

A PARTNERSHIP FORGED IN METALWORKING

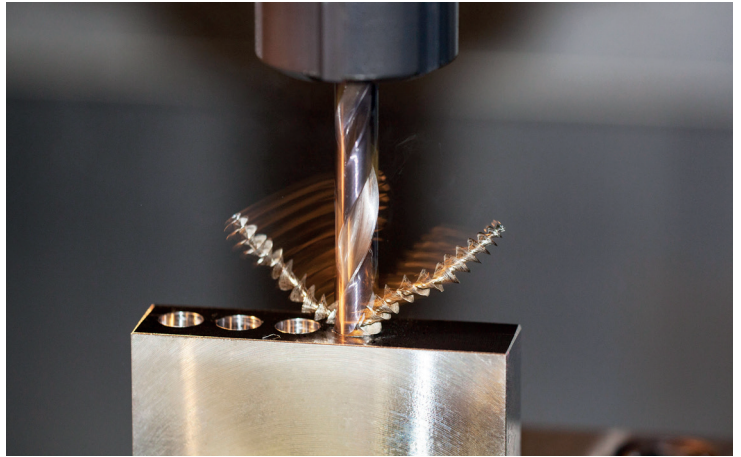
Products selected by specialists to improve your machining performance and quality



 **DORMER**

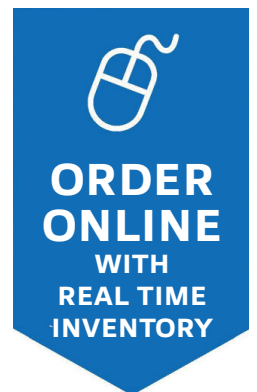
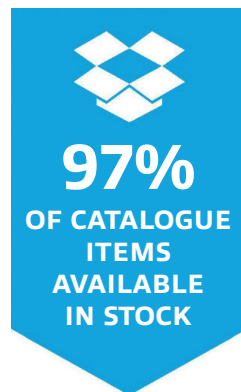
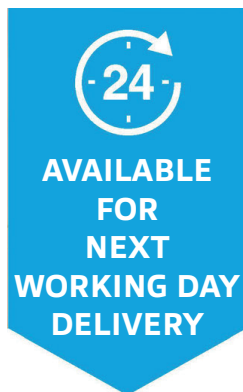
MSC is the only national supplier with a true Metalworking heritage, and an extensive Maintenance, Repair and Operation (MRO), and safety offering.

At the heart of MSC is our commitment to give you control, and demonstrate time and cost savings.



We speak to hundreds of businesses like yours every day, and we understand what you need, which is why we are passionate about providing a market-leading customer experience and quality products tailored to the manufacturing sector.

- **Unbeatable stock availability, 97% delivered next working day**
- **Technical back up, with bespoke Engineering support to streamline processes and save you time and money**
- **Accredited customer service team which really cares, to take your orders and so much more**



The manufacturing world is split into two, those who love MSC and those who haven't tried us yet.

A partnership forged in metalworking

MSC and Dormer Pramet work together to keep manufacturing operations running smoothly. We help manufacturers achieve uninterrupted production and consistently deliver the products needed to do the job. Whether it is through offering a versatile product portfolio, helping you save costs or improve your productivity, together we can help transform how you operate.

Working with you to make a difference

Versatile Product Portfolio

- Product selection tailored to customer needs
- Product education available for your workers
- Innovative product range

Improve Productivity

- Reduce downtime associated with insufficient tooling
- Expert technical and application advice
- Sharing best practice from around the industry

Save Costs

- Cost saving projects demonstrating an improved performance
- Case studies from similar applications
- Consolidation of tooling

Expert Advice

Thousands of customers depend on MSC to help reduce their costs, improve productivity, and increase profitability. That's why we have a team of time-served engineers available to work with you on your engineering projects. Whether on the phone or in the field, our expert engineers can provide support across a variety of sectors, applications, product materials and machines - meaning you can trust MSC to advise, with a whole market impartial view, on the right solution to optimise your business.

About Dormer Pramet

With a focus on consistency, quality and versatility Dormer Pramet's offer covers high-speed steel to solid carbide and from general purpose to high-performance application tooling. As a result, Dormer Pramet's products are used in a diverse range of industries all over the world, from maintenance departments and fabrication workshops to international suppliers for the railway, automotive and aerospace industries.

Dormer Pramet understands that quality is paramount to the manufacturing and engineering industry.

Contents

HOLEMAKING	Page 4
THREADING	Page 14
MILLING	Page 32

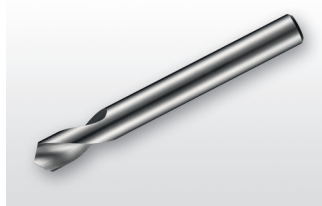
HOLEMAKING

A close-up photograph of a metal drill bit in the process of cutting a hole into a metal workpiece. The drill bit is positioned vertically, and its cutting edges are visible as they remove metal shavings. The shavings are being ejected from the hole, creating a spiral pattern. The background is dark and out of focus, emphasizing the drilling process.

**STAY IN CONTROL
AND MAXIMISE
MACHINE TIME**

GENERAL ICONS	Primary use	Possible use	
APPLICATION ANGLE	Drill Point 140°	Spot Drill Point 120°	
	Spot Drill Point 90°	Spot Drill Point 150°	
BASIC STANDARD GROUP (BSG)	Dormer Standards		
COATING	Bright (uncoated)	Titanium Aluminium Nitride Coating	Titanium Nitride Coating
COOLANT SUPPLY PROPERTY (CSP)	Through Tool Coolant		
CUTTING DIRECTION	Left Hand Rotation / Cutting	Right Hand Rotation / Cutting	
CUTTING DIAMETER TOLERANCE ZONE CLASS (TCDC)	m7 – Industry Standard Tool Tolerance Zone (based on diameter range)		
MATERIAL CODE (BMC)	Hard Material (Solid Carbide)		
SHANK	Cylindrical Shank / Straight Shank	DIN 6535 HA Cylindrical Shank	
SPIRAL FORM	Standard Spiral Flute Design	Continuously Thinned Web Flute Design	
USABLE LENGTH DIAMETER RATIO (ULDR)	1xD Usable Tool Depth to Diameter Ratio	5xD Usable Tool Depth to Diameter Ratio	
	3xD Usable Tool Depth to Diameter Ratio	8xD Usable Tool Depth to Diameter Ratio	

R122



Solid Carbide Spotting Drill, 120° Point

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

R123

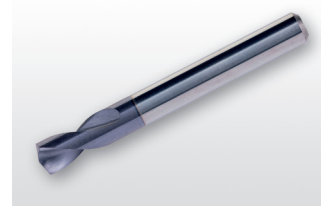


Solid Carbide Spotting Drill, 90° Point

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

R125

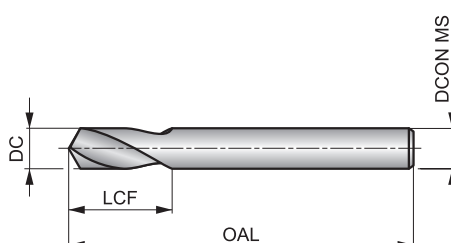
NEW



Solid Carbide Spotting Drill, 150° Point, TiAlN Coated

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

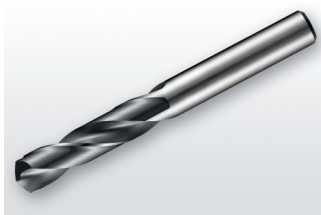
HM	DORMER	1xD
DC h6	R	
λ _{20-35°}		



Material	P	M	K	N	S	H
	●	●	●	●	●	○

Product	Ordering Code	Product	Ordering Code	Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)
R1235.0	CIE-01017L	R1225.0	CIE-01010M	R1255.0	DMR-10028E	5.0	16.0	62.0
R1236.0	CIE-01018H	R1226.0	CIE-01011J	R1256.0	PA1-01873J	6.0	17.0	66.0
R1238.0	CIE-01019C	R1228.0	CIE-01012D	R1258.0	DMR-10029B	8.0	22.0	79.0
R12310.0	CIE-01020C	R12210.0	CIE-01013A	R12510.0	DMR-10026A	10.0	26.0	89.0
R12312.0	CIE-01021M	R12212.0	CIE-01014K	R12512.0	DMR-10027K	12.0	30.0	102.0

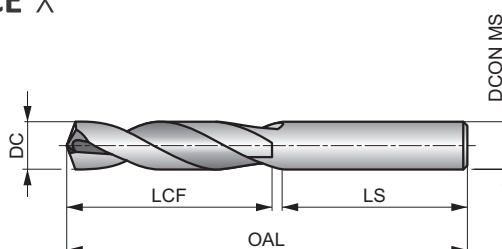
Material	Vc	FpR
P	27 - 115	0.03 - 0.1
M	45 - 63	0.03 - 0.1
K	26 - 75	0.06 - 0.13
N	60 - 400	0.115 - 0.28
S	16 - 45	0.06 - 0.13
H	30 - 56	0.03 - 0.1

R458

FORCE X Solid Carbide 3XD Drill, TiAlN Coated

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

FORCE X

HM	DIN 6537K	3xD
140°	TiAlN	DIN 6535HA
CTW	DC m7	



Material	P	M	K	N	S	H
	●	○	●	●	○	○

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4583.0	DPX-00001J	3.0	20.0	62.0	6.0
R4583.1	DMR-00099M	3.1	20.0	62.0	6.0
R4583.2	DPX-00303D	3.2	20.0	62.0	6.0
R4583.3	DPX-00002D	3.3	20.0	62.0	6.0
R4583.4	DPX-00003A	3.4	20.0	62.0	6.0
R4583.5	DPX-00004K	3.5	20.0	62.0	6.0
R4583.6	DPX-00304A	3.6	20.0	62.0	6.0
R4583.7	DPX-00305K	3.7	20.0	62.0	6.0
R4583.8	DPX-00307B	3.8	24.0	66.0	6.0
R4583.9	DPX-00308L	3.9	24.0	66.0	6.0
R4584.0	DPX-00005E	4.0	24.0	66.0	6.0
R4584.2	DPX-00006B	4.2	24.0	66.0	6.0
R4584.5	DPX-00008H	4.5	24.0	66.0	6.0
R4585.0	DPX-00009C	5.0	28.0	66.0	6.0
R4585.5	DPX-00011M	5.5	28.0	66.0	6.0
R4586.0	DPX-00012J	6.0	28.0	66.0	6.0
R4586.5	DPX-00013D	6.5	34.0	79.0	8.0

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4586.8	DPX-00014A	6.8	34.0	79.0	8.0
R4587.0	DPX-00016E	7.0	34.0	79.0	8.0
R4587.5	DPX-00018L	7.5	41.0	79.0	8.0
R4588.0	DPX-00019H	8.0	41.0	79.0	8.0
R4588.5	DPX-00020H	8.5	47.0	89.0	10.0
R4589.0	DPX-00023J	9.0	47.0	89.0	10.0
R4589.5	DPX-00025A	9.5	47.0	89.0	10.0
R45810.0	DPX-00026K	10.0	47.0	89.0	10.0
R45810.2	DPX-00027E	10.2	55.0	102.0	12.0
R45810.5	DPX-00030L	10.5	55.0	102.0	12.0
R45811.0	DPX-00031H	11.0	55.0	102.0	12.0
R45811.5	DPX-00033M	11.5	55.0	102.0	12.0
R45812.0	DPX-00034J	12.0	55.0	102.0	12.0
R45812.5	DPX-00036A	12.5	60.0	107.0	14.0
R45813.0	DPX-00037K	13.0	60.0	107.0	14.0
R45813.5	DPX-00038E	13.5	60.0	107.0	14.0
R45814.0	DPX-00039B	14.0	60.0	107.0	14.0

Material	Vc	FpR
P	44 - 166	0.070-0.410
M	21 - 60	0.040-0.220
K	26 - 88	0.100-0.410
N	88 - 298	0.100 - 0.410
S	32 - 44	0.040-0.220
H	24 - 45	0.070-0.220

R457

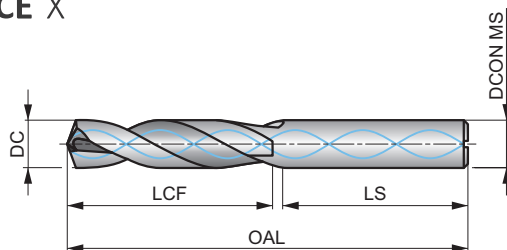


FORCE X Solid Carbide 3XD Drill with Coolant Feed, TiAlN Coated

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

FORCE X

HM	DIN 6537K	3xD
140°	TiAlN	DIN 6535HA
CTW		DC m7



Material	P	M	K	N	S	H
	●	○	●	●	○	○

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4573.0	DPX-00089J	3.0	20.0	62.0	6.0
R4573.1	CIE-41164H	3.1	20.0	62.0	6.0
R4573.2	CIE-41165C	3.2	20.0	62.0	6.0
R4573.3	DPX-00090J	3.3	20.0	62.0	6.0
R4573.4	DPX-00091D	3.4	20.0	62.0	6.0
R4573.5	DPX-00092A	3.5	20.0	62.0	6.0
R4573.6	CIE-41167J	3.6	20.0	62.0	6.0
R4573.7	CIE-41168D	3.7	20.0	62.0	6.0
R4573.8	DMR-00108J	3.8	24.0	66.0	6.0
R4573.9	CIE-41169A	3.9	24.0	66.0	6.0
R4574.0	DPX-00093K	4.0	24.0	66.0	6.0
R4574.2	DPX-00094E	4.2	24.0	66.0	6.0
R4574.5	DPX-00096L	4.5	24.0	66.0	6.0
R4575.0	DPX-00097H	5.0	28.0	66.0	6.0
R4575.5	DPX-00099M	5.5	28.0	66.0	6.0
R4576.0	DPX-00100A	6.0	28.0	66.0	6.0
R4576.5	DPX-00101K	6.5	34.0	79.0	8.0

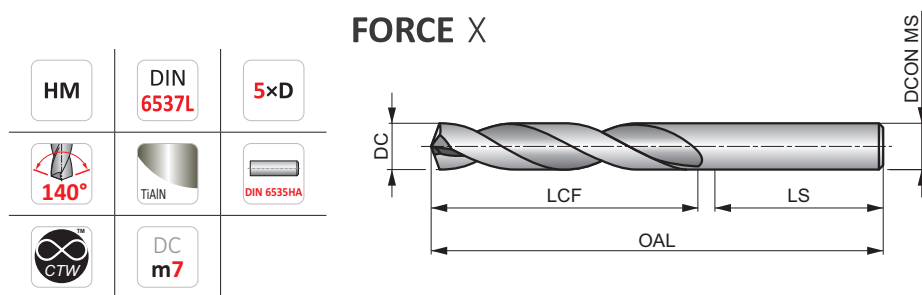
Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4576.8	DPX-00102E	6.8	34.0	79.0	8.0
R4577.0	DPX-00104L	7.0	34.0	79.0	8.0
R4577.5	DPX-00106C	7.5	41.0	79.0	8.0
R4578.0	DPX-00107M	8.0	41.0	79.0	8.0
R4578.5	DPX-00108J	8.5	47.0	89.0	10.0
R4579.0	DPX-00111A	9.0	47.0	89.0	10.0
R4579.5	DPX-00113E	9.5	47.0	89.0	10.0
R45710.0	DPX-00114B	10.0	47.0	89.0	10.0
R45710.2	DPX-00115L	10.2	55.0	102.0	12.0
R45710.5	DPX-00118M	10.5	55.0	102.0	12.0
R45711.0	DPX-00119J	11.0	55.0	102.0	12.0
R45711.5	DPX-00121D	11.5	55.0	102.0	12.0
R45712.0	DPX-00122A	12.0	55.0	102.0	12.0
R45712.5	DPX-00124E	12.5	60.0	107.0	14.0
R45713.0	DPX-00125B	13.0	60.0	107.0	14.0
R45713.5	DPX-00126L	13.5	60.0	107.0	14.0
R45714.0	DPX-00127H	14.0	60.0	107.0	14.0

Material	Vc	FpR
P	55 - 207	0.070-0.41
M	26 - 75	0.070-0.31
K	32 - 110	0.100-0.41
N	110 - 373	0.100-0.41
S	40 - 55	0.070-0.31
H	30 - 56	0.070-0.200

R454

FORCE X Solid Carbide 5XD Drill, TiAlN Coated

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



Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4543.0	DPX-00045J	3.0	28.0	66.0	6.0
R4543.1	CIE-41086E	3.1	28.0	66.0	6.0
R4543.2	HSS-00469E	3.2	28.0	66.0	6.0
R4543.3	DPX-00046D	3.3	28.0	66.0	6.0
R4543.4	DPX-00047A	3.4	28.0	66.0	6.0
R4543.5	DPX-00048K	3.5	28.0	66.0	6.0
R4543.6	CIE-41087B	3.6	28.0	66.0	6.0
R4543.7	CIE-41088L	3.7	28.0	66.0	6.0
R4543.8	CIE-41089H	3.8	36.0	74.0	6.0
R4543.9	CIE-41090H	3.9	36.0	74.0	6.0
R4544.0	DPX-00049E	4.0	36.0	74.0	6.0
R4544.2	DPX-00050E	4.2	36.0	74.0	6.0
R4544.5	DPX-00052L	4.5	36.0	74.0	6.0
R4545.0	DPX-00053H	5.0	44.0	82.0	6.0
R4545.5	DPX-00055M	5.5	44.0	82.0	6.0
R4546.0	DPX-00056J	6.0	44.0	82.0	6.0
R4546.5	DPX-00057D	6.5	53.0	91.0	8.0

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4546.8	DPX-00058A	6.8	53.0	91.0	8.0
R4547.0	DPX-00060K	7.0	53.0	91.0	8.0
R4547.5	DPX-00062B	7.5	53.0	91.0	8.0
R4548.0	DPX-00063L	8.0	53.0	91.0	8.0
R4548.5	DPX-00064H	8.5	61.0	103.0	10.0
R4549.0	DPX-00067J	9.0	61.0	103.0	10.0
R4549.5	DPX-00069A	9.5	61.0	103.0	10.0
R45410.0	DPX-00070A	10.0	61.0	103.0	10.0
R45410.2	DPX-00071K	10.2	70.0	118.0	12.0
R45410.5	DPX-00074L	10.5	70.0	118.0	12.0
R45411.0	DPX-00075H	11.0	70.0	118.0	12.0
R45411.5	DPX-00077M	11.5	70.0	118.0	12.0
R45412.0	DPX-00078J	12.0	70.0	118.0	12.0
R45412.5	DPX-00080D	12.5	76.0	124.0	14.0
R45413.0	DPX-00081A	13.0	76.0	124.0	14.0
R45413.5	DPX-00082K	13.5	76.0	124.0	14.0
R45414.0	DPX-00083E	14.0	76.0	124.0	14.0

Material	Vc	FpR
P	41 - 155	0.07-0.31
M	20 - 56	0.04-0.22
K	24 - 83	0.100-0.410
N	83 - 280	0.100-0.410
S	30 - 41	0.04-0.22
H	23 - 42	0.070-0.220

R453

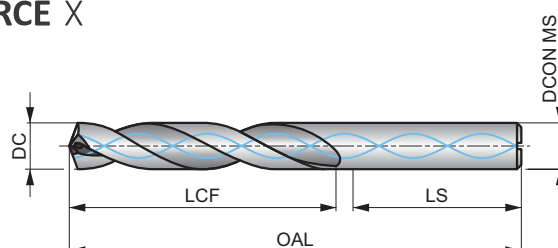


FORCE X Solid Carbide 5XD Drill with Coolant Feed, TiAlN Coated

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

FORCE X

HM	DIN 6537L	5xD
140°	TiAlN	DIN 6535HA
CTW		DC m7



Material	P	M	K	N	S	H
	●	○	●	○	○	○

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4533.0	DPX-00133A	3.0	28.0	66.0	6.0
R4533.1	CIE-41004J	3.1	28.0	66.0	6.0
R4533.2	CIE-41005D	3.2	28.0	66.0	6.0
R4533.3	DPX-00134K	3.3	28.0	66.0	6.0
R4533.4	DPX-00135E	3.4	28.0	66.0	6.0
R4533.5	DPX-00136B	3.5	28.0	66.0	6.0
R4533.6	CIE-41007K	3.6	28.0	66.0	6.0
R4533.7	CIE-41008E	3.7	28.0	66.0	6.0
R4533.8	CIE-41010B	3.8	36.0	74.0	6.0
R4533.9	CIE-41012H	3.9	36.0	74.0	6.0
R4534.0	DPX-00137L	4.0	36.0	74.0	6.0
R4534.2	DPX-00138H	4.2	36.0	74.0	6.0
R4534.5	DPX-00140C	4.5	36.0	74.0	6.0
R4535.0	DPX-00141M	5.0	44.0	82.0	6.0
R4535.5	DPX-00143D	5.5	44.0	82.0	6.0
R4536.0	DPX-00144A	6.0	44.0	82.0	6.0
R4536.5	DPX-00145K	6.5	53.0	91.0	8.0

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4536.8	DPX-00146E	6.8	53.0	91.0	8.0
R4537.0	DPX-00148L	7.0	53.0	91.0	8.0
R4537.5	DPX-00150H	7.5	53.0	91.0	8.0
R4538.0	DPX-00151C	8.0	53.0	91.0	8.0
R4538.5	DPX-00152M	8.5	61.0	103.0	10.0
R4539.0	DPX-00155A	9.0	61.0	103.0	10.0
R4539.5	DPX-00157E	9.5	61.0	103.0	10.0
R45310.0	DPX-00158B	10.0	61.0	103.0	10.0
R45310.2	DPX-00159L	10.2	70.0	118.0	12.0
R45310.5	DPX-00162C	10.5	70.0	118.0	12.0
R45311.0	DPX-00163M	11.0	70.0	118.0	12.0
R45311.5	DPX-00165D	11.5	70.0	118.0	12.0
R45312.0	DPX-00166A	12.0	70.0	118.0	12.0
R45312.5	DPX-00168E	12.5	76.0	124.0	14.0
R45313.0	DPX-00169B	13.0	76.0	124.0	14.0
R45313.5	DPX-00170B	13.5	76.0	124.0	14.0
R45314.0	DPX-00171L	14.0	76.0	124.0	14.0

Material	Vc	FpR
P	52 - 197	0.070-0.310
M	25 - 71	0.070-0.310
K	36-105	0.100-0.410
N	105 - -293	0.100-0.410
S	38 - 52	0.070-0.310
H	29 - 53	0.070-0.220

R459

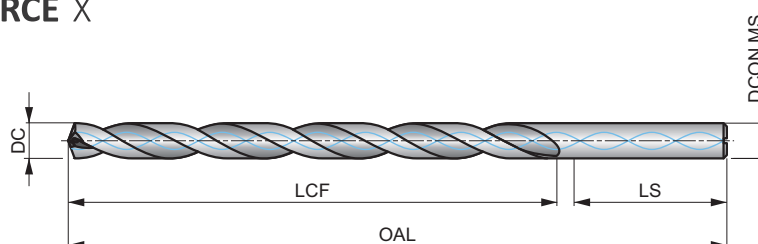


FORCE X Solid Carbide 8XD Drill with Coolant Feed, TiAlN Coated

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

FORCE X

HM	DORMER	8xD
140°	TiAlN	DIN 6535HA
CTW		DC m7



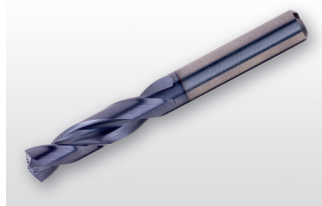
Material	P	M	K	N	S	H
	●	○	●	○		

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4593.0	HSS-02629L	3.0	37.0	79.0	6.0
R4593.1	DMR-10037A	3.1	37.0	79.0	6.0
R4593.2	DMR-10038K	3.2	37.0	79.0	6.0
R4593.3	DMR-10039E	3.3	37.0	79.0	6.0
R4593.4	DMR-00549M	3.4	37.0	79.0	6.0
R4593.5	DMR-10040E	3.5	37.0	79.0	6.0
R4593.6	DMR-10041B	3.6	37.0	79.0	6.0
R4593.7	DMR-10042L	3.7	37.0	79.0	6.0
R4593.8	DMR-10043H	3.8	48.0	90.0	6.0
R4593.9	DMR-10044C	3.9	48.0	90.0	6.0
R4594.0	DMR-10045M	4.0	48.0	90.0	6.0
R4594.2	DMR-10046J	4.2	48.0	90.0	6.0
R4594.5	DMR-10047D	4.5	48.0	90.0	6.0
R4595.0	DMR-00449L	5.0	62.0	104.0	6.0
R4595.5	DMR-10048A	5.5	62.0	104.0	6.0
R4596.0	HSS-01895J	6.0	62.0	104.0	6.0
R4596.5	DMR-10049K	6.5	84.0	126.0	8.0

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4596.8	DMR-10050K	6.8	84.0	126.0	8.0
R4597.0	HSS-02634J	7.0	84.0	126.0	8.0
R4597.5	HSS-02702E	7.5	84.0	126.0	8.0
R4598.0	HSS-01896D	8.0	84.0	126.0	8.0
R4598.5	DMR-10051E	8.5	106.0	152.0	10.0
R4599.0	DMR-10052B	9.0	106.0	152.0	10.0
R4599.5	HSS-02614A	9.5	106.0	152.0	10.0
R45910.0	HSS-01744D	10.0	106.0	152.0	10.0
R45910.2	HSS-02553E	10.2	128.0	180.0	12.0
R45910.5	DMR-10030B	10.5	128.0	180.0	12.0
R45911.0	DMR-10031L	11.0	128.0	180.0	12.0
R45911.5	DMR-10032H	11.5	128.0	180.0	12.0
R45912.0	HSS-02558M	12.0	128.0	180.0	12.0
R45912.5	DMR-10033C	12.5	151.0	202.0	14.0
R45913.0	DMR-10034M	13.0	151.0	202.0	14.0
R45913.5	DMR-10035J	13.5	151.0	202.0	14.0
R45914.0	DMR-10036D	14.0	151.0	202.0	14.0

Material	Vc	FpR
P	44 - 166	0.040-0.310
M	21 - 60	0.070-0.310
K	26 - 88	0.100-0.410
N	88 - 298	0.100-0.410

R467

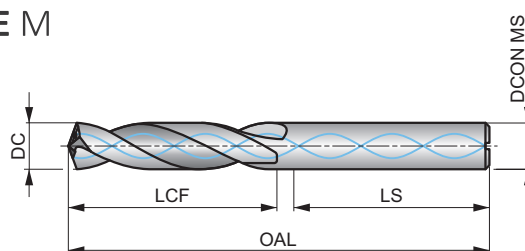


FORCE M Solid Carbide 3XD Drill with Coolant Feed, TiAlN Coated

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

FORCE M

HM	DIN 6537K	3xD
140°	TiAlN	DIN 6535HA
CTW		DC m7



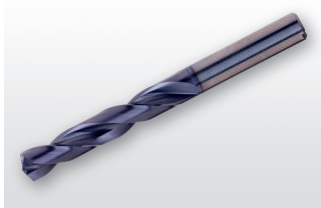
Material	P	M	K	N	S	H
		●			○	

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4673.0	DMR-10071A	3.0	20.0	62.0	6.0
R4673.1	DMR-10072K	3.1	20.0	62.0	6.0
R4673.2	DMR-10073E	3.2	20.0	62.0	6.0
R4673.3	TDG-10001M	3.3	20.0	62.0	6.0
R4673.4	TDG-10002J	3.4	20.0	62.0	6.0
R4673.5	DMR-10074B	3.5	20.0	62.0	6.0
R4673.6	DMR-10075L	3.6	20.0	62.0	6.0
R4673.7	DMR-10076H	3.7	20.0	62.0	6.0
R4673.8	DMR-10077C	3.8	24.0	66.0	6.0
R4673.9	DMR-10078M	3.9	24.0	66.0	6.0
R4674.0	DMR-10079J	4.0	24.0	66.0	6.0
R4674.2	TDG-10003D	4.2	24.0	66.0	6.0
R4674.5	DMR-10080J	4.5	24.0	66.0	6.0
R4675.0	TDG-10005K	5.0	28.0	66.0	6.0
R4675.5	HSS-02675H	5.5	28.0	66.0	6.0
R4676.0	HSS-02676C	6.0	28.0	66.0	6.0
R4676.5	DMR-10081D	6.5	34.0	79.0	8.0

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4676.8	TDG-10007B	6.8	34.0	79.0	8.0
R4677.0	HSS-02693K	7.0	34.0	79.0	8.0
R4677.5	DMR-10082A	7.5	41.0	79.0	8.0
R4678.0	PA1-01322M	8.0	41.0	79.0	8.0
R4678.5	TDG-10009H	8.5	47.0	89.0	10.0
R4679.0	HSS-02692A	9.0	47.0	89.0	10.0
R4679.5	DMR-10083K	9.5	47.0	89.0	10.0
R46710.0	HSS-02777A	10.0	47.0	89.0	10.0
R46710.2	DMR-10066C	10.2	55.0	102.0	12.0
R46710.5	DMR-10067M	10.5	55.0	102.0	12.0
R46711.0	HSS-02780E	11.0	55.0	102.0	12.0
R46711.5	HSS-02776D	11.5	55.0	102.0	12.0
R46712.0	TDG-10013J	12.0	55.0	102.0	12.0
R46712.5	DMR-10068J	12.5	60.0	107.0	14.0
R46713.0	DMR-10069D	13.0	60.0	107.0	14.0
R46713.5	DMR-10070D	13.5	60.0	107.0	14.0
R46714.0	TDG-10015A	14.0	60.0	107.0	14.0

Material	Vc	FpR
M	52 - 177	0.062-0.231
S	32 - 60	0.070-0.310

R463

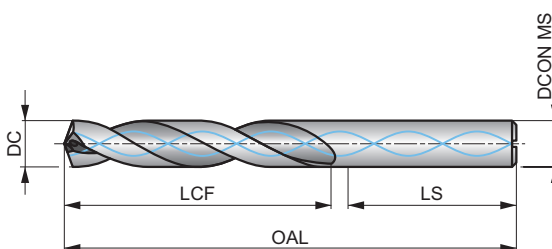


FORCE M Solid Carbide 5XD Drill with Coolant Feed. TiAlN Coated

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

FORCE M

HM	DIN 6537L	5xD
140°	TiAlN	DIN 6535HA
CTW		DC m7



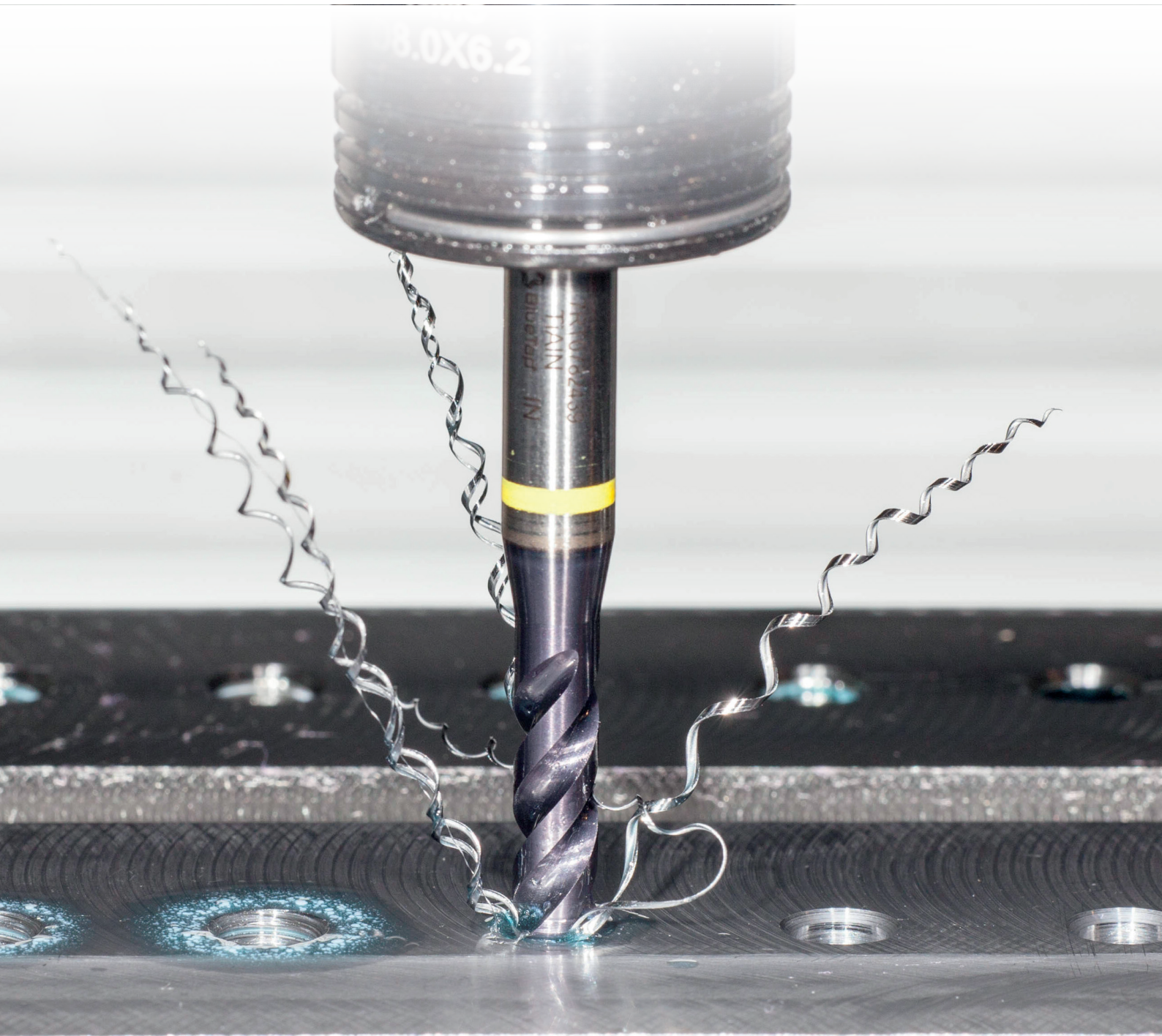
Material	P	M	K	N	S	H
		●			○	

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4633.0	HSS-02659K	3.0	28.0	66.0	6.0
R4633.1	DMR-10058D	3.1	28.0	66.0	6.0
R4633.2	DMR-10059A	3.2	28.0	66.0	6.0
R4633.3	TDG-10017E	3.3	28.0	66.0	6.0
R4633.4	TDG-10018B	3.4	28.0	66.0	6.0
R4633.5	HSS-02660K	3.5	28.0	66.0	6.0
R4633.6	DMR-10060A	3.6	28.0	66.0	6.0
R4633.7	HSS-02651B	3.7	28.0	66.0	6.0
R4633.8	DMR-10061K	3.8	36.0	74.0	6.0
R4633.9	DMR-10062E	3.9	36.0	74.0	6.0
R4634.0	HSS-02698C	4.0	36.0	74.0	6.0
R4634.2	TDG-10019L	4.2	36.0	74.0	6.0
R4634.5	HSS-02661E	4.5	36.0	74.0	6.0
R4635.0	TDG-10021H	5.0	44.0	82.0	6.0
R4635.5	HSS-02662B	5.5	44.0	82.0	6.0
R4636.0	HSS-02663L	6.0	44.0	82.0	6.0
R4636.5	HSS-02664H	6.5	53.0	91.0	8.0

Product	Ordering Code	DC (mm)	LCF (mm)	OAL (mm)	DCON (mm)
R4636.8	TDG-10023M	6.8	53.0	91.0	8.0
R4637.0	HSS-02665C	7.0	53.0	91.0	8.0
R4637.5	DMR-10063B	7.5	53.0	91.0	8.0
R4638.0	DMR-10064L	8.0	53.0	91.0	8.0
R4638.5	TDG-10025D	8.5	61.0	103.0	10.0
R4639.0	HSS-02667J	9.0	61.0	103.0	10.0
R4639.5	DMR-10065H	9.5	61.0	103.0	10.0
R46310.0	HSS-02669A	10.0	61.0	103.0	10.0
R46310.2	HSS-02658A	10.2	70.0	118.0	12.0
R46310.5	DMR-10053L	10.5	70.0	118.0	12.0
R46311.0	HSS-02731J	11.0	70.0	118.0	12.0
R46311.5	DMR-10054H	11.5	70.0	118.0	12.0
R46312.0	TDG-10029B	12.0	70.0	118.0	12.0
R46312.5	DMR-10055C	12.5	76.0	124.0	14.0
R46313.0	DMR-10056M	13.0	76.0	124.0	14.0
R46313.5	DMR-10057J	13.5	76.0	124.0	14.0
R46314.0	TDG-10030B	14.0	76.0	124.0	14.0

Material	Vc	FpR
M	49 - 111	0.062-0.231
S	30 - 53	0.070-0.310

THREADING



**PRODUCE THE RIGHT
THREAD FOR EVERY
TASK**

GENERAL ICONS		Primary use	Possible use
BASIC STANDARD GROUP (BSG)		DIN Thread Standard (based on size range) DIN 371 if $\varnothing \leq 10$ mm / DIN 376 if $\varnothing \geq 12$ mm DIN 374 – MF Thread Standard DIN 5156 – Thread Form Standard	
MATERIAL CODE (BMC)		High Speed Steel Tool Material	Hard Material (Solid Carbide)
		High Speed Cobalt Powder Metal Tool Material	High Speed Cobalt Steel Tool Material
COATING		Flash Chrome (Hard Chrome) Plating	Steam Tempered (Steam Oxide) Surface Treatment
		Bright (uncoated)	Special TiAlN Coating (+ WC/C)
			Titanium Aluminium Nitride Coating (with smoothing process)
FLUTE HELIX ANGLE (FHA)		40° Helix Angle (Flute)	45° Helix Angle (Flute)
			48° Helix Angle (Flute)
FLUTE GEOMETRY (FDC)		Spiral Point Geometry	Spiral Flute Geometry
HAND (CUTTING DIRECTION)		Left Hand Rotation/Cutting	Right Hand Rotation/Cutting
TAP CHAMFER STYLE (TCS)		Plug Tap Chamfer (3.5 – 5 Pitch Lead)	Semi-Bottoming Tap Chamfer (2 – 3 Pitch Lead)
			Semi-Bottoming Tap Chamfer (2 – 3.5 Pitch Lead)
THREAD FORM TYPE (THFT)		Thread Form, American National Pipe Taper	Thread Form, British Standard Pipe (BSP)
		Thread Form, Metric Fine	Thread Form, Metric Coarse

THREAD TOLERANCE ZONE CLASS (TCTR)

Normal

Normal Fit Class for Pipe Thread

6H

DIN Thread Pitch Diameter Tolerance Zone (high basic pitch diameter)

6HX

DIN Thread Pitch Diameter Tolerance Zone (with increased pitch diameter)

THREADING APPLICATION



Blind Hole Application



Through Hole Application



Through or Blind Hole Application

BASIC STANDARD GROUP (BSG)



Dormer Standards

USABLE LENGTH (ULDR)

1.5xD

1.5xD Usable Tool Depth to Diameter Ratio

2xD

2xD Usable Tool Depth to Diameter Ratio

FLUTE HELIX ANGLE (FHA)

 λ
10°

10° Helix Angle (Flute)

COOLANT EXIT STYLE (CXSC)



Through Tool Coolant – Axial Exit

SHANK

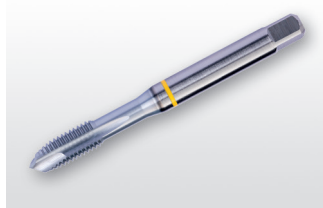


DIN 6535 HA Cylindrical Shank



DIN 6535 HB Weldon Shank

E297

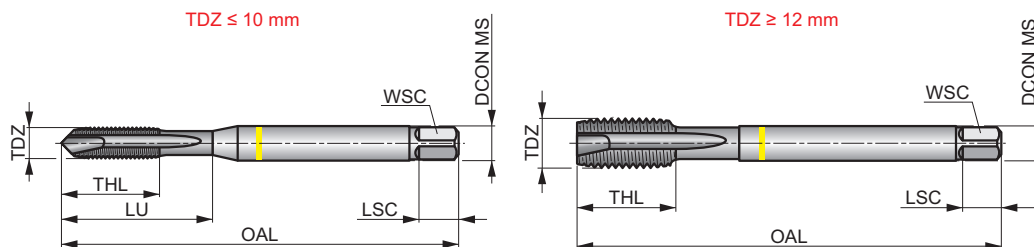


Yellow SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment provides consistency and process security. Hard chrome coated to increase the surface hardness and reduce built-up edge for increased performance and tool life.

SHARK

M	DIN 371/376	6H
	2.5xD	HSS-E PM
B 3.5-5		R

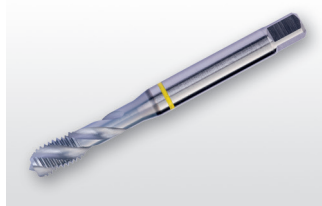


Material	P	M	K	N	S	H
	●			○		

Spiral Point	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E297M3	TDG-80024K	M3	0.50	56.0	3.5	9.0	18.0
E297M4	TDG-80026B	M4	0.70	63.0	4.5	12.0	21.0
E297M5	TDG-80027L	M5	0.80	70.0	6.0	13.0	25.0
E297M6	TDG-80028H	M6	1.00	80.0	6.0	15.0	30.0
E297M8	TDG-80029C	M8	1.25	90.0	8.0	18.0	35.0
E297M10	TDG-80015B	M10	1.50	100.0	10.0	20.0	39.0
E297M12	TDG-80016L	M12	1.75	110.0	9.0	23.0	
E297M14	TDG-80017H	M14	2.00	110.0	11.0	25.0	
E297M16	TDG-80018C	M16	2.00	110.0	12.0	25.0	
E297M18	TDG-80019M	M18	2.50	125.0	14.0	30.0	
E297M20	TDG-80020M	M20	2.50	140.0	16.0	30.0	
E297M22	TDG-80021J	M22	2.50	140.0	18.0	34.0	
E297M24	TDG-80022D	M24	3.00	160.0	18.0	38.0	
E297M27	TDG-80023A	M27	3.00	160.0	20.0	38.0	
E297M30	TDG-80025E	M30	3.50	180.0	22.0	45.0	

Material	Vc
P	9 - 28
N	15 - 30

E298

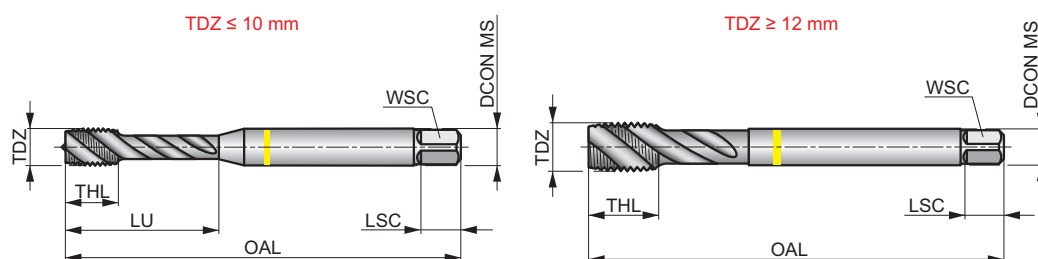


Yellow SHARK 40° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment to provide consistency and process security. Hard chrome coated to increase the surface hardness, reducing built-up edge and extend tool life.

SHARK

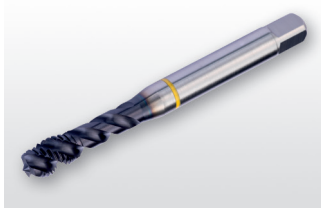
	DIN 371/376	6H
	2xD	HSS-E PM
		40°



Material	P	M	K	N	S	H
	●			○		

Spiral Flute	Ordering Code	TDZ	TP	OAL	DCON	THL	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
E298M3	TDG-80039H	M3	0.50	56.0	3.5	6.0	18.0
E298M4	TDG-80041C	M4	0.70	63.0	4.5	7.0	21.0
E298M5	TDG-80042M	M5	0.80	70.0	6.0	8.0	25.0
E298M6	TDG-80043J	M6	1.00	80.0	6.0	10.0	30.0
E298M8	TDG-80044D	M8	1.25	90.0	8.0	12.0	35.0
E298M10	TDG-80030C	M10	1.50	100.0	10.0	15.0	39.0
E298M12	TDG-80031M	M12	1.75	110.0	9.0	16.0	
E298M14	TDG-80032J	M14	2.00	110.0	11.0	20.0	
E298M16	TDG-80033D	M16	2.00	110.0	12.0	20.0	
E298M18	TDG-80034A	M18	2.50	125.0	14.0	25.0	
E298M20	TDG-80035K	M20	2.50	140.0	16.0	25.0	
E298M22	TDG-80036E	M22	2.50	140.0	18.0	25.0	
E298M24	TDG-80037B	M24	3.00	160.0	18.0	30.0	
E298M27	TDG-80038L	M27	3.00	160.0	20.0	30.0	
E298M30	TDG-80040H	M30	3.50	160.0	22.0	36.0	

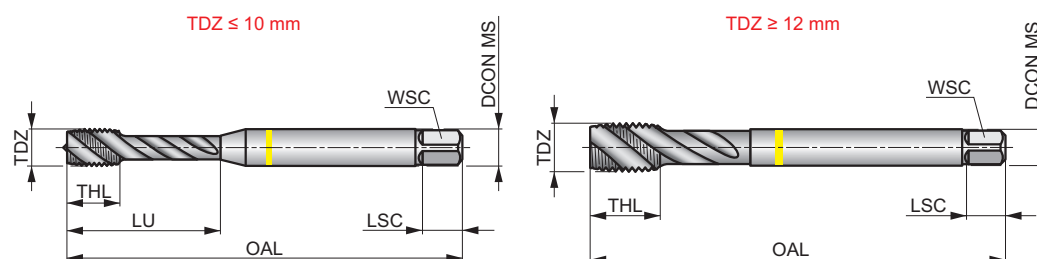
Material	Vc
P	8 - 26
N	14 - 48

E412

Yellow SHARK 48° Spiral Flute Metric Machine Tap, DIN Standard

High performance quick spiral tap for deep blind holes in medium strength steels. Unique HSS-E-PM substrate with TiAlN-Top coating and additional edge treatment provide superior performance. Extra back taper facilitates chip evacuation and reduces torque on reversal. Recommended for synchronous feed tap holders.

SHARK

M	DIN 371/376	6H
	3xD	HSS-E PM
C 2-3		λ 48°
R		

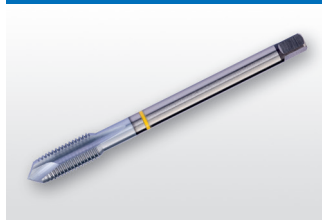


Material	P	M	K	N	S	H
	●	○		○		

COATED Spiral Flute	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E412M3	TDG-10038K	M3	0.50	56.0	3.5	6.0	18.0
E412M4	TDG-10039E	M4	0.70	63.0	4.5	7.0	21.0
E412M5	TDG-10040E	M5	0.80	70.0	6.0	8.0	25.0
E412M6	TDG-10041B	M6	1.00	80.0	6.0	10.0	30.0
E412M8	TDG-10042L	M8	1.25	90.0	8.0	12.0	35.0
E412M10	TDG-10043H	M10	1.50	100.0	10.0	15.0	39.0
E412M12	TDG-10044C	M12	1.75	110.0	9.0	16.0	
E412M14	TDG-10045M	M14	2.00	110.0	11.0	20.0	
E412M16	TDG-10046J	M16	2.00	110.0	12.0	20.0	
E412M20	TDG-10047D	M20	2.50	140.0	16.0	25.0	
E412M22	DMR-10007B	M22	2.50	140.0	18.0	25.0	
E412M24	HSS-02687C	M24	3.00	160.0	18.0	30.0	
E412M27	DMR-10008L	M27	3.00	160.0	20.0	30.0	
E412M30	DMR-10009H	M30	3.50	180.0	22.0	36.0	

Material	Vc
P	12 - 54
M	6 - 19
N	8 - 60

E299

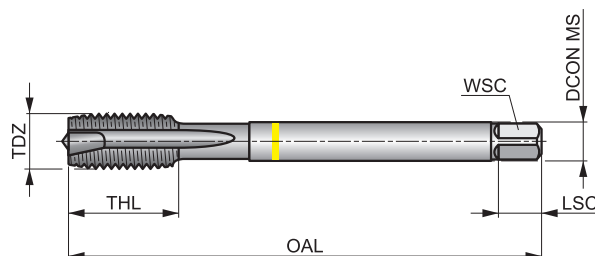


Yellow SHARK Spiral Point Metric-Fine Machine Tap, DIN Standard

High performance through hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment, provide consistency and process security. Hard chrome coated to increase the surface hardness and reduce built-up edge, increasing performance and tool life.

SHARK

	DIN 374	6H
	2.5xD	HSS-E PM
B 3.5-5		

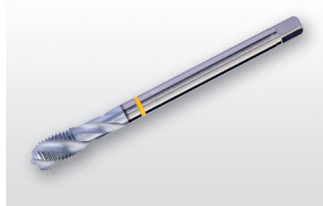


Material	P	M	K	N	S	H
	●			○		

Spiral Point	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)
E299M4X.5	TDG-80064M	4.0	0.50	63.0	2.8	12.0
E299M5X.5	TDG-80065J	5.0	0.50	70.0	3.5	13.0
E299M6X.75	TDG-80066D	6.0	0.75	80.0	4.5	15.0
E299M8X.75	TDG-80067A	8.0	0.75	80.0	6.0	15.0
E299M8X1.0	TDG-80068K	8.0	1.00	90.0	6.0	18.0
E299M10X.75	TDG-80045A	10.0	0.75	90.0	7.0	20.0
E299M10X1.0	TDG-80046K	10.0	1.00	90.0	7.0	20.0
E299M10X1.25	TDG-80047E	10.0	1.25	100.0	7.0	20.0
E299M12X1.0	TDG-80048B	12.0	1.00	100.0	9.0	21.0
E299M12X1.25	TDG-80049L	12.0	1.25	100.0	9.0	21.0
E299M12X1.5	TDG-80050L	12.0	1.50	110.0	9.0	21.0
E299M14X1.0	TDG-80051H	14.0	1.00	100.0	11.0	21.0
E299M14X1.25	TDG-80052C	14.0	1.25	100.0	11.0	21.0
E299M14X1.5	TDG-80053M	14.0	1.50	100.0	11.0	21.0
E299M16X1.0	TDG-80054J	16.0	1.00	100.0	12.0	21.0
E299M16X1.5	TDG-80055D	16.0	1.50	100.0	12.0	21.0
E299M18X1.0	TDG-80056A	18.0	1.00	110.0	14.0	24.0
E299M18X1.5	TDG-80057K	18.0	1.50	110.0	14.0	24.0
E299M20X1.5	TDG-80058E	20.0	1.50	125.0	16.0	24.0
E299M22X1.5	TDG-80059B	22.0	1.50	125.0	18.0	25.0
E299M24X1.5	TDG-80060B	24.0	1.50	140.0	18.0	28.0
E299M24X2.0	TDG-80061L	24.0	2.00	140.0	18.0	28.0
E299M27X2.0	TDG-80062H	27.0	2.00	140.0	20.0	28.0
E299M30X2.0	TDG-80063C	30.0	2.00	150.0	22.0	28.0

Material	Vc
P	9 - 28
N	15 - 51

E300

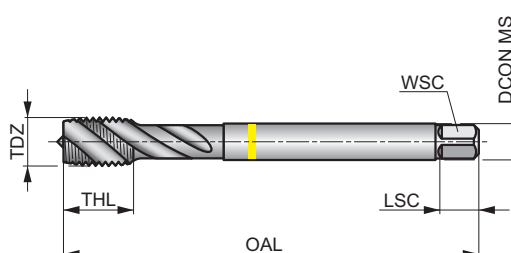


Yellow SHARK 40° Spiral Flute Metric-Fine Machine Tap, DIN Standard

High performance blind hole tap for low carbon and alloyed steel and non-ferrous materials. Unique HSS-E-PM substrate with additional edge treatment, provide consistency and process security. Hard chrome coated to increase the surface hardness, reduces built-up edge, resulting in increased performance and tool life.

SHARK

	DIN 374	6H
	2xD	HSS-E PM
C 2-3		40°
	Cr	



Material	P	M	K	N	S	H
	●			○		

Spiral Flute	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)
E300M4X.5	TDG-80088D	4.0	0.50	63.0	2.8	6.5
E300M5X.5	TDG-80089A	5.0	0.50	70.0	3.5	7.5
E300M6X.75	TDG-80090A	6.0	0.75	80.0	4.5	10.0
E300M8X.75	TDG-80091K	8.0	0.75	80.0	6.0	13.0
E300M8X1.0	TDG-80092E	8.0	1.00	90.0	6.0	13.0
E300M10X.75	TDG-80069E	10.0	0.75	90.0	7.0	13.0
E300M10X1.0	TDG-80070E	10.0	1.00	90.0	7.0	12.0
E300M10X1.25	TDG-80071B	10.0	1.25	100.0	7.0	15.0
E300M12X1.0	TDG-80072L	12.0	1.00	100.0	9.0	15.0
E300M12X1.25	TDG-80073H	12.0	1.25	100.0	9.0	13.0
E300M12X1.5	TDG-80074C	12.0	1.50	110.0	9.0	13.0
E300M14X1.0	TDG-80075M	14.0	1.00	100.0	11.0	15.0
E300M14X1.25	TDG-80076J	14.0	1.25	100.0	11.0	15.0
E300M14X1.5	TDG-80077D	14.0	1.50	100.0	11.0	15.0
E300M16X1.0	TDG-80078A	16.0	1.00	100.0	12.0	15.0
E300M16X1.5	TDG-80079K	16.0	1.50	100.0	12.0	15.0
E300M18X1.0	TDG-80080K	18.0	1.00	110.0	14.0	17.0
E300M18X1.5	TDG-80081E	18.0	1.50	110.0	14.0	17.0
E300M20X1.5	TDG-80082B	20.0	1.50	125.0	16.0	17.0
E300M22X1.5	TDG-80083L	22.0	1.50	125.0	18.0	17.0
E300M24X1.5	TDG-80084H	24.0	1.50	140.0	18.0	20.0
E300M24X2.0	TDG-80085C	24.0	2.00	140.0	18.0	20.0
E300M27X2.0	TDG-80086M	27.0	2.00	140.0	20.0	20.0
E300M30X2.0	TDG-80087J	30.0	2.00	150.0	22.0	20.0

Material	Vc
P	8 - 26
N	14 - 48

E240



Blue SHARK Spiral Point Metric Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

E241

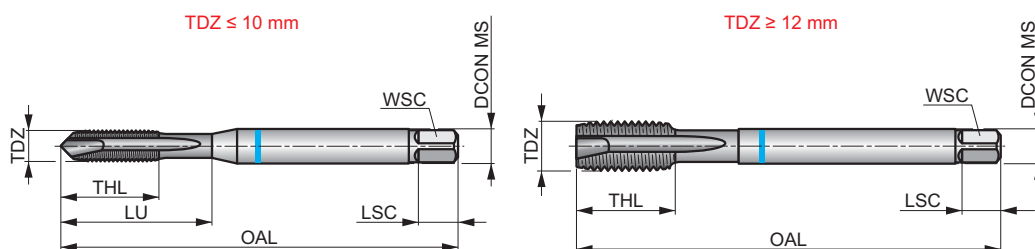


Blue SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate with Super-B coating and additional edge treatment providing superior performance, consistency and extended tool life.

SHARK

	DIN 371/376	6H
	2.5xD	HSS-E-PM
B 3.5-5		



Material	P	M	K	N	S	H
	○	●				



Spiral Point	Ordering Code	COATED Spiral Point	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E240M3	TDG-20028K	E241M3	TDG-00096L	M3	0.50	56.0	3.5	9.0	18.0
E240M4	TDG-20030E	E241M4	TDG-20040K	M4	0.70	63.0	4.5	12.0	21.0
E240M5	TDG-20031B	E241M5	TDG-20041E	M5	0.80	70.0	6.0	13.0	25.0
E240M6	TDG-20032L	E241M6	TDG-20042B	M6	1.00	80.0	6.0	15.0	30.0
E240M8	TDG-20033H	E241M8	HSS-01454D	M8	1.25	90.0	8.0	18.0	35.0
E240M10	TDG-20019B	E241M10	TDG-20034C	M10	1.50	100.0	10.0	20.0	39.0
E240M12	TDG-20020B	E241M12	TDG-20035M	M12	1.75	110.0	9.0	23.0	
E240M14	TDG-20021L	E241M14	TDG-20036J	M14	2.00	110.0	11.0	25.0	
E240M16	TDG-20022H	E241M16	TDG-20037D	M16	2.00	110.0	12.0	25.0	
E240M18	TDG-20023C	E241M18	TDG-20038A	M18	2.50	125.0	14.0	30.0	
E240M20	TDG-20024M	E241M20	TDG-20039K	M20	2.50	140.0	16.0	30.0	
E240M22	TDG-20025J			M22	2.50	140.0	18.0	34.0	
E240M24	TDG-20026D			M24	3.00	160.0	18.0	38.0	
E240M27	TDG-20027A			M27	3.00	160.0	20.0	38.0	
E240M30	TDG-20029E			M30	3.50	180.0	22.0	45.0	

Material	Vc
P	7 - 10
M	5 - 11

Vc
9 - 16
5 - 19

E238



Blue SHARK 40° Spiral Flute Metric Machine Tap, DIN Standard

Blind hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate, along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

E239

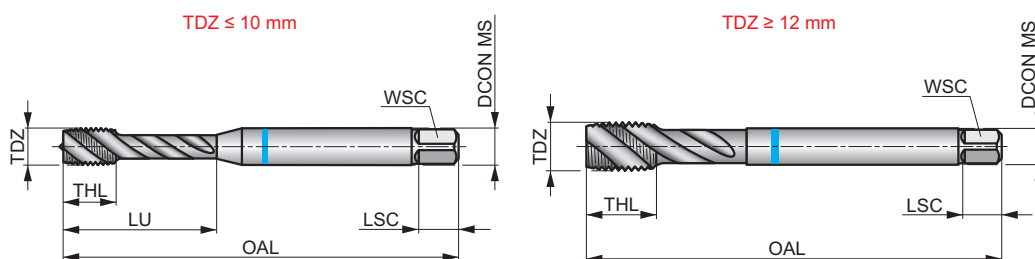


Blue SHARK 40° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for medium strength stainless steel. Unique HSS-E-PM substrate with Super-B coating and additional edge treatment providing superior performance, consistency and extended tool life. Back taper on spiral flute taps facilitates chip evacuation and reduces torque when the tap reverses.

SHARK

	DIN 371/376	6H
	2.5xD	HSS-E-PM
		40°



Material	P	M	K	N	S	H
	○	●				

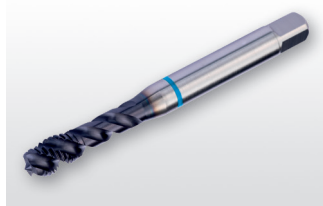


Spiral Flute	Ordering Code	COATED Spiral Flute	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E238M3	TDG-20008B	E239M3	TDG-20015D	M3	0.50	56.0	3.5	6.0	18.0
E238M4	TDG-00091D	E239M4	TDG-20016A	M4	0.70	63.0	4.5	7.0	21.0
E238M5	TDG-00092A	E239M5	TDG-20017K	M5	0.80	70.0	6.0	8.0	25.0
E238M6	TDG-00093K	E239M6	TDG-20018E	M6	1.00	80.0	6.0	10.0	30.0
E238M8	TDG-00094E	E239M8	HSS-01455A	M8	1.25	90.0	8.0	12.0	35.0
E238M10	TDG-20000H	E239M10	TDG-20010L	M10	1.50	100.0	10.0	15.0	39.0
E238M12	TDG-00081A	E239M12	TDG-20011H	M12	1.75	110.0	9.0	16.0	
E238M14	TDG-20001C	E239M14	TDG-20012C	M14	2.00	110.0	11.0	20.0	
E238M16	TDG-20002M	E239M16	TDG-20013M	M16	2.00	110.0	12.0	20.0	
E238M18	TDG-20003J			M18	2.50	125.0	14.0	25.0	
E238M20	TDG-20004D	E239M20	TDG-20014J	M20	2.50	140.0	16.0	25.0	
E238M22	TDG-20005A			M22	2.50	140.0	18.0	25.0	
E238M24	TDG-20006K			M24	3.00	160.0	18.0	30.0	
E238M27	TDG-20007E			M27	3.00	160.0	20.0	30.0	
E238M30	TDG-20009L			M30	3.50	180.0	22.0	36.0	

Material	Vc
P	7 - 9
M	4 - 10

Vc
8 - 15
4 - 18

E414

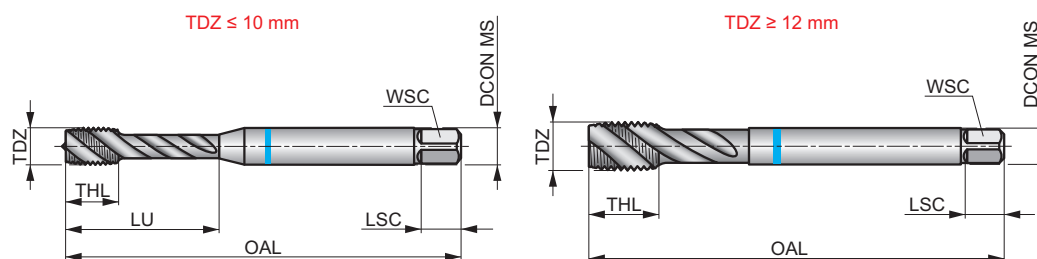


Blue SHARK 48° Spiral Flute Metric Machine Tap, DIN Standard

High performance quick spiral tap for deep blind holes in stainless steels. Unique HSS-E-PM substrate with Super-B coating and additional edge treatment provide superior performance. Extra back taper facilitates chip evacuation and reduces torque on reversal. Recommended to be used with synchronous feed tap holders.

SHARK

	DIN 371/376	6H
	3xD	HSS-E-PM
C 2-3		48°
	Super B	



Material	P	M	K	N	S	H
	○	●				

COATED Spiral Flute	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E414M3	HSS-01981J	M3	0.50	56.0	3.5	6.0	18.0
E414M4	HSS-01992J	M4	0.70	63.0	4.5	7.0	21.0
E414M5	TDG-10032H	M5	0.80	70.0	6.0	8.0	25.0
E414M6	HSS-01982D	M6	1.00	80.0	6.0	10.0	30.0
E414M8	TDG-10033C	M8	1.25	90.0	8.0	12.0	35.0
E414M10	HSS-01983A	M10	1.50	100.0	10.0	15.0	39.0
E414M12	TDG-10034M	M12	1.75	110.0	9.0	16.0	
E414M14	TDG-10035J	M14	2.00	110.0	11.0	20.0	
E414M16	TDG-10036D	M16	2.00	110.0	12.0	20.0	
E414M20	TDG-10037A	M20	2.50	140.0	16.0	25.0	

Material	Vc
P	10 - 32
M	7 - 22

E384



Blue SHARK Spiral Point Metric-Fine Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

E383

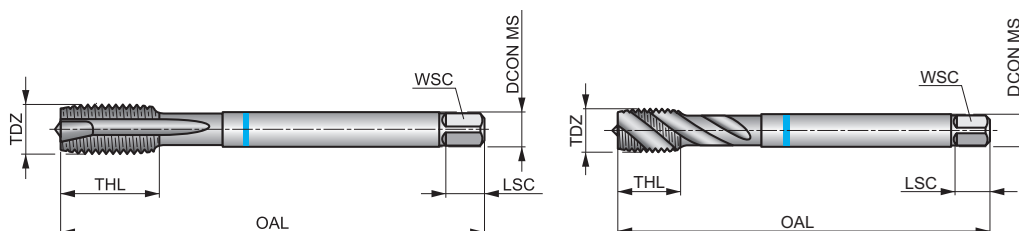


Blue SHARK 40° Spiral Flute Metric-Fine Machine Tap, DIN Standard

Blind hole tap with reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment, provide consistency and process security. Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

SHARK



Material	P	M	K	N	S	H
	○	●				

	Ordering Code		Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)
Spiral Point		Spiral Flute						
E384M6X.75	TDG-20111J	E383M6X.75	TDG-20100J	6.0	0.75	80.0	4.5	15.0
E384M8X1.0	TDG-20112D	E383M8X1.0	TDG-20101D	8.0	1.00	90.0	6.0	18.0
E384M10X1.0	TDG-20102A	E383M10X1.0	TDG-20091M	10.0	1.00	90.0	7.0	20.0
E384M10X1.25	TDG-20103K	E383M10X1.25	TDG-20092J	10.0	1.25	100.0	7.0	20.0
E384M12X1.0	TDG-20104E	E383M12X1.0	TDG-20093D	12.0	1.00	100.0	9.0	21.0
E384M12X1.25	TDG-20105B	E383M12X1.25	TDG-20094A	12.0	1.25	100.0	9.0	21.0
E384M12X1.5	TDG-20106L	E383M12X1.5	TDG-20095K	12.0	1.50	110.0	9.0	21.0
E384M14X1.5	TDG-20107H	E383M14X1.5	TDG-20096E	14.0	1.50	100.0	11.0	21.0
E384M16X1.5	TDG-20108C	E383M16X1.5	TDG-20097B	16.0	1.50	100.0	12.0	21.0
E384M18X1.5	TDG-20109M	E383M18X1.5	TDG-20098L	18.0	1.50	110.0	14.0	24.0
E384M20X1.5	TDG-20110M	E383M20X1.5	TDG-20099H	20.0	1.50	125.0	16.0	24.0

Material	Vc
P	6 - 15
M	4 - 11

Vc
7 - 9
4 - 10

E382



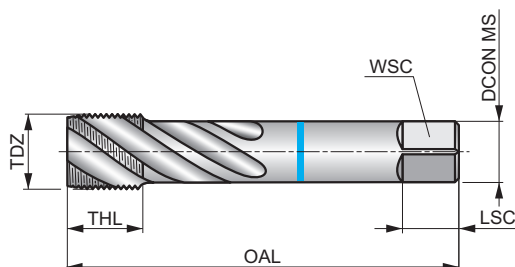
Blue SHARK 40° Spiral Flute G(BSP) Machine Tap, DIN Standard

Blind hole tap with reduced shank for medium strength stainless steel. Unique HSS-E-PM substrate along with additional edge treatment, provide consistency and process security.

Steam tempered surface acts to retain cutting fluid and prevent chip to tool welding.

SHARK

	DIN 5156	Normal
	2xD	HSS-E PM
C 2-3		40°



Material	P	M	K	N	S	H
	○	●				

Spiral Flute	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)
E3821/8	TDG-20088H	1/8	28	90.0	7.0	12.0
E3821/4	TDG-20087L	1/4	19	100.0	11.0	15.0
E38213/8	TDG-20090C	3/8	19	100.0	12.0	15.0
E3821/2	TDG-20086B	1/2	14	125.0	16.0	24.0
E3823/4	TDG-20089C	3/4	14	140.0	20.0	20.0
E3821	TDG-20085E	1"	11	160.0	25.0	24.0

Material	Vc
P	7 - 10
M	4 - 10

E255



Red SHARK, Spiral Point Metric Machine Tap, DIN Standard

Through hole tap with reinforced or reduced shank for medium to high strength steels. Unique HSS-E-PM steel with bright surface finish provide consistency and process security.

E256

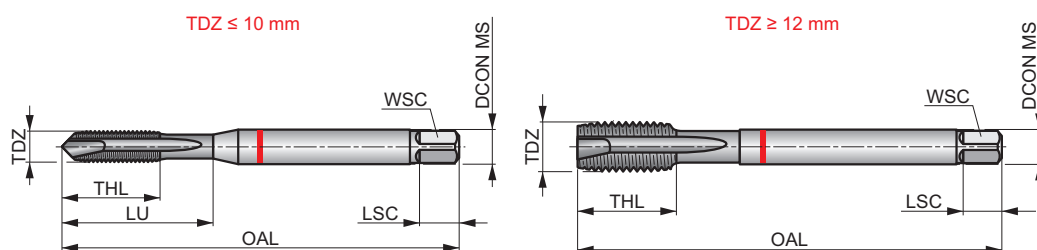


Red SHARK Spiral Point Metric Machine Tap, DIN Standard

High performance through hole tap with reinforced or reduced shank for medium to high strength steel. Unique HSS-E-PM substrate along with TiAlN-Top coating and edge treatment provide superior performance, consistency, extended tool life and higher process security.

SHARK

	DIN 371/376	6HX
	2.5xD	HSS-E-PM
B 3.5-5		
Bright		



Material	P	M	K	N	S	H
	●				○	

Spiral Point	Ordering Code	COATED Spiral Point	Ordering Code	TiAlN Top					
				TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E255M3	TDG-00257H	E256M3	HSS-02759L	M3	0.50	56.0	3.5	9.0	18.0
E255M4	TDG-00258C	E256M4	DMR-10004A	M4	0.70	63.0	4.5	12.0	21.0
E255M5	TDG-00259M	E256M5	DMR-10005K	M5	0.80	70.0	6.0	13.0	25.0
E255M6	TDG-00260M	E256M6	HSS-02538D	M6	1.00	80.0	6.0	15.0	30.0
E255M8	TDG-00261J	E256M8	HSS-01535H	M8	1.25	90.0	8.0	18.0	35.0
E255M10	TDG-00262D	E256M10	DMR-10001M	M10	1.50	100.0	10.0	20.0	39.0
E255M12	TDG-00263A	E256M12	DMR-10002J	M12	1.75	110.0	9.0	23.0	
E255M14	TDG-00264K			M14	2.00	110.0	11.0	25.0	
E255M16	TDG-00265E	E256M16	DMR-00526C	M16	2.00	110.0	12.0	25.0	
E255M20	TDG-00266B	E256M20	DMR-10003D	M20	2.50	140.0	16.0	30.0	

Material	Vc	Vc
P	5 - 11	10 - 27
S	2 - 3	3 - 4

E260



Red SHARK 45° Spiral Flute Metric Machine Tap, DIN Standard

Blind hole tap with reinforced or reduced shank for medium to high strength steels. Unique HSS-E-PM substrate with bright surface finish. Extra back taper to further facilitate chip evacuation, preventing chipping on the last threads of the tap and also reduces torque when the tap reverses.

E261

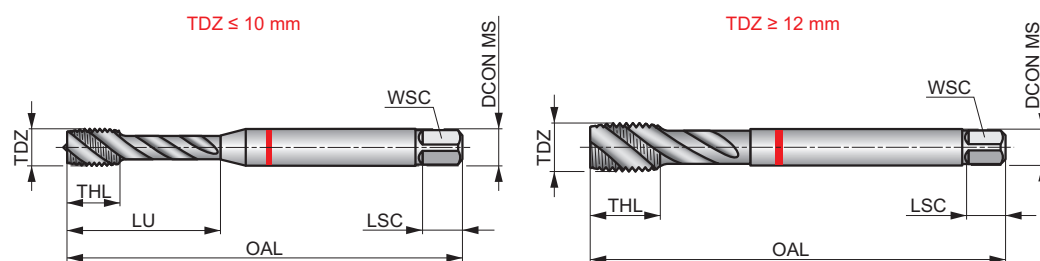


Red SHARK 45° Spiral Flute Metric Machine Tap, DIN Standard

High performance blind hole tap for medium to high strength steels. Unique HSS-E-PM substrate with TiAlN-Top coating and additional edge treatment provide superior performance, consistency and extended tool life. Extra back taper further facilitates chip evacuation and reduces torque on tap reversal.

SHARK

	DIN 371/376	6HX
	2.5xD	HSS-E-PM
C 2-3		λ 45°
	Bright	



Material	P	M	K	N	S	H
	●				○	



Spiral Flute	Ordering Code	COATED Spiral Flute	Ordering Code	TDZ (mm)	TP (mm)	OAL (mm)	DCON (mm)	THL (mm)	LU (mm)
E260M3	TDG-00267L	E261M3	DMR-10006E	M3	0.50	56.0	3.5	9.0	18.0
E260M4	TDG-00268H	E261M4	HSS-02741M	M4	0.70	63.0	4.5	12.0	21.0
E260M5	TDG-00269C	E261M5	HSS-02643C	M5	0.80	70.0	6.0	13.0	25.0
E260M6	TDG-00270C	E261M6	HSS-01867B	M6	1.00	80.0	6.0	15.0	30.0
E260M8	TDG-00271M	E261M8	HSS-01530A	M8	1.25	90.0	8.0	18.0	35.0
E260M10	TDG-00272J	E261M10	TDG-00197J	M10	1.50	100.0	10.0	20.0	39.0
E260M12	TDG-00273D	E261M12	HSS-01533B	M12	1.75	110.0	9.0	23.0	
E260M14	TDG-00274A			M14	2.00	110.0	11.0	25.0	
E260M16	TDG-00275K	E261M16	HSS-01534L	M16	2.00	110.0	12.0	25.0	
E260M20	TDG-00276E	E261M20	HSS-01991M	M20	2.50	140.0	16.0	30.0	

Material	Vc
P	4-10
S	9-26

Vc
2-3
2-3

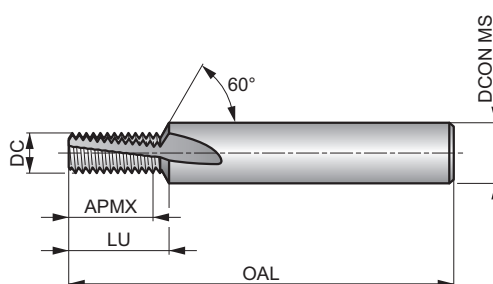
J200



Solid Carbide Thread Mill with Countersink, Metric

Universal high-performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom.

With 60° countersink for chamfering in a single machining cycle. Alcrona Pro coated for the best machining result in a wide range of materials.



Material	P	M	K	N	S	H
	●	●	●	●	○	○

Spiral Point	Ordering Code	TDZ	TP	DC	APMX	OAL	DCON	NOF	LU
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)
J2003.2X.7	PA1-00741H	M4	0.70	3.2	8.4	57.0	6.0	3	9.5
J2004.1X.8	HSS-01936J	M5	0.80	4.1	11.2	57.0	6.0	3	12.1
J2004.8X1.0	HSS-01824L	M6	1.00	4.8	13.0	63.0	8.0	3	14.4
J2006.5X1.25	DMR-10011C	M8	1.25	6.5	17.5	72.0	10.0	3	19.1
J2008.2X1.5	HSS-01859C	M10	1.50	8.2	21.0	83.0	12.0	3	22.8
J2009.9X1.75	DMR-10012M	M12	1.75	9.9	26.3	83.0	14.0	4	28.2
J20011.6X2.0	HSS-01858H	M14	2.00	11.6	30.0	92.0	16.0	4	32.2
J20013.6X2.0	DMR-10010H	M16	2.00	13.6	34.0	92.0	18.0	4	36.2

Material	Vc	FpT
P	55-200	0.022-0.095
M	26-62	0.017-0.071
K	40-130	0.022-0.095
N	65-400	0.028-0.119
S	16-40	0.018-0.071
H	60.0	0.017-0.071

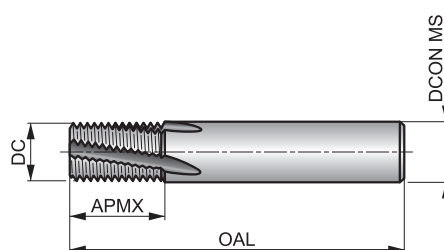
J220



Solid Carbide Thread Mill, Metric Fine

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom.

Alcrona Pro coated for the best machining result in a wide range of materials.



Material	P	M	K	N	S	H
	●	●	●	●	○	○

Spiral Point	Ordering Code	TDZ	TP	DC	APMX	OAL	DCON	NOF
		(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	
J2204.8X.5	DMR-10021H	M6	0.50	4.8	10.0	57.0	6.0	3
J2206.0X0.75	DMR-10022C	M8	0.75	6.0	12.0	57.0	6.0	3
J2206.0X1.0	DMR-10023M	M8	1.00	6.0	12.0	57.0	6.0	3
J2208.0X1.0	HSS-01875A	M10	1.00	8.0	16.0	63.0	8.0	4
J22010.0X1.0	DMR-10013J	M12	1.00	10.0	20.0	72.0	10.0	4
J22010.0X1.5	HSS-01857L	M12	1.50	10.0	20.0	72.0	10.0	4
J22012.0X1.0	DMR-10014D	M14	1.00	12.0	22.0	83.0	12.0	4
J22012.0X1.5	DMR-10015A	M14	1.50	12.0	22.0	83.0	12.0	4
J22014.0X1.0	HSS-01874D	M16	1.00	14.0	26.0	83.0	14.0	5
J22014.0X1.5	DMR-10016K	M16	1.50	14.0	26.0	83.0	14.0	5
J22016.0X2.0	DMR-10017E	M20	2.00	16.0	30.0	92.0	16.0	5
J22016.0X2.5	DMR-10018B	M20	2.50	16.0	42.5	105.0	16.0	5
J22019.0X3.0	DMR-10019L	M24	3.00	19.0	50.0	125.0	20.0	5
J22020.0X2.0	DMR-10020L	M24	2.00	20.0	35.0	104.0	20.0	5

Material	Vc	FpT
P	61-190	0.058-0.128
M	29-69	0.044-0.096
K	73-143	0.058-0.128
N	72-440	0.073-0.160
S	18-44	0.044-0.096
H	48-66	0.044-0.096

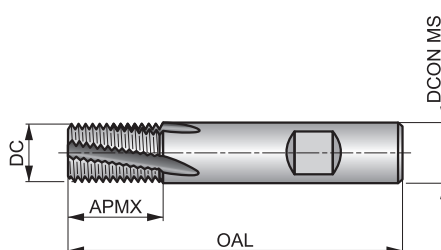
J260



Solid Carbide Thread Mill, NPT

Universal high performance tool to machine same or bigger diameters than the TDZ with the same pitch. Left or right-hand, through or blind holes almost down to the bottom.

Alcrona Pro coated for the best machining result in a wide range of materials.

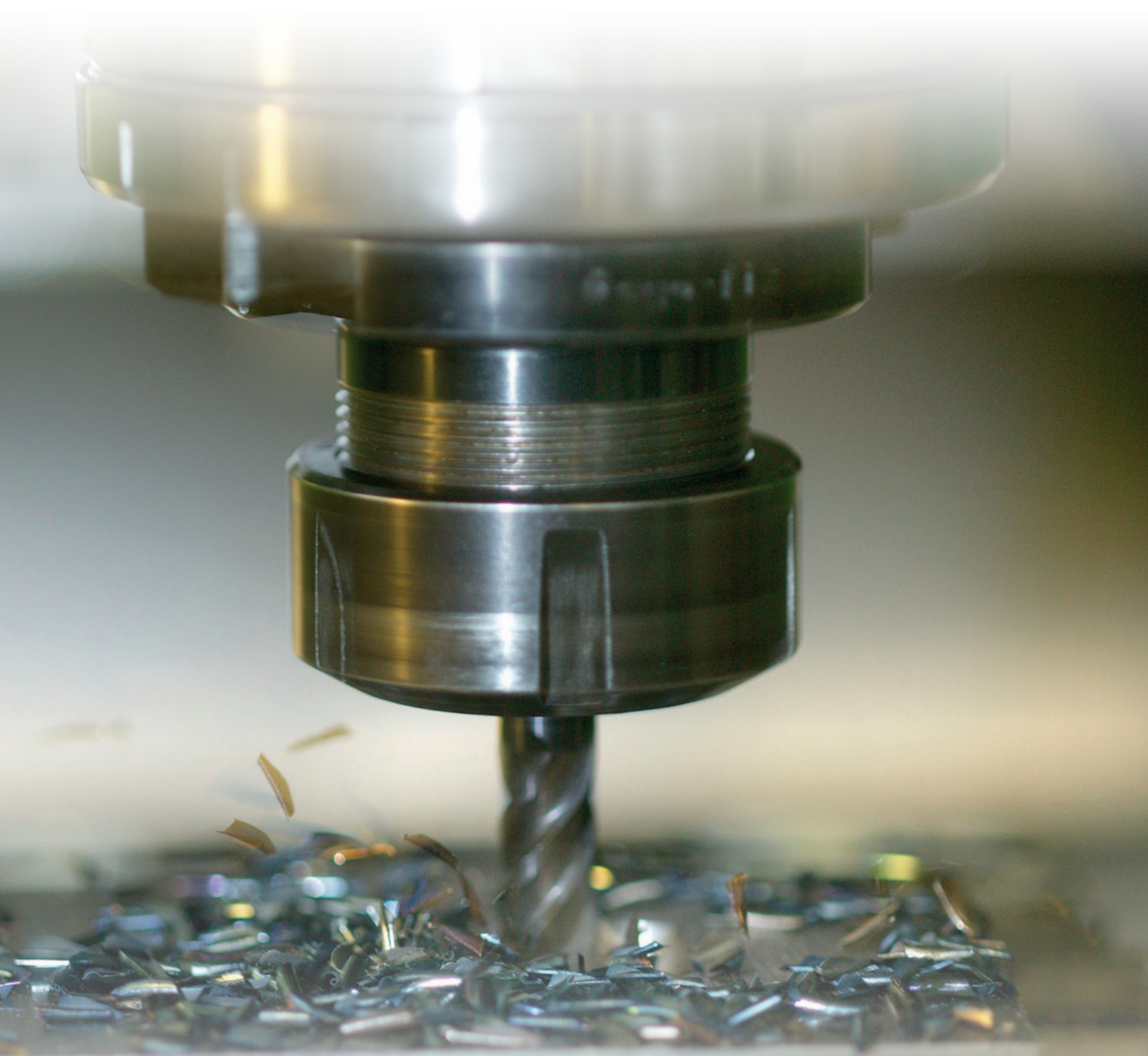


Material	P	M	K	N	S	H
	●	●	●	●	○	○

Product	Ordering Code	TDZ (mm)	TP1 (mm)	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
J2607.9-27	HSS-01860C	1/8	27	7.9	11.50	58.0	8.0	3
J2609.9-18	HSS-01861M	1/4. 3/8	18	9.9	15.92	66.0	10.0	3
J26015.9-14	DMR-10024J	1/2. 3/4	14	15.9	20.46	82.0	16.0	4
J26019.9-11.5	DMR-10025D	1". 2"	11.5	19.9	27.12	92.0	20.0	5

Material	Vc	FpT
P	58-210	0.030-0.110
M	27-65	0.023-0.083
K	42-137	0.030-0.110
N	69-420	0.038-0.138
S	17-42	0.023-0.083
H	45-63	0.023-0.083

MILLING



**REGARDLESS OF YOUR
MILLING OPERATIONS,
MSC HAS WHAT YOU
NEED**

GENERAL ICONS		MATERIAL CODE (BMC)	
	Primary use		Possible use
MILL PROFILE		N	Hard Material (Solid Carbide)
		HSS-E PM	High Speed Cobalt Powder Metal Tool Material
NO. OF FLUTES (NOF)	NOF 2	Number of Flutes = 2 (teeth)	
	NOF 3	Number of Flutes = 3 (teeth)	
	NOF 3+	Number of Flutes = 3 (teeth) differential pitch	
	NOF 4	Number of Flutes = 4 (teeth)	
	NOF 4+	Number of Flutes = 4 (teeth) differential pitch	
CUT LENGTH		Cut Length, Extra Short	
		Cut Length, Short	
		Cut Length, Medium	
FLUTE HELIX (FHA)		Unequal (Variable) Helix	
		28° Helix Angle (Flute)	
		30° Helix Angle (Flute)	
RADIAL RAKE ANGLE (GAMF)		4° Radial Rake Angle (cutting)	
		7° Radial Rake Angle (cutting)	
		9° Radial Rake Angle (cutting)	
		10° Radial Rake Angle (cutting)	
		13° Radial Rake Angle (cutting)	
		15° Radial Rake Angle (cutting)	
SHANK	DIN 1835A	DIN 1835A Cylindrical Shank	
	DIN 1835B	DIN 1835B Weldon Shank	
	DIN 1835D	DIN 1835D Threaded Shank	
COATING	Bright	Bright (uncoated)	
	Polished	Polished Bright Surface Finish	
	AlCrN	Aluminium Chromium Nitride Coating	
MATERIAL CODE (BMC)	h9	h9 – Industry Standard Tool Tolerance Zone (based on diameter range)	
		Radial	
		Radial, Diagonal, Axial	
CUTTING DIRECTION		Radial, Diagonal	
		Radial	
		Radial	
OPERATIONS MILLING		Shallow Slot Milling	
		Deep Slot Milling	
		Plunge Milling	
		Shallow Shoulder Milling	
		Deep Shoulder Milling	
		P9 Slotting (Keyway)	
		Ramping	
		Progressive Plunging	
		Trochoidal Milling	
BASIC STANDARD GROUP (BSG)	DIN 6527L	DIN 6527L – Carbide End Mill Standards	
		DORMER Standards	
		Helical Interpolation	
		Turn Milling	
		Turn Milling	
		Turn Milling	

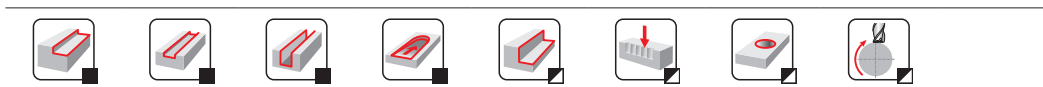
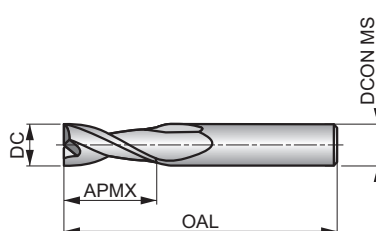
S610



2-Flute Solid Carbide End Mill

Short cut length, 2-flute design provides high rigidity for milling standard slots and profiling. The S610, with high hook geometry, is designed for high performance machining in non-ferrous materials. Polished surface prevents workpiece material from sticking to the cutting edge.

HM	W	NOF 2
	λ 30°	γ 20°
DIN 6535HA	Hi	DC h9
	DORMER	



Material	P	M	K	N	S	H
				●		

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S6102.0	DMR-10098H	2.0	6.5	40.0	4.0	2
S6103.0XD3	HSS-01902M	3.0	9.0	40.0	3.0	2
S6103.0XD6	DMR-10099C	3.0	9.0	50.0	6.0	2
S6104.0XD4	DMR-10100D	4.0	12.0	50.0	4.0	2
S6104.0XD6	DMR-10101A	4.0	12.0	50.0	6.0	2
S6105.0	HSS-01666C	5.0	15.0	50.0	6.0	2
S6106.0	HSS-01667M	6.0	20.0	50.0	6.0	2
S6108.0	HSS-01668J	8.0	20.0	64.0	8.0	2
S61010.0	HSS-01905A	10.0	22.0	75.0	10.0	2
S61012.0	HSS-01995K	12.0	25.0	75.0	12.0	2
S61014.0	DMR-10097L	14.0	32.0	90.0	14.0	2
S61016.0	HSS-01977H	16.0	32.0	90.0	16.0	2
S61020.0	HSS-01557H	20.0	38.0	100.0	20.0	2

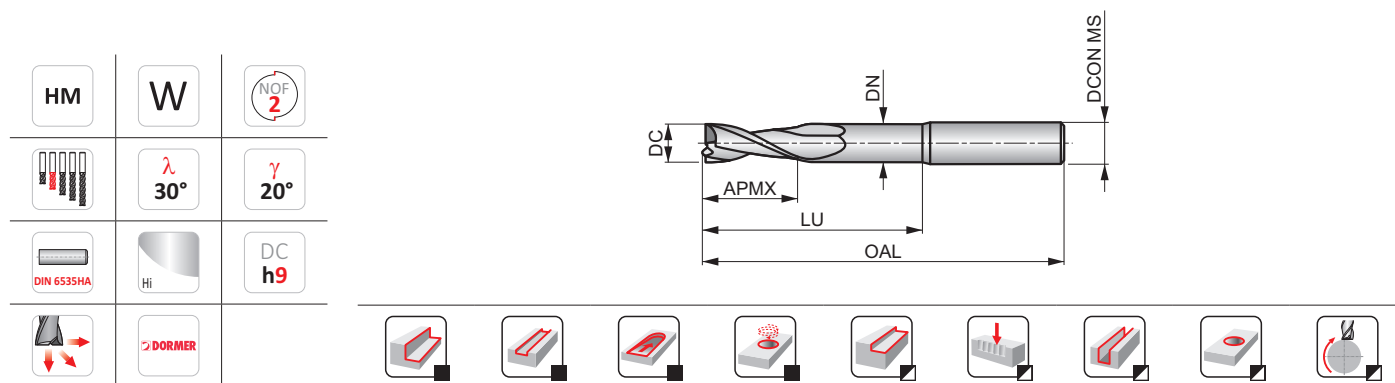
Material	Vc	FpT
N	112-709	0.028-0.414

S611



2-Flute Solid Carbide End Mill, Extra Long Reach

Short cut length, 2-flute design with neck recess provides high rigidity for milling and profiling in hard-to-reach areas. The S611, with high hook geometry, is designed for high performance machining in non-ferrous materials. Polished surface prevents workpiece material from sticking to the cutting edge.



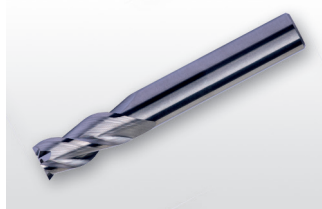
Material	P	M	K	N	S	H
				●		

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	LU (mm)	DN (mm)	NOF
S6113.0XD3	DMR-10104B	3.0	9.0	40.0	3.0	15.0	2.8	2
S6113.0XD6	DMR-10105L	3.0	9.0	50.0	6.0	15.0	2.8	2
S6114.0XD4	DMR-10106H	4.0	12.0	50.0	4.0	20.0	3.7	2
S6114.0XD6	DMR-10107C	4.0	12.0	50.0	6.0	20.0	3.7	2
S6115.0	DMR-10108M	5.0	15.0	50.0	6.0	20.0	4.6	2
S6116.0	PA1-00302J	6.0	16.0	80.0	6.0	40.0	5.5	2
S6118.0	HSS-01670D	8.0	20.0	80.0	8.0	40.0	7.4	2
S61110.0	HSS-01671A	10.0	22.0	100.0	10.0	60.0	9.2	2
S61112.0	PA1-00304A	12.0	25.0	100.0	12.0	60.0	11.0	2
S61114.0	DMR-10102K	14.0	32.0	125.0	14.0	75.0	13.0	2
S61116.0	HSS-02529K	16.0	32.0	125.0	16.0	75.0	15.0	2
S61120.0	DMR-10103E	20.0	38.0	125.0	20.0	75.0	19.0	2

Material	Vc	FpT
N	101-638	0.021-0.311

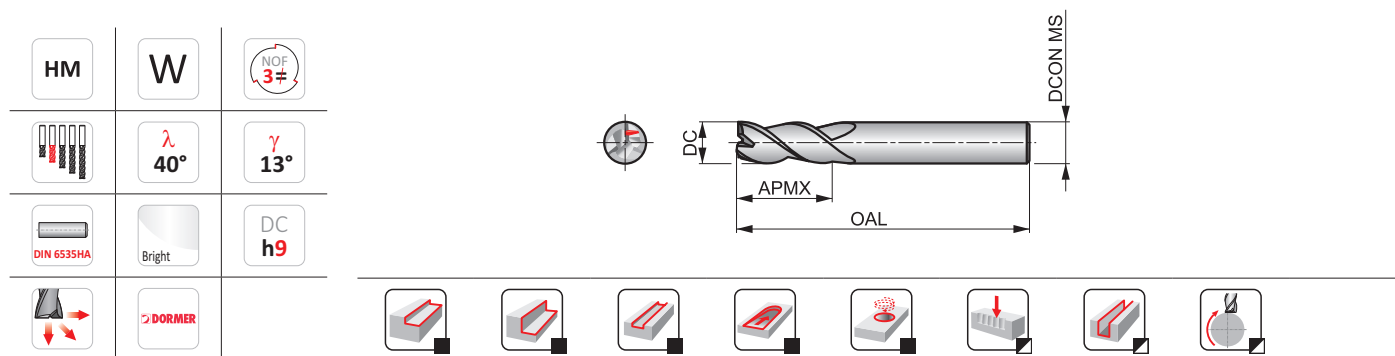
S650

NEW



3-Flute Solid Carbide End Mill

Short cut length, 3-flute with differential pitch is designed to reduce vibrations, spindle load, and improve surface finish when milling. The single chip divider helps to break swarf into manageable pieces for a better evacuation in non-ferrous materials.



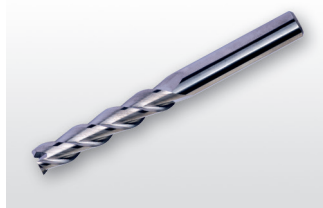
Material	P	M	K	N	S	H
				●		

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S6501.0	DMR-10129C	1.0	3.0	40.0	4.0	3
S6501.5	DMR-10130C	1.5	4.5	40.0	4.0	3
S6502.0	DMR-10135K	2.0	6.5	40.0	4.0	3
S6502.5	HSS-02859M	2.5	6.5	40.0	4.0	3
S6503.0XD3	DMR-10137B	3.0	9.0	40.0	3.0	3
S6503.0XD6	DMR-10138L	3.0	9.0	50.0	6.0	3
S6504.0XD4	DMR-10139H	4.0	12.0	50.0	4.0	3
S6504.0XD6	DMR-10140H	4.0	12.0	50.0	6.0	3
S6505.0	DMR-10141C	5.0	15.0	50.0	6.0	3
S6506.0	PA1-02076J	6.0	20.0	50.0	6.0	3
S6508.0	DMR-10142M	8.0	20.0	64.0	8.0	3
S65010.0	DMR-10131M	10.0	22.0	75.0	10.0	3
S65012.0	DMR-10132J	12.0	25.0	75.0	12.0	3
S65014.0	DMR-10133D	14.0	32.0	90.0	14.0	3
S65016.0	DMR-10134A	16.0	32.0	90.0	16.0	3
S65020.0	DMR-10136E	20.0	38.0	100.0	20.0	3

Material	Vc	FpT
N	123-780	0.010-0.233

S614

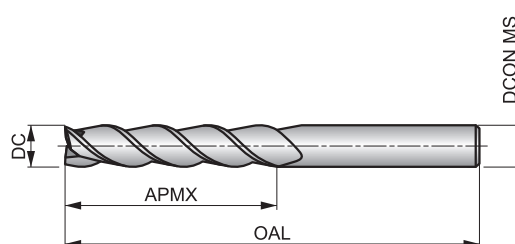
NEW



3-Flute Solid Carbide End Mill, Extra Long Series

Extra long cut length, 3-flute design for light profiling applications in hard to reach areas. The S614, with high hook geometry, is designed for high performance machining in non-ferrous materials.

HM	W	NOF 3
	40°	γ 13°
DIN 6535HA	Bright	DC h9
	DORMER	



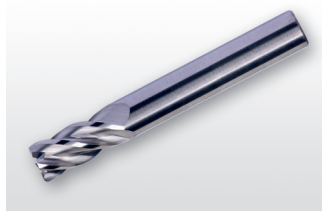
Material	P	M	K	N	S	H
				●		

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S6143.0XD3	DMR-10113K	3.0	19.0	60.0	3.0	3
S6143.0XD6	DMR-10114E	3.0	19.0	75.0	6.0	3
S6144.0XD4	DMR-10115B	4.0	19.0	60.0	4.0	3
S6144.0XD6	DMR-10116L	4.0	19.0	75.0	6.0	3
S6145.0	DMR-10117H	5.0	19.0	75.0	6.0	3
S6146.0	DMR-10118C	6.0	31.0	75.0	6.0	3
S6148.0	DMR-10119M	8.0	41.0	100.0	8.0	3
S61410.0	DMR-10109J	10.0	50.0	100.0	10.0	3
S61412.0	DMR-10110J	12.0	50.0	100.0	12.0	3
S61414.0	DMR-10111D	14.0	57.0	125.0	14.0	3
S61416.0	DMR-10112A	16.0	57.0	125.0	16.0	3

Material	Vc	FpT
N	101-638	0.008-0.146

S662

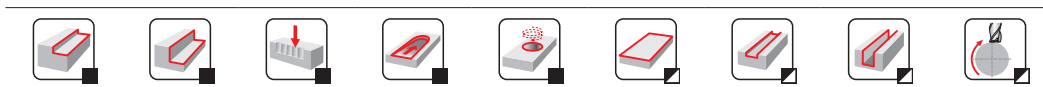
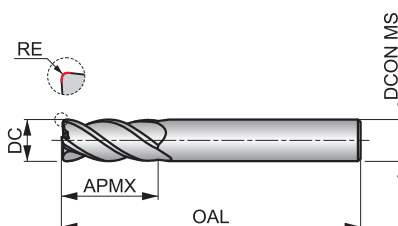
NEW



4-Flute Solid Carbide Corner Radius End Mill

Short cut length, 4-flute design with differential pitch and different corner radius available, for profile milling where a corner radius is required. The S662, with high hook geometry, is designed for high performance machining in non-ferrous materials.

HM	W	NOF 4 $\neq$
	λ 40°	γ 10°
DIN 6535HA	Bright	DC h9
	DORMER	



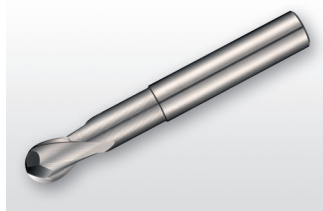
Material	P	M	K	N	S	H
				●		

Product	Ordering Code	DC (mm)	RE (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S6623.0XR0.3	DMR-10154J	3.0	0.3	9.0	57.0	6.0	4
S6624.0XR0.5	DMR-10156A	4.0	0.5	12.0	57.0	6.0	4
S6625.0XR0.5	DMR-10158E	5.0	0.5	15.0	57.0	6.0	4
S6626.0XR0.5	DMR-10159B	6.0	0.5	16.0	57.0	6.0	4
S6626.0XR1.0	DMR-10160B	6.0	1.0	16.0	57.0	6.0	4
S6626.0XR2.0	DMR-10161L	6.0	2.0	16.0	57.0	6.0	4
S6628.0XR0.5	DMR-10162H	8.0	0.5	20.0	64.0	8.0	4
S6628.0XR1.0	HSS-02830A	8.0	1.0	20.0	64.0	8.0	4
S6628.0XR2.0	DMR-10163C	8.0	2.0	20.0	64.0	8.0	4
S66210.0XR0.5	DMR-10143J	10.0	0.5	22.0	72.0	10.0	4
S66210.0XR1.0	HSS-02831K	10.0	1.0	22.0	72.0	10.0	4
S66210.0XR2.0	DMR-10144D	10.0	2.0	22.0	72.0	10.0	4
S66212.0XR1.0	DMR-10145A	12.0	1.0	26.0	83.0	12.0	4
S66212.0XR2.0	DMR-10146K	12.0	2.0	26.0	83.0	12.0	4
S66212.0XR2.5	DMR-10147E	12.0	2.5	26.0	83.0	12.0	4
S66212.0XR3.0	DMR-10148B	12.0	3.0	26.0	83.0	12.0	4
S66216.0XR1.0	HSS-02832E	16.0	1.0	32.0	92.0	16.0	4
S66216.0XR2.0	DMR-10149L	16.0	2.0	32.0	92.0	16.0	4
S66216.0XR3.0	DMR-10150L	16.0	3.0	32.0	92.0	16.0	4
S66220.0XR2.0	DMR-10152C	20.0	2.0	38.0	104.0	20.0	4
S66220.0XR4.0	DMR-10153M	20.0	4.0	38.0	104.0	20.0	4

Material	Vc	FpT
N	112-709	0.034-0.233

DORMER

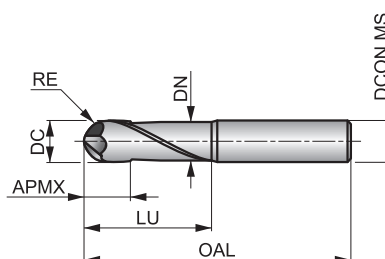
S629



2-Flute Solid Carbide Ball-Nosed End Mill

Extra short cut length, 2-flute design with neck recess reduces vibrations and provides high rigidity. Ball nosed geometry is designed for high performance contouring of complex surfaces in non-ferrous materials.

HM	W	NOF 2
	λ 30°	γ 15°
DIN 6535HA	Bright	DC h9
	DORMER	

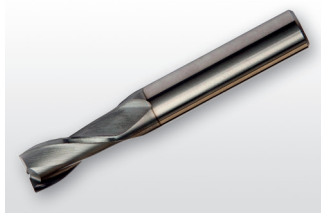


Material	P	M	K	N	S	H
				●		

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	LU (mm)	DN (mm)	NOF
S6291.0	DMR-10120M	1.0	0.8	50.0	4.0	10.0	0.9	2
S6291.5	DMR-10121J	1.5	1.2	50.0	4.0	12.0	1.4	2
S6292.0	DMR-10124K	2.0	1.6	60.0	4.0	18.0	1.9	2
S6293.0	HSS-01953B	3.0	5.0	57.0	6.0	20.0	2.8	2
S6294.0	HSS-01954L	4.0	6.0	57.0	6.0	20.0	3.7	2
S6295.0	DMR-10126B	5.0	7.0	57.0	6.0	20.0	4.6	2
S6296.0	DMR-10127L	6.0	8.0	57.0	6.0	20.0	5.5	2
S6298.0	DMR-10128H	8.0	10.0	64.0	8.0	25.0	7.4	2
S62910.0	HSS-01955H	10.0	12.0	75.0	10.0	35.0	9.2	2
S62912.0	DMR-10122D	12.0	14.0	75.0	12.0	35.0	11.0	2
S62916.0	DMR-10123A	16.0	18.0	90.0	16.0	45.0	15.0	2

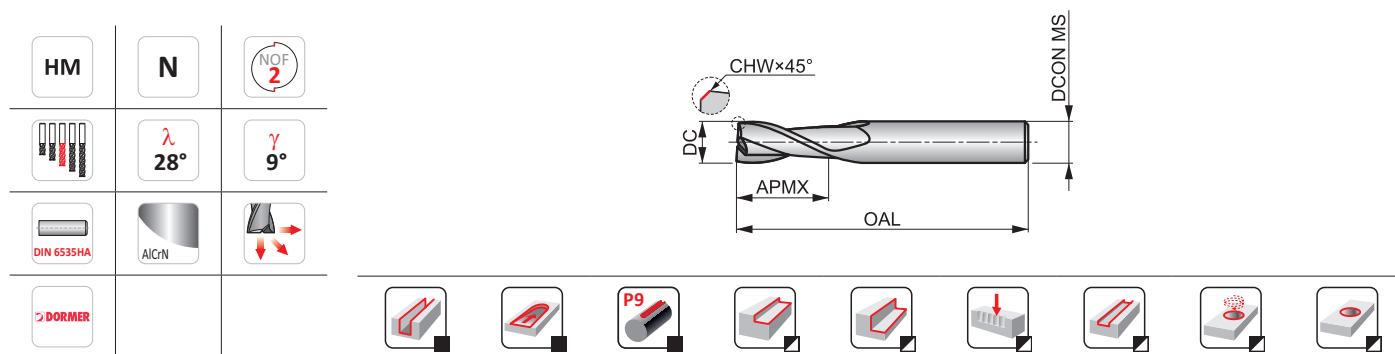
Material	Vc	FpT
N	112-709	0.010-0.233

S822



2-Flute Solid Carbide Slot End Mill

Medium cut length, 2-flute design provides high rigidity for milling standard slots to a P9 tolerance and ramping operation. AlCrN coating improves performance and extends the tool life.

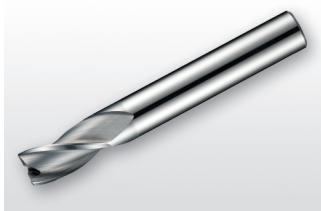


Material	P	M	K	N	S	H
	●	●	●	○	●	

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	CHW (mm)	NOF
S8222.0	DMR-10189A	2.0	8.0	57.0	6.0		2
S8222.5	DMR-10190A	2.5	12.0	57.0	6.0	0.08	2
S8223.0	DMR-10192E	3.0	12.0	57.0	6.0	0.13	2
S8224.0	DMR-10193B	4.0	14.0	57.0	6.0	0.13	2
S8225.0	DMR-10194L	5.0	16.0	57.0	6.0	0.13	2
S8226.0	DMR-10195H	6.0	19.0	57.0	6.0	0.30	2
S8228.0	DMR-10197M	8.0	19.0	63.0	8.0	0.20	2
S82210.0	DMR-10184H	10.0	22.0	72.0	10.0	0.20	2
S82212.0	DMR-10185C	12.0	25.0	83.0	12.0	0.20	2
S82216.0	DMR-10187J	16.0	32.0	92.0	16.0	0.20	2
S82220.0	DMR-10191K	20.0	38.0	104.0	20.0	0.30	2

Material	Vc	FpT
P	41-146	0.02-0.132
M	54-85	0.009-0.099
K	48-145	0.009-0.099
N	59-287	0.012-0.132
S	23 - 58	0.009-0.099

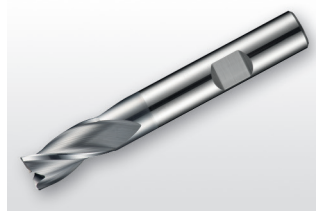
S813HA



3-Flute Solid Carbide Slot End Mill, DIN 6535 HA Shank

Short cut length, 3-flute design provides high rigidity for milling standard slots to a P9 tolerance. AlCrN coating increases service life and improves performance. Also suited for plunging and ramping milling.

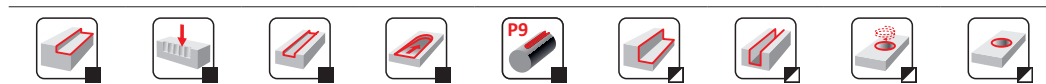
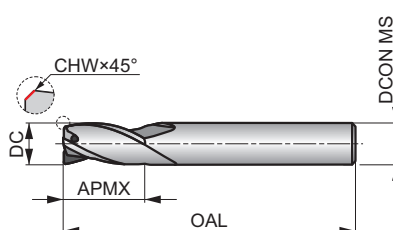
S813HB



3-Flute Solid Carbide Slot End Mill, DIN 6535 HB Shank

Short cut length, 3-flute design provides high rigidity for milling standard slots to a P9 tolerance. The Weldon shank prevents the end mill from slipping in the toolholder. AlCrN coating improves performance and extends the tool life. Also suited for plunging and ramping milling.

HM	N	NOF 3
	λ 28°	γ 9°
DIN 6535HA	AlCrN	
DIN 6527L		



Material	P	M	K	N	S	H
	●	●	●	○	○	

Product	Ordering Code	Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	CHW (mm)	NOF
S813HA2.0	CIE-40847A	S813HB2.0	CIE-40864H	2.0	6.0	57.0	6.0		3
S813HA3.0	CIE-40849E	S813HB3.0	CIE-40866M	3.0	7.0	57.0	6.0	0.08	3
S813HA4.0	CIE-40851B	S813HB4.0	CIE-40868D	4.0	8.0	57.0	6.0	0.13	3
S813HA5.0	CIE-40853H	S813HB5.0	CIE-40870A	5.0	10.0	57.0	6.0	0.13	3
S813HA6.0	CIE-40854C	S813HB6.0	CIE-40871K	6.0	10.0	57.0	6.0	0.13	3
S813HA8.0	CIE-40856J	S813HB8.0	CIE-40873B	8.0	16.0	63.0	8.0	0.13	3
S813HA10.0	CIE-40858A	S813HB10.0	CIE-40875H	10.0	19.0	72.0	10.0	0.30	3
S813HA12.0	CIE-40859K	S813HB12.0	CIE-40876C	12.0	22.0	83.0	12.0	0.20	3
S813HA16.0	CIE-40861E	S813HB16.0	CIE-40878J	16.0	26.0	92.0	16.0	0.20	3
S813HA20.0	CIE-40863L	S813HB20.0	CIE-40880D	20.0	32.0	104.0	20.0	0.30	3

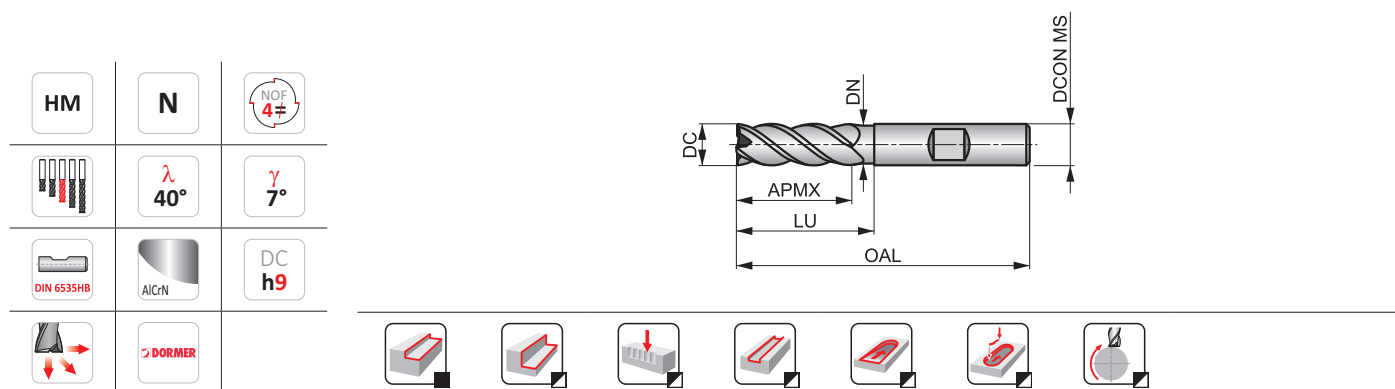
Material	Vc	FpT
P	47-192	0.009-0.099
M	60-97	0.006-0.073
K	92-166	0.006-0.073
N	67-330	0.009-0.099
S	30-72	0.006-0.073

S722HB



4-Flute Solid Carbide End Mill

Medium cut length, 4-flute design with 40° helix, differential pitch and Weldon shank provides high rigidity for profile milling deep walls. Neck recess to avoid work contact with the wall and extend reach. AlCrN coating improves performance and extends the tool life.

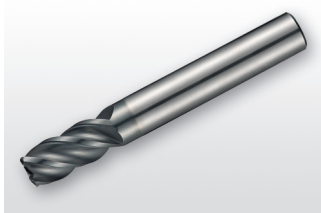


Material	P	M	K	N	S	H
	●	●	●		●	

Product	Ordering Code	DC (mm)	APMX (mm)	DN (mm)	LU (mm)	OAL (mm)	DCON (mm)	NOF
S722HB3.0	PA1-01960D	3.0	9.0	2.8	15.0	50.0	6.0	4
S722HB4.0	DMR-10168K	4.0	11.0	3.7	20.0	57.0	6.0	4
S722HB5.0	DMR-10169E	5.0	13.0	4.6	20.0	57.0	6.0	4
S722HB6.0	DMR-10170E	6.0	20.0	5.5	25.0	60.0	6.0	4
S722HB8.0	DMR-10171B	8.0	20.0	7.4	26.0	64.0	8.0	4
S722HB10.0	DMR-10164M	10.0	27.0	9.2	32.0	70.0	10.0	4
S722HB12.0	HSS-02828D	12.0	26.0	11.0	37.0	83.0	12.0	4
S722HB16.0	HSS-02827J	16.0	32.0	15.0	42.0	92.0	16.0	4
S722HB18.0	DMR-10166D	18.0	32.0	17.0	42.0	92.0	20.0	4
S722HB20.0	DMR-10167A	20.0	38.0	19.0	50.0	104.0	20.0	4

Material	Vc	FpT
P	70-230	0.014-0.099
M	81-115	0.011-0.073
K	65-196	0.014-0.099
S	31-69	0.011-0.073

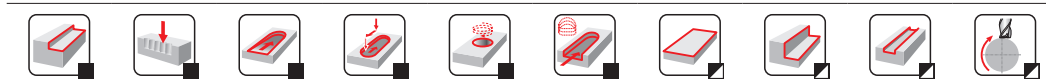
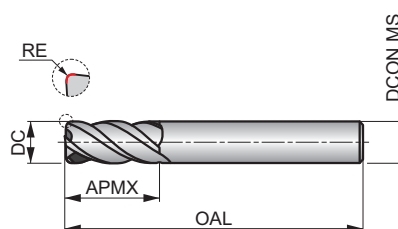
S262



4-Flute Solid Carbide Corner Radius End Mill

Short cut length, 4-flute design with different corner radius available provides high rigidity for standard profile milling when corner radius is required. AlCrN coating improves performance when milling difficult to machine materials. The 40° helix with differential pitch reduces vibrations and maximizes productivity.

HM	N	NOF 4#
	λ 40°	γ 4°
DIN 6535HA	AlCrN	DC h9
	DORMER	



Material	P	M	K	N	S	H
	●	●	●		●	

Product	Ordering Code	DC	RE	APMX	OAL	DCON	NOF
		(mm)	(mm)	(mm)	(mm)	(mm)	
S2623.0XR0.3	DMR-10091J	3.0	0.3	9.0	50.0	6.0	4
S2623.0XR0.5	HSS-02745K	3.0	0.5	9.0	50.0	6.0	4
S2624.0XR0.5	HSS-02550D	4.0	0.5	12.0	57.0	6.0	4
S2624.0XR1.0	DMR-10092D	4.0	1.0	12.0	57.0	6.0	4
S2625.0XR0.5	HSS-01989C	5.0	0.5	15.0	57.0	6.0	4
S2626.0XR0.5	DMR-10093A	6.0	0.5	16.0	57.0	6.0	4
S2626.0XR1.0	HSS-02551A	6.0	1.0	16.0	57.0	6.0	4
S2628.0XR0.5	PA1-01532E	8.0	0.5	20.0	64.0	8.0	4
S2628.0XR1.0	DMR-10094K	8.0	1.0	20.0	64.0	8.0	4
S2628.0XR1.5	DMR-10095E	8.0	1.5	20.0	64.0	8.0	4
S26210.0XR1.5	HSS-02743D	10.0	1.5	22.0	72.0	10.0	4
S26216.0XR2.5	DMR-10087H	16.0	2.5	32.0	92.0	16.0	4
S26220.0XR3.0	DMR-10089M	20.0	3.0	38.0	104.0	20.0	4
S26220.0XR4.0	DMR-10090M	20.0	4.0	38.0	104.0	20.0	4

Material	Vc	FpT
P	74-243	0.026-0.099
M	86-122	0.019-0.073
K	69-208	0.026-0.099
S	33-72	0.019-0.073

S770HB

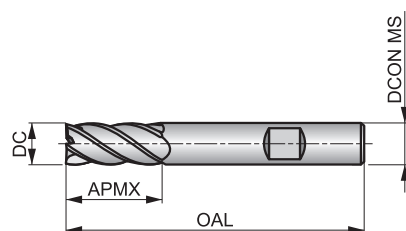
NEW



5-Flute Solid Carbide End Mill

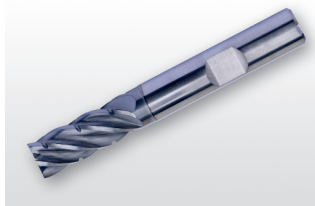
Short cut length, 5-flute design with unequal helix to reduce vibrations especially when using the cutter in dynamic milling strategies. AlCrN coating improves performance and extends the tool life. Suited for trochoidal and shoulder milling, ramping and helicoidal interpolation milling.

HM	N	NOF 5
	$\lambda \neq$	$\gamma 10^\circ$
DIN 6535HB	AlCrN	DC h9
	DORMER	



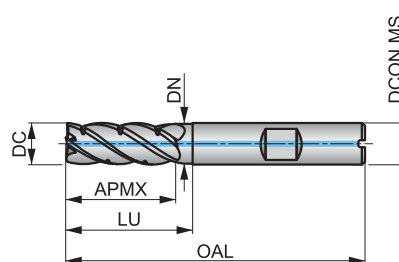
S771HB

NEW



5-Flute Solid Carbide End Mill, Chip Dividers and Through Coolant

Short cut length, 5-flute design with neck recess and unequal helix helps to reduce vibrations especially when using the cutter in dynamic milling strategies. AlCrN coating improves performance and extends the tool life. Chip divider and through coolant improve chip evacuation in pocketing operation.



Material	P	M	K	N	S	H
	●	●	●		●	

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S770HB10.0	HSS-02839D	10.0	22.0	72.0	10.0	5
S770HB12.0	HSS-02840D	12.0	26.0	83.0	12.0	5
S770HB16.0	HSS-02836C	16.0	32.0	92.0	16.0	5
S770HB20.0	HSS-02837M	20.0	38.0	104.0	20.0	5

Material	Vc	FpT
P	74-243	0.042-0.073
M	86-122	0.042-0.073
K	83-214	0.042-0.073
S	33-72	0.031-0.053



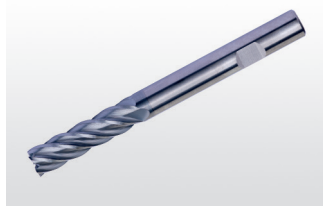
Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	DN (mm)	LU (mm)	NOF
S771HB10.0	DMR-10172L	10.0	30.0	72.0	10.0	9.7	30.0	5
S771HB12.0	DMR-10173H	12.0	38.0	83.0	12.0	11.7	38.0	5
S771HB16.0	DMR-10174C	16.0	44.0	92.0	16.0	15.7	44.0	5
S771HB20.0	DMR-10175M	20.0	54.0	104.0	20.0	19.7	54.0	5

Material	Vc	FpT
P	78-255	0.026-0.099
M	90-128	0.019-0.073
K	72-218	0.026-0.099
S	35-76	0.019-0.073

DORMER

S772HB

NEW



5-Flute Solid Carbide End Mill, Long Series

Long cut length, 5-flute design with unequal helix to reduce vibrations especially when using the cutter in dynamic milling strategies. AlCrN coating improves performance and extends the tool life. Suited for trochoidal and shoulder milling, ramping and helicoidal interpolation milling.

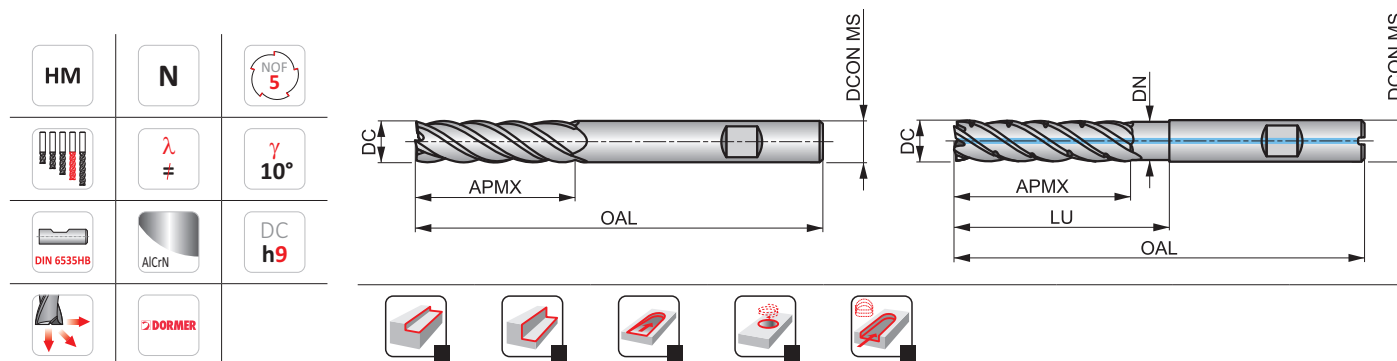
S773HB

NEW



5-Flute Solid Carbide End Mill, Chip Dividers, Through Coolant, Long Series

Long cut length, 5-flute design with neck recess and unequal helix helps to reduce vibrations especially when using the cutter in dynamic milling strategies. AlCrN coating improves performance and extends the tool life. Chip divider and through coolant improve chip evacuation in pocketing operations.



Material	P	M	K	N	S	H
	●	●	●		●	

Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S772HB10.0	DMR-10176J	10.0	38.0	100.0	10.0	5
S772HB12.0	DMR-10177D	12.0	45.0	100.0	12.0	5
S772HB16.0	DMR-10178A	16.0	55.0	125.0	16.0	5
S772HB20.0	DMR-10179K	20.0	65.0	125.0	20.0	5

Material	Vc	FpT
P	52-165	0.031-0.053
M	60-85	0.022-0.039
K	48-146	0.031-0.053
S	23-50	0.022-0.039

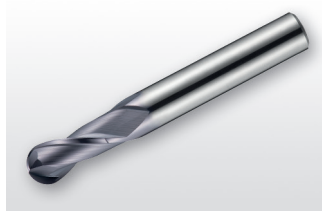


Product	Ordering Code	DC (mm)	APMX (mm)	OAL (mm)	DCON (mm)	DN (mm)	LU (mm)	NOF
S773HB10.0	DMR-10180K	10.0	42.0	100.0	10.0	9.7	52.0	5
S773HB12.0	DMR-10181E	12.0	42.0	100.0	12.0	11.7	54.0	5
S773HB16.0	DMR-10182B	16.0	60.0	125.0	16.0	15.7	68.0	5
S773HB20.0	DMR-10183L	20.0	67.0	125.0	20.0	19.7	75.0	5

Material	Vc	FpT
P	55-179	0.031-0.053
M	63-89	0.022-0.039
K	50-153	0.031-0.053
S	24-53	0.022-0.039

DORMER

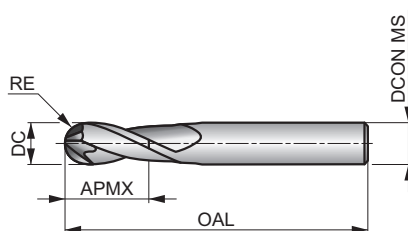
S501



2-Flute Solid Carbide Ball-Nosed End Mill

Short cut length, 2-flute design reduces vibrations and provides increased strength. Ball nosed geometry is designed for high performance contouring of complex surfaces. The X-CEED coating provides improved performance for milling difficult to machine materials.

HM	N	NOF 2
	λ 30°	γ 10°
DIN 6535HA	X-CEED	DC h9
	DORMER	

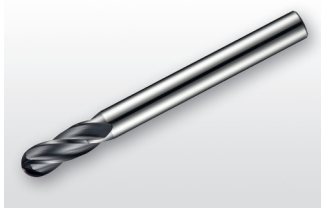


Material	P	M	K	N	S	H
	●	●	●	○	●	

Product	Ordering Code	DC (mm)	RE (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S5011.0	CIE-02474J	1.0	0.50	3.0	38.0	3.0	2
S5012.0	CIE-02475D	2.0	1.00	6.0	38.0	3.0	2
S5013.0	CIE-02476A	3.0	1.50	7.0	38.0	3.0	2
S5014.0	CIE-02477K	4.0	2.00	8.0	57.0	6.0	2
S5015.0	CIE-02478E	5.0	2.50	10.0	57.0	6.0	2
S5016.0	CIE-02479B	6.0	3.00	10.0	57.0	6.0	2
S5018.0	CIE-02481L	8.0	4.00	16.0	63.0	8.0	2
S50110.0	CIE-02483C	10.0	5.00	19.0	72.0	10.0	2
S50112.0	CIE-02484M	12.0	6.00	22.0	83.0	12.0	2
S50116.0	CIE-02485J	16.0	8.00	26.0	92.0	16.0	2

Material	Vc	FpT
P	46-186	0.002-0.032
M	58-94	0.002-0.024
K	54-161	0.002-0.032
N	72-355	0.002-0.044
S	51-126	0.002-0.024

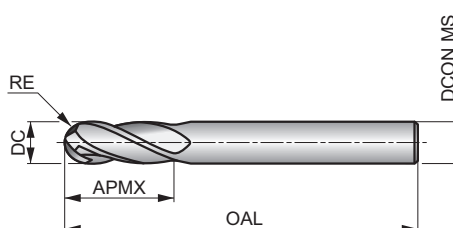
S511



4-Flute Solid Carbide Ball-Nosed End Mill, Extra Long Reach

Short cut length, extra long reach, 4-flute design provides high rigidity for increased strength and reduces vibrations in deeper applications. Ball nosed geometry is designed for high performance contouring of complex surfaces. X-CEED coating provides improved performance for milling difficult to machine materials.

HM	N	NOF 4
	λ 30°	γ 10°
DIN 6535HA	X-CEED	DC h9
	DORMER	



Material	P	M	K	N	S	H
	●	●	●	○	●	

Product	Ordering Code	DC (mm)	RE (mm)	APMX (mm)	OAL (mm)	DCON (mm)	NOF
S5113.0	CIE-02530K	3.0	1.50	8.0	80.0	6.0	4
S5114.0	CIE-02531E	4.0	2.00	11.0	80.0	6.0	4
S5115.0	CIE-02532B	5.0	2.50	13.0	80.0	6.0	4
S5116.0	CIE-02533L	6.0	3.00	13.0	80.0	6.0	4
S5118.0	CIE-02535C	8.0	4.00	19.0	100.0	8.0	4
S51110.0	CIE-02537J	10.0	5.00	22.0	100.0	10.0	4
S51112.0	CIE-02538D	12.0	6.00	26.0	100.0	12.0	4
S51116.0	CIE-02539A	16.0	8.00	32.0	100.0	16.0	4

Material	Vc	FpT
P	46-186	0.002-0.024
M	58-94	0.002-0.017
K	54-161	0.002-0.024
N	72-355	0.002-0.044
S	51-126	0.002-0.017

TECHNICAL AND ENGINEERING EXPERTS...

Thousands of customers depend on MSC to help reduce their costs, improve productivity, and increase profitability. That's why we have a team of dedicated experts, to work with you on your engineering projects. Our time served Engineers are specialists in a variety of sectors, applications, product materials and machines – meaning you can trust MSC to impartially advise, on the right solution to optimise your business.

So what does this mean for you?



If you're a Managing Director, you don't need to hire or invest in more resource to focus on cost savings, our expert Technical Team will identify and implement solution projects for you



If you're an Engineer, it means you have someone standing next to you or on the phone helping with any technical question you have. Whether you're new in the industry or an experienced engineer, they can advise on the best and latest solution specific to you



If you're a Production Manager, MSC is a trusted adviser proactively sharing technical best practice, across the industry, to improve your production line and achieve your objectives



If you're in Procurement, our Engineers will advise on product rationalisation solutions to remove unwanted inventory and report back achieved cost savings

What you can expect from MSC



Survey your machining operation and requirements including; workpiece materials, speeds, feeds, tolerances and other critical data



Recommend improvements from; the right tool for the job to tool path adjustments, to speeds and feeds, to new approaches and techniques that address manufacturing challenges



Document test results, including cost savings, tool life cycle times and more