025/32		
20.0						R95020.0	R96020.0		
51/64″						R95051/64	R96051/64		
20.5						R95020.5	R96020.5		
13/16″	H85121.0 H85127/32	H85321.0 H85327/32	H85521.0 H85527/32	H85821.0	H851221.0	R95013/16	R96013/16		
21.0						R95021.0	R96021.0		
53/64″						R95053/64	R96053/64		
27/32″						R95027/32	R96027/32		
21.5						R95021.5	R96021.5		
55/64″	H85122.0 H85157/64	H85322.0 H85357/64	H85522.0 H85557/64	H85822.0	H851222.0	R95055/64	R96055/64	H860N4	
22.0						R95022.0	R96022.0		
7/8″						R9507/8	R9607/8		
22.5						R95022.5	R96022.5		
57/64″						R95057/64	R96057/64		
22.7						R95022.7	R96022.7		
23.0	H85123.0 H85159/64	H85323.0 H85359/64	H85523.0 H85559/64	H85823.0	H851223.0	R95023.0	R96023.0		
29/32″						R95029/32	R96029/32		
59/64″						R95059/64	R96059/64		
23.5						R95023.5	R96023.5		

HIGH PERFORMANCE REPLACEABLE HEAD DRILLS

DC	H851 1.5×D	H853 3×D	H855 5×D	H858 8×D	H8512 12×D	R950	R960	H860	H861
15/16	H85124.0 H85131/32	H85324.0 H85331/32	H85524.0 H85531/32	H85824.0	H851224.0	R95015/16	R96015/16	H860N4	H861N3
24.0						R95024.0	R96024.0		
61/64						R95061/64	R96061/64		
24.5						R95024.5	R96024.5		
31/32″						R95031/32	R96031/32		
25.0	H85125.0 H8511.1/64	H85325.0 H8531.1/64	H85525.0 H8551.1/64	H85825.0	H851225.0	R95025.0	R96025.0	H860N5	H861N4
63/64″						R95063/64	R96063/64		
1″						R9501	R9601		
25.5						R95025.5	R96025.5		
25.6						R95025.6	–		
25.65						R95025.65	R96025.65		
1.1/64″						R9501.1/64	R9601.1/64		
26.0	H85126.0 H8511.3/64	H85326.0 H8531.3/64	H85526.0 H8551.3/64	H85826.0	–	R95026.0	R96026.0		
1.1/32″						R9501.1/32	R9601.1/32		
26.5						R95026.5	R96026.5		
1.3/64						R9501.3/64	R9601.3/64		
1.1/16″	H85127.0 H8511.3/32	H85327.0 H8531.3/32	H85527.0 H8551.3/32	H85827.0	–	R9501.1/16	R9601.1/16		
27.0						R95027.0	R96027.0		
1.5/64″						R9501.5/64	R9601.5/64		
27.5						R95027.5	R96027.5		
1.3/32″						R9501.3/32	R9601.3/32		
28.0	H85128.0	H85328.0 H8531.1/8	H85528.0 H8551.1/8	H85828.0	–	R95028.0	R96028.0	H860N6	H861N5
1.7/64″						R9501.7/64	R9601.7/64		
28.5						R95028.5	R96028.5		
1.1/8″						R9501.1/8	R9601.1/8		
1.9/64″	H85129.0	H85329.0 H8531.11/64	H85529.0 H8551.11/64	H85829.0	–	R9501.9/64	R9601.9/64		
29.0						R95029.0	R96029.0		
1.5/32″						R9501.5/32	R9601.5/32		
29.5						R95029.5	R96029.5		
1.11/64″						R9501.11/64	R9601.11/64		
30.0	H85130.0 H8511.3/16	H85330.0 H8531.3/16	H85530.0 H8551.3/16	H85830.0	–	R95030.0	R96030.0		
1.3/16″						R9501.3/16	R9601.3/16		
30.5						R95030.5	R96030.5		
1.7/32″	–	H85332.0	H85532.0	H85832.0	–	R9501.7/32	–		
31.0						R95031.0	–		
1.1/4″						R9501.1/4	–		
32.0						R95032.0	–		
32.5	–	H85333.5	H85533.5	H85833.5	–	R95032.5	–		
1.19/64″						R9501.19/64	–		
33.0						R95033.0	–		
33.5						R95033.5	–		
34.0	–	H85335.0	H85535.0	H85835.0	–	R95034.0	–	H860N7	H861N6
1.11/32″						R9501.11/32	–		
34.5						R95034.5	–		
1.3/8″						R9501.3/8	–		
35.0						R95035.0	–		
36.0	–	H85336.5	H85536.5	H85836.5	–	R95036.0	–		
1.27/64″						R9501.27/64	–		
36.5						R95036.5	–		
37.0	–	H85338.0	H85538.0	H85838.0	–	R95037.0	–		
1.15/32″						R9501.15/32	–		
37.5						R95037.5	–		
38.0						R95038.0	–		
1.1/2″	–	H85339.5	H85539.5	H85839.5	–	R9501.1/2	–		
38.5						R95038.5	–		
1.17/32″						R9501.17/32	–		
39.0						R95039.0	–		
39.5						R95039.5	–		
1.9/16″	–	H85341.0	H85541.0	H85841.0	–	R9501.9/16	–		
40.0						R95040.0	–		
41.0						R95041.0	–		

HIGH PERFORMANCE REPLACEABLE HEAD DRILLS

DC	H851 1.5×D	H853 3×D	H855 5×D	H858 8×D	H8512 12×D	R950	R960	H860	H861
1.5/8"	–	H85342.5	H85542.5	H85842.5	–	R9501.5/8	–	H860N7	–
42.0						R95042.0	–		

Accessories

H860	H861	Hydra Head DC range			Wrench Size / Bit
		Metric (min. – max.)	Fractional (min. – max.)	Decimal (min. – max.)	
H860N1	H861N1	12.0 mm – 15.5 mm	15/32" – 39/64"	0.4688" – 0.6102"	8IP
H860N2	H861N2	15.6 mm – 18.5 mm	5/8" – 23/32"	0.6142" – 0.7283"	10IP
H860N3	H861N3	18.6 mm – 21.5 mm	47/64" – 27/32"	0.7323" – 0.8465"	15IP
H860N4	H861N3	22.0 mm – 24.5 mm	55/64" – 31/32"	0.8594" – 0.9688"	15IP
H860N5	H861N4	25.0 mm – 27.5 mm	63/64" – 1-3/32"	0.9843" – 1.0938"	20IP
H860N6	H861N5	28.0 mm – 33.5 mm	1-7/64" – 1-19/64"	1.1024" – 1.3189"	25IP
H860N7	–	34.0 mm – 42.0 mm	1-11/32" – 1-5/8"	1.3386" – 1.6535"	4 mm Hex

Material code (BMC)	HSS	HSS	HSS	HSS								
Usable length (ULDR)	2×D	3×D	4×D	5×D								
Coating	Bright Ni	Bright Ni	Bright Ni	Bright Ni								
Shank	ISO 9766	ISO 9766	ISO 9766	ISO 9766								
Hand (Cutting direction)	R	R	R	R								
Cooling (CSP)												
Drill tolerance	± 0.05	± 0.05	± 0.05	± 0.05								
Hole tolerance *	0 /+0.2	0 /+0.3	0 /+0.4	0 /+0.5								
Surface finish R_a *	2 – 6 µm	2 – 6 µm	2 – 6 µm	2 – 6 µm								
												
Product Family Code	802D	803D	804D	805D	XPET..AP	SCET..-UD	XPET..AP-SD	SCET..-SD	EP			
PSF cutting diameters range	15.0 – 40.0	15.0 – 58.0	17.0 – 58.0	19.0 – 31.0								
	236	238	241	243	246	245	246	245	247			
P	P1					■	■	■	■			
	P2					■	■	■	■			
	P3					■	■	■	■			
	P4					■	■	■	■			
M	M1							■	■			
	M2							■	■			
	M3							■	■			
	M4							■	■			
K	K1					◪	■	◪	◪			
	K2					◪	■	◪	◪			
	K3					◪	■	◪	◪			
	K4					◪	■	◪	◪			
	K5					◪	■	◪	◪			
N	N1											
	N2											
	N3											
	N4											
	N5											
S	S1							◪	◪			
	S2							◪	◪			
	S3							◪	◪			
	S4							◪	◪			
H	H1											
	H2											

* The tolerance of drilled hole and surface finish are heavily dependent on machining conditions.

■ Primary use ◪ Possible use

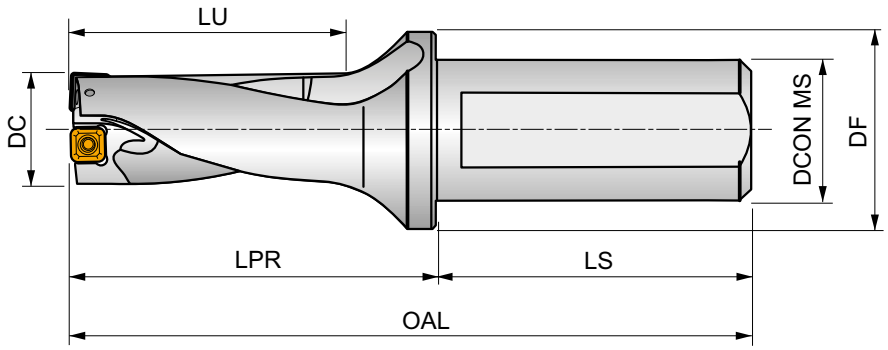
802D

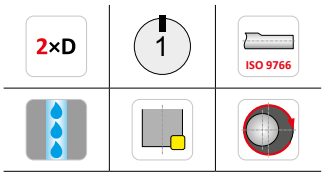
P M K N S H

PRAMET S

2xD 802D Indexable Insert Drill body with Internal Coolant Feed

High performance indexable insert drill body for drilling blind and through holes. Also, potentially cross hole, off center and stack drilling, helical interpolation, plunging, drilling on concave or angled surfaces, drilling with interrupted cuts, chamfer drilling and boring.





Product	DC (mm)	APMX (mm)	OAL (mm)	LPR (mm)	LS (mm)	LU (mm)	DCON MS (mm)	DF (mm)	-D (mm)	D+ (mm)				kg	
802D-15-30-S25	15	30.00	121	65	56	34.5	25	35	0.25	0.35	EP253253	GI300	GI313	0.32	HM001
802D-16-32-S25	16	32.00	123	67	56	37	25	35	0.15	0.45	EP253253	GI300	GI313	0.32	HM001
802D-17-34-S25	17	34.00	125	69	56	39.5	25	35	0.10	0.50	EP253253	GI300	GI313	0.31	HM001
802D-18-36-S25	18	36.00	127	71	56	42	25	35	0.35	0.25	EP253253	GI301	GI314	0.31	HM002
802D-19-38-S25	19	38.00	129	73	56	44.5	25	35	0.15	0.45	EP253253	GI301	GI314	0.32	HM002
802D-20-40-S25	20	40.00	131	75	56	47	25	35	0.10	0.45	EP253253	GI302	GI315	0.35	HM003
802D-21-42-S25	21	42.00	133	77	56	49.5	25	35	0.10	0.50	EP253253	GI302	GI315	0.34	HM003
802D-22-44-S25	22	44.00	135	79	56	52	25	35	0.45	0.50	EP253253	GI303	GI316	0.35	HM004
802D-23-46-S25	23	46.00	137	81	56	54.5	25	35	0.35	0.50	EP253253	GI304	GI317	0.36	HM005
802D-24-48-S25	24	48.00	139	83	56	57	25	35	0.15	0.50	EP253253	GI304	GI317	0.37	HM005
802D-25-50-S32	25	50.00	145	85	60	57	32	42	0.15	0.50	EP324058	GI304	GI317	0.57	HM005
802D-26-52-S32	26	52.00	147	87	60	59.5	32	42	0.10	0.50	EP324058	GI304	GI317	0.58	HM005
802D-27-54-S32	27	54.00	149	89	60	62	32	42	0.50	0.30	EP324058	GI305	GI318	0.59	HM006
802D-28-56-S32	28	56.00	151	91	60	64.5	32	42	0.30	0.50	EP324058	GI306	GI319	0.61	HM007
802D-29-58-S32	29	58.00	153	93	60	67	32	42	0.20	0.50	EP324058	GI306	GI319	0.62	HM007
802D-30-60-S32	30	60.00	155	95	60	69.5	32	42	0.15	0.50	EP324058	GI306	GI319	0.67	HM007
802D-32-64-S32	32	64.00	159	99	60	70	32	42	0.50	0.35	EP324058	GI307	GI320	0.68	HM008
802D-32-64-S40	32	64.00	167	99	68	70	40	50	0.50	0.35	–	GI307	GI320	1.03	HM008
802D-34-68-S32	34	68.00	163	103	60	75	32	42	0.25	0.50	EP324058	GI307	GI320	0.73	HM008
802D-34-68-S40	34	68.00	171	103	68	75	40	50	0.25	0.50	–	GI307	GI320	1.07	HM008
802D-36-72-S32	36	72.00	167	107	60	80	32	42	0.10	0.50	EP324058	GI308	GI321	0.76	HM009
802D-36-72-S40	36	72.00	173	105	68	77.5	40	50	0.10	0.50	–	GI308	GI321	1.11	HM009
802D-38-76-S32	38	76.00	171	111	60	85	32	42	0.50	0.50	EP324058	GI308	GI321	0.83	HM009
802D-38-76-S40	38	76.00	179	111	68	85	40	50	0.50	0.50	–	GI308	GI321	1.17	HM009
802D-40-80-S32	40	80.00	175	115	60	90	32	42	0.20	0.50	EP324058	GI309	GI322	0.94	HM009
802D-40-80-S40	40	80.00	183	115	68	90	40	50	0.20	0.50	–	GI309	GI322	1.25	HM009

GI300	XPET 0502AP	SCET 050204-UD
GI301	XPET 0602AP	SCET 050204-UD
GI302	XPET 0602AP	SCET 060204-UD
GI303	XPET 0703AP	SCET 060204-UD
GI304	XPET 0703AP	SCET 070308-UD
GI305	XPET 0903AP	SCET 070308-UD
GI306	XPET 0903AP	SCET 09T308-UD
GI307	XPET 11T3AP	SCET 09T308-UD
GI308	XPET 11T3AP	SCET 120408-UD
GI309	XPET 12T3AP	SCET 120408-UD
GI313	XPET 0502AP-SD	SCET 050204-SD
GI314	XPET 0602AP-SD	SCET 050204-SD
GI315	XPET 0602AP-SD	SCET 060204-SD
GI316	XPET 0703AP-SD	SCET 060204-SD
GI317	XPET 0703AP-SD	SCET 070308-SD
GI318	XPET 0903AP-SD	SCET 070308-SD
GI319	XPET 0903AP-SD	SCET 09T308-SD
GI320	XPET 11T3AP-SD	SCET 09T308-SD
GI321	XPET 11T3AP-SD	SCET 120408-SD
GI322	XPET 12T3AP-SD	SCET 120408-SD

HM001	US 2245-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM002	US 2205-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM003	US 2205-T07P	0.9	US 2205-T07P	0.9	FLAG T07P
HM004	US 2506-T07P	1.2	US 2506-T07P	1.2	FLAG T07P
HM005	US 2507-T08P	1.2	US 3007-T08P	2.0	FLAG T08P
HM006	US 3007-T09P	2.0	US 3007-T09P	2.0	FLAG T09P
HM007	US 3007-T09P	2.0	US 3009-T09P	2.0	FLAG T09P
HM008	US 3510-T15P	3.0	US 3508-T15P	3.0	FLAG T15P
HM009	US 3510-T15P	3.0	US 5012-T15P	5.0	FLAG T15P

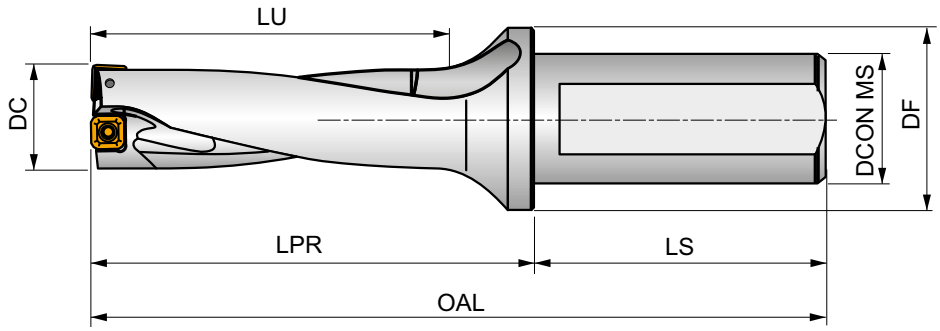
803D

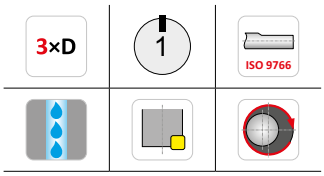
P M K N S H

PRAMET S

3xD 803D Indexable Insert Drill body with Internal Coolant Feed

High performance indexable insert drill body for drilling blind and through holes. Also, potentially cross hole, off center and stack drilling, helical interpolation, plunging, drilling on concave or angled surfaces, drilling with interrupted cuts, chamfer drilling and boring.





Product	DC (mm)	APMX (mm)	OAL (mm)	LPR (mm)	LS (mm)	LU (mm)	DCON MS (mm)	DF (mm)	-D (mm)	D+ (mm)				kg	
803D-15-45-S25	15	45.00	136	80	56	49.5	25	35	0.25	0.35	EP253253	GI300	GI313	0.33	HM001
803D-15,5-46,5-S25	15.5	47.00	137.5	81.5	56	51.2	25	35	0.30	0.35	EP253253	GI300	GI313	0.31	HM001
803D-16-48-S25	16	48.00	139	83	56	53	25	35	0.15	0.45	EP253253	GI300	GI313	0.32	HM001
803D-16,5-49,5-S25	16.5	50.00	140.5	84.5	56	54.7	25	35	0.15	0.40	EP253253	GI300	GI313	0.32	HM001
803D-17-51-S25	17	51.00	142	86	56	56.5	25	35	0.10	0.50	EP253253	GI300	GI313	0.35	HM001
803D-17,5-52,5-S25	17.5	53.00	143.5	87.5	56	58.2	25	35	0.50	0.50	EP253253	GI301	GI314	0.32	HM002
803D-18-54-S25	18	54.00	145	89	56	60	25	35	0.35	0.25	EP253253	GI301	GI314	0.33	HM002
803D-18,5-55,5-S25	18.5	56.00	146.5	90.5	56	61.2	25	35	0.35	0.25	EP253253	GI301	GI314	0.34	HM002
803D-19-57-S25	19	57.00	148	92	56	63.5	25	35	0.15	0.45	EP253253	GI301	GI314	0.34	HM002
803D-19,5-58,5-S25	19.5	59.00	149.5	93.5	56	63.7	25	35	0.25	0.40	EP253253	GI302	GI315	0.34	HM003
803D-20-60-S25	20	60.00	151	95	56	67	25	35	0.10	0.45	EP253253	GI302	GI315	0.33	HM003
803D-20,5-61,5-S25	20.5	62.00	152.5	96.5	56	67.2	25	35	0.10	0.50	EP253253	GI302	GI315	0.36	HM003
803D-21-63-S25	21	63.00	154	98	56	70.5	25	35	0.10	0.50	EP253253	GI302	GI315	0.36	HM003
803D-21,5-64,5-S25	21.5	65.00	155.5	99.5	56	70.8	25	35	0.35	0.50	EP253253	GI303	GI316	0.37	HM004
803D-22-66-S25	22	66.00	157	101	56	74	25	35	0.45	0.50	EP253253	GI303	GI316	0.40	HM004
803D-22,5-67,5-S25	22.5	68.00	158.5	102.5	56	74.3	25	35	0.35	0.50	EP253253	GI304	GI317	0.42	HM005
803D-23-69-S25	23	69.00	160	104	56	77.5	25	35	0.35	0.50	EP253253	GI304	GI317	0.40	HM005
803D-23,5-70,5-S25	23.5	71.00	161.5	105.5	56	77.6	25	35	0.10	0.50	EP253253	GI304	GI317	0.40	HM005
803D-24-72-S25	24	72.00	163	107	56	81	25	35	0.15	0.50	EP253253	GI304	GI317	0.41	HM005
803D-24,5-73,5-S25	24.5	74.00	168.5	108.5	60	78.7	25	35	0.10	0.50	EP253253	GI304	GI317	0.45	HM005
803D-25-75-S32	25	75.00	170	110	60	82	32	42	0.15	0.50	EP324058	GI304	GI317	0.62	HM005
803D-25,5-76,5-S32	25.5	77.00	171.5	111.5	60	82.2	32	42	0.50	0.10	EP324058	GI304	GI317	0.63	HM005
803D-26-78-S32	26	78.00	173	113	60	85.5	32	42	0.10	0.50	EP324058	GI304	GI317	0.66	HM005
803D-26,5-79,5-S32	26.5	80.00	174.5	114.5	60	85.7	32	42	0.50	0.10	EP324058	GI305	GI318	0.67	HM006
803D-27-81-S32	27	81.00	176	116	60	89	32	42	0.50	0.30	EP324058	GI305	GI318	0.65	HM006
803D-28-84-S32	28	84.00	179	119	60	92.5	32	42	0.30	0.50	EP324058	GI306	GI319	0.68	HM007
803D-29-87-S32	29	87.00	182	122	60	96	32	42	0.20	0.50	EP324058	GI306	GI319	0.70	HM007

Product	DC (mm)	APMX (mm)	OAL (mm)	LPR (mm)	LS (mm)	LU (mm)	DCONMS (mm)	DF (mm)	-D (mm)	D+ (mm)				kg	
803D-30-90-S32	30	90.00	185	125	60	99.5	32	42	0.15	0.50	EP324058	GI306	GI319	0.73	HM007
803D-31-93-S32	31	93.00	188	128	60	103	32	42	0.15	0.50	EP324058	GI306	GI319	0.76	HM007
803D-32-96-S32	32	96.00	191	131	60	102	32	42	0.50	0.30	EP324058	GI307	GI320	0.79	HM008
803D-32-96-S40	32	96.00	199	131	68	102	40	50	0.50	0.30	–	GI307	GI320	1.14	HM008
803D-33-99-S32	33	99.00	194	134	60	105.5	32	42	0.50	0.50	EP324058	GI307	GI320	0.83	HM008
803D-33-99-S40	33	99.00	202	134	68	105.5	40	50	0.50	0.50	–	GI307	GI320	1.18	HM008
803D-34-102-S32	34	102.00	197	137	60	109	32	42	0.25	0.50	EP324058	GI307	GI320	0.86	HM008
803D-34-102-S40	34	102.00	205	137	68	109	40	50	0.25	0.50	–	GI307	GI320	1.12	HM008
803D-35-105-S32	35	105.00	200	140	60	112.5	32	42	0.25	0.50	EP324058	GI308	GI321	0.90	HM009
803D-35-105-S40	35	105.00	208	140	68	112.5	40	50	0.25	0.50	–	GI308	GI321	1.24	HM009
803D-36-108-S32	36	108.00	203	143	60	116	32	42	0.10	0.50	EP324058	GI308	GI321	0.91	HM009
803D-36-108-S40	36	108.00	211	143	68	116	40	50	0.10	0.50	–	GI308	GI321	1.25	HM009
803D-37-111-S32	37	111.00	206	146	60	119.5	32	42	0.10	0.50	EP324058	GI308	GI321	0.95	HM009
803D-37-111-S40	37	111.00	214	146	68	119.5	40	50	0.10	0.50	–	GI308	GI321	1.29	HM009
803D-38-114-S32	38	114.00	199	139	60	124.5	32	42	0.50	0.50	EP324058	GI308	GI321	1.00	HM009
803D-38-114-S40	38	114.00	217	149	68	123	40	50	0.50	0.50	–	GI308	GI321	1.34	HM009
803D-39-117-S32	38	114.00	209	149	60	123	32	42	0.40	0.50	EP324058	GI309	GI322	1.06	HM009
803D-39-117-S40	39	117.00	220	152	68	126.5	40	50	0.40	0.50	–	GI309	GI322	1.40	HM009
803D-40-120-S32	40	120.00	215	155	60	130	32	42	0.20	0.50	EP324058	GI309	GI322	1.12	HM009
803D-40-120-S40	40	120.00	223	155	68	130	40	50	0.20	0.50	–	GI309	GI322	1.46	HM009
803D-41-123-S40	41	123.00	219	149	70	133	40	50	0.20	0.50	–	GI309	GI322	1.48	HM009
803D-42-126-S40	42	126.00	221.5	152	70	136	40	50	0.15	0.50	–	GI309	GI322	1.52	HM009
803D-43-129-S40	43	129.00	224	154	70	139	40	50	0.10	0.50	–	GI309	GI322	1.58	HM009
803D-44-132-S40	44	132.00	226.5	157	70	142	40	50	0.50	0.50	–	GI310	GI323	1.63	HM010
803D-45-135-S40	45	135.00	230.5	161	70	144	40	55	0.50	0.50	–	GI311	GI324	1.73	HM010
803D-46-138-S40	46	138.00	235	165	70	148	40	55	0.50	0.50	–	GI311	GI324	1.82	HM010
803D-47-141-S40	47	141.00	237.5	168	70	151	40	55	0.50	0.50	–	GI311	GI324	1.90	HM010
803D-48-144-S40	48	144.00	240	170	70	154	40	55	0.50	0.50	–	GI311	GI324	1.98	HM010
803D-49-147-S40	49	147.00	242.5	173	70	157	40	55	0.30	0.50	–	GI311	GI324	2.06	HM010
803D-50-150-S40	50	150.00	246.5	177	70	160	40	58	0.15	0.50	–	GI311	GI324	2.18	HM010
803D-51-153-S40	51	153.00	249	179	70	163	40	58	0.15	0.50	–	GI311	GI324	2.24	HM010
803D-52-156-S40	52	156.00	251.5	182	70	166	40	58	0.50	0.50	–	GI312	GI325	2.20	HM010
803D-53-159-S40	53	159.00	254	184	70	169	40	58	0.50	0.50	–	GI312	GI325	2.29	HM010
803D-54-162-S40	54	162.00	257.5	188	70	173	40	58	0.50	0.50	–	GI312	GI325	2.39	HM010
803D-55-165-S40	55	165.00	260	190	70	176	40	58	0.50	0.50	–	GI312	GI325	2.46	HM010
803D-56-168-S40	56	168.00	264	194	70	179	40	58	0.50	0.50	–	GI312	GI325	2.59	HM010
803D-57-171-S40	57	171.00	266.5	197	70	182	40	58	0.35	0.50	–	GI312	GI325	2.70	HM010
803D-58-174-S40	58	174.00	270	200	70	186	40	58	0.15	0.50	–	GI312	GI325	2.83	HM010

GI300	XPET 0502AP	SCET 050204-UD
GI301	XPET 0602AP	SCET 050204-UD
GI302	XPET 0602AP	SCET 060204-UD
GI303	XPET 0703AP	SCET 060204-UD
GI304	XPET 0703AP	SCET 070308-UD
GI305	XPET 0903AP	SCET 070308-UD
GI306	XPET 0903AP	SCET 09T308-UD
GI307	XPET 11T3AP	SCET 09T308-UD
GI308	XPET 11T3AP	SCET 120408-UD
GI309	XPET 12T3AP	SCET 120408-UD
GI310	XPET 1504AP	SCET 120408-UD
GI311	XPET 1504AP	SCET 150512-UD
GI312	XPET 1904AP	SCET 150512-UD
GI313	XPET 0502AP-SD	SCET 050204-SD
GI314	XPET 0602AP-SD	SCET 050204-SD
GI315	XPET 0602AP-SD	SCET 060204-SD
GI316	XPET 0703AP-SD	SCET 060204-SD
GI317	XPET 0703AP-SD	SCET 070308-SD
GI318	XPET 0903AP-SD	SCET 070308-SD
GI319	XPET 0903AP-SD	SCET 09T308-SD

GI320	XPET 11T3AP-SD	SCET 09T308-SD
GI321	XPET 11T3AP-SD	SCET 120408-SD
GI322	XPET 12T3AP-SD	SCET 120408-SD
GI323	XPET 1504AP-SD	SCET 120408-SD
GI324	XPET 1504AP-SD	SCET 150512-SD
GI325	XPET 1904AP-SD	SCET 150512-SD

HM001	US 2245-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM002	US 2205-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM003	US 2205-T07P	0.9	US 2205-T07P	0.9	FLAG T07P
HM004	US 2506-T07P	1.2	US 2506-T07P	1.2	FLAG T07P
HM005	US 2507-T08P	1.2	US 3007-T08P	2.0	FLAG T08P
HM006	US 3007-T09P	2.0	US 3007-T09P	2.0	FLAG T09P
HM007	US 3007-T09P	2.0	US 3009-T09P	2.0	FLAG T09P
HM008	US 3510-T15P	3.0	US 3508-T15P	3.0	FLAG T15P
HM009	US 3510-T15P	3.0	US 5012-T15P	5.0	FLAG T15P
HM010	US 4011-T15P	3.5	US 5012-T15P	5.0	FLAG T15P

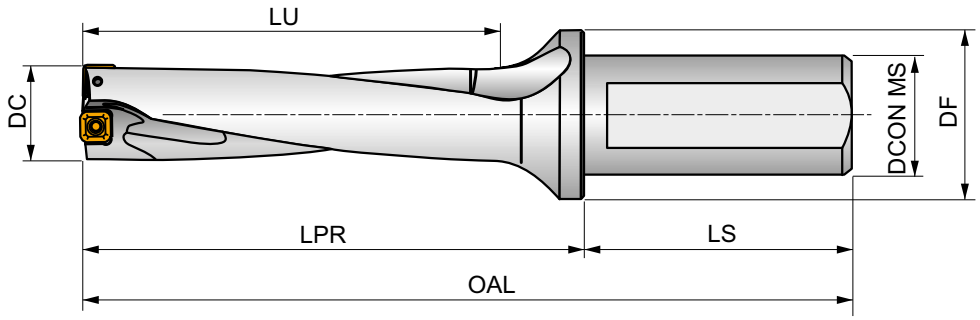
804D

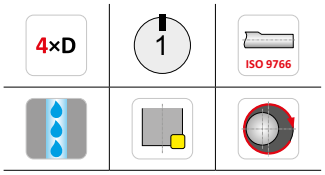
P M K N S H

PRAMET S

4xD 804D Indexable Insert Drill body with Internal Coolant Feed

High performance indexable insert drill body for drilling blind and through holes. Also, potentially cross hole, off center and stack drilling, helical interpolation, plunging, drilling on concave or angled surfaces, drilling with interrupted cuts, chamfer drilling and boring.





Product	DC (mm)	APMX (mm)	OAL (mm)	LPR (mm)	LS (mm)	LU (mm)	DCON MS (mm)	DF (mm)	-D (mm)	D+ (mm)				kg	
804D-17-68-S25	17	68.00	149	93	56	73	25	35	0.10	0.50	–	GI300	GI313	0.34	HM001
804D-18-72-S25	18	72.00	153	97	56	77	25	35	0.35	0.25	–	GI301	GI314	0.35	HM002
804D-19-76-S25	19	76.00	157	101	56	81.5	25	35	0.15	0.45	–	GI301	GI314	0.36	HM002
804D-20-80-S25	20	80.00	161	105	56	85	25	35	0.10	0.45	–	GI302	GI315	0.37	HM003
804D-21-84-S25	21	84.00	165	109	56	89.5	25	35	0.10	0.50	–	GI302	GI315	0.43	HM003
804D-22-88-S25	22	88.00	169	113	56	94	25	35	0.45	0.50	–	GI303	GI316	0.45	HM004
804D-23-92-S25	23	92.00	173	117	56	98.5	25	35	0.35	0.50	–	GI304	GI317	0.44	HM005
804D-24-96-S25	24	96.00	177	121	56	103	25	35	0.15	0.50	–	GI304	GI317	0.45	HM005
804D-25-100-S32	25	100.00	185	125	60	105	32	42	0.15	0.50	–	GI304	GI317	0.67	HM005
804D-26-104-S32	26	104.00	189	129	60	109.5	32	42	0.10	0.50	–	GI304	GI317	0.70	HM005
804D-27-108-S32	27	108.00	193	133	60	114	32	42	0.50	0.30	–	GI305	GI318	0.71	HM006
804D-28-112-S32	28	112.00	197	137	60	118.5	32	42	0.30	0.50	–	GI306	GI319	0.75	HM007
804D-29-116-S32	29	116.00	201	141	60	123	32	42	0.20	0.50	–	GI306	GI319	0.78	HM007
804D-30-120-S32	30	120.00	205	145	60	127.5	32	42	0.15	0.50	–	GI306	GI319	0.82	HM007
804D-31-124-S32	31	124.00	209	149	60	132	32	42	0.15	0.50	–	GI306	GI319	0.85	HM007
804D-32-128-S32	32	128.00	213	153	60	136.5	32	42	0.50	0.30	–	GI307	GI320	0.90	HM008
804D-33-132-S32	33	132.00	217	157	60	141	32	42	0.50	0.50	–	GI307	GI320	0.95	HM008
804D-34-136-S32	34	136.00	221	161	60	145.5	32	42	0.25	0.50	–	GI307	GI320	0.99	HM008
804D-35-140-S32	35	140.00	225	165	60	149	32	42	0.25	0.50	–	GI308	GI321	1.04	HM009
804D-36-144-S32	36	144.00	229	169	60	153.5	32	42	0.10	0.50	–	GI308	GI321	1.05	HM009
804D-37-148-S32	37	148.00	233	173	60	158	32	42	0.10	0.50	–	GI308	GI321	1.11	HM009
804D-38-152-S32	38	152.00	237	177	60	162.5	32	42	0.50	0.50	–	GI308	GI321	1.18	HM009
804D-39-156-S32	39	156.00	241	181	60	167	32	42	0.40	0.50	–	GI309	GI322	1.25	HM009
804D-40-160-S32	40	160.00	245	185	60	171.5	32	42	0.20	0.50	–	GI309	GI322	1.33	HM009
804D-41-164-S40	41	164.00	259	189	70	172	40	50	0.20	0.50	–	GI309	GI322	1.68	HM009
804D-42-168-S40	42	168.00	263	193	70	176.5	40	50	0.15	0.50	–	GI309	GI322	1.76	HM009
804D-43-172-S40	43	172.00	267	197	70	181	40	50	0.10	0.50	–	GI309	GI322	1.83	HM009

Product	DC (mm)	APMX (mm)	OAL (mm)	LPR (mm)	LS (mm)	LU (mm)	DCONMS (mm)	DF (mm)	-D (mm)	D+ (mm)				kg	
804D-44-176-S40	44	176.00	271	201	70	185.5	40	50	0.50	0.50	–	GI310	GI323	1.91	HM010
804D-45-180-S40	45	180.00	275	205	70	187.5	40	55	0.50	0.50	–	GI311	GI324	2.02	HM010
804D-46-184-S40	46	184.00	279	209	70	192	40	55	0.50	0.50	–	GI311	GI324	2.12	HM010
804D-47-188-S40	47	188.00	283	213	70	196.5	40	55	0.50	0.50	–	GI311	GI324	2.22	HM010
804D-48-192-S40	48	192.00	287	217	70	201	40	55	0.50	0.50	–	GI311	GI324	2.33	HM010
804D-49-196-S40	49	196.00	291	221	70	205.5	40	55	0.30	0.50	–	GI311	GI324	2.45	HM010
804D-50-200-S40	50	200.00	295	225	70	208.5	40	58	0.15	0.50	–	GI311	GI324	2.58	HM010
804D-51-204-S40	51	204.00	299	229	70	213	40	58	0.15	0.50	–	GI311	GI324	2.68	HM010
804D-52-208-S40	52	208.00	303	233	70	217.5	40	58	0.50	0.50	–	GI312	GI325	2.64	HM010
804D-53-212-S40	53	212.00	307	237	70	222	40	58	0.50	0.50	–	GI312	GI325	2.76	HM010
804D-54-216-S40	54	216.00	311	241	70	226.5	40	58	0.50	0.50	–	GI312	GI325	2.90	HM010
804D-55-220-S40	55	220.00	315	245	70	231	40	58	0.50	0.50	–	GI312	GI325	3.00	HM010
804D-56-224-S40	56	224.00	319	249	70	235.5	40	58	0.50	0.50	–	GI312	GI325	3.15	HM010
804D-57-228-S40	57	228.00	323	253	70	240	40	58	0.35	0.50	–	GI312	GI325	3.30	HM010
804D-58-232-S40	58	232.00	327	257	70	244.5	40	58	0.15	0.50	–	GI312	GI325	3.46	HM010

GI300	XPET 0502AP	SCET 050204-UD
GI301	XPET 0602AP	SCET 050204-UD
GI302	XPET 0602AP	SCET 060204-UD
GI303	XPET 0703AP	SCET 060204-UD
GI304	XPET 0703AP	SCET 070308-UD
GI305	XPET 0903AP	SCET 070308-UD
GI306	XPET 0903AP	SCET 09T308-UD
GI307	XPET 11T3AP	SCET 09T308-UD
GI308	XPET 11T3AP	SCET 120408-UD
GI309	XPET 12T3AP	SCET 120408-UD
GI310	XPET 1504AP	SCET 120408-UD
GI311	XPET 1504AP	SCET 150512-UD
GI312	XPET 1904AP	SCET 150512-UD
GI313	XPET 0502AP-SD	SCET 050204-SD
GI314	XPET 0602AP-SD	SCET 050204-SD
GI315	XPET 0602AP-SD	SCET 060204-SD
GI316	XPET 0703AP-SD	SCET 060204-SD
GI317	XPET 0703AP-SD	SCET 070308-SD
GI318	XPET 0903AP-SD	SCET 070308-SD
GI319	XPET 0903AP-SD	SCET 09T308-SD
GI320	XPET 11T3AP-SD	SCET 09T308-SD
GI321	XPET 11T3AP-SD	SCET 120408-SD
GI322	XPET 12T3AP-SD	SCET 120408-SD
GI323	XPET 1504AP-SD	SCET 120408-SD
GI324	XPET 1504AP-SD	SCET 150512-SD
GI325	XPET 1904AP-SD	SCET 150512-SD

HM001	US 2245-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM002	US 2205-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM003	US 2205-T07P	0.9	US 2205-T07P	0.9	FLAG T07P
HM004	US 2506-T07P	1.2	US 2506-T07P	1.2	FLAG T07P
HM005	US 2507-T08P	1.2	US 3007-T08P	2.0	FLAG T08P
HM006	US 3007-T09P	2.0	US 3007-T09P	2.0	FLAG T09P
HM007	US 3007-T09P	2.0	US 3009-T09P	2.0	FLAG T09P
HM008	US 3510-T15P	3.0	US 3508-T15P	3.0	FLAG T15P
HM009	US 3510-T15P	3.0	US 5012-T15P	5.0	FLAG T15P
HM010	US 4011-T15P	3.5	US 5012-T15P	5.0	FLAG T15P

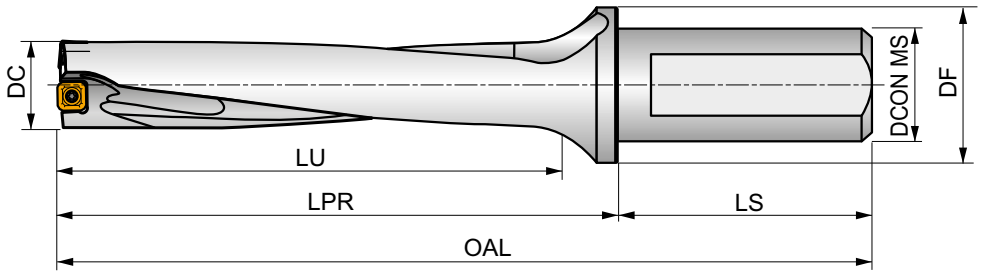
805D

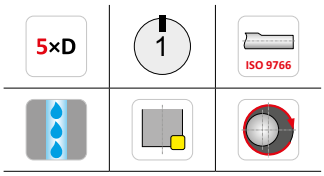
P M K N S H

PRAMET S

5xD 805D Indexable Insert Drill body with Internal Coolant Feed

High performance indexable insert drill body for drilling blind and through holes. Also, potentially cross hole, off center and stack drilling, helical interpolation, plunging, drilling on concave or angled surfaces, drilling with interrupted cuts, chamfer drilling and boring.





Product	DC (mm)	APMX (mm)	OAL (mm)	LPR (mm)	LS (mm)	LU (mm)	DCON MS (mm)	DF (mm)	-D (mm)	D+ (mm)				kg	
805D-19-95-S25	19	95.00	176	120	56	100.5	25	35	0.15	0.45	–	GI301	GI314	0.38	HM002
805D-20-100-S25	20	100.00	181	125	56	105	25	35	0.10	0.45	–	GI302	GI315	0.40	HM003
805D-21-105-S25	21	105.00	186	130	56	110.5	25	35	0.10	0.50	–	GI302	GI315	0.42	HM003
805D-22-110-S25	22	110.00	191	135	56	116	25	35	0.45	0.50	–	GI303	GI316	0.45	HM004
805D-23-115-S25	23	115.00	196	140	56	121.5	25	35	0.35	0.50	–	GI304	GI317	0.48	HM005
805D-24-120-S25	24	120.00	201	145	56	127	25	35	0.15	0.50	–	GI304	GI317	0.49	HM005
805D-25-125-S32	25	125.00	210	150	60	130	32	42	0.15	0.50	–	GI304	GI317	0.72	HM005
805D-26-130-S32	26	130.00	215	155	60	135.5	32	42	0.10	0.50	–	GI304	GI317	0.82	HM005
805D-27-135-S32	27	135.00	220	160	60	141	32	42	0.50	0.30	–	GI305	GI318	0.78	HM006
805D-28-140-S32	28	140.00	225	165	60	146.5	32	42	0.30	0.50	–	GI306	GI319	0.82	HM007
805D-29-145-S32	29	145.00	230	170	60	152	32	42	0.20	0.50	–	GI306	GI319	0.86	HM007
805D-30-150-S32	30	150.00	235	175	60	157.5	32	42	0.15	0.50	–	GI306	GI319	0.90	HM007
805D-31-155-S32	31	155.00	240	180	60	163	32	42	0.15	0.50	–	GI306	GI319	0.95	HM007

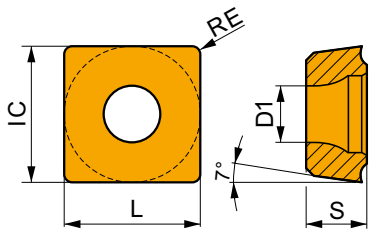
GI301	XPET 0602AP	SCET 050204-UD
GI302	XPET 0602AP	SCET 060204-UD
GI303	XPET 0703AP	SCET 060204-UD
GI304	XPET 0703AP	SCET 070308-UD
GI305	XPET 0903AP	SCET 070308-UD
GI306	XPET 0903AP	SCET 09T308-UD
GI314	XPET 0602AP-SD	SCET 050204-SD
GI315	XPET 0602AP-SD	SCET 060204-SD
GI316	XPET 0703AP-SD	SCET 060204-SD
GI317	XPET 0703AP-SD	SCET 070308-SD
GI318	XPET 0903AP-SD	SCET 070308-SD
GI319	XPET 0903AP-SD	SCET 09T308-SD

		Nm		Nm	
HM002	US 2205-T07P	0.9	US 2245-T07P	0.9	FLAG T07P
HM003	US 2205-T07P	0.9	US 2205-T07P	0.9	FLAG T07P
HM004	US 2506-T07P	1.2	US 2506-T07P	1.2	FLAG T07P
HM005	US 2507-T08P	1.2	US 3007-T08P	2.0	FLAG T08P
HM006	US 3007-T09P	2.0	US 3007-T09P	2.0	FLAG T09P
HM007	US 3007-T09P	2.0	US 3009-T09P	2.0	FLAG T09P

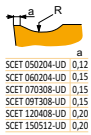
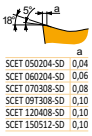
SCET

PRAMET

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0502	5.556	2.40	5.56	2.38
0602	6.350	2.90	6.35	2.38
0703	7.937	3.50	7.94	3.18
09T3	9.525	4.50	9.53	3.97
1204	12.700	5.60	12.70	4.76
1505	15.875	5.60	15.88	5.56



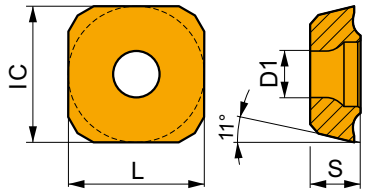
Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	Interrupted/ Continuous cut	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
	 SCET 050204-UD 0,12 SCET 060204-UD 0,15 SCET 070308-UD 0,15 SCET 09T308-UD 0,15 SCET 120408-UD 0,20 SCET 150512-UD 0,20		 **UD** geometry with universal design for periphery inserts.																	
SCET 050204-UD:D8330	●	0.4	■ 165	0.08	–	–	–	–	■ 155	0.08	–	–	–	–	–	–	–	–	–	–
SCET 050204-UD:D9335	●	0.4	■ 240	0.08	–	–	–	–	■ 225	0.08	–	–	–	–	–	–	–	–	–	–
SCET 060204-UD:D8330	●	0.4	■ 165	0.11	–	–	–	–	■ 155	0.11	–	–	–	–	–	–	–	–	–	–
SCET 060204-UD:D9335	●	0.4	■ 240	0.11	–	–	–	–	■ 225	0.11	–	–	–	–	–	–	–	–	–	–
SCET 070308-UD:D8330	⧓	0.8	■ 165	0.13	–	–	–	–	■ 155	0.13	–	–	–	–	–	–	–	–	–	–
SCET 070308-UD:D9335	⧓	0.8	■ 240	0.13	–	–	–	–	■ 225	0.13	–	–	–	–	–	–	–	–	–	–
SCET 09T308-UD:D8330	⧓	0.8	■ 165	0.14	–	–	–	–	■ 155	0.14	–	–	–	–	–	–	–	–	–	–
SCET 09T308-UD:D9335	⧓	0.8	■ 240	0.14	–	–	–	–	■ 225	0.14	–	–	–	–	–	–	–	–	–	–
SCET 120408-UD:D8330	⧓	0.8	■ 165	0.16	–	–	–	–	■ 155	0.16	–	–	–	–	–	–	–	–	–	–
SCET 120408-UD:D9335	⧓	0.8	■ 240	0.16	–	–	–	–	■ 225	0.16	–	–	–	–	–	–	–	–	–	–
SCET 150512-UD:D8330	⧓	1.2	■ 165	0.18	–	–	–	–	■ 155	0.18	–	–	–	–	–	–	–	–	–	–
SCET 150512-UD:D9335	⧓	1.2	■ 240	0.18	–	–	–	–	■ 225	0.18	–	–	–	–	–	–	–	–	–	–
	 SCET 050204-SD 0,04 SCET 060204-SD 0,06 SCET 070308-SD 0,08 SCET 09T308-SD 0,10 SCET 120408-SD 0,10 SCET 150512-SD 0,10		 **SD** geometry with positive design for periphery inserts.																	
SCET 050204-SD:D8330	●	0.4	■ 165	0.08	–	■ 95	0.07	–	◪ 155	0.08	–	–	–	–	◪ 40	0.06	–	–	–	–
SCET 050204-SD:D9335	●	0.4	■ 240	0.08	–	■ 140	0.07	–	◪ 225	0.08	–	–	–	–	◪ 60	0.06	–	–	–	–
SCET 060204-SD:D8330	●	0.4	■ 165	0.11	–	■ 95	0.09	–	◪ 155	0.11	–	–	–	–	◪ 40	0.07	–	–	–	–
SCET 060204-SD:D9335	●	0.4	■ 240	0.11	–	■ 140	0.09	–	◪ 225	0.11	–	–	–	–	◪ 60	0.07	–	–	–	–
SCET 070308-SD:D8330	⧓	0.8	■ 165	0.13	–	■ 95	0.11	–	◪ 155	0.13	–	–	–	–	◪ 40	0.09	–	–	–	–
SCET 070308-SD:D9335	⧓	0.8	■ 240	0.13	–	■ 140	0.11	–	◪ 225	0.13	–	–	–	–	◪ 60	0.09	–	–	–	–
SCET 09T308-SD:D8330	⧓	0.8	■ 165	0.14	–	■ 95	0.13	–	◪ 155	0.14	–	–	–	–	◪ 40	0.10	–	–	–	–
SCET 09T308-SD:D9335	⧓	0.8	■ 240	0.14	–	■ 140	0.13	–	◪ 225	0.14	–	–	–	–	◪ 60	0.10	–	–	–	–
SCET 120408-SD:D8330	⧓	0.8	■ 165	0.16	–	■ 95	0.14	–	◪ 155	0.16	–	–	–	–	◪ 40	0.11	–	–	–	–
SCET 120408-SD:D9335	⧓	0.8	■ 240	0.16	–	■ 140	0.14	–	◪ 225	0.16	–	–	–	–	◪ 60	0.11	–	–	–	–
SCET 150512-SD:D8330	⧓	1.2	■ 165	0.18	–	■ 95	0.16	–	◪ 155	0.18	–	–	–	–	◪ 40	0.12	–	–	–	–
SCET 150512-SD:D9335	⧓	1.2	■ 240	0.18	–	■ 140	0.16	–	◪ 225	0.18	–	–	–	–	◪ 60	0.12	–	–	–	–

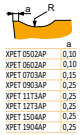
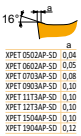
XPET

PRAMET

	IC (mm)	D1 (mm)	L (mm)	S (mm)
0502	5.556	2.40	5.56	2.38
0602	6.350	2.60	6.35	2.38
0703	7.937	2.90	7.94	3.18
0903	9.525	3.50	9.53	3.18
11T3	11.509	3.90	11.50	3.97
12T3	12.700	3.90	12.70	3.97
1504	15.875	4.50	15.88	4.76
1904	19.050	4.50	19.05	4.76



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

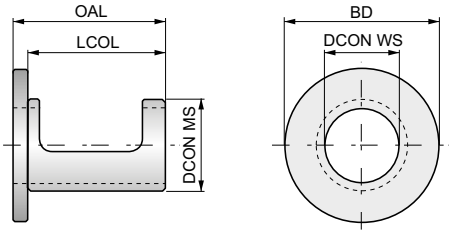
Product	Interrupted/ Continuous cut	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc (m/min)	M f (mm/rev)	M ap (mm)	K vc (m/min)	K f (mm/rev)	K ap (mm)	N vc (m/min)	N f (mm/rev)	N ap (mm)	S vc (m/min)	S f (mm/rev)	S ap (mm)	H vc (m/min)	H f (mm/rev)	H ap (mm)
			**Geometry** with universal design for central inserts.																	
XPET 0502AP:D8345	●	–	■ 165	0.08	–		–	–	–	■ 155	0.08	–	–	–	–	–	–	–	–	–	–	–
XPET 0602AP:D8345	●	–	■ 165	0.11	–		–	–	–	■ 155	0.11	–	–	–	–	–	–	–	–	–	–	–
XPET 0703AP:D8345	●	–	■ 165	0.13	–		–	–	–	■ 155	0.13	–	–	–	–	–	–	–	–	–	–	–
XPET 0903AP:D8345	●	–	■ 165	0.14	–		–	–	–	■ 155	0.14	–	–	–	–	–	–	–	–	–	–	–
XPET 11T3AP:D8345	●	–	■ 165	0.16	–		–	–	–	■ 155	0.16	–	–	–	–	–	–	–	–	–	–	–
XPET 12T3AP:D8345	●	–	■ 165	0.16	–		–	–	–	■ 155	0.16	–	–	–	–	–	–	–	–	–	–	–
XPET 1504AP:D8345	●	–	■ 165	0.18	–		–	–	–	■ 155	0.18	–	–	–	–	–	–	–	–	–	–	–
XPET 1904AP:D8345	●	–	■ 165	0.18	–		–	–	–	■ 155	0.18	–	–	–	–	–	–	–	–	–	–	–
			**SD** geometry with positive design for central inserts.																	
XPET 0502AP-SD:D8345	●	–	■ 165	0.08	–	■ 95	0.07	–	◪ 155	0.08	–	–	–	–	◪ 40	0.06	–	–	–	–	–	–
XPET 0602AP-SD:D8345	●	–	■ 165	0.11	–	■ 95	0.09	–	◪ 155	0.11	–	–	–	–	◪ 40	0.07	–	–	–	–	–	–
XPET 0703AP-SD:D8345	●	–	■ 165	0.13	–	■ 95	0.11	–	◪ 155	0.13	–	–	–	–	◪ 40	0.09	–	–	–	–	–	–
XPET 0903AP-SD:D8345	●	–	■ 165	0.14	–	■ 95	0.13	–	◪ 155	0.14	–	–	–	–	◪ 40	0.10	–	–	–	–	–	–
XPET 11T3AP-SD:D8345	●	–	■ 165	0.16	–	■ 95	0.14	–	◪ 155	0.16	–	–	–	–	◪ 40	0.11	–	–	–	–	–	–
XPET 12T3AP-SD:D8345	●	–	■ 165	0.16	–	■ 95	0.14	–	◪ 155	0.16	–	–	–	–	◪ 40	0.11	–	–	–	–	–	–
XPET 1504AP-SD:D8345	●	–	■ 165	0.18	–	■ 95	0.16	–	◪ 155	0.18	–	–	–	–	◪ 40	0.12	–	–	–	–	–	–
XPET 1904AP-SD:D8345	●	–	■ 165	0.18	–	■ 95	0.16	–	◪ 155	0.18	–	–	–	–	◪ 40	0.12	–	–	–	–	–	–

EP

PRAMET

EP - Indexable Insert Drill Adjustment Sleeve

Sleeve to adjust indexable insert drill diameter. Can be used in 32, 40 or 50 mm Weldon tool holders. The outside drill diameter is adjusted by rotating the sleeve.



Diameter adjustment range is 0.4 – -0.2; center height adjustment range is 0.2 – -0.15.

Product	DCON WS (mm)	DCON MS (mm)	BD (mm)	OAL (mm)	LCOL (mm)	kg
EP253253	25.00	32.00	53.00	53.0	48	0.15
EP324058	32.00	40.00	58.00	58.0	53	0.19
EP405085-F	40.00	50.00	76.00	85.0	80	0.25

Material code (BMC)		HM	HM	HM	HM	HM								
Coating		Bright	Bright	Bright	Bright	Bright								
Basic standard group (BSG)		DIN 8093	DIN 8093	DIN 8050	DIN 8094	DIN 8051								
Hand (Cutting direction)		R	R	R	R	R								
Shank			DIN 6535HA											
Reamer form		B	B	A	B	A								
Achievable hole tolerance (TCHA)		H7	ø.95-5.5 +0.004 ø5.51-12 +0.005	H7	H7	H7								
Product Family Code		B400	B481	B441	B411	B442								
PSF cutting diameters range		1.00 - 20.00	0.98 - 12.05	10.00 - 20.00	5.00 - 30.00	10.00 - 20.00								
		250	251	253	254	255								
P	P1	■	■	■	■	■								
	P2	■	■	■	■	■								
	P3	■	■	■	■	■								
	P4	■	■	■	■	■								
M	M1	◪	◪	◪	◪	◪								
	M2	◪	◪	◪	◪	◪								
	M3													
	M4													
K	K1	■	■	■	■	■								
	K2	■	■	■	■	■								
	K3	■	■	■	■	■								
	K4													
	K5	■	■	■	■	■								
N	N1	■	■	■	■	■								
	N2	■	■	■	■	■								
	N3	■	■	■	■	■								
	N4	◪	◪	◪	◪	◪								
	N5													
S	S1													
	S2													
	S3													
	S4													
H	H1													
	H2													
	H3													
	H4													

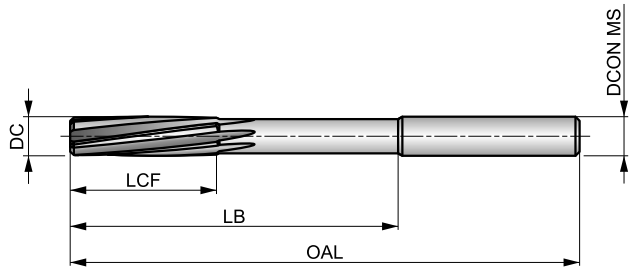
■ Primary use ◪ Possible use

B400

DORMER

Carbide Straight Shank Machine Reamer with H7 Accuracy, Bright Finish

Designed to provide a finish within the limits of H7 hole tolerance. For superior performance and extended tool life when reaming hard and abrasive materials. The spiral flute design, with extremely unequal spacing between the flutes, reduces vibration and improves hole roundness, size and surface finish.



HM	Bright	DIN 8093
R		B
H7		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■23 B	■26 B	■27 B	■20 B	■18 B	■16 C	■16 B	■13 B	■11 C	■10 B	■8 C	■7 C	◪10 C	◪8 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K5.1**	**K5.2**
◪9 C	◪7 C	◪6 B	■20 D	■15 D	■11 D	■21 D	■17 D	■14 D	■18 D	■14 D	■11 D	■19 D	■15 D
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
■11 D	◪60 D	■45 D	■30 D	■38 D	■35 D	■25 D	■64 E	■38 E	◪19 E	◪35 C	◪30 C		

DCON MS tolerance h6; DC>= 14 mm Carbide Tipped.

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B4001.0	1.00	34.0	5.5	15.00	3	1.00
B4001.2	1.20	38.0	7.5	16.50	3	1.20
B4001.4	1.40	40.0	8.0	18.00	3	1.50
B4001.5	1.50	40.0	8.0	18.00	3	1.50
B4001.6	1.60	43.0	9.0	20.00	3	1.60
B4001.8	1.80	46.0	10.0	22.00	4	1.80
B4002.0	2.00	49.0	11.0	24.00	4	2.00
B4002.2	2.20	53.0	12.0	25.00	4	2.20
B4002.5	2.50	57.0	14.0	29.00	4	2.50
B4002.8	2.80	61.0	15.0	33.00	6	3.00
B4003.0	3.00	61.0	15.0	33.00	6	3.00
B4003.2	3.20	65.0	16.0	37.00	6	3.20
B4003.5	3.50	70.0	18.0	42.00	6	3.50
B4004.0	4.00	75.0	19.0	47.00	6	4.00

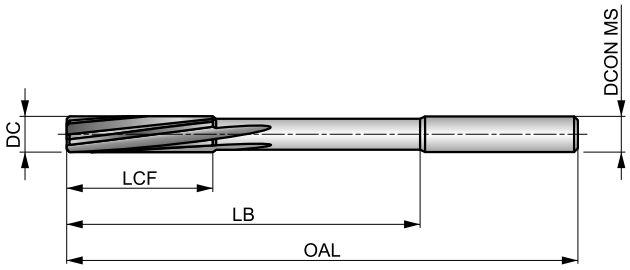
Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B4004.5	4.50	80.0	21.0	52.00	6	4.50
B4005.0	5.00	86.0	23.0	58.00	6	5.00
B4005.5	5.50	93.0	26.0	57.00	6	5.60
B4006.0	6.00	93.0	26.0	57.00	6	5.60
B4006.5	6.50	101.0	28.0	65.00	6	6.30
B4007.0	7.00	109.0	31.0	73.00	6	7.10
B4008.0	8.00	117.0	33.0	81.00	6	8.00
B4009.0	9.00	125.0	36.0	85.00	6	9.00
B40010.0	10.00	133.0	38.0	93.00	6	10.00
B40012.0	12.00	151.0	44.0	111.00	6	10.00
B40014.0	14.00	160.0	47.0	115.00	6	12.50
B40016.0	16.00	170.0	52.0	125.00	6	12.50
B40018.0	18.00	182.0	56.0	137.00	6	14.00
B40020.0	20.00	195.0	60.0	147.00	6	16.00

B481

DORMER

Carbide Straight Shank Machine Reamer - 0.01 mm Increments, Bright Finish

Straight shank for high performance on CNC machining. Different increment sizes allows to produce accurate hole sizes and tolerances. Premium carbide tips gives greatly improved performance and extended tool life when reaming hard and abrasive materials. Extremely unequal spacing on the flutes to reduce vibration.



HM	Bright	DIN 8093
R	DIN 6535HA	B
ø.95-5.5 +0.004 ø5.51-12 +0.005		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■23 B	■26 B	■27 B	■20 B	■18 B	■16 C	■16 B	■13 B	■11 C	■10 B	■8 C	■7 C	◪10 C	◪8 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K5.1**	**K5.2**
◪9 C	◪7 C	◪6 B	■20 D	■15 D	■11 D	■21 D	■17 D	■14 D	■18 D	■14 D	■11 D	■19 D	■15 D
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
■11 D	◪60 D	■45 D	■30 D	■38 D	■35 D	■25 D	■64 E	■38 E	◪19 E	◪35 C	◪30 C		

DCON MS tolerance h6.

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B4810.98	0.98	50.0	6.0	22.00	3	3.00
B4810.99	0.99	50.0	6.0	22.00	3	3.00
B4811.03	1.03	50.0	6.0	22.00	3	3.00
B4811.50	1.50	50.0	9.0	22.00	3	3.00
B4811.51	1.51	50.0	10.0	22.00	3	3.00
B4811.52	1.52	50.0	10.0	22.00	3	3.00
B4811.53	1.53	50.0	10.0	22.00	3	3.00
B4811.98	1.98	50.0	12.0	22.00	4	3.00
B4811.99	1.99	50.0	12.0	22.00	4	3.00
B4812.00	2.00	50.0	12.0	22.00	4	3.00
B4812.01	2.01	50.0	12.0	22.00	4	3.00
B4812.02	2.02	50.0	12.0	22.00	4	3.00
B4812.03	2.03	50.0	12.0	22.00	4	3.00
B4812.48	2.48	60.0	16.0	32.00	4	3.00
B4812.49	2.49	60.0	16.0	32.00	4	3.00
B4812.50	2.50	60.0	16.0	32.00	4	3.00
B4812.51	2.51	60.0	16.0	32.00	4	3.00
B4812.52	2.52	60.0	16.0	32.00	4	3.00
B4812.53	2.53	60.0	16.0	32.00	4	3.00
B4812.97	2.97	65.0	17.0	37.00	6	4.00
B4812.98	2.98	65.0	17.0	37.00	6	4.00
B4812.99	2.99	65.0	17.0	37.00	6	4.00
B4813.00	3.00	65.0	17.0	37.00	6	4.00
B4813.01	3.01	65.0	17.0	37.00	6	4.00
B4813.02	3.02	65.0	17.0	37.00	6	4.00
B4813.03	3.03	65.0	17.0	37.00	6	4.00
B4813.97	3.97	75.0	19.0	47.00	6	4.00

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B4813.98	3.98	75.0	19.0	47.00	6	4.00
B4813.99	3.99	75.0	19.0	47.00	6	4.00
B4814.00	4.00	75.0	19.0	47.00	6	4.00
B4814.01	4.01	75.0	19.0	47.00	6	4.00
B4814.02	4.02	75.0	19.0	47.00	6	4.00
B4814.03	4.03	75.0	19.0	47.00	6	4.00
B4814.97	4.97	93.0	23.0	57.00	6	6.00
B4814.98	4.98	93.0	23.0	57.00	6	6.00
B4814.99	4.99	93.0	23.0	57.00	6	6.00
B4815.00	5.00	93.0	23.0	57.00	6	6.00
B4815.01	5.01	93.0	23.0	57.00	6	6.00
B4815.02	5.02	93.0	23.0	57.00	6	6.00
B4815.03	5.03	93.0	23.0	57.00	6	6.00
B4815.97	5.97	93.0	26.0	57.00	6	6.00
B4815.98	5.98	93.0	26.0	57.00	6	6.00
B4815.99	5.99	93.0	26.0	57.00	6	6.00
B4816.00	6.00	93.0	26.0	57.00	6	6.00
B4816.01	6.01	93.0	26.0	57.00	6	6.00
B4816.02	6.02	93.0	26.0	57.00	6	6.00
B4816.03	6.03	93.0	26.0	57.00	6	6.00
B4817.97	7.97	117.0	33.0	81.00	6	8.00
B4817.98	7.98	117.0	33.0	81.00	6	8.00
B4817.99	7.99	117.0	33.0	81.00	6	8.00
B4818.00	8.00	117.0	33.0	81.00	6	8.00
B4818.01	8.01	117.0	33.0	81.00	6	8.00
B4818.02	8.02	117.0	33.0	81.00	6	8.00
B4818.03	8.03	117.0	33.0	81.00	6	8.00

Product	DC	OAL	LCF	LB	NOF	DCON MS
	(mm)	(mm)	(mm)	(mm)		(mm)
B4818.04	8.04	117.0	33.0	81.00	6	8.00
B4819.97	9.97	133.0	38.0	93.00	6	10.00
B4819.98	9.98	133.0	38.0	93.00	6	10.00
B4819.99	9.99	133.0	38.0	93.00	6	10.00
B48110.00	10.00	133.0	38.0	93.00	6	10.00
B48110.01	10.01	133.0	38.0	93.00	6	10.00
B48110.02	10.02	133.0	38.0	93.00	6	10.00
B48110.03	10.03	133.0	38.0	93.00	6	10.00
B48110.04	10.04	133.0	38.0	93.00	6	10.00

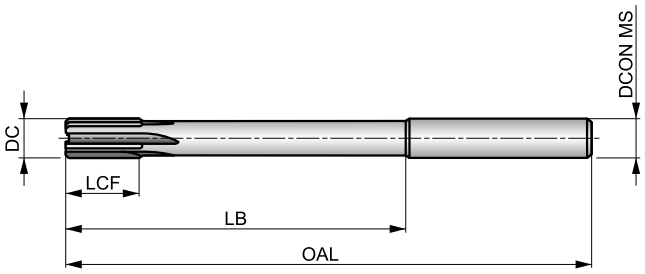
Product	DC	OAL	LCF	LB	NOF	DCON MS
	(mm)	(mm)	(mm)	(mm)		(mm)
B48110.05	10.05	133.0	38.0	93.00	6	10.00
B48111.98	11.98	151.0	44.0	106.00	6	12.00
B48111.99	11.99	151.0	44.0	106.00	6	12.00
B48112.00	12.00	151.0	44.0	106.00	6	12.00
B48112.01	12.01	151.0	44.0	106.00	6	12.00
B48112.02	12.02	151.0	44.0	106.00	6	12.00
B48112.03	12.03	151.0	44.0	106.00	6	12.00
B48112.04	12.04	151.0	44.0	106.00	6	12.00
B48112.05	12.05	151.0	44.0	106.00	6	12.00

B441

DORMER

Carbide Tipped Straight Shank Machine Reamer, H7 Accuracy, Bright Finish

The brazed carbide tip will give extended tool life and a superior performance, when reaming holes within the limits of H7 hole tolerance. The extremely unequal design of the flutes reduces vibration and improves hole roundness, surface finish and size. The tool offers great performance in CNC machines.



HM	Bright	DIN 8050
R		A
H7		

Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■23 B	■26 B	■27 B	■20 B	■18 B	■16 C	■16 B	■13 B	■11 C	■10 B	■8 C	■7 C	◪10 C	◪8 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K5.1**	**K5.2**
◪9 C	◪7 C	◪6 B	■20 D	■15 D	■11 D	■21 D	■17 D	■14 D	■18 D	■14 D	■11 D	■19 D	■15 D
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
■11 D	◪60 D	■45 D	■30 D	■38 D	■35 D	■25 D	■64 E	■38 E	◪19 E	◪35 C	◪30 C		

DCON MS tolerance h9; Carbide Tipped.

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	DCON MS (mm)
B44110.0	10.00	133.0	19.0	87.00	6	10.00
B44111.0	11.00	142.0	19.0	96.00	6	10.00
B44112.0	12.00	151.0	19.0	105.00	6	10.00
B44113.0	13.00	151.0	19.0	105.00	6	10.00
B44114.0	14.00	160.0	19.0	110.00	6	12.50
B44115.0	15.00	162.0	19.0	112.00	6	12.50
B44116.0	16.00	170.0	22.0	120.00	6	12.50
B44117.0	17.00	175.0	22.0	123.00	6	14.00
B44118.0	18.00	182.0	22.0	130.00	6	14.00
B44119.0	19.00	189.0	22.0	131.00	6	16.00
B44120.0	20.00	195.0	22.0	137.00	6	16.00

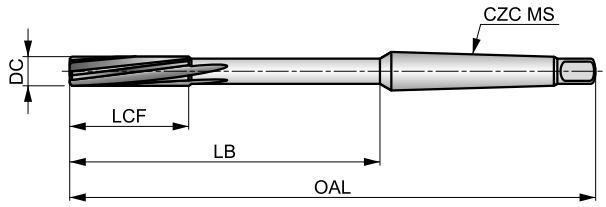
B411

DORMER

Carbide Tipped Taper Shank Machine Reamer with H7 Accuracy, Bright Finish

The brazed carbide tips gives significant improvements in performance and a longer tool life when you are reaming hard and abrasive materials. The spiral flutes have unequal spacing between them which effectively reduces vibration and improves hole symmetry, size and finish.

HM	Bright	DIN 8094
R		B
H7		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■23 B	■26 B	■27 B	■20 B	■18 B	■16 C	■16 B	■13 B	■11 C	■10 B	■8 C	■7 C	◪10 C	◪8 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K5.1**	**K5.2**
◪9 C	◪7 C	◪6 B	■20 D	■15 D	■11 D	■21 D	■17 D	■14 D	■18 D	■14 D	■11 D	■19 D	■15 D
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
■11 D	◪60 D	■45 D	■30 D	■38 D	■35 D	■25 D	■64 E	■38 E	◪19 E	◪35 C	◪30 C		

DC <= 16mm Carbide head; DC > 16mm Carbide Tipped.

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	CZC MS
B4115.0	5.00	133.0	23.0	67.50	6	MK 1
B4116.0	6.00	138.0	26.0	72.50	6	MK 1
B4117.0	7.00	150.0	31.0	84.50	6	MK 1
B4118.0	8.00	156.0	33.0	90.50	6	MK 1
B4119.0	9.00	162.0	36.0	96.50	6	MK 1
B41110.0	10.00	168.0	38.0	102.50	6	MK 1
B41112.0	12.00	182.0	44.0	116.50	6	MK 1
B41114.0	14.00	189.0	47.0	123.50	8	MK 1
B41115.0	15.00	204.0	50.0	124.00	8	MK 2
B41116.0	16.00	210.0	52.0	130.00	8	MK 2
B41117.0	17.00	214.0	54.0	134.00	6	MK 2
B41118.0	18.00	219.0	56.0	139.00	6	MK 2
B41119.0	19.00	223.0	58.0	143.00	6	MK 2
B41120.0	20.00	228.0	60.0	148.00	6	MK 2
B41122.0	22.00	237.0	64.0	157.00	6	MK 2
B41124.0	24.00	268.0	68.0	169.00	8	MK 3
B41125.0	25.00	268.0	68.0	169.00	8	MK 3
B41126.0	26.00	273.0	70.0	174.00	8	MK 3
B41130.0	30.00	281.0	73.0	182.00	8	MK 3

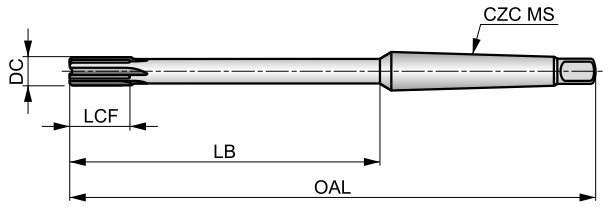
B442

DORMER

Carbide Tipped Taper Shank Machine Reamer with H7 Accuracy, Bright Finish

Designed with extremely unequal flutes to reduce vibration and improve hole size, roundness and surface finish. The 45° bevel lead ensures accurate location and centering to give you improved hole quality and performance. The brazed carbide tip provides extended tool life and a superior performance.

HM	Bright	DIN 8051
R		A
H7		



Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 279.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	M1.1	M1.2
■23 B	■26 B	■27 B	■20 B	■18 B	■16 C	■16 B	■13 B	■11 C	■10 B	■8 C	■7 C	◪10 C	◪8 C
M2.1	**M2.2**	**M2.3**	**K1.1**	**K1.2**	**K1.3**	**K2.1**	**K2.2**	**K2.3**	**K3.1**	**K3.2**	**K3.3**	**K5.1**	**K5.2**
◪9 C	◪7 C	◪6 B	■20 D	■15 D	■11 D	■21 D	■17 D	■14 D	■18 D	■14 D	■11 D	■19 D	■15 D
K5.3	**N1.1**	**N1.2**	**N1.3**	**N2.1**	**N2.2**	**N2.3**	**N3.1**	**N3.2**	**N3.3**	**N4.1**	**N4.2**		
■11 D	◪60 D	■45 D	■30 D	■38 D	■35 D	■25 D	■64 E	■38 E	◪19 E	◪35 C	◪30 C		

Product	DC (mm)	OAL (mm)	LCF (mm)	LB (mm)	NOF	CZC MS
B44210.0	10.00	168.0	19.0	102.50	6	MK 1
B44212.0	12.00	182.0	19.0	116.50	6	MK 1
B44214.0	14.00	189.0	19.0	123.50	6	MK 1
B44215.0	15.00	204.0	19.0	124.00	6	MK 2
B44216.0	16.00	210.0	22.0	130.00	6	MK 2
B44217.0	17.00	214.0	22.0	134.00	6	MK 2
B44218.0	18.00	219.0	22.0	139.00	6	MK 2
B44219.0	19.00	223.0	22.0	143.00	6	MK 2
B44220.0	20.00	228.0	22.0	148.00	6	MK 2

INSTRUCTIONS

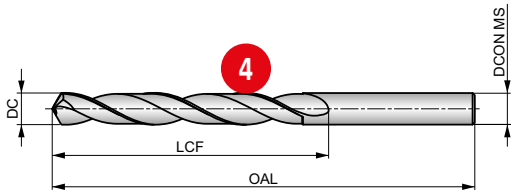
1 **R003**

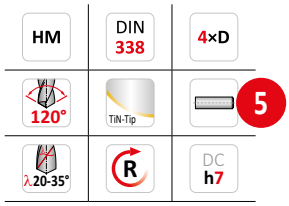
DORMER

Solid Carbide Jobber Drill, TiN tip Coated

Versatile entry-level drill with 120° point angle with four facet split point geometry for reduced thrust force and CTW flute construction for enhanced penetration rates. TiN tip coating improves performance and extends tool life. Suitable for both CNC machines and conventional machines across a wide range of workpiece materials. 2

3





Workpiece material group suitability, starting values for cutting speed (m/min) and feed Alpha Code. Tables with feed per revolution can be found starting from page 274.

P1.1	P1.2	P1.3	P2.1	P2.2	P2.3	P3.1	P3.2	P3.3	P4.1	P4.2	P4.3	K1.1	K1.2
■ 99 S	■ 111 S	■ 115 S	■ 85 S	■ 75 S	■ 66 S	■ 66 S	■ 53 S	■ 45 S	■ 40 S	■ 34 S	■ 27 S	■ 75 T	■ 56 T
K1.3	K2.1	K2.2	K2.3	K3.1	K3.2	K3.3	6 .1	K4.2	K4.3	K4.4	K4.5	K5.1	K5.2
■ 42 T	■ 68 T	■ 55 T	■ 44 T	■ 60 T	■ 46 T	■ 37 T	■ 55 T	◪ 42 T	◪ 31 T	◪ 26 T	◪ 22 T	■ 63 T	■ 47 T
K5.3	N1.1	N1.2	N1.3	N2.1	N2.2	N2.3	N3.1	N3.2	N4.1	N4.2	H1.1	H2.1	H3.1
■ 37 T	■ 150 V	■ 113 V	■ 75 V	◪ 129 V	◪ 116 V	◪ 84 V	■ 317 V	■ 190 V	■ 60 U	■ 100 U	◪ 34 S	◪ 20 S	◪ 22 S

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R0031.0	–	1.00	0.0394	12.0	34.0	1.00
R003N60	N60	1.02	0.0400	12.0	34.0	1.02
R0031.1	–	1.10	0.0433	14.0	36.0	1.10
R003N56	N56	1.18	0.0465	16.0	38.0	1.18
R 7 64	3/64	1.19	0.0469	8 .0	38.0	1.19
R 7	–	1.20	0.047	.0	38.0	1.20
R0031.3	–	1.30	0.0512	16.0	38.0	1.30
R003N54	N54	1.40	0.0550	18.0	40.0	1.40
R0031.4	–	1.40	0.0551	18.0	40.0	1.40
R0031.5	–	1.50	0.0591	18.0	40.0	1.50
R003N53	N53	1.51	0.0595	20.0	43.0	1.51
R0031/16	1/16	1.59	0.0625	20.0	43.0	1.59
R0031.6	–	1.60	0.0630	20.0	43.0	1.60
R003N52	N52	1.61	0.0635	20.0	43.0	1.61

Product	DC (inch)	DC (mm)	DC (inch)	LCF (mm)	OAL (mm)	DCON MS (mm)
R0032.3	–	2.30	0.0906	27.0	53.0	2.30
R0033/32	3/32	2.38	0.0937	30.0	57.0	2.38
R0032.4	–	2.40	0.0945	30.0	57.0	2.40
R003N41	N41	2.44	0.0960	30.0	57.0	2.44
R0032.5	–	2.50	0.0984	30.0	57.0	2.50
R003N39	N39	2.53	0.0995	30.0	57.0	2.53
R003N38	N38	2.58	0.1015	30.0	57.0	2.58
R0032.6	–	2.60	0.1024	30.0	57.0	2.60
R003N37	N37	2.64	0.1040	30.0	57.0	2.64
R0032.7	–	2.70	0.1063	33.0	61.0	2.70
R003N36	N36	2.71	0.1065	33.0	61.0	2.71
R0037/64	7/64	2.78	0.1094	33.0	61.0	2.78
R0032.8	–	2.80	0.1102	33.0	61.0	2.80
R003N33	N33	2.87	0.1130	33.0	61.0	2.87

Pos.	Description
1	Designation of drill
2	Product description
3	Illustrative picture
4	Schematic drawing of tool

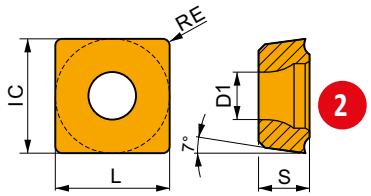
Pos.	Description
5	Product features
6	Material group recommendations incl. speed and feed guidance
7	Product code
8	Product dimensions

Typical page with drills displayed – specific page details will differ.

1 **SCET**

PRAMET

	IC (mm)	D1 3	L (mm)	S (mm)
0502	5.556	2.…	5.56	2.38
0602	6.350	2.90	6.35	2.38
0703	7.937	3.50	7.94	3.18
09T3	9.525	4.50	9.53	3.97
1204	12.700	5.60	12.70	4.76
1505	15.875	5.60	15.88	5.56



Suitability and starting values for cutting speed (vc), feed (f) and depth of cut (ap). Refer to our Machining Calculator app for further calculations.

Product	Interrupted/ Continuous cut	RE (mm)	P vc (m/min)	P f (mm/rev)	P ap (mm)	M vc	M f	M ap	K vc	K f	K ap	N vc	N f	N ap	S vc	S f	S ap	H vc	H f	H ap
4	5		6			10 UD geometry with universal design for periphery inserts.															
SCET 050204-UD:D8330	●	0.4	■ 165	0.08	–	–	–	–	■ 155	0.08	–	–	–	–	–	–	–	–	–	–
SCET 050204-UD:D9335	●	0.4	■ 240	0.08	–	–	–	–	■ 225	0.08	–	–	–	–	–	–	–	–	–	–
SCET 060204-UD:D8330	●	0.4	■ 165	0.11	–	–	–	–	■ 155	0.11	–	–	–	–	–	–	–	–	–	–
SCET 060204-UD:D9335	●	0.4	■ 240	0.11	–	–	–	–	■ 225	0.11	–	–	–	–	–	–	–	–	–	–
SCET 07… 7	8	9	■ 165	0.13	–	–	–	–	■ 155	0.13	–	11	–	–	–	–	–	–	–	–
SCET 07… UD:D9335			■ 240	0.13	–	–	–	–	■ 225	0.13	–		–	–	–	–	–	–	–	–
SCET 09T308-UD:D8330	◆	0.8	■ 165	0.14	–	–	–	–	■ 155	0.14	–	–	–	–	–	–	–	–	–	–
SCET 09T308-UD:D9335	◆	0.8	■ 240	0.14	–	–	–	–	■ 225	0.14	–	–	–	–	–	–	–	–	–	–
SCET 120408-UD:D8330	◆	0.8	■ 165	0.16	–	–	–	–	■ 155	0.16	–	–	–	–	–	–	–	–	–	–
SCET 120408-UD:D9335	◆	0.8	■ 240	0.16	–	–	–	–	■ 225	0.16	–	–	–	–	–	–	–	–	–	–
SCET 150512-UD:D8330	◆	1.2	■ 165	0.18	–	–	–	–	■ 155	0.18	–	–	–	–	–	–	–	–	–	–
SCET 150512-UD:D9335	◆	1.2	■ 240	0.18	–	–	–	–	■ 225	0.18	–	–	–	–	–	–	–	–	–	–

Pos.	Description
1	Designation of insert
2	Schematic drawing of insert
3	Table with insert sizes (mm)
4	Picture of representative insert
5	Profile of main cutting edge
6	Icons – specific features and cutting edge type

Pos.	Description
7	ISO insert code:Grade
8	Working conditions
9	Insert radii (mm)
10	Geometry description
11	Application area of insert

Typical page with drilling inserts displayed – specific page details will differ.

1 **802D**

P M K N S H 2

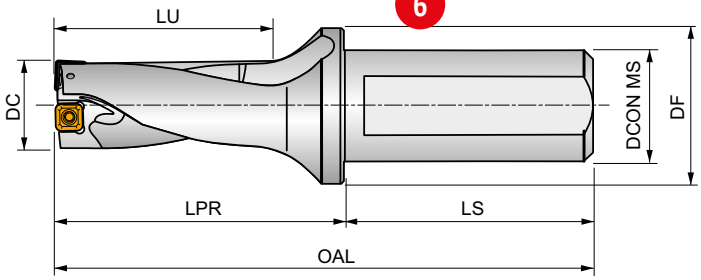
PRAMET

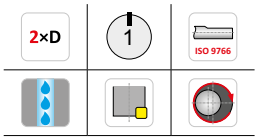
S 3


5

2xD 802D Indexable Insert Drill body with Internal Coolant Feed

High performance indexable insert drill body for drilling blind and through holes. Also, potentially cross hole, off center and stack drilling, helical interpolation, plunging, drilling on concave or angled surfaces, drilling with interrupted cuts, chamfer drilling and boring. 4





7


8

	Product	DC	APMX	OAL	LPR	LS	LU	DCON MS	DF	D	D					
		[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]	[mm]				kg	
	802D-15-30-S25	15	30.00	121	65	56	34.5	25	35	0.25	0.35	EP253253	GI300	GI313	0.30	HM001
9	**802D-16-32-S25**	16	32.00	123	67	56	37	25	35	0.15	0.45	EP253253	GI300	GI313	0.30	HM001
10	**802D-17-34-S25**	17	34.00	125	69	56	39.5	25	35	0.35	0.50	EP253253	GI301	GI314	0.31	HM002
11	**802D-18-36-S25**	18	36.00	127	71	56	42	25	35	0.35	0.25	EP253253	GI301	GI314	0.31	HM002
12	**802D-19-38-S25**	19	38.00	129	73	56	44.5	25	35	0.15	0.45	EP253253	GI301	GI314	0.32	HM002
13	**802D-20-40-S25**	20	40.00	131	75	56	47	25	35	0.10	0.45	EP253253	GI302	GI315	0.33	HM003
14	**802D-21-42-S25**	21	42.00	133	77	56	49.5	25	35	0.10	0.50	EP253253	GI302	GI315	0.34	HM003
15	**802D-22-44-S25**	22	44.00	135	79	56	52	25	35	0.45	0.50	EP253253	GI303	GI316	0.35	HM004
16	**802D-23-46-S25**	23	46.00	137	81	56	54.5	25	35	0.35	0.50	EP253253	GI304	GI317	0.36	HM005
	802D-24-48-S25	24	48.00	139	83	56	57	25	35	0.15	0.50	EP253253	GI304	GI317	0.37	HM005

GI300	XPET 0502AP	SCET 050204-UD
GI301	XPET 0602AP	SCET 050204-UD
GI302	XPET 0602AP	SCET 060204-UD
GI303	XPET 0703AP	SCET 060204-UD
GI304	XPET 0703AP	SCET 070308-UD
GI305	XPET 0903AP	SCET 070308-UD
GI306	XPET 0903AP	SCET 09T308-UD
GI307	XPET 11T3AP	SCET 09T308-UD
GI308	XPET 11T3AP	SCET 120408-UD
GI309	XPET 12T3AP	SCET 120408-UD
GI313	XPET 0502AP-SD	SCET 050204-SD
GI314	XPET 0602AP-SD	SCET 050204-SD
GI315	XPET 0602AP-SD	SCET 060204-SD
GI316	XPET 0703AP-SD	SCET 060204-SD
GI317	XPET 0703AP-SD	SCET 070308-SD

17 18

GI300	XPET 0502AP	SCET 050204-UD
GI301	XPET 0602AP	SCET 050204-UD
GI302	XPET 0602AP	SCET 060204-UD
GI303	XPET 0703AP	SCET 060204-UD
GI304	XPET 0703AP	SCET 070308-UD

19

Typical page with drilling holder displayed – specific page details will differ.

INDEXABLE DRILLS – PAGE OVERVIEW

Pos.	Description
1	Designation of drill
2	Material group recommendations
3	Clamping system of insert
4	Tool description
5	Illustrative picture
6	Schematic drawing of tool
7	Product features
8	Product applications
9	Tool code
10	Tool dimensions

Pos.	Description
11	Radial setting (mm)
12	Adjustable sleeve
13	Group of compatible inserts with chip breaker UD [1), 2)]
14	Group of compatible inserts with chip breaker SD [1), 2)]
15	Weight (kg)
16	Group of spare parts [1)]
17	Compatible inserts with chip breaker UD
18	Compatible inserts with chip breaker SD
19	Spare parts

[1)] Code of Group of compatible inserts and spare parts is used only for purposes of this catalogue. It cannot be used for orders.

[2)] External (SCET) and internal (XPET) inserts must always have the same chip breaker (please note: UD chip breaker is not visibly included in designation of XPET inserts – e.g. XPET 0502AP); info needed for correct choice of chip breaker (UD vs SD) can be found on the insert packaging.

ICONS OVERVIEW

General Icons

■	Primary use
◪	Possible use

Basic standard group (BSG)

DIN 1897	DIN 1897 – Stub Drill Standards
DIN 1899	DIN 1899 – Micro Drill Standards
DIN 338	DIN 338 – Straight Shank Drill Standards
NAS 907	NAS907 – Aerospace Drill Standards
DIN 340	DIN 340 – Taper Length Drill Standards
DIN 1869-1	DIN 1869 / 1 – Straight Shank Extra Long Drill Standards
DIN 1869-2	DIN 1869 / 2 – Straight Shank Extra Long Drill Standards
DIN 1869-3	DIN 1869 / 60-100° Countersink – Straight Shank Extra Long Drill Standards
DIN 1870(2)	DIN 1870 (2) – Morse Taper Shank Extra Long Drill Standards
DIN 345	DIN 345 – Morse Taper Shank Drill Standards
DIN 8374	DIN 8374 – Subland Drill Standards
DIN 8376	DIN 8376 – Step Drill Standards
DIN 333A	DIN 333A – Centre Drill Standards
DIN 6539	DIN 6539
DIN 6537K	DIN 6537 K
DIN 6537L	DIN 6537 L
DIN 333R	DIN 333R – Straight Shank Countersink Standards
DIN 334C	DIN 334 C – Straight Shank Countersink Standards
DIN 335A	DIN 335 A – Straight Shank Countersink Standards
DIN 335C	DIN 335 C – Straight Shank Countersink Standards
DIN 334D	DIN 334 D – Morse Taper Shank Countersink Standards
DIN 335D	DIN 335 D – Morse Taper Shank Countersink Standards
DIN 373	DIN 373 – Counterbore Standards
BS 328	BS 328 – Drills and Reamers Standards
DIN 206	DIN 206 – Hand Reamer Standards
DIN 208	DIN 208 – Morse Taper Shank Chucking Reamer Standards
DIN 212	DIN 212 – Machine Reamer Standards
DIN 2179	DIN 2179 – Parallel Shank Taper Pin Reamer Standards
DIN 2180	DIN 2180 – Morse Taper Shank Taper Pin Reamer Standards
DIN 311	DIN 311 – Morse Taper Shank Bridge Reamer Standards
DIN 8050	DIN 8050 – Parallel Shank Reamer Standards
DIN 8051	DIN 8051 – Morse Taper Shank Reamer Standards
DIN 8093	DIN 8093 – Straight Shank Reamer Standards
DIN 8094	DIN 8094 – Morse Taper Shank Reamer Standards
DIN 9	DIN Feed (mm/rev) – Taper Pin Reamer Standards
DIN ANSI	DIN/ANSI Standards
ANSI	ANSI – Tap Standards
DORMER	Dormer Standards

Usable length (ULDR)

1×D	1×D Usable Tool Depth to Diameter Ratio
1.25×D	1.25×D Usable Tool Depth to Diameter Ratio
1.5×D	1.5×D Usable Tool Depth to Diameter Ratio
2×D	2×D Usable Tool Depth to Diameter Ratio
2.5×D	2.5×D Usable Tool Depth to Diameter Ratio
3×D	3×D Usable Tool Depth to Diameter Ratio
3.5×D	60-100° Countersink.5×D Usable Tool Depth to Diameter Ratio
4×D	4×D Usable Tool Depth to Diameter Ratio
5×D	5×D Usable Tool Depth to Diameter Ratio
6×D	6×D Usable Tool Depth to Diameter Ratio
8×D	8×D Usable Tool Depth to Diameter Ratio
10×D	10×D Usable Tool Depth to Diameter Ratio
12×D	12×D Usable Tool Depth to Diameter Ratio
15×D	15×D Usable Tool Depth to Diameter Ratio
20×D	20×D Usable Tool Depth to Diameter Ratio
25×D	25×D Usable Tool Depth to Diameter Ratio

ICONS OVERVIEW

Application angle

118°	Drill Point 118°
120°	Drill Point 120°
122°	Drill Point 122°
130°	Drill Point 130°
135°	Drill Point 135°
140°	Drill Point 140°
90°	Spot Drill Point 90°
90°/120°	Spot Drill Point 90°/120°
120°	Spot Drill Point 120°
150°	Spot Drill Point 150°
90°	Pre-Drill with 90° Chamfer (for tapping)
90°	Step-drill (for fasteners) 90° Counterbore
180°	Step-drill (for fasteners) 180° Counterbore
180°	180° Counterbore
20°	20° Conical Drill
60°	60° Countersink
82°	82° Countersink
90°	90° Countersink
100°	100° Countersink
60-100°	60-100° Countersink
60°	60° Countersink Centre Drill
R	Radius Countersink Centre Drill

Shank

	Cylindrical Shank / Straight Shank
DIN 6535HA	DIN 6535 HA Cylindrical Shank
	Cylindrical Shank with Tang
	Cylindrical Shank with 3flat
	Cylindrical Shank with Square
	Cylindrical Shank with Hex
	Morse Taper Shank
	Reduced Cylindrical Shank
ISO 9766	Universal shank
	Cylindrical Shank with Flange
ISO 9766	ISO 9766 Cylindrical Shanks (with or without Flat)
DIN 6535HB DIN 6535HE	DIN 6535 – HB (Weldon) or HE (Whistle Notch) Shank

Spiral form

CTW	Continuously Thinned Web Flute Design
λ32-40°	Quick Spiral Flute Design
λ>35°	Quick Spiral Flute Design
VA	Special Point Thinning Design
λ20-35°	Standard Spiral Flute Design

Hand (Cutting direction)

L	Left Hand Rotation / Cutting
R	Right Hand Rotation / Cutting

Cooling (CSP)

	Through Tool Coolant

Cutting diameter tolerance class (TCDC)

DC h6	h6 – Industry Standard Tool Tolerance Zone (based on diameter range)
DC h7	h7 – Industry Standard Tool Tolerance Zone (based on diameter range)
DC h8	h8 – Industry Standard Tool Tolerance Zone (based on diameter range)
DC m7	m7 – Industry Standard Tool Tolerance Zone (based on diameter range)

ICONS OVERVIEW

Achievable hole tolerance (TCHA)

H7	H7 – Industry Standard Hole Tolerance Zone (based on diameter range)
k11	k11 – Industry Standard Tool Tolerance Zone (based on diameter range)
ø.95-5.5 +0.004 / ø5.51-12 +0.005	High Precision Hole Tolerance Zone (based on diameter range)

Reamer form

A	DIN Form A – Straight Flute, Right hand cut
B	DIN Form B – Left hand Slow Spiral Flute, Right hand cut

Taper gradient (Rate of taper)

1:50	Taper Gradient (1 mm per 50 mm taper)
1:48	Taper Gradient (1/Drilling Operations“ per foot taper)

Drilling Operations

Blind hole drilling	Drilling of stacked materials	Boring
Through hole drilling	Helical interpolation drilling	Blind hole boring
Drilling onto inclined surface	Welded joint drilling	Through hole boring
Drilling onto curved surface	Interrupted cut	Helical interpolation boring
Drill exit on inclined surface	Chamfering (beveling)	Boring up to a shoulder
Drilling across an existing hole	Chamfering (beveling) in hole	Boring through cross holes

Insert Features

For tough materials (long chipping)	Universal wide range option
Heavy working conditions	Rounded edge with facet

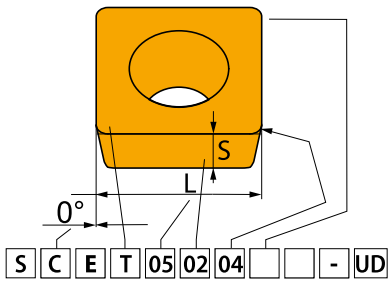
General Features of Tools

1 effective tooth per revolution	Monoblock design	Possibility of use for eccentric machining

Other Icons

Nm Clamping torque of screw [Nm]	S – Screw clamp	f Feed (mm/rev)

INSERTS – ISO CODE DESIGNATION



	1	2	3	4
ISO	S	C	E	T
ANSI	S	C	E	T

1 Insert shape

H	O	P	R
S	T	C 80°	D 55°
E 75°	M 86°	V 35°	W 80°
L	A 85°	B 82°	K 55°

2 Insert clearance angle

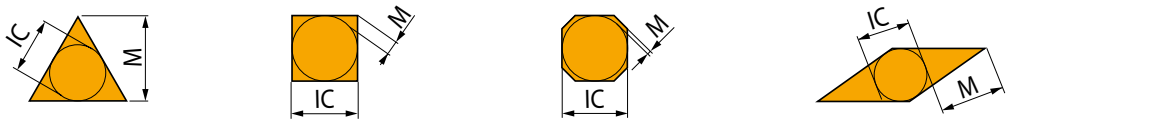
A	3°	B	5°
C	7°	D	15°
E	20°	F	25°
G	30°	N	0°
P	11°	O	Special

4 Insert type

N	
R	
F	
A	
M	
G	
W	40° – 60°
T	
Q	
U	
B	70° – 90°
H	
C	
J	
X	Special

3 Tolerances

	(mm)			(″)		
	M (±)	S (±)	IC (±)	M (±)	S (±)	IC (±)
A	0.005	0.025	0.025	.0002″	.001″	.0010″
F	0.005	0.025	0.013	.0002″	.001″	.0005″
C	0.013	0.025	0.025	.0005″	.001″	.0010″
H	0.013	0.025	0.013	.0005″	.001″	.0005″
E	0.025	0.025	0.025	.0010″	.001″	.0010″
G	0.025	0.130	0.025	.0010″	.005″	.0010″
J	0.005	0.025	0.05 – 0.13	.0002″	.001″	.002 – 0.005″
K	0.013	0.025	0.05 – 0.13	.0005″	.001″	.002 – 0.005″
L	0.025	0.025	0.05 – 0.13	.0010″	.001″	.002 – 0.005″
M	0.08 – 0.18	0.130	0.05 – 0.13	.003 – 0.007″	.005″	.002 – 0.005″
N	0.08 – 0.18	0.025	0.05 – 0.13	.003 – 0.007″	.001″	.002 – 0.005″
U	0.05 – 0.38	0.130	0.05 – 0.13	.005 – 0.015″	.005″	.003 – 0.010″



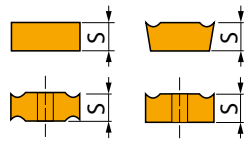
INSERTS – ISO CODE DESIGNATION

5	6	7	8	9		10
05	02	04			–	UD
1.8	1.5	1			–	UD

5 – Insert cutting edge length (insert size)

d = I.C.		H	O	P	S	T	C	D	E	M	V	W	R	K
(mm)	(in)													
3.97					03	06		04			06	02		
	5/32″	1.2												
4.76					04	08	04	05	04	04	08	L3		
	3/16″	1.5												
5.56					05	09	05	06	05	05	09	03		
	7/32″	1.8												
6.35		03	02	04	08	11	06	07	08	08	11	04	06	
	1/4″	2												
7.94		04	03	05	07	13	08	09	06	07	13	05	07	
	5/16″	2.5												
9.525		05	04	07	09	16	09	11	09	09	16	06	09	16
	3/8″	3												
12.7		07	05	09	12	22	12	15	13	12	22	08	12	
	1/2″	4												
15.875		09	06	11	15	27	16	19	16	15	27	10	15	
	5/8″	5												
19.05		11	07	13	19	33	19	23	19	19	33	13	19	
	3/4″	6												
25.40		14	10	18	25	44	25	31	26	25	44	17	25	
	1″	8												
31.75		18	13	23	31	54	32	38	32	31	54	21	31	
	1 1/4″	10												

6 – Insert thickness



	S	
	(mm)	(″)
01	1.59	1/16″
T1	1.98	5/64″
02	2.38	3/32″
03	3.18	1/8″
T3	3.97	5.32″
04	4.76	3/16″
05	5.56	7/32″
06	6.35	1/4″
07	7.94	5/16″
09	9.52	3/8″

7 – Insert nose radius

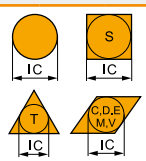
	RE	
	(mm)	(″)
00	0	0″
02	0.2	1/128″
04	0.4	1/64″
08	0.8	1/32″
12	1.2	3/64″
16	1.6	1/16″
24	2.4	3/32″
32	3.2	1/8″

Round inserts

d = I.C.	
(″)	00
(mm)	M0

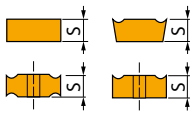
ANSI

5 – Inscribed circle



Symbol	d = I.C.	
	(mm)	(″)
1	3.175	1/8″
1.2	3.969	5/32″
1.5	4.763	3/16″
1.8	5.556	7/32″
2	6.350	1/4″
2.5	7.938	5/16″
3	9.525	3/8″
4	12.700	1/2″
5	15.875	5/8″
6	19.050	3/4″
7	22.225	7/8″
8	25.400	1″
10	31.750	5/4″
12	38.100	6/4″

6 – Insert thickness



Symbol	S	
	(mm)	(″)
1	1.588	1/16″
1.2	1.984	5/64″
1.5	2.381	3/32″
2	3.175	1/8″
2.5	3.969	5/32″
3	4.763	3/16″
3.5	5.556	7/32″
4	6.350	1/4″
5	7.938	5/16″
6	9.525	3/8″
7	11.113	7/16″
8	12.700	1/2″
9	14.288	9/16″
10	15.875	5/8″

7 – Insert nose radius

Symbol	RE	
	(mm)	(″)
0	0	0″
0.2	0.099	1/256″
0.5	0.198	1/128″
1	0.397	1/64″
2	0.794	1/32″
3	1.191	3/64″
4	1.588	1/16″
5	1.984	5/64″
6	2.381	3/32″
7	2.778	7/64″
8	3.175	1/8″
10	3.969	5/32″
12	4.763	3/16″
14	5.556	7/32″
16	6.350	1/4″

8 – Insert cutting edge design

F	Sharp edges	E	Rounded edges
T	Edges with facet	S	Rounded edges with facet
K	Edges with double facet	P	Rounded edges with double facet

9 – Feed direction

R	Feed ←	N	Feed ← Feed →
L	Feed →		

10 – Chip breaker designation

CODE KEY FOR DRILLS

1	2	3		4		5		6	7
8	05	D	–	19	–	95	–	S	25

1	
Tool type	
8	Indexable drill

2	
Approximate length	
02	2 × DC
03	3 × DC
04	4 × DC
05	5 × DC

3	
Variant	
D	Drill

4	
Cutting diameter	
15.5	DC = 15.5 mm
19	DC = 19 mm

5	
Max. drilling depth	
35	35 mm
95	95 mm
140	140 mm

6	
Type of shank	
E	Whistle Notch
S	ISO 9766

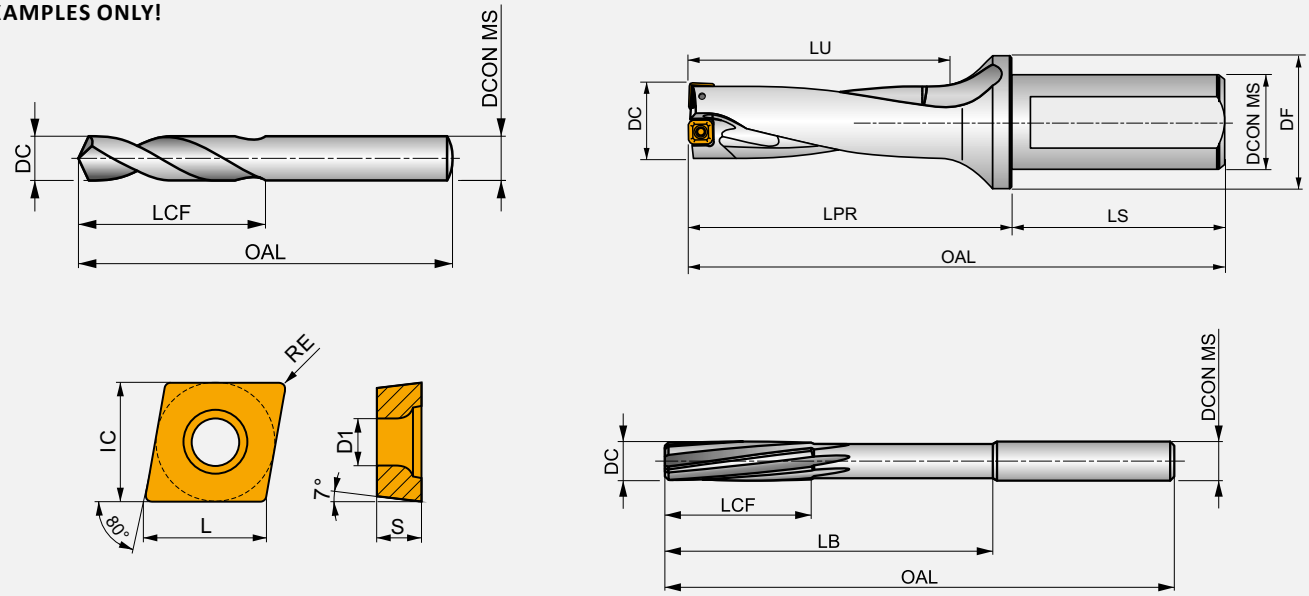
7	
Shank diameter	
25	DCON MS = 25 mm
32	DCON MS = 32 mm
40	DCON MS = 40 mm

CUTTING TOOL PARAMETERS ACCORDING TO ISO 13399

All cutting tools are defined by a number of parameters according to the standard ISO 13399. This list contains all the parameters used in this catalogue and their definitions.

ISO 13399 is an international cutting tool information standard. It provides dimensions and parameters in a neutral format that is independent of any particular system or company nomenclature. When cutting tools are clearly defined according to a global standard, all types of software can process the electronic data more quickly, improving the quality of communication and helping to make the exchange of information run smoothly. By supporting a common language in our cutting tool descriptions will assist this system to system communication. It will save you significant amount of time, providing an easier gathering of high-quality data across our 40,000 solid and indexable tools. By using a ISO 13399 compliant system, there will be no need to manually interpret data and key-enter it into your system.

EXAMPLES ONLY!



ISO 13399	description
BD	Body diameter
BDX	Body diameter maximum
CZC MS	Connection size code machine side
D1	Fixing hole diameter
DC	Cutting diameter
DCN	Cutting diameter minimum
DCON MS	Connection diameter machine side
DCON WS	Connection diameter workpiece side
DCX	Cutting diameter maximum
DHUB	Hub diameter
FLGT	Flange thickness
IC	Inscribed circle diameter
L	Cutting edge length
LB	Body length
LF	Functional length
LPR	Protruding length
LU	Usable length
OAL	Overall length
RE	Corner radius
S	Insert thickness
WF	Functional width
APMX	Depth of cut maximum
D1	Fixing hole diameter
DC_1	Cutting diameter first cutting step
DC_2	Cutting diameter second cutting step

ISO 13399	description
DF	Flange diameter
DH	Head diameter
GPD	Guide pilot diameter
GPL	Guide pilot length
H	Shank height
HSD	Size of drive part
IC	Inscribed circle diameter
LCF	Length chip flute
LCOL	Collet length
LDC	Distance reference point PK
LH	Head length
LS	Shank length
LSC	Clamping length
NOF	Number of flutes
PLGL	Plug length
RCSK	Radius countersunk
RE	Corner radius
SDI	Step diameter increments
SDL	Step diameter length
SDL_1	Step diameter length first cutting step
SDL_2	Step diameter length second cutting step
TDZ	Thread diameter size
THLGTH	Thread length
WSC	Clamping width

NAVIGATOR TOOL MATERIALS

Tool materials

High Speed Steel	HSS	A medium-alloyed high speed steel that has good machinability and good performance. HSS exhibits hardness, toughness and wear resistance characteristics that make it attractive in a wide range of applications, for example in drills and taps.
Cobalt High Speed Steel	HSS-E	This high speed steel contains cobalt for increased hot hardness. The composition of HSCo is a good combination of toughness and hardness. It has good machinability and good wear resistance, which makes it usable for drills, taps, milling cutters and reamers.
Carbide and High Speed Steel	HSS HM	Combined carbide and high speed steel materials typically joined together with high temperature braze alloy as the interface. This brazed combination of tool materials offers a solid carbide cutting portion which provides high compression strength, hardness and wear resistance attached to a high speed steel body which provides flexural strength and toughness in the tool body.
Carbide Materials (or Hard Materials)	HM	A sintered powder metallurgy substrate, consisting of a metallic carbide composite with binder metal. The most central raw material is tungsten carbide (WC). Tungsten carbide contributes to the hardness of the material. Tantalum carbide (TaC), titanium carbide (TiC) and niobium carbide (NbC) complements WC and adjusts the properties to what is desired. These three materials are called cubic carbides. Cobalt (Co) acts as a binder and keeps the material together. Carbide materials are often characterised by high compression strength, high hardness and therefore high wear resistance, but also by limited flexural strength and toughness. Carbide is used in taps, reamers, milling cutters, drills and thread milling cutters.

Surface Treatments

Bright (uncoated)		Bright finish (uncoated surface) improves chip flow in soft or non-ferrous materials, plastics and composites while maintaining sharp cutting edges.
Bright Nickel Plating		Bright Nickel Plated surface protects hardened steel body from rust, corrosion and also improves chip evacuation.
Combination Bright and Steam Tempered		Combination of bright and steam tempering can be effective as the blue oxide more porous surface acts to retain and pull cutting fluid into the hole while the bright surface assists in chip evacuation. This combination is achieved by grinding the bright surface after tempering.
Steam Tempering		Steam tempering gives a strongly adhering blue oxide surface that acts to retain cutting fluid and prevent chip to tool welding, thereby counteracting the formation of a built-up edge. Steam tempering can be applied to any bright tool but is most effective on drills and taps.
Bronze Tempering		Bronze tempering creates a smooth thin bronze oxide layer on the tool surface. Similar to Steam Tempering it helps to prevent chip to tool welding and aids in chip evacuation. Bronze tempering can be applied to any bright tool and can also be applied in combination with Steam Tempering on some tools.
Combination Steam and Bronze Tempered Surface Treatment		Combination of steam and bronze tempering can be effective, as the blue oxide more porous surface acts to retain and pull cutting fluid into the hole while the bronze surface assists in chip evacuation. Both surface treatments add a degree of surface protection to the tool. These combinations are achieved by using two different tempering cycles.

Surface Coatings

Bright and TiN (Tip Coating) Titanium Nitride (TiN)		Titanium Nitride is a gold coloured ceramic coating applied by physical vapor deposition (PVD). High hardness combined with low friction properties ensures longer tool life and/or better cutting performance over tools which have not been coated.
Titanium Aluminium Nitride coatings (TiAlN, TiAlN-Top & X-CEED)		Titanium Aluminium Nitride is a multi layer ceramic coating applied by PVD coating technology, which exhibits high toughness and oxidation stability. These properties make it ideal for higher speeds and feeds, while at the same time improving tool life. TiAlN is used in drilling, tapping, and milling applications and can be suitable for use when machining without coolant. TiAlN-Top coating is the same as TiAlN but with a post-coating process designed to smooth out imperfections, enhance chip flow and reduce built up edge.
Ti-phon (TiAlCrSiN)		Ti-phon Coating is a coating similar to TiAlN but with the addition of Chromium (Cr) and Silicon (Si) which is specially formulated for Hydra Heads to prevent edge build-up and greatly improve chip flow. This coating exhibits high hot hardness, high oxidation resistance and superior lubricity when used on tools for machining applications involving heavy mechanical and thermal stresses, high speeds and high feed rates. These coating properties translate into superior wear resistance and edge strength.
Aluminium Titanium Carbon Nitride (AlTiCN)		Aluminium Titanium Carbon-Nitride (AlTiCN) is a PVD coating which was specifically engineered to meet the rigorous requirements of the medical device industry. It is however equally applicable to certain cutting tool operations due to a high quality thin-film technology, with excellent micro-hardness and adhesion characteristics.

DRILLING GRADES

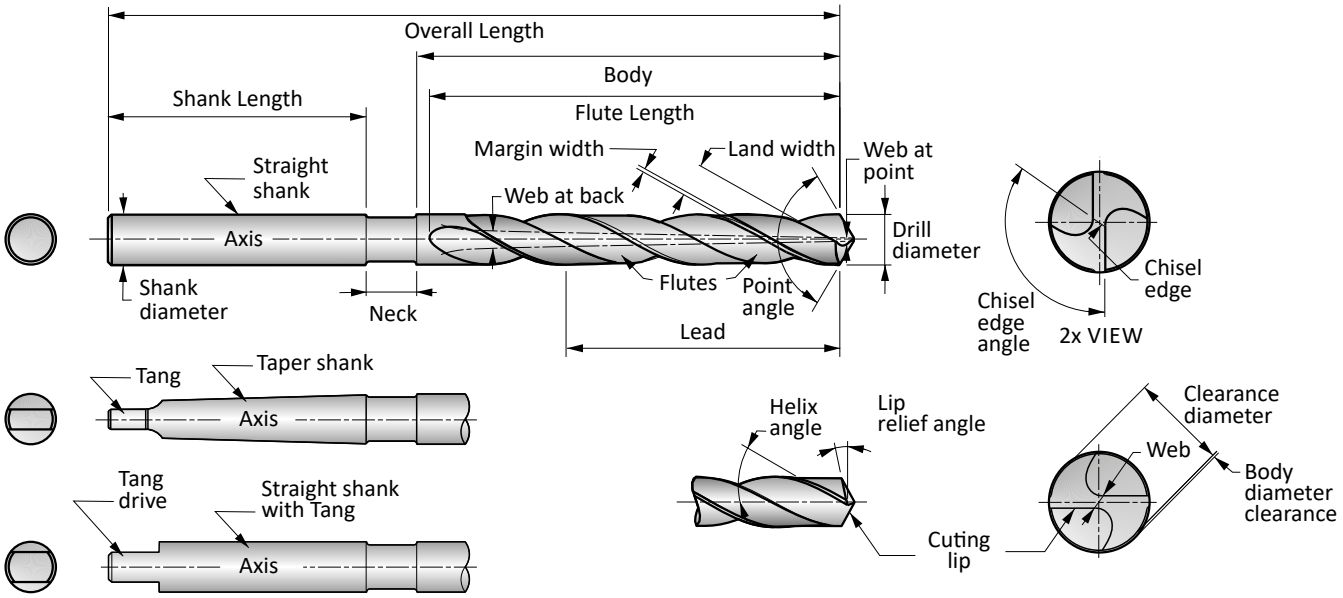
Grade Identification	Area of Application	Application	Feed	Cutting speed	Resistance to adverse Working Conditions	Coating	Colour	Substrate	Coolant benefit	Grade description
D9335	P20 - P35 M15 - M30 K15 - K35 S10 - S20	■ ■ ■ ◪				MT-CVD		FGM	+ + +	This grade is recommended for the peripheral insert in indexable drills, it is more suited to higher cutting speeds and feeds.
D8330	P20 - P35 M15 - M30 K15 - K35 S10 - S20	■ ■ ■ ◪				PVD		submicron H	+ + +	This is a universal grade for the peripheral insert in indexable drills, it can be used for most materials and stands out for it's operational reliability.
D8345	P30 - P50 M20 - M40 K30 - K40 S20 - S30	■ ■ ■ ◪				PVD		submicron H	+ + +	This grade is a universal grade for the central insert in indexable drills, it is an extremely tough suited to most materials.

Substrate	
submicron H	WC-Co based substrate fine grained (< 1 µm)
FGM	Functionally graded substrate

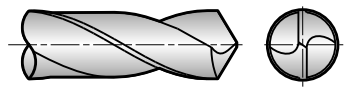
Coating	
MT-CVD	Medium-temperature chemical method of coating
PVD	Low-temperature physical method of coating

Benefits of cutting fluid	
+ + +	Use of coolant is essential

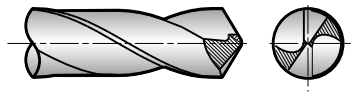
Drill Nomenclature



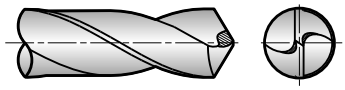
- **Axis** — The imaginary straight line which forms the longitudinal centre line of a drill.
- **Backtaper** — A slight decrease in diameter from front to back in the body of a drill.
- **Body** — The portion of a drill extending from the shank or neck to the outer corners of the cutting lips.
- **Body Clearance Diameter** — The portion of the land that has been cut away so it will not bind against the walls of the hole.
- **Chisel-Edge** — The edge at the end of the web that connects the cutting lips.
- **Chisel-Edge Angle** — The included angle between the chisel-edge and cutting lip, as viewed from the end of a drill.
- **Clearance Diameter** — The diameter over the cut away portion of the drill lands.
- **Drill** — A rotary end cutting tool having one or more cutting lips, and having one or more helical or straight flutes for the passage of chips and the admission of a cutting fluid.
- **Drill Diameter** — The diameter over the margins of a drill measured at the point.
- **Flute Length** — The length from the outer corners of the cutting lips to the extreme back of the flutes. Includes the sweep of the tool used to generate the flutes and therefore does not indicate the usable length of flutes.
- **Flutes** — Helical or straight grooves cut or formed in the body of a drill to provide cutting lips, permit removal of chips, and allow cutting fluid to reach the cutting lips.
- **Helix Angle** — The angle formed by the leading edge of the land with a plane containing the axis of a drill.
- **Land** — The peripheral portion of the body between adjacent flutes.
- **Land Width** — The distance between the leading edge and heel of the land; measured at a right angle to the leading edge.
- **Lead** — The axial advance of a leading edge of the land in one turn around the circumference.
- **Lip Relief Angle** — The axial relief angle at the outer corner of the lip; measured by projection to a plane tangent to the periphery at the outer corner of the lip.
- **Lips** — The cutting edges of a two flute drill extending from the chisel- edge to the periphery.
- **Margin** — The cylindrical portion of the land, which is not cut away, to provide clearance.
- **Neck** — The section of reduced diameter between the body and the shank of a drill.
- **Overall Length** — The length from the extreme end of the shank to the outer corners of the cutting lip. It does not include the conical shank end often used on straight shank drills, nor the conical cutting point used on both straight and taper shank drills.
- **Point** — The cutting end of a drill, made up of the ends of the lands and the web. In form, it resembles a cone, but departs from a true cone to furnish clearance behind the cutting lips.
- **Conventional** — Conventional Points with 118° included point angles are the most commonly used because they provide satisfactory results in a wide variety of materials. A possible limitation is that the straight chisel edge contributes to wandering at the drill point, often making it necessary to spot the hole for improved accuracy.



- **Split** — Split-Points (commonly called Crankshaft Points) were originally developed for use on drills designed for deep oil holes in automotive crankshafts. Since its inception, the split-point has gained widespread use and is applied to both 118° and 135° included point angles. Its main advantages are the ability to reduce thrust and eliminate wandering at the drill point. This is a distinct advantage when the drill is used in a portable drill or in drilling applications where bushings cannot be used. The split-point also has two positive rake cutting edges extending to the centre of the drill, which can assist as a chipbreaker to produce small chips which can readily be ejected.



- **Notched** — Notched Points were developed for drilling tough alloys. Commonly incorporated on heavy web drills, which allow the point to withstand the higher thrust loads required in drilling these materials. As with the split-point, the Notched Point contains two additional positive rake cutting edges extending toward the centre of the drill. These secondary cutting lips, which extend no further than half the original cutting lip, can assist in chip control and reduce the torque required in drilling tough materials. Notched Points can be incorporated on both 118° and 135° included point angles, making them suitable for drilling a wide variety of materials.



- **Point Angle** — The included angle between the cutting lips projected upon a plane parallel to the drill axis and parallel to the two cutting lips.
- **Relative Lip Height** — The difference in indicator reading between the cutting lips of a drill. Measured at a right angle to the cutting lip at a specific distance from the axis of the tool.
- **Shank** — The part of a drill by which it is held and driven.
- **Tang** — The flattened end of a taper shank, intended to fit into a driving slot in a socket.
- **Tang Drive** — Two opposite parallel driving flats on the extreme end of a straight shank.
- **Taper Shank** — Drills having conical shanks suitable for direct fitting in machine spindles, driving sleeves, or sockets. Tapered shanks generally have a tang.
- **Web** — The central portion of the body that joins the lands. The extreme end of the web forms the chisel-edge on a two flute drill.
- **Web Thickness** — The thickness of the web at the point, unless another specific location is indicated.

General hints on drilling

1. Select the most appropriate drill for the application, bearing in mind the material to be machined, the capability of the machine tool and the coolant to be used.

2. Flexibility within the component and machine tool spindle can cause damage to the drill as well as the component and machine - ensure maximum stability at all times. This can be improved by selecting the shortest possible drill for the application.

3. Tool holding is an important aspect of the drilling operation and the drill cannot be allowed to slip or move in the tool holder.

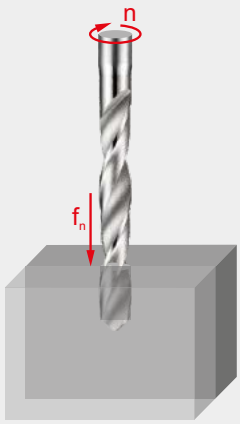
4. The correct use of Morse Taper Shank drills relies on an efficient fit between the taper surfaces of the tool and the tool holder. The use of a soft-faced hammer should be used to drive the drill into the holder.

5. The use of suitable coolants and lubricants are recommended as required by the particular drilling operation. When using coolants and lubricants, ensure a copious supply, especially at the drill point.

6. Swarf evacuation whilst drilling is essential in ensuring the correct drilling procedure. Never allow the swarf to become stationary in the flute.

7. When regrinding a drill, always make sure that the correct point geometry is produced and that any wear has been removed.

DRILLING FEED RATE CHART



Feed per revolution (f_n in mm/rev)
Depending on the working conditions it might be necessary to adjust these values ± 25 %.

How to use this table to find the feed per revolution (f_n):

1. Find your Alpha Code on the product page (example: 46J, "J" is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per revolution (f_n).

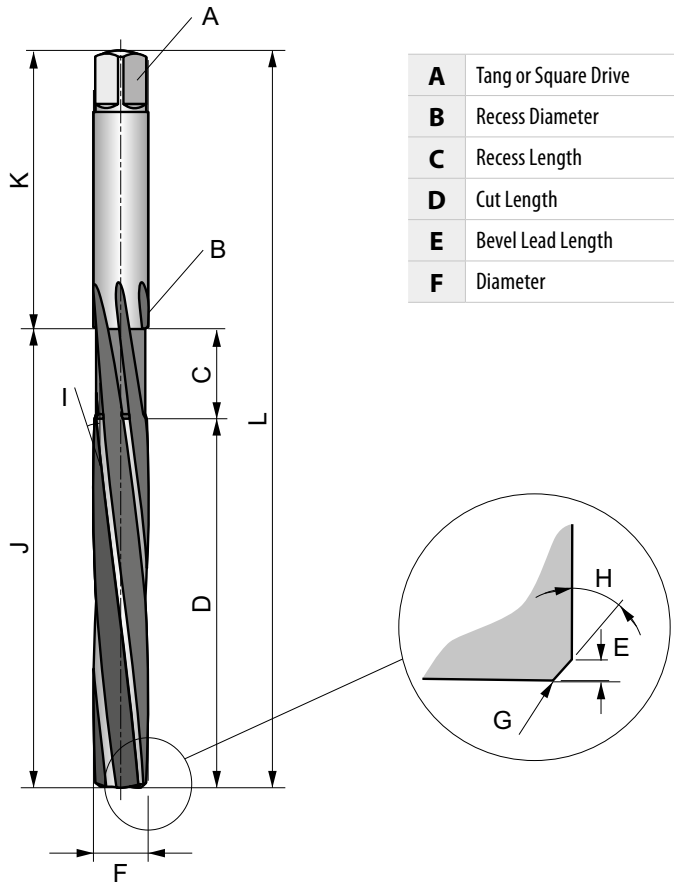
Feed rates (mm/rev)	ø DC (mm)																		
	0.15	0.50	1.00	2.00	3.00	4.00	5.00	6.00	8.00	10.00	12.00	15.00	16.00	20.00	25.00	30.00	40.00	50.00	100.00
A	0.003	0.006	0.012	0.023	0.029	0.032	0.036	0.042	0.054	0.062	0.069	0.082	0.086	0.110	0.125	0.135	0.155	0.175	0.263
B	0.004	0.007	0.014	0.028	0.037	0.041	0.046	0.053	0.067	0.080	0.090	0.103	0.108	0.135	0.153	0.165	0.188	0.208	0.312
C	0.004	0.008	0.015	0.032	0.044	0.050	0.056	0.064	0.080	0.098	0.110	0.125	0.130	0.160	0.180	0.195	0.220	0.240	0.360
D	0.004	0.008	0.016	0.038	0.053	0.060	0.068	0.078	0.098	0.119	0.130	0.149	0.155	0.188	0.210	0.228	0.253	0.275	0.413
E	0.004	0.009	0.017	0.043	0.062	0.071	0.080	0.092	0.115	0.140	0.150	0.173	0.180	0.215	0.240	0.260	0.285	0.310	0.465
F	0.005	0.009	0.018	0.050	0.073	0.084	0.095	0.109	0.138	0.165	0.178	0.202	0.210	0.248	0.275	0.295	0.320	0.343	0.515
G	0.005	0.010	0.019	0.056	0.084	0.096	0.109	0.126	0.160	0.190	0.205	0.231	0.240	0.280	0.310	0.330	0.355	0.375	0.563
H	0.005	0.010	0.020	0.066	0.102	0.116	0.130	0.150	0.190	0.228	0.243	0.271	0.280	0.320	0.355	0.375	0.398	0.418	0.627
I	0.005	0.011	0.021	0.076	0.119	0.134	0.150	0.173	0.220	0.265	0.280	0.310	0.320	0.360	0.400	0.420	0.440	0.460	0.690
J	0.006	0.012	0.024	0.084	0.135	0.152	0.170	0.197	0.250	0.298	0.315	0.349	0.360	0.405	0.445	0.465	0.485	0.503	0.755
K	0.007	0.013	0.026	0.092	0.150	0.170	0.190	0.220	0.280	0.330	0.350	0.388	0.400	0.450	0.490	0.510	0.530	0.545	0.818
L	0.007	0.014	0.028	0.101	0.165	0.186	0.208	0.240	0.305	0.360	0.385	0.419	0.430	0.485	0.525	0.545	0.568	0.588	0.882
M	0.008	0.015	0.030	0.110	0.180	0.202	0.225	0.260	0.330	0.390	0.420	0.450	0.460	0.520	0.560	0.580	0.605	0.630	0.945
N	0.008	0.016	0.032	0.119	0.195	0.218	0.242	0.280	0.355	0.420	0.455	0.481	0.490	0.555	0.595	0.615	0.642	0.672	1.008
S	0.002	0.004	0.008	0.014	0.020	0.025	0.030	0.037	0.050	0.080	0.100	0.123	0.130	0.150	0.170	0.190	0.220	0.240	–
T	0.004	0.008	0.015	0.028	0.040	0.050	0.060	0.070	0.090	0.110	0.130	0.160	0.170	0.190	0.210	0.230	0.260	0.275	–
U	0.007	0.013	0.026	0.048	0.070	0.080	0.090	0.107	0.140	0.170	0.200	0.223	0.230	0.240	0.270	0.300	0.360	0.375	–
V	0.010	0.019	0.038	0.069	0.100	0.115	0.130	0.153	0.200	0.250	0.280	0.310	0.320	0.340	0.400	0.440	0.510	0.530	–
W	0.012	0.025	0.049	0.089	0.130	0.150	0.170	0.200	0.260	0.330	0.380	0.418	0.430	0.450	0.470	0.490	0.520	0.540	–
X	0.014	0.028	0.056	0.103	0.150	0.180	0.210	0.250	0.330	0.420	0.480	0.533	0.550	0.580	–	–	–	–	–
Y	0.017	0.034	0.068	0.124	0.180	0.220	0.260	0.317	0.430	0.550	0.700	0.700	0.700	0.740	–	–	–	–	–
Z	0.024	0.047	0.094	0.172	0.250	0.325	0.400	0.533	0.800	1.000	1.100	1.175	1.200	1.200	–	–	–	–	–

Formulas (Metric)			Terms			Formulas (Imperial)
$v_c = \frac{n \times DC \times \pi}{1000}$	v_c	(m/min)	**Cutting speed**	*SFM*	(ft/min)	$SFM = \frac{RPM \times DC \times \pi}{12}$
$n = \frac{v_c \times 1000}{DC \times \pi}$	n	(rev/min)	**Spindle speed**	*RPM*	(rev/min)	$RPM = \frac{SFM \times 12}{DC \times \pi}$
$V_f = f_z \times z \times n$	V_f	(mm/min)	**Feed rate**	*IPM*	(in/min)	$IPM = IPT \times T \times RPM$
$f_z = \frac{V_f}{z \times n}$	f_z	(mm/tooth)	**Feed per tooth**	*IPT*	(in/tooth)	$IPT = \frac{IPM}{T \times RPM}$
$Q = \frac{V_f \times a_p \times a_e}{1000}$	*DC*	(mm)	**Cutting diameter**	*DC*	(in)	$MRR = IPM \times DOC \times WOC$
	z	(–)	**Number of teeth**	*T*	(–)	
	a_p	(mm)	**Depth of cut**	*DOC*	(in)	
	a_e	(mm)	**Width of cut**	*WOC*	(in)	
	Q	(cm^3/min)	**Metal removal rate**	*MRR*	(in^3/min)	

Table of Cutting Speeds

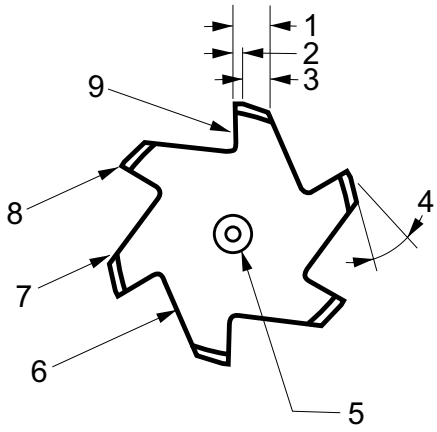
		Vc															
m/min.		5	8	10	15	20	25	30	40	50	60	70	80	90	100	110	150
SFM (feet/min.)		16	26	32	50	66	82	98	130	165	197	230	262	296	330	362	495
Ø		RPM															
mm	inch																
1.00	–	1592	2546	3183	4775	6366	7958	9549	12732	15916	19099	22282	25465	28648	31831	35014	47747
1.50	–	1061	1698	2122	3183	4244	5305	6366	8488	10610	12732	14854	16977	19099	21221	23343	31831
2.00	–	796	1273	1592	2387	3183	3979	4775	6366	7958	9549	11141	12732	14324	15916	17507	23873
2.50	–	637	1019	1273	1910	2546	3183	3820	5093	6366	7639	8913	10186	11459	12732	14006	19099
3.00	–	531	849	1061	1592	2122	2653	3183	4244	5305	6366	7427	8488	9549	10610	11671	15916
3.18	1/8	500	801	1001	1501	2002	2502	3003	4004	5005	6006	7007	8008	9009	10010	11011	15015
3.50	–	455	728	909	1364	1819	2274	2728	3638	4547	5457	6366	7276	8185	9095	10004	13642
4.00	–	398	637	796	1194	1592	1989	2387	3183	3979	4775	5570	6366	7162	7958	8754	11937
4.50	–	354	566	707	1061	1415	1768	2122	2829	3537	4244	4951	5659	6366	7074	7781	10610
4.76	3/16	334	535	669	1003	1337	1672	2006	2675	3344	4012	4681	5350	6018	6687	7356	10031
5.00	–	318	509	637	955	1273	1592	1910	2546	3183	3820	4456	5093	5730	6366	7003	9549
6.00	–	265	424	531	796	1061	1326	1592	2122	2653	3183	3714	4244	4775	5305	5836	7958
6.35	1/4	251	401	501	752	1003	1253	1504	2005	2506	3008	3509	4010	4511	5013	5514	7519
7.00	–	227	364	455	682	909	1137	1364	1819	2274	2728	3183	3638	4093	4547	5002	6821
7.94	5/16	200	321	401	601	802	1002	1203	1604	2004	2405	2806	3207	3608	4009	4410	6013
8.00	–	199	318	398	597	796	995	1194	1592	1989	2387	2785	3183	3581	3979	4377	5968
9.00	–	177	283	354	531	707	884	1061	1415	1768	2122	2476	2829	3183	3537	3890	5305
9.53	3/8	167	267	334	501	668	835	1002	1336	1670	2004	2338	2672	3006	3340	3674	5010
10.00		159	255	318	477	637	796	955	1273	1592	1910	2228	2546	2865	3183	3501	4775
11.11	7/16	143	229	287	430	573	716	860	1146	1433	1719	2006	2292	2579	2865	3152	4298
12.00		133	212	265	398	531	663	796	1061	1326	1592	1857	2122	2387	2653	2918	3979
12.70	1/2	125	201	251	376	501	627	752	1003	1253	1504	1754	2005	2256	2506	2757	3760
14.00		114	182	227	341	455	568	682	909	1137	1364	1592	1819	2046	2274	2501	3410
14.29	9/16	111	178	223	334	446	557	668	891	1114	1337	1559	1782	2005	2228	2450	3341
15.00	–	106	170	212	318	424	531	637	849	1061	1273	1485	1698	1910	2122	2334	3183
15.88	5/8	100	160	200	301	401	501	601	802	1002	1203	1403	1604	1804	2004	2205	3007
16.00	–	99	159	199	298	398	497	597	796	995	1194	1393	1592	1790	1989	2188	2984
17.46	11/16	91	146	182	273	365	456	547	729	912	1094	1276	1458	1641	1823	2005	2735
18.00	–	88	141	177	265	354	442	531	707	884	1061	1238	1415	1592	1768	1945	2653
19.05	3/4	84	134	167	251	334	418	501	668	835	1003	1170	1337	1504	1671	1838	2506
20.00	–	80	127	159	239	318	398	477	637	796	955	1114	1273	1432	1592	1751	2387
24.00	–	66	106	133	199	265	332	398	531	663	796	928	1061	1194	1326	1459	1989
25.00	–	64	102	127	191	255	318	382	509	637	764	891	1019	1146	1273	1401	1910
27.00	–	59	94	118	177	236	295	354	472	589	707	825	943	1061	1179	1297	1768
30.00	–	53	85	106	159	212	265	318	424	531	637	743	849	955	1061	1167	1592
32.00	–	50	80	99	149	199	249	298	398	497	597	696	796	895	995	1094	1492
36.00	–	44	71	88	133	177	221	265	354	442	531	619	707	796	884	973	1326
40.00	–	40	64	80	119	159	199	239	318	398	477	557	637	716	796	875	1194
50.00	–	32	51	64	95	127	159	191	255	318	382	446	509	573	637	700	955

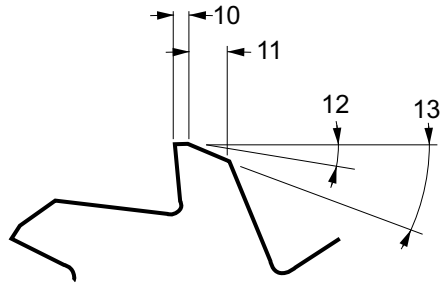
Reamer Definitions / Nomenclature



A	Tang or Square Drive
B	Recess Diameter
C	Recess Length
D	Cut Length
E	Bevel Lead Length
F	Diameter

G	Bevel Lead
H	Bevel Lead Angle
I	Helix Angle
J	Body Length
K	Shank Length
L	Overall Length





1	Width of Land
2	Circular Land
3	Clearance
4	Clearance Angle
5	Centre Hole
6	Flute
7	Heel
8	Cutting Edge
9	Face

10	Width of Primary Clearance
11	Width of Secondary Clearance
12	Primary Clearance Angle
13	Secondary Clearance Angle

REAMING – TECHNICAL INFO

Reaming

To obtain the best results when using reamers it is essential to make them 'work'. It is a common fault to prepare holes for reaming with too little stock left in the starting hole diameter. If insufficient stock is left in the hole before reaming, the reamer will rub, quickly show wear and will result in loss of diameter. It is equally important for performance not to leave too much stock in the hole. (See Stock removal below).

1. Select the optimum type of reamer and the optimum speeds and feeds for the application. Ensure that pre-drilled holes are the correct diameter.
2. The workpiece must be held rigid and the machine spindle should have no play.
3. The chuck for straight shank reamers must be of good quality and in good working condition. If the reamer slips in the chuck and the feed is automatic, breakage of the reamer may occur.
4. Keep tool overhang from machine spindle to a minimum.
5. Use recommended lubricants to enhance the life of the reamer and ensure the fluid reaches the cutting edges. As reaming is not a heavy cutting operation, soluble oil 40:1 dilution is normally satisfactory. Air blasting may be used with grey cast iron, if dry machining.
6. Do not allow the flutes of a reamer to become blocked with chips. Retract if necessary to empty the flutes, this can help to prevent poor hole quality and breakage of the tool.
7. Before the reamer is reground, check concentricity between centres. In most instances only the bevel lead will need regrinding.
8. Keep reamers sharp. Frequent regrinding is good economy, but it is important to understand that reamers cut only on the bevel and taper leads and not on the lands. Consequently only these leads need regrinding. Accuracy of regrinding is important to hole quality and tool life.

Stock removal

The recommended stock removal in reaming is dependent on the application material and the surface finish of the pre-drilled hole. General guidelines for stock removal are shown in the following tables:

Size of reamed hole (mm)	When pre-drilled	When pre-core-drilled
Below 4	0.1	0.1
Over 4 to 11	0.2	0.15
Over 11 to 39	0.3	0.2
Over 39 to 50	0.4	0.3

Size of reamed hole (inches)	When pre-drilled	When pre-core-drilled
Below 3/16"	0.004"	0.004"
3/16" to ½"	0.008"	0.006"
½" to 1.½"	0.010"	0.008"
1.½" to 2"	0.016"	0.010"

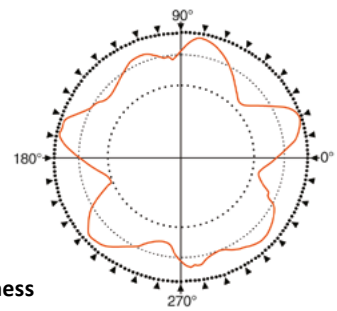
Hand/Machine reaming

Although both hand and machine reamers offer the same capability regarding finished hole size, the use of each must be considered according to the application. A hand reamer, for reasons of alignment, has a long taper lead, whereas a machine reamer has only a 45 degree bevel lead. A machine reamer cuts only on the bevel lead while a hand reamer cuts on the bevel lead as well as the taper lead.

The most common types of reamers have a left-hand spiral because the main applications involve through holes requiring chips to be pushed forward. For blind holes, reamers with straight flutes or right hand spirals are recommended.
The most efficient reaming conditions depend on the application, material, quality of hole required, stock removal, lubrication and other factors. A general guide to surface speeds and feeds for machine reamers is shown in the reamer WMG and feed charts (see Product Selector) and stock removal tables.
Extremely unequal spacing on reamers means that the divide is not the same for each tooth. As there are no two teeth diametrically opposite each other, the reamer produces a hole with a roundness variance of between 1 and 2 µm. This compared with a variance of up to 10µm with conventional unequal spacing.

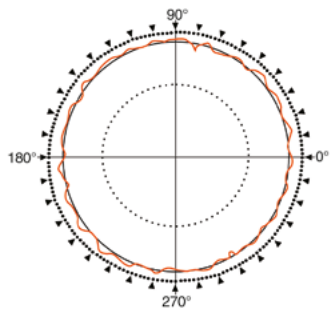
Carbide Reamers – Comparison spacing / EU spacing

Unequal spacing
Roundness error up to 10 µm



Results of roundness

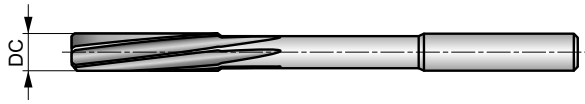
Extremely unequal spacing
Roundness error up to 1 – 2 µm



Results of roundness

REAMING – TOLERANCE LIMITS – TECHNICAL INFO

Tolerance limits



1. On the cutting diameter of standard reamers
   The diameter (DC) is measured across the circular land immediately behind the bevel or taper lead. The tolerance is in accordance with DIN 1420 and is intended to produce H7 holes.

Reamer tolerance			
Diameter (mm)		**Tolerance Limit** (mm)	
Over	Up to and including	High +	Low +
–	3	0.008	0.004
3	6	0.010	0.005
6	10	0.012	0.006
10	18	0.015	0.008

Reamer tolerance			
Diameter (mm)		**Tolerance Limit** (mm)	
Over	Up to and including	High +	Low +
18	30	0.017	0.009
30	50	0.021	0.012
50	80	0.025	0.014

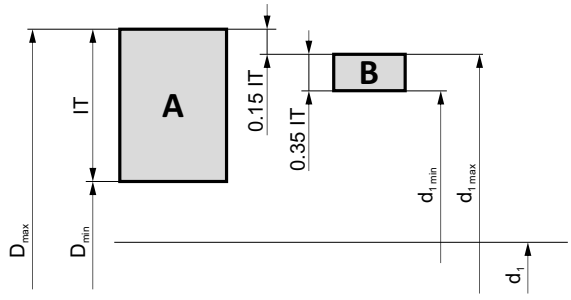
2. H7 hole tolerance
   The most common tolerance on a finished hole is H7 (see table below). For any other tolerance the figure and table below (in Note 3) can be used to calculate the reamers tolerance location and width

Hole tolerance			
Diameter (mm)		**Tolerance Limit** (mm)	
Over	Up to and including	High +	Low +
–	3	0.010	0
3	6	0.012	0
6	10	0.015	0
10	18	0.018	0

Hole tolerance			
Diameter (mm)		**Tolerance Limit** (mm)	
Over	Up to and including	High +	Low +
18	30	0.021	0
30	50	0.025	0
50	80	0.030	0

3. Other hole tolerances when it is necessary to define the dimensions of a special reamer intended to cut to a specific tolerance, e.g. D8, this well proven guide can be used.

Diameter tolerance width (µm)								
Tolerance width (microns)	over 1 incl. 3	over 3 incl. 6	over 6 incl. 10	over 10 incl. 18	over 18 incl. 30	over 30 incl. 50	over 50 incl. 80	over 80 incl. 120
IT5	4	5	6	8	9	11	13	15
IT6	6	8	9	11	13	16	19	22
IT7	10	12	15	18	21	25	30	35
IT8	14	18	22	27	33	39	46	54
IT9	25	30	36	43	52	62	74	87
IT10	40	48	58	70	84	100	120	140
IT11	60	75	90	110	130	160	190	220
IT12	100	120	150	180	210	250	300	350

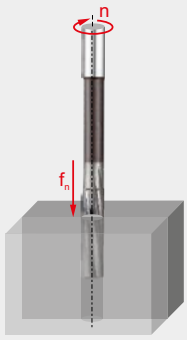


A = Hole tolerance
B = Reamer tolerance
IT = Tolerance width
D_{max} = Max. diameter of hole
D_{min} = Min. diameter of hole
d_1 = Nominal diameter
$d_{1\,max}$ = Max. diameter of reamer
$d_{1\,min}$ = Min. diameter of reamer

e.g. 10 mm hole with tolerance D8, Max dia = 10.062, Min dia = 10.040, Hole tolerance (IT8) = 0.022

Maximum limit: 0.15 × hole tolerance (IT8) = 0.0033, rounded up = 0.004
Minimum limit: 0.35 × hole tolerance (IT8) = 0.0077, rounded up = 0.008
Maximum limit for reamer = 10.062 – 0.004 = 10.058
Minimum limit for reamer = 10.058 – 0.008 = 10.050

REAMERS FEED RATE CHART

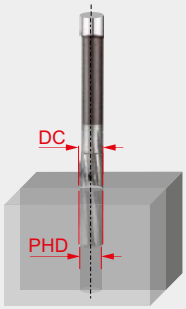


Feed per revolution (f_n in mm/rev)
Depending on the working conditions it might be necessary to adjust these values ± 15 %.

How to use this table to find the feed per revolution (f_n):

1. Find your Alpha Code on the product page (example: 21C, "C" is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per revolution (f_n).

		ø DC (mm)																		
		1.00	1.50	2.00	3.00	4.00	5.00	6.00	7.00	8.00	10.00	12.00	15.00	16.00	20.00	25.00	30.00	40.00	50.00	80.00
Feed rates (mm/rev)	A	0.030	0.045	0.055	0.078	0.090	0.100	0.125	0.137	0.150	0.170	0.185	0.210	0.220	0.250	0.280	0.320	0.390	0.440	0.500
	B	0.035	0.055	0.072	0.110	0.130	0.150	0.165	0.172	0.180	0.210	0.240	0.270	0.280	0.310	0.360	0.400	0.500	0.550	0.600
	C	0.040	0.065	0.085	0.135	0.160	0.185	0.200	0.210	0.220	0.260	0.285	0.325	0.335	0.390	0.440	0.480	0.600	0.680	0.750
	D	0.050	0.080	0.110	0.160	0.180	0.200	0.235	0.253	0.270	0.320	0.360	0.400	0.410	0.470	0.540	0.600	0.730	0.850	0.950
	E	0.065	0.100	0.140	0.180	0.215	0.250	0.300	0.325	0.350	0.390	0.430	0.485	0.500	0.530	0.640	0.750	0.910	1.100	1.200
	F	0.090	0.140	0.180	0.260	0.305	0.350	0.395	0.417	0.440	0.500	0.550	0.610	0.630	0.700	0.800	0.930	1.200	1.500	1.650



Machining allowance when using a **machine reamer** (MA in mm)
Premachined hole diameter
PHD = DC – MA.

How to use this table to get to the right premachined hole diameter (PHD):

1. Find the diameter range for your cutting application in the top row of the table.
2. Find your ISO Group Code in the left column of the table (example: For Stainless Steel the ISO Group Code is "M")
3. The intersection (cell) of the Diameter Range and ISO Group Code is the Machining Allowance (MA)
4. Subtract the Machining Allowance from the reaming diameter to get to the premachined hole diameter (PHD).

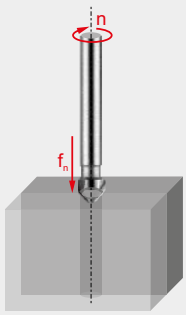
(example: for a 6mm hole in steel (P) the PHD is 5.85mm)

		ø DC (mm)											
		1.00	5.00	5.00	8.00	8.00	12.00	12.00	16.00	16.00	30.00	30.00	80.00
ISO group	P	0.10		0.15		0.20		0.20		0.30		0.30	
	M	0.08		0.10		0.10		0.20		0.20		0.30	
	K	0.10		0.15		0.20		0.20		0.30		0.30	
	N	0.10		0.15		0.20		0.20		0.30		0.30	
	S	0.05		0.10		0.10		0.15		0.20		0.20	
	H	0.05		0.05		0.10		0.10		0.15		0.20	

Be cautious with the machining tolerances of drills, the tool diameter is not the same as the hole diameter produced!

Note: The recommended allowance when using a hand reamer is 0.05 to 0.10 mm.

COUNTERSINKS FEED RATE CHART



Feed per revolution (f_n in mm/rev)
Depending on the working conditions it might be necessary to adjust these values ± 15 %.

How to use this table to find the feed per revolution (f_n):

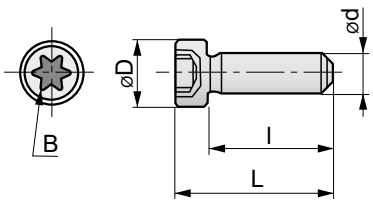
1. Find your Alpha Code on the product page (example: 23E, "E" is the Alpha Code).
2. Find the closest diameter for your cutting application in the top row of the table.
3. Find your Alpha Code in the left column of the table.
4. The intersection (cell) of the Diameter and Alpha Code is the feed per revolution (fn).

		ø DC (mm)									
		6.00	**8.00**	**10.00**	**16.00**	**20.00**	**25.00**	**32.00**	**40.00**	**60.00**	**80.00**
Feed rates (mm/rev)	**A**	0.030	0.040	0.050	0.060	0.080	0.090	0.100	0.120	0.140	0.160
	B	0.040	0.050	0.060	0.080	0.100	0.120	0.140	0.160	0.180	0.200
	C	0.050	0.060	0.080	0.100	0.120	0.140	0.160	0.180	0.200	0.220
	D	0.060	0.080	0.100	0.120	0.150	0.180	0.200	0.220	0.250	0.280
	E	0.080	0.100	0.120	0.150	0.180	0.200	0.250	0.270	0.300	0.320
	F	0.090	0.110	0.130	0.160	0.190	0.210	0.260	0.290	0.330	0.360
	G	0.100	0.120	0.150	0.180	0.200	0.220	0.280	0.320	0.360	0.400
	H	0.120	0.150	0.180	0.200	0.220	0.250	0.300	0.350	0.400	0.450

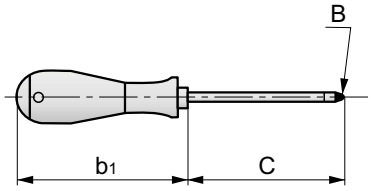
Torque table

					Torque Values Nm (Metric System)	Torque Values in/lbs (Inch System)
H860	**H861**	**Hydra Head ø Metric Range**	**Hydra Head ø Fractional Range**	**Hydra Head ø Decimal Size Range (min. / max.)**		
H860N1	**H861N1**	12.0 mm – 15.5 mm	15/32" – 39/64"	0.4688" – 0.6102"	0.75 – 0.99	6.6 – 8.8
H860N2	**H861N2**	15.6 mm – 18.5 mm	5/8" – 23/32"	0.6142" – 0.7283v	0.93 – 1.24	8.2 – 11.0
H860N3	**H861N3**	18.6 mm – 21.5 mm	47/64" – 27/32"	0.7323" – 0.8465"	1.84 – 2.44	16.3 – 21.6
H860N4	**H861N3**	22.0 mm – 24.5 mm	55/64" – 31/32"	0.8594" – 0.9688"	2.73 – 3.72	24.2 – 32.9
H860N5	**H861N4**	25.0 mm – 27.5 mm	63/64" – 1-3/32"	0.9843" – 1.0938"	4.14 – 5.52	36.6 – 48.8
H860N6	**H861N5**	28.0 mm – 33.5 mm	1-7/64" – 1-19/64"	1.1024" – 1.3189"	4.97 – 6.63	44.0 – 58.7
H860N7	**H861N6**	34.0 mm – 42.0 mm	1-11/32" – 1-5/8"	1.3386" – 1.6535"	7.2	63.7

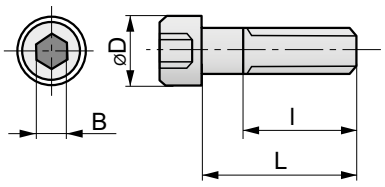
Screws and screw-driver data



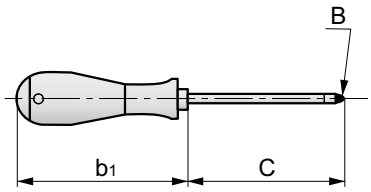
e-code	d	Pitch	L (mm)	l (mm)	D (mm)	B
H860N1	M2.2	0.45	7.5	5.7	3.5	8IP
H860N2	M2.5	0.45	9.0	7.0	4.1	10IP
H860N3	M3.0	0.50	10.5	8.0	4.9	15IP
H860N4	M3.5	0.60	11.5	8.8	5.5	15IP
H860N5	M4.0	0.70	12.5	9.5	6.0	20IP
H860N6	M4.5	0.75	14.3	10.8	6.8	25IP



e-code	B	C	b_1
H861N1	8IP	60	104
H861N2	10IP	80	111
H861N3	15IP	80	111
H861N4	20IP	100	118
H861N5	25IP	100	118

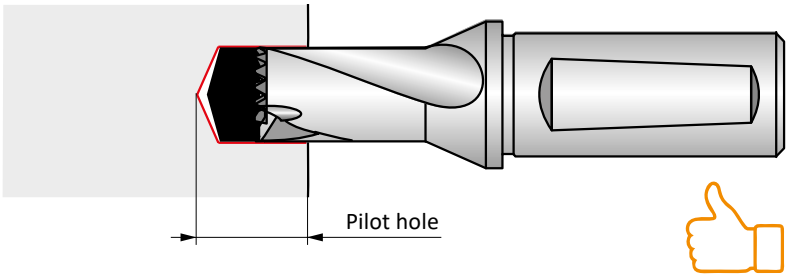


e-code	d	Pitch	L (mm)	l (mm)	D (mm)	B
H860N7	M5.0	0.8	15	full	8.5	4

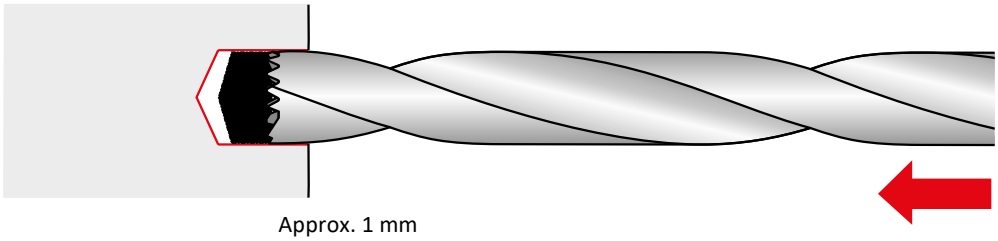


e-code	B	C	b_1
H861N6	4	75	111

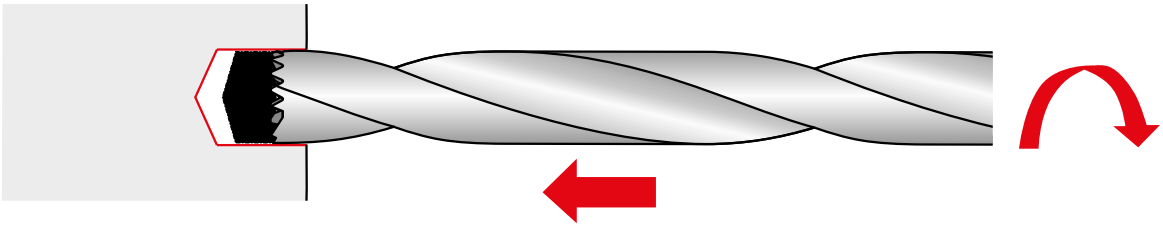
Apply special programming for 8×D and 12xD drilling



Drill a pilot hole (1.5×D to 3×D depth) with the same HYDRA head diameter (if needed check the runout of the drill max. +/ 0.05 mm).

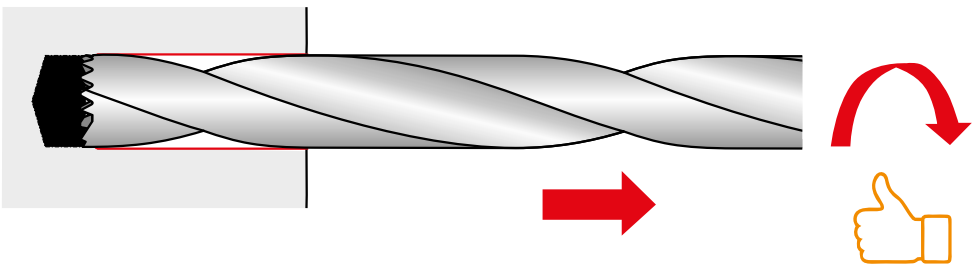


Enter the pilot hole with the 8×D or 12×D Body running a maximum of 500 rpm, to approximately 1mm above the pre-drilled pilot hole depth.



Start coolant flow and increase the rotational speed up to the recommended RPM.
Note: Apply a short dwell time don't start the feed before recommended RPM is reached.

Drill without pecking to the required depth.



When the required depth is reached, retract the drill by approximately 0.1 mm to 0.5 mm and reduce to 500 rpm followed by a complete retraction with normal feed.**Note: retracting the drill with a higher spindle speed may cause a shoulder damage from run out or destroy the hole surface and tolerance.**

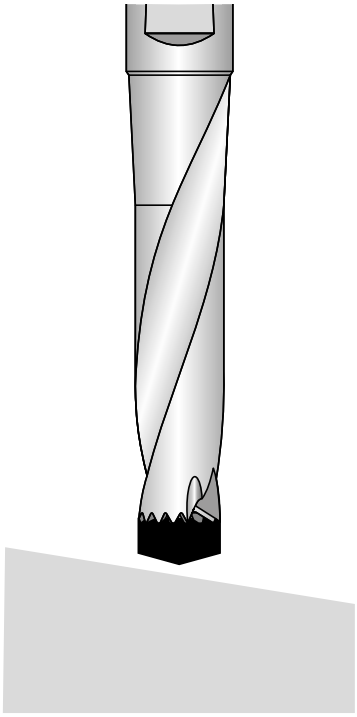
Drilling hints & tips with the hydra drill

Coolants
For maximum chip evacuation and tool performance, coolant use is recommended. Emulsion coolant concentration of 6 – 8% is recommended for most applications, with a coolant pressure of 20 bar (290 PSI) or higher. For high strength steel, stainless steels and tougher drilling applications, use a higher concentration of 10 – 12%. In these applications, particularly in stainless steels, it is recommended to use the maximum coolant pressure on the machine. The Hydradrill coolant holes provide improved web strength and reduce heat at the cutting edges for increased productivity and longer tool life.

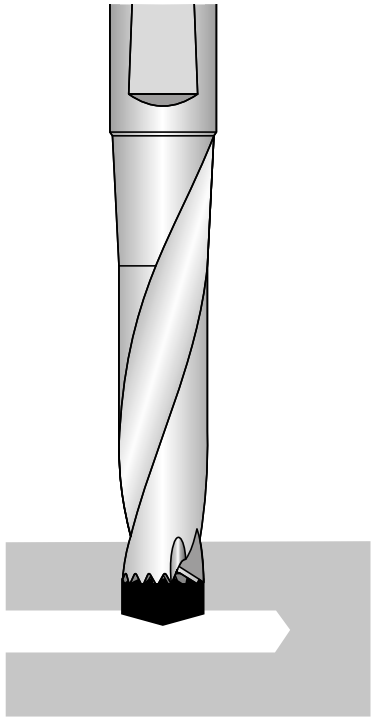
Holders
Always use tool holders and collets that provide good concentricity between the drill and the machine spindle. Use a positive stop to prevent the tool from backing up into the holder. Radial runout in the tool assembly must be accurately checked and maintained.

Workpiece
A secure and rigid workpiece will minimise deflection, and allow for better accuracy and true position of the hole.

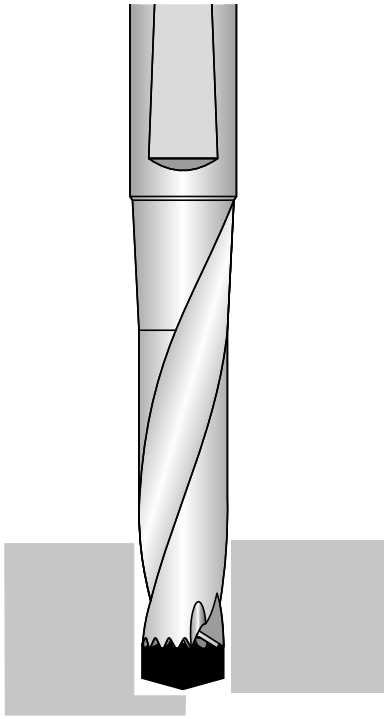
Feeds
It is important not to underfeed the drill which will cause it to dwell and dull. This is particularly true in work hardening materials. Feed rates should be high enough for proper chip formation.



Entrance or exit on an angular surface



Drilling through cross holes



Interrupted at exit

In these drilling scenarios, reducing feed rate to 1/3 (33%) is generally recommended. Drilling into an entry angle of more than 10° is NOT recommended – surface should be milled flat first.

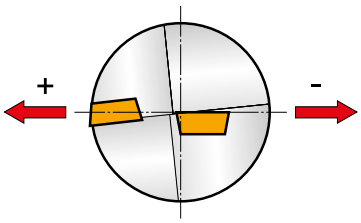
MACHINING DATA FOR INDEXABLE DRILLS

Radial adjustment

Hole diameter adjustment and set-up recommendation
Radial adjustment is possible with indexable drills to achieve a smaller or larger hole diameter than the actual drill.
Radial adjustment values are available in the main drill data tables.

Rotating tool
For drilling holes with accuracy IT10 and higher, adjustable holders are recommended when using 802D, 803D, 804D and 805D drills.

Stationary tool
When mounting the drill make sure the drill centre line and workpiece centre are aligned. To achieve a larger hole diameter displace the drill so that the peripheral
insert moves in a + away from the workpiece centre line (see diagram below).



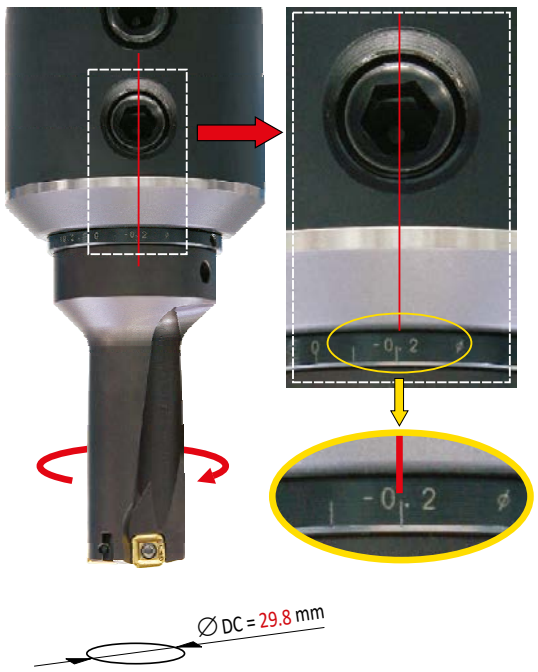
Tool life
Inserts should be changed when flank wear measures 0.2 – 0.4 mm at the largest point.
Cutting data recommendations in this catalogue are aimed at achieving tool life of 7 metres drilling depth on the peripheral insert. (20 – 30 mins contact).

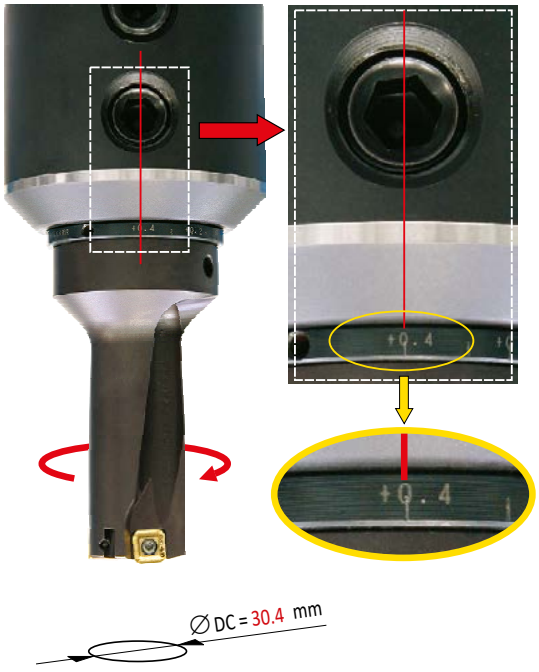
EP — ADJUSTABLE SLEEVE

Shank diameter	Drill diameter	Range
25	15 – 24	+0.4 – -0.2
32	24.5 – 40	+0.4 – -0.2

For Milling Machines

Diameter adjustment range





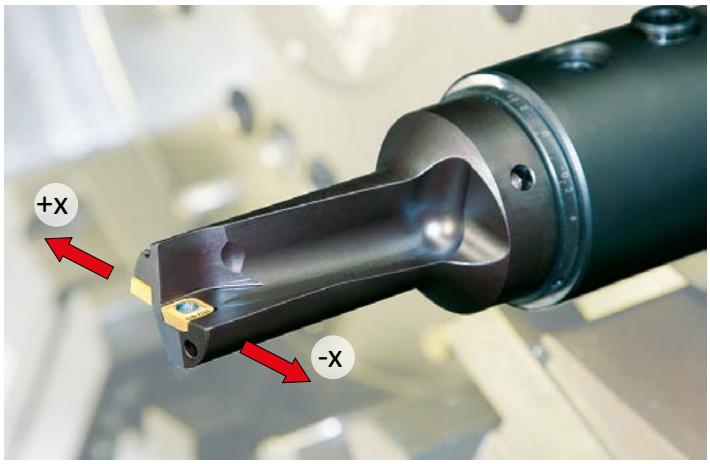
EP

ADJUSTABLE SLEEVE

Shank diameter	Drill diameter	Range
25	15 – 24	+0.2 – -0.15
32	24.5 – 40	+0.2 – -0.15

Centre height adjustment
– for lathe operation

Centre height adjustment range



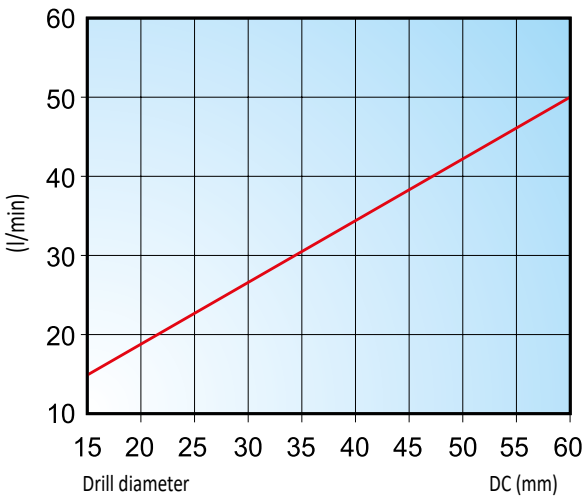
MACHINING DATA FOR INDEXABLE DRILLS

Recommended pressure of supplied cutting fluid

Drill diameter DC (mm)	Pressure of cutting fluid	
	Drill length	
	2.0 – 2.5 DC	3.0 – 5.0 DC
15 – 25	6 bar	12 bar
26 – 40	4.5 bar	9 bar
> 40	3 bar	6 bar

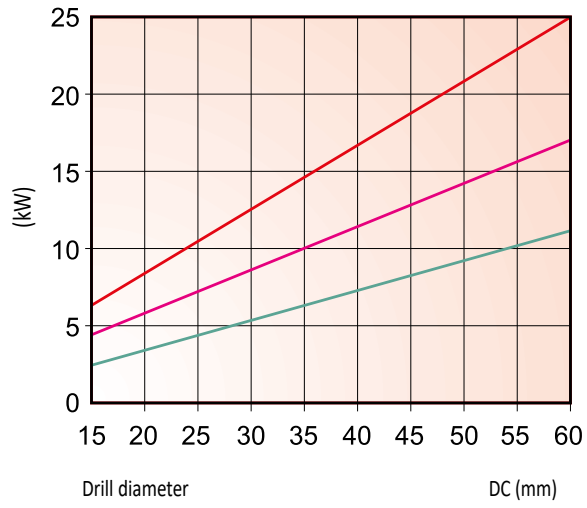
Coolant volume requirement

DRY DRILLING
Pressurised air through the drill is recommended when drilling without coolant in cast iron and steel

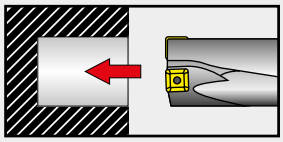


Net power consumption

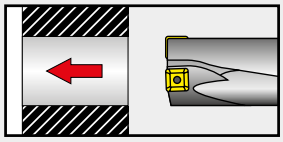
f = 0.18 f = 0.12 f = 0.08



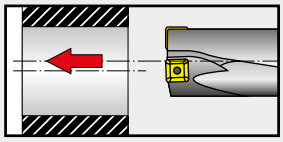
COMMON MACHINING DATA



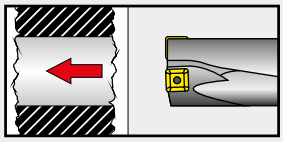
BLIND HOLE DRILLING
For drilling holes deeper than 1×DC internal cooling is necessary.



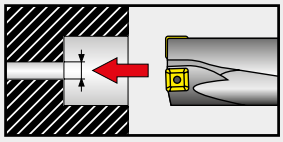
THROUGH HOLE DRILLING
A disc can be produced when the indexable drill exits the material. This disc can be ejected at high speed when the workpiece is rotating. It is essential that the machine is adequately guarded to ensure operator safety



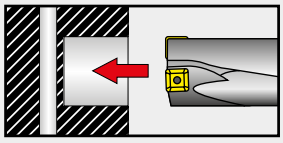
OFF-CENTRE DRILLING
Decrease the feed to lower recommended values for particular inserts. See inserts description pages for indexable drills.
Do not exceed radial adjustment values.



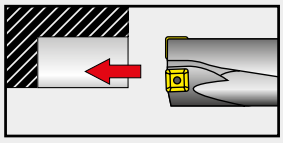
STARTING ON UNEVEN AND CAST SURFACES
Decrease the feed by 50% on entrance for indexable drills until both inserts are engaged.



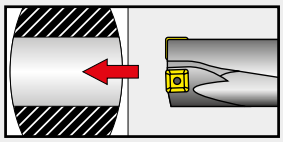
BORING AND DRILLING INTO PILOT HOLES
If a pre-drilled hole is larger than 1/4 drill diameter, decrease the feed.



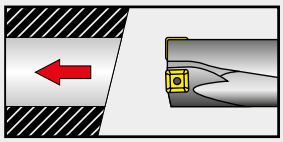
DRILLING CROSS HOLES
Decrease the feed by 50% when drilling across an existing hole.
The diameter of existing hole should not be larger than 0.25 x DC.



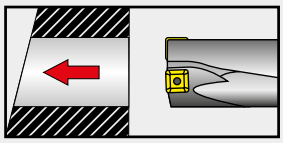
INTERRUPTED CUT AND PLUNGING
Decrease the feed to lower recommended feed values for particular insert. See inserts description site for indexable drills.



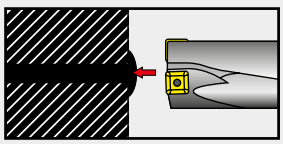
DRILLING ON CURVED SURFACE
Drilling on the centre line can be done with reduced feed rate down to 50 % during entrance and exit.



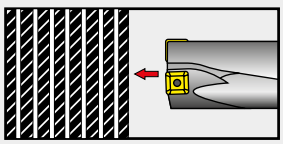
DRILLING ON ANGLED SURFACES
Decrease the feed by 50% on entrance for indexable drills until both inserts are engaged if the angle of entry is more than 5°.



EXIT ON ANGLED SURFACE
Decrease the feed by 50% on exit if angle of exit is more than 5°.



STARTING ON A WELDED SEAM
Facing is recommended before drilling.
Decrease the feed by 50 % during drilling of the welded material.



DRILLING OF STACKED MATERIALS
Avoid spaces larger than 0.2 mm between layers. The component must be securely fixed. If necessary reduce the feed.

INDEXABLE DRILLS – RECOMMENDED CUTTING CONDITIONS

802D, 803D (XPET..AP, SCET..-UD)

f ⇨

	D9335	D8330	D8345	ø 15	ø 20	ø 25	ø 30	ø 40	ø 58
P1	■	■	■	0.07	0.08	0.09	0.10	0.12	0.16
P2	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
P3	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
P4	■	■	■	0.12	0.14	0.16	0.18	0.22	0.30
K1	■	■	■	0.14	0.16	0.19	0.21	0.26	0.34
K2	■	■	■	0.14	0.16	0.19	0.21	0.26	0.34
K3	■	■	■	0.14	0.16	0.19	0.21	0.26	0.34
K4	■	■	■	0.14	0.16	0.19	0.21	0.26	0.34
K5	■	■	■	0.14	0.16	0.19	0.21	0.26	0.34

802D, 803D (XPET..AP-SD, SCET..-SD)

f ⇨

	D9335	D8330	D8345	ø 15	ø 20	ø 25	ø 30	ø 40	ø 58
P1	■	■	■	0.08	0.09	0.10	0.11	0.14	0.18
P2	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
P3	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
P4	■	■	■	–	–	–	–	–	–
K1	◪	◪	◪	0.08	0.09	0.10	0.11	0.14	0.18
K2	◪	◪	◪	0.11	0.13	0.15	0.17	0.21	0.28
K3	◪	◪	◪	0.12	0.14	0.16	0.18	0.22	0.24
K4	◪	◪	◪	0.13	0.15	0.18	0.20	0.24	0.32
K5	◪	◪	◪	0.14	0.16	0.19	0.21	0.25	0.33
M1	■	■	■	0.12	0.14	0.16	0.18	0.22	0.30
M2	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
M3	■	■	■	0.07	0.08	0.09	0.10	0.12	0.16
M4	■	■	■	0.07	0.08	0.09	0.10	0.12	0.16
S1	◪	◪	◪	0.08	0.09	0.10	0.11	0.14	0.18
S2	◪	◪	◪	0.08	0.09	0.10	0.11	0.14	0.18
S3	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
S4	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16

804D (XPET..AP, SCET..-UD)

f ⇨

	D9335	D8330	D8345	ø 15	ø 20	ø 25	ø 30	ø 40	ø 58
P1	■	■	■	0.06	0.07	0.08	0.09	0.10	0.14
P2	■	■	■	0.10	0.12	0.14	0.16	0.19	0.25
P3	■	■	■	0.12	0.14	0.16	0.18	0.22	0.30
P4	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
K1	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K2	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K3	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K4	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K5	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32

INDEXABLE DRILLS – RECOMMENDED CUTTING CONDITIONS

804D (XPET..AP-SD, SCET..-SD)

f

	D9335	D8330	D8345	ø 15	ø 20	ø 25	ø 30	ø 40	ø 58
P1	■	■	■	0.07	0.08	0.09	0.10	0.12	0.16
P2	■	■	■	0.10	0.12	0.14	0.16	0.19	0.25
P3	■	■	■	0.12	0.14	0.16	0.18	0.22	0.30
P4	■	■	■	–	–	–	–	–	–
K1	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
K2	◪	◪	◪	0.10	0.12	0.14	0.16	0.19	0.25
K3	◪	◪	◪	0.11	0.13	0.15	0.17	0.20	0.27
K4	◪	◪	◪	0.12	0.14	0.16	0.18	0.22	0.30
K5	◪	◪	◪	0.14	0.16	0.19	0.21	0.25	0.33
M1	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
M2	■	■	■	0.10	0.12	0.14	0.16	0.19	0.25
M3	■	■	■	0.06	0.07	0.08	0.09	0.10	0.14
M4	■	■	■	0.06	0.07	0.08	0.09	0.10	0.14
S1	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
S2	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
S3	◪	◪	◪	0.06	0.07	0.08	0.09	0.10	0.14
S4	◪	◪	◪	0.06	0.07	0.08	0.09	0.10	0.14

805D (XPET..AP, SCET..-UD)

f

	D9335	D8330	D8345	ø 15	ø 20	ø 25	ø 30	ø 40	ø 58
P1	■	■	■	0.06	0.07	0.08	0.09	0.10	0.14
P2	■	■	■	0.10	0.12	0.14	0.16	0.19	0.25
P3	■	■	■	0.12	0.14	0.16	0.18	0.22	0.30
P4	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
K1	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K2	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K3	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K4	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32
K5	■	■	■	0.13	0.15	0.18	0.20	0.24	0.32

805D (XPET..AP-SD, SCET..-SD)

f

	D9335	D8330	D8345	ø 15	ø 20	ø 25	ø 30	ø 40	ø 58
P1	■	■	■	0.07	0.08	0.09	0.10	0.12	0.16
P2	■	■	■	0.10	0.12	0.14	0.16	0.19	0.25
P3	■	■	■	0.12	0.14	0.16	0.18	0.22	0.30
P4	■	■	■	–	–	–	–	–	–
K1	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
K2	◪	◪	◪	0.10	0.12	0.14	0.16	0.19	0.25
K3	◪	◪	◪	0.11	0.13	0.15	0.17	0.20	0.27
K4	◪	◪	◪	0.12	0.14	0.16	0.18	0.22	0.30
K5	◪	◪	◪	0.12	0.14	0.16	0.18	0.22	0.30
M1	■	■	■	0.11	0.13	0.15	0.17	0.21	0.28
M2	■	■	■	0.10	0.12	0.14	0.16	0.19	0.25
M3	■	■	■	0.06	0.07	0.08	0.09	0.10	0.14
M4	■	■	■	0.06	0.07	0.08	0.09	0.10	0.14
S1	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
S2	◪	◪	◪	0.07	0.08	0.09	0.10	0.12	0.16
S3	◪	◪	◪	0.06	0.07	0.08	0.09	0.10	0.14
S4	◪	◪	◪	0.06	0.07	0.08	0.09	0.10	0.14

FORMULA FOR CALCULATION OF CUTTING PARAMETERS

Nomenclature and formula

Parameter	Formula	Unit
RPM	$n = \frac{v_c \cdot 1000}{DC \cdot \pi}$	(rev/min)
Cutting speed	$v_c = \frac{\pi \cdot DC \cdot n}{1000}$	(m/min)
Table feed	$v_f = n \cdot f$	(mm/min)
Cross section area of the hole	$A = \frac{\pi \cdot DC^2}{4}$	(mm^2)
Metal removal rate	$Q = \frac{v_f \cdot A}{1000}$	(cm^3/min)
Machining time	$T_c = \frac{L + h}{v_f}$	(min/pcs)

DC Diameter of drill (mm)
f Feed per revolution (mm/rev)
h Distance from drill point to workpiece before feeding (mm)
L Depth of hole (mm)

RECOMMENDED TIGHTENING TORQUES FOR SCREWS

	Nm					
US 2245-T07P	0.9	FLAG T07P	M 2.2	5.3	D-T7P	MR-0.8-2.0 vario
US 2205-T07P	0.9	FLAG T07P	M2.2	5.4	D-T7P	MR-0.8-2.0 vario
US 2506-T07P	1.2	FLAG T07P	M 2.5	6	D-T7P	MR-0.8-2.0 vario
US 2507-T08P	1.2	FLAG T08P	M 2.5	7	D-T8P	MR-0.8-2.0 vario
US 3007-T08P	2.0	FLAG T08P	M 3	7	D-T8P	MR-1.0-5.0 vario
US 3007-T09P	2.0	FLAG T09P	M 3	7.4	D-T9P	MR-1.0-5.0 vario
US 3009-T09P	2.0	FLAG T09P	M 3	8.7	D-T9P	MR-1.0-5.0 vario
US 3508-T15P	3.0	FLAG T15P	M 3.5	8.3	D-T15P	MR-1.0-5.0 vario
US 3510-T15P	3.0	FLAG T15P	M 3.5	10.6	D-T15P	MR-1.0-5.0 vario
US 4011-T15P	3.5	FLAG T15P	M 4	10.7	D-T15P	MR-1.0-5.0 vario
US 5012-T15P	5.0	FLAG T15P	M 5	12.2	D-T15P	MR-1.0-5.0 vario

WMG (WORK MATERIAL GROUP)

ISO group		WMG (Work Material Group)			Hardness (HB or HRC)	Ultimate Tensile Strength (MPa)
P	P1	P1.1	Free machining steel (carbon steels with increased machinability)	Sulfurized	< 240 HB	≤ 830
		P1.2		Sulfurized and phosphorized	< 180 HB	≤ 620
		P1.3		Sulfurized/phosphorized and leaded	< 180 HB	≤ 620
	P2	P2.1	Plain carbon steel (steels comprised of mainly iron and carbon)	Containing <0.25 % C	< 180 HB	≤ 620
		P2.2		Containing <0.55 % C	< 240 HB	≤ 830
		P2.3		Containing >0.55 % C	< 300 HB	≤ 1030
	P3	P3.1	Alloy steel (carbon steels with an alloying content ≤ 10%)	Annealed	< 180 HB	≤ 620
		P3.2		Hardened and tempered	180 – 260 HB	> 620 ≤ 900
		P3.3			260 – 360 HB	> 900 ≤ 1240
	P4	P4.1	Tool steel (special alloy steel for tools, dies and molds)	Annealed	< 26 HRC	≤ 900
		P4.2		Hardened and tempered	26 – 39 HRC	> 900 ≤ 1240
		P4.3			39 – 45 HRC	> 1240 ≤ 1450
M	M1	M1.1	Ferritic stainless steel (straight chromium non-hardenable alloys)		< 160 HB	≤ 520
		M1.2			160 – 220 HB	> 520 ≤ 700
	M2	M2.1	Martensitic stainless steel (straight chromium hardenable alloys)	Annealed	< 200 HB	≤ 670
		M2.2		Quenched and tempered	200 – 280 HB	> 670 ≤ 950
		M2.3		Precipitation-hardened	280 – 380 HB	> 950 ≤ 1300
	M3	M3.1	Austenitic stainless steel (chromium-nickel and chromium-nickel-manganese alloys)		< 200 HB	≤ 750
		M3.2			200 – 260 HB	> 750 ≤ 870
		M3.3			260 – 300 HB	> 870 ≤ 1040
	M4	M4.1	Austenitic-ferritic (DUPLEX) or super-austenitic stainless steel		< 300 HB	≤ 990
		M4.2	Precipitation hardening austenitic stainless steel		300 – 380 HB	≤ 1320
K	K1	K1.1	Gray iron or Automotive Gray iron (GG) (iron-carbon castings with a lamellar graphite microstructure)	Ferritic or ferritic-pearlitic	< 180 HB	≤ 190
		K1.2		Ferritic-pearlictic or pearlitic	180 – 240 HB	> 190 ≤ 310
		K1.3		Pearlitic	240 – 280 HB	> 310 ≤ 390
	K2	K2.1	Malleable iron (GTS/GTW) (iron-carbon castings with a graphite-free microstructure)	Ferritic	< 160 HB	≤ 400
		K2.2		Ferritic or pearlitic	160 – 200 HB	> 400 ≤ 550
		K2.3		Pearlitic	200 – 240 HB	> 550 ≤ 660
	K3	K3.1	Ductile iron (GGG) (iron-carbon castings with a nodular graphite microstructure)	Ferritic	< 180 HB	≤ 560
		K3.2		Ferritic or pearlitic	180 – 220 HB	> 560 ≤ 680
		K3.3		Pearlitic	220 – 260 HB	> 680 ≤ 800
	K4	K4.1	Austenitic gray iron (ASTM A436) (iron-carbon alloy castings with an austenitic lamellar graphite microstructure)		< 180 HB	≤ 190
		K4.2	Austenitic ductile iron (ASTM A439 or ASTM A571) (iron-carbon alloy castings with an austenitic nodular graphite microstructure)		< 240 HB	≤ 740
		K4.3	Austempered ductile iron (ASTM A897) (iron-carbon alloy castings with an ausferrite microstructure)		< 280 HB	> 840 ≤ 980
		K4.4			280 – 320 HB	> 980 ≤ 1130
		K4.5			320 – 360 HB	> 1130 ≤ 1280
	K5	K5.1	Compacted graphite iron CGI (ASTM A842) (iron-carbon castings with a vermicular graphite structure)	Ferritic	< 180 HB	≤ 400
		K5.2		Ferritic-pearlitic	180 – 220 HB	> 400 ≤ 450
		K5.3		Pearlitic	220 – 260 HB	> 450 ≤ 500
N	N1	N1.1	Commercially pure wrought aluminium		< 60 HB	≤ 240
		N1.2	Wrought aluminium alloys	Half hard tempered	60 – 100 HB	> 240 ≤ 400
		N1.3		Full hard tempered	100 – 150 HB	> 400 ≤ 590
	N2	N2.1	Cast aluminium alloys		< 75 HB	≤ 240
		N2.2			75 – 90 HB	> 240 ≤ 270
		N2.3			90 – 140 HB	> 270 ≤ 440
	N3	N3.1	Free-cutting copper-alloys materials with excellent machining properties		–	–
		N3.2	Short-chip copper-alloys with good to moderate machining properties		–	–
		N3.3	Electrolytic copper and long-chip copper-alloys with moderate to poor machining properties		–	–
	N4	N4.1	Thermoplastic polymers		–	–
		N4.2	Thermosetting polymers		–	–
		N4.3	Reinforced polymers or composites		–	–
	N5	N5.1	Graphite		–	–
S	S1	S1.1	Titanium or titanium alloys		< 200 HB	≤ 660
		S1.2			200 – 280 HB	> 660 ≤ 950
		S1.3			280 – 360 HB	> 950 ≤ 1200
	S2	S2.1	Fe-based high-temperature alloys		< 200 HB	≤ 690
		S2.2			200 – 280 HB	> 690 ≤ 970
	S3	S3.1	Ni-based high-temperature alloys		< 280 HB	≤ 940
		S3.2			280 – 360 HB	> 940 ≤ 1200
	S4	S4.1	Co-based high-temperature alloys		< 240 HB	≤ 800
		S4.2			240 – 320 HB	> 800 ≤ 1070
H	H1	H1.1	Chilled cast iron		< 440 HB	–
	H2	H2.1	Hardened cast iron		< 55 HRC	–
		H2.2			> 55 HRC	–
	H3	H3.1	Hardened steel < 55 HRC		< 51 HRC	–
		H3.2			51 – 55 HRC	–
	H4	H4.1	Hardened steel > 55 HRC		55 – 59 HRC	–
		H4.2			> 59 HRC	–

HARDNESS CONVERSION TABLE

Strength (MPa)	Hardness			
	BRINELL	VICKERS	ROCKWELL	ROCKWELL
R_m	HB	HV	HRB	HRC
285	86	**90**	1190	–
320	95	**100**	56.2	–
350	105	**110**	62.3	–
385	114	**120**	66.7	–
415	124	**130**	71.2	–
450	133	**140**	75.0	–
480	143	**150**	78.7	–
510	152	**160**	81.7	–
545	162	**170**	85.8	–
575	171	**180**	87.1	–
610	181	**190**	89.5	–
640	190	**200**	91.5	–
675	199	**210**	93.5	–
705	209	**220**	95	–
740	219	**230**	96.7	–
770	228	**240**	98.1	–
800	238	**250**	99.5	–
820	242	**255**	–	23.1
850	252	**265**	–	24.8
880	261	**275**	–	26.4
900	266	**280**	–	27.1
930	276	**290**	–	28.5
950	280	**295**	–	29.2
995	295	**310**	–	31.0
1030	304	**320**	–	32.2
1060	314	**330**	–	33.3
1095	323	**340**	–	34.4
1125	333	**350**	–	35.5
1155	342	**360**	–	36.6

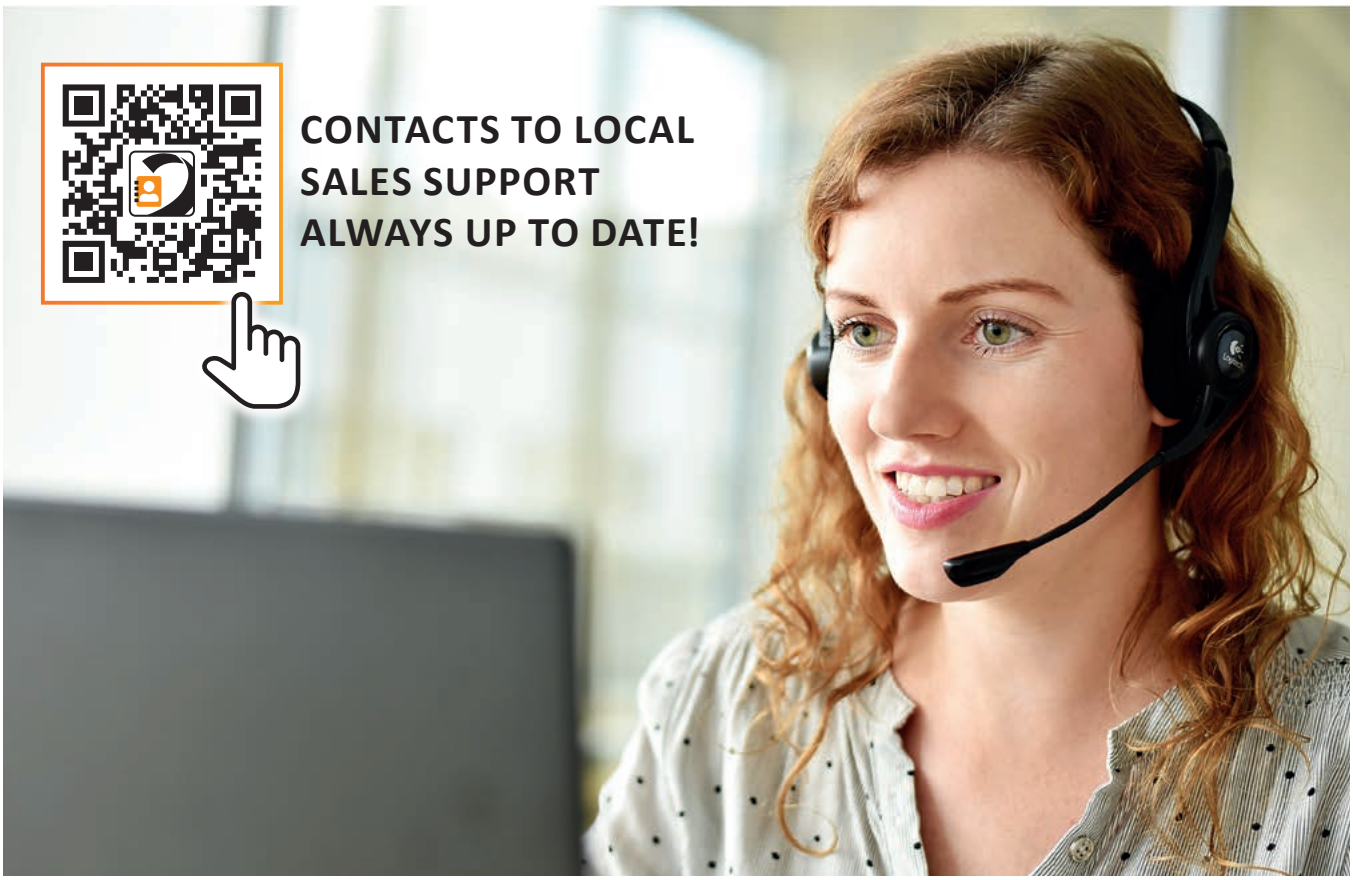
Strength (MPa)	Hardness			
	BRINELL	VICKERS	ROCKWELL	ROCKWELL
R_m	HB	HV	HRB	HRC
1190	352	**370**	–	37.7
1220	361	**380**	–	38.8
1255	371	**390**	–	39.8
1290	380	**400**	–	40.8
1320	390	**410**	–	41.8
1350	399	**420**	–	42.7
1385	409	**430**	–	43.6
1420	418	**440**	–	44.5
1455	428	**450**	–	45.3
1485	437	**460**	–	46.1
1520	447	**470**	–	46.9
1555	456	**480**	–	47.7
1595	466	**490**	–	48.4
1630	475	**500**	–	49.1
1665	485	**510**	–	49.8
1700	494	**520**	–	50.5
1740	504	**530**	–	51.1
1775	513	**540**	–	51.7
1810	523	**550**	–	52.3
1845	532	**560**	–	53.0
1880	542	**570**	–	53.6
1920	551	**580**	–	54.1
1955	561	**590**	–	54.7
1995	570	**600**	–	55.2
2030	580	**610**	–	55.7
2070	589	**620**	–	56.3
2105	599	**630**	–	56.8
2145	608	**640**	–	57.3
2180	618	**650**	–	57.8

SIMPLY RELIABLE

As a professional you can judge the quality of work by just looking at the chip. Our chip is a clean and uncomplicated shape that in itself tells a story. It is a clear and consistent signal and that's why we use it as a symbol for being **Simply Reliable**.

DORMER PRAMET

www.dormerpramet.com



DP-CAT-HOLEMAKING-2024-EN

FOLLOW US...

ONLINE

SEGMENTS

LIBRARY APP.

CALCULATOR APP.