CTC GROUP

KEMMER PRÄZISION
A CTC COMPANY

70+ YEARS

OF KEMMER

CRAFTING THE FUTURE OF PRECISION ENGINEERING

DRILL PORTFOLIO

www.thectcgroup.in

COMPANY OVERVIEW

CTC Group, comprising four esteemed brands **CTC India**, **CTC Praezision**, and **Kemmer Präzision & ATS,** is a globally recognised name in precision-engineered cutting tools. Established in 1983 as a manufacturer of tungsten carbide tools for the global printed circuit board (PCB) industry, CTC has evolved over four decades into an industry leader. From an initial production of just 10,000 tools per year, we now have the capacity to manufacture over 20 million tools annually.

Our cutting-edge tools, ranging from **±0.03mm (30 µm) to 40mm in diameter** with various shank configurations, serve a diverse range of industries, including **Semiconductor, 3C Smart Devices, Fixture & Die-Mold, Aerospace, Dental, Medical, PCB, Energy, Watchmaking, Beauty and General Engineering.**

With a highly skilled team of **500+ professionals** and a state-of-the-art manufacturing setup featuring **250+ high**-precision Swiss machines, we cater to key markets across India, the USA, China, Japan, Middle East, APAC region and the European Union.

Our mission is to establish a sustainable footprint in the precision metal cutting, PCB and dental markets by delivering exceptional quality at optimal cost, driven by continuous innovation, process excellence, and an uncompromising commitment to precision.

Kemmer Incorporated	CNC Machines	Employees	Annual Capacity
1954	225+	500+	20M+

INDUSTRY WE SERVE

- 3C
- Automotive
- Medical/Dental
- PCB
- Aerospace
- Ship Building
- Defence
- Energy
- Jewellery
- Beauty
- Fixture & Die-Mould
- Graphite
- Wood
- Pen
- Textile

KEMMER PRÄZISION
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Kemmer Präzision: A trusted German-origin brand with over 70 years of expertise and is a leading provider of high-precision carbide tools for the medical, PCB, beauty and general engineering industries. We deliver high-quality drilling, milling, chamfering and other machining solutions that enhance accuracy and efficiency.

PRAEZISION
CTC

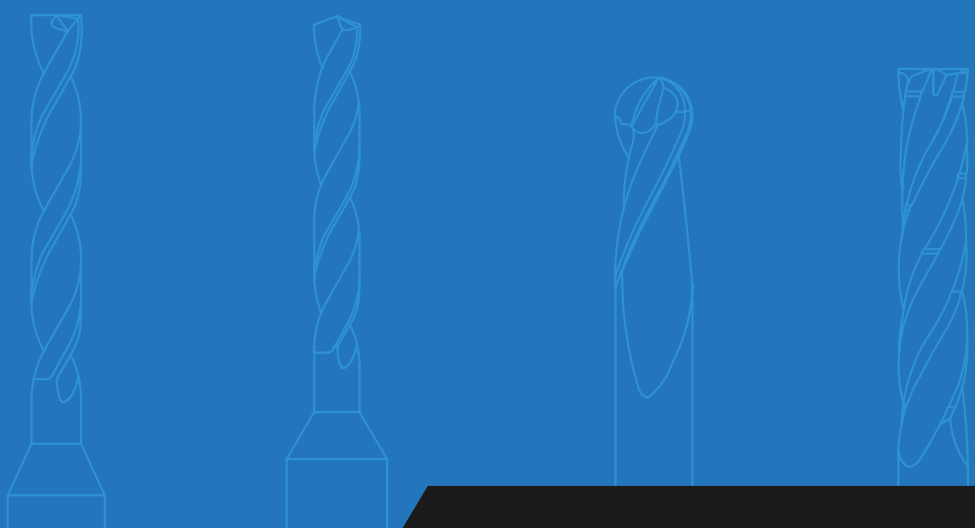
CTC Praezision: A significant player in industrial cutting tools market, specializing in micro tools and delivering precision-engineered, high-performance solutions for all industrial applications.

CTC INDIA

CTC India: One of the largest international OEM cutting tools manufacturing company with over four decades of experience designing tools for the dental and PCB industries, delivering precision-engineered, high-performance solutions that meet the most demanding industry standards.

ATS
A CTC COMPANY

Alignment Tools Singapore: With over 30 years of expertise, ATS is a leading precision cutting tool manufacturer based in the Far East, now part of the CTC Group. Specializing in advanced PCD tooling and custom form-tools for electronics, aerospace, and automotive sectors, ATS delivers high-performance solutions using Swiss and German CNC machines with ±0.001 mm tolerance.



KEMMER PRÄZISION

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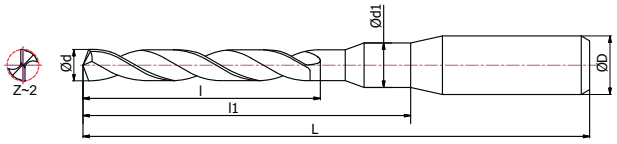
2 Flute Solid Carbide Micro Drill

D110

3 mm Shank

- Application material: Copper, Aluminium, Brass, Plastic
- Used in Industries: Electronics, Watch case, Aerospace, Automotive
- Runs with high speed, produces accurate holes
- Best result in machine with precise spindle



Unit: mm

DESCRIPTION						PART NUMBER	
Diameter Ød	Step Diameter Ød1	Flute Length l	Step Length l1	Overall Length L	Shank Dia ØD h6	Uncoated	N-Coating
0.03	1.10	0.50	10.00	38.00	3.00	D110-00030-0005V08	-
0.04	1.10	0.50	10.00	38.00	3.00	D110-00040-0005V08	-
0.05	1.10	0.80	10.00	38.00	3.00	D110-00050-0008V08	-
0.06	1.10	0.80	10.00	38.00	3.00	D110-00060-0008V08	-
0.07	1.10	1.00	10.00	38.00	3.00	D110-00070-0010V08	-
0.08	1.10	1.00	10.00	38.00	3.00	D110-00080-0010V08	-
0.09	1.10	1.00	10.00	38.00	3.00	D110-00090-0010V08	-
0.10	1.10	1.50	10.00	38.00	3.00	D110-00100-0015V08	-
0.11	1.10	1.50	10.00	38.00	3.00	D110-00110-0015V08	-
0.12	1.10	1.50	10.00	38.00	3.00	D110-00120-0015V08	-
0.13	1.10	1.50	10.00	38.00	3.00	D110-00130-0015V08	-
0.14	1.10	1.50	10.00	38.00	3.00	D110-00140-0015V08	-
0.15	1.10	2.00	10.00	38.00	3.00	D110-00150-0020V08	-
0.16	1.10	2.00	10.00	38.00	3.00	D110-00160-0020V08	-
0.17	1.10	2.00	10.00	38.00	3.00	D110-00170-0020V08	-
0.18	1.10	2.50	10.00	38.00	3.00	D110-00180-0025V08	-
0.19	1.10	2.50	10.00	38.00	3.00	D110-00190-0025V08	-
0.20	1.10	2.50	10.00	38.00	3.00	D110-00200-0025V08	D110N00200-0025V08
0.21	1.10	2.50	10.00	38.00	3.00	D110-00210-0025V08	D110N00210-0025V08
0.22	1.10	2.50	10.00	38.00	3.00	D110-00220-0025V08	D110N00220-0025V08
0.23	1.10	3.80	10.00	38.00	3.00	D110-00230-0038V08	D110N00230-0038V08
0.24	1.10	3.80	10.00	38.00	3.00	D110-00240-0038V08	D110N00240-0038V08
0.25	1.10	3.80	10.00	38.00	3.00	D110-00250-0038V08	D110N00250-0038V08
0.26	1.10	3.80	10.00	38.00	3.00	D110-00260-0038V08	D110N00260-0038V08
0.27	1.10	3.80	10.00	38.00	3.00	D110-00270-0038V08	D110N00270-0038V08
0.28	1.10	3.80	10.00	38.00	3.00	D110-00280-0038V08	D110N00280-0038V08
0.29	1.10	3.80	10.00	38.00	3.00	D110-00290-0038V08	D110N00290-0038V08
0.30	1.10	5.70	10.00	38.00	3.00	D110-00300-0057V08	D110N00300-0057V08
0.31	1.10	5.70	10.00	38.00	3.00	D110-00310-0057V08	D110N00310-0057V08
0.32	1.10	5.70	10.00	38.00	3.00	D110-00320-0057V08	D110N00320-0057V08
0.33	1.10	5.70	10.00	38.00	3.00	D110-00330-0057V08	D110N00330-0057V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●					◐	●		●		●	●	●		
N-Coating	◐	●				●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Note: Web Thinning above Ø1.0 mm

2 Flute Solid Carbide Micro Drill

D110

3 mm Shank

DESCRIPTION						PART NUMBER	
Diameter Ød	Step Diameter Ød1	Flute Length l	Step Length l1	Overall Length L	Shank Dia ØD h6	Uncoated	N-Coating
0.34	1.10	5.70	10.00	38.00	3.00	D110-00340-0057V08	D110N00340-0057V08
0.35	1.10	5.70	10.00	38.00	3.00	D110-00350-0057V08	D110N00350-0057V08
0.36	1.10	5.70	10.00	38.00	3.00	D110-00360-0057V08	D110N00360-0057V08
0.37	1.10	5.70	10.00	38.00	3.00	D110-00370-0057V08	D110N00370-0057V08
0.38	1.10	6.40	10.00	38.00	3.00	D110-00380-0064V08	D110N00380-0064V08
0.39	1.10	6.40	10.00	38.00	3.00	D110-00390-0064V08	D110N00390-0064V08
0.40	1.10	6.40	10.00	38.00	3.00	D110-00400-0064V08	D110N00400-0064V08
0.41	-	6.40	-	38.00	3.00	D110-00410-0064V08	D110N00410-0064V08
0.45	-	6.40	-	38.00	3.00	D110-00450-0064V08	D110N00450-0064V08
0.50	-	6.60	-	38.00	3.00	D110-00500-0066V08	D110N00500-0066V08
0.55	-	8.60	-	38.00	3.00	D110-00550-0086V08	D110N00550-0086V08
0.60	-	8.60	-	38.00	3.00	D110-00600-0086V08	D110N00600-0086V08
0.61	-	8.60	-	38.00	3.00	D110-00610-0086V08	D110N00610-0086V08
0.65	-	8.60	-	38.00	3.00	D110-00650-0086V08	D110N00650-0086V08
0.70	-	10.20	-	38.00	3.00	D110-00700-0102V08	D110N00700-0102V08
0.75	-	10.20	-	38.00	3.00	D110-00750-0102V08	D110N00750-0102V08
0.80	-	10.20	-	38.00	3.00	D110-00800-0102V08	D110N00800-0102V08
0.85	-	10.20	-	38.00	3.00	D110-00850-0102V08	D110N00850-0102V08
0.90	-	10.20	-	38.00	3.00	D110-00900-0102V08	D110N00900-0102V08
0.95	-	10.20	-	38.00	3.00	D110-00950-0102V08	D110N00950-0102V08
1.00	-	10.20	-	38.00	3.00	D110-01000-0102V08	D110N01000-0102V08
1.05	-	10.20	-	38.00	3.00	D110-01050-0102V08	D110N01050-0102V08
1.10	-	10.20	-	38.00	3.00	D110-01100-0102V08	D110N01100-0102V08
1.15	-	10.20	-	38.00	3.00	D110-01150-0102V08	D110N01150-0102V08
1.20	-	10.20	-	38.00	3.00	D110-01200-0102V08	D110N01200-0102V08
1.25	-	10.20	-	38.00	3.00	D110-01250-0102V08	D110N01250-0102V08
1.30	-	10.20	-	38.00	3.00	D110-01300-0102V08	D110N01300-0102V08
1.35	-	10.20	-	38.00	3.00	D110-01350-0102V08	D110N01350-0102V08
1.40	-	10.20	-	38.00	3.00	D110-01400-0102V08	D110N01400-0102V08
1.45	-	10.20	-	38.00	3.00	D110-01450-0102V08	D110N01450-0102V08
1.50	-	10.20	-	38.00	3.00	D110-01500-0102V08	D110N01500-0102V08
1.55	-	10.20	-	38.00	3.00	D110-01550-0102V08	D110N01550-0102V08
1.60	-	10.20	-	38.00	3.00	D110-01600-0102V08	D110N01600-0102V08
1.65	-	10.20	-	38.00	3.00	D110-01650-0102V08	D110N01650-0102V08
1.70	-	10.20	-	38.00	3.00	D110-01700-0102V08	D110N01700-0102V08
1.75	-	10.20	-	38.00	3.00	D110-01750-0102V08	D110N01750-0102V08
1.80	-	10.20	-	38.00	3.00	D110-01800-0102V08	D110N01800-0102V08
1.85	-	10.20	-	38.00	3.00	D110-01850-0102V08	D110N01850-0102V08
1.90	-	10.20	-	38.00	3.00	D110-01900-0102V08	D110N01900-0102V08
1.95	-	10.20	-	38.00	3.00	D110-01950-0102V08	D110N01950-0102V08
2.00	-	10.20	-	38.00	3.00	D110-02000-0102V08	D110N02000-0102V08
2.05	-	10.20	-	38.00	3.00	D110-02050-0102V08	D110N02050-0102V08
2.10	-	10.20	-	38.00	3.00	D110-02100-0102V08	D110N02100-0102V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●					◐	●		●		●	●	●		
N-Coating	◐	●				●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Note: Web Thinning above Ø1.0 mm

2 Flute Solid Carbide Micro Drill

D110

3 mm Shank

DESCRIPTION						PART NUMBER	
Diameter Ød	Step Diameter Ød1	Flute Length l	Step Length l1	Overall Length L	Shank Dia ØD h6	Uncoated	N-Coating
2.15	-	10.20	-	38.00	3.00	D110-02150-0102V08	D110N02150-0102V08
2.20	-	10.20	-	38.00	3.00	D110-02200-0102V08	D110N02200-0102V08
2.25	-	10.20	-	38.00	3.00	D110-02250-0102V08	D110N02250-0102V08
2.30	-	10.20	-	38.00	3.00	D110-02300-0102V08	D110N02300-0102V08
2.35	-	10.20	-	38.00	3.00	D110-02350-0102V08	D110N02350-0102V08
2.40	-	10.20	-	38.00	3.00	D110-02400-0102V08	D110N02400-0102V08
2.45	-	10.20	-	38.00	3.00	D110-02450-0102V08	D110N02450-0102V08
2.50	-	10.20	-	38.00	3.00	D110-02500-0102V08	D110N02500-0102V08
2.55	-	10.20	-	38.00	3.00	D110-02550-0102V08	D110N02550-0102V08
2.60	-	10.20	-	38.00	3.00	D110-02600-0102V08	D110N02600-0102V08
2.65	-	10.20	-	38.00	3.00	D110-02650-0102V08	D110N02650-0102V08
2.70	-	10.20	-	38.00	3.00	D110-02700-0102V08	D110N02700-0102V08
2.75	-	10.20	-	38.00	3.00	D110-02750-0102V08	D110N02750-0102V08
2.80	-	10.20	-	38.00	3.00	D110-02800-0102V08	D110N02800-0102V08
2.85	-	10.20	-	38.00	3.00	D110-02850-0102V08	D110N02850-0102V08
2.90	-	10.20	-	38.00	3.00	D110-02900-0102V08	D110N02900-0102V08
2.95	-	10.20	-	38.00	3.00	D110-02950-0102V08	D110N02950-0102V08
3.00	-	10.20	-	38.00	3.00	D110-03000-0102V08	D110N03000-0102V08

DRILL Ø	TOLERANCES (mm)
0.030 - 0.190	= ± 0.001
0.2 - 1.0	= ± 0.003
1.05 - 2.0	= ± 0.004
2.05 - 3.0	=0/- 0.010

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●					◐	●		●		●	●	●		
N-Coating	◐	●				●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

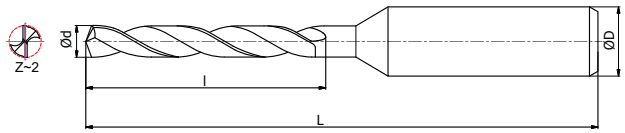
Note: Web Thinning above Ø1.0 mm

2 Flute Solid Carbide Micro Drill Hard Material

D500

3 mm Shank

- Application material: Alloy steel, Carbon steel, Stainless steel, Ph material, hardened steel
- Used in Industries: Watch case, Aerospace, Automotive, Die-Mold.
- Runs with high speed, produces accurate holes
- Best result in machine with precise spindle



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	L-Coating
0.30	5.70	38.00	3.00	D500-00300-0057V08	D500L00300-0057V08
0.31	5.70	38.00	3.00	D500-00310-0057V08	D500L00310-0057V08
0.32	5.70	38.00	3.00	D500-00320-0057V08	D500L00320-0057V08
0.33	5.70	38.00	3.00	D500-00330-0057V08	D500L00330-0057V08
0.34	5.70	38.00	3.00	D500-00340-0057V08	D500L00340-0057V08
0.35	5.70	38.00	3.00	D500-00350-0057V08	D500L00350-0057V08
0.36	5.70	38.00	3.00	D500-00360-0057V08	D500L00360-0057V08
0.37	5.70	38.00	3.00	D500-00370-0057V08	D500L00370-0057V08
0.38	6.40	38.00	3.00	D500-00380-0064V08	D500L00380-0064V08
0.39	6.40	38.00	3.00	D500-00390-0064V08	D500L00390-0064V08
0.40	6.40	38.00	3.00	D500-00400-0064V08	D500L00400-0064V08
0.41	6.40	38.00	3.00	D500-00410-0064V08	D500L00410-0064V08
0.45	6.40	38.00	3.00	D500-00450-0064V08	D500L00450-0064V08
0.50	6.60	38.00	3.00	D500-00500-0066V08	D500L00500-0066V08
0.55	8.60	38.00	3.00	D500-00550-0086V08	D500L00550-0086V08
0.60	8.60	38.00	3.00	D500-00600-0086V08	D500L00600-0086V08
0.61	8.60	38.00	3.00	D500-00610-0086V08	D500L00610-0086V08
0.65	8.60	38.00	3.00	D500-00650-0086V08	D500L00650-0086V08
0.70	10.20	38.00	3.00	D500-00700-0102V08	D500L00700-0102V08
0.75	10.20	38.00	3.00	D500-00750-0102V08	D500L00750-0102V08
0.80	10.20	38.00	3.00	D500-00800-0102V08	D500L00800-0102V08
0.85	10.20	38.00	3.00	D500-00850-0102V08	D500L00850-0102V08
0.90	10.20	38.00	3.00	D500-00900-0102V08	D500L00900-0102V08
0.95	10.20	38.00	3.00	D500-00950-0102V08	D500L00950-0102V08
1.00	10.20	38.00	3.00	D500-01000-0102V08	D500L01000-0102V08
1.05	10.20	38.00	3.00	D500-01050-0102V08	D500L01050-0102V08
1.10	10.20	38.00	3.00	D500-01100-0102V08	D500L01100-0102V08
1.15	10.20	38.00	3.00	D500-01150-0102V08	D500L01150-0102V08
1.20	10.20	38.00	3.00	D500-01200-0102V08	D500L01200-0102V08
1.25	10.20	38.00	3.00	D500-01250-0102V08	D500L01250-0102V08
1.30	10.20	38.00	3.00	D500-01300-0102V08	D500L01300-0102V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	Upto 50 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐									
L-Coating		●	●		●	●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.
Web Thinning available

2 Flute Solid Carbide Micro Drill Hard Material

D500

3 mm Shank

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	L-Coating
1.35	10.20	38.00	3.00	D500-01350-0102V08	D500L01350-0102V08
1.40	10.20	38.00	3.00	D500-01400-0102V08	D500L01400-0102V08
1.45	10.20	38.00	3.00	D500-01450-0102V08	D500L01450-0102V08
1.50	10.20	38.00	3.00	D500-01500-0102V08	D500L01500-0102V08
1.55	10.20	38.00	3.00	D500-01550-0102V08	D500L01550-0102V08
1.60	10.20	38.00	3.00	D500-01600-0102V08	D500L01600-0102V08
1.65	10.20	38.00	3.00	D500-01650-0102V08	D500L01650-0102V08
1.70	10.20	38.00	3.00	D500-01700-0102V08	D500L01700-0102V08
1.75	10.20	38.00	3.00	D500-01750-0102V08	D500L01750-0102V08
1.80	10.20	38.00	3.00	D500-01800-0102V08	D500L01800-0102V08
1.85	10.20	38.00	3.00	D500-01850-0102V08	D500L01850-0102V08
1.90	10.20	38.00	3.00	D500-01900-0102V08	D500L01900-0102V08
1.95	10.20	38.00	3.00	D500-01950-0102V08	D500L01950-0102V08
2.00	10.20	38.00	3.00	D500-02000-0102V08	D500L02000-0102V08
2.05	10.20	38.00	3.00	D500-02050-0102V08	D500L02050-0102V08
2.10	10.20	38.00	3.00	D500-02100-0102V08	D500L02100-0102V08
2.15	10.20	38.00	3.00	D500-02150-0102V08	D500L02150-0102V08
2.20	10.20	38.00	3.00	D500-02200-0102V08	D500L02200-0102V08
2.25	10.20	38.00	3.00	D500-02250-0102V08	D500L02250-0102V08
2.30	10.20	38.00	3.00	D500-02300-0102V08	D500L02300-0102V08
2.35	10.20	38.00	3.00	D500-02350-0102V08	D500L02350-0102V08
2.40	10.20	38.00	3.00	D500-02400-0102V08	D500L02400-0102V08
2.45	10.20	38.00	3.00	D500-02450-0102V08	D500L02450-0102V08
2.50	10.20	38.00	3.00	D500-02500-0102V08	D500L02500-0102V08
2.55	10.20	38.00	3.00	D500-02550-0102V08	D500L02550-0102V08
2.60	10.20	38.00	3.00	D500-02600-0102V08	D500L02600-0102V08
2.65	10.20	38.00	3.00	D500-02650-0102V08	D500L02650-0102V08
2.70	10.20	38.00	3.00	D500-02700-0102V08	D500L02700-0102V08
2.75	10.20	38.00	3.00	D500-02750-0102V08	D500L02750-0102V08
2.80	10.20	38.00	3.00	D500-02800-0102V08	D500L02800-0102V08
2.85	10.20	38.00	3.00	D500-02850-0102V08	D500L02850-0102V08
2.90	10.20	38.00	3.00	D500-02900-0102V08	D500L02900-0102V08
2.95	10.20	38.00	3.00	D500-02950-0102V08	D500L02950-0102V08
3.00	10.20	38.00	3.00	D500-03000-0102V08	D500L03000-0102V08

DRILL Ø	TOLERANCES (mm)
0.030 - 0.190	= ± 0.001
0.2 - 1.0	= ± 0.003
1.05 - 2.0	= ± 0.004
2.05 - 3.0	=0/- 0.010

Coating	P		H		M	K	N							S	
	Upto 30 HRC	Upto 50 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐									
L-Coating		●	●		●	●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

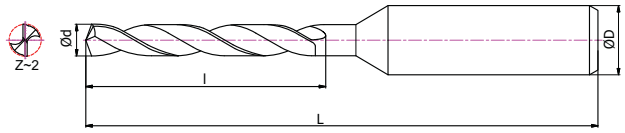
Note : Custom solutions for hardened steel (≤68 HRC) available upon request.
Web Thinning available

2 Flute Solid Carbide High Performance Drill

D260

3XD without Coolant Hole

- Advantages: Self centering- centre drilling not required
- Special design, good chip removal.
- Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Stainless steel, Ti, Nickel



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
1.00	5.00	45.00	4.00	D260L01000-0050V08	D260S01000-0050V08
1.10	5.00	45.00	4.00	D260L01100-0050V08	D260S01100-0050V08
1.20	5.00	45.00	4.00	D260L01200-0050V08	D260S01200-0050V08
1.30	6.00	45.00	4.00	D260L01300-0060V08	D260S01300-0060V08
1.40	6.00	45.00	4.00	D260L01400-0060V08	D260S01400-0060V08
1.50	7.00	45.00	4.00	D260L01500-0070V08	D260S01500-0070V08
1.60	7.00	45.00	4.00	D260L01600-0070V08	D260S01600-0070V08
1.70	8.00	45.00	4.00	D260L01700-0080V08	D260S01700-0080V08
1.80	8.00	45.00	4.00	D260L01800-0080V08	D260S01800-0080V08
1.90	9.00	45.00	4.00	D260L01900-0090V08	D260S01900-0090V08
2.00	9.00	45.00	4.00	D260L02000-0090V08	D260S02000-0090V08
2.10	9.00	45.00	4.00	D260L02100-0090V08	D260S02100-0090V08
2.20	10.00	50.00	4.00	D260L02200-0100V08	D260S02200-0100V08
2.30	10.00	50.00	4.00	D260L02300-0100V08	D260S02300-0100V08
2.40	11.00	50.00	4.00	D260L02400-0110V08	D260S02400-0110V08
2.50	11.00	50.00	4.00	D260L02500-0110V08	D260S02500-0110V08
2.60	12.00	50.00	4.00	D260L02600-0120V08	D260S02600-0120V08
2.70	12.00	50.00	4.00	D260L02700-0120V08	D260S02700-0120V08
2.80	13.00	50.00	4.00	D260L02800-0130V08	D260S02800-0130V08
2.90	13.00	50.00	4.00	D260L02900-0130V08	D260S02900-0130V08
3.00	14.00	63.00	6.00	D260L03000-0140V08	D260S03000-0140V08
3.10	16.00	63.00	6.00	D260L03100-0160V08	D260S03100-0160V08
3.20	16.00	63.00	6.00	D260L03200-0160V08	D260S03200-0160V08
3.30	17.00	63.00	6.00	D260L03300-0170V08	D260S03300-0170V08
3.40	17.00	63.00	6.00	D260L03400-0170V08	D260S03400-0170V08
3.50	18.00	63.00	6.00	D260L03500-0180V08	D260S03500-0180V08
3.60	18.00	63.00	6.00	D260L03600-0180V08	D260S03600-0180V08
3.70	19.00	63.00	6.00	D260L03700-0190V08	D260S03700-0190V08
3.80	19.00	63.00	6.00	D260L03800-0190V08	D260S03800-0190V08
3.90	20.00	63.00	6.00	D260L03900-0200V08	D260S03900-0200V08
4.00	20.00	63.00	6.00	D260L04000-0200V08	D260S04000-0200V08
4.10	20.00	63.00	6.00	D260L04100-0200V08	D260S04100-0200V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D260

3XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
4.20	21.00	70.00	6.00	D260L04200-0210V08	D260S04200-0210V08
4.30	21.00	70.00	6.00	D260L04300-0210V08	D260S04300-0210V08
4.40	22.00	70.00	6.00	D260L04400-0220V08	D260S04400-0220V08
4.50	22.00	70.00	6.00	D260L04500-0220V08	D260S04500-0220V08
4.60	23.00	70.00	6.00	D260L04600-0230V08	D260S04600-0230V08
4.70	23.00	70.00	6.00	D260L04700-0230V08	D260S04700-0230V08
4.80	24.00	70.00	6.00	D260L04800-0240V08	D260S04800-0240V08
4.90	24.00	70.00	6.00	D260L04900-0240V08	D260S04900-0240V08
5.00	25.00	70.00	6.00	D260L05000-0250V08	D260S05000-0250V08
5.10	25.00	70.00	6.00	D260L05100-0250V08	D260S05100-0250V08
5.20	25.00	70.00	6.00	D260L05200-0250V08	D260S05200-0250V08
5.30	26.00	70.00	6.00	D260L05300-0260V08	D260S05300-0260V08
5.40	26.00	70.00	6.00	D260L05400-0260V08	D260S05400-0260V08
5.50	27.00	70.00	6.00	D260L05500-0270V08	D260S05500-0270V08
5.60	27.00	70.00	6.00	D260L05600-0270V08	D260S05600-0270V08
5.70	28.00	70.00	6.00	D260L05700-0280V08	D260S05700-0280V08
5.80	28.00	70.00	6.00	D260L05800-0280V08	D260S05800-0280V08
5.90	29.00	70.00	6.00	D260L05900-0290V08	D260S05900-0290V08
6.00	29.00	70.00	6.00	D260L06000-0290V08	D260S06000-0290V08
6.10	29.00	79.00	8.00	D260L06100-0290V08	D260S06100-0290V08
6.20	30.00	79.00	8.00	D260L06200-0300V08	D260S06200-0300V08
6.30	30.00	79.00	8.00	D260L06300-0300V08	D260S06300-0300V08
6.40	31.00	79.00	8.00	D260L06400-0310V08	D260S06400-0310V08
6.50	31.00	79.00	8.00	D260L06500-0310V08	D260S06500-0310V08
6.60	32.00	79.00	8.00	D260L06600-0320V08	D260S06600-0320V08
6.70	32.00	79.00	8.00	D260L06700-0320V08	D260S06700-0320V08
6.80	33.00	79.00	8.00	D260L06800-0330V08	D260S06800-0330V08
6.90	33.00	79.00	8.00	D260L06900-0330V08	D260S06900-0330V08
7.00	34.00	79.00	8.00	D260L07000-0340V08	D260S07000-0340V08
7.10	34.00	79.00	8.00	D260L07100-0340V08	D260S07100-0340V08
7.20	34.00	79.00	8.00	D260L07200-0340V08	D260S07200-0340V08
7.30	35.00	79.00	8.00	D260L07300-0350V08	D260S07300-0350V08
7.40	35.00	79.00	8.00	D260L07400-0350V08	D260S07400-0350V08
7.50	36.00	79.00	8.00	D260L07500-0360V08	D260S07500-0360V08
7.60	36.00	79.00	8.00	D260L07600-0360V08	D260S07600-0360V08
7.70	37.00	79.00	8.00	D260L07700-0370V08	D260S07700-0370V08
7.80	37.00	79.00	8.00	D260L07800-0370V08	D260S07800-0370V08
7.90	38.00	79.00	8.00	D260L07900-0380V08	D260S07900-0380V08
8.00	38.00	79.00	8.00	D260L08000-0380V08	D260S08000-0380V08
8.10	39.00	89.00	10.00	D260L08100-0390V08	D260S08100-0390V08
8.20	39.00	89.00	10.00	D260L08200-0390V08	D260S08200-0390V08
8.30	40.00	89.00	10.00	D260L08300-0400V08	D260S08300-0400V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D260

3XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
8.40	40.00	89.00	10.00	D260L08400-0400V08	D260S08400-0400V08
8.50	41.00	89.00	10.00	D260L08500-0410V08	D260S08500-0410V08
8.60	41.00	89.00	10.00	D260L08600-0410V08	D260S08600-0410V08
8.70	42.00	89.00	10.00	D260L08700-0420V08	D260S08700-0420V08
8.80	42.00	89.00	10.00	D260L08800-0420V08	D260S08800-0420V08
8.90	43.00	89.00	10.00	D260L08900-0430V08	D260S08900-0430V08
9.00	43.00	89.00	10.00	D260L09000-0430V08	D260S09000-0430V08
9.10	43.00	89.00	10.00	D260L09100-0430V08	D260S09100-0430V08
9.20	44.00	89.00	10.00	D260L09200-0440V08	D260S09200-0440V08
9.30	44.00	89.00	10.00	D260L09300-0440V08	D260S09300-0440V08
9.40	45.00	89.00	10.00	D260L09400-0450V08	D260S09400-0450V08
9.50	45.00	89.00	10.00	D260L09500-0450V08	D260S09500-0450V08
9.60	46.00	89.00	10.00	D260L09600-0460V08	D260S09600-0460V08
9.70	46.00	89.00	10.00	D260L09700-0460V08	D260S09700-0460V08
9.80	47.00	89.00	10.00	D260L09800-0470V08	D260S09800-0470V08
9.90	47.00	89.00	10.00	D260L09900-0470V08	D260S09900-0470V08
10.00	48.00	89.00	10.00	D260L10000-0480V08	D260S10000-0480V08
10.10	48.00	102.00	12.00	D260L10100-0480V08	D260S10100-0480V08
10.20	48.00	102.00	12.00	D260L10200-0480V08	D260S10200-0480V08
10.30	49.00	102.00	12.00	D260L10300-0490V08	D260S10300-0490V08
10.40	49.00	102.00	12.00	D260L10400-0490V08	D260S10400-0490V08
10.50	50.00	102.00	12.00	D260L10500-0500V08	D260S10500-0500V08
10.60	50.00	102.00	12.00	D260L10600-0500V08	D260S10600-0500V08
10.70	51.00	102.00	12.00	D260L10700-0510V08	D260S10700-0510V08
10.80	51.00	102.00	12.00	D260L10800-0510V08	D260S10800-0510V08
10.90	52.00	102.00	12.00	D260L10900-0520V08	D260S10900-0520V08
11.00	52.00	102.00	12.00	D260L11000-0520V08	D260S11000-0520V08
11.10	52.00	102.00	12.00	D260L11100-0520V08	D260S11100-0520V08
11.20	53.00	102.00	12.00	D260L11200-0530V08	D260S11200-0530V08
11.30	53.00	102.00	12.00	D260L11300-0530V08	D260S11300-0530V08
11.40	54.00	102.00	12.00	D260L11400-0540V08	D260S11400-0540V08
11.50	54.00	102.00	12.00	D260L11500-0540V08	D260S11500-0540V08
11.60	55.00	102.00	12.00	D260L11600-0550V08	D260S11600-0550V08
11.70	55.00	102.00	12.00	D260L11700-0550V08	D260S11700-0550V08
11.80	56.00	102.00	12.00	D260L11800-0560V08	D260S11800-0560V08
11.90	56.00	102.00	12.00	D260L11900-0560V08	D260S11900-0560V08
12.00	57.00	102.00	12.00	D260L12000-0570V08	D260S12000-0570V08
12.10	57.00	107.00	14.00	D260L12100-0570V08	D260S12100-0570V08
12.20	57.00	107.00	14.00	D260L12200-0570V08	D260S12200-0570V08
12.30	58.00	107.00	14.00	D260L12300-0580V08	D260S12300-0580V08
12.40	58.00	107.00	14.00	D260L12400-0580V08	D260S12400-0580V08
12.50	59.00	107.00	14.00	D260L12500-0590V08	D260S12500-0590V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D260

3XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
12.60	59.00	107.00	14.00	D260L12600-0590V08	D260S12600-0590V08
12.70	60.00	107.00	14.00	D260L12700-0600V08	D260S12700-0600V08
12.80	61.00	107.00	14.00	D260L12800-0610V08	D260S12800-0610V08
12.90	61.00	107.00	14.00	D260L12900-0610V08	D260S12900-0610V08
13.00	62.00	107.00	14.00	D260L13000-0620V08	D260S13000-0620V08
13.10	62.00	107.00	14.00	D260L13100-0620V08	D260S13100-0620V08
13.20	62.00	107.00	14.00	D260L13200-0620V08	D260S13200-0620V08
13.30	63.00	107.00	14.00	D260L13300-0630V08	D260S13300-0630V08
13.40	63.00	107.00	14.00	D260L13400-0630V08	D260S13400-0630V08
13.50	64.00	107.00	14.00	D260L13500-0640V08	D260S13500-0640V08
13.60	64.00	107.00	14.00	D260L13600-0640V08	D260S13600-0640V08
13.70	65.00	107.00	14.00	D260L13700-0650V08	D260S13700-0650V08
13.80	65.00	107.00	14.00	D260L13800-0650V08	D260S13800-0650V08
13.90	66.00	107.00	14.00	D260L13900-0660V08	D260S13900-0660V08
14.00	66.00	107.00	14.00	D260L14000-0660V08	D260S14000-0660V08
14.50	68.00	115.00	16.00	D260L14500-0680V08	D260S14500-0680V08
14.80	70.00	115.00	16.00	D260L14800-0700V08	D260S14800-0700V08
15.00	71.00	115.00	16.00	D260L15000-0710V08	D260S15000-0710V08
15.50	73.00	115.00	16.00	D260L15500-0730V08	D260S15500-0730V08
15.80	74.00	115.00	16.00	D260L15800-0740V08	D260S15800-0740V08
16.00	75.00	115.00	16.00	D260L16000-0750V08	D260S16000-0750V08
16.50	69.00	123.00	18.00	D260L16500-0690V08	D260S16500-0690V08
16.80	70.00	123.00	18.00	D260L16800-0700V08	D260S16800-0700V08
17.00	71.00	123.00	18.00	D260L17000-0710V08	D260S17000-0710V08
17.50	73.00	123.00	18.00	D260L17500-0730V08	D260S17500-0730V08
17.80	74.00	123.00	18.00	D260L17800-0740V08	D260S17800-0740V08
18.00	75.00	123.00	18.00	D260L18000-0750V08	D260S18000-0750V08
18.50	77.00	131.00	20.00	D260L18500-0770V08	D260S18500-0770V08
18.80	78.00	131.00	20.00	D260L18800-0780V08	D260S18800-0780V08
19.00	79.00	131.00	20.00	D260L19000-0790V08	D260S19000-0790V08
19.50	81.00	131.00	20.00	D260L19500-0810V08	D260S19500-0810V08
19.80	82.00	131.00	20.00	D260L19800-0820V08	D260S19800-0820V08
20.00	83.00	131.00	20.00	D260L20000-0830V08	D260S20000-0830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

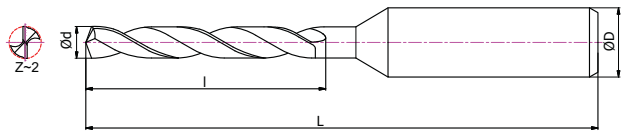
Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D270

5XD without Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal. Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Stainless steel, Ti , Nickel



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute WLength l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
1.00	7.00	45.00	4.00	D270L01000-0070V08	D270S01000-0070V08
1.10	7.00	45.00	4.00	D270L01100-0070V08	D270S01100-0070V08
1.20	8.00	45.00	4.00	D270L01200-0080V08	D270S01200-0080V08
1.30	8.00	45.00	4.00	D270L01300-0080V08	D270S01300-0080V08
1.40	9.00	45.00	4.00	D270L01400-0090V08	D270S01400-0090V08
1.50	10.00	50.00	4.00	D270L01500-0100V08	D270S01500-0100V08
1.60	10.00	50.00	4.00	D270L01600-0100V08	D270S01600-0100V08
1.70	11.00	50.00	4.00	D270L01700-0110V08	D270S01700-0110V08
1.80	12.00	50.00	4.00	D270L01800-0120V08	D270S01800-0120V08
1.90	12.00	50.00	4.00	D270L01900-0120V08	D270S01900-0120V08
2.00	13.00	50.00	4.00	D270L02000-0130V08	D270S02000-0130V08
2.10	14.00	50.00	4.00	D270L02100-0140V08	D270S02100-0140V08
2.20	14.00	50.00	4.00	D270L02200-0140V08	D270S02200-0140V08
2.30	15.00	50.00	4.00	D270L02300-0150V08	D270S02300-0150V08
2.40	16.00	55.00	4.00	D270L02400-0160V08	D270S02400-0160V08
2.50	16.00	55.00	4.00	D270L02500-0160V08	D270S02500-0160V08
2.60	17.00	55.00	4.00	D270L02600-0170V08	D270S02600-0170V08
2.70	18.00	55.00	4.00	D270L02700-0180V08	D270S02700-0180V08
2.80	18.00	55.00	4.00	D270L02800-0180V08	D270S02800-0180V08
2.90	19.00	55.00	4.00	D270L02900-0190V08	D270S02900-0190V08
3.00	20.00	63.00	6.00	D270L03000-0200V08	D270S03000-0200V08
3.10	22.00	63.00	6.00	D270L03100-0220V08	D270S03100-0220V08
3.20	23.00	63.00	6.00	D270L03200-0230V08	D270S03200-0230V08
3.30	23.00	63.00	6.00	D270L03300-0230V08	D270S03300-0230V08
3.40	24.00	63.00	6.00	D270L03400-0240V08	D270S03400-0240V08
3.50	25.00	63.00	6.00	D270L03500-0250V08	D270S03500-0250V08
3.60	25.00	63.00	6.00	D270L03600-0250V08	D270S03600-0250V08
3.70	26.00	63.00	6.00	D270L03700-0260V08	D270S03700-0260V08
3.80	27.00	74.00	6.00	D270L03800-0270V08	D270S03800-0270V08
3.90	27.00	74.00	6.00	D270L03900-0270V08	D270S03900-0270V08
4.00	28.00	74.00	6.00	D270L04000-0280V08	D270S04000-0280V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	●	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D270

5XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute WLength l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
4.10	29.00	74.00	6.00	D270L04100-0290V08	D270S04100-0290V08
4.20	29.00	74.00	6.00	D270L04200-0290V08	D270S04200-0290V08
4.30	30.00	74.00	6.00	D270L04300-0300V08	D270S04300-0300V08
4.40	31.00	74.00	6.00	D270L04400-0310V08	D270S04400-0310V08
4.50	31.00	74.00	6.00	D270L04500-0310V08	D270S04500-0310V08
4.60	32.00	74.00	6.00	D270L04600-0320V08	D270S04600-0320V08
4.70	33.00	74.00	6.00	D270L04700-0330V08	D270S04700-0330V08
4.80	33.00	81.00	6.00	D270L04800-0330V08	D270S04800-0330V08
4.90	34.00	81.00	6.00	D270L04900-0340V08	D270S04900-0340V08
5.00	35.00	81.00	6.00	D270L05000-0350V08	D270S05000-0350V08
5.10	35.00	81.00	6.00	D270L05100-0350V08	D270S05100-0350V08
5.20	36.00	81.00	6.00	D270L05200-0360V08	D270S05200-0360V08
5.30	36.00	81.00	6.00	D270L05300-0360V08	D270S05300-0360V08
5.40	37.00	81.00	6.00	D270L05400-0370V08	D270S05400-0370V08
5.50	38.00	81.00	6.00	D270L05500-0380V08	D270S05500-0380V08
5.60	38.00	81.00	6.00	D270L05600-0380V08	D270S05600-0380V08
5.70	39.00	81.00	6.00	D270L05700-0390V08	D270S05700-0390V08
5.80	40.00	81.00	6.00	D270L05800-0400V08	D270S05800-0400V08
5.90	40.00	81.00	6.00	D270L05900-0400V08	D270S05900-0400V08
6.00	41.00	81.00	6.00	D270L06000-0410V08	D270S06000-0410V08
6.10	42.00	91.00	8.00	D270L06100-0420V08	D270S06100-0420V08
6.20	42.00	91.00	8.00	D270L06200-0420V08	D270S06200-0420V08
6.30	43.00	91.00	8.00	D270L06300-0430V08	D270S06300-0430V08
6.40	44.00	91.00	8.00	D270L06400-0440V08	D270S06400-0440V08
6.50	44.00	91.00	8.00	D270L06500-0440V08	D270S06500-0440V08
6.60	45.00	91.00	8.00	D270L06600-0450V08	D270S06600-0450V08
6.70	46.00	91.00	8.00	D270L06700-0460V08	D270S06700-0460V08
6.80	46.00	91.00	8.00	D270L06800-0460V08	D270S06800-0460V08
6.90	47.00	91.00	8.00	D270L06900-0470V08	D270S06900-0470V08
7.00	48.00	91.00	8.00	D270L07000-0480V08	D270S07000-0480V08
7.10	48.00	91.00	8.00	D270L07100-0480V08	D270S07100-0480V08
7.20	49.00	91.00	8.00	D270L07200-0490V08	D270S07200-0490V08
7.30	49.00	91.00	8.00	D270L07300-0490V08	D270S07300-0490V08
7.40	50.00	91.00	8.00	D270L07400-0500V08	D270S07400-0500V08
7.50	51.00	91.00	8.00	D270L07500-0510V08	D270S07500-0510V08
7.60	51.00	91.00	8.00	D270L07600-0510V08	D270S07600-0510V08
7.70	52.00	91.00	8.00	D270L07700-0520V08	D270S07700-0520V08
7.80	53.00	91.00	8.00	D270L07800-0530V08	D270S07800-0530V08
7.90	53.00	91.00	8.00	D270L07900-0530V08	D270S07900-0530V08
8.00	54.00	91.00	8.00	D270L08000-0540V08	D270S08000-0540V08
8.10	55.00	103.00	10.00	D270L08100-0550V08	D270S08100-0550V08
8.20	56.00	103.00	10.00	D270L08200-0560V08	D270S08200-0560V08
8.30	56.00	103.00	10.00	D270L08300-0560V08	D270S08300-0560V08
8.40	57.00	103.00	10.00	D270L08400-0570V08	D270S08400-0570V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	●	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D270

5XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute WLength l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
8.50	58.00	103.00	10.00	D270L08500-0580V08	D270S08500-0580V08
8.60	58.00	103.00	10.00	D270L08600-0580V08	D270S08600-0580V08
8.70	59.00	103.00	10.00	D270L08700-0590V08	D270S08700-0590V08
8.80	60.00	103.00	10.00	D270L08800-0600V08	D270S08800-0600V08
8.90	60.00	103.00	10.00	D270L08900-0600V08	D270S08900-0600V08
9.00	61.00	103.00	10.00	D270L09000-0610V08	D270S09000-0610V08
9.10	62.00	103.00	10.00	D270L09100-0620V08	D270S09100-0620V08
9.20	62.00	103.00	10.00	D270L09200-0620V08	D270S09200-0620V08
9.30	63.00	103.00	10.00	D270L09300-0630V08	D270S09300-0630V08
9.40	64.00	103.00	10.00	D270L09400-0640V08	D270S09400-0640V08
9.50	64.00	103.00	10.00	D270L09500-0640V08	D270S09500-0640V08
9.60	65.00	103.00	10.00	D270L09600-0650V08	D270S09600-0650V08
9.70	66.00	103.00	10.00	D270L09700-0660V08	D270S09700-0660V08
9.80	66.00	103.00	10.00	D270L09800-0660V08	D270S09800-0660V08
9.90	67.00	103.00	10.00	D270L09900-0670V08	D270S09900-0670V08
10.00	68.00	103.00	10.00	D270L10000-0680V08	D270S10000-0680V08
10.10	68.00	118.00	12.00	D270L10100-0680V08	D270S10100-0680V08
10.20	69.00	118.00	12.00	D270L10200-0690V08	D270S10200-0690V08
10.30	69.00	118.00	12.00	D270L10300-0690V08	D270S10300-0690V08
10.40	70.00	118.00	12.00	D270L10400-0700V08	D270S10400-0700V08
10.50	71.00	118.00	12.00	D270L10500-0710V08	D270S10500-0710V08
10.60	71.00	118.00	12.00	D270L10600-0710V08	D270S10600-0710V08
10.70	72.00	118.00	12.00	D270L10700-0720V08	D270S10700-0720V08
10.80	73.00	118.00	12.00	D270L10800-0730V08	D270S10800-0730V08
10.90	73.00	118.00	12.00	D270L10900-0730V08	D270S10900-0730V08
11.00	74.00	118.00	12.00	D270L11000-0740V08	D270S11000-0740V08
11.10	75.00	118.00	12.00	D270L11100-0750V08	D270S11100-0750V08
11.20	75.00	118.00	12.00	D270L11200-0750V08	D270S11200-0750V08
11.30	76.00	118.00	12.00	D270L11300-0760V08	D270S11300-0760V08
11.40	77.00	118.00	12.00	D270L11400-0770V08	D270S11400-0770V08
11.50	77.00	118.00	12.00	D270L11500-0770V08	D270S11500-0770V08
11.60	78.00	118.00	12.00	D270L11600-0780V08	D270S11600-0780V08
11.70	79.00	118.00	12.00	D270L11700-0790V08	D270S11700-0790V08
11.80	79.00	118.00	12.00	D270L11800-0790V08	D270S11800-0790V08
11.90	80.00	118.00	12.00	D270L11900-0800V08	D270S11900-0800V08
12.00	81.00	118.00	12.00	D270L12000-0810V08	D270S12000-0810V08
12.10	81.00	124.00	14.00	D270L12100-0810V08	D270S12100-0810V08
12.20	82.00	124.00	14.00	D270L12200-0820V08	D270S12200-0820V08
12.30	82.00	124.00	14.00	D270L12300-0820V08	D270S12300-0820V08
12.40	83.00	124.00	14.00	D270L12400-0830V08	D270S12400-0830V08
12.50	84.00	124.00	14.00	D270L12500-0840V08	D270S12500-0840V08
12.60	84.00	124.00	14.00	D270L12600-0840V08	D270S12600-0840V08
12.70	85.00	124.00	14.00	D270L12700-0850V08	D270S12700-0850V08
12.80	86.00	124.00	14.00	D270L12800-0860V08	D270S12800-0860V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	●	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D270

5XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute WLength l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
12.90	87.00	124.00	14.00	D270L12900-0870V08	D270S12900-0870V08
13.00	88.00	124.00	14.00	D270L13000-0880V08	D270S13000-0880V08
13.10	88.00	124.00	14.00	D270L13100-0880V08	D270S13100-0880V08
13.20	89.00	124.00	14.00	D270L13200-0890V08	D270S13200-0890V08
13.30	89.00	124.00	14.00	D270L13300-0890V08	D270S13300-0890V08
13.40	90.00	124.00	14.00	D270L13400-0900V08	D270S13400-0900V08
13.50	91.00	124.00	14.00	D270L13500-0910V08	D270S13500-0910V08
13.60	91.00	124.00	14.00	D270L13600-0910V08	D270S13600-0910V08
13.70	92.00	124.00	14.00	D270L13700-0920V08	D270S13700-0920V08
13.80	93.00	124.00	14.00	D270L13800-0930V08	D270S13800-0930V08
13.90	93.00	124.00	14.00	D270L13900-0930V08	D270S13900-0930V08
14.00	94.00	124.00	14.00	D270L14000-0940V08	D270S14000-0940V08
14.50	97.00	133.00	16.00	D270L14500-0970V08	D270S14500-0970V08
14.80	99.00	133.00	16.00	D270L14800-0990V08	D270S14800-0990V08
15.00	101.00	133.00	16.00	D270L15000-1010V08	D270S15000-1010V08
15.50	104.00	133.00	16.00	D270L15500-1040V08	D270S15500-1040V08
15.80	106.00	133.00	16.00	D270L15800-1060V08	D270S15800-1060V08
16.00	107.00	133.00	16.00	D270L16000-1070V08	D270S16000-1070V08
16.50	102.00	143.00	18.00	D270L16500-1020V08	D270S16500-1020V08
16.80	104.00	143.00	18.00	D270L16800-1040V08	D270S16800-1040V08
17.00	105.00	143.00	18.00	D270L17000-1050V08	D270S17000-1050V08
17.50	108.00	143.00	18.00	D270L17500-1080V08	D270S17500-1080V08
17.80	110.00	143.00	18.00	D270L17800-1100V08	D270S17800-1100V08
18.00	111.00	143.00	18.00	D270L18000-1110V08	D270S18000-1110V08
18.50	114.00	153.00	20.00	D270L18500-1140V08	D270S18500-1140V08
18.80	116.00	153.00	20.00	D270L18800-1160V08	D270S18800-1160V08
19.00	117.00	153.00	20.00	D270L19000-1170V08	D270S19000-1170V08
19.50	120.00	153.00	20.00	D270L19500-1200V08	D270S19500-1200V08
19.80	122.00	153.00	20.00	D270L19800-1220V08	D270S19800-1220V08
20.00	123.00	153.00	20.00	D270L20000-1230V08	D270S20000-1230V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	●	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

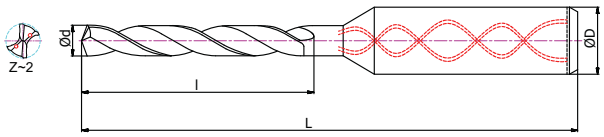
Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D960

3XD with Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal. Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Stainless steel, Ti, Nickel



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
1.00	5.00	45.00	3.00	D960L01000-0050V08	D960S01000-0050V08
1.10	5.00	45.00	3.00	D960L01100-0050V08	D960S01100-0050V08
1.20	5.00	45.00	3.00	D960L01200-0050V08	D960S01200-0050V08
1.30	6.00	45.00	3.00	D960L01300-0060V08	D960S01300-0060V08
1.40	6.00	45.00	3.00	D960L01400-0060V08	D960S01400-0060V08
1.50	7.00	45.00	3.00	D960L01500-0070V08	D960S01500-0070V08
1.60	7.00	45.00	3.00	D960L01600-0070V08	D960S01600-0070V08
1.70	8.00	45.00	3.00	D960L01700-0080V08	D960S01700-0080V08
1.80	8.00	45.00	3.00	D960L01800-0080V08	D960S01800-0080V08
1.90	9.00	45.00	3.00	D960L01900-0090V08	D960S01900-0090V08
2.00	9.00	45.00	4.00	D960L02000-0090V08	D960S02000-0090V08
2.10	9.00	45.00	4.00	D960L02100-0090V08	D960S02100-0090V08
2.20	10.00	50.00	4.00	D960L02200-0100V08	D960S02200-0100V08
2.30	10.00	50.00	4.00	D960L02300-0100V08	D960S02300-0100V08
2.40	11.00	50.00	4.00	D960L02400-0110V08	D960S02400-0110V08
2.50	11.00	50.00	4.00	D960L02500-0110V08	D960S02500-0110V08
2.60	12.00	50.00	4.00	D960L02600-0120V08	D960S02600-0120V08
2.70	12.00	50.00	4.00	D960L02700-0120V08	D960S02700-0120V08
2.80	13.00	50.00	4.00	D960L02800-0130V08	D960S02800-0130V08
2.90	13.00	50.00	4.00	D960L02900-0130V08	D960S02900-0130V08
3.00	14.00	63.00	6.00	D960L03000-0140V08	D960S03000-0140V08
3.10	16.00	63.00	6.00	D960L03100-0160V08	D960S03100-0160V08
3.20	16.00	63.00	6.00	D960L03200-0160V08	D960S03200-0160V08
3.30	17.00	63.00	6.00	D960L03300-0170V08	D960S03300-0170V08
3.40	17.00	63.00	6.00	D960L03400-0170V08	D960S03400-0170V08
3.50	18.00	63.00	6.00	D960L03500-0180V08	D960S03500-0180V08
3.60	18.00	63.00	6.00	D960L03600-0180V08	D960S03600-0180V08
3.70	19.00	63.00	6.00	D960L03700-0190V08	D960S03700-0190V08
3.80	19.00	63.00	6.00	D960L03800-0190V08	D960S03800-0190V08
3.90	20.00	70.00	6.00	D960L03900-0200V08	D960S03900-0200V08
4.00	20.00	70.00	6.00	D960L04000-0200V08	D960S04000-0200V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D960

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
4.10	20.00	70.00	6.00	D960L04100-0200V08	D960S04100-0200V08
4.20	21.00	70.00	6.00	D960L04200-0210V08	D960S04200-0210V08
4.30	21.00	70.00	6.00	D960L04300-0210V08	D960S04300-0210V08
4.40	22.00	70.00	6.00	D960L04400-0220V08	D960S04400-0220V08
4.50	22.00	70.00	6.00	D960L04500-0220V08	D960S04500-0220V08
4.60	23.00	70.00	6.00	D960L04600-0230V08	D960S04600-0230V08
4.70	23.00	70.00	6.00	D960L04700-0230V08	D960S04700-0230V08
4.80	24.00	70.00	6.00	D960L04800-0240V08	D960S04800-0240V08
4.90	24.00	70.00	6.00	D960L04900-0240V08	D960S04900-0240V08
5.00	25.00	74.00	6.00	D960L05000-0250V08	D960S05000-0250V08
5.10	25.00	74.00	6.00	D960L05100-0250V08	D960S05100-0250V08
5.20	25.00	74.00	6.00	D960L05200-0250V08	D960S05200-0250V08
5.30	26.00	74.00	6.00	D960L05300-0260V08	D960S05300-0260V08
5.40	26.00	74.00	6.00	D960L05400-0260V08	D960S05400-0260V08
5.50	27.00	74.00	6.00	D960L05500-0270V08	D960S05500-0270V08
5.60	27.00	74.00	6.00	D960L05600-0270V08	D960S05600-0270V08
5.70	28.00	74.00	6.00	D960L05700-0280V08	D960S05700-0280V08
5.80	28.00	74.00	6.00	D960L05800-0280V08	D960S05800-0280V08
5.90	29.00	74.00	6.00	D960L05900-0290V08	D960S05900-0290V08
6.00	29.00	74.00	6.00	D960L06000-0290V08	D960S06000-0290V08
6.10	29.00	79.00	8.00	D960L06100-0290V08	D960S06100-0290V08
6.20	30.00	79.00	8.00	D960L06200-0300V08	D960S06200-0300V08
6.30	30.00	79.00	8.00	D960L06300-0300V08	D960S06300-0300V08
6.40	31.00	79.00	8.00	D960L06400-0310V08	D960S06400-0310V08
6.50	31.00	79.00	8.00	D960L06500-0310V08	D960S06500-0310V08
6.60	32.00	79.00	8.00	D960L06600-0320V08	D960S06600-0320V08
6.70	32.00	79.00	8.00	D960L06700-0320V08	D960S06700-0320V08
6.80	33.00	79.00	8.00	D960L06800-0330V08	D960S06800-0330V08
6.90	33.00	79.00	8.00	D960L06900-0330V08	D960S06900-0330V08
7.00	34.00	79.00	8.00	D960L07000-0340V08	D960S07000-0340V08
7.10	34.00	79.00	8.00	D960L07100-0340V08	D960S07100-0340V08
7.20	34.00	79.00	8.00	D960L07200-0340V08	D960S07200-0340V08
7.30	35.00	79.00	8.00	D960L07300-0350V08	D960S07300-0350V08
7.40	35.00	79.00	8.00	D960L07400-0350V08	D960S07400-0350V08
7.50	36.00	79.00	8.00	D960L07500-0360V08	D960S07500-0360V08
7.60	36.00	79.00	8.00	D960L07600-0360V08	D960S07600-0360V08
7.70	37.00	79.00	8.00	D960L07700-0370V08	D960S07700-0370V08
7.80	37.00	79.00	8.00	D960L07800-0370V08	D960S07800-0370V08
7.90	38.00	79.00	8.00	D960L07900-0380V08	D960S07900-0380V08
8.00	38.00	79.00	8.00	D960L08000-0380V08	D960S08000-0380V08
8.10	39.00	89.00	10.00	D960L08100-0390V08	D960S08100-0390V08
8.20	39.00	89.00	10.00	D960L08200-0390V08	D960S08200-0390V08
8.30	40.00	89.00	10.00	D960L08300-0400V08	D960S08300-0400V08
8.40	40.00	89.00	10.00	D960L08400-0400V08	D960S08400-0400V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D960

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
8.50	41.00	89.00	10.00	D960L08500-0410V08	D960S08500-0410V08
8.60	41.00	89.00	10.00	D960L08600-0410V08	D960S08600-0410V08
8.70	42.00	89.00	10.00	D960L08700-0420V08	D960S08700-0420V08
8.80	42.00	89.00	10.00	D960L08800-0420V08	D960S08800-0420V08
8.90	43.00	89.00	10.00	D960L08900-0430V08	D960S08900-0430V08
9.00	43.00	89.00	10.00	D960L09000-0430V08	D960S09000-0430V08
9.10	43.00	89.00	10.00	D960L09100-0430V08	D960S09100-0430V08
9.20	44.00	89.00	10.00	D960L09200-0440V08	D960S09200-0440V08
9.30	44.00	89.00	10.00	D960L09300-0440V08	D960S09300-0440V08
9.40	45.00	89.00	10.00	D960L09400-0450V08	D960S09400-0450V08
9.50	45.00	89.00	10.00	D960L09500-0450V08	D960S09500-0450V08
9.60	46.00	89.00	10.00	D960L09600-0460V08	D960S09600-0460V08
9.70	46.00	89.00	10.00	D960L09700-0460V08	D960S09700-0460V08
9.80	47.00	89.00	10.00	D960L09800-0470V08	D960S09800-0470V08
9.90	47.00	89.00	10.00	D960L09900-0470V08	D960S09900-0470V08
10.00	48.00	89.00	10.00	D960L10000-0480V08	D960S10000-0480V08
10.10	48.00	102.00	12.00	D960L10100-0480V08	D960S10100-0480V08
10.20	48.00	102.00	12.00	D960L10200-0480V08	D960S10200-0480V08
10.30	49.00	102.00	12.00	D960L10300-0490V08	D960S10300-0490V08
10.40	49.00	102.00	12.00	D960L10400-0490V08	D960S10400-0490V08
10.50	50.00	102.00	12.00	D960L10500-0500V08	D960S10500-0500V08
10.60	50.00	102.00	12.00	D960L10600-0500V08	D960S10600-0500V08
10.70	51.00	102.00	12.00	D960L10700-0510V08	D960S10700-0510V08
10.80	51.00	102.00	12.00	D960L10800-0510V08	D960S10800-0510V08
10.90	52.00	102.00	12.00	D960L10900-0520V08	D960S10900-0520V08
11.00	52.00	102.00	12.00	D960L11000-0520V08	D960S11000-0520V08
11.10	52.00	102.00	12.00	D960L11100-0520V08	D960S11100-0520V08
11.20	53.00	102.00	12.00	D960L11200-0530V08	D960S11200-0530V08
11.30	53.00	102.00	12.00	D960L11300-0530V08	D960S11300-0530V08
11.40	54.00	102.00	12.00	D960L11400-0540V08	D960S11400-0540V08
11.50	54.00	102.00	12.00	D960L11500-0540V08	D960S11500-0540V08
11.60	55.00	102.00	12.00	D960L11600-0550V08	D960S11600-0550V08
11.70	55.00	102.00	12.00	D960L11700-0550V08	D960S11700-0550V08
11.80	56.00	102.00	12.00	D960L11800-0560V08	D960S11800-0560V08
11.90	56.00	102.00	12.00	D960L11900-0560V08	D960S11900-0560V08
12.00	57.00	102.00	12.00	D960L12000-0570V08	D960S12000-0570V08
12.10	57.00	107.00	14.00	D960L12100-0570V08	D960S12100-0570V08
12.20	57.00	107.00	14.00	D960L12200-0570V08	D960S12200-0570V08
12.30	58.00	107.00	14.00	D960L12300-0580V08	D960S12300-0580V08
12.40	58.00	107.00	14.00	D960L12400-0580V08	D960S12400-0580V08
12.50	59.00	107.00	14.00	D960L12500-0590V08	D960S12500-0590V08
12.60	59.00	107.00	14.00	D960L12600-0590V08	D960S12600-0590V08
12.70	60.00	107.00	14.00	D960L12700-0600V08	D960S12700-0600V08
12.80	61.00	107.00	14.00	D960L12800-0610V08	D960S12800-0610V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D960

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
12.90	61.00	107.00	14.00	D960L12900-0610V08	D960S12900-0610V08
13.00	62.00	107.00	14.00	D960L13000-0620V08	D960S13000-0620V08
13.10	62.00	107.00	14.00	D960L13100-0620V08	D960S13100-0620V08
13.20	62.00	107.00	14.00	D960L13200-0620V08	D960S13200-0620V08
13.30	63.00	107.00	14.00	D960L13300-0630V08	D960S13300-0630V08
13.40	63.00	107.00	14.00	D960L13400-0630V08	D960S13400-0630V08
13.50	64.00	107.00	14.00	D960L13500-0640V08	D960S13500-0640V08
13.60	64.00	107.00	14.00	D960L13600-0640V08	D960S13600-0640V08
13.70	65.00	107.00	14.00	D960L13700-0650V08	D960S13700-0650V08
13.80	65.00	107.00	14.00	D960L13800-0650V08	D960S13800-0650V08
13.90	66.00	107.00	14.00	D960L13900-0660V08	D960S13900-0660V08
14.00	66.00	107.00	14.00	D960L14000-0660V08	D960S14000-0660V08
14.50	68.00	115.00	16.00	D960L14500-0680V08	D960S14500-0680V08
14.80	70.00	115.00	16.00	D960L14800-0700V08	D960S14800-0700V08
15.00	71.00	115.00	16.00	D960L15000-0710V08	D960S15000-0710V08
15.50	73.00	115.00	16.00	D960L15500-0730V08	D960S15500-0730V08
15.80	74.00	115.00	16.00	D960L15800-0740V08	D960S15800-0740V08
16.00	75.00	115.00	16.00	D960L16000-0750V08	D960S16000-0750V08
16.50	69.00	123.00	18.00	D960L16500-0690V08	D960S16500-0690V08
16.80	70.00	123.00	18.00	D960L16800-0700V08	D960S16800-0700V08
17.00	71.00	123.00	18.00	D960L17000-0710V08	D960S17000-0710V08
17.50	73.00	123.00	18.00	D960L17500-0730V08	D960S17500-0730V08
17.80	74.00	123.00	18.00	D960L17800-0740V08	D960S17800-0740V08
18.00	75.00	123.00	18.00	D960L18000-0750V08	D960S18000-0750V08
18.50	77.00	131.00	20.00	D960L18500-0770V08	D960S18500-0770V08
18.80	78.00	131.00	20.00	D960L18800-0780V08	D960S18800-0780V08
19.00	79.00	131.00	20.00	D960L19000-0790V08	D960S19000-0790V08
19.50	81.00	131.00	20.00	D960L19500-0810V08	D960S19500-0810V08
19.80	82.00	131.00	20.00	D960L19800-0820V08	D960S19800-0820V08
20.00	83.00	131.00	20.00	D960L20000-0830V08	D960S20000-0830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

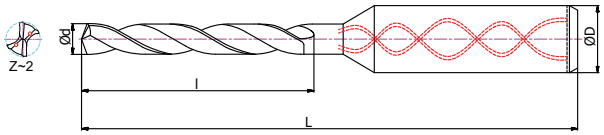
Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D970

5XD with Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal. Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Stainless steel, Ti, Nickel



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
1.00	7.00	45.00	3.00	D970L01000-0070V08	D970S01000-0070V08
1.10	7.00	45.00	3.00	D970L01100-0070V08	D970S01100-0070V08
1.20	8.00	45.00	3.00	D970L01200-0080V08	D970S01200-0080V08
1.30	8.00	45.00	3.00	D970L01300-0080V08	D970S01300-0080V08
1.40	9.00	45.00	3.00	D970L01400-0090V08	D970S01400-0090V08
1.50	10.00	45.00	3.00	D970L01500-0100V08	D970S01500-0100V08
1.60	10.00	45.00	3.00	D970L01600-0100V08	D970S01600-0100V08
1.70	11.00	45.00	3.00	D970L01700-0110V08	D970S01700-0110V08
1.80	12.00	45.00	3.00	D970L01800-0120V08	D970S01800-0120V08
1.90	12.00	45.00	3.00	D970L01900-0120V08	D970S01900-0120V08
2.00	13.00	50.00	4.00	D970L02000-0130V08	D970S02000-0130V08
2.10	14.00	50.00	4.00	D970L02100-0140V08	D970S02100-0140V08
2.20	14.00	50.00	4.00	D970L02200-0140V08	D970S02200-0140V08
2.30	15.00	50.00	4.00	D970L02300-0150V08	D970S02300-0150V08
2.40	16.00	55.00	4.00	D970L02400-0160V08	D970S02400-0160V08
2.50	16.00	55.00	4.00	D970L02500-0160V08	D970S02500-0160V08
2.60	17.00	63.00	4.00	D970L02600-0170V08	D970S02600-0170V08
2.70	18.00	63.00	4.00	D970L02700-0180V08	D970S02700-0180V08
2.80	18.00	63.00	4.00	D970L02800-0180V08	D970S02800-0180V08
2.90	19.00	63.00	4.00	D970L02900-0190V08	D970S02900-0190V08
3.00	20.00	70.00	6.00	D970L03000-0200V08	D970S03000-0200V08
3.10	22.00	70.00	6.00	D970L03100-0220V08	D970S03100-0220V08
3.20	23.00	70.00	6.00	D970L03200-0230V08	D970S03200-0230V08
3.30	23.00	70.00	6.00	D970L03300-0230V08	D970S03300-0230V08
3.40	24.00	70.00	6.00	D970L03400-0240V08	D970S03400-0240V08
3.50	25.00	70.00	6.00	D970L03500-0250V08	D970S03500-0250V08
3.60	25.00	70.00	6.00	D970L03600-0250V08	D970S03600-0250V08
3.70	26.00	70.00	6.00	D970L03700-0260V08	D970S03700-0260V08
3.80	27.00	74.00	6.00	D970L03800-0270V08	D970S03800-0270V08
3.90	27.00	74.00	6.00	D970L03900-0270V08	D970S03900-0270V08
4.00	28.00	74.00	6.00	D970L04000-0280V08	D970S04000-0280V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D970

5XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
4.10	29.00	74.00	6.00	D970L04100-0290V08	D970S04100-0290V08
4.20	29.00	74.00	6.00	D970L04200-0290V08	D970S04200-0290V08
4.30	30.00	74.00	6.00	D970L04300-0300V08	D970S04300-0300V08
4.40	31.00	74.00	6.00	D970L04400-0310V08	D970S04400-0310V08
4.50	31.00	74.00	6.00	D970L04500-0310V08	D970S04500-0310V08
4.60	32.00	74.00	6.00	D970L04600-0320V08	D970S04600-0320V08
4.70	33.00	74.00	6.00	D970L04700-0330V08	D970S04700-0330V08
4.80	33.00	82.00	6.00	D970L04800-0330V08	D970S04800-0330V08
4.90	34.00	82.00	6.00	D970L04900-0340V08	D970S04900-0340V08
5.00	35.00	82.00	6.00	D970L05000-0350V08	D970S05000-0350V08
5.10	35.00	82.00	6.00	D970L05100-0350V08	D970S05100-0350V08
5.20	36.00	82.00	6.00	D970L05200-0360V08	D970S05200-0360V08
5.30	36.00	82.00	6.00	D970L05300-0360V08	D970S05300-0360V08
5.40	37.00	82.00	6.00	D970L05400-0370V08	D970S05400-0370V08
5.50	38.00	82.00	6.00	D970L05500-0380V08	D970S05500-0380V08
5.60	38.00	82.00	6.00	D970L05600-0380V08	D970S05600-0380V08
5.70	39.00	82.00	6.00	D970L05700-0390V08	D970S05700-0390V08
5.80	40.00	82.00	6.00	D970L05800-0400V08	D970S05800-0400V08
5.90	40.00	82.00	6.00	D970L05900-0400V08	D970S05900-0400V08
6.00	41.00	82.00	6.00	D970L06000-0410V08	D970S06000-0410V08
6.10	42.00	91.00	8.00	D970L06100-0420V08	D970S06100-0420V08
6.20	42.00	91.00	8.00	D970L06200-0420V08	D970S06200-0420V08
6.30	43.00	91.00	8.00	D970L06300-0430V08	D970S06300-0430V08
6.40	44.00	91.00	8.00	D970L06400-0440V08	D970S06400-0440V08
6.50	44.00	91.00	8.00	D970L06500-0440V08	D970S06500-0440V08
6.60	45.00	91.00	8.00	D970L06600-0450V08	D970S06600-0450V08
6.70	46.00	91.00	8.00	D970L06700-0460V08	D970S06700-0460V08
6.80	46.00	91.00	8.00	D970L06800-0460V08	D970S06800-0460V08
6.90	47.00	91.00	8.00	D970L06900-0470V08	D970S06900-0470V08
7.00	48.00	91.00	8.00	D970L07000-0480V08	D970S07000-0480V08
7.10	48.00	91.00	8.00	D970L07100-0480V08	D970S07100-0480V08
7.20	49.00	91.00	8.00	D970L07200-0490V08	D970S07200-0490V08
7.30	49.00	91.00	8.00	D970L07300-0490V08	D970S07300-0490V08
7.40	50.00	91.00	8.00	D970L07400-0500V08	D970S07400-0500V08
7.50	51.00	91.00	8.00	D970L07500-0510V08	D970S07500-0510V08
7.60	51.00	91.00	8.00	D970L07600-0510V08	D970S07600-0510V08
7.70	52.00	91.00	8.00	D970L07700-0520V08	D970S07700-0520V08
7.80	53.00	91.00	8.00	D970L07800-0530V08	D970S07800-0530V08
7.90	53.00	91.00	8.00	D970L07900-0530V08	D970S07900-0530V08
8.00	54.00	91.00	8.00	D970L08000-0540V08	D970S08000-0540V08
8.10	55.00	103.00	10.00	D970L08100-0550V08	D970S08100-0550V08
8.20	56.00	103.00	10.00	D970L08200-0560V08	D970S08200-0560V08
8.30	56.00	103.00	10.00	D970L08300-0560V08	D970S08300-0560V08
8.40	57.00	103.00	10.00	D970L08400-0570V08	D970S08400-0570V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D970

5XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
8.50	58.00	103.00	10.00	D970L08500-0580V08	D970S08500-0580V08
8.60	58.00	103.00	10.00	D970L08600-0580V08	D970S08600-0580V08
8.70	59.00	103.00	10.00	D970L08700-0590V08	D970S08700-0590V08
8.80	60.00	103.00	10.00	D970L08800-0600V08	D970S08800-0600V08
8.90	60.00	103.00	10.00	D970L08900-0600V08	D970S08900-0600V08
9.00	61.00	103.00	10.00	D970L09000-0610V08	D970S09000-0610V08
9.10	62.00	103.00	10.00	D970L09100-0620V08	D970S09100-0620V08
9.20	62.00	103.00	10.00	D970L09200-0620V08	D970S09200-0620V08
9.30	63.00	103.00	10.00	D970L09300-0630V08	D970S09300-0630V08
9.40	64.00	103.00	10.00	D970L09400-0640V08	D970S09400-0640V08
9.50	64.00	103.00	10.00	D970L09500-0640V08	D970S09500-0640V08
9.60	65.00	103.00	10.00	D970L09600-0650V08	D970S09600-0650V08
9.70	66.00	103.00	10.00	D970L09700-0660V08	D970S09700-0660V08
9.80	66.00	103.00	10.00	D970L09800-0660V08	D970S09800-0660V08
9.90	67.00	103.00	10.00	D970L09900-0670V08	D970S09900-0670V08
10.00	68.00	103.00	10.00	D970L10000-0680V08	D970S10000-0680V08
10.10	68.00	118.00	12.00	D970L10100-0680V08	D970S10100-0680V08
10.20	69.00	118.00	12.00	D970L10200-0690V08	D970S10200-0690V08
10.30	69.00	118.00	12.00	D970L10300-0690V08	D970S10300-0690V08
10.40	70.00	118.00	12.00	D970L10400-0700V08	D970S10400-0700V08
10.50	71.00	118.00	12.00	D970L10500-0710V08	D970S10500-0710V08
10.60	71.00	118.00	12.00	D970L10600-0710V08	D970S10600-0710V08
10.70	72.00	118.00	12.00	D970L10700-0720V08	D970S10700-0720V08
10.80	73.00	118.00	12.00	D970L10800-0730V08	D970S10800-0730V08
10.90	73.00	118.00	12.00	D970L10900-0730V08	D970S10900-0730V08
11.00	74.00	118.00	12.00	D970L11000-0740V08	D970S11000-0740V08
11.10	75.00	118.00	12.00	D970L11100-0750V08	D970S11100-0750V08
11.20	75.00	118.00	12.00	D970L11200-0750V08	D970S11200-0750V08
11.30	76.00	118.00	12.00	D970L11300-0760V08	D970S11300-0760V08
11.40	77.00	118.00	12.00	D970L11400-0770V08	D970S11400-0770V08
11.50	77.00	118.00	12.00	D970L11500-0770V08	D970S11500-0770V08
11.60	78.00	118.00	12.00	D970L11600-0780V08	D970S11600-0780V08
11.70	79.00	118.00	12.00	D970L11700-0790V08	D970S11700-0790V08
11.80	79.00	118.00	12.00	D970L11800-0790V08	D970S11800-0790V08
11.90	80.00	118.00	12.00	D970L11900-0800V08	D970S11900-0800V08
12.00	81.00	118.00	12.00	D970L12000-0810V08	D970S12000-0810V08
12.10	81.00	124.00	14.00	D970L12100-0810V08	D970S12100-0810V08
12.20	82.00	124.00	14.00	D970L12200-0820V08	D970S12200-0820V08
12.30	82.00	124.00	14.00	D970L12300-0820V08	D970S12300-0820V08
12.40	83.00	124.00	14.00	D970L12400-0830V08	D970S12400-0830V08
12.50	84.00	124.00	14.00	D970L12500-0840V08	D970S12500-0840V08
12.60	84.00	124.00	14.00	D970L12600-0840V08	D970S12600-0840V08
12.70	85.00	124.00	14.00	D970L12700-0850V08	D970S12700-0850V08
12.80	86	124.00	14.00	D970L12800-0860V08	D970S12800-0860V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D970

5XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
12.90	87	124.00	14.00	D970L12900-0870V08	D970S12900-0870V08
13.00	88	124.00	14.00	D970L13000-0880V08	D970S13000-0880V08
13.10	88	124.00	14.00	D970L13100-0880V08	D970S13100-0880V08
13.20	89	124.00	14.00	D970L13200-0890V08	D970S13200-0890V08
13.30	89	124.00	14.00	D970L13300-0890V08	D970S13300-0890V08
13.40	90	124.00	14.00	D970L13400-0900V08	D970S13400-0900V08
13.50	91	124.00	14.00	D970L13500-0910V08	D970S13500-0910V08
13.60	91	124.00	14.00	D970L13600-0910V08	D970S13600-0910V08
13.70	92	124.00	14.00	D970L13700-0920V08	D970S13700-0920V08
13.80	93	124.00	14.00	D970L13800-0930V08	D970S13800-0930V08
13.90	93	124.00	14.00	D970L13900-0930V08	D970S13900-0930V08
14.00	94	124.00	14.00	D970L14000-0940V08	D970S14000-0940V08
14.50	97	133.00	16.00	D970L14500-0970V08	D970S14500-0970V08
14.80	99	133.00	16.00	D970L14800-0990V08	D970S14800-0990V08
15.00	101	133.00	16.00	D970L15000-1010V08	D970S15000-1010V08
15.50	104	133.00	16.00	D970L15500-1040V08	D970S15500-1040V08
15.80	106	133.00	16.00	D970L15800-1060V08	D970S15800-1060V08
16.00	107	133.00	16.00	D970L16000-1070V08	D970S16000-1070V08
16.50	102	143.00	18.00	D970L16500-1020V08	D970S16500-1020V08
16.80	104	143.00	18.00	D970L16800-1040V08	D970S16800-1040V08
17.00	105	143.00	18.00	D970L17000-1050V08	D970S17000-1050V08
17.50	108	143.00	18.00	D970L17500-1080V08	D970S17500-1080V08
17.80	110	143.00	18.00	D970L17800-1100V08	D970S17800-1100V08
18.00	111	143.00	18.00	D970L18000-1110V08	D970S18000-1110V08
18.50	114	153.00	20.00	D970L18500-1140V08	D970S18500-1140V08
18.80	116	153.00	20.00	D970L18800-1160V08	D970S18800-1160V08
19.00	117	153.00	20.00	D970L19000-1170V08	D970S19000-1170V08
19.50	120	153.00	20.00	D970L19500-1200V08	D970S19500-1200V08
19.80	122	153.00	20.00	D970L19800-1220V08	D970S19800-1220V08
20.00	123	153.00	20.00	D970L20000-1230V08	D970S20000-1230V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

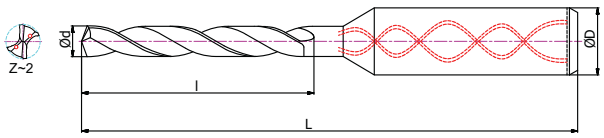
Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D980

8XD with coolant hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal.
- Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Stainless steel, Ti, Nickel



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
1.00	10.00	50.00	3.00	D980L01000-0100V08	D980S01000-0100V08
1.10	10.00	50.00	3.00	D980L01100-0100V08	D980S01100-0100V08
1.20	11.00	50.00	3.00	D980L01200-0110V08	D980S01200-0110V08
1.30	12.00	50.00	3.00	D980L01300-0120V08	D980S01300-0120V08
1.40	13.00	50.00	3.00	D980L01400-0130V08	D980S01400-0130V08
1.50	14.00	50.00	3.00	D980L01500-0140V08	D980S01500-0140V08
1.60	15.00	55.00	3.00	D980L01600-0150V08	D980S01600-0150V08
1.70	16.00	55.00	3.00	D980L01700-0160V08	D980S01700-0160V08
1.80	17.00	55.00	3.00	D980L01800-0170V08	D980S01800-0170V08
1.90	18.00	55.00	3.00	D980L01900-0180V08	D980S01900-0180V08
2.00	19.00	63.00	4.00	D980L02000-0190V08	D980S02000-0190V08
2.10	20.00	63.00	4.00	D980L02100-0200V08	D980S02100-0200V08
2.20	21.00	63.00	4.00	D980L02200-0210V08	D980S02200-0210V08
2.30	22.00	63.00	4.00	D980L02300-0220V08	D980S02300-0220V08
2.40	23.00	63.00	4.00	D980L02400-0230V08	D980S02400-0230V08
2.50	24.00	63.00	4.00	D980L02500-0240V08	D980S02500-0240V08
2.60	25.00	63.00	4.00	D980L02600-0250V08	D980S02600-0250V08
2.70	26.00	63.00	4.00	D980L02700-0260V08	D980S02700-0260V08
2.80	27.00	63.00	4.00	D980L02800-0270V08	D980S02800-0270V08
2.90	28.00	63.00	4.00	D980L02900-0280V08	D980S02900-0280V08
3.00	29.00	72.00	6.00	D980L03000-0290V08	D980S03000-0290V08
3.10	31.00	72.00	6.00	D980L03100-0310V08	D980S03100-0310V08
3.20	32.00	72.00	6.00	D980L03200-0320V08	D980S03200-0320V08
3.30	33.00	72.00	6.00	D980L03300-0330V08	D980S03300-0330V08
3.40	34.00	72.00	6.00	D980L03400-0340V08	D980S03400-0340V08
3.50	35.00	72.00	6.00	D980L03500-0350V08	D980S03500-0350V08
3.60	36.00	72.00	6.00	D980L03600-0360V08	D980S03600-0360V08
3.70	37.00	72.00	6.00	D980L03700-0370V08	D980S03700-0370V08
3.80	38.00	81.00	6.00	D980L03800-0380V08	D980S03800-0380V08
3.90	39.00	81.00	6.00	D980L03900-0390V08	D980S03900-0390V08
4.00	40.00	81.00	6.00	D980L04000-0400V08	D980S04000-0400V08
4.10	41.00	81.00	6.00	D980L04100-0410V08	D980S04100-0410V08
4.20	42.00	81.00	6.00	D980L04200-0420V08	D980S04200-0420V08
4.30	43.00	81.00	6.00	D980L04300-0430V08	D980S04300-0430V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D980

8XD with coolant hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
4.40	44.00	81.00	6.00	D980L04400-0440V08	D980S04400-0440V08
4.50	45.00	81.00	6.00	D980L04500-0450V08	D980S04500-0450V08
4.60	46.00	81.00	6.00	D980L04600-0460V08	D980S04600-0460V08
4.70	47.00	81.00	6.00	D980L04700-0470V08	D980S04700-0470V08
4.80	48.00	95.00	6.00	D980L04800-0480V08	D980S04800-0480V08
4.90	49.00	95.00	6.00	D980L04900-0490V08	D980S04900-0490V08
5.00	50.00	95.00	6.00	D980L05000-0500V08	D980S05000-0500V08
5.10	50.00	95.00	6.00	D980L05100-0500V08	D980S05100-0500V08
5.20	51.00	95.00	6.00	D980L05200-0510V08	D980S05200-0510V08
5.30	52.00	95.00	6.00	D980L05300-0520V08	D980S05300-0520V08
5.40	53.00	95.00	6.00	D980L05400-0530V08	D980S05400-0530V08
5.50	54.00	95.00	6.00	D980L05500-0540V08	D980S05500-0540V08
5.60	55.00	95.00	6.00	D980L05600-0550V08	D980S05600-0550V08
5.70	56.00	95.00	6.00	D980L05700-0560V08	D980S05700-0560V08
5.80	57.00	95.00	6.00	D980L05800-0570V08	D980S05800-0570V08
5.90	58.00	95.00	6.00	D980L05900-0580V08	D980S05900-0580V08
6.00	59.00	95.00	6.00	D980L06000-0590V08	D980S06000-0590V08
6.10	60.00	114.00	8.00	D980L06100-0600V08	D980S06100-0600V08
6.20	61.00	114.00	8.00	D980L06200-0610V08	D980S06200-0610V08
6.30	62.00	114.00	8.00	D980L06300-0620V08	D980S06300-0620V08
6.40	63.00	114.00	8.00	D980L06400-0630V08	D980S06400-0630V08
6.50	64.00	114.00	8.00	D980L06500-0640V08	D980S06500-0640V08
6.60	65.00	114.00	8.00	D980L06600-0650V08	D980S06600-0650V08
6.70	66.00	114.00	8.00	D980L06700-0660V08	D980S06700-0660V08
6.80	67.00	114.00	8.00	D980L06800-0670V08	D980S06800-0670V08
6.90	68.00	114.00	8.00	D980L06900-0680V08	D980S06900-0680V08
7.00	69.00	114.00	8.00	D980L07000-0690V08	D980S07000-0690V08
7.10	69.00	114.00	8.00	D980L07100-0690V08	D980S07100-0690V08
7.20	70.00	114.00	8.00	D980L07200-0700V08	D980S07200-0700V08
7.30	71.00	114.00	8.00	D980L07300-0710V08	D980S07300-0710V08
7.40	72.00	114.00	8.00	D980L07400-0720V08	D980S07400-0720V08
7.50	73.00	114.00	8.00	D980L07500-0730V08	D980S07500-0730V08
7.60	74.00	114.00	8.00	D980L07600-0740V08	D980S07600-0740V08
7.70	75.00	114.00	8.00	D980L07700-0750V08	D980S07700-0750V08
7.80	76.00	114.00	8.00	D980L07800-0760V08	D980S07800-0760V08
7.90	77.00	114.00	8.00	D980L07900-0770V08	D980S07900-0770V08
8.00	78.00	114.00	8.00	D980L08000-0780V08	D980S08000-0780V08
8.10	79.00	142.00	10.00	D980L08100-0790V08	D980S08100-0790V08
8.20	80.00	142.00	10.00	D980L08200-0800V08	D980S08200-0800V08
8.30	81.00	142.00	10.00	D980L08300-0810V08	D980S08300-0810V08
8.40	82.00	142.00	10.00	D980L08400-0820V08	D980S08400-0820V08
8.50	83.00	142.00	10.00	D980L08500-0830V08	D980S08500-0830V08
8.60	84.00	142.00	10.00	D980L08600-0840V08	D980S08600-0840V08
8.70	85.00	142.00	10.00	D980L08700-0850V08	D980S08700-0850V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D980

8XD with coolant hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
8.80	86.00	142.00	10.00	D980L08800-0860V08	D980S08800-0860V08
8.90	87.00	142.00	10.00	D980L08900-0870V08	D980S08900-0870V08
9.00	88.00	142.00	10.00	D980L09000-0880V08	D980S09000-0880V08
9.10	89.00	142.00	10.00	D980L09100-0890V08	D980S09100-0890V08
9.20	90.00	142.00	10.00	D980L09200-0900V08	D980S09200-0900V08
9.30	91.00	142.00	10.00	D980L09300-0910V08	D980S09300-0910V08
9.40	92.00	142.00	10.00	D980L09400-0920V08	D980S09400-0920V08
9.50	93.00	142.00	10.00	D980L09500-0930V08	D980S09500-0930V08
9.60	94.00	142.00	10.00	D980L09600-0940V08	D980S09600-0940V08
9.70	95.00	142.00	10.00	D980L09700-0950V08	D980S09700-0950V08
9.80	96.00	142.00	10.00	D980L09800-0960V08	D980S09800-0960V08
9.90	97.00	142.00	10.00	D980L09900-0970V08	D980S09900-0970V08
10.00	98.00	142.00	10.00	D980L10000-0980V08	D980S10000-0980V08
10.10	98.00	162.00	12.00	D980L10100-0980V08	D980S10100-0980V08
10.20	99.00	162.00	12.00	D980L10200-0990V08	D980S10200-0990V08
10.30	100.00	162.00	12.00	D980L10300-1000V08	D980S10300-1000V08
10.40	101.00	162.00	12.00	D980L10400-1010V08	D980S10400-1010V08
10.50	102.00	162.00	12.00	D980L10500-1020V08	D980S10500-1020V08
10.60	103.00	162.00	12.00	D980L10600-1030V08	D980S10600-1030V08
10.70	104.00	162.00	12.00	D980L10700-1040V08	D980S10700-1040V08
10.80	105.00	162.00	12.00	D980L10800-1050V08	D980S10800-1050V08
10.90	106.00	162.00	12.00	D980L10900-1060V08	D980S10900-1060V08
11.00	107.00	162.00	12.00	D980L11000-1070V08	D980S11000-1070V08
11.10	108.00	162.00	12.00	D980L11100-1080V08	D980S11100-1080V08
11.20	109.00	162.00	12.00	D980L11200-1090V08	D980S11200-1090V08
11.30	110.00	162.00	12.00	D980L11300-1100V08	D980S11300-1100V08
11.40	111.00	162.00	12.00	D980L11400-1110V08	D980S11400-1110V08
11.50	112.00	162.00	12.00	D980L11500-1120V08	D980S11500-1120V08
11.60	113.00	162.00	12.00	D980L11600-1130V08	D980S11600-1130V08
11.70	114.00	162.00	12.00	D980L11700-1140V08	D980S11700-1140V08
11.80	115.00	162.00	12.00	D980L11800-1150V08	D980S11800-1150V08
11.90	116.00	162.00	12.00	D980L11900-1160V08	D980S11900-1160V08
12.00	117.00	162.00	12.00	D980L12000-1170V08	D980S12000-1170V08
12.10	117.00	178.00	14.00	D980L12100-1170V08	D980S12100-1170V08
12.20	118.00	178.00	14.00	D980L12200-1180V08	D980S12200-1180V08
12.30	119.00	178.00	14.00	D980L12300-1190V08	D980S12300-1190V08
12.40	120.00	178.00	14.00	D980L12400-1200V08	D980S12400-1200V08
12.50	121.00	178.00	14.00	D980L12500-1210V08	D980S12500-1210V08
12.60	122.00	178.00	14.00	D980L12600-1220V08	D980S12600-1220V08
12.70	123.00	178.00	14.00	D980L12700-1230V08	D980S12700-1230V08
12.80	125.00	178.00	14.00	D980L12800-1250V08	D980S12800-1250V08
12.90	126.00	178.00	14.00	D980L12900-1260V08	D980S12900-1260V08
13.00	127.00	178.00	14.00	D980L13000-1270V08	D980S13000-1270V08
13.10	127.00	178.00	14.00	D980L13100-1270V08	D980S13100-1270V08

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Solid Carbide High Performance Drill

D980

8XD with coolant hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (45~55 Hrc)	S- Coating (Below 45 Hrc)
13.20	128.00	178.00	14.00	D980L13200-1280V08	D980S13200-1280V08
13.30	129.00	178.00	14.00	D980L13300-1290V08	D980S13300-1290V08
13.40	130.00	178.00	14.00	D980L13400-1300V08	D980S13400-1300V08
13.50	131.00	178.00	14.00	D980L13500-1310V08	D980S13500-1310V08
13.60	132.00	178.00	14.00	D980L13600-1320V08	D980S13600-1320V08
13.70	133.00	178.00	14.00	D980L13700-1330V08	D980S13700-1330V08
13.80	134.00	178.00	14.00	D980L13800-1340V08	D980S13800-1340V08
13.90	135.00	178.00	14.00	D980L13900-1350V08	D980S13900-1350V08
14.00	136.00	178.00	14.00	D980L14000-1360V08	D980S14000-1360V08
14.50	141.00	190.00	16.00	D980L14500-1410V08	D980S14500-1410V08
14.80	144.00	190.00	16.00	D980L14800-1440V08	D980S14800-1440V08
15.00	146.00	190.00	16.00	D980L15000-1460V08	D980S15000-1460V08
15.50	150.00	200.00	16.00	D980L15500-1500V08	D980S15500-1500V08
15.80	153.00	200.00	16.00	D980L15800-1530V08	D980S15800-1530V08
16.00	155.00	200.00	16.00	D980L16000-1550V08	D980S16000-1550V08
16.50	152.00	200.00	18.00	D980L16500-1520V08	D980S16500-1520V08
16.80	154.00	200.00	18.00	D980L16800-1540V08	D980S16800-1540V08
17.00	156.00	200.00	18.00	D980L17000-1560V08	D980S17000-1560V08
17.50	161.00	200.00	18.00	D980L17500-1610V08	D980S17500-1610V08
17.80	163.00	210.00	18.00	D980L17800-1630V08	D980S17800-1630V08
18.00	165.00	210.00	18.00	D980L18000-1650V08	D980S18000-1650V08
18.50	170.00	210.00	20.00	D980L18500-1700V08	D980S18500-1700V08
18.80	172.00	220.00	20.00	D980L18800-1720V08	D980S18800-1720V08
19.00	174.00	220.00	20.00	D980L19000-1740V08	D980S19000-1740V08
19.50	179.00	220.00	20.00	D980L19500-1790V08	D980S19500-1790V08
19.80	181.00	230.00	20.00	D980L19800-1810V08	D980S19800-1810V08
20.00	183.00	230.00	20.00	D980L20000-1830V08	D980S20000-1830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Below 45 HRC	Above 45 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	●	◐			●	◐								◐	◐
L- Coating	◐	●	●		◐	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

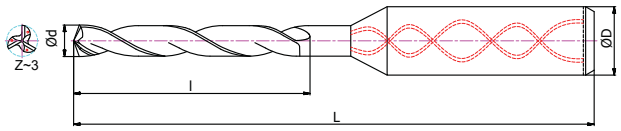
Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

3 Flute Solid Carbide High Feed Drill

D670

3XD with Coolant Hole

- Improves productivity due to higher speed and feed from the additional cutting edge, Self centering
- Rigid drilling due to better core strength, Better chip removal, good tool life
- Improved surface finish on the drilled hole



DESCRIPTION				PART NUMBER	
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
5.00	25.0	70.0	6.0	D670-05000-0250V08	D670N05000-0250V08
5.10	25.0	70.0	6.0	D670-05100-0250V08	D670N05100-0250V08
5.20	25.0	70.0	6.0	D670-05200-0250V08	D670N05200-0250V08
5.30	26.0	70.0	6.0	D670-05300-0260V08	D670N05300-0260V08
5.40	26.0	70.0	6.0	D670-05400-0260V08	D670N05400-0260V08
5.50	27.0	70.0	6.0	D670-05500-0270V08	D670N05500-0270V08
5.60	27.0	70.0	6.0	D670-05600-0270V08	D670N05600-0270V08
5.70	28.0	70.0	6.0	D670-05700-0280V08	D670N05700-0280V08
5.80	28.0	70.0	6.0	D670-05800-0280V08	D670N05800-0280V08
5.90	29.0	70.0	6.0	D670-05900-0290V08	D670N05900-0290V08
6.00	29.0	70.0	6.0	D670-06000-0290V08	D670N06000-0290V08
6.10	29.0	79.0	8.0	D670-06100-0290V08	D670N06100-0290V08
6.20	30.0	79.0	8.0	D670-06200-0300V08	D670N06200-0300V08
6.30	30.0	79.0	8.0	D670-06300-0300V08	D670N06300-0300V08
6.40	31.0	79.0	8.0	D670-06400-0310V08	D670N06400-0310V08
6.50	31.0	79.0	8.0	D670-06500-0310V08	D670N06500-0310V08
6.60	32.0	79.0	8.0	D670-06600-0320V08	D670N06600-0320V08
6.70	32.0	79.0	8.0	D670-06700-0320V08	D670N06700-0320V08
6.80	33.0	79.0	8.0	D670-06800-0330V08	D670N06800-0330V08
6.90	33.0	79.0	8.0	D670-06900-0330V08	D670N06900-0330V08
7.00	34.0	79.0	8.0	D670-07000-0340V08	D670N07000-0340V08
7.10	34.0	79.0	8.0	D670-07100-0340V08	D670N07100-0340V08
7.20	34.0	79.0	8.0	D670-07200-0340V08	D670N07200-0340V08
7.30	35.0	79.0	8.0	D670-07300-0350V08	D670N07300-0350V08
7.40	35.0	79.0	8.0	D670-07400-0350V08	D670N07400-0350V08
7.50	36.0	79.0	8.0	D670-07500-0360V08	D670N07500-0360V08
7.60	36.0	79.0	8.0	D670-07600-0360V08	D670N07600-0360V08
7.70	37.0	79.0	8.0	D670-07700-0370V08	D670N07700-0370V08
7.80	37.0	79.0	8.0	D670-07800-0370V08	D670N07800-0370V08
7.90	38.0	79.0	8.0	D670-07900-0380V08	D670N07900-0380V08
8.00	38.0	79.0	8.0	D670-08000-0380V08	D670N08000-0380V08
8.10	39.0	89.0	10.0	D670-08100-0390V08	D670N08100-0390V08
8.20	39.0	89.0	10.0	D670-08200-0390V08	D670N08200-0390V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

3 Flute Solid Carbide High Feed Drill

D670

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
8.30	40.0	89.0	10.0	D670-08300-0400V08	D670N08300-0400V08
8.40	40.0	89.0	10.0	D670-08400-0400V08	D670N08400-0400V08
8.50	41.0	89.0	10.0	D670-08500-0410V08	D670N08500-0410V08
8.60	41.0	89.0	10.0	D670-08600-0410V08	D670N08600-0410V08
8.70	42.0	89.0	10.0	D670-08700-0420V08	D670N08700-0420V08
8.80	42.0	89.0	10.0	D670-08800-0420V08	D670N08800-0420V08
8.90	43.0	89.0	10.0	D670-08900-0430V08	D670N08900-0430V08
9.00	43.0	89.0	10.0	D670-09000-0430V08	D670N09000-0430V08
9.10	43.0	89.0	10.0	D670-09100-0430V08	D670N09100-0430V08
9.20	44.0	89.0	10.0	D670-09200-0440V08	D670N09200-0440V08
9.30	44.0	89.0	10.0	D670-09300-0440V08	D670N09300-0440V08
9.40	45.0	89.0	10.0	D670-09400-0450V08	D670N09400-0450V08
9.50	45.0	89.0	10.0	D670-09500-0450V08	D670N09500-0450V08
9.60	46.0	89.0	10.0	D670-09600-0460V08	D670N09600-0460V08
9.70	46.0	89.0	10.0	D670-09700-0460V08	D670N09700-0460V08
9.80	47.0	89.0	10.0	D670-09800-0470V08	D670N09800-0470V08
9.90	47.0	89.0	10.0	D670-09900-0470V08	D670N09900-0470V08
10.00	48.0	89.0	10.0	D670-10000-0480V08	D670N10000-0480V08
10.10	48.0	102.0	12.0	D670-10100-0480V08	D670N10100-0480V08
10.20	48.0	102.0	12.0	D670-10200-0480V08	D670N10200-0480V08
10.30	49.0	102.0	12.0	D670-10300-0490V08	D670N10300-0490V08
10.40	49.0	102.0	12.0	D670-10400-0490V08	D670N10400-0490V08
10.50	50.0	102.0	12.0	D670-10500-0500V08	D670N10500-0500V08
10.60	50.0	102.0	12.0	D670-10600-0500V08	D670N10600-0500V08
10.70	51.0	102.0	12.0	D670-10700-0510V08	D670N10700-0510V08
10.80	51.0	102.0	12.0	D670-10800-0510V08	D670N10800-0510V08
10.90	52.0	102.0	12.0	D670-10900-0520V08	D670N10900-0520V08
11.00	52.0	102.0	12.0	D670-11000-0520V08	D670N11000-0520V08
11.10	52.0	102.0	12.0	D670-11100-0520V08	D670N11100-0520V08
11.20	53.0	102.0	12.0	D670-11200-0530V08	D670N11200-0530V08
11.30	53.0	102.0	12.0	D670-11300-0530V08	D670N11300-0530V08
11.40	54.0	102.0	12.0	D670-11400-0540V08	D670N11400-0540V08
11.50	54.0	102.0	12.0	D670-11500-0540V08	D670N11500-0540V08
11.60	55.0	102.0	12.0	D670-11600-0550V08	D670N11600-0550V08
11.70	55.0	102.0	12.0	D670-11700-0550V08	D670N11700-0550V08
11.80	56.0	102.0	12.0	D670-11800-0560V08	D670N11800-0560V08
11.90	56.0	102.0	12.0	D670-11900-0560V08	D670N11900-0560V08
12.00	57.0	102.0	12.0	D670-12000-0570V08	D670N12000-0570V08
12.10	57.0	107.0	14.0	D670-12100-0570V08	D670N12100-0570V08
12.20	57.0	107.0	14.0	D670-12200-0570V08	D670N12200-0570V08
12.30	58.0	107.0	14.0	D670-12300-0580V08	D670N12300-0580V08
12.40	58.0	107.0	14.0	D670-12400-0580V08	D670N12400-0580V08
12.50	59.0	107.0	14.0	D670-12500-0590V08	D670N12500-0590V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

3 Flute Solid Carbide High Feed Drill

D670

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
12.60	59.0	107.0	14.0	D670-12600-0590V08	D670N12600-0590V08
12.70	60.0	107.0	14.0	D670-12700-0600V08	D670N12700-0600V08
12.80	61.0	107.0	14.0	D670-12800-0610V08	D670N12800-0610V08
12.90	61.0	107.0	14.0	D670-12900-0610V08	D670N12900-0610V08
13.00	62.0	107.0	14.0	D670-13000-0620V08	D670N13000-0620V08
13.10	62.0	107.0	14.0	D670-13100-0620V08	D670N13100-0620V08
13.20	62.0	107.0	14.0	D670-13200-0620V08	D670N13200-0620V08
13.30	63.0	107.0	14.0	D670-13300-0630V08	D670N13300-0630V08
13.40	63.0	107.0	14.0	D670-13400-0630V08	D670N13400-0630V08
13.50	64.0	107.0	14.0	D670-13500-0640V08	D670N13500-0640V08
13.60	64.0	107.0	14.0	D670-13600-0640V08	D670N13600-0640V08
13.70	65.0	107.0	14.0	D670-13700-0650V08	D670N13700-0650V08
13.80	65.0	107.0	14.0	D670-13800-0650V08	D670N13800-0650V08
13.90	66.0	107.0	14.0	D670-13900-0660V08	D670N13900-0660V08
14.00	66.0	107.0	14.0	D670-14000-0660V08	D670N14000-0660V08
14.50	68.0	115.0	16.0	D670-14500-0680V08	D670N14500-0680V08
14.80	70.0	115.0	16.0	D670-14800-0700V08	D670N14800-0700V08
15.00	71.0	115.0	16.0	D670-15000-0710V08	D670N15000-0710V08
15.50	73.0	115.0	16.0	D670-15500-0730V08	D670N15500-0730V08
15.80	74.0	115.0	16.0	D670-15800-0740V08	D670N15800-0740V08
16.00	75.0	115.0	16.0	D670-16000-0750V08	D670N16000-0750V08
16.50	69.0	123.0	18.0	D670-16500-0690V08	D670N16500-0690V08
16.80	70.0	123.0	18.0	D670-16800-0700V08	D670N16800-0700V08
17.00	71.0	123.0	18.0	D670-17000-0710V08	D670N17000-0710V08
17.50	73.0	123.0	18.0	D670-17500-0730V08	D670N17500-0730V08
17.80	74.0	123.0	18.0	D670-17800-0740V08	D670N17800-0740V08
18.00	75.0	123.0	18.0	D670-18000-0750V08	D670N18000-0750V08
18.50	77.0	131.0	20.0	D670-18500-0770V08	D670N18500-0770V08
18.80	78.0	131.0	20.0	D670-18800-0780V08	D670N18800-0780V08
19.00	79.0	131.0	20.0	D670-19000-0790V08	D670N19000-0790V08
19.50	81.0	131.0	20.0	D670-19500-0810V08	D670N19500-0810V08
19.80	82.0	131.0	20.0	D670-19800-0820V08	D670N19800-0820V08
20.00	83.0	131.0	20.0	D670-20000-0830V08	D670N20000-0830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

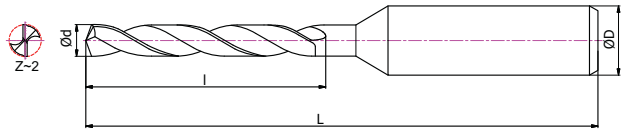
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D750

3XD without Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal.
- Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Cast Iron, Copper, Aluminium, Brass, Plastic



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coated
1.00	5.00	45.00	4.00	D750-01000-0050V08	D750N01000-0050V08
1.10	5.00	45.00	4.00	D750-01100-0050V08	D750N01100-0050V08
1.20	5.00	45.00	4.00	D750-01200-0050V08	D750N01200-0050V08
1.30	6.00	45.00	4.00	D750-01300-0060V08	D750N01300-0060V08
1.40	6.00	45.00	4.00	D750-01400-0060V08	D750N01400-0060V08
1.50	7.00	45.00	4.00	D750-01500-0070V08	D750N01500-0070V08
1.60	7.00	45.00	4.00	D750-01600-0070V08	D750N01600-0070V08
1.70	8.00	45.00	4.00	D750-01700-0080V08	D750N01700-0080V08
1.80	8.00	45.00	4.00	D750-01800-0080V08	D750N01800-0080V08
1.90	9.00	45.00	4.00	D750-01900-0090V08	D750N01900-0090V08
2.00	9.00	45.00	4.00	D750-02000-0090V08	D750N02000-0090V08
2.10	9.00	45.00	4.00	D750-02100-0090V08	D750N02100-0090V08
2.20	10.00	50.00	4.00	D750-02200-0100V08	D750N02200-0100V08
2.30	10.00	50.00	4.00	D750-02300-0100V08	D750N02300-0100V08
2.40	11.00	50.00	4.00	D750-02400-0110V08	D750N02400-0110V08
2.50	11.00	50.00	4.00	D750-02500-0110V08	D750N02500-0110V08
2.60	12.00	50.00	4.00	D750-02600-0120V08	D750N02600-0120V08
2.70	12.00	50.00	4.00	D750-02700-0120V08	D750N02700-0120V08
2.80	13.00	50.00	4.00	D750-02800-0130V08	D750N02800-0130V08
2.90	13.00	50.00	4.00	D750-02900-0130V08	D750N02900-0130V08
3.00	14.00	63.00	6.00	D750-03000-0140V08	D750N03000-0140V08
3.10	16.00	63.00	6.00	D750-03100-0160V08	D750N03100-0160V08
3.20	16.00	63.00	6.00	D750-03200-0160V08	D750N03200-0160V08
3.30	17.00	63.00	6.00	D750-03300-0170V08	D750N03300-0170V08
3.40	17.00	63.00	6.00	D750-03400-0170V08	D750N03400-0170V08
3.50	18.00	63.00	6.00	D750-03500-0180V08	D750N03500-0180V08
3.60	18.00	63.00	6.00	D750-03600-0180V08	D750N03600-0180V08
3.70	19.00	63.00	6.00	D750-03700-0190V08	D750N03700-0190V08
3.80	19.00	70.00	6.00	D750-03800-0190V08	D750N03800-0190V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D750

3XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coated
3.90	20.00	70.00	6.00	D750-03900-0200V08	D750N03900-0200V08
4.00	20.00	70.00	6.00	D750-04000-0200V08	D750N04000-0200V08
4.10	20.00	70.00	6.00	D750-04100-0200V08	D750N04100-0200V08
4.20	21.00	70.00	6.00	D750-04200-0210V08	D750N04200-0210V08
4.30	21.00	70.00	6.00	D750-04300-0210V08	D750N04300-0210V08
4.40	22.00	70.00	6.00	D750-04400-0220V08	D750N04400-0220V08
4.50	22.00	70.00	6.00	D750-04500-0220V08	D750N04500-0220V08
4.60	23.00	70.00	6.00	D750-04600-0230V08	D750N04600-0230V08
4.70	23.00	70.00	6.00	D750-04700-0230V08	D750N04700-0230V08
4.80	24.00	70.00	6.00	D750-04800-0240V08	D750N04800-0240V08
4.90	24.00	70.00	6.00	D750-04900-0240V08	D750N04900-0240V08
5.00	25.00	74.00	6.00	D750-05000-0250V08	D750N05000-0250V08
5.10	25.00	74.00	6.00	D750-05100-0250V08	D750N05100-0250V08
5.20	25.00	74.00	6.00	D750-05200-0250V08	D750N05200-0250V08
5.30	26.00	74.00	6.00	D750-05300-0260V08	D750N05300-0260V08
5.40	26.00	74.00	6.00	D750-05400-0260V08	D750N05400-0260V08
5.50	27.00	74.00	6.00	D750-05500-0270V08	D750N05500-0270V08
5.60	27.00	74.00	6.00	D750-05600-0270V08	D750N05600-0270V08
5.70	28.00	74.00	6.00	D750-05700-0280V08	D750N05700-0280V08
5.80	28.00	74.00	6.00	D750-05800-0280V08	D750N05800-0280V08
5.90	29.00	74.00	6.00	D750-05900-0290V08	D750N05900-0290V08
6.00	29.00	74.00	6.00	D750-06000-0290V08	D750N06000-0290V08
6.10	29.00	79.00	8.00	D750-06100-0290V08	D750N06100-0290V08
6.20	30.00	79.00	8.00	D750-06200-0300V08	D750N06200-0300V08
6.30	30.00	79.00	8.00	D750-06300-0300V08	D750N06300-0300V08
6.40	31.00	79.00	8.00	D750-06400-0310V08	D750N06400-0310V08
6.50	31.00	79.00	8.00	D750-06500-0310V08	D750N06500-0310V08
6.60	32.00	79.00	8.00	D750-06600-0320V08	D750N06600-0320V08
6.70	32.00	79.00	8.00	D750-06700-0320V08	D750N06700-0320V08
6.80	33.00	79.00	8.00	D750-06800-0330V08	D750N06800-0330V08
6.90	33.00	79.00	8.00	D750-06900-0330V08	D750N06900-0330V08
7.00	34.00	79.00	8.00	D750-07000-0340V08	D750N07000-0340V08
7.10	34.00	79.00	8.00	D750-07100-0340V08	D750N07100-0340V08
7.20	34.00	79.00	8.00	D750-07200-0340V08	D750N07200-0340V08
7.30	35.00	79.00	8.00	D750-07300-0350V08	D750N07300-0350V08
7.40	35.00	79.00	8.00	D750-07400-0350V08	D750N07400-0350V08
7.50	36.00	79.00	8.00	D750-07500-0360V08	D750N07500-0360V08
7.60	36.00	79.00	8.00	D750-07600-0360V08	D750N07600-0360V08
7.70	37.00	79.00	8.00	D750-07700-0370V08	D750N07700-0370V08
7.80	37.00	79.00	8.00	D750-07800-0370V08	D750N07800-0370V08
7.90	38.00	79.00	8.00	D750-07900-0380V08	D750N07900-0380V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D750

3XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coated
8.00	38.00	79.00	8.00	D750-08000-0380V08	D750N08000-0380V08
8.10	39.00	89.00	10.00	D750-08100-0390V08	D750N08100-0390V08
8.20	39.00	89.00	10.00	D750-08200-0390V08	D750N08200-0390V08
8.30	40.00	89.00	10.00	D750-08300-0400V08	D750N08300-0400V08
8.40	40.00	89.00	10.00	D750-08400-0400V08	D750N08400-0400V08
8.50	41.00	89.00	10.00	D750-08500-0410V08	D750N08500-0410V08
8.60	41.00	89.00	10.00	D750-08600-0410V08	D750N08600-0410V08
8.70	42.00	89.00	10.00	D750-08700-0420V08	D750N08700-0420V08
8.80	42.00	89.00	10.00	D750-08800-0420V08	D750N08800-0420V08
8.90	43.00	89.00	10.00	D750-08900-0430V08	D750N08900-0430V08
9.00	43.00	89.00	10.00	D750-09000-0430V08	D750N09000-0430V08
9.10	43.00	89.00	10.00	D750-09100-0430V08	D750N09100-0430V08
9.20	44.00	89.00	10.00	D750-09200-0440V08	D750N09200-0440V08
9.30	44.00	89.00	10.00	D750-09300-0440V08	D750N09300-0440V08
9.40	45.00	89.00	10.00	D750-09400-0450V08	D750N09400-0450V08
9.50	45.00	89.00	10.00	D750-09500-0450V08	D750N09500-0450V08
9.60	46.00	89.00	10.00	D750-09600-0460V08	D750N09600-0460V08
9.70	46.00	89.00	10.00	D750-09700-0460V08	D750N09700-0460V08
9.80	47.00	89.00	10.00	D750-09800-0470V08	D750N09800-0470V08
9.90	47.00	89.00	10.00	D750-09900-0470V08	D750N09900-0470V08
10.00	48.00	89.00	10.00	D750-10000-0480V08	D750N10000-0480V08
10.10	48.00	102.00	12.00	D750-10100-0480V08	D750N10100-0480V08
10.20	48.00	102.00	12.00	D750-10200-0480V08	D750N10200-0480V08
10.30	49.00	102.00	12.00	D750-10300-0490V08	D750N10300-0490V08
10.40	49.00	102.00	12.00	D750-10400-0490V08	D750N10400-0490V08
10.50	50.00	102.00	12.00	D750-10500-0500V08	D750N10500-0500V08
10.60	50.00	102.00	12.00	D750-10600-0500V08	D750N10600-0500V08
10.70	51.00	102.00	12.00	D750-10700-0510V08	D750N10700-0510V08
10.80	51.00	102.00	12.00	D750-10800-0510V08	D750N10800-0510V08
10.90	52.00	102.00	12.00	D750-10900-0520V08	D750N10900-0520V08
11.00	52.00	102.00	12.00	D750-11000-0520V08	D750N11000-0520V08
11.10	52.00	102.00	12.00	D750-11100-0520V08	D750N11100-0520V08
11.20	53.00	102.00	12.00	D750-11200-0530V08	D750N11200-0530V08
11.30	53.00	102.00	12.00	D750-11300-0530V08	D750N11300-0530V08
11.40	54.00	102.00	12.00	D750-11400-0540V08	D750N11400-0540V08
11.50	54.00	102.00	12.00	D750-11500-0540V08	D750N11500-0540V08
11.60	55.00	102.00	12.00	D750-11600-0550V08	D750N11600-0550V08
11.70	55.00	102.00	12.00	D750-11700-0550V08	D750N11700-0550V08
11.80	56.00	102.00	12.00	D750-11800-0560V08	D750N11800-0560V08
11.90	56.00	102.00	12.00	D750-11900-0560V08	D750N11900-0560V08
12.00	57.00	102.00	12.00	D750-12000-0570V08	D750N12000-0570V08
12.10	57.00	107.00	14.00	D750-12100-0570V08	D750N12100-0570V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D750

3XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coated
12.20	57.00	107.00	14.00	D750-12200-0570V08	D750N12200-0570V08
12.30	58.00	107.00	14.00	D750-12300-0580V08	D750N12300-0580V08
12.40	58.00	107.00	14.00	D750-12400-0580V08	D750N12400-0580V08
12.50	59.00	107.00	14.00	D750-12500-0590V08	D750N12500-0590V08
12.60	59.00	107.00	14.00	D750-12600-0590V08	D750N12600-0590V08
12.70	60.00	107.00	14.00	D750-12700-0600V08	D750N12700-0600V08
12.80	61.00	107.00	14.00	D750-12800-0610V08	D750N12800-0610V08
12.90	61.00	107.00	14.00	D750-12900-0610V08	D750N12900-0610V08
13.00	62.00	107.00	14.00	D750-13000-0620V08	D750N13000-0620V08
13.10	62.00	107.00	14.00	D750-13100-0620V08	D750N13100-0620V08
13.20	62.00	107.00	14.00	D750-13200-0620V08	D750N13200-0620V08
13.30	63.00	107.00	14.00	D750-13300-0630V08	D750N13300-0630V08
13.40	63.00	107.00	14.00	D750-13400-0630V08	D750N13400-0630V08
13.50	64.00	107.00	14.00	D750-13500-0640V08	D750N13500-0640V08
13.60	64.00	107.00	14.00	D750-13600-0640V08	D750N13600-0640V08
13.70	65.00	107.00	14.00	D750-13700-0650V08	D750N13700-0650V08
13.80	65.00	107.00	14.00	D750-13800-0650V08	D750N13800-0650V08
13.90	66.00	107.00	14.00	D750-13900-0660V08	D750N13900-0660V08
14.00	66.00	107.00	14.00	D750-14000-0660V08	D750N14000-0660V08
14.50	68.00	115.00	16.00	D750-14500-0680V08	D750N14500-0680V08
14.80	70.00	115.00	16.00	D750-14800-0700V08	D750N14800-0700V08
15.00	71.00	115.00	16.00	D750-15000-0710V08	D750N15000-0710V08
15.50	73.00	115.00	16.00	D750-15500-0730V08	D750N15500-0730V08
15.80	74.00	115.00	16.00	D750-15800-0740V08	D750N15800-0740V08
16.00	75.00	115.00	16.00	D750-16000-0750V08	D750N16000-0750V08
16.50	69.00	120.00	18.00	D750-16500-0690V08	D750N16500-0690V08
16.80	70.00	120.00	18.00	D750-16800-0700V08	D750N16800-0700V08
17.00	71.00	120.00	18.00	D750-17000-0710V08	D750N17000-0710V08
17.50	73.00	120.00	18.00	D750-17500-0730V08	D750N17500-0730V08
17.80	74.00	120.00	18.00	D750-17800-0740V08	D750N17800-0740V08
18.00	75.00	120.00	18.00	D750-18000-0750V08	D750N18000-0750V08
18.50	77.00	130.00	20.00	D750-18500-0770V08	D750N18500-0770V08
18.80	78.00	130.00	20.00	D750-18800-0780V08	D750N18800-0780V08
19.00	79.00	130.00	20.00	D750-19000-0790V08	D750N19000-0790V08
19.50	81.00	130.00	20.00	D750-19500-0810V08	D750N19500-0810V08
19.80	82.00	130.00	20.00	D750-19800-0820V08	D750N19800-0820V08
20.00	83.00	130.00	20.00	D750-20000-0830V08	D750N20000-0830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

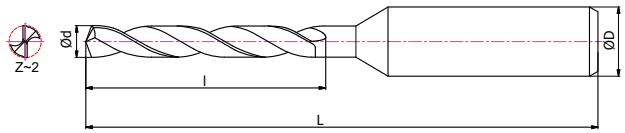
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D751

5XD without Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal. Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Cast Iron, Copper, Aluminium, Brass, Plastic



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
1.00	7.00	45.00	4.00	D751-01000-0070V08	D751N01000-0070V08
1.10	7.00	45.00	4.00	D751-01100-0070V08	D751N01100-0070V08
1.20	8.00	45.00	4.00	D751-01200-0080V08	D751N01200-0080V08
1.30	8.00	45.00	4.00	D751-01300-0080V08	D751N01300-0080V08
1.40	9.00	45.00	4.00	D751-01400-0090V08	D751N01400-0090V08
1.50	10.00	50.00	4.00	D751-01500-0100V08	D751N01500-0100V08
1.60	10.00	50.00	4.00	D751-01600-0100V08	D751N01600-0100V08
1.70	11.00	50.00	4.00	D751-01700-0110V08	D751N01700-0110V08
1.80	12.00	50.00	4.00	D751-01800-0120V08	D751N01800-0120V08
1.90	12.00	50.00	4.00	D751-01900-0120V08	D751N01900-0120V08
2.00	13.00	50.00	4.00	D751-02000-0130V08	D751N02000-0130V08
2.10	14.00	55.00	4.00	D751-02100-0140V08	D751N02100-0140V08
2.20	14.00	55.00	4.00	D751-02200-0140V08	D751N02200-0140V08
2.30	15.00	55.00	4.00	D751-02300-0150V08	D751N02300-0150V08
2.40	16.00	55.00	4.00	D751-02400-0160V08	D751N02400-0160V08
2.50	16.00	55.00	4.00	D751-02500-0160V08	D751N02500-0160V08
2.60	17.00	55.00	4.00	D751-02600-0170V08	D751N02600-0170V08
2.70	18.00	55.00	4.00	D751-02700-0180V08	D751N02700-0180V08
2.80	18.00	55.00	4.00	D751-02800-0180V08	D751N02800-0180V08
2.90	19.00	55.00	4.00	D751-02900-0190V08	D751N02900-0190V08
3.00	20.00	70.00	6.00	D751-03000-0200V08	D751N03000-0200V08
3.10	22.00	70.00	6.00	D751-03100-0220V08	D751N03100-0220V08
3.20	23.00	70.00	6.00	D751-03200-0230V08	D751N03200-0230V08
3.30	23.00	70.00	6.00	D751-03300-0230V08	D751N03300-0230V08
3.40	24.00	70.00	6.00	D751-03400-0240V08	D751N03400-0240V08
3.50	25.00	70.00	6.00	D751-03500-0250V08	D751N03500-0250V08
3.60	25.00	70.00	6.00	D751-03600-0250V08	D751N03600-0250V08
3.70	26.00	70.00	6.00	D751-03700-0260V08	D751N03700-0260V08
3.80	27.00	74.00	6.00	D751-03800-0270V08	D751N03800-0270V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D751

5XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
3.90	27.00	74.00	6.00	D751-03900-0270V08	D751N03900-0270V08
4.00	28.00	74.00	6.00	D751-04000-0280V08	D751N04000-0280V08
4.10	29.00	74.00	6.00	D751-04100-0290V08	D751N04100-0290V08
4.20	29.00	74.00	6.00	D751-04200-0290V08	D751N04200-0290V08
4.30	30.00	74.00	6.00	D751-04300-0300V08	D751N04300-0300V08
4.40	31.00	74.00	6.00	D751-04400-0310V08	D751N04400-0310V08
4.50	31.00	74.00	6.00	D751-04500-0310V08	D751N04500-0310V08
4.60	32.00	74.00	6.00	D751-04600-0320V08	D751N04600-0320V08
4.70	33.00	74.00	6.00	D751-04700-0330V08	D751N04700-0330V08
4.80	33.00	82.00	6.00	D751-04800-0330V08	D751N04800-0330V08
4.90	34.00	82.00	6.00	D751-04900-0340V08	D751N04900-0340V08
5.00	35.00	82.00	6.00	D751-05000-0350V08	D751N05000-0350V08
5.10	35.00	82.00	6.00	D751-05100-0350V08	D751N05100-0350V08
5.20	36.00	82.00	6.00	D751-05200-0360V08	D751N05200-0360V08
5.30	36.00	82.00	6.00	D751-05300-0360V08	D751N05300-0360V08
5.40	37.00	82.00	6.00	D751-05400-0370V08	D751N05400-0370V08
5.50	38.00	82.00	6.00	D751-05500-0380V08	D751N05500-0380V08
5.60	38.00	82.00	6.00	D751-05600-0380V08	D751N05600-0380V08
5.70	39.00	82.00	6.00	D751-05700-0390V08	D751N05700-0390V08
5.80	40.00	82.00	6.00	D751-05800-0400V08	D751N05800-0400V08
5.90	40.00	82.00	6.00	D751-05900-0400V08	D751N05900-0400V08
6.00	41.00	82.00	6.00	D751-06000-0410V08	D751N06000-0410V08
6.10	42.00	91.00	8.00	D751-06100-0420V08	D751N06100-0420V08
6.20	42.00	91.00	8.00	D751-06200-0420V08	D751N06200-0420V08
6.30	43.00	91.00	8.00	D751-06300-0430V08	D751N06300-0430V08
6.40	44.00	91.00	8.00	D751-06400-0440V08	D751N06400-0440V08
6.50	44.00	91.00	8.00	D751-06500-0440V08	D751N06500-0440V08
6.60	45.00	91.00	8.00	D751-06600-0450V08	D751N06600-0450V08
6.70	46.00	91.00	8.00	D751-06700-0460V08	D751N06700-0460V08
6.80	46.00	91.00	8.00	D751-06800-0460V08	D751N06800-0460V08
6.90	47.00	91.00	8.00	D751-06900-0470V08	D751N06900-0470V08
7.00	48.00	91.00	8.00	D751-07000-0480V08	D751N07000-0480V08
7.10	48.00	91.00	8.00	D751-07100-0480V08	D751N07100-0480V08
7.20	49.00	91.00	8.00	D751-07200-0490V08	D751N07200-0490V08
7.30	49.00	91.00	8.00	D751-07300-0490V08	D751N07300-0490V08
7.40	50.00	91.00	8.00	D751-07400-0500V08	D751N07400-0500V08
7.50	51.00	91.00	8.00	D751-07500-0510V08	D751N07500-0510V08
7.60	51.00	91.00	8.00	D751-07600-0510V08	D751N07600-0510V08
7.70	52.00	91.00	8.00	D751-07700-0520V08	D751N07700-0520V08
7.80	53.00	91.00	8.00	D751-07800-0530V08	D751N07800-0530V08
7.90	53.00	91.00	8.00	D751-07900-0530V08	D751N07900-0530V08
8.00	54.00	91.00	8.00	D751-08000-0540V08	D751N08000-0540V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D751

5XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
8.10	55.00	103.00	10.00	D751-08100-0550V08	D751N08100-0550V08
8.20	56.00	103.00	10.00	D751-08200-0560V08	D751N08200-0560V08
8.30	56.00	103.00	10.00	D751-08300-0560V08	D751N08300-0560V08
8.40	57.00	103.00	10.00	D751-08400-0570V08	D751N08400-0570V08
8.50	58.00	103.00	10.00	D751-08500-0580V08	D751N08500-0580V08
8.60	58.00	103.00	10.00	D751-08600-0580V08	D751N08600-0580V08
8.70	59.00	103.00	10.00	D751-08700-0590V08	D751N08700-0590V08
8.80	60.00	103.00	10.00	D751-08800-0600V08	D751N08800-0600V08
8.90	60.00	103.00	10.00	D751-08900-0600V08	D751N08900-0600V08
9.00	61.00	103.00	10.00	D751-09000-0610V08	D751N09000-0610V08
9.10	62.00	103.00	10.00	D751-09100-0620V08	D751N09100-0620V08
9.20	62.00	103.00	10.00	D751-09200-0620V08	D751N09200-0620V08
9.30	63.00	103.00	10.00	D751-09300-0630V08	D751N09300-0630V08
9.40	64.00	103.00	10.00	D751-09400-0640V08	D751N09400-0640V08
9.50	64.00	103.00	10.00	D751-09500-0640V08	D751N09500-0640V08
9.60	65.00	103.00	10.00	D751-09600-0650V08	D751N09600-0650V08
9.70	66.00	103.00	10.00	D751-09700-0660V08	D751N09700-0660V08
9.80	66.00	103.00	10.00	D751-09800-0660V08	D751N09800-0660V08
9.90	67.00	103.00	10.00	D751-09900-0670V08	D751N09900-0670V08
10.00	68.00	103.00	10.00	D751-10000-0680V08	D751N10000-0680V08
10.10	68.00	120.00	12.00	D751-10100-0680V08	D751N10100-0680V08
10.20	69.00	120.00	12.00	D751-10200-0690V08	D751N10200-0690V08
10.30	69.00	120.00	12.00	D751-10300-0690V08	D751N10300-0690V08
10.40	70.00	120.00	12.00	D751-10400-0700V08	D751N10400-0700V08
10.50	71.00	120.00	12.00	D751-10500-0710V08	D751N10500-0710V08
10.60	71.00	120.00	12.00	D751-10600-0710V08	D751N10600-0710V08
10.70	72.00	120.00	12.00	D751-10700-0720V08	D751N10700-0720V08
10.80	73.00	120.00	12.00	D751-10800-0730V08	D751N10800-0730V08
10.90	73.00	120.00	12.00	D751-10900-0730V08	D751N10900-0730V08
11.00	74.00	120.00	12.00	D751-11000-0740V08	D751N11000-0740V08
11.10	75.00	120.00	12.00	D751-11100-0750V08	D751N11100-0750V08
11.20	75.00	120.00	12.00	D751-11200-0750V08	D751N11200-0750V08
11.30	76.00	120.00	12.00	D751-11300-0760V08	D751N11300-0760V08
11.40	77.00	120.00	12.00	D751-11400-0770V08	D751N11400-0770V08
11.50	77.00	120.00	12.00	D751-11500-0770V08	D751N11500-0770V08
11.60	78.00	120.00	12.00	D751-11600-0780V08	D751N11600-0780V08
11.70	79.00	120.00	12.00	D751-11700-0790V08	D751N11700-0790V08
11.80	79.00	120.00	12.00	D751-11800-0790V08	D751N11800-0790V08
11.90	80.00	120.00	12.00	D751-11900-0800V08	D751N11900-0800V08
12.00	81.00	120.00	12.00	D751-12000-0810V08	D751N12000-0810V08
12.10	81.00	130.00	14.00	D751-12100-0810V08	D751N12100-0810V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D751

5XD without Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
12.20	82.00	130.00	14.00	D751-12200-0820V08	D751N12200-0820V08
12.30	82.00	130.00	14.00	D751-12300-0820V08	D751N12300-0820V08
12.40	83.00	130.00	14.00	D751-12400-0830V08	D751N12400-0830V08
12.50	84.00	130.00	14.00	D751-12500-0840V08	D751N12500-0840V08
12.60	84.00	130.00	14.00	D751-12600-0840V08	D751N12600-0840V08
12.70	85.00	130.00	14.00	D751-12700-0850V08	D751N12700-0850V08
12.80	86.00	130.00	14.00	D751-12800-0860V08	D751N12800-0860V08
12.90	87.00	130.00	14.00	D751-12900-0870V08	D751N12900-0870V08
13.00	88.00	130.00	14.00	D751-13000-0880V08	D751N13000-0880V08
13.10	88.00	130.00	14.00	D751-13100-0880V08	D751N13100-0880V08
13.20	89.00	130.00	14.00	D751-13200-0890V08	D751N13200-0890V08
13.30	89.00	130.00	14.00	D751-13300-0890V08	D751N13300-0890V08
13.40	90.00	130.00	14.00	D751-13400-0900V08	D751N13400-0900V08
13.50	91.00	130.00	14.00	D751-13500-0910V08	D751N13500-0910V08
13.60	91.00	130.00	14.00	D751-13600-0910V08	D751N13600-0910V08
13.70	92.00	130.00	14.00	D751-13700-0920V08	D751N13700-0920V08
13.80	93.00	130.00	14.00	D751-13800-0930V08	D751N13800-0930V08
13.90	93.00	130.00	14.00	D751-13900-0930V08	D751N13900-0930V08
14.00	94.00	130.00	14.00	D751-14000-0940V08	D751N14000-0940V08
14.50	97.00	140.00	16.00	D751-14500-0970V08	D751N14500-0970V08
14.80	99.00	140.00	16.00	D751-14800-0990V08	D751N14800-0990V08
15.00	101.00	140.00	16.00	D751-15000-1010V08	D751N15000-1010V08
15.50	104.00	145.00	16.00	D751-15500-1040V08	D751N15500-1040V08
15.80	106.00	145.00	16.00	D751-15800-1060V08	D751N15800-1060V08
16.00	107.00	145.00	16.00	D751-16000-1070V08	D751N16000-1070V08
16.50	102.00	145.00	18.00	D751-16500-1020V08	D751N16500-1020V08
16.80	104.00	145.00	18.00	D751-16800-1040V08	D751N16800-1040V08
17.00	105.00	145.00	18.00	D751-17000-1050V08	D751N17000-1050V08
17.50	108.00	150.00	18.00	D751-17500-1080V08	D751N17500-1080V08
17.80	110.00	150.00	18.00	D751-17800-1100V08	D751N17800-1100V08
18.00	111.00	150.00	18.00	D751-18000-1110V08	D751N18000-1110V08
18.50	114.00	160.00	20.00	D751-18500-1140V08	D751N18500-1140V08
18.80	116.00	160.00	20.00	D751-18800-1160V08	D751N18800-1160V08
19.00	117.00	160.00	20.00	D751-19000-1170V08	D751N19000-1170V08
19.50	120.00	160.00	20.00	D751-19500-1200V08	D751N19500-1200V08
19.80	122.00	160.00	20.00	D751-19800-1220V08	D751N19800-1220V08
20.00	123.00	160.00	20.00	D751-20000-1230V08	D751N20000-1230V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

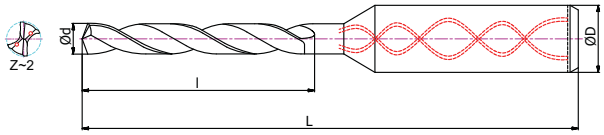
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D770

3XD with Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal.
- Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Cast Iron, Copper, Aluminium, Brass, Plastic.



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
3.00	14.00	63.00	6.00	D770-03000-0140V08	D770N03000-0140V08
3.10	16.00	63.00	6.00	D770-03100-0160V08	D770N03100-0160V08
3.20	16.00	63.00	6.00	D770-03200-0160V08	D770N03200-0160V08
3.30	17.00	63.00	6.00	D770-03300-0170V08	D770N03300-0170V08
3.40	17.00	63.00	6.00	D770-03400-0170V08	D770N03400-0170V08
3.50	18.00	63.00	6.00	D770-03500-0180V08	D770N03500-0180V08
3.60	18.00	63.00	6.00	D770-03600-0180V08	D770N03600-0180V08
3.70	19.00	63.00	6.00	D770-03700-0190V08	D770N03700-0190V08
3.80	19.00	70.00	6.00	D770-03800-0190V08	D770N03800-0190V08
3.90	20.00	70.00	6.00	D770-03900-0200V08	D770N03900-0200V08
4.00	20.00	70.00	6.00	D770-04000-0200V08	D770N04000-0200V08
4.10	20.00	70.00	6.00	D770-04100-0200V08	D770N04100-0200V08
4.20	21.00	70.00	6.00	D770-04200-0210V08	D770N04200-0210V08
4.30	21.00	70.00	6.00	D770-04300-0210V08	D770N04300-0210V08
4.40	22.00	70.00	6.00	D770-04400-0220V08	D770N04400-0220V08
4.50	22.00	70.00	6.00	D770-04500-0220V08	D770N04500-0220V08
4.60	23.00	70.00	6.00	D770-04600-0230V08	D770N04600-0230V08
4.70	23.00	70.00	6.00	D770-04700-0230V08	D770N04700-0230V08
4.80	24.00	70.00	6.00	D770-04800-0240V08	D770N04800-0240V08
4.90	24.00	70.00	6.00	D770-04900-0240V08	D770N04900-0240V08
5.00	25.00	70.00	6.00	D770-05000-0250V08	D770N05000-0250V08
5.10	25.00	70.00	6.00	D770-05100-0250V08	D770N05100-0250V08
5.20	25.00	70.00	6.00	D770-05200-0250V08	D770N05200-0250V08
5.30	26.00	70.00	6.00	D770-05300-0260V08	D770N05300-0260V08
5.40	26.00	70.00	6.00	D770-05400-0260V08	D770N05400-0260V08
5.50	27.00	70.00	6.00	D770-05500-0270V08	D770N05500-0270V08
5.60	27.00	70.00	6.00	D770-05600-0270V08	D770N05600-0270V08
5.70	28.00	70.00	6.00	D770-05700-0280V08	D770N05700-0280V08
5.80	28.00	70.00	6.00	D770-05800-0280V08	D770N05800-0280V08
5.90	29.00	70.00	6.00	D770-05900-0290V08	D770N05900-0290V08
6.00	29.00	70.00	6.00	D770-06000-0290V08	D770N06000-0290V08
6.10	29.00	79.00	8.00	D770-06100-0290V08	D770N06100-0290V08
6.20	30.00	79.00	8.00	D770-06200-0300V08	D770N06200-0300V08
6.30	30.00	79.00	8.00	D770-06300-0300V08	D770N06300-0300V08
6.40	31.00	79.00	8.00	D770-06400-0310V08	D770N06400-0310V08
6.50	31.00	79.00	8.00	D770-06500-0310V08	D770N06500-0310V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D770

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
6.60	32.00	79.00	8.00	D770-06600-0320V08	D770N06600-0320V08
6.70	32.00	79.00	8.00	D770-06700-0320V08	D770N06700-0320V08
6.80	33.00	79.00	8.00	D770-06800-0330V08	D770N06800-0330V08
6.90	33.00	79.00	8.00	D770-06900-0330V08	D770N06900-0330V08
7.00	34.00	79.00	8.00	D770-07000-0340V08	D770N07000-0340V08
7.10	34.00	79.00	8.00	D770-07100-0340V08	D770N07100-0340V08
7.20	34.00	79.00	8.00	D770-07200-0340V08	D770N07200-0340V08
7.30	35.00	79.00	8.00	D770-07300-0350V08	D770N07300-0350V08
7.40	35.00	79.00	8.00	D770-07400-0350V08	D770N07400-0350V08
7.50	36.00	79.00	8.00	D770-07500-0360V08	D770N07500-0360V08
7.60	36.00	79.00	8.00	D770-07600-0360V08	D770N07600-0360V08
7.70	37.00	79.00	8.00	D770-07700-0370V08	D770N07700-0370V08
7.80	37.00	79.00	8.00	D770-07800-0370V08	D770N07800-0370V08
7.90	38.00	79.00	8.00	D770-07900-0380V08	D770N07900-0380V08
8.00	38.00	79.00	8.00	D770-08000-0380V08	D770N08000-0380V08
8.10	39.00	89.00	10.00	D770-08100-0390V08	D770N08100-0390V08
8.20	39.00	89.00	10.00	D770-08200-0390V08	D770N08200-0390V08
8.30	40.00	89.00	10.00	D770-08300-0400V08	D770N08300-0400V08
8.40	40.00	89.00	10.00	D770-08400-0400V08	D770N08400-0400V08
8.50	41.00	89.00	10.00	D770-08500-0410V08	D770N08500-0410V08
8.60	41.00	89.00	10.00	D770-08600-0410V08	D770N08600-0410V08
8.70	42.00	89.00	10.00	D770-08700-0420V08	D770N08700-0420V08
8.80	42.00	89.00	10.00	D770-08800-0420V08	D770N08800-0420V08
8.90	43.00	89.00	10.00	D770-08900-0430V08	D770N08900-0430V08
9.00	43.00	89.00	10.00	D770-09000-0430V08	D770N09000-0430V08
9.10	43.00	89.00	10.00	D770-09100-0430V08	D770N09100-0430V08
9.20	44.00	89.00	10.00	D770-09200-0440V08	D770N09200-0440V08
9.30	44.00	89.00	10.00	D770-09300-0440V08	D770N09300-0440V08
9.40	45.00	89.00	10.00	D770-09400-0450V08	D770N09400-0450V08
9.50	45.00	89.00	10.00	D770-09500-0450V08	D770N09500-0450V08
9.60	46.00	89.00	10.00	D770-09600-0460V08	D770N09600-0460V08
9.70	46.00	89.00	10.00	D770-09700-0460V08	D770N09700-0460V08
9.80	47.00	89.00	10.00	D770-09800-0470V08	D770N09800-0470V08
9.90	47.00	89.00	10.00	D770-09900-0470V08	D770N09900-0470V08
10.00	48.00	89.00	10.00	D770-10000-0480V08	D770N10000-0480V08
10.10	48.00	102.00	12.00	D770-10100-0480V08	D770N10100-0480V08
10.20	48.00	102.00	12.00	D770-10200-0480V08	D770N10200-0480V08
10.30	49.00	102.00	12.00	D770-10300-0490V08	D770N10300-0490V08
10.40	49.00	102.00	12.00	D770-10400-0490V08	D770N10400-0490V08
10.50	50.00	102.00	12.00	D770-10500-0500V08	D770N10500-0500V08
10.60	50.00	102.00	12.00	D770-10600-0500V08	D770N10600-0500V08
10.70	51.00	102.00	12.00	D770-10700-0510V08	D770N10700-0510V08
10.80	51.00	102.00	12.00	D770-10800-0510V08	D770N10800-0510V08
10.90	52.00	102.00	12.00	D770-10900-0520V08	D770N10900-0520V08
11.00	52.00	102.00	12.00	D770-11000-0520V08	D770N11000-0520V08
11.10	52.00	102.00	12.00	D770-11100-0520V08	D770N11100-0520V08
11.20	53.00	102.00	12.00	D770-11200-0530V08	D770N11200-0530V08
11.30	53.00	102.00	12.00	D770-11300-0530V08	D770N11300-0530V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D770

3XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
11.40	54.00	102.00	12.00	D770-11400-0540V08	D770N11400-0540V08
11.50	54.00	102.00	12.00	D770-11500-0540V08	D770N11500-0540V08
11.60	55.00	102.00	12.00	D770-11600-0550V08	D770N11600-0550V08
11.70	55.00	102.00	12.00	D770-11700-0550V08	D770N11700-0550V08
11.80	56.00	102.00	12.00	D770-11800-0560V08	D770N11800-0560V08
11.90	56.00	102.00	12.00	D770-11900-0560V08	D770N11900-0560V08
12.00	57.00	102.00	12.00	D770-12000-0570V08	D770N12000-0570V08
12.10	57.00	107.00	14.00	D770-12100-0570V08	D770N12100-0570V08
12.20	57.00	107.00	14.00	D770-12200-0570V08	D770N12200-0570V08
12.30	58.00	107.00	14.00	D770-12300-0580V08	D770N12300-0580V08
12.40	58.00	107.00	14.00	D770-12400-0580V08	D770N12400-0580V08
12.50	59.00	107.00	14.00	D770-12500-0590V08	D770N12500-0590V08
12.60	59.00	107.00	14.00	D770-12600-0590V08	D770N12600-0590V08
12.70	60.00	107.00	14.00	D770-12700-0600V08	D770N12700-0600V08
12.80	61.00	107.00	14.00	D770-12800-0610V08	D770N12800-0610V08
12.90	61.00	107.00	14.00	D770-12900-0610V08	D770N12900-0610V08
13.00	62.00	107.00	14.00	D770-13000-0620V08	D770N13000-0620V08
13.10	62.00	107.00	14.00	D770-13100-0620V08	D770N13100-0620V08
13.20	62.00	107.00	14.00	D770-13200-0620V08	D770N13200-0620V08
13.30	63.00	107.00	14.00	D770-13300-0630V08	D770N13300-0630V08
13.40	63.00	107.00	14.00	D770-13400-0630V08	D770N13400-0630V08
13.50	64.00	107.00	14.00	D770-13500-0640V08	D770N13500-0640V08
13.60	64.00	107.00	14.00	D770-13600-0640V08	D770N13600-0640V08
13.70	65.00	107.00	14.00	D770-13700-0650V08	D770N13700-0650V08
13.80	65.00	107.00	14.00	D770-13800-0650V08	D770N13800-0650V08
13.90	66.00	107.00	14.00	D770-13900-0660V08	D770N13900-0660V08
14.00	66.00	107.00	14.00	D770-14000-0660V08	D770N14000-0660V08
14.50	68.00	115.00	16.00	D770-14500-0680V08	D770N14500-0680V08
14.80	70.00	115.00	16.00	D770-14800-0700V08	D770N14800-0700V08
15.00	71.00	115.00	16.00	D770-15000-0710V08	D770N15000-0710V08
15.50	73.00	115.00	16.00	D770-15500-0730V08	D770N15500-0730V08
15.80	74.00	115.00	16.00	D770-15800-0740V08	D770N15800-0740V08
16.00	75.00	115.00	16.00	D770-16000-0750V08	D770N16000-0750V08
16.50	69.00	123.00	18.00	D770-16500-0690V08	D770N16500-0690V08
16.80	70.00	123.00	18.00	D770-16800-0700V08	D770N16800-0700V08
17.00	71.00	123.00	18.00	D770-17000-0710V08	D770N17000-0710V08
17.50	73.00	123.00	18.00	D770-17500-0730V08	D770N17500-0730V08
17.80	74.00	123.00	18.00	D770-17800-0740V08	D770N17800-0740V08
18.00	75.00	123.00	18.00	D770-18000-0750V08	D770N18000-0750V08
18.50	77.00	131.00	20.00	D770-18500-0770V08	D770N18500-0770V08
18.80	78.00	131.00	20.00	D770-18800-0780V08	D770N18800-0780V08
19.00	79.00	131.00	20.00	D770-19000-0790V08	D770N19000-0790V08
19.50	81.00	131.00	20.00	D770-19500-0810V08	D770N19500-0810V08
19.80	82.00	131.00	20.00	D770-19800-0820V08	D770N19800-0820V08
20.00	83.00	131.00	20.00	D770-20000-0830V08	D770N20000-0830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

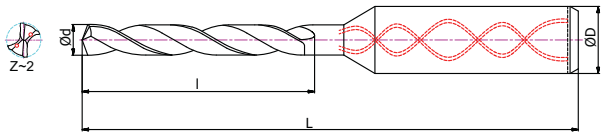
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D771

5XD with Coolant Hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal.
- Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Cast Iron, Copper, Aluminium, Brass, Plastic.



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
1.10	7.00	45.00	3.00	D771-01100-0070V08	D771N01100-0070V08
1.20	8.00	45.00	3.00	D771-01200-0080V08	D771N01200-0080V08
1.30	8.00	45.00	3.00	D771-01300-0080V08	D771N01300-0080V08
1.40	9.00	45.00	3.00	D771-01400-0090V08	D771N01400-0090V08
1.50	10.00	50.00	3.00	D771-01500-0100V08	D771N01500-0100V08
1.60	10.00	50.00	3.00	D771-01600-0100V08	D771N01600-0100V08
1.70	11.00	50.00	3.00	D771-01700-0110V08	D771N01700-0110V08
1.80	12.00	50.00	3.00	D771-01800-0120V08	D771N01800-0120V08
1.90	12.00	50.00	3.00	D771-01900-0120V08	D771N01900-0120V08
2.00	13.00	50.00	4.00	D771-02000-0130V08	D771N02000-0130V08
2.10	14.00	50.00	4.00	D771-02100-0140V08	D771N02100-0140V08
2.20	14.00	50.00	4.00	D771-02200-0140V08	D771N02200-0140V08
2.30	15.00	55.00	4.00	D771-02300-0150V08	D771N02300-0150V08
2.40	16.00	55.00	4.00	D771-02400-0160V08	D771N02400-0160V08
2.50	16.00	55.00	4.00	D771-02500-0160V08	D771N02500-0160V08
2.60	17.00	55.00	4.00	D771-02600-0170V08	D771N02600-0170V08
2.70	18.00	55.00	4.00	D771-02700-0180V08	D771N02700-0180V08
2.80	18.00	55.00	4.00	D771-02800-0180V08	D771N02800-0180V08
2.90	19.00	55.00	4.00	D771-02900-0190V08	D771N02900-0190V08
3.00	20.00	70.00	6.00	D771-03000-0200V08	D771N03000-0200V08
3.10	22.00	70.00	6.00	D771-03100-0220V08	D771N03100-0220V08
3.20	23.00	70.00	6.00	D771-03200-0230V08	D771N03200-0230V08
3.30	23.00	70.00	6.00	D771-03300-0230V08	D771N03300-0230V08
3.40	24.00	70.00	6.00	D771-03400-0240V08	D771N03400-0240V08
3.50	25.00	70.00	6.00	D771-03500-0250V08	D771N03500-0250V08
3.60	25.00	70.00	6.00	D771-03600-0250V08	D771N03600-0250V08
3.70	26.00	70.00	6.00	D771-03700-0260V08	D771N03700-0260V08
3.80	27.00	74.00	6.00	D771-03800-0270V08	D771N03800-0270V08
3.90	27.00	74.00	6.00	D771-03900-0270V08	D771N03900-0270V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D771

5XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
4.00	28.00	74.00	6.00	D771-04000-0280V08	D771N04000-0280V08
4.10	29.00	74.00	6.00	D771-04100-0290V08	D771N04100-0290V08
4.20	29.00	74.00	6.00	D771-04200-0290V08	D771N04200-0290V08
4.30	30.00	74.00	6.00	D771-04300-0300V08	D771N04300-0300V08
4.40	31.00	74.00	6.00	D771-04400-0310V08	D771N04400-0310V08
4.50	31.00	74.00	6.00	D771-04500-0310V08	D771N04500-0310V08
4.60	32.00	74.00	6.00	D771-04600-0320V08	D771N04600-0320V08
4.70	33.00	74.00	6.00	D771-04700-0330V08	D771N04700-0330V08
4.80	33.00	82.00	6.00	D771-04800-0330V08	D771N04800-0330V08
4.90	34.00	82.00	6.00	D771-04900-0340V08	D771N04900-0340V08
5.00	35.00	82.00	6.00	D771-05000-0350V08	D771N05000-0350V08
5.10	35.00	82.00	6.00	D771-05100-0350V08	D771N05100-0350V08
5.20	36.00	82.00	6.00	D771-05200-0360V08	D771N05200-0360V08
5.30	36.00	82.00	6.00	D771-05300-0360V08	D771N05300-0360V08
5.40	37.00	82.00	6.00	D771-05400-0370V08	D771N05400-0370V08
5.50	38.00	82.00	6.00	D771-05500-0380V08	D771N05500-0380V08
5.60	38.00	82.00	6.00	D771-05600-0380V08	D771N05600-0380V08
5.70	39.00	82.00	6.00	D771-05700-0390V08	D771N05700-0390V08
5.80	40.00	82.00	6.00	D771-05800-0400V08	D771N05800-0400V08
5.90	40.00	82.00	6.00	D771-05900-0400V08	D771N05900-0400V08
6.00	41.00	82.00	6.00	D771-06000-0410V08	D771N06000-0410V08
6.10	42.00	91.00	8.00	D771-06100-0420V08	D771N06100-0420V08
6.20	42.00	91.00	8.00	D771-06200-0420V08	D771N06200-0420V08
6.30	43.00	91.00	8.00	D771-06300-0430V08	D771N06300-0430V08
6.40	44.00	91.00	8.00	D771-06400-0440V08	D771N06400-0440V08
6.50	44.00	91.00	8.00	D771-06500-0440V08	D771N06500-0440V08
6.60	45.00	91.00	8.00	D771-06600-0450V08	D771N06600-0450V08
6.70	46.00	91.00	8.00	D771-06700-0460V08	D771N06700-0460V08
6.80	46.00	91.00	8.00	D771-06800-0460V08	D771N06800-0460V08
6.90	47.00	91.00	8.00	D771-06900-0470V08	D771N06900-0470V08
7.00	48.00	91.00	8.00	D771-07000-0480V08	D771N07000-0480V08
7.10	48.00	91.00	8.00	D771-07100-0480V08	D771N07100-0480V08
7.20	49.00	91.00	8.00	D771-07200-0490V08	D771N07200-0490V08
7.30	49.00	91.00	8.00	D771-07300-0490V08	D771N07300-0490V08
7.40	50.00	91.00	8.00	D771-07400-0500V08	D771N07400-0500V08
7.50	51.00	91.00	8.00	D771-07500-0510V08	D771N07500-0510V08
7.60	51.00	91.00	8.00	D771-07600-0510V08	D771N07600-0510V08
7.70	52.00	91.00	8.00	D771-07700-0520V08	D771N07700-0520V08
7.80	53.00	91.00	8.00	D771-07800-0530V08	D771N07800-0530V08
7.90	53.00	91.00	8.00	D771-07900-0530V08	D771N07900-0530V08
8.00	54.00	91.00	8.00	D771-08000-0540V08	D771N08000-0540V08
8.10	55.00	103.00	10.00	D771-08100-0550V08	D771N08100-0550V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D771

5XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
8.20	56.00	103.00	10.00	D771-08200-0560V08	D771N08200-0560V08
8.30	56.00	103.00	10.00	D771-08300-0560V08	D771N08300-0560V08
8.40	57.00	103.00	10.00	D771-08400-0570V08	D771N08400-0570V08
8.50	58.00	103.00	10.00	D771-08500-0580V08	D771N08500-0580V08
8.60	58.00	103.00	10.00	D771-08600-0580V08	D771N08600-0580V08
8.70	59.00	103.00	10.00	D771-08700-0590V08	D771N08700-0590V08
8.80	60.00	103.00	10.00	D771-08800-0600V08	D771N08800-0600V08
8.90	60.00	103.00	10.00	D771-08900-0600V08	D771N08900-0600V08
9.00	61.00	103.00	10.00	D771-09000-0610V08	D771N09000-0610V08
9.10	62.00	103.00	10.00	D771-09100-0620V08	D771N09100-0620V08
9.20	62.00	103.00	10.00	D771-09200-0620V08	D771N09200-0620V08
9.30	63.00	103.00	10.00	D771-09300-0630V08	D771N09300-0630V08
9.40	64.00	103.00	10.00	D771-09400-0640V08	D771N09400-0640V08
9.50	64.00	103.00	10.00	D771-09500-0640V08	D771N09500-0640V08
9.60	65.00	103.00	10.00	D771-09600-0650V08	D771N09600-0650V08
9.70	66.00	103.00	10.00	D771-09700-0660V08	D771N09700-0660V08
9.80	66.00	103.00	10.00	D771-09800-0660V08	D771N09800-0660V08
9.90	67.00	103.00	10.00	D771-09900-0670V08	D771N09900-0670V08
10.00	68.00	103.00	10.00	D771-10000-0680V08	D771N10000-0680V08
10.10	68.00	118.00	12.00	D771-10100-0680V08	D771N10100-0680V08
10.20	69.00	118.00	12.00	D771-10200-0690V08	D771N10200-0690V08
10.30	69.00	118.00	12.00	D771-10300-0690V08	D771N10300-0690V08
10.40	70.00	118.00	12.00	D771-10400-0700V08	D771N10400-0700V08
10.50	71.00	118.00	12.00	D771-10500-0710V08	D771N10500-0710V08
10.60	71.00	118.00	12.00	D771-10600-0710V08	D771N10600-0710V08
10.70	72.00	118.00	12.00	D771-10700-0720V08	D771N10700-0720V08
10.80	73.00	118.00	12.00	D771-10800-0730V08	D771N10800-0730V08
10.90	73.00	118.00	12.00	D771-10900-0730V08	D771N10900-0730V08
11.00	74.00	118.00	12.00	D771-11000-0740V08	D771N11000-0740V08
11.10	75.00	118.00	12.00	D771-11100-0750V08	D771N11100-0750V08
11.20	75.00	118.00	12.00	D771-11200-0750V08	D771N11200-0750V08
11.30	76.00	118.00	12.00	D771-11300-0760V08	D771N11300-0760V08
11.40	77.00	118.00	12.00	D771-11400-0770V08	D771N11400-0770V08
11.50	77.00	118.00	12.00	D771-11500-0770V08	D771N11500-0770V08
11.60	78.00	118.00	12.00	D771-11600-0780V08	D771N11600-0780V08
11.70	79.00	118.00	12.00	D771-11700-0790V08	D771N11700-0790V08
11.80	79.00	118.00	12.00	D771-11800-0790V08	D771N11800-0790V08
11.90	80.00	118.00	12.00	D771-11900-0800V08	D771N11900-0800V08
12.00	81.00	118.00	12.00	D771-12000-0810V08	D771N12000-0810V08
12.10	81.00	124.00	14.00	D771-12100-0810V08	D771N12100-0810V08
12.20	82.00	124.00	14.00	D771-12200-0820V08	D771N12200-0820V08
12.30	82.00	124.00	14.00	D771-12300-0820V08	D771N12300-0820V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D771

5XD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
12.40	83.00	124.00	14.00	D771-12400-0830V08	D771N12400-0830V08
12.50	84.00	124.00	14.00	D771-12500-0840V08	D771N12500-0840V08
12.60	84.00	124.00	14.00	D771-12600-0840V08	D771N12600-0840V08
12.70	85.00	124.00	14.00	D771-12700-0850V08	D771N12700-0850V08
12.80	86.00	124.00	14.00	D771-12800-0860V08	D771N12800-0860V08
12.90	87.00	124.00	14.00	D771-12900-0870V08	D771N12900-0870V08
13.00	88.00	130.00	14.00	D771-13000-0880V08	D771N13000-0880V08
13.10	88.00	130.00	14.00	D771-13100-0880V08	D771N13100-0880V08
13.20	89.00	130.00	14.00	D771-13200-0890V08	D771N13200-0890V08
13.30	89.00	130.00	14.00	D771-13300-0890V08	D771N13300-0890V08
13.40	90.00	130.00	14.00	D771-13400-0900V08	D771N13400-0900V08
13.50	91.00	130.00	14.00	D771-13500-0910V08	D771N13500-0910V08
13.60	91.00	130.00	14.00	D771-13600-0910V08	D771N13600-0910V08
13.70	92.00	130.00	14.00	D771-13700-0920V08	D771N13700-0920V08
13.80	93.00	130.00	14.00	D771-13800-0930V08	D771N13800-0930V08
13.90	93.00	130.00	14.00	D771-13900-0930V08	D771N13900-0930V08
14.00	94.00	130.00	14.00	D771-14000-0940V08	D771N14000-0940V08
14.50	97.00	147.00	16.00	D771-14500-0970V08	D771N14500-0970V08
14.80	99.00	147.00	16.00	D771-14800-0990V08	D771N14800-0990V08
15.00	101.00	147.00	16.00	D771-15000-1010V08	D771N15000-1010V08
15.50	104.00	147.00	16.00	D771-15500-1040V08	D771N15500-1040V08
15.80	106.00	147.00	16.00	D771-15800-1060V08	D771N15800-1060V08
16.00	107.00	147.00	16.00	D771-16000-1070V08	D771N16000-1070V08
16.50	102.00	147.00	18.00	D771-16500-1020V08	D771N16500-1020V08
16.80	104.00	147.00	18.00	D771-16800-1040V08	D771N16800-1040V08
17.00	105.00	147.00	18.00	D771-17000-1050V08	D771N17000-1050V08
17.50	108.00	150.00	18.00	D771-17500-1080V08	D771N17500-1080V08
17.80	110.00	150.00	18.00	D771-17800-1100V08	D771N17800-1100V08
18.00	111.00	160.00	18.00	D771-18000-1110V08	D771N18000-1110V08
18.50	114.00	160.00	20.00	D771-18500-1140V08	D771N18500-1140V08
18.80	116.00	160.00	20.00	D771-18800-1160V08	D771N18800-1160V08
19.00	117.00	160.00	20.00	D771-19000-1170V08	D771N19000-1170V08
19.50	120.00	160.00	20.00	D771-19500-1200V08	D771N19500-1200V08
19.80	122.00	160.00	20.00	D771-19800-1220V08	D771N19800-1220V08
20.00	123.00	160.00	20.00	D771-20000-1230V08	D771N20000-1230V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

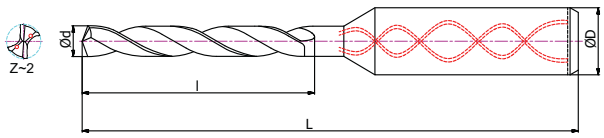
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D773

8XD with coolant hole

- Advantages: Self centering- centre drilling not required, Special design, good chip removal.
- Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Cast Iron, Copper, Aluminium, Brass, Plastic.



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
1.10	10.00	50.00	3.00	D773-01100-0100V08	D773N01100-0100V08
1.20	11.00	50.00	3.00	D773-01200-0110V08	D773N01200-0110V08
1.30	12.00	50.00	3.00	D773-01300-0120V08	D773N01300-0120V08
1.40	13.00	50.00	3.00	D773-01400-0130V08	D773N01400-0130V08
1.50	14.00	50.00	3.00	D773-01500-0140V08	D773N01500-0140V08
1.60	15.00	50.00	3.00	D773-01600-0150V08	D773N01600-0150V08
1.70	16.00	50.00	3.00	D773-01700-0160V08	D773N01700-0160V08
1.80	17.00	50.00	3.00	D773-01800-0170V08	D773N01800-0170V08
1.90	18.00	50.00	3.00	D773-01900-0180V08	D773N01900-0180V08
2.00	19.00	63.00	4.00	D773-02000-0190V08	D773N02000-0190V08
2.10	20.00	63.00	4.00	D773-02100-0200V08	D773N02100-0200V08
2.20	21.00	63.00	4.00	D773-02200-0210V08	D773N02200-0210V08
2.30	22.00	63.00	4.00	D773-02300-0220V08	D773N02300-0220V08
2.40	23.00	63.00	4.00	D773-02400-0230V08	D773N02400-0230V08
2.50	24.00	63.00	4.00	D773-02500-0240V08	D773N02500-0240V08
2.60	25.00	63.00	4.00	D773-02600-0250V08	D773N02600-0250V08
2.70	26.00	63.00	4.00	D773-02700-0260V08	D773N02700-0260V08
2.80	27.00	63.00	4.00	D773-02800-0270V08	D773N02800-0270V08
2.90	28.00	63.00	4.00	D773-02900-0280V08	D773N02900-0280V08
3.00	29.00	72.00	6.00	D773-03000-0290V08	D773N03000-0290V08
3.10	31.00	72.00	6.00	D773-03100-0310V08	D773N03100-0310V08
3.20	32.00	72.00	6.00	D773-03200-0320V08	D773N03200-0320V08
3.30	33.00	72.00	6.00	D773-03300-0330V08	D773N03300-0330V08
3.40	34.00	72.00	6.00	D773-03400-0340V08	D773N03400-0340V08
3.50	35.00	72.00	6.00	D773-03500-0350V08	D773N03500-0350V08
3.60	36.00	72.00	6.00	D773-03600-0360V08	D773N03600-0360V08
3.70	37.00	72.00	6.00	D773-03700-0370V08	D773N03700-0370V08
3.80	38.00	81.00	6.00	D773-03800-0380V08	D773N03800-0380V08
3.90	39.00	81.00	6.00	D773-03900-0390V08	D773N03900-0390V08
4.00	40.00	81.00	6.00	D773-04000-0400V08	D773N04000-0400V08
4.10	41.00	81.00	6.00	D773-04100-0410V08	D773N04100-0410V08
4.20	42.00	81.00	6.00	D773-04200-0420V08	D773N04200-0420V08
4.30	43.00	81.00	6.00	D773-04300-0430V08	D773N04300-0430V08
4.40	44.00	81.00	6.00	D773-04400-0440V08	D773N04400-0440V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D773

8XD with coolant hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
4.50	45.00	81.00	6.00	D773-04500-0450V08	D773N04500-0450V08
4.60	46.00	81.00	6.00	D773-04600-0460V08	D773N04600-0460V08
4.70	47.00	95.00	6.00	D773-04700-0470V08	D773N04700-0470V08
4.80	48.00	95.00	6.00	D773-04800-0480V08	D773N04800-0480V08
4.90	49.00	95.00	6.00	D773-04900-0490V08	D773N04900-0490V08
5.00	50.00	95.00	6.00	D773-05000-0500V08	D773N05000-0500V08
5.10	50.00	95.00	6.00	D773-05100-0500V08	D773N05100-0500V08
5.20	51.00	95.00	6.00	D773-05200-0510V08	D773N05200-0510V08
5.30	52.00	95.00	6.00	D773-05300-0520V08	D773N05300-0520V08
5.40	53.00	95.00	6.00	D773-05400-0530V08	D773N05400-0530V08
5.50	54.00	95.00	6.00	D773-05500-0540V08	D773N05500-0540V08
5.60	55.00	95.00	6.00	D773-05600-0550V08	D773N05600-0550V08
5.70	56.00	95.00	6.00	D773-05700-0560V08	D773N05700-0560V08
5.80	57.00	95.00	6.00	D773-05800-0570V08	D773N05800-0570V08
5.90	58.00	95.00	6.00	D773-05900-0580V08	D773N05900-0580V08
6.00	59.00	95.00	6.00	D773-06000-0590V08	D773N06000-0590V08
6.10	60.00	114.00	8.00	D773-06100-0600V08	D773N06100-0600V08
6.20	61.00	114.00	8.00	D773-06200-0610V08	D773N06200-0610V08
6.30	62.00	114.00	8.00	D773-06300-0620V08	D773N06300-0620V08
6.40	63.00	114.00	8.00	D773-06400-0630V08	D773N06400-0630V08
6.50	64.00	114.00	8.00	D773-06500-0640V08	D773N06500-0640V08
6.60	65.00	114.00	8.00	D773-06600-0650V08	D773N06600-0650V08
6.70	66.00	114.00	8.00	D773-06700-0660V08	D773N06700-0660V08
6.80	67.00	114.00	8.00	D773-06800-0670V08	D773N06800-0670V08
6.90	68.00	114.00	8.00	D773-06900-0680V08	D773N06900-0680V08
7.00	69.00	114.00	8.00	D773-07000-0690V08	D773N07000-0690V08
7.10	69.00	114.00	8.00	D773-07100-0690V08	D773N07100-0690V08
7.20	70.00	114.00	8.00	D773-07200-0700V08	D773N07200-0700V08
7.30	71.00	114.00	8.00	D773-07300-0710V08	D773N07300-0710V08
7.40	72.00	114.00	8.00	D773-07400-0720V08	D773N07400-0720V08
7.50	73.00	114.00	8.00	D773-07500-0730V08	D773N07500-0730V08
7.60	74.00	114.00	8.00	D773-07600-0740V08	D773N07600-0740V08
7.70	75.00	114.00	8.00	D773-07700-0750V08	D773N07700-0750V08
7.80	76.00	114.00	8.00	D773-07800-0760V08	D773N07800-0760V08
7.90	77.00	114.00	8.00	D773-07900-0770V08	D773N07900-0770V08
8.00	78.00	114.00	8.00	D773-08000-0780V08	D773N08000-0780V08
8.10	79.00	142.00	10.00	D773-08100-0790V08	D773N08100-0790V08
8.20	80.00	142.00	10.00	D773-08200-0800V08	D773N08200-0800V08
8.30	81.00	142.00	10.00	D773-08300-0810V08	D773N08300-0810V08
8.40	82.00	142.00	10.00	D773-08400-0820V08	D773N08400-0820V08
8.50	83.00	142.00	10.00	D773-08500-0830V08	D773N08500-0830V08
8.60	84.00	142.00	10.00	D773-08600-0840V08	D773N08600-0840V08
8.70	85.00	142.00	10.00	D773-08700-0850V08	D773N08700-0850V08
8.80	86.00	142.00	10.00	D773-08800-0860V08	D773N08800-0860V08
8.90	87.00	142.00	10.00	D773-08900-0870V08	D773N08900-0870V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D773

8XD with coolant hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
9.00	88.00	142.00	10.00	D773-09000-0880V08	D773N09000-0880V08
9.10	89.00	142.00	10.00	D773-09100-0890V08	D773N09100-0890V08
9.20	90.00	142.00	10.00	D773-09200-0900V08	D773N09200-0900V08
9.30	91.00	142.00	10.00	D773-09300-0910V08	D773N09300-0910V08
9.40	92.00	142.00	10.00	D773-09400-0920V08	D773N09400-0920V08
9.50	93.00	142.00	10.00	D773-09500-0930V08	D773N09500-0930V08
9.60	94.00	142.00	10.00	D773-09600-0940V08	D773N09600-0940V08
9.70	95.00	142.00	10.00	D773-09700-0950V08	D773N09700-0950V08
9.80	96.00	142.00	10.00	D773-09800-0960V08	D773N09800-0960V08
9.90	97.00	142.00	10.00	D773-09900-0970V08	D773N09900-0970V08
10.00	98.00	142.00	10.00	D773-10000-0980V08	D773N10000-0980V08
10.10	98.00	162.00	12.00	D773-10100-0980V08	D773N10100-0980V08
10.20	99.00	162.00	12.00	D773-10200-0990V08	D773N10200-0990V08
10.30	100.00	162.00	12.00	D773-10300-1000V08	D773N10300-1000V08
10.40	101.00	162.00	12.00	D773-10400-1010V08	D773N10400-1010V08
10.50	102.00	162.00	12.00	D773-10500-1020V08	D773N10500-1020V08
10.60	103.00	162.00	12.00	D773-10600-1030V08	D773N10600-1030V08
10.70	104.00	162.00	12.00	D773-10700-1040V08	D773N10700-1040V08
10.80	105.00	162.00	12.00	D773-10800-1050V08	D773N10800-1050V08
10.90	106.00	162.00	12.00	D773-10900-1060V08	D773N10900-1060V08
11.00	107.00	162.00	12.00	D773-11000-1070V08	D773N11000-1070V08
11.10	108.00	162.00	12.00	D773-11100-1080V08	D773N11100-1080V08
11.20	109.00	162.00	12.00	D773-11200-1090V08	D773N11200-1090V08
11.30	110.00	162.00	12.00	D773-11300-1100V08	D773N11300-1100V08
11.40	111.00	162.00	12.00	D773-11400-1110V08	D773N11400-1110V08
11.50	112.00	162.00	12.00	D773-11500-1120V08	D773N11500-1120V08
11.60	113.00	162.00	12.00	D773-11600-1130V08	D773N11600-1130V08
11.70	114.00	162.00	12.00	D773-11700-1140V08	D773N11700-1140V08
11.80	115.00	162.00	12.00	D773-11800-1150V08	D773N11800-1150V08
11.90	116.00	162.00	12.00	D773-11900-1160V08	D773N11900-1160V08
12.00	117.00	162.00	12.00	D773-12000-1170V08	D773N12000-1170V08
12.10	117.00	178.00	14.00	D773-12100-1170V08	D773N12100-1170V08
12.20	118.00	178.00	14.00	D773-12200-1180V08	D773N12200-1180V08
12.30	119.00	178.00	14.00	D773-12300-1190V08	D773N12300-1190V08
12.40	120.00	178.00	14.00	D773-12400-1200V08	D773N12400-1200V08
12.50	121.00	178.00	14.00	D773-12500-1210V08	D773N12500-1210V08
12.60	122.00	178.00	14.00	D773-12600-1220V08	D773N12600-1220V08
12.70	123.00	178.00	14.00	D773-12700-1230V08	D773N12700-1230V08
12.80	125.00	178.00	14.00	D773-12800-1250V08	D773N12800-1250V08
12.90	126.00	178.00	14.00	D773-12900-1260V08	D773N12900-1260V08
13.00	127.00	178.00	14.00	D773-13000-1270V08	D773N13000-1270V08
13.10	127.00	178.00	14.00	D773-13100-1270V08	D773N13100-1270V08
13.20	128.00	178.00	14.00	D773-13200-1280V08	D773N13200-1280V08
13.30	129.00	178.00	14.00	D773-13300-1290V08	D773N13300-1290V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D773

8XD with coolant hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
13.40	130.00	178.00	14.00	D773-13400-1300V08	D773N13400-1300V08
13.50	131.00	178.00	14.00	D773-13500-1310V08	D773N13500-1310V08
13.60	132.00	178.00	14.00	D773-13600-1320V08	D773N13600-1320V08
13.70	133.00	178.00	14.00	D773-13700-1330V08	D773N13700-1330V08
13.80	134.00	178.00	14.00	D773-13800-1340V08	D773N13800-1340V08
13.90	135.00	178.00	14.00	D773-13900-1350V08	D773N13900-1350V08
14.00	136.00	178.00	14.00	D773-14000-1360V08	D773N14000-1360V08
14.50	141.00	190.00	16.00	D773-14500-1410V08	D773N14500-1410V08
14.80	144.00	190.00	16.00	D773-14800-1440V08	D773N14800-1440V08
15.00	146.00	190.00	16.00	D773-15000-1460V08	D773N15000-1460V08
15.50	150.00	190.00	16.00	D773-15500-1500V08	D773N15500-1500V08
15.80	153.00	190.00	16.00	D773-15800-1530V08	D773N15800-1530V08
16.00	155.00	190.00	16.00	D773-16000-1550V08	D773N16000-1550V08
16.50	152.00	190.00	18.00	D773-16500-1520V08	D773N16500-1520V08
16.80	154.00	190.00	18.00	D773-16800-1540V08	D773N16800-1540V08
17.00	156.00	200.00	18.00	D773-17000-1560V08	D773N17000-1560V08
17.50	161.00	200.00	18.00	D773-17500-1610V08	D773N17500-1610V08
17.80	163.00	200.00	18.00	D773-17800-1630V08	D773N17800-1630V08
18.00	165.00	210.00	18.00	D773-18000-1650V08	D773N18000-1650V08
18.50	170.00	210.00	20.00	D773-18500-1700V08	D773N18500-1700V08
18.80	172.00	210.00	20.00	D773-18800-1720V08	D773N18800-1720V08
19.00	174.00	220.00	20.00	D773-19000-1740V08	D773N19000-1740V08
19.50	179.00	220.00	20.00	D773-19500-1790V08	D773N19500-1790V08
19.80	181.00	225.00	20.00	D773-19800-1810V08	D773N19800-1810V08
20.00	183.00	225.00	20.00	D773-20000-1830V08	D773N20000-1830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

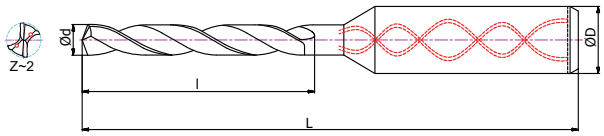
Material Recommendation: ● Highly Recommended ◐ Recommended

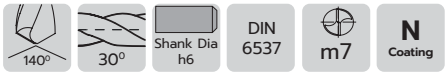
2 Flute Solid Carbide Universal Drill

D775

12xD with Coolant Hole

- Advantages: non step drilling upto 12 times of drilling diameter
- Special design, good chip removal. Good surface finish with drilling
- Application material: Alloy steel, Carbon steel, Copper, Aluminium, cast iron
- Requires good quality lubrication





Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
1.10	15.00	55.00	3.00	D775-01100-0150V08	D775N01100-0150V08
1.20	16.00	55.00	3.00	D775-01200-0160V08	D775N01200-0160V08
1.30	18.00	55.00	3.00	D775-01300-0180V08	D775N01300-0180V08
1.40	19.00	55.00	3.00	D775-01400-0190V08	D775N01400-0190V08
1.50	20.00	55.00	3.00	D775-01500-0200V08	D775N01500-0200V08
1.60	22.00	63.00	3.00	D775-01600-0220V08	D775N01600-0220V08
1.70	23.00	63.00	3.00	D775-01700-0230V08	D775N01700-0230V08
1.80	24.00	63.00	3.00	D775-01800-0240V08	D775N01800-0240V08
1.90	26.00	63.00	3.00	D775-01900-0260V08	D775N01900-0260V08
2.00	27.00	74.00	4.00	D775-02000-0270V08	D775N02000-0270V08
2.10	28.00	74.00	4.00	D775-02100-0280V08	D775N02100-0280V08
2.20	30.00	74.00	4.00	D775-02200-0300V08	D775N02200-0300V08
2.30	31.00	74.00	4.00	D775-02300-0310V08	D775N02300-0310V08
2.40	32.00	74.00	4.00	D775-02400-0320V08	D775N02400-0320V08
2.50	34.00	74.00	4.00	D775-02500-0340V08	D775N02500-0340V08
2.60	35.00	81.00	4.00	D775-02600-0350V08	D775N02600-0350V08
2.70	36.00	81.00	4.00	D775-02700-0360V08	D775N02700-0360V08
2.80	38.00	81.00	4.00	D775-02800-0380V08	D775N02800-0380V08
2.90	39.00	81.00	4.00	D775-02900-0390V08	D775N02900-0390V08
3.00	41.00	90.00	6.00	D775-03000-0410V08	D775N03000-0410V08
3.10	44.00	90.00	6.00	D775-03100-0440V08	D775N03100-0440V08
3.20	45.00	90.00	6.00	D775-03200-0450V08	D775N03200-0450V08
3.30	47.00	90.00	6.00	D775-03300-0470V08	D775N03300-0470V08
3.40	48.00	90.00	6.00	D775-03400-0480V08	D775N03400-0480V08
3.50	49.00	102.00	6.00	D775-03500-0490V08	D775N03500-0490V08
3.60	51.00	102.00	6.00	D775-03600-0510V08	D775N03600-0510V08
3.70	52.00	102.00	6.00	D775-03700-0520V08	D775N03700-0520V08
3.80	53.00	102.00	6.00	D775-03800-0530V08	D775N03800-0530V08
3.90	55.00	102.00	6.00	D775-03900-0550V08	D775N03900-0550V08
4.00	56.00	102.00	6.00	D775-04000-0560V08	D775N04000-0560V08
4.10	57.00	116.00	6.00	D775-04100-0570V08	D775N04100-0570V08
4.20	59.00	116.00	6.00	D775-04200-0590V08	D775N04200-0590V08
4.30	60.00	116.00	6.00	D775-04300-0600V08	D775N04300-0600V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D775

12xD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
4.40	61.00	116.00	6.00	D775-04400-0610V08	D775N04400-0610V08
4.50	63.00	116.00	6.00	D775-04500-0630V08	D775N04500-0630V08
4.60	64.00	116.00	6.00	D775-04600-0640V08	D775N04600-0640V08
4.70	65.00	116.00	6.00	D775-04700-0650V08	D775N04700-0650V08
4.80	67.00	116.00	6.00	D775-04800-0670V08	D775N04800-0670V08
4.90	68.00	116.00	6.00	D775-04900-0680V08	D775N04900-0680V08
5.00	70.00	116.00	6.00	D775-05000-0700V08	D775N05000-0700V08
5.10	71.00	116.00	6.00	D775-05100-0710V08	D775N05100-0710V08
5.20	72.00	116.00	6.00	D775-05200-0720V08	D775N05200-0720V08
5.30	74.00	116.00	6.00	D775-05300-0740V08	D775N05300-0740V08
5.40	75.00	116.00	6.00	D775-05400-0750V08	D775N05400-0750V08
5.50	76.00	116.00	6.00	D775-05500-0760V08	D775N05500-0760V08
5.60	78.00	116.00	6.00	D775-05600-0780V08	D775N05600-0780V08
5.70	79.00	116.00	6.00	D775-05700-0790V08	D775N05700-0790V08
5.80	80.00	116.00	6.00	D775-05800-0800V08	D775N05800-0800V08
5.90	82.00	116.00	6.00	D775-05900-0820V08	D775N05900-0820V08
6.00	83.00	116.00	6.00	D775-06000-0830V08	D775N06000-0830V08
6.10	84.00	160.00	8.00	D775-06100-0840V08	D775N06100-0840V08
6.20	86.00	160.00	8.00	D775-06200-0860V08	D775N06200-0860V08
6.30	87.00	160.00	8.00	D775-06300-0870V08	D775N06300-0870V08
6.40	88.00	160.00	8.00	D775-06400-0880V08	D775N06400-0880V08
6.50	90.00	160.00	8.00	D775-06500-0900V08	D775N06500-0900V08
6.60	91.00	160.00	8.00	D775-06600-0910V08	D775N06600-0910V08
6.70	92.00	160.00	8.00	D775-06700-0920V08	D775N06700-0920V08
6.80	94.00	160.00	8.00	D775-06800-0940V08	D775N06800-0940V08
6.90	95.00	160.00	8.00	D775-06900-0950V08	D775N06900-0950V08
7.00	97.00	160.00	8.00	D775-07000-0970V08	D775N07000-0970V08
7.10	98.00	160.00	8.00	D775-07100-0980V08	D775N07100-0980V08
7.20	99.00	160.00	8.00	D775-07200-0990V08	D775N07200-0990V08
7.30	101.00	160.00	8.00	D775-07300-1010V08	D775N07300-1010V08
7.40	102.00	160.00	8.00	D775-07400-1020V08	D775N07400-1020V08
7.50	103.00	160.00	8.00	D775-07500-1030V08	D775N07500-1030V08
7.60	105.00	160.00	8.00	D775-07600-1050V08	D775N07600-1050V08
7.70	106.00	160.00	8.00	D775-07700-1060V08	D775N07700-1060V08
7.80	107.00	160.00	8.00	D775-07800-1070V08	D775N07800-1070V08
7.90	109.00	160.00	8.00	D775-07900-1090V08	D775N07900-1090V08
8.00	110.00	160.00	8.00	D775-08000-1100V08	D775N08000-1100V08
8.10	112.00	162.00	10.00	D775-08100-1120V08	D775N08100-1120V08
8.20	113.00	162.00	10.00	D775-08200-1130V08	D775N08200-1130V08
8.30	115.00	162.00	10.00	D775-08300-1150V08	D775N08300-1150V08
8.40	116.00	162.00	10.00	D775-08400-1160V08	D775N08400-1160V08
8.50	117.00	162.00	10.00	D775-08500-1170V08	D775N08500-1170V08
8.60	119.00	162.00	10.00	D775-08600-1190V08	D775N08600-1190V08
8.70	120.00	162.00	10.00	D775-08700-1200V08	D775N08700-1200V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D775

12xD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
8.80	121.00	162.00	10.00	D775-08800-1210V08	D775N08800-1210V08
8.90	123.00	162.00	10.00	D775-08900-1230V08	D775N08900-1230V08
9.00	124.00	162.00	10.00	D775-09000-1240V08	D775N09000-1240V08
9.10	125.00	162.00	10.00	D775-09100-1250V08	D775N09100-1250V08
9.20	127.00	162.00	10.00	D775-09200-1270V08	D775N09200-1270V08
9.30	128.00	162.00	10.00	D775-09300-1280V08	D775N09300-1280V08
9.40	129.00	162.00	10.00	D775-09400-1290V08	D775N09400-1290V08
9.50	131.00	162.00	10.00	D775-09500-1310V08	D775N09500-1310V08
9.60	132.00	162.00	10.00	D775-09600-1320V08	D775N09600-1320V08
9.70	133.00	162.00	10.00	D775-09700-1330V08	D775N09700-1330V08
9.80	135.00	162.00	10.00	D775-09800-1350V08	D775N09800-1350V08
9.90	136.00	162.00	10.00	D775-09900-1360V08	D775N09900-1360V08
10.00	138.00	180.00	10.00	D775-10000-1380V08	D775N10000-1380V08
10.10	139.00	180.00	12.00	D775-10100-1390V08	D775N10100-1390V08
10.20	140.00	180.00	12.00	D775-10200-1400V08	D775N10200-1400V08
10.30	142.00	180.00	12.00	D775-10300-1420V08	D775N10300-1420V08
10.40	143.00	185.00	12.00	D775-10400-1430V08	D775N10400-1430V08
10.50	144.00	185.00	12.00	D775-10500-1440V08	D775N10500-1440V08
10.60	146.00	185.00	12.00	D775-10600-1460V08	D775N10600-1460V08
10.70	147.00	190.00	12.00	D775-10700-1470V08	D775N10700-1470V08
10.80	148.00	190.00	12.00	D775-10800-1480V08	D775N10800-1480V08
10.90	150.00	190.00	12.00	D775-10900-1500V08	D775N10900-1500V08
11.00	151.00	190.00	12.00	D775-11000-1510V08	D775N11000-1510V08
11.10	152.00	200.00	12.00	D775-11100-1520V08	D775N11100-1520V08
11.20	154.00	200.00	12.00	D775-11200-1540V08	D775N11200-1540V08
11.30	155.00	200.00	12.00	D775-11300-1550V08	D775N11300-1550V08
11.40	156.00	200.00	12.00	D775-11400-1560V08	D775N11400-1560V08
11.50	158.00	200.00	12.00	D775-11500-1580V08	D775N11500-1580V08
11.60	159.00	200.00	12.00	D775-11600-1590V08	D775N11600-1590V08
11.70	160.00	200.00	12.00	D775-11700-1600V08	D775N11700-1600V08
11.80	162.00	210.00	12.00	D775-11800-1620V08	D775N11800-1620V08
11.90	163.00	210.00	12.00	D775-11900-1630V08	D775N11900-1630V08
12.00	165.00	210.00	12.00	D775-12000-1650V08	D775N12000-1650V08
12.10	166.00	210.00	14.00	D775-12100-1660V08	D775N12100-1660V08
12.20	167.00	210.00	14.00	D775-12200-1670V08	D775N12200-1670V08
12.30	169.00	210.00	14.00	D775-12300-1690V08	D775N12300-1690V08
12.40	170.00	210.00	14.00	D775-12400-1700V08	D775N12400-1700V08
12.50	171.00	220.00	14.00	D775-12500-1710V08	D775N12500-1710V08
12.60	173.00	220.00	14.00	D775-12600-1730V08	D775N12600-1730V08
12.70	174.00	220.00	14.00	D775-12700-1740V08	D775N12700-1740V08
12.80	176.00	220.00	14.00	D775-12800-1760V08	D775N12800-1760V08
12.90	177.00	220.00	14.00	D775-12900-1770V08	D775N12900-1770V08
13.00	179.00	220.00	14.00	D775-13000-1790V08	D775N13000-1790V08
13.10	180.00	220.00	14.00	D775-13100-1800V08	D775N13100-1800V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Solid Carbide Universal Drill

D775

12xD with Coolant Hole

DESCRIPTION				PART NUMBER	
Diameter Ød m7	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	N- Coating
13.20	181.00	220.00	14.00	D775-13200-1810V08	D775N13200-1810V08
13.30	183.00	230.00	14.00	D775-13300-1830V08	D775N13300-1830V08
13.40	184.00	230.00	14.00	D775-13400-1840V08	D775N13400-1840V08
13.50	185.00	230.00	14.00	D775-13500-1850V08	D775N13500-1850V08
13.60	187.00	230.00	14.00	D775-13600-1870V08	D775N13600-1870V08
13.70	188.00	230.00	14.00	D775-13700-1880V08	D775N13700-1880V08
13.80	189.00	230.00	14.00	D775-13800-1890V08	D775N13800-1890V08
13.90	191.00	230.00	14.00	D775-13900-1910V08	D775N13900-1910V08
14.00	192.00	240.00	14.00	D775-14000-1920V08	D775N14000-1920V08
14.50	199.00	240.00	16.00	D775-14500-1990V08	D775N14500-1990V08
14.80	203.00	240.00	16.00	D775-14800-2030V08	D775N14800-2030V08
15.00	206.00	250.00	16.00	D775-15000-2060V08	D775N15000-2060V08
15.50	212.00	250.00	16.00	D775-15500-2120V08	D775N15500-2120V08
15.80	216.00	260.00	16.00	D775-15800-2160V08	D775N15800-2160V08
16.00	219.00	260.00	16.00	D775-16000-2190V08	D775N16000-2190V08
16.50	218.00	260.00	18.00	D775-16500-2180V08	D775N16500-2180V08
16.80	221.00	260.00	18.00	D775-16800-2210V08	D775N16800-2210V08
17.00	224.00	270.00	18.00	D775-17000-2240V08	D775N17000-2240V08
17.50	231.00	270.00	18.00	D775-17500-2310V08	D775N17500-2310V08
17.80	234.00	280.00	18.00	D775-17800-2340V08	D775N17800-2340V08
18.00	237.00	280.00	18.00	D775-18000-2370V08	D775N18000-2370V08
18.50	244.00	290.00	20.00	D775-18500-2440V08	D775N18500-2440V08
18.80	247.00	290.00	20.00	D775-18800-2470V08	D775N18800-2470V08
19.00	250.00	300.00	20.00	D775-19000-2500V08	D775N19000-2500V08
19.50	257.00	300.00	20.00	D775-19500-2570V08	D775N19500-2570V08
19.80	260.00	310.00	20.00	D775-19800-2600V08	D775N19800-2600V08
20.00	263.00	310.00	20.00	D775-20000-2630V08	D775N20000-2630V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	◐					◐	◐		◐		◐	◐	◐		
N- Coating	●	●			◐	●			●		●	●	●		

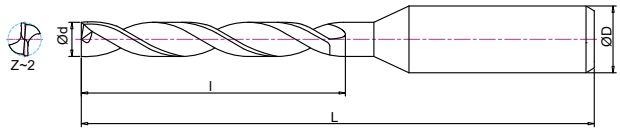
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Flat Bottom Drill

D440

3XD without Coolant Hole

- For drilling on different angular surfaces, 180 degree point angle enables to drill on flat surface, curved and inclined surfaces, Better solution for thin plate drilling,
- High strength cutting edge improves the tool life



DESCRIPTION					
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	S- Coating (35~45 Hrc)	N- Coating (Below 35 Hrc)
1.00	5.00	45.00	4.00	D440S01000-0050V08	D440N01000-0050V08
1.10	5.00	45.00	4.00	D440S01100-0050V08	D440N01100-0050V08
1.20	5.00	45.00	4.00	D440S01200-0050V08	D440N01200-0050V08
1.30	6.00	45.00	4.00	D440S01300-0060V08	D440N01300-0060V08
1.40	6.00	45.00	4.00	D440S01400-0060V08	D440N01400-0060V08
1.50	7.00	50.00	4.00	D440S01500-0070V08	D440N01500-0070V08
1.60	7.00	50.00	4.00	D440S01600-0070V08	D440N01600-0070V08
1.70	8.00	50.00	4.00	D440S01700-0080V08	D440N01700-0080V08
1.80	8.00	50.00	4.00	D440S01800-0080V08	D440N01800-0080V08
1.90	9.00	50.00	4.00	D440S01900-0090V08	D440N01900-0090V08
2.00	9.00	50.00	4.00	D440S02000-0090V08	D440N02000-0090V08
2.10	9.00	50.00	4.00	D440S02100-0090V08	D440N02100-0090V08
2.20	10.00	55.00	4.00	D440S02200-0100V08	D440N02200-0100V08
2.30	10.00	55.00	4.00	D440S02300-0100V08	D440N02300-0100V08
2.40	11.00	55.00	4.00	D440S02400-0110V08	D440N02400-0110V08
2.50	11.00	55.00	4.00	D440S02500-0110V08	D440N02500-0110V08
2.60	12.00	55.00	4.00	D440S02600-0120V08	D440N02600-0120V08
2.70	12.00	55.00	4.00	D440S02700-0120V08	D440N02700-0120V08
2.80	13.00	55.00	4.00	D440S02800-0130V08	D440N02800-0130V08
2.90	13.00	55.00	4.00	D440S02900-0130V08	D440N02900-0130V08
3.00	14.00	63.00	6.00	D440S03000-0140V08	D440N03000-0140V08
3.10	16.00	63.00	6.00	D440S03100-0160V08	D440N03100-0160V08
3.20	16.00	63.00	6.00	D440S03200-0160V08	D440N03200-0160V08
3.30	17.00	63.00	6.00	D440S03300-0170V08	D440N03300-0170V08
3.40	17.00	63.00	6.00	D440S03400-0170V08	D440N03400-0170V08
3.50	18.00	63.00	6.00	D440S03500-0180V08	D440N03500-0180V08
3.60	18.00	63.00	6.00	D440S03600-0180V08	D440N03600-0180V08
3.70	19.00	63.00	6.00	D440S03700-0190V08	D440N03700-0190V08
3.80	19.00	63.00	6.00	D440S03800-0190V08	D440N03800-0190V08
3.90	20.00	63.00	6.00	D440S03900-0200V08	D440N03900-0200V08
4.00	20.00	63.00	6.00	D440S04000-0200V08	D440N04000-0200V08
4.10	20.00	63.00	6.00	D440S04100-0200V08	D440N04100-0200V08
4.20	21.00	70.00	6.00	D440S04200-0210V08	D440N04200-0210V08
4.30	21.00	70.00	6.00	D440S04300-0210V08	D440N04300-0210V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	◐	◐			●	◐								●	●
N- Coating	●	●				●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Flat Bottom Drill

D440

3XD without Coolant Hole

DESCRIPTION					
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	S- Coating (35~45 Hrc)	N- Coating (Below 35 Hrc)
4.40	22.00	70.00	6.00	D440S04400-0220V08	D440N04400-0220V08
4.50	22.00	70.00	6.00	D440S04500-0220V08	D440N04500-0220V08
4.60	23.00	70.00	6.00	D440S04600-0230V08	D440N04600-0230V08
4.70	23.00	70.00	6.00	D440S04700-0230V08	D440N04700-0230V08
4.80	24.00	70.00	6.00	D440S04800-0240V08	D440N04800-0240V08
4.90	24.00	70.00	6.00	D440S04900-0240V08	D440N04900-0240V08
5.00	25.00	70.00	6.00	D440S05000-0250V08	D440N05000-0250V08
5.10	25.00	70.00	6.00	D440S05100-0250V08	D440N05100-0250V08
5.20	25.00	70.00	6.00	D440S05200-0250V08	D440N05200-0250V08
5.30	26.00	70.00	6.00	D440S05300-0260V08	D440N05300-0260V08
5.40	26.00	70.00	6.00	D440S05400-0260V08	D440N05400-0260V08
5.50	27.00	70.00	6.00	D440S05500-0270V08	D440N05500-0270V08
5.60	27.00	70.00	6.00	D440S05600-0270V08	D440N05600-0270V08
5.70	28.00	70.00	6.00	D440S05700-0280V08	D440N05700-0280V08
5.80	28.00	70.00	6.00	D440S05800-0280V08	D440N05800-0280V08
5.90	29.00	70.00	6.00	D440S05900-0290V08	D440N05900-0290V08
6.00	29.00	70.00	6.00	D440S06000-0290V08	D440N06000-0290V08
6.10	29.00	79.00	8.00	D440S06100-0290V08	D440N06100-0290V08
6.20	30.00	79.00	8.00	D440S06200-0300V08	D440N06200-0300V08
6.30	30.00	79.00	8.00	D440S06300-0300V08	D440N06300-0300V08
6.40	31.00	79.00	8.00	D440S06400-0310V08	D440N06400-0310V08
6.50	31.00	79.00	8.00	D440S06500-0310V08	D440N06500-0310V08
6.60	32.00	79.00	8.00	D440S06600-0320V08	D440N06600-0320V08
6.70	32.00	79.00	8.00	D440S06700-0320V08	D440N06700-0320V08
6.80	33.00	79.00	8.00	D440S06800-0330V08	D440N06800-0330V08
6.90	33.00	79.00	8.00	D440S06900-0330V08	D440N06900-0330V08
7.00	34.00	79.00	8.00	D440S07000-0340V08	D440N07000-0340V08
7.10	34.00	79.00	8.00	D440S07100-0340V08	D440N07100-0340V08
7.20	34.00	79.00	8.00	D440S07200-0340V08	D440N07200-0340V08
7.30	35.00	79.00	8.00	D440S07300-0350V08	D440N07300-0350V08
7.40	35.00	79.00	8.00	D440S07400-0350V08	D440N07400-0350V08
7.50	36.00	79.00	8.00	D440S07500-0360V08	D440N07500-0360V08
7.60	36.00	79.00	8.00	D440S07600-0360V08	D440N07600-0360V08
7.70	37.00	79.00	8.00	D440S07700-0370V08	D440N07700-0370V08
7.80	37.00	79.00	8.00	D440S07800-0370V08	D440N07800-0370V08
7.90	38.00	79.00	8.00	D440S07900-0380V08	D440N07900-0380V08
8.00	38.00	79.00	8.00	D440S08000-0380V08	D440N08000-0380V08
8.10	39.00	89.00	10.00	D440S08100-0390V08	D440N08100-0390V08
8.20	39.00	89.00	10.00	D440S08200-0390V08	D440N08200-0390V08
8.30	40.00	89.00	10.00	D440S08300-0400V08	D440N08300-0400V08
8.40	40.00	89.00	10.00	D440S08400-0400V08	D440N08400-0400V08
8.50	41.00	89.00	10.00	D440S08500-0410V08	D440N08500-0410V08
8.60	41.00	89.00	10.00	D440S08600-0410V08	D440N08600-0410V08
8.70	42.00	89.00	10.00	D440S08700-0420V08	D440N08700-0420V08
8.80	42.00	89.00	10.00	D440S08800-0420V08	D440N08800-0420V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	◐	◐			●	◐								●	●
N- Coating	●	●				●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Flat Bottom Drill

D440

3XD without Coolant Hole

DESCRIPTION					
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	S- Coating (35~45 Hrc)	N- Coating (Below 35 Hrc)
8.90	43.00	89.00	10.00	D440S08900-0430V08	D440N08900-0430V08
9.00	43.00	89.00	10.00	D440S09000-0430V08	D440N09000-0430V08
9.10	43.00	89.00	10.00	D440S09100-0430V08	D440N09100-0430V08
9.20	44.00	89.00	10.00	D440S09200-0440V08	D440N09200-0440V08
9.30	44.00	89.00	10.00	D440S09300-0440V08	D440N09300-0440V08
9.40	45.00	89.00	10.00	D440S09400-0450V08	D440N09400-0450V08
9.50	45.00	89.00	10.00	D440S09500-0450V08	D440N09500-0450V08
9.60	46.00	89.00	10.00	D440S09600-0460V08	D440N09600-0460V08
9.70	46.00	89.00	10.00	D440S09700-0460V08	D440N09700-0460V08
9.80	47.00	89.00	10.00	D440S09800-0470V08	D440N09800-0470V08
9.90	47.00	89.00	10.00	D440S09900-0470V08	D440N09900-0470V08
10.00	48.00	89.00	10.00	D440S10000-0480V08	D440N10000-0480V08
10.10	48.00	102.00	12.00	D440S10100-0480V08	D440N10100-0480V08
10.20	48.00	102.00	12.00	D440S10200-0480V08	D440N10200-0480V08
10.30	49.00	102.00	12.00	D440S10300-0490V08	D440N10300-0490V08
10.40	49.00	102.00	12.00	D440S10400-0490V08	D440N10400-0490V08
10.50	50.00	102.00	12.00	D440S10500-0500V08	D440N10500-0500V08
10.60	50.00	102.00	12.00	D440S10600-0500V08	D440N10600-0500V08
10.70	51.00	102.00	12.00	D440S10700-0510V08	D440N10700-0510V08
10.80	51.00	102.00	12.00	D440S10800-0510V08	D440N10800-0510V08
10.90	52.00	102.00	12.00	D440S10900-0520V08	D440N10900-0520V08
11.00	52.00	102.00	12.00	D440S11000-0520V08	D440N11000-0520V08
11.10	52.00	102.00	12.00	D440S11100-0520V08	D440N11100-0520V08
11.20	53.00	102.00	12.00	D440S11200-0530V08	D440N11200-0530V08
11.30	53.00	102.00	12.00	D440S11300-0530V08	D440N11300-0530V08
11.40	54.00	102.00	12.00	D440S11400-0540V08	D440N11400-0540V08
11.50	54.00	102.00	12.00	D440S11500-0540V08	D440N11500-0540V08
11.60	55.00	102.00	12.00	D440S11600-0550V08	D440N11600-0550V08
11.70	55.00	102.00	12.00	D440S11700-0550V08	D440N11700-0550V08
11.80	56.00	102.00	12.00	D440S11800-0560V08	D440N11800-0560V08
11.90	56.00	102.00	12.00	D440S11900-0560V08	D440N11900-0560V08
12.00	57.00	102.00	12.00	D440S12000-0570V08	D440N12000-0570V08
12.10	57.00	107.00	14.00	D440S12100-0570V08	D440N12100-0570V08
12.20	57.00	107.00	14.00	D440S12200-0570V08	D440N12200-0570V08
12.30	58.00	107.00	14.00	D440S12300-0580V08	D440N12300-0580V08
12.40	58.00	107.00	14.00	D440S12400-0580V08	D440N12400-0580V08
12.50	59.00	107.00	14.00	D440S12500-0590V08	D440N12500-0590V08
12.60	59.00	107.00	14.00	D440S12600-0590V08	D440N12600-0590V08
12.70	60.00	107.00	14.00	D440S12700-0600V08	D440N12700-0600V08
12.80	61.00	107.00	14.00	D440S12800-0610V08	D440N12800-0610V08
12.90	61.00	107.00	14.00	D440S12900-0610V08	D440N12900-0610V08
13.00	62.00	107.00	14.00	D440S13000-0620V08	D440N13000-0620V08
13.10	62.00	107.00	14.00	D440S13100-0620V08	D440N13100-0620V08
13.20	62.00	107.00	14.00	D440S13200-0620V08	D440N13200-0620V08
13.30	63.00	107.00	14.00	D440S13300-0630V08	D440N13300-0630V08

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	◐	◐			●	◐								●	●
N- Coating	●	●				●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

2 Flute Flat Bottom Drill

D440

3XD without Coolant Hole

DESCRIPTION					
Tool size Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	S- Coating (35~45 Hrc)	N- Coating (Below 35 Hrc)
13.40	63.00	107.00	14.00	D440S13400-0630V08	D440N13400-0630V08
13.50	64.00	107.00	14.00	D440S13500-0640V08	D440N13500-0640V08
13.60	64.00	107.00	14.00	D440S13600-0640V08	D440N13600-0640V08
13.70	65.00	107.00	14.00	D440S13700-0650V08	D440N13700-0650V08
13.80	65.00	107.00	14.00	D440S13800-0650V08	D440N13800-0650V08
13.90	66.00	107.00	14.00	D440S13900-0660V08	D440N13900-0660V08
14.00	66.00	107.00	14.00	D440S14000-0660V08	D440N14000-0660V08
14.50	68.00	115.00	16.00	D440S14500-0680V08	D440N14500-0680V08
14.80	70.00	115.00	16.00	D440S14800-0700V08	D440N14800-0700V08
15.00	71.00	115.00	16.00	D440S15000-0710V08	D440N15000-0710V08
15.50	73.00	115.00	16.00	D440S15500-0730V08	D440N15500-0730V08
15.80	74.00	115.00	16.00	D440S15800-0740V08	D440N15800-0740V08
16.00	75.00	115.00	16.00	D440S16000-0750V08	D440N16000-0750V08
16.50	69.00	123.00	18.00	D440S16500-0690V08	D440N16500-0690V08
16.80	70.00	123.00	18.00	D440S16800-0700V08	D440N16800-0700V08
17.00	71.00	123.00	18.00	D440S17000-0710V08	D440N17000-0710V08
17.50	73.00	123.00	18.00	D440S17500-0730V08	D440N17500-0730V08
17.80	74.00	123.00	18.00	D440S17800-0740V08	D440N17800-0740V08
18.00	75.00	123.00	18.00	D440S18000-0750V08	D440N18000-0750V08
18.50	77.00	131.00	20.00	D440S18500-0770V08	D440N18500-0770V08
18.80	78.00	131.00	20.00	D440S18800-0780V08	D440N18800-0780V08
19.00	79.00	131.00	20.00	D440S19000-0790V08	D440N19000-0790V08
19.50	81.00	131.00	20.00	D440S19500-0810V08	D440N19500-0810V08
19.80	82.00	131.00	20.00	D440S19800-0820V08	D440N19800-0820V08
20.00	83.00	131.00	20.00	D440S20000-0830V08	D440N20000-0830V08

DRILL Ø	TOLERANCE m7 (mm)
< Ø3.0	+0.002/+0.012
< Ø3.1 - Ø6.0	+0.004/+0.016
< Ø6.1 - Ø10.0	+0.006/+0.021
< Ø10.1 - Ø16	+0.007/+0.025
< Ø16.1 - Ø20	+0.009/+0.030

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
S- Coating	◐	◐			●	◐								●	●
N- Coating	●	●				●								◐	◐

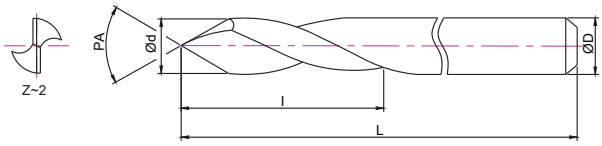
Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

NC Spotting Drill 60°

D600

- For more precise centring work on NC/CNC machines
- Application material: Carbon steel, Alloy steel, Stainless steel, Cast Iron, Aluminium, copper



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (40-55 Hrc)	A- Coating (30-40 Hrc)
0.50	1.50	38.00	3.00	D600L00500-0015V08	D600A00500-0015V08
1.00	3.00	38.00	3.00	D600L01000-0030V08	D600A01000-0030V08
2.00	5.00	38.00	3.00	D600L02000-0050V08	D600A02000-0050V08
2.50	5.00	38.00	3.00	D600L02500-0050V08	D600A02500-0050V08
3.00	6.00	38.00	3.00	D600L03000-0060V08	D600A03000-0060V08
4.00	8.00	50.00	4.00	D600L04000-0080V08	D600A04000-0080V08
5.00	12.00	50.00	5.00	D600L05000-0120V08	D600A05000-0120V08
6.00	16.00	50.00	6.00	D600L06000-0160V08	D600A06000-0160V08
8.00	20.00	64.00	8.00	D600L08000-0200V08	D600A08000-0200V08
10.00	25.00	75.00	10.00	D600L10000-0250V08	D600A10000-0250V08
12.00	28.00	75.00	12.00	D600L12000-0280V08	D600A12000-0280V08
14.00	28.00	75.00	14.00	D600L14000-0280V08	D600A14000-0280V08
16.00	30.00	75.00	16.00	D600L16000-0300V08	D600A16000-0300V08

DRILL Ø	TOLERANCE (mm)
0.5 - 2.5	= ± 0.003
3.0 - 16.0	= ± 0.005

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
A- Coating	●	●				●	◐		◐		◐	◐	◐		
L- Coating	◐	◐	●		●									●	●

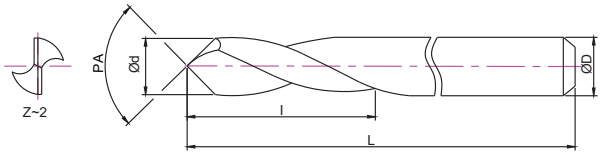
Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

NC Spotting Drill 90°

D630

- For more precise centring work on NC/CNC machines
- Application material: Carbon steel, Alloy steel, Stainless steel, Cast Iron, Aluminium, copper



Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L- Coating (40-55 Hrc)	A- Coating (30-40 Hrc)
1.50	4.00	38.00	3.00	D630L01500-0040V08	D630A01500-0040V08
2.00	5.00	38.00	3.00	D630L02000-0050V08	D630A02000-0050V08
3.00	6.00	38.00	3.00	D630L03000-0060V08	D630A03000-0060V08
4.00	8.00	50.00	4.00	D630L04000-0080V08	D630A04000-0080V08
5.00	12.00	50.00	5.00	D630L05000-0120V08	D630A05000-0120V08
6.00	16.00	50.00	6.00	D630L06000-0160V08	D630A06000-0160V08
8.00	20.00	64.00	8.00	D630L08000-0200V08	D630A08000-0200V08
8.00	20.00	100.00	8.00	D630L08000-0200VA8	D630A08000-0200VA8
10.00	25.00	75.00	10.00	D630L10000-0250V08	D630A10000-0250V08
12.00	28.00	75.00	12.00	D630L12000-0280V08	D630A12000-0280V08
16.00	30.00	75.00	16.00	D630L16000-0300V08	D630A16000-0300V08

DRILL Ø	TOLERANCE (mm)
1.5 - 2.0	= ± 0.003
3.0 - 16.0	= ± 0.005

Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
A- Coating	●	●				●	◐		◐		◐	◐	◐		
L- Coating	◐	◐	●		●									●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

Note : Custom solutions for hardened steel (≤68 HRC) available upon request.

Cutting parameter recommendations

D260 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	16250	0.05	14800	0.05	12300	0.05	17300	0.05	6000	0.03	20000	0.08
2	11250	0.07	10800	0.07	8000	0.07	17300	0.07	5800	0.03	19000	0.09
3	9200	0.16	8800	0.16	6370	0.04	17000	0.16	5300	0.03	18500	0.1
4	7900	0.17	7600	0.17	4800	0.05	13000	0.17	4000	0.04	13900	0.15
5	7006	0.18	6820	0.18	4400	0.05	10000	0.18	3200	0.05	11000	0.18
6	6370	0.2	6200	0.2	3700	0.06	8500	0.2	2650	0.06	9300	0.25
7	5450	0.22	5200	0.22	2800	0.08	7300	0.22	2650	0.06	9300	0.25
8	5175	0.24	5100	0.24	2200	0.1	6400	0.24	2000	0.07	7000	0.3
9	4800	0.27	4600	0.27	2200	0.1	5700	0.27	1600	0.08	6500	0.3
10	4200	0.3	4000	0.3	1900	0.12	5100	0.3	1600	0.08	5600	0.35
12	3600	0.33	3200	0.33	1600	0.15	4250	0.33	1300	0.1	4600	0.4
14	3100	0.36	3050	0.36	1400	0.2	3650	0.36	1100	0.12	4000	0.5
16	3000	0.39	2700	0.39	1250	0.22	3200	0.39	1000	0.14	3500	0.6
18	2650	0.42	2400	0.42	1120	0.24	2850	0.42	900	0.16	3100	0.7
20	2400	0.45	2150	0.45	1120	0.24	2550	0.45	800	0.18	2800	0.8

D270 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	14625	0.05	13320	0.05	11070	0.05	15570	0.05	5520	0.03	16000	0.08
2	10125	0.07	9720	0.07	7200	0.07	15570	0.07	5336	0.03	15200	0.09
3	8280	0.16	7920	0.16	5733	0.04	15300	0.16	4876	0.03	14800	0.1
4	7110	0.17	6840	0.17	4320	0.05	11700	0.17	3680	0.04	11120	0.15
5	6300	0.18	6138	0.18	3960	0.05	9000	0.18	2944	0.05	8800	0.18
6	5733	0.2	5580	0.2	3330	0.06	7650	0.2	2438	0.06	7440	0.25
7	4905	0.22	4680	0.22	2520	0.08	6570	0.22	2438	0.06	7440	0.25
8	4650	0.24	4590	0.24	1980	0.1	5760	0.24	1840	0.07	5600	0.3
9	4320	0.27	4140	0.27	1980	0.1	5130	0.27	1472	0.08	5200	0.3
10	3780	0.3	3600	0.3	1710	0.12	4590	0.3	1472	0.08	5040	0.35
12	3240	0.33	2880	0.33	1440	0.15	3825	0.33	1196	0.1	4140	0.4
14	2790	0.36	2745	0.36	1260	0.2	3285	0.36	1012	0.12	3600	0.5
16	2700	0.39	2430	0.39	1125	0.22	2880	0.39	920	0.14	3150	0.6
18	2385	0.42	2160	0.42	1008	0.24	2565	0.42	828	0.16	2790	0.7
20	2160	0.45	1935	0.45	1008	0.24	2295	0.45	736	0.18	2520	0.8

D960 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	17870	0.05	16280	0.05	13530	0.05	19030	0.05	6600	0.03	22000	0.08
2	12370	0.07	11880	0.07	8800	0.07	19030	0.07	6380	0.03	20900	0.09
3	10120	0.16	9680	0.16	7007	0.04	18700	0.16	5830	0.03	20350	0.1
4	8690	0.17	8360	0.17	5280	0.05	14300	0.17	4400	0.04	15290	0.15
5	7700	0.18	7502	0.18	4840	0.05	11000	0.18	3520	0.05	12100	0.18
6	7007	0.2	6820	0.2	4070	0.06	9350	0.2	2915	0.06	10230	0.25
7	6000	0.22	5720	0.22	3080	0.08	8030	0.22	2915	0.06	10230	0.25
8	5690	0.24	5610	0.24	2420	0.1	7040	0.24	2200	0.07	7700	0.3
9	5280	0.27	5060	0.27	2420	0.1	6270	0.27	1760	0.08	7150	0.3
10	4620	0.3	4400	0.3	2090	0.12	5610	0.3	1760	0.08	6160	0.35
12	3960	0.33	3520	0.33	1760	0.15	4675	0.33	1430	0.1	5060	0.4
14	3410	0.36	3355	0.36	1540	0.2	4015	0.36	1210	0.12	4400	0.5
16	3300	0.39	2970	0.39	1375	0.22	3520	0.39	1100	0.14	3850	0.6
18	2915	0.42	2640	0.42	1232	0.24	3135	0.42	990	0.16	3410	0.7
20	2640	0.45	2365	0.45	1232	0.24	2805	0.45	880	0.18	3080	0.8

Disclaimer: The technical data provided is intended for advisory purposes only. Adjustments may be necessary based on the specific requirements and conditions of each application.

Cutting parameter recommendations

D970 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	16000	0.05	14652	0.05	12177	0.05	17127	0.05	6072	0.03	17600	0.08
2	11100	0.07	10692	0.07	7920	0.07	17025	0.07	5860	0.03	16720	0.09
3	9108	0.16	8712	0.16	6306	0.04	16830	0.16	5360	0.03	16280	0.1
4	7821	0.17	7524	0.17	4752	0.05	12870	0.17	4048	0.04	12232	0.15
5	6930	0.18	6750	0.18	4356	0.05	9900	0.18	3238	0.05	9680	0.18
6	6306	0.2	6138	0.2	3663	0.06	8415	0.2	2682	0.06	8184	0.25
7	5400	0.22	5148	0.22	2772	0.08	7227	0.22	2682	0.06	8184	0.25
8	5115	0.24	5049	0.24	2178	0.1	6336	0.24	2024	0.07	6160	0.3
9	4752	0.27	4554	0.27	2178	0.1	5643	0.27	1620	0.08	5720	0.3
10	4158	0.3	3960	0.3	1881	0.12	5049	0.3	1620	0.08	5544	0.35
12	3564	0.33	3168	0.33	1584	0.15	4207	0.33	1315	0.1	4554	0.4
14	3069	0.36	3015	0.36	1386	0.2	3613	0.36	1215	0.12	3960	0.5
16	2970	0.39	2673	0.39	1237	0.22	3168	0.39	1012	0.14	3465	0.6
18	2620	0.42	2376	0.42	1108	0.24	2821	0.42	910	0.16	3069	0.7
20	2376	0.45	2128	0.45	1108	0.24	2524	0.45	820	0.18	2772	0.8

D980 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	15060	0.05	13720	0.05	11402	0.05	16037	0.05	5685	0.03	16480	0.08
2	10428	0.07	10010	0.07	7416	0.07	16037	0.07	5496	0.03	15656	0.09
3	8528	0.16	8158	0.16	5904	0.04	15759	0.16	5022	0.03	15244	0.1
4	7320	0.17	7045	0.17	4449	0.05	12051	0.17	3790	0.04	11450	0.15
5	6489	0.18	6322	0.18	4078	0.05	9270	0.18	3032	0.05	9064	0.18
6	5904	0.2	5747	0.2	3428	0.06	7879	0.2	2512	0.06	7660	0.25
7	5052	0.22	4820	0.22	2595	0.08	6767	0.22	2512	0.06	7660	0.25
8	4780	0.24	4728	0.24	2040	0.1	5932	0.24	1895	0.07	5768	0.3
9	4448	0.27	4264	0.27	2040	0.1	5284	0.27	1516	0.08	5356	0.3
10	3892	0.3	3708	0.3	1760	0.12	4728	0.3	1516	0.08	5190	0.35
12	3336	0.33	2966	0.33	1482	0.15	3940	0.33	1232	0.1	4264	0.4
14	2874	0.36	2828	0.36	1298	0.2	3380	0.36	1042	0.12	3708	0.5
16	2780	0.39	2502	0.39	1158	0.22	2966	0.39	948	0.14	3244	0.6
18	2456	0.42	2224	0.42	1038	0.24	2642	0.42	852	0.16	2874	0.7
20	2224	0.45	1992	0.45	1038	0.24	2364	0.45	758	0.18	2590	0.8

D750 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	13000	0.05	11840	0.05	9840	0.05	13840	0.05	4800	0.03	16000	0.08
2	9000	0.07	8640	0.07	6400	0.07	13840	0.07	4640	0.03	15200	0.09
3	7360	0.16	7040	0.16	5096	0.04	13600	0.16	4240	0.03	14800	0.1
4	6320	0.17	6080	0.17	3840	0.05	10400	0.17	3200	0.04	11120	0.15
5	5600	0.18	5456	0.18	3520	0.05	8000	0.18	2560	0.05	8800	0.18
6	5096	0.2	4960	0.2	2960	0.06	6800	0.2	2120	0.06	7440	0.25
7	4360	0.22	4160	0.22	2240	0.08	5840	0.22	2120	0.06	7440	0.25
8	4140	0.24	4080	0.24	1760	0.1	5120	0.24	1600	0.07	5600	0.3
9	3840	0.27	3680	0.27	1760	0.1	4560	0.27	1280	0.08	5200	0.3
10	3360	0.3	3200	0.3	1520	0.12	4080	0.3	1280	0.08	4480	0.35
12	2880	0.33	2560	0.33	1280	0.15	3400	0.33	1040	0.1	3680	0.4
14	2480	0.36	2440	0.36	1120	0.2	2920	0.36	880	0.12	3200	0.5
16	2400	0.39	2160	0.39	1000	0.22	2560	0.39	800	0.14	2800	0.6
18	2120	0.42	1920	0.42	896	0.24	2280	0.42	720	0.16	2480	0.7
20	1920	0.45	1720	0.45	896	0.24	2040	0.45	640	0.18	2240	0.8

Disclaimer: The technical data provided is intended for advisory purposes only. Adjustments may be necessary based on the specific requirements and conditions of each application.

Cutting parameter recommendations

D751 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	12430	0.05	11322	0.05	9409	0.05	13234	0.05	4692	0.03	13600	0.08
2	8606	0.07	8262	0.07	6120	0.07	13234	0.07	4535	0.03	12920	0.09
3	7038	0.16	6732	0.16	4873	0.04	12005	0.16	4144	0.03	12580	0.1
4	6043	0.17	5814	0.17	3672	0.05	9945	0.17	3128	0.04	9452	0.15
5	5355	0.18	5217	0.18	3366	0.05	7650	0.18	2502	0.05	7480	0.18
6	4873	0.2	4743	0.2	2830	0.06	6502	0.2	2072	0.06	6324	0.25
7	4169	0.22	3978	0.22	2142	0.08	5584	0.22	2072	0.06	6324	0.25
8	3952	0.24	3901	0.24	1683	0.1	4896	0.24	1564	0.07	4760	0.3
9	3672	0.27	3519	0.27	1683	0.1	4360	0.27	1251	0.08	4420	0.3
10	3213	0.3	3060	0.3	1453	0.12	3900	0.3	1251	0.08	4284	0.35
12	2754	0.33	2448	0.33	1224	0.15	3251	0.33	1016	0.1	3519	0.4
14	2371	0.36	2333	0.36	1071	0.2	2792	0.36	860	0.12	3060	0.5
16	2295	0.39	2065	0.39	980	0.22	2448	0.39	782	0.14	2677	0.6
18	2027	0.42	1836	0.42	890	0.24	2182	0.42	703	0.16	2371	0.7
20	1836	0.45	1644	0.45	890	0.24	1950	0.45	625	0.18	2142	0.8

D770 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	15180	0.05	13838	0.05	11500	0.05	16170	0.05	5610	0.03	18700	0.08
2	10514	0.07	10098	0.07	7480	0.07	16170	0.07	5423	0.03	17765	0.09
3	8602	0.16	8228	0.16	5956	0.04	15890	0.16	4950	0.03	17290	0.1
4	7386	0.17	7106	0.17	4488	0.05	12155	0.17	3740	0.04	12990	0.15
5	6545	0.18	6376	0.18	4114	0.05	9350	0.18	2992	0.05	10285	0.18
6	5956	0.2	5797	0.2	3460	0.06	7948	0.2	2470	0.06	8690	0.25
7	5100	0.22	4862	0.22	2618	0.08	6820	0.22	2470	0.06	8690	0.25
8	4836	0.24	4768	0.24	2057	0.1	5984	0.24	1870	0.07	6545	0.3
9	4488	0.27	4301	0.27	2057	0.1	5328	0.27	1496	0.08	6078	0.3
10	3927	0.3	3740	0.3	1776	0.12	4768	0.3	1496	0.08	5236	0.35
12	3366	0.33	2992	0.33	1496	0.15	3972	0.33	1215	0.1	4301	0.4
14	2898	0.36	2852	0.36	1309	0.2	3412	0.36	1028	0.12	3740	0.5
16	2805	0.39	2524	0.39	1168	0.22	2992	0.39	935	0.14	3272	0.6
18	2478	0.42	2244	0.42	1048	0.24	2664	0.42	840	0.16	2898	0.7
20	2244	0.45	2010	0.45	1048	0.24	2384	0.45	748	0.18	2618	0.8

D771 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	13600	0.05	12454	0.05	10350	0.05	14558	0.05	5161	0.03	14960	0.08
2	9435	0.07	9088	0.07	6732	0.07	14471	0.07	4981	0.03	14212	0.09
3	7742	0.16	7405	0.16	5360	0.04	14306	0.16	4556	0.03	13838	0.1
4	6648	0.17	6395	0.17	4039	0.05	10940	0.17	3440	0.04	10396	0.15
5	5890	0.18	5737	0.18	3702	0.05	8415	0.18	2752	0.05	8228	0.18
6	5360	0.2	5217	0.2	3113	0.06	7152	0.2	2279	0.06	6956	0.25
7	4590	0.22	4375	0.22	2356	0.08	6142	0.22	2279	0.06	6956	0.25
8	4348	0.24	4292	0.24	1852	0.1	5385	0.24	1720	0.07	5236	0.3
9	4030	0.27	3870	0.27	1852	0.1	4796	0.27	1377	0.08	4862	0.3
10	3534	0.3	3366	0.3	1598	0.12	4291	0.3	1377	0.08	4712	0.35
12	3020	0.33	2692	0.33	1346	0.15	3575	0.33	1118	0.1	3870	0.4
14	2608	0.36	2562	0.36	1178	0.2	3071	0.36	1032	0.12	3366	0.5
16	2524	0.39	2272	0.39	1052	0.22	2692	0.39	860	0.14	2945	0.6
18	2227	0.42	2019	0.42	942	0.24	2398	0.42	774	0.16	2608	0.7
20	2020	0.45	1808	0.45	942	0.24	2145	0.45	697	0.18	2356	0.8

Disclaimer: The technical data provided is intended for advisory purposes only. Adjustments may be necessary based on the specific requirements and conditions of each application.

Cutting parameter recommendations

D773 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
1	12801	0.05	11662	0.05	9691	0.05	13631	0.05	4832	0.03	14008	0.08
2	8863	0.07	8508	0.07	6303	0.07	13631	0.07	4671	0.03	13307	0.09
3	7248	0.16	6934	0.16	5018	0.04	13395	0.16	4268	0.03	12957	0.1
4	6222	0.17	5988	0.17	3781	0.05	10243	0.17	3221	0.04	9732	0.15
5	5515	0.18	5373	0.18	3466	0.05	7879	0.18	2577	0.05	7704	0.18
6	5018	0.2	4884	0.2	2913	0.06	6697	0.2	2135	0.06	6511	0.25
7	4294	0.22	4097	0.22	2205	0.08	5751	0.22	2135	0.06	6511	0.25
8	4063	0.24	4018	0.24	1734	0.1	5042	0.24	1610	0.07	4902	0.3
9	3780	0.27	3624	0.27	1734	0.1	4491	0.27	1288	0.08	4552	0.3
10	3308	0.3	3151	0.3	1496	0.12	4018	0.3	1288	0.08	4411	0.35
12	2835	0.33	2521	0.33	1259	0.15	3349	0.33	1047	0.1	3624	0.4
14	2442	0.36	2403	0.36	1103	0.2	2873	0.36	885	0.12	3151	0.5
16	2363	0.39	2126	0.39	984	0.22	2521	0.39	805	0.14	2757	0.6
18	2087	0.42	1890	0.42	882	0.24	2245	0.42	724	0.16	2442	0.7
20	1890	0.45	1693	0.45	882	0.24	2009	0.45	644	0.18	2201	0.8

D11/D50 Micro Drills Series

Feed: mm/min

Work Material	Structural steel		Carbon Steels Alloy steels		Pre Hardened steel		Stainless steel		Cast Iron		Aluminium	
Hardness			25HRc		30-40HRc							
Dia	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
0.030	31847	0.01	21231	0.01	15924	0.005	10616	0.005	37155	0.01	42463	0.01
0.050	25478	0.01	19108	0.01	12739	0.01	9554	0.01	28662	0.01	31847	0.01
0.080	23885	0.01	17914	0.01	11943	0.01	8758	0.01	25876	0.02	27866	0.02
0.10	22293	0.02	15924	0.02	11146	0.01	7962	0.01	25478	0.03	27070	0.03
0.50	19108	0.03	12739	0.03	9554	0.02	7643	0.02	19745	0.03	20382	0.04
0.80	13933	0.03	10350	0.03	7962	0.03	7166	0.03	14331	0.04	15924	0.05
1.00	12739	0.04	11146	0.04	7962	0.03	6369	0.03	12739	0.04	14331	0.06
1.20	10616	0.05	9289	0.05	6635	0.04	5839	0.04	11146	0.05	12739	0.08
1.50	8493	0.05	7431	0.05	5945	0.04	5096	0.04	9554	0.06	10616	0.09
1.80	7077	0.05	6192	0.05	5308	0.04	4600	0.04	8493	0.06	9731	0.09
2.00	6369	0.06	6369	0.06	5096	0.04	4459	0.04	8280	0.07	9554	0.1
2.20	7238	0.06	6514	0.06	5067	0.05	4343	0.05	7962	0.07	9409	0.1
2.50	7006	0.06	6369	0.06	4841	0.05	4076	0.05	7643	0.07	8662	0.1
2.80	6824	0.06	6256	0.06	4550	0.05	3981	0.05	7393	0.08	8189	0.12
3.00	6369	0.06	5839	0.06	4246	0.05	3715	0.05	6900	0.08	7962	0.12

D60/D63 Series

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless Steel		Cast Iron		Titanium Alloy		Aluminium Alloy		Titanium Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
6	3900	0.08	2850	0.08	5200	0.09	3800	0.09	2000	0.07	8800	0.11	1950	0.07
8	2900	0.1	2150	0.1	3900	0.12	2850	0.12	1500	0.09	6600	0.15	1450	0.09
10	2350	0.12	1700	0.12	3100	0.16	2300	0.16	1200	0.11	5300	0.19	1200	0.11
12	1950	0.14	1450	0.14	2600	0.2	1900	0.2	1000	0.13	4450	0.23	980	0.13
16	1450	0.17	1100	0.17	1950	0.24	1450	0.24	755	0.17	3300	0.27	735	0.17
20	1150	0.19	850	0.19	1550	0.28	1150	0.28	590	0.2	2650	0.31	590	0.2

Cutting parameter recommendations

D440 Solid Carbide Flat Bottom Drills Series

Feed: mm/min

Work Material	Structural steel		Carbon Steels Alloy steels		Pre Hardened steel		Hardened Steel		Stainless steel		Cast Iron		Aluminium	
Hardness			25HRc		30-40HRc		40-50HRc							
Cutting Speed	80 mts/min		70 mts/min		40 mts/min		30 mts/min		35 mts/min		70 mts/min		120 mts/min	
Diameter	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
1.0	12739	0.02	11146	0.02	6369	0.02	5369	0.01	5732	0.005	12739	0.02	19108	0.02
2.0	6369	0.03	7166	0.03	4777	0.03	3981	0.02	4140	0.01	7962	0.03	12739	0.04
3.0	8493	0.05	7431	0.05	4246	0.05	3185	0.03	3715	0.02	7431	0.04	12739	0.06
4.0	6369	0.07	5573	0.07	3185	0.06	2389	0.04	2787	0.03	5573	0.06	9554	0.1
5.0	5096	0.08	4459	0.08	2548	0.08	1911	0.05	2229	0.04	4459	0.07	7643	0.1
6.0	4246	0.1	3715	0.1	2123	0.09	1592	0.06	1858	0.05	3715	0.09	6369	0.12
8.0	3185	0.14	2787	0.14	1592	0.12	1194	0.08	1393	0.06	2787	0.12	4777	0.16
10.0	2548	0.17	2229	0.17	1274	0.15	955	0.1	1115	0.08	2229	0.15	3822	0.2
12.0	2123	0.21	1858	0.21	1062	0.18	796	0.12	929	0.1	1858	0.18	3185	0.24
14.0	1820	0.25	1592	0.25	910	0.2	682	0.14	796	0.11	1592	0.21	2730	0.28
16.0	1592	0.28	1393	0.28	796	0.24	597	0.16	697	0.12	1393	0.24	2389	0.32
18.0	1415	0.32	1238	0.3	708	0.28	531	0.18	619	0.13	1238	0.26	2123	0.35
20.0	1274	0.35	1115	0.34	637	0.31	478	0.2	557	0.15	1115	0.3	1911	0.4

D670 Solid Carbide High Feed Drills Series

Feed: mm/min

Work Material	Carbon Steels Alloy steels			Alloy steels			Cast Iron			Ductile Cast Iron		
Hardness	upto 22HRc			25HRc to 35HRc								
Cutting Speed	90 mts/min			70 mts/min			110 mts/min			80 mts/min		
Diameter	RPM	Feed Min	Feed Max	RPM	Feed Min	Feed Max	RPM	Feed Min	Feed Max	RPM	Feed Min	Feed Max
5.0	5732	0.20	0.25	4459	0.20	0.25	7006	0.23	0.30	5096	0.20	0.25
6.0	4777	0.22	0.28	3715	0.22	0.28	5839	0.25	0.33	4246	0.22	0.28
7.0	4095	0.25	0.32	3185	0.25	0.32	5005	0.28	0.36	3640	0.25	0.32
8.0	3583	0.30	0.38	2787	0.30	0.38	4379	0.32	0.40	3185	0.30	0.38
9.0	3185	0.35	0.40	2477	0.35	0.40	3892	0.38	0.42	2831	0.35	0.40
10.0	2866	0.40	0.48	2229	0.40	0.48	3503	0.44	0.50	2548	0.40	0.48
12.0	2389	0.45	0.52	1858	0.45	0.5	2919	0.50	0.58	2123	0.45	0.55
14.0	2047	0.52	0.60	1592	0.52	0.56	2502	0.55	0.63	1820	0.55	0.70
16.0	1791	0.54	0.62	1393	0.54	0.62	2189	0.58	0.65	1592	0.55	0.72
18.0	1592	0.60	0.70	1238	0.58	0.65	1946	0.65	0.72	1415	0.60	0.75
20.0	1433	0.70	0.80	1115	0.67	0.75	1752	0.72	0.82	1274	0.70	0.80

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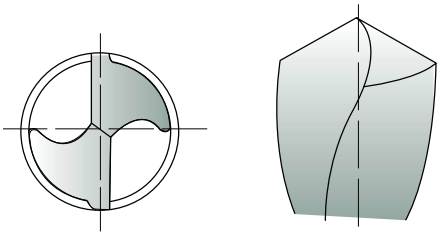
Web Thinning

(1) Without thinning

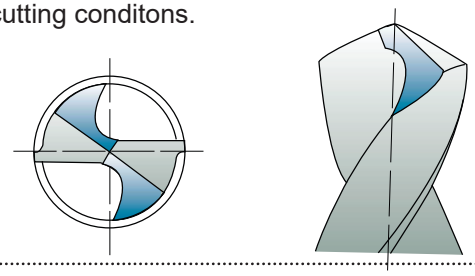
Suitable for drill of general purpose. Thanks to thin web thickness, web thinning is not needed. This without web thinning type is applied to design of drills for mild steels, alloy steels, cast iron, stainless steels, titanium, inconel, etc. and conventional cutting conditons.



2. Type C thinning

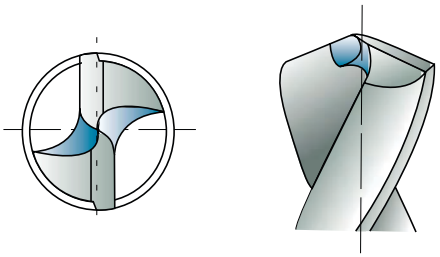
(DIN1412 FORM C, SPLIT POINT)

Suitable for drill of general purpose. Thanks to thin web thickness, web thinning is not needed. This without web thinning type is applied to design of drills for mild steels, alloy steels, cast iron, stainless steels, titanium, inconel, etc. and conventional cutting conditons.



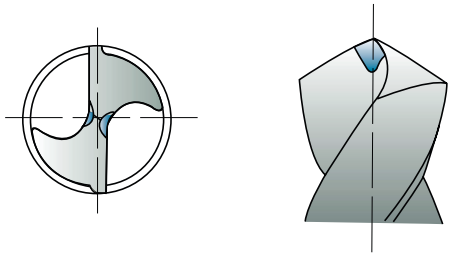
(3) Type R thinning (HELICAL THINNING)

Helical thinning ensures to frequent chip breaking and removal. The different direction force of cutting edges and helical thinning parts enable that chips curl, break and remove through the flutes. In addition, helical thinning makes the chip room up to center, remove the chisel and enables good centering.



(4) Type A thinning (DIN1412 FORM A)

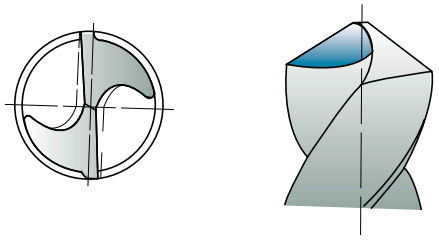
A type thinnings makes thin chisel, good chip removal and favorable centering. This type is the easiest type to grind the thinning. In narrow web and wide fluted drills, keeping of the rigidity and smooth chip removal are possible.



(5) Type B thinning (DIN1412 FORM B)

In case of work materials with low cutting resistance and good chip removal, i.e., cast iron, aluminum, plastic etc., B type thinning is suitable.

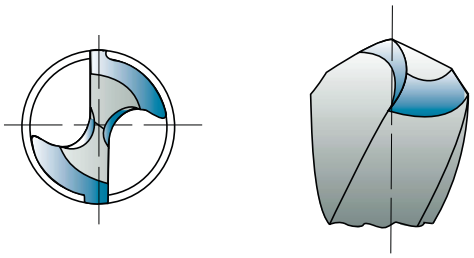
Especially when drills for high hardended steels are designed, this type is applied to decrease rake angle and avoid chipping of cutting lips.



(6) Type D thinning (DIN1412 FORM D)

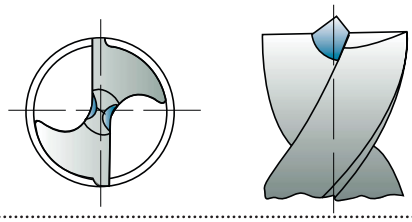
Grey cast iron thinning ; bevelling of external edges strengthens the cutting edge.

Used for medium to high grey cast iron hardness and for abrasives

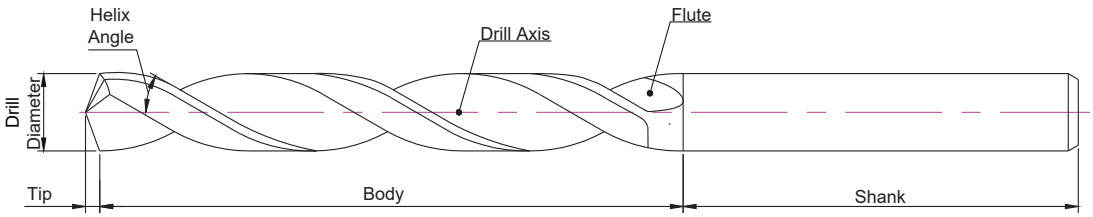


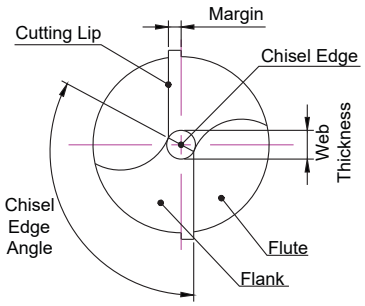
(7) Type E thinning (DIN1412 FORM E)

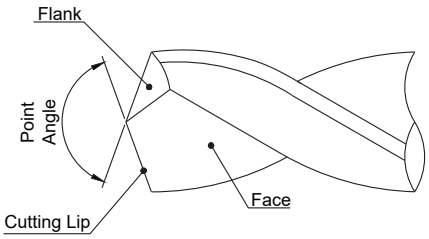
Center drill bit thinning; ensures optimal center drilling and does not leave burs in through holes. As the bit and cutting edges are delicate, this bit should be used far drilling thin sheet metal.



Drill Nomenclature







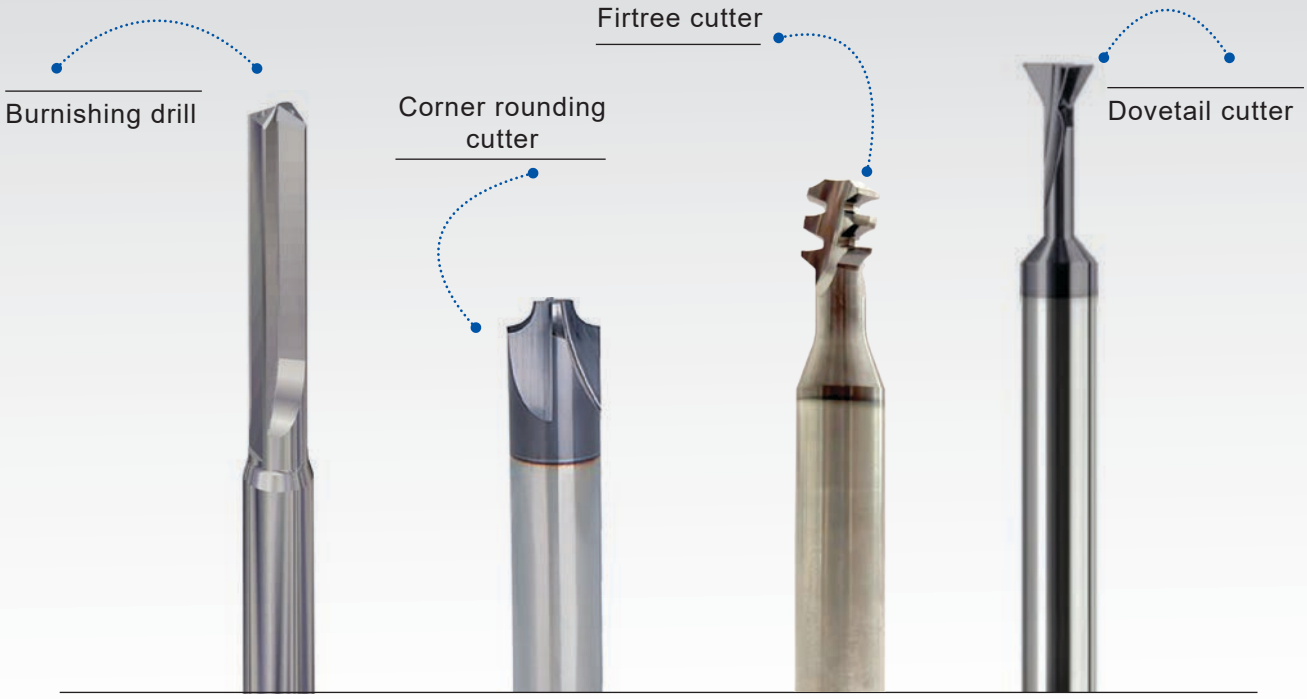
Drilling	Boring	Reaming
Drilling is performed to originate a hole.	Boring is performed to enlarge the diameter of an existing hole.	Reaming is performed to finish hole surfaces and to improve tolerance.
Drilling is performed to originate a hole.	Cutting tool used for boring is known as boring bar.	Cutting tool used for reaming is called reamer.
Drill is a double point cutting tool.	Boring bar is a single point cutting tool.	Reamer is a multi-point cutting tool.
Drilling is first phase of hole fabrication. It does not require any special feature prior to operation.	A pre-drilled hole (or a hollow portion made by casting) is mandatory for performing boring.	Similar to boring, reaming can be performed only if a hollow part or hole exists.
Drilling can increase length of the hole but not diameter (limited to drill diameter).	Boring can increase diameter of an existing hole but not length.	Neither diameter nor length can be increased substantially by reaming.
Surtace quality of drilled hole is not very good.	Here surface quality is better than drilling.	Reaming produces highly finished surface.
Material Removal Rate (MRR) in drilling operation is higher.	MRR is lower than drilling but higher than reaming.	MRR is poor; in fact, MRR is not an issue in reaming.

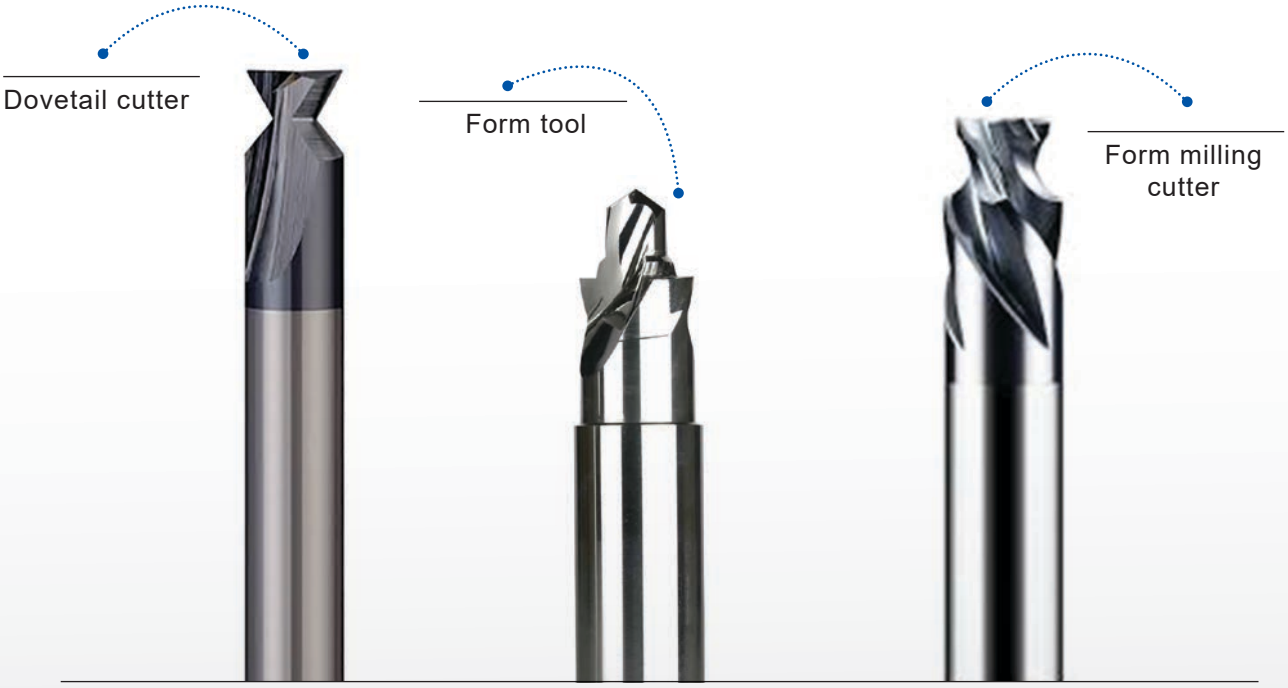
Trouble Shooting In Drilling

Occurrence of trouble	Cause of trouble	Countermeasures
Drill will not enter work	1. Drill is dull. 2. Lip relief too small. 3. Too thick a web.	1. Grind lip relief sufficiently . 2. Grind web thinning. 3. Choose a drill with narrow web.
Margin chipping	1. Oversized jig bushing.	1. Choose the suitable jig bushing for drill diameter
Cutting lip breaks	1. Lip relief too much. 2. Feed too heavy.	1. Grind lip relief sufficiently . 2. Decrease feed rate.
Tang breaks Bruch der	1. Imperfect fit between taper shank and socket. 2. Burred or Badly worn sockets.	1. Clean the dirt or chips in sockets. 2. Change the worn sockets to new ones.
Drill breaks in brass	1. Unsuitable drill 2. Flutes clogged with chips	1. Choose the suitable drill for work material
Chipping of drill center	1. Lip relief too much. 2. Feed too heavy.	1. Grind lip relief sufficiently . 2. Decrease feed rate.
Hole oversize	1. Unequal angle or length of cutting edges. 2. Loosen spindle.	1. Resharpening point, choose correct drills. 2. lighten spindle sufficiently.
Outer corners broken down.	1. Cutting speed too high. 2. Hard spots in work material. 3. Flutes clogged with chips. 4. Too wear of drills.	1. Grind point to suit work material. 2. Decrease the feed rates. 3. Resharpening early beforce too wear.
Large chip of one flute and small chip of other flute	1. Improperly ground point. 2. Only one lip doing all the cutting	1. Properly grind point. 2. Grind point with same point angle and length of lip 3. Grind with small lip height.
Hole rough	1. Improperly ground point. 2. Unenough coolant supply 3. Too much feed. 4. Fixture not rigid.	1. Properly grind point. 2. Supply coolant enough. 3. . Decrease the feed rate. 4. lighten the fixture or replace.

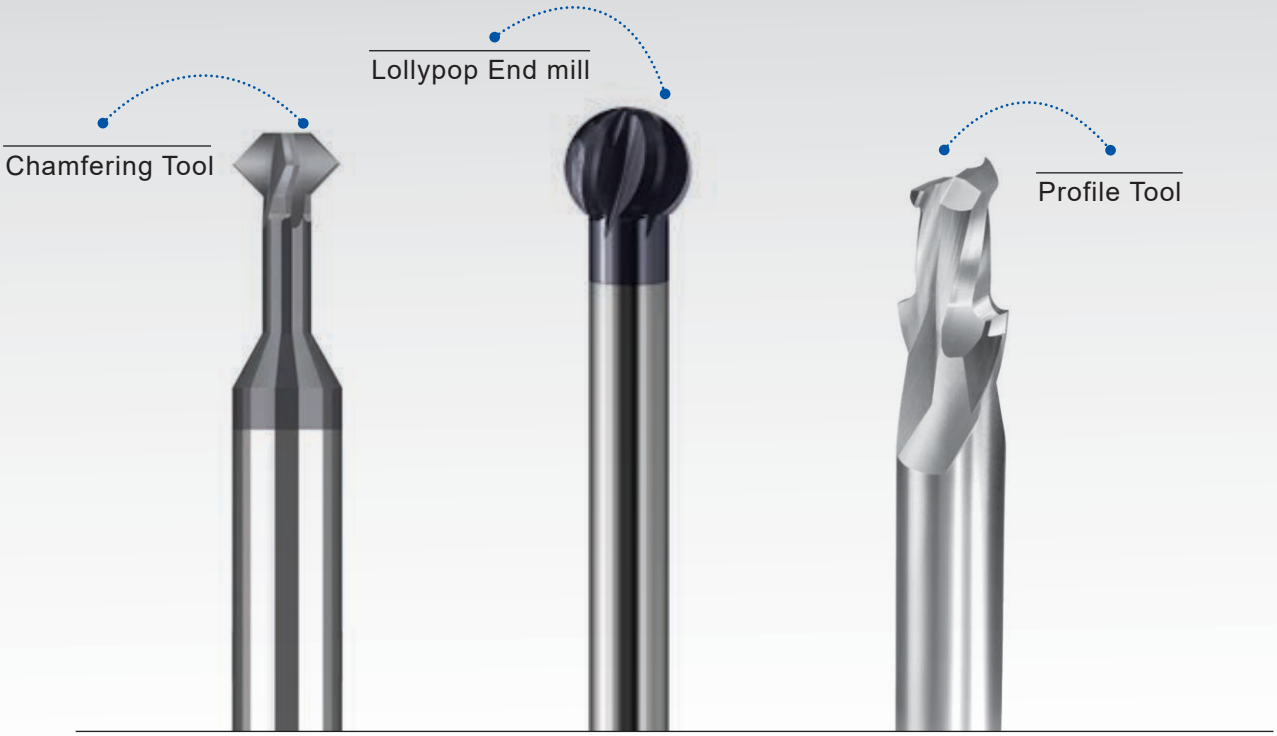
Coating Details
G - TiB based Coating
L - TiAlSiN based Coating
A - AlTiN based Coating
N - AlCrN based Coating
T - TiAlN based Coating

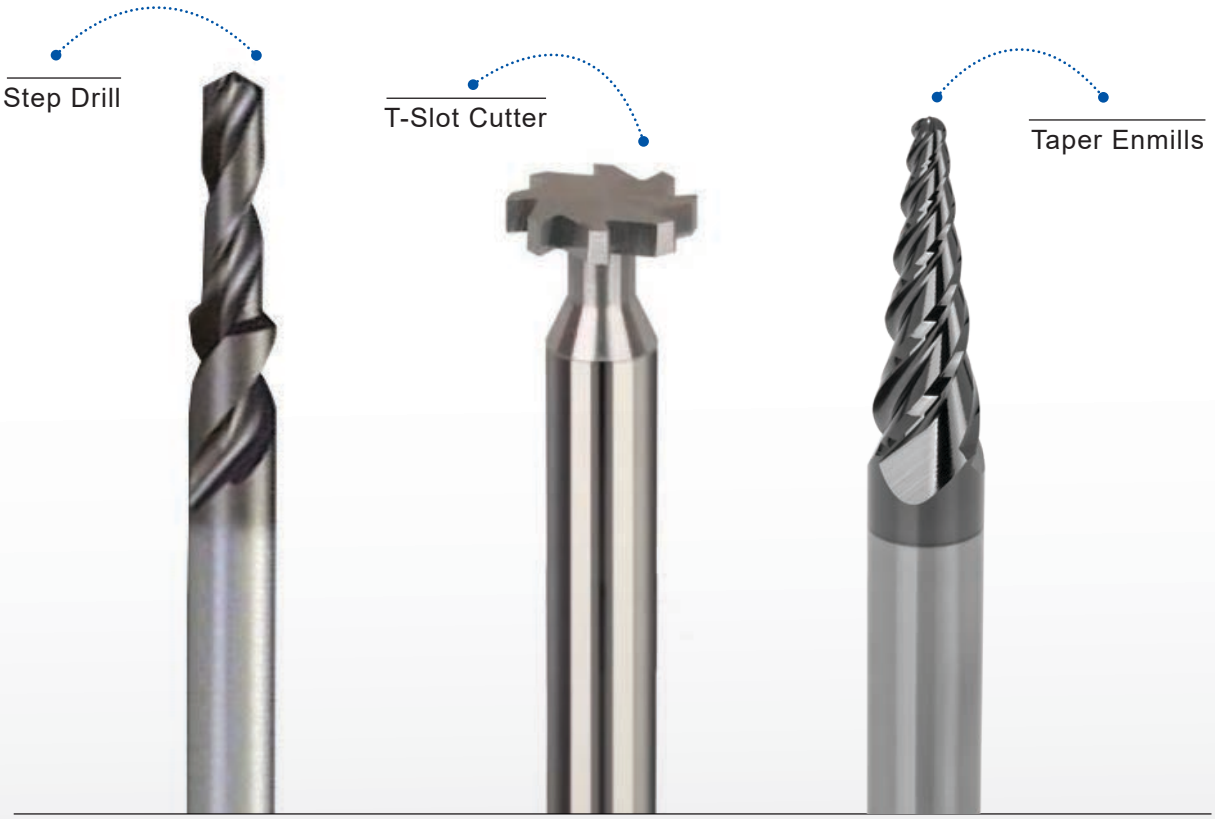
Special tools





Special tools





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