CTC GROUP

KEMMER PRÄZISION
A CTC COMPANY

70+ YEARS

OF KEMMER

CRAFTING THE FUTURE OF PRECISION ENGINEERING

ENDMILL 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
A CTC COMPANY

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

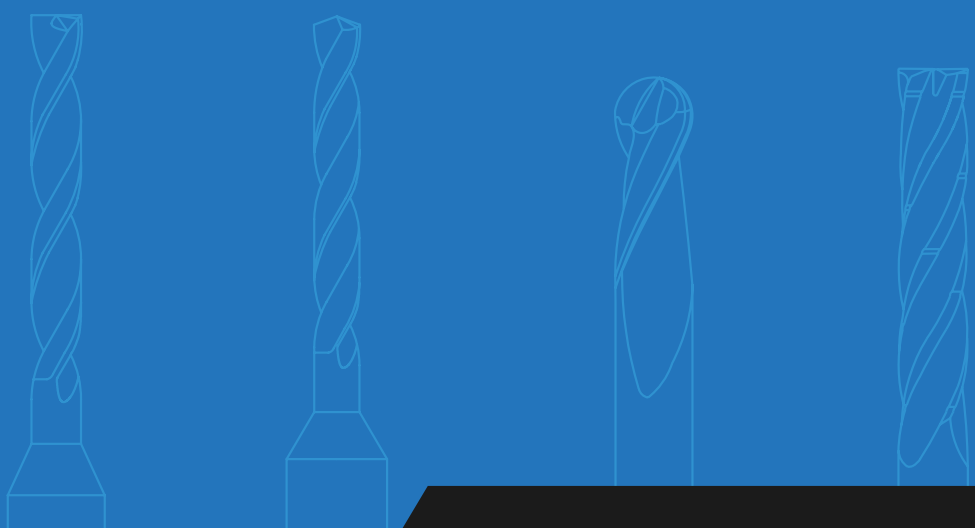
CTC Praezision: A significant player in industrial cutting tools market, specializing in micro tools and delivering precision-engineered, high-performance solutions for all industrial applications.

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

A CTC COMPANY

www.kemmer-praezision.com | info@kemmer-praezision.com

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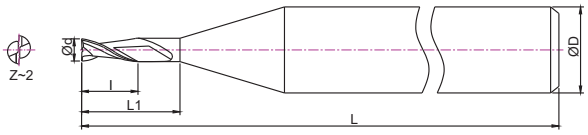
2 Flute Micro End Mill

E110

STANDARD LENGTH
STUB LENGTH
LONG LENGTH

- Excellent performance upto 55HRc
- Designed for machining high precision parts in electronics, medical, diemold and aerospace industry.
- Controlled tolerence ensures the consistancy.



MG | 2 Flute | 30° | CH | Shank Dia h6 | L Coating | P.064

Unit: mm

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Uncoated	L- Coating
0.10	0.15	38.00	3.00	-	E110-00100-0001V08	-
0.10	0.30	38.00	3.00	-	E110-00100-0003V08	-
0.15	0.23	38.00	3.00	-	E110-00150-0002V08	-
0.15	0.45	38.00	3.00	-	E110-00150-0004V08	-
0.20	0.30	38.00	3.00	-	E110-00200-0003V08	-
0.20	0.60	38.00	3.00	-	E110-00200-0006V08	-
0.25	0.38	38.00	3.00	-	E110-00250-0003V08	-
0.25	0.75	38.00	3.00	-	E110-00250-0007V08	-
0.30	0.45	38.00	3.00	-	E110-00300-0004V08	-
0.30	0.90	38.00	3.00	-	E110-00300-0009V08	-
0.35	0.53	38.00	3.00	-	E110-00350-0005V08	-
0.35	1.05	38.00	3.00	-	E110-00350-0010V08	-
0.40	0.60	38.00	3.00	-	E110-00400-0006V08	-
0.40	1.20	38.00	3.00	-	E110-00400-0012V08	-
0.40	1.20	38.00	3.00	3.00	E110-00400-0012VA8	-
0.45	0.68	38.00	3.00	-	E110-00450-0006V08	-
0.45	1.35	38.00	3.00	-	E110-00450-0013V08	-
0.50	0.75	38.00	3.00	-	E110-00500-0007V08	-
0.50	1.50	38.00	3.00	-	E110-00500-0015V08	-
0.50	1.50	38.00	3.00	4.00	E110-00500-0015VA8	-
0.60	0.90	38.00	3.00	-	E110-00600-0009V08	-
0.60	1.80	38.00	3.00	-	E110-00600-0018V08	-
0.60	1.80	38.00	3.00	5.00	E110-00600-0018VA8	-
0.65	1.95	38.00	3.00	6.00	E110-00650-0019VA8	-
0.70	1.05	38.00	3.00	-	E110-00700-0010V08	-
0.70	2.10	38.00	3.00	-	E110-00700-0021V08	-
0.70	2.10	38.00	3.00	7.00	E110-00700-0021VA8	-
0.75	2.25	38.00	3.00	8.00	E110-00750-0022VA8	-

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

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	●		◐		●				◐	◐	◐				
Coated	●	●	●	◐	●	◐	◐		●	●	◐			◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro End Mill

E110

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Uncoated	L- Coating
0.80	1.20	38.00	3.00	-	E110-00800-0012V08	-
0.80	2.40	38.00	3.00	-	E110-00800-0024V08	-
0.80	2.40	50.00	3.00	9.00	E110-00800-0024VA8	-
0.90	1.35	38.00	3.00	-	E110-00900-0013V08	-
0.90	2.70	38.00	3.00	-	E110-00900-0027V08	-
0.90	2.70	50.00	3.00	10.00	E110-00900-0027VA8	-
1.00	1.50	38.00	3.00	-	E110-01000-0015V08	-
1.00	3.00	38.00	3.00	-	E110-01000-0030V08	-
1.00	3.00	50.00	3.00	10.00	E110-01000-0030VA8	-
1.10	1.65	38.00	3.00	-	E110-01100-0017V08	-
1.10	3.30	38.00	3.00	-	E110-01100-0033V08	-
1.20	1.80	38.00	3.00	-	E110-01200-0018V08	-
1.20	3.60	38.00	3.00	-	E110-01200-0036V08	-
1.30	2.60	38.00	3.00	-	E110-01300-0026V08	-
1.30	3.90	38.00	3.00	-	E110-01300-0039V08	-
1.40	2.80	38.00	3.00	-	E110-01400-0028V08	-
1.40	4.20	38.00	3.00	-	E110-01400-0042V08	-
1.50	2.25	38.00	3.00	-	E110-01500-0022V08	-
1.50	4.50	38.00	3.00	-	E110-01500-0045V08	-
1.50	4.50	50.00	3.00	15.00	E110-01500-0045VA8	-
1.60	3.20	38.00	3.00	-	E110-01600-0032V08	-
1.60	4.80	38.00	3.00	-	E110-01600-0048V08	-
1.70	3.70	38.00	3.00	-	E110-01700-0037V08	-
1.70	5.10	38.00	3.00	-	E110-01700-0051V08	-
1.80	3.60	38.00	3.00	-	E110-01800-0036V08	-
1.80	5.40	38.00	3.00	-	E110-01800-0054V08	-
1.90	3.80	38.00	3.00	-	E110-01900-0038V08	-
1.90	5.70	38.00	3.00	-	E110-01900-0057V08	-
2.00	3.00	38.00	3.00	-	E110-02000-0030V08	E110L02000-0030VB8
2.00	6.00	38.00	3.00	-	E110-02000-0060V08	E110L02000-0060V08
2.00	6.00	50.00	3.00	20.00	E110-02000-0060VA8	E110L02000-0060VA8
2.50	3.75	38.00	3.00	-	E110-02500-0038V08	E110L02500-0038V08
2.50	7.50	38.00	3.00	-	E110-02500-0075V08	E110L02500-0075V08
2.50	7.50	50.00	3.00	23.00	E110-02500-0075VA8	E110L02500-0075VA8
2.80	4.50	38.00	3.00	-	E110-02800-0045V08	E110L02800-0045V08
2.80	9.00	38.00	3.00	-	E110-02800-0090V08	E110L02800-0090V08
3.00	4.50	38.00	3.00	-	E110-03000-0045V08	E110L03000-0045V08
3.00	9.00	38.00	3.00	-	E110-03000-0090V08	E110L03000-0090V08
3.00	9.00	50.00	3.00	23.00	E110-03000-0090VA8	E110L03000-0090VA8

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

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	●		◐		●				◐	◐	◐				
Coated	●	●	●	◐	●	◐	◐		●	●	◐			◐	◐

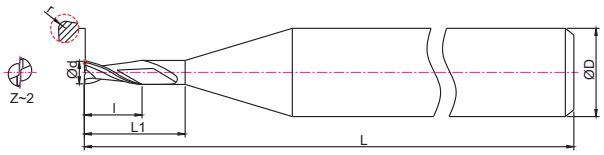
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro End Mill with Corner Radius

E130

STANDARD LENGTH
STUB LENGTH
LONG LENGTH

- Excellent performance upto 55HRc
- Designed for machining high precision parts in electronics, medical, diemold and aerospace industry.
- Controlled tolerence ensures the consistancy.



MG | 2 Flute | 30° | CH | Shank Dia h6 | L Coating | P.064

Unit: mm

DESCRIPTION						PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Radius r	Uncoated	L - coated
0.10	0.15	38.00	3.00	0.50	0.02	E130-00100-0001V08	-
0.10	0.30	38.00	3.00	1.00	0.02	E130-00100-0003V08	-
0.15	0.23	38.00	3.00	0.50	0.02	E130-00150-0002V08	-
0.15	0.45	38.00	3.00	1.00	0.02	E130-00150-0004V08	-
0.20	0.30	38.00	3.00	1.00	0.02	E130-00200-0003V08	-
0.20	0.60	38.00	3.00	1.50	0.02	E130-00200-0006V08	-
0.25	0.38	38.00	3.00	1.00	0.02	E130-00250-0003V08	-
0.25	0.75	38.00	3.00	1.50	0.02	E130-00250-0007V08	-
0.30	0.45	38.00	3.00	1.00	0.03	E130-00300-0004V08	-
0.30	0.90	38.00	3.00	1.50	0.03	E130-00300-0009V08	-
0.30	0.90	38.00	3.00	2.00	0.03	E130-00300-0009VA8	-
0.35	0.53	38.00	3.00	1.00	0.03	E130-00350-0005V08	-
0.35	1.05	38.00	3.00	1.50	0.03	E130-00350-0010V08	-
0.35	1.05	38.00	3.00	2.00	0.03	E130-00350-0010VA8	-
0.40	0.60	38.00	3.00	1.00	0.05	E130-00400-0006V08	-
0.40	1.20	38.00	3.00	2.00	0.05	E130-00400-0012V08	-
0.40	1.20	38.00	3.00	3.00	0.05	E130-00400-0012VA8	-
0.45	0.68	38.00	3.00	2.00	0.05	E130-00450-0006V08	-
0.45	1.35	38.00	3.00	3.00	0.05	E130-00450-0013V08	-
0.50	0.75	38.00	3.00	1.00	0.05	E130-00500-0007V08	-
0.50	0.75	38.00	3.00	2.00	0.05	E130-00500-0007VA8	-
0.50	1.50	38.00	3.00	3.00	0.05	E130-00500-0015V08	-
0.50	1.50	38.00	3.00	4.00	0.05	E130-00500-0015VA8	-
0.60	0.90	38.00	3.00	2.00	0.10	E130-00600-0009V08	-
0.60	1.80	38.00	3.00	4.00	0.10	E130-00600-0018V08	-
0.60	1.80	38.00	3.00	5.00	0.10	E130-00600-0018VA8	-
0.70	1.05	38.00	3.00	3.00	0.10	E130-00700-0010V08	-
0.70	2.10	38.00	3.00	5.00	0.10	E130-00700-0021V08	-

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

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
Coated	●	●	●	◐	◐	◐	◐		◐					◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro End Mill with Corner Radius

E130

DESCRIPTION						PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Radius r	Uncoated	L - coated
0.70	2.10	38.00	3.00	7.00	0.10	E130-00700-0021VA8	-
0.80	1.20	38.00	3.00	2.00	0.15	E130-00800-0012V08	-
0.80	2.40	38.00	3.00	4.00	0.15	E130-00800-0024V08	-
0.80	2.40	38.00	3.00	6.00	0.15	E130-00800-0024VA8	-
0.80	2.40	50.00	3.00	8.00	0.15	E130-00800-0024VB8	-
0.90	1.35	38.00	3.00	2.00	0.20	E130-00900-0013V08	-
0.90	1.35	38.00	3.00	4.00	0.20	E130-00900-0013VA8	-
0.90	2.70	38.00	3.00	6.00	0.20	E130-00900-0027V08	-
0.90	2.70	38.00	3.00	8.00	0.20	E130-00900-0027VA8	-
0.90	2.70	50.00	3.00	10.00	0.20	E130-00900-0027VB8	-
1.00	1.50	38.00	3.00	3.00	0.20	E130-01000-0015V08	-
1.00	3.00	38.00	3.00	5.00	0.20	E130-01000-0030V08	-
1.00	3.00	38.00	3.00	8.00	0.20	E130-01000-0030VA8	-
1.00	3.00	50.00	3.00	10.00	0.20	E130-01000-0030VB8	-
1.10	1.65	38.00	3.00	5.00	0.20	E130-01100-0016V08	-
1.10	3.30	38.00	3.00	10.00	0.20	E130-01100-0033V08	-
1.20	1.80	38.00	3.00	3.00	0.10	E130-01200-0018V08	-
1.20	3.60	38.00	3.00	5.00	0.10	E130-01200-0036V08	-
1.20	3.60	38.00	3.00	8.00	0.10	E130-01200-0036VA8	-
1.20	3.60	38.00	3.00	10.00	0.10	E130-01200-0036VB8	-
1.20	1.80	38.00	3.00	3.00	0.20	E130-01200-0018VB8	-
1.20	3.60	38.00	3.00	5.00	0.20	E130-01200-0036VC8	-
1.20	3.60	38.00	3.00	8.00	0.20	E130-01200-0036VD8	-
1.20	3.60	38.00	3.00	10.00	0.20	E130-01200-0036VF8	-
1.30	2.60	38.00	3.00	5.00	0.20	E130-01300-0026V08	-
1.30	3.90	38.00	3.00	10.00	0.20	E130-01300-0039V08	-
1.40	2.80	38.00	3.00	5.00	0.20	E130-01400-0028V08	-
1.40	4.20	38.00	3.00	10.00	0.20	E130-01400-0042V08	-
1.50	2.25	38.00	3.00	3.00	0.20	E130-01500-0022V08	-
1.50	2.25	38.00	3.00	5.00	0.20	E130-01500-0022VA8	-
1.50	2.25	38.00	3.00	8.00	0.20	E130-01500-0022VB8	-
1.50	2.25	38.00	3.00	10.00	0.20	E130-01500-0022VC8	-
1.50	2.25	38.00	3.00	15.00	0.20	E130-01500-0022VD8	-
1.50	4.50	38.00	3.00	3.00	0.50	E130-01500-0045V08	-
1.50	4.50	38.00	3.00	5.00	0.50	E130-01500-0045VA8	-
1.50	4.50	38.00	3.00	8.00	0.50	E130-01500-0045VB8	-
1.50	4.50	38.00	3.00	10.00	0.50	E130-01500-0045VC8	-

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

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
Coated	●	●	●	◐	◐	◐	◐		◐					◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro End Mill with Corner Radius

E130

DESCRIPTION						PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Radius r	Uncoated	L - coated
1.50	4.50	50.00	3.00	15.00	0.50	E130-01500-0045VD8	-
1.60	3.20	38.00	3.00	10.00	0.50	E130-01600-0032V08	-
1.60	4.80	38.00	3.00	15.00	0.50	E130-01600-0048V08	-
1.70	3.70	38.00	3.00	10.00	0.50	E130-01700-0037V08	-
1.70	5.10	38.00	3.00	15.00	0.50	E130-01700-0051V08	-
1.80	3.60	38.00	3.00	10.00	0.50	E130-01800-0036V08	-
1.80	5.40	38.00	3.00	15.00	0.50	E130-01800-0054V08	-
1.90	3.80	38.00	3.00	10.00	0.50	E130-01900-0038V08	-
1.90	5.70	38.00	3.00	15.00	0.50	E130-01900-0057V08	-
2.00	3.00	38.00	3.00	5.00	0.20	E130-02000-0030V08	E130L02000-0030V08
2.00	3.00	38.00	3.00	8.00	0.20	E130-02000-0030VA8	E130L02000-0030VA8
2.00	3.00	38.00	3.00	10.00	0.20	E130-02000-0030VB8	E130L02000-0030VB8
2.00	3.00	38.00	3.00	15.00	0.20	E130-02000-0030VC8	E130L02000-0030VC8
2.00	3.00	38.00	3.00	20.00	0.20	E130-02000-0030VD8	E130L02000-0030VD8
2.00	6.00	38.00	3.00	5.00	0.50	E130-02000-0060V08	E130L02000-0060V08
2.00	6.00	38.00	3.00	8.00	0.50	E130-02000-0060VA8	E130L02000-0060VA8
2.00	6.00	38.00	3.00	10.00	0.50	E130-02000-0060VB8	E130L02000-0060VB8
2.00	6.00	38.00	3.00	15.00	0.50	E130-02000-0060VC8	E130L02000-0060VC8
2.00	6.00	50.00	3.00	20.00	0.50	E130-02000-0060VD8	E130L02000-0060VD8
2.50	3.75	38.00	3.00	5.00	0.20	E130-02500-0037V08	E130L02500-0037V08
2.50	3.75	38.00	3.00	8.00	0.20	E130-02500-0037VA8	E130L02500-0037VA8
2.50	3.75	38.00	3.00	10.00	0.20	E130-02500-0037VB8	E130L02500-0037VB8
2.50	3.75	38.00	3.00	15.00	0.20	E130-02500-0037VC8	E130L02500-0037VC8
2.50	3.75	38.00	3.00	20.00	0.20	E130-02500-0037VD8	E130L02500-0037VD8
2.50	7.50	38.00	3.00	5.00	0.50	E130-02500-0075V08	E130L02500-0075V08
2.50	7.50	38.00	3.00	8.00	0.50	E130-02500-0075VA8	E130L02500-0075VA8
2.50	7.50	38.00	3.00	10.00	0.50	E130-02500-0075VB8	E130L02500-0075VB8
2.50	7.50	38.00	3.00	15.00	0.50	E130-02500-0075VC8	E130L02500-0075VC8
2.50	7.50	38.00	3.00	20.00	0.50	E130-02500-0075VD8	E130L02500-0075VD8
2.50	7.50	50.00	3.00	5.00	0.50	E130-02500-0075VE8	E130L02500-0075VE8
2.50	7.50	50.00	3.00	8.00	0.50	E130-02500-0075VF8	E130L02500-0075VF8
2.50	7.50	50.00	3.00	10.00	0.50	E130-02500-0075VG8	E130L02500-0075VG8
2.50	7.50	50.00	3.00	15.00	0.50	E130-02500-0075VH8	E130L02500-0075VH8
2.50	7.50	50.00	3.00	20.00	0.50	E130-02500-0075VI8	E130L02500-0075VI8
2.50	7.50	50.00	3.00	23.00	0.50	E130-02500-0075VJ8	E130L02500-0075VJ8
2.80	4.50	38.00	3.00	10.00	0.50	E130-02800-0045V08	E130L02800-0045V08
2.80	4.50	38.00	3.00	15.00	0.50	E130-02800-0045VA8	E130L02800-0045VA8

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

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
Coated	●	●	●	◐	◐	◐	◐		◐					◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro End Mill with Corner Radius

E130

DESCRIPTION						PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Radius r	Uncoated	L - coated
2.80	9.00	38.00	3.00	20.00	0.50	E130-02800-0090V08	E130L02800-0090V08
2.80	9.00	38.00	3.00	23.00	0.50	E130-02800-0090VA8	E130L02800-0090VA8
3.00	4.50	38.00	3.00	5.00	0.50	E130-03000-0045V08	E130L03000-0045V08
3.00	4.50	38.00	3.00	10.00	0.50	E130-03000-0045VA8	E130L03000-0045VA8
3.00	4.50	38.00	3.00	15.00	0.50	E130-03000-0045VB8	E130L03000-0045VB8
3.00	4.50	38.00	3.00	20.00	0.50	E130-03000-0045VC8	E130L03000-0045VC8
3.00	4.50	38.00	3.00	23.00	0.50	E130-03000-0045VD8	E130L03000-0045VD8
3.00	9.00	38.00	3.00	5.00	1.00	E130-03000-0090V08	E130L03000-0090V08
3.00	9.00	38.00	3.00	10.00	1.00	E130-03000-0090VA8	E130L03000-0090VA8
3.00	9.00	38.00	3.00	15.00	1.00	E130-03000-0090VB8	E130L03000-0090VB8
3.00	9.00	38.00	3.00	20.00	1.00	E130-03000-0090VC8	E130L03000-0090VC8
3.00	9.00	38.00	3.00	23.00	1.00	E130-03000-0090VD8	E130L03000-0090VD8
3.00	9.00	50.00	3.00	5.00	1.00	E130-03000-0090VE8	E130L03000-0090VE8
3.00	9.00	50.00	3.00	10.00	1.00	E130-03000-0090VF8	E130L03000-0090VF8
3.00	9.00	50.00	3.00	15.00	1.00	E130-03000-0090VG8	E130L03000-0090VG8
3.00	9.00	50.00	3.00	20.00	1.00	E130-03000-0090VH8	E130L03000-0090VH8
3.00	9.00	50.00	3.00	23.00	1.00	E130-03000-0090VI8	E130L03000-0090VI8

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

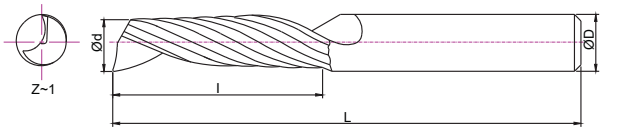
Coating	P		H		M	K	N						S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	◐	◐	◐		◐					◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

Single Flute End Mill

E010
STANDARD LENGTH
LONG LENGTH

- More suitable for non ferrous materials like Aluminium, plastic, Acrylic etc
- Better chip evacuation due to single flute design
- Works better in thin plate machining



MG | Single Flute | 25° | CH | Shank Dia h6 | Polished | P.062

Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
0.10	0.30	30.00	3.00	E010-00100-0003V08
0.20	0.60	30.00	3.00	E010-00200-0006V08
0.30	1.00	30.00	3.00	E010-00300-0010V08
0.40	1.00	30.00	3.00	E010-00400-0010V08
0.50	1.50	30.00	3.00	E010-00500-0015V08
0.60	3.00	30.00	3.00	E010-00600-0030V08
0.80	5.00	30.00	3.00	E010-00800-0050V08
1.00	4.00	30.00	3.00	E010-01000-0040V08
1.50	6.00	30.00	3.00	E010-01500-0060V08
2.00	6.00	30.00	3.00	E010-02000-0060V08
2.00	6.00	50.00	4.00	E010-02000-0060VA8
2.00	6.00	50.00	6.00	E010-02000-0060VB8
2.00	8.00	30.00	3.00	E010-02000-0080V08
2.00	11.00	38.00	3.00	E010-02000-0110V08
3.00	6.00	30.00	3.00	E010-03000-0060V08
3.00	6.00	50.00	6.00	E010-03000-0060VA8
3.00	11.00	38.00	3.00	E010-03000-0110V08
3.00	11.00	50.00	4.00	E010-03000-0110VA8
3.00	11.00	50.00	6.00	E010-03000-0110VB8
3.00	22.00	50.00	3.00	E010-03000-0220V08
3.00	22.00	60.00	6.00	E010-03000-0220VA8

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Dia 2.0 - 3.0 mm - polished and "G" coating available upon request

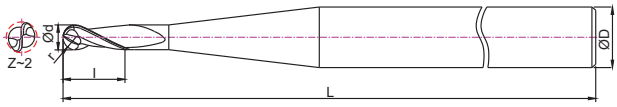
Coating	P		H		M	K	N						S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated							●		●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro Ball Nose End Mill

B000
STANDARD LENGTH
LONG LENGTH

- Designed for machining high precision parts in electronics, medical, diemold and aerospace industry.
- Controlled tolerance ensures the consistancy.
- Available with different dimensions for different applications.
- Best suitable for applications with hardness upto 55HRc



MG | 2 Flute | 30° | CH | Shank Dia h6 | L Coating | P.058

Unit: mm

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Uncoated	L - coating
0.10	0.15	38.00	3.00	-	B000-00100-0001V08	-
0.10	0.30	38.00	3.00	-	B000-00100-0003V08	-
0.15	0.23	38.00	3.00	-	B000-00150-0002V08	-
0.15	0.45	38.00	3.00	-	B000-00150-0004V08	-
0.20	0.30	38.00	3.00	-	B000-00200-0003V08	-
0.20	0.60	38.00	3.00	-	B000-00200-0006V08	-
0.25	0.38	38.00	3.00	-	B000-00250-0003V08	-
0.25	0.75	38.00	3.00	-	B000-00250-0007V08	-
0.30	0.45	38.00	3.00	-	B000-00300-0004V08	-
0.30	0.90	38.00	3.00	-	B000-00300-0009V08	-
0.35	0.53	38.00	3.00	-	B000-00350-0005V08	-
0.35	1.05	38.00	3.00	-	B000-00350-0010V08	-
0.40	0.60	38.00	3.00	-	B000-00400-0006V08	-
0.40	1.20	38.00	3.00	-	B000-00400-0012V08	-
0.40	1.20	38.00	3.00	3.00	B000-00400-0012VA8	-
0.45	0.68	38.00	3.00	-	B000-00450-0006V08	-
0.45	1.35	38.00	3.00	-	B000-00450-0013V08	-
0.50	0.75	38.00	3.00	-	B000-00500-0007V08	-
0.50	1.50	38.00	3.00	-	B000-00500-0015V08	-
0.50	1.50	38.00	3.00	4.00	B000-00500-0015VA8	-
0.60	0.90	38.00	3.00	-	B000-00600-0009V08	-
0.60	1.80	38.00	3.00	-	B000-00600-0018V08	-
0.60	1.80	38.00	3.00	5.00	B000-00600-0018VA8	-
0.65	1.95	38.00	3.00	6.00	B000-00650-0019VA8	-
0.70	1.05	38.00	3.00	-	B000-00700-0010V08	-
0.70	2.10	38.00	3.00	-	B000-00700-0021V08	-
0.70	2.10	38.00	3.00	7.00	B000-00700-0021VA8	-
0.75	2.25	38.00	3.00	8.00	B000-00750-0022VA8	-

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

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	●	◐				◐									
Coated	●	●	●	◐	◐	◐								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Micro Ball Nose End Mill

B000

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Neck Length L1	Uncoated	L - coating
0.80	1.20	38.00	3.00	-	B000-00800-0012V08	-
0.80	2.40	38.00	3.00	-	B000-00800-0024V08	-
0.80	2.40	50.00	3.00	9.00	B000-00800-0024VA8	-
0.90	1.35	38.00	3.00	-	B000-00900-0013V08	-
0.90	2.70	38.00	3.00	-	B000-00900-0027V08	-
0.90	2.70	50.00	3.00	10.00	B000-00900-0027VA8	-
1.00	1.50	38.00	3.00	-	B000-01000-0015V08	-
1.00	3.00	38.00	3.00	-	B000-01000-0030V08	-
1.00	3.00	50.00	3.00	10.00	B000-01000-0030VA8	-
1.10	1.65	38.00	3.00	-	B000-01100-0016V08	-
1.10	3.30	38.00	3.00	-	B000-01100-0033V08	-
1.20	1.80	38.00	3.00	-	B000-01200-0018V08	-
1.20	3.60	38.00	3.00	-	B000-01200-0036V08	-
1.30	1.95	38.00	3.00	-	B000-01300-0019V08	-
1.30	3.90	38.00	3.00	-	B000-01300-0039V08	-
1.40	2.10	38.00	3.00	-	B000-01400-0021V08	-
1.40	4.20	38.00	3.00	-	B000-01400-0042V08	-
1.50	2.25	38.00	3.00	-	B000-01500-0022V08	-
1.50	4.50	38.00	3.00	-	B000-01500-0045V08	-
1.50	4.50	50.00	3.00	15.00	B000-01500-0045VA8	-
1.60	2.40	38.00	3.00	-	B000-01600-0024V08	-
1.60	4.80	38.00	3.00	-	B000-01600-0048V08	-
1.70	2.50	38.00	3.00	-	B000-01700-0025V08	-
1.70	5.10	38.00	3.00	-	B000-01700-0051V08	-
1.80	2.70	38.00	3.00	-	B000-01800-0027V08	-
1.80	5.40	38.00	3.00	-	B000-01800-0054V08	-
1.90	2.85	38.00	3.00	-	B000-01900-0028V08	-
1.90	5.70	38.00	3.00	-	B000-01900-0057V08	-
2.00	3.00	38.00	3.00	-	B000-02000-0030V08	B000L02000-0030V08
2.00	6.00	38.00	3.00	-	B000-02000-0060V08	B000L02000-0060V08
2.00	6.00	50.00	3.00	20.00	B000-02000-0060VA8	B000L02000-0060VA8
2.50	3.75	38.00	3.00	-	B000-02500-0037V08	B000L02500-0037V08
2.50	7.50	38.00	3.00	-	B000-02500-0075V08	B000L02500-0075V08
2.50	7.50	50.00	3.00	23.00	B000-02500-0075VA8	B000L02500-0075VA8
3.00	4.50	38.00	3.00	-	B000-03000-0045V08	B000L03000-0045V08
3.00	9.00	38.00	3.00	-	B000-03000-0090V08	B000L03000-0090V08

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

*Diameter 0.2mm and above "A" Coating available on request

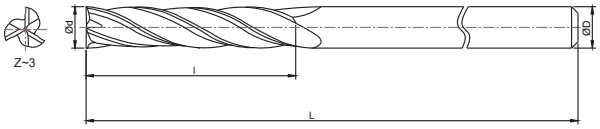
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●	◐				◐									
Coated	●	●	●	◐	◐	◐								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

3 Flute Micro End Mill

E270
STANDARD LENGTH
LONG LENGTH

- Excellent performance upto 55HRc
- Designed for machining high precision parts in electronics, medical, diemold and aerospace industry.
- Controlled tolerence ensures the consistancy.



MG | 3 Flute | 35°-37° | DH | Shank Dia h6 | L/A Coating

Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	L-Coated	A-Coated
0.50	1.50	38.00	3.00	E270L00500-0015V08	E270A00500-0015V08
1.00	3.00	50.00	3.00	E270L01000-0030VB8	E270A01000-0030V08
1.00	3.00	38.00	3.00	E270L01000-0030VC8	E270A01000-0030VB8
1.50	4.50	50.00	3.00	E270L01500-0045V08	E270A01500-0045V08
1.50	4.50	38.00	3.00	E270L01500-0045VA8	E270A01500-0045VA8
2.00	6.00	50.00	3.00	E270L02000-0060V08	E270A02000-0060V08
2.00	6.00	38.00	3.00	E270L02000-0060VA8	E270A02000-0060VA8
2.50	7.00	50.00	3.00	E270L02500-0070V08	E270A02500-0070V08
2.50	7.00	38.00	3.00	E270L02500-0070VA8	E270A02500-0070VA8
3.00	8.00	38.00	3.00	E270L03000-0080V08	E270A03000-0080V08
3.00	8.00	57.00	6.00	E270L03000-0080VA8	E270A03000-0080VA8

CUTTING DIA	TOLERANCES (mm)
0.1 - 0.5	+0.000/- 0.005
0.5 - 3.0	+0.000/- 0.015
3.0 - 6.0	+0.000/- 0.020

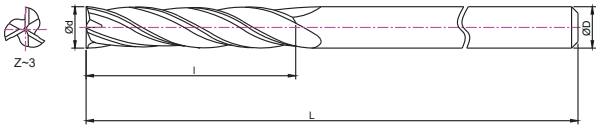
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
coated	●	●	◐		●	●	◐		◐		◐		◐	◐	

Material Recommendation: ● Highly Recommended ◐ Recommended

3 Flute End Mill

E270
STANDARD LENGTH
STUB LENGTH
LONG LENGTH

- Excellent performance upto 45HRc
- High speed machining, increased production.
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



MG | 3 Flute | 35°-37° | DH | Shank Dia h6 | L/A Coating

Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	A-Coated	L-Coated
4.00	11.00	57.00	6.00	E270L04000-0110V08	E270A04000-0110V08
4.00	11.00	51.00	4.00	E270L04000-0110VA8	E270A04000-0110VA8
5.00	13.00	57.00	6.00	E270L05000-0130V08	E270A05000-0130V08
5.00	13.00	51.00	5.00	E270L05000-0130VA8	E270A05000-0130VA8
6.00	13.00	57.00	6.00	E270L06000-0130V08	E270A06000-0130V08
8.00	19.00	63.00	8.00	E270L08000-0190V08	E270A08000-0190V08
10.00	22.00	72.00	10.00	E270L10000-0220V08	E270A10000-0220V08
12.00	26.00	83.00	12.00	E270L12000-0260V08	E270A12000-0260V08
12.00	26.00	80.00	12.00	E270L12000-0260VA8	E270A12000-0260VA8
14.00	30.00	87.00	14.00	E270L14000-0300V08	E270A14000-0300V08
14.00	30.00	80.00	14.00	E270L14000-0300VA8	E270A14000-0300VA8
16.00	32.00	92.00	16.00	E270L16000-0320V08	E270A16000-0320V08
20.00	38.00	104.00	20.00	E270L20000-0380V08	E270A20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

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
coated	●	●	◐		●	●	◐		◐		◐		◐	◐	

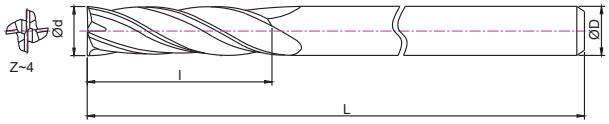
Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill

E510

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- High speed machining, increased production.
- Better performance upto 55 HRc
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



FG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | L Coating | P.059

Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
1.00	3.00	50.00	3.00	E510L01000-0030V08
1.00	3.00	38.00	3.00	E510L01000-0030VA8
1.50	4.50	50.00	3.00	E510L01500-0045V08
1.50	4.50	38.00	3.00	E510L01500-0045VA8
2.00	6.00	50.00	3.00	E510L02000-0060VA8
2.00	6.00	38.00	3.00	E510L02000-0060VB8
2.50	7.00	50.00	3.00	E510L02500-0070VA8
2.50	7.00	38.00	3.00	E510L02500-0070VB8
3.00	8.00	57.00	6.00	E510L03000-0080VB8
3.00	10.00	50.00	6.00	E510L03000-0100VA8
3.00	8.00	51.00	3.00	E510L03000-0080VC8
4.00	9.00	57.00	6.00	E510L04000-0090V08
4.00	10.00	50.00	6.00	E510L04000-0100V08
4.00	9.00	51.00	4.00	E510L04000-0090VB8
5.00	11.00	57.00	6.00	E510L05000-0110VB8
5.00	11.00	50.00	6.00	E510L05000-0110VA8
5.00	11.00	50.00	5.00	E510L05000-0110VC8
6.00	13.00	57.00	6.00	E510L06000-0130V08
3.00	25.00	64.00	6.00	E510L03000-0250V08
3.00	25.00	64.00	3.00	E510L03000-0250VA8
4.00	25.00	64.00	6.00	E510L04000-0250V08
4.00	25.00	64.00	4.00	E510L04000-0250VA8
5.00	25.00	64.00	6.00	E510L05000-0250V08
5.00	25.00	64.00	5.00	E510L05000-0250VA8
6.00	30.00	76.00	6.00	E510L06000-0300V08
3.00	35.00	80.00	6.00	E510L03000-0350V08
3.00	35.00	80.00	3.00	E510L03000-0350VA8

CUTTING DIA	TOLERANCES (mm)
1.0 - 3.0	+0.000 /-0.015
3.1 - 6.00	+0.000 /-0.025
>6.00 - 10.00	+0.000 /-0.035
>10.00- 20.00	+0.000 /-0.050

*Different coating available based on application requirement.

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
Coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill

E510

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
4.00	35.00	80.00	6.00	E510L04000-0350V08
4.00	35.00	80.00	4.00	E510L04000-0350VA8
5.00	40.00	100.00	6.00	E510L05000-0400V08
5.00	40.00	100.00	5.00	E510L05000-0400VA8
6.00	40.00	100.00	6.00	E510L06000-0400V08
8.00	19.00	63.00	8.00	E510L08000-0190V08
8.00	35.00	83.00	8.00	E510L08000-0350V08
8.00	50.00	100.00	8.00	E510L08000-0500V08
10.00	22.00	72.00	10.00	E510L10000-0220V08
10.00	40.00	89.00	10.00	E510L10000-0400VA8
10.00	60.00	130.00	10.00	E510L10000-0600V08
12.00	26.00	83.00	12.00	E510L12000-0260VA8
12.00	26.00	80.00	12.00	E510L12000-0260V08
12.00	50.00	102.00	12.00	E510L12000-0500V08
12.00	75.00	152.00	12.00	E510L12000-0750V08
14.00	30.00	87.00	14.00	E510L14000-0300V08
14.00	30.00	80.00	14.00	E510L14000-0300VA8
16.00	32.00	92.00	16.00	E510L16000-0320V08
16.00	65.00	117.00	16.00	E510L16000-0650V08
16.00	75.00	152.00	16.00	E510L16000-0750V08
20.00	38.00	104.00	20.00	E510L20000-0380V08
20.00	80.00	133.00	20.00	E510L20000-0800V08
20.00	120.00	152.00	20.00	E510L20000-0950V08

CUTTING DIA	TOLERANCES (mm)
1.0 - 3.0	+0.000 /-0.015
3.1 - 6.00	+0.000 /-0.025
>6.00 - 10.00	+0.000 /-0.035
>10.00- 20.00	+0.000 /-0.050

*Different coating available based on application requirement.

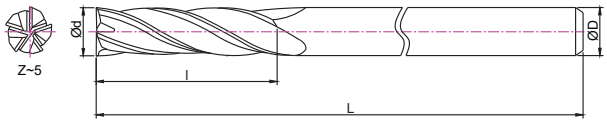
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

5 Flute End Mill

E450
STANDARD LENGTH

- Designed for high material removal with better space for chip evacuation.
- Designed for rigid machining of super alloys
- Higher performance, better tool life, reduced CPC
- Reduced vibration ensures better quality of the parts.



FG | 5 Flute | 38° | DP | Shank Dia h6 | L Coating | P.060

Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	
3.00	8.00	57.00	6.00	E450L03000-0080V08
4.00	11.00	57.00	6.00	E450L04000-0110V08
5.00	13.00	57.00	6.00	E450L05000-0130V08
6.00	13.00	57.00	6.00	E450L06000-0130V08
8.00	19.00	63.00	8.00	E450L08000-0190V08
10.00	22.00	72.00	10.00	E450L10000-0220V08
12.00	26.00	83.00	12.00	E450L12000-0260V08
12.00	26.00	80.00	12.00	E450L12000-0260VA8
14.00	30.00	87.00	14.00	E450L14000-0300V08
16.00	32.00	92.00	16.00	E450L16000-0320V08
20.00	38.00	104.00	20.00	E450L20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

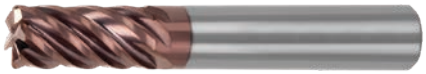
*Different coating available based on application requirement.

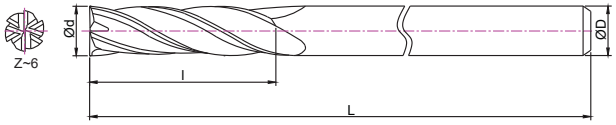
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	●	◐								●	●

6 Flute End Mill

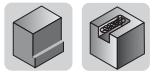
E610
STANDARD LENGTH

- Designed to machine materials with hardness from 30 Hrc to 60HRc
- High speed machining with higher feed rate
- Good surface finish on working material, superior wear resistance.
- Better performance with dry cutting.





FG | 6 Flute | 40° | DP | Shank Dia h6 | L Coating | P.062



Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	
3.00	8.00	57.00	6.00	E610L03000-0080V08
4.00	11.00	57.00	6.00	E610L04000-0110V08
5.00	13.00	57.00	6.00	E610L05000-0130V08
6.00	13.00	57.00	6.00	E610L06000-0130V08
8.00	19.00	63.00	8.00	E610L08000-0190V08
10.00	22.00	72.00	10.00	E610L10000-0220V08
12.00	26.00	83.00	12.00	E610L12000-0260V08
14.00	30.00	87.00	14.00	E610L14000-0300V08
16.00	32.00	92.00	16.00	E610L16000-0320V08
20.00	38.00	104.00	20.00	E610L20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

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
Coated	●	●	●	◐	●	◐								●	●

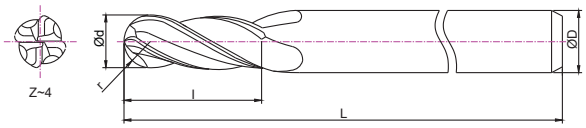
Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute Ball Nose End Mill

B330

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Higher parameter, reduction in cycle time.
- Better tool life, improved CPC.
- Excellent performace in copy milling
- Designed for multi application, multi materials.



FG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | L Coating | P.058

Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
1.00	3.00	50.00	3.00	B330L01000-0030V08
1.50	4.50	50.00	3.00	B330L01500-0045V08
2.00	6.00	50.00	3.00	B330L02000-0060V08
2.50	7.00	50.00	3.00	B330L02500-0070V08
3.00	8.00	57.00	6.00	B330L03000-0080V08
4.00	9.00	57.00	6.00	B330L04000-0090V08
5.00	11.00	57.00	6.00	B330L05000-0110V08
6.00	13.00	57.00	6.00	B330L06000-0130V08
3.00	25.00	64.00	6.00	B330L03000-0250V08
4.00	25.00	64.00	6.00	B330L04000-0250V08
5.00	25.00	64.00	6.00	B330L05000-0250V08
6.00	30.00	76.00	6.00	B330L06000-0300V08
3.00	35.00	80.00	6.00	B330L03000-0350V08
4.00	35.00	80.00	6.00	B330L04000-0350V08
5.00	40.00	100.00	6.00	B330L05000-0400V08
6.00	40.00	100.00	6.00	B330L06000-0400V08
8.00	19.00	63.00	8.00	B330L08000-0190V08
8.00	35.00	83.00	8.00	B330L08000-0350V08
8.00	50.00	100.00	8.00	B330L08000-0500V08
10.00	22.00	72.00	10.00	B330L10000-0220V08
10.00	40.00	89.00	10.00	B330L10000-0400V08
10.00	60.00	130.00	10.00	B330L10000-0600V08
12.00	26.00	83.00	12.00	B330L12000-0260V08
12.00	50.00	102.00	12.00	B330L12000-0500V08
12.00	75.00	152.00	12.00	B330L12000-0750V08
14.00	30.00	87.00	14.00	B330L14000-0300V08
16.00	32.00	92.00	16.00	B330L16000-0320V08
16.00	65.00	117.00	16.00	B330L16000-0650V08
16.00	75.00	152.00	16.00	B330L16000-0750V08

CUTTING DIA	TOLERANCES (mm)
1.0 - 3.0	+0.000 /-0.015
3.1 - 6.00	+0.000 /-0.025
>6.00 - 10.00	+0.000 /-0.035
>10.00- 20.00	+0.000 /-0.050

*Different coating available based on application requirement.

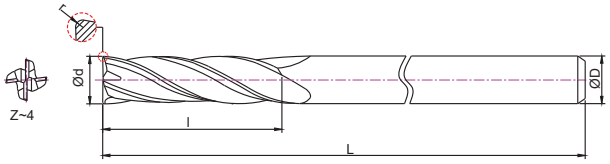
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill with Corner Radius

E490
STANDARD LENGTH

- High speed machining, increased production.
- Better performance upto 55 HRc
- Better quality for slotting and side milling.
- Designed for multi application, multi materials



FG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | L Coating | P.059

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Radius r	
3.00	8.00	57.00	6.00	0.20	E490L03000-0080VB8
4.00	11.00	57.00	6.00	0.20	E490L04000-0110VB8
4.00	11.00	57.00	6.00	0.50	E490L04000-0110VC8
5.00	11.00	57.00	6.00	0.20	E490L05000-0110V08
5.00	11.00	57.00	6.00	0.50	E490L05000-0110VA8
5.00	11.00	57.00	6.00	1.00	E490L05000-0110VB8
6.00	13.00	57.00	6.00	0.50	E490L06000-0130VA8
6.00	13.00	57.00	6.00	1.00	E490L06000-0130VB8
6.00	13.00	57.00	6.00	1.50	E490L06000-0130VD8
8.00	19.00	63.00	8.00	0.50	E490L08000-0190VB8
8.00	19.00	63.00	8.00	1.00	E490L08000-0190VA8
8.00	19.00	63.00	8.00	1.50	E490L08000-0190VC8
8.00	19.00	63.00	8.00	2.00	E490L08000-0190VD8
10.00	22.00	72.00	10.00	0.50	E490L10000-0220V08
10.00	22.00	72.00	10.00	1.00	E490L10000-0220VA8
10.00	22.00	72.00	10.00	1.50	E490L10000-0220VB8
10.00	22.00	72.00	10.00	2.00	E490L10000-0220VC8
12.00	26.00	83.00	12.00	0.50	E490L12000-0260VC8
12.00	26.00	83.00	12.00	1.00	E490L12000-0260VB8
12.00	26.00	80.00	12.00	1.00	E490L12000-0260V08
12.00	26.00	83.00	12.00	1.50	E490L12000-0260VD8
12.00	26.00	83.00	12.00	2.00	E490L12000-0260VE8
12.00	26.00	83.00	12.00	4.00	E490L12000-0260VF8
16.00	32.00	92.00	16.00	0.50	E490L16000-0320VF8
16.00	32.00	92.00	16.00	1.00	E490L16000-0320VC8
16.00	32.00	92.00	16.00	2.00	E490L16000-0320VB8
16.00	32.00	92.00	16.00	3.00	E490L16000-0320VD8
16.00	32.00	92.00	16.00	4.00	E490L16000-0320VE8
20.00	38.00	104.00	20.00	1.00	E490L20000-0380V08
20.00	38.00	104.00	20.00	2.00	E490L20000-0380VB8
20.00	38.00	104.00	20.00	3.00	E490L20000-0380VD8
20.00	38.00	104.00	20.00	4.00	E490L20000-0380VE8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

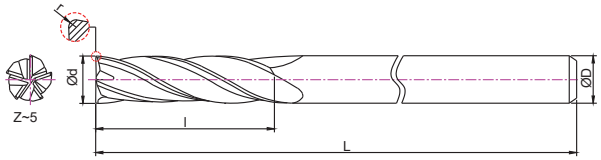
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

5 Flute End Mill with Corner Radius

E480
STANDARD LENGTH

- Designed for high material removal with better space for chip evacuation.
- Designed for rigid machining of super alloys
- Higher performance, better tool life, reduced CPC
- Reduced vibration ensures better quality of the parts.



FG | 5 Flute | 38° | DP | Shank Dia h6 | L Coating | P.060

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Radius r	
3.00	8.00	57.00	6.00	0.30	E480L03000-0080V08
3.00	8.00	57.00	6.00	0.50	E480L03000-0080VA8
4.00	11.00	57.00	6.00	0.20	E480L04000-0110VC8
4.00	11.00	57.00	6.00	0.40	E480L04000-0110VB8
5.00	13.00	57.00	6.00	0.20	E480L05000-0130VC8
5.00	13.00	57.00	6.00	0.50	E480L05000-0130VA8
5.00	13.00	57.00	6.00	1.00	E480L05000-0130VB8
6.00	13.00	57.00	6.00	0.50	E480L06000-0130VB8
6.00	13.00	57.00	6.00	1.00	E480L06000-0130VC8
6.00	13.00	57.00	6.00	1.50	E480L06000-0130VD8
8.00	19.00	63.00	8.00	0.50	E480L08000-0190V08
8.00	19.00	63.00	8.00	1.00	E480L08000-0190VA8
8.00	19.00	63.00	8.00	1.50	E480L08000-0190VB8
8.00	19.00	63.00	8.00	2.00	E480L08000-0190VC8
10.00	22.00	72.00	10.00	0.50	E480L10000-0220V08
10.00	22.00	72.00	10.00	1.00	E480L10000-0220VA8
10.00	22.00	72.00	10.00	1.50	E480L10000-0220VB8
10.00	22.00	72.00	10.00	2.00	E480L10000-0220VC8
12.00	26.00	83.00	12.00	0.50	E480L12000-0260V08
12.00	26.00	83.00	12.00	1.00	E480L12000-0260VD8
12.00	26.00	83.00	12.00	1.50	E480L12000-0260VE8
12.00	26.00	83.00	12.00	2.00	E480L12000-0260VF8
12.00	26.00	83.00	12.00	4.00	E480L12000-0260VA8
16.00	32.00	92.00	16.00	0.50	E480L16000-0320VA8
16.00	32.00	92.00	16.00	1.00	E480L16000-0320VB8
16.00	32.00	92.00	16.00	2.00	E480L16000-0320VD8
16.00	32.00	92.00	16.00	3.00	E480L16000-0320VE8
16.00	32.00	92.00	16.00	4.00	E480L16000-0320VF8
20.00	38.00	104.00	20.00	0.50	E480L20000-0380V08
20.00	38.00	104.00	20.00	1.00	E480L20000-0380VF8
20.00	38.00	104.00	20.00	2.00	E480L20000-0380VB8
20.00	38.00	104.00	20.00	3.00	E480L20000-0380VD8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

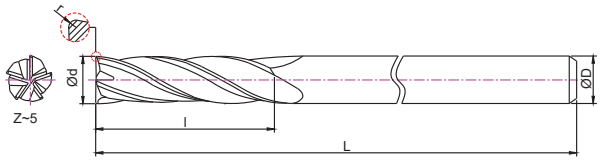
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

5 flute End Mill with corner radius for Super Alloys

E481
STANDARD LENGTH

- Designed for high material removal with better space for chip evacuation.
- Designed for rigid machining of super alloys
- Higher performance, better tool life, reduced CPC
- Reduced vibration ensures better quality of the parts.



FG | 5 Flute | 38° | DP | Shank Dia h6 | L Coating | P.060

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	
3.00	8.00	57.00	6.00	0.30	E481L03000-0080V08
3.00	8.00	57.00	6.00	0.50	E481L03000-0080VA8
4.00	11.00	57.00	6.00	0.30	E481L04000-0110V08
4.00	11.00	57.00	6.00	0.50	E481L04000-0110VA8
5.00	13.00	57.00	6.00	0.30	E481L05000-0130V08
6.00	13.00	57.00	6.00	0.25	E481L06000-0130V08
6.00	13.00	57.00	6.00	0.50	E481L06000-0130VA8
6.00	13.00	57.00	6.00	1.00	E481L06000-0130VB8
8.00	19.00	63.00	8.00	0.50	E481L08000-0190V08
8.00	19.00	63.00	8.00	1.00	E481L08000-0190VA8
10.00	22.00	72.00	10.00	0.50	E481L10000-0220V08
10.00	22.00	72.00	10.00	1.00	E481L10000-0220VA8
10.00	22.00	72.00	10.00	1.50	E481L10000-0220VB8
12.00	26.00	83.00	12.00	0.50	E481L12000-0260VA8
12.00	26.00	83.00	12.00	0.75	E481L12000-0260VC8
12.00	26.00	83.00	12.00	1.00	E481L12000-0260VE8
12.00	26.00	83.00	12.00	1.50	E481L12000-0260VF8
14.00	26.00	83.00	14.00	1.00	E481L14000-0260V08
16.00	32.00	92.00	16.00	1.00	E481L16000-0320V08
16.00	32.00	92.00	16.00	1.50	E481L16000-0320VA8
16.00	32.00	92.00	16.00	2.00	E481L16000-0320VB8
16.00	32.00	92.00	16.00	3.00	E481L16000-0320VC8
20.00	38.00	104.00	20.00	1.00	E481L20000-0380V08
20.00	38.00	104.00	20.00	1.50	E481L20000-0380VA8
20.00	38.00	104.00	20.00	2.00	E481L20000-0380VB8
20.00	38.00	104.00	20.00	2.50	E481L20000-0380VC8
20.00	38.00	104.00	20.00	3.00	E481L20000-0380VD8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

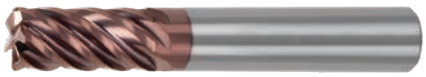
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●		●	◐								●	●

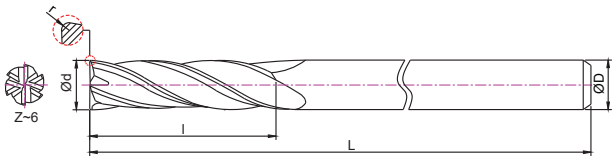
Material Recommendation: ● Highly Recommended ◐ Recommended

6 Flute End Mill with Corner Radius

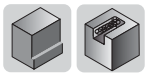
E630
STANDARD LENGTH

- Designed to machine materials with hardness from 30 Hrc to 60HRc
- High speed machining with higher feed rate
- Good surface finish on working material, superior wear resistance.
- Better performance with dry cutting. Radius will provide the strength to cutting edge.





FG | 6 Flute | 40° | DP | Shank Dia h6 | L Coating | P.062



Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Radius r	
3.00	8.00	57.00	6.00	0.30	E630L03000-0080V08
3.00	8.00	57.00	6.00	0.50	E630L03000-0080VA8
4.00	11.00	57.00	6.00	0.30	E630L04000-0110V08
4.00	11.00	57.00	6.00	0.50	E630L04000-0110VA8
5.00	13.00	57.00	6.00	0.30	E630L05000-0130V08
6.00	13.00	57.00	6.00	0.25	E630L06000-0130V08
6.00	13.00	57.00	6.00	0.50	E630L06000-0130VA8
6.00	13.00	57.00	6.00	1.00	E630L06000-0130VB8
8.00	19.00	63.00	8.00	0.50	E630L08000-0190V08
8.00	19.00	63.00	8.00	1.00	E630L08000-0190VA8
10.00	22.00	72.00	10.00	0.50	E630L10000-0220V08
10.00	22.00	72.00	10.00	1.00	E630L10000-0220VA8
12.00	26.00	83.00	12.00	0.50	E630L12000-0260VA8
12.00	26.00	83.00	12.00	0.75	E630L12000-0260VB8
12.00	26.00	83.00	12.00	1.00	E630L12000-0260VC8
12.00	26.00	83.00	12.00	1.50	E630L12000-0260VD8
14.00	26.00	83.00	14.00	1.00	E630L14000-0260V08
16.00	32.00	92.00	16.00	1.00	E630L16000-0320V08
16.00	32.00	92.00	16.00	1.50	E630L16000-0320VA8
16.00	32.00	92.00	16.00	2.00	E630L16000-0320VB8
16.00	32.00	92.00	16.00	2.50	E630L16000-0320VC8
16.00	32.00	92.00	16.00	3.00	E630L20000-0380V08
20.00	38.00	104.00	20.00	1.00	E630L20000-0380VA8
20.00	38.00	104.00	20.00	1.50	E630L20000-0380VB8
20.00	38.00	104.00	20.00	2.00	E630L20000-0380VC8
20.00	38.00	104.00	20.00	2.50	E630L20000-0380VD8
20.00	38.00	104.00	20.00	3.00	E630L20000-0380VE8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000+/- 0.050

*Different coating available based on application requirement.

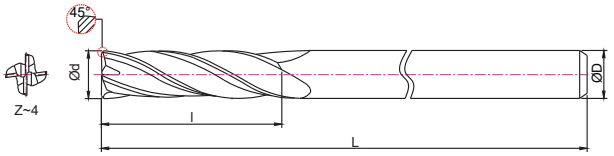
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill with Corner Chamfer

E500
STANDARD LENGTH

- High speed machining, increased production.
- Better performance upto 55 HRc
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



FG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | L Coating | P.059

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Chamfer CH	
3.00	8.00	57.00	6.00	0.02	E500L03000-0080V08
4.00	11.00	57.00	6.00	0.40	E500L04000-0110V08
5.00	13.00	57.00	6.00	0.40	E500L05000-0130V08
6.00	13.00	57.00	6.00	0.40	E500L06000-0130V08
8.00	19.00	63.00	8.00	0.40	E500L08000-0190V08
10.00	22.00	72.00	10.00	0.50	E500L10000-0220V08
12.00	26.00	83.00	12.00	0.50	E500L12000-0260VA8
14.00	26.00	83.00	14.00	0.50	E500L14000-0260V08
16.00	32.00	92.00	16.00	0.50	E500L16000-0320V08
20.00	38.00	104.00	20.00	0.50	E500L20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

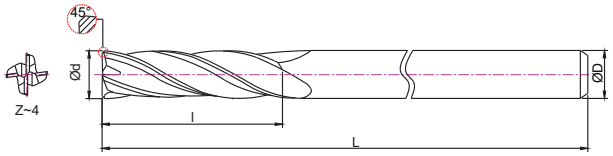
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	●	◐								●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill with Corner Chamfer for Ti & SS

E302
STANDARD LENGTH

- High speed machining, increased production.
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.
- Most suitable to machine tough to machine materials.



FG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | L Coating | P.059

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Chamfer CH	
3.00	8.00	57.00	6.00	0.02	E302L03000-0080V08
4.00	11.00	57.00	6.00	0.03	E302L04000-0110V08
5.00	13.00	57.00	6.00	0.03	E302L05000-0130V08
6.00	13.00	57.00	6.00	0.04	E302L06000-0130V08
8.00	19.00	63.00	8.00	0.04	E302L08000-0190V08
10.00	22.00	72.00	10.00	0.04	E302L10000-0220V08
12.00	26.00	83.00	12.00	0.05	E302L12000-0260V08
14.00	26.00	83.00	14.00	0.05	E302L14000-0260V08
16.00	32.00	92.00	16.00	0.06	E302L16000-0320V08
20.00	38.00	104.00	20.00	0.06	E302L20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

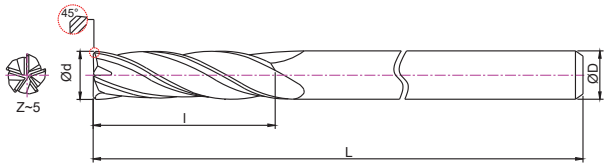
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	◐	◐	◐	◐	●									●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

5 Flute End Mill with Corner Chamfer

E520
STANDARD LENGTH

- High speed machining, increased production.
- Better performance upto 55 HRc
- Better quality for slotting, trochoidal and side milling.
- Designed for multi application, multi materials.



FG | 5 Flute | 44° | DP | Shank Dia h6 | L Coating | P.060

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Chamfer CH	
3.00	8.00	57.00	6.00	0.02	E520L03000-0080V08
4.00	11.00	57.00	6.00	0.03	E520L04000-0110V08
5.00	13.00	57.00	6.00	0.30	E520L05000-0130V08
6.00	13.00	57.00	6.00	0.40	E520L06000-0130V08
8.00	19.00	63.00	8.00	0.40	E520L08000-0190V08
10.00	22.00	72.00	10.00	0.50	E520L10000-0220V08
12.00	26.00	83.00	12.00	0.50	E520L12000-0260V08
14.00	26.00	83.00	14.00	0.50	E520L14000-0260V08
16.00	32.00	92.00	16.00	0.50	E520L16000-0320V08
20.00	38.00	104.00	20.00	0.50	E520L20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

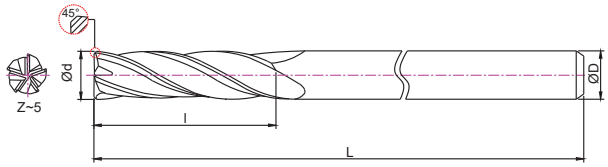
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●	●	◐	●									●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

5 Flute End Mill with Corner Chamfer for Ti & SS

E303
STANDARD LENGTH

- High speed machining, increased production.
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.
- Most suitable for machining tough to machine materials.



FG | 5 Flute | 35° | DP | Shank Dia h6 | L Coating | P.060

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Chamfer CH	
3.00	8.00	57.00	6.00	0.02	E303L03000-0080V08
4.00	11.00	57.00	6.00	0.03	E303L04000-0110V08
5.00	13.00	57.00	6.00	0.03	E303L05000-0130V08
6.00	13.00	57.00	6.00	0.04	E303L06000-0130V08
8.00	19.00	63.00	8.00	0.04	E303L08000-0190V08
10.00	22.00	72.00	10.00	0.04	E303L10000-0220V08
12.00	26.00	83.00	12.00	0.05	E303L12000-0260V08
14.00	26.00	83.00	14.00	0.05	E303L14000-0260V08
16.00	32.00	92.00	16.00	0.06	E303L16000-0320V08
20.00	38.00	104.00	20.00	0.06	E303L20000-0380V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

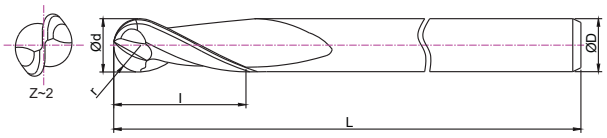
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	◐	◐	◐		●									●	●

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Ball Nose End Mill - Universal series

B000
STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Designed for machining high precision parts in electronics, medical, diemold and aerospace industry.
- Controlled tolerance ensures the consistancy.
- Available with different dimensions for different applications.
- Best suitable for applications with hardness upto 55HRc



MG | 2 Flute | 30° | CH | Shank Dia h6 | A Coating | P.058

Unit: mm

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Neck Length L1	Uncoated	A- Coating
3.00	9.00	50.00	3.00	23.00	B000-03000-0090VA8	B000A03000-0090VA8
3.50	5.25	50.00	4.00		B000-03500-0052V08	B000A03500-0052V08
3.50	10.50	50.00	4.00		B000-03500-0105V08	B000A03500-0105V08
3.50	10.50	75.00	6.00	25.00	B000-03500-0105VA8	B000A03500-0105VA8
4.00	6.00	50.00	5.00		B000-04000-0060V08	B000A04000-0060V08
4.00	12.00	50.00	5.00		B000-04000-0120V08	B000A04000-0120V08
4.00	12.00	75.00	6.00	30.00	B000-04000-0120VA8	B000A04000-0120VA8
4.50	6.75	50.00	5.00		B000-04500-0067V08	B000A04500-0067V08
4.50	13.50	50.00	5.00		B000-04500-0135V08	B000A04500-0135V08
4.50	13.50	75.00	6.00	30.00	B000-04500-0135VA8	B000A04500-0135VA8
5.00	7.50	50.00	5.00		B000-05000-0075V08	B000A05000-0075V08
5.00	15.00	50.00	5.00		B000-05000-0150V08	B000A05000-0150V08
5.00	15.00	75.00	6.00	30.00	B000-05000-0150VA8	B000A05000-0150VA8
5.50	8.25	50.00	6.00		B000-05500-0082V08	B000A05500-0082V08
5.50	16.50	50.00	6.00		B000-05500-0165V08	B000A05500-0165V08
5.50	16.50	75.00	6.00	30.00	B000-05500-0165VA8	B000A05500-0165VA8
6.00	30.00	76.00	6.00		B000-06000-0300V08	B000A06000-0300V08
6.00	40.00	100.00	6.00		B000-06000-0400V08	B000A06000-0400V08
8.00	19.00	63.00	8.00		B000-08000-0190V08	B000A08000-0190V08
8.00	35.00	83.00	8.00		B000-08000-0350V08	B000A08000-0350V08
8.00	50.00	100.00	8.00		B000-08000-0500V08	B000A08000-0500V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

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	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●	◐							◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Ball Nose End Mill - Universal series

B000

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Neck Length L1	Uncoated	A- Coating
10.00	22.00	72.00	10.00		B000-10000-0220V08	B000A10000-0220V08
10.00	40.00	89.00	10.00		B000-10000-0400V08	B000A10000-0400V08
10.00	60.00	130.00	10.00		B000-10000-0600V08	B000A10000-0600V08
12.00	26.00	83.00	12.00		B000-12000-0260V08	B000A12000-0260V08
12.00	50.00	102.00	12.00		B000-12000-0500V08	B000A12000-0500V08
12.00	75.00	152.00	12.00		B000-12000-0750V08	B000A12000-0750V08
14.00	30.00	87.00	14.00		B000-14000-0300V08	B000A14000-0300V08
16.00	32.00	92.00	16.00		B000-16000-0320V08	B000A16000-0320V08
16.00	65.00	117.00	16.00		B000-16000-0650V08	B000A16000-0650V08
16.00	75.00	152.00	16.00		B000-16000-0750V08	B000A16000-0750V08
20.00	38.00	104.00	20.00		B000-20000-0380V08	B000A20000-0380V08
20.00	80.00	133.00	20.00		B000-20000-0800V08	B000A20000-0800V08
20.00	95.00	152.00	20.00		B000-20000-0950V08	B000A20000-0950V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

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	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●	◐							◐	◐

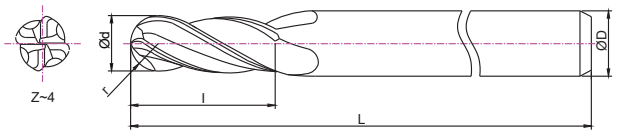
Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute Ball Nose End Mill - Universal series

B300

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Higher parameter, reduction in cycle time.
- Better tool life, improved CPC.
- Excellent performance in copy milling
- Designed for multi application, multi materials.



MG | 4 Flute | 30°-32° | DP & DH | Shank Dia h6 | A Coating | P.058

Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	A- Coating
3.00	8.00	57.00	6.00	B300-03000-0080V08	B300A03000-0080V08
4.00	9.00	57.00	6.00	B300-04000-0090V08	B300A04000-0090V08
5.00	11.00	57.00	6.00	B300-05000-0110V08	B300A05000-0110V08
6.00	13.00	57.00	6.00	B300-06000-0130V08	B300A06000-0130V08
3.00	25.00	64.00	6.00	B300-03000-0250V08	B300A03000-0250V08
4.00	25.00	64.00	6.00	B300-04000-0250V08	B300A04000-0250V08
5.00	25.00	64.00	6.00	B300-05000-0250V08	B300A05000-0250V08
6.00	30.00	76.00	6.00	B300-06000-0300V08	B300A06000-0300V08
3.00	35.00	80.00	6.00	B300-03000-0350V08	B300A03000-0350V08
4.00	35.00	80.00	6.00	B300-04000-0350V08	B300A04000-0350V08
5.00	40.00	100.00	6.00	B300-05000-0400V08	B300A05000-0400V08
6.00	40.00	100.00	6.00	B300-06000-0400V08	B300A06000-0400V08
8.00	19.00	63.00	8.00	B300-08000-0190V08	B300A08000-0190V08
8.00	35.00	83.00	8.00	B300-08000-0350V08	B300A08000-0350V08
8.00	50.00	100.00	8.00	B300-08000-0500V08	B300A08000-0500V08
10.00	22.00	72.00	10.00	B300-10000-0220V08	B300A10000-0220V08
10.00	40.00	89.00	10.00	B300-10000-0400V08	B300A10000-0400V08
10.00	60.00	130.00	10.00	B300-10000-0600V08	B300A10000-0600V08
12.00	26.00	83.00	12.00	B300-12000-0260V08	B300A12000-0260V08
12.00	50.00	102.00	12.00	B300-12000-0500V08	B300A12000-0500V08
12.00	75.00	152.00	12.00	B300-12000-0750V08	B300A12000-0750V08
14.00	30.00	87.00	14.00	B300-14000-0300V08	B300A14000-0300V08
16.00	32.00	92.00	16.00	B300-16000-0320V08	B300A16000-0320V08
16.00	65.00	117.00	16.00	B300-16000-0650V08	B300A16000-0650V08
16.00	75.00	152.00	16.00	B300-16000-0750V08	B300A16000-0750V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

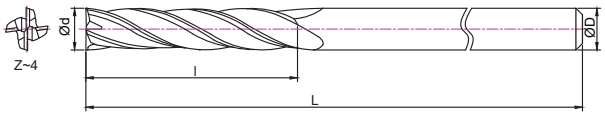
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●								◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill - Universal series

E330
STANDARD LENGTH
LONG LENGTH

- High speed machining, increased production.
- Better performance upto 45 HRc
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



MG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | A Coating | P.058

Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	A- Coating
3.00	9.00	50.00	4.00	E330-03000-0090VA8	E330A03000-0090V08
4.00	12.00	50.00	4.00	E330-04000-0120V08	E330A04000-0120V08
5.00	15.00	50.00	5.00	E330-05000-0150V08	E330A05000-0150V08
3.00	9.00	50.00	6.00	E330-03000-0090VB8	E330A03000-0090VA8
4.00	12.00	50.00	6.00	E330-04000-0120VA8	E330A04000-0120VA8
5.00	15.00	50.00	6.00	E330-05000-0150VA8	E330A05000-0150VA8
6.00	16.00	50.00	6.00	E330-06000-0160V08	E330A06000-0160V08
6.00	20.00	60.00	6.00	E330-06000-0200V08	E330A06000-0200V08
8.00	22.00	64.00	8.00	E330-08000-0220V08	E330A08000-0220V08
10.00	22.00	70.00	10.00	E330-10000-0220V08	E330A10000-0220V08
10.00	22.00	75.00	10.00	E330-10000-0220VA8	E330A10000-0220VA8
12.00	32.00	75.00	12.00	E330-12000-0320V08	E330A12000-0320V08
12.00	36.00	90.00	12.00	E330-12000-0360V08	E330A12000-0360V08
14.00	28.00	100.00	14.00	E330-14000-0280V08	E330A14000-0280V08
14.00	42.00	100.00	14.00	E330-14000-0420V08	E330A14000-0420V08
16.00	32.00	100.00	16.00	E330-16000-0320V08	E330A16000-0320V08
16.00	48.00	100.00	16.00	E330-16000-0480V08	E330A16000-0480V08
18.00	36.00	105.00	18.00	E330-18000-0360V08	E330A18000-0360V08
18.00	54.00	105.00	18.00	E330-18000-0540V08	E330A18000-0540V08
20.00	40.00	105.00	20.00	E330-20000-0400V08	E330A20000-0400V08
20.00	60.00	105.00	20.00	E330-20000-0600V08	E330A20000-0600V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

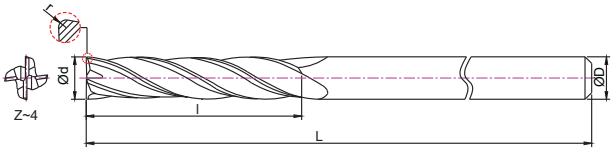
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●	◐							◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill with Corner Radius - Universal series

E340
STANDARD LENGTH

- High speed machining, increased production.
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.
- Most suitable for machining tough to machine materials.



MG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | A Coating | P.059

Unit: mm

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	Uncoated	A- Coating
3.00	8.00	57.00	6.00	0.30	E340-03000-0080V08	E340A03000-0080V08
3.00	8.00	57.00	6.00	0.50	E340-03000-0080VA8	E340A03000-0080VA8
4.00	11.00	57.00	6.00	0.30	E340-04000-0110V08	E340A04000-0110V08
4.00	11.00	57.00	6.00	0.50	E340-04000-0110VA8	E340A04000-0110VA8
5.00	13.00	57.00	6.00	0.30	E340-05000-0130V08	E340A05000-0130V08
6.00	13.00	57.00	6.00	0.25	E340-06000-0130V08	E340A06000-0130V08
6.00	13.00	57.00	6.00	0.50	E340-06000-0130VA8	E340A06000-0130VA8
6.00	13.00	57.00	6.00	1.00	E340-06000-0130VB8	E340A06000-0130VB8
6.00	13.00	57.00	6.00	1.50	E340-06000-0130VC8	E340A06000-0130VC8
8.00	19.00	63.00	8.00	0.50	E340-08000-0190V08	E340A08000-0190V08
8.00	19.00	63.00	8.00	1.00	E340-08000-0190VA8	E340A08000-0190VA8
8.00	19.00	63.00	8.00	1.50	E340-08000-0190VB8	E340A08000-0190VB8
8.00	19.00	63.00	8.00	2.00	E340-08000-0190VC8	E340A08000-0190VC8
10.00	22.00	72.00	10.00	0.50	E340-10000-0220V08	E340A10000-0220V08
10.00	22.00	72.00	10.00	1.00	E340-10000-0220VA8	E340A10000-0220VA8
10.00	22.00	72.00	10.00	1.50	E340-10000-0220VB8	E340A10000-0220VB8
10.00	22.00	72.00	10.00	2.00	E340-10000-0220VC8	E340A10000-0220VC8
10.00	22.00	72.00	10.00	2.50	E340-10000-0220VD8	E340A10000-0220VD8
12.00	26.00	83.00	12.00	0.50	E340-12000-0260V08	E340A12000-0260V08
12.00	26.00	83.00	12.00	0.75	E340-12000-0260VA8	E340A12000-0260VA8
12.00	26.00	83.00	12.00	1.00	E340-12000-0260VB8	E340A12000-0260VB8
12.00	26.00	83.00	12.00	1.50	E340-12000-0260VC8	E340A12000-0260VC8
12.00	26.00	83.00	12.00	2.00	E340-12000-0260VD8	E340A12000-0260VD8
12.00	26.00	83.00	12.00	2.50	E340-12000-0260VE8	E340A12000-0260VE8
12.00	26.00	83.00	12.00	3.00	E340-12000-0260VF8	E340A12000-0260VF8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

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	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●	◐							◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill with Corner Radius - Universal series

E340

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	Uncoated	A- Coating
14.00	26.00	83.00	14.00	1.00	E340-14000-0260V08	E340A14000-0260V08
16.00	32.00	92.00	16.00	1.00	E340-16000-0320V08	E340A16000-0320V08
16.00	32.00	92.00	16.00	1.50	E340-16000-0320VA8	E340A16000-0320VA8
16.00	32.00	92.00	16.00	2.00	E340-16000-0320VB8	E340A16000-0320VB8
16.00	32.00	92.00	16.00	2.50	E340-16000-0320VC8	E340A16000-0320VC8
16.00	32.00	92.00	16.00	3.00	E340-16000-0320VD8	E340A16000-0320VD8
20.00	38.00	104.00	20.00	1.00	E340-20000-0380V08	E340A20000-0380V08
20.00	38.00	104.00	20.00	1.50	E340-20000-0380VA8	E340A20000-0380VA8
20.00	38.00	104.00	20.00	2.00	E340-20000-0380VB8	E340A20000-0380VB8
20.00	38.00	104.00	20.00	2.50	E340-20000-0380VC8	E340A20000-0380VC8
20.00	38.00	104.00	20.00	3.00	E340-20000-0380VD8	E340A20000-0380VD8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

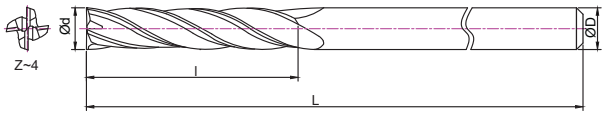
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●	◐							◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill - Universal series

E730
LONG LENGTH
EXTRA LONG LENGTH

- High speed machining, increased production.
- Better performance upto 45 HRc
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



MG | 4 Flute | 35°-37° | DP & DH | Shank Dia h6 | A Coating | P.059

Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Uncoated	A- Coating
3.00	25.00	64.00	6.00	E730-03000-0250V08	E730A03000-0250V08
3.00	35.00	80.00	6.00	E730-03000-0350V08	E730A03000-0350V08
4.00	25.00	64.00	6.00	E730-04000-0250V08	E730A04000-0250V08
4.00	35.00	80.00	6.00	E730-04000-0350V08	E730A04000-0350V08
5.00	25.00	64.00	6.00	E730-05000-0250V08	E730A05000-0250V08
5.00	40.00	100.00	6.00	E730-05000-0400V08	E730A05000-0400V08
6.00	30.00	76.00	6.00	E730-06000-0300V08	E730A06000-0300V08
6.00	40.00	100.00	6.00	E730-06000-0400V08	E730A06000-0400V08
8.00	35.00	83.00	8.00	E730-08000-0350V08	E730A08000-0350V08
8.00	50.00	100.00	8.00	E730-08000-0500V08	E730A08000-0500V08
10.00	40.00	89.00	10.00	E730-10000-0400V08	E730A10000-0400V08
10.00	60.00	130.00	10.00	E730-10000-0600V08	E730A10000-0600V08
12.00	50.00	102.00	12.00	E730-12000-0500V08	E730A12000-0500V08
12.00	75.00	152.00	12.00	E730-12000-0750V08	E730A12000-0750V08
16.00	65.00	117.00	16.00	E730-16000-0650V08	E730A16000-0650V08
16.00	75.00	152.00	16.00	E730-16000-0750V08	E730A16000-0750V08
20.00	80.00	133.00	20.00	E730-20000-0800V08	E730A20000-0800V08
20.00	95.00	152.00	20.00	E730-20000-0950V08	E730A20000-0950V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

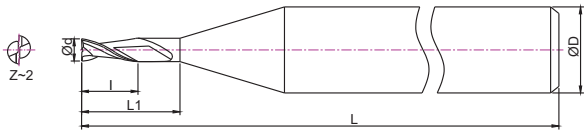
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●	◐			◐	●									◐
Coated	●	●	◐	◐	◐	●	◐							◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute End Mill - Universal series

E110
STANDARD LENGTH
STUB LENGTH
LONG LENGTH

- Excellent performance upto 45HRc
- High speed machining, increased production.
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



MG | 2 Flute | 30° | CH | Shank Dia h6 | A Coating | P.064

Unit: mm

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	A - Coating
3.00	8.00	57.00	6.00	E110-03000-0080VB8	E110A03000-0080V08
3.00	10.00	50.00	6.00	E110-03000-0100V08	E110A03000-0100V08
3.00	8.00	51.00	3.00	E110-03000-0080VA8	E110A03000-0080VA8
4.00	9.00	57.00	6.00	E110-04000-0090V08	E110A04000-0090V08
4.00	10.00	50.00	6.00	E110-04000-0100V08	E110A04000-0100V08
4.00	9.00	51.00	4.00	E110-04000-0090VA8	E110A04000-0090VA8
5.00	11.00	57.00	6.00	E110-05000-0110V08	E110A05000-0110V08
5.00	11.00	50.00	6.00	E110-05000-0110VA8	E110A05000-0110VA8
5.00	11.00	50.00	5.00	E110-05000-0110VB8	E110A05000-0110VB8
6.00	13.00	57.00	6.00	E110-06000-0130V08	E110A06000-0130V08
3.00	25.00	64.00	6.00	E110-03000-0250V08	E110A03000-0250V08
3.00	25.00	64.00	3.00	E110-03000-0250VA8	E110A03000-0250VA8
4.00	25.00	64.00	6.00	E110-04000-0250VB8	E110A04000-0250V08
4.00	25.00	64.00	4.00	E110-04000-0250V08	E110A04000-0250VA8
5.00	25.00	64.00	6.00	E110-05000-0250V08	E110A05000-0250VA8
5.00	25.00	64.00	5.00	E110-05000-0250VA8	E110A05000-0250VB8
6.00	30.00	76.00	6.00	E110-06000-0300V08	E110A06000-0300V08
3.00	35.00	80.00	6.00	E110-03000-0350VA8	E110A03000-0350V08
3.00	35.00	80.00	3.00	E110-03000-0350V08	E110A03000-0350VA8
4.00	35.00	80.00	6.00	E110-04000-0350VA8	E110A04000-0350V08
4.00	35.00	80.00	4.00	E110-04000-0350V08	E110A04000-0350VA8
5.00	40.00	100.00	6.00	E110-05000-0400VA8	E110A05000-0400V08
5.00	40.00	100.00	5.00	E110-05000-0400V08	E110A05000-0400VA8
6.00	40.00	100.00	6.00	E110-06000-0400V08	E110A06000-0400V08
8.00	19.00	63.00	8.00	E110-08000-0190V08	E110A08000-0190V08
8.00	35.00	83.00	8.00	E110-08000-0350V08	E110A08000-0350V08
8.00	50.00	100.00	8.00	E110-08000-0500V08	E110A08000-0500V08
10.00	22.00	72.00	10.00	E110-10000-0220V08	E110A10000-0220V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

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	●		◐		●				◐	◐	◐				
Coated	●	●	●	◐	●	◐	◐		●	●	◐			◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute End Mill - Universal series

E110

DESCRIPTION				PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Uncoated	A - Coating
10.00	40.00	89.00	10.00	E110-10000-0400V08	E110A10000-0400V08
10.00	60.00	130.00	10.00	E110-10000-0600V08	E110A10000-0600V08
12.00	26.00	83.00	12.00	E110-12000-0260V08	E110A12000-0260V08
12.00	26.00	80.00	12.00	E110-12000-0260VA8	E110A12000-0260VA8
12.00	50.00	102.00	12.00	E110-12000-0500V08	E110A12000-0500V08
12.00	75.00	152.00	12.00	E110-12000-0750V08	E110A12000-0750V08
14.00	30.00	87.00	14.00	E110-14000-0300V08	E110A14000-0300V08
14.00	30.00	80.00	14.00	E110-14000-0300VA8	E110A14000-0300VA8
16.00	32.00	92.00	16.00	E110-16000-0320V08	E110A16000-0320V08
16.00	65.00	117.00	16.00	E110-16000-0650V08	E110A16000-0650V08
16.00	75.00	152.00	16.00	E110-16000-0750V08	E110A16000-0750V08
20.00	38.00	104.00	20.00	E110-20000-0380V08	E110A20000-0380V08
20.00	80.00	133.00	20.00	E110-20000-0800V08	E110A20000-0800V08
20.00	95.00	152.00	20.00	E110-20000-0950V08	E110A20000-0950V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

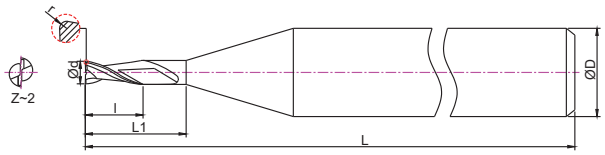
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●		◐		●				◐	◐	◐				
Coated	●	●	●	◐	●	◐	◐		●	●	◐			◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute End Mill with Corner Radius - Universal series

E130
STANDARD LENGTH
STUB LENGTH
LONG LENGTH

- Excellent performance upto 45HRc
- High speed machining, increased production.
- Better quality for slotting and side milling.
- Designed for multi application, multi materials.



MG | 2 Flute | 30° | CH | Shank Dia h6 | A Coating | P.064

Unit: mm

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	Uncoated	A - Coated
3.00	8.00	38.00	3.00	0.30	E130-03000-0080V08	E130A03000-0080V08
3.00	8.00	57.00	6.00	0.50	E130-03000-0080VA8	E130A03000-0080VA8
3.00	8.00	38.00	3.00	0.50	E130-03000-0080VB8	E130A03000-0080VB8
4.00	11.00	57.00	6.00	0.30	E130-04000-0110V08	E130A04000-0110V08
4.00	11.00	51.00	4.00	0.30	E130-04000-0110VA8	E130A04000-0110VA8
4.00	11.00	57.00	6.00	0.50	E130-04000-0110VB8	E130A04000-0110VB8
4.00	11.00	51.00	4.00	0.50	E130-04000-0110VC8	E130A04000-0110VC8
5.00	13.00	57.00	6.00	0.30	E130-05000-0130V08	E130A05000-0130V08
5.00	13.00	51.00	5.00	0.30	E130-05000-0130VA8	E130A05000-0130VA8
6.00	13.00	57.00	6.00	0.25	E130-06000-0130V08	E130A06000-0130V08
6.00	13.00	57.00	6.00	0.50	E130-06000-0130VA8	E130A06000-0130VA8
6.00	13.00	57.00	6.00	1.00	E130-06000-0130VB8	E130A06000-0130VB8
6.00	13.00	57.00	6.00	1.50	E130-06000-0130VC8	E130A06000-0130VC8
8.00	19.00	63.00	8.00	0.50	E130-08000-0190V08	E130A08000-0190V08
8.00	19.00	63.00	8.00	1.00	E130-08000-0190VA8	E130A08000-0190VA8
8.00	19.00	63.00	8.00	1.50	E130-08000-0190VB8	E130A08000-0190VB8
8.00	19.00	63.00	8.00	2.00	E130-08000-0190VC8	E130A08000-0190VC8
10.00	22.00	72.00	10.00	0.50	E130-10000-0220V08	E130A10000-0220V08
10.00	22.00	72.00	10.00	1.00	E130-10000-0220VA8	E130A10000-0220VA8
10.00	22.00	72.00	10.00	1.50	E130-10000-0220VB8	E130A10000-0220VB8
10.00	22.00	72.00	10.00	2.00	E130-10000-0220VC8	E130A10000-0220VC8
10.00	22.00	72.00	10.00	2.50	E130-10000-0220VD8	E130A10000-0220VD8
12.00	26.00	83.00	12.00	0.50	E130-12000-0260V08	E130A12000-0260V08
12.00	26.00	80.00	12.00	0.50	E130-12000-0260VA8	E130A12000-0260VA8
12.00	26.00	83.00	12.00	0.75	E130-12000-0260VB8	E130A12000-0260VB8
12.00	26.00	80.00	12.00	0.75	E130-12000-0260VC8	E130A12000-0260VC8
12.00	26.00	83.00	12.00	1.00	E130-12000-0260VD8	E130A12000-0260VD8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

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	●		◐		◐	◐			◐						
Coated	●	●	●		●	◐	◐		◐					◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute End Mill with Corner Radius - Universal series

E130

DESCRIPTION					PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	Uncoated	A - Coated
12.00	26.00	80.00	12.00	1.00	E130-12000-0260VE8	E130A12000-0260VE8
12.00	26.00	83.00	12.00	1.50	E130-12000-0260VF8	E130A12000-0260VF8
12.00	26.00	80.00	12.00	1.50	E130-12000-0260VG8	E130A12000-0260VG8
12.00	26.00	83.00	12.00	2.00	E130-12000-0260VH8	E130A12000-0260VH8
12.00	26.00	80.00	12.00	2.00	E130-12000-0260VI8	E130A12000-0260VI8
12.00	26.00	83.00	12.00	2.50	E130-12000-0260VJ8	E130A12000-0260VJ8
12.00	26.00	80.00	12.00	2.50	E130-12000-0260VK8	E130A12000-0260VK8
12.00	26.00	83.00	12.00	3.00	E130-12000-0260VL8	E130A12000-0260VL8
12.00	26.00	80.00	12.00	3.00	E130-12000-0260VM8	E130A12000-0260VM8
14.00	26.00	83.00	14.00	1.00	E130-14000-0260V08	E130A14000-0260V08
16.00	32.00	92.00	16.00	1.00	E130-16000-0320V08	E130A16000-0320V08
16.00	32.00	92.00	16.00	1.50	E130-16000-0320VA8	E130A16000-0320VA8
16.00	32.00	92.00	16.00	2.00	E130-16000-0320VB8	E130A16000-0320VB8
16.00	32.00	92.00	16.00	2.50	E130-16000-0320VC8	E130A16000-0320VC8
16.00	32.00	92.00	16.00	3.00	E130-16000-0320VD8	E130A16000-0320VD8
20.00	38.00	104.00	20.00	1.00	E130-20000-0380V08	E130A20000-0380V08
20.00	38.00	104.00	20.00	1.50	E130-20000-0380VA8	E130A20000-0380VA8
20.00	38.00	104.00	20.00	2.00	E130-20000-0380VB8	E130A20000-0380VB8
20.00	38.00	104.00	20.00	2.50	E130-20000-0380VC8	E130A20000-0380VC8
20.00	38.00	104.00	20.00	3.00	E130-20000-0380VD8	E130A20000-0380VD8

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

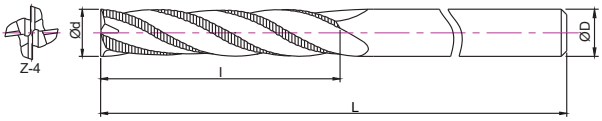
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Uncoated	●		◐		◐	◐			◐						
Coated	●	●	●		●	◐	◐		◐					◐	◐

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute Rougher End Mill

E440
STANDARD LENGTH

- High depth of cut, increased production.
- Better performance in soft materials upto 45 HRc
- Better quality for slotting and side milling.
- Designed the endmills with chip breaker.



FG | 4 Flute | 38°-40° | DP & DH | Shank Dia h6 | L Coating | P.063

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Chamfer CH	
3.00	6.00	57.00	6.00	0.15	E440L03000-0060V08
4.00	8.00	57.00	6.00	0.15	E440L04000-0080V08
5.00	10.00	57.00	6.00	0.15	E440L05000-0100V08
6.00	15.00	57.00	6.00	0.15	E440L06000-0150V08
8.00	20.00	63.00	8.00	0.20	E440L08000-0200V08
10.00	25.00	72.00	10.00	0.30	E440L10000-0250V08
12.00	30.00	83.00	12.00	0.40	E440L12000-0300V08
14.00	35.00	92.00	14.00	0.50	E440L14000-0350V08
16.00	40.00	102.00	16.00	0.50	E440L16000-0400V08
20.00	40.00	102.00	20.00	0.60	E440L20000-0400V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

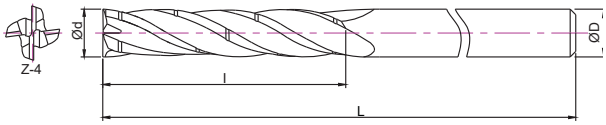
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●			●									◐	●

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute chip Breaker End Mill

E441
STANDARD LENGTH

- High depth of cut, increased production.
- Better performance in soft materials upto 45 HRc
- Better quality for slotting and side milling.
- Designed the endmills with chip breaker.



FG | 4 Flute | 38°-40° | DP & DH | Shank Dia h6 | L Coating | P.063

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Chamfer CH	
3.00	6.00	57.00	6.00	0.15	E440L03000-0060V08
4.00	8.00	57.00	6.00	0.15	E440L04000-0080V08
5.00	10.00	57.00	6.00	0.15	E440L05000-0100V08
6.00	15.00	57.00	6.00	0.15	E440L06000-0150V08
8.00	20.00	63.00	8.00	0.20	E440L08000-0200V08
10.00	25.00	72.00	10.00	0.30	E440L10000-0250V08
12.00	30.00	83.00	12.00	0.40	E440L12000-0300V08
14.00	35.00	92.00	14.00	0.50	E440L14000-0350V08
16.00	40.00	102.00	16.00	0.50	E440L16000-0400V08
20.00	40.00	102.00	20.00	0.60	E440L20000-0400V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

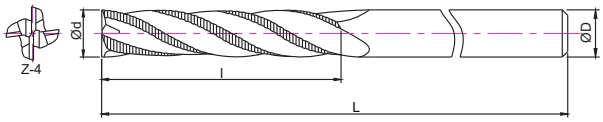
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●			●									◐	●

Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute Sinusoidal End Mill

E442
STANDARD LENGTH

- High depth of cut, increased production.
- Better performance in soft materials upto 45 HRc
- Better quality for slotting and side milling.
- Designed the endmills for multi applications.



FG | 4 Flute | 38°-40° | DP & DH | Shank Dia h6 | L Coating | P.063

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Chamfer CH	
3.00	6.00	57.00	6.00	0.15	E442L03000-0060V08
4.00	8.00	57.00	6.00	0.15	E442L04000-0080V08
5.00	10.00	57.00	6.00	0.15	E442L05000-0100V08
6.00	15.00	57.00	6.00	0.15	E442L06000-0150V08
8.00	20.00	63.00	8.00	0.20	E442L08000-0200V08
10.00	25.00	72.00	10.00	0.30	E442L10000-0250V08
12.00	30.00	83.00	12.00	0.40	E442L12000-0300V08
14.00	35.00	92.00	14.00	0.50	E442L14000-0350V08
16.00	40.00	102.00	16.00	0.50	E442L16000-0400V08
20.00	40.00	102.00	20.00	0.60	E442L20000-0400V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

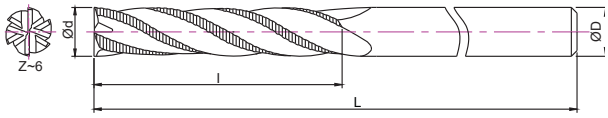
Coating	P		H		M	K	N						S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●			●									◐	●

Material Recommendation: ● Highly Recommended ◐ Recommended

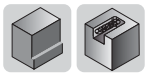
6 Flute Rougher End Mill

E632
STANDARD LENGTH

- High depth of cut, increased production.
- Better performance in soft materials upto 45 HRc
- Better quality for slotting and side milling.
- Designed the endmills with chip breaker.



FG | 6 Flute | 40° | DP | Shank Dia h6 | L Coating | P.063



Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Chamfer CH	
3.00	6.00	57.00	6.00	0.15	E632L03000-0060V08
4.00	8.00	57.00	6.00	0.15	E632L04000-0080V08
5.00	10.00	57.00	6.00	0.15	E632L05000-0100V08
6.00	15.00	57.00	6.00	0.15	E632L06000-0150V08
8.00	20.00	63.00	8.00	0.20	E632L08000-0200V08
10.00	25.00	72.00	10.00	0.30	E632L10000-0250V08
12.00	30.00	83.00	12.00	0.40	E632L12000-0300V08
14.00	35.00	92.00	14.00	0.50	E632L14000-0350V08
16.00	40.00	102.00	16.00	0.50	E632L16000-0400V08
20.00	40.00	102.00	20.00	0.60	E632L20000-0400V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

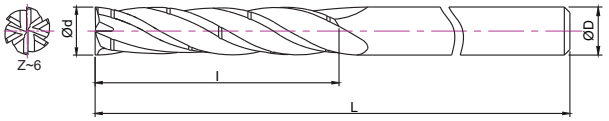
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●			●									◐	●

Material Recommendation: ● Highly Recommended ◐ Recommended

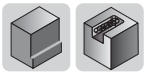
6 Flute Chip Breaker End Mill

E631
STANDARD LENGTH

- High depth of cut, increased production.
- Better performance in soft materials upto 45 HRc
- Better quality for slotting and side milling.
- Designed the endmills with chip breaker.



FG | 6 Flute | 40° | DP | Shank Dia h6 | L Coating | P.063



Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Chamfer CH	
3.00	6.00	57.00	6.00	0.15	E631L03000-0060V08
4.00	8.00	57.00	6.00	0.15	E631L04000-0080V08
5.00	10.00	57.00	6.00	0.15	E631L05000-0100V08
6.00	15.00	57.00	6.00	0.15	E631L06000-0150V08
8.00	20.00	63.00	8.00	0.20	E631L08000-0200V08
10.00	25.00	72.00	10.00	0.30	E631L10000-0250V08
12.00	30.00	83.00	12.00	0.40	E631L12000-0300V08
14.00	35.00	92.00	14.00	0.50	E631L14000-0350V08
16.00	40.00	102.00	16.00	0.50	E631L16000-0400V08
20.00	40.00	102.00	20.00	0.60	E631L20000-0400V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

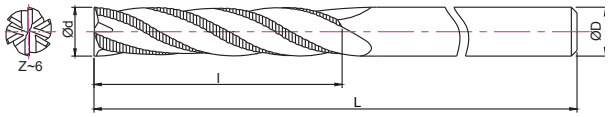
Coating	P		H		M	K	N							S	
	Upto 30 HRC	30 -40 HRC	Hard Steel Upto 55 HRC	Hard Steel Upto 68 HRC	Stainless Steel	Cast Iron	Aluminium	Graphite	Copper Alloy	CFRP	Plastic	Thermo Plastic	High Density Plastic	Nickel/ Cobalt	Titanium Alloy
Coated	●	●			●									◐	●

Material Recommendation: ● Highly Recommended ◐ Recommended

6 Flute Sinusoidal End Mill

E663
STANDARD LENGTH

- High depth of cut, increased production.
- Better performance in soft materials upto 45 HRc
- Better quality for slotting and side milling.
- Designed the endmills for multi application.



FG | 6 Flute | 40° | DP | Shank Dia h6 | L Coating | P.063

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Chamfer CH	
3.00	6.00	57.00	6.00	0.15	E663L03000-0060V08
4.00	8.00	57.00	6.00	0.15	E663L04000-0080V08
5.00	10.00	57.00	6.00	0.15	E663L05000-0100V08
6.00	15.00	57.00	6.00	0.15	E663L06000-0150V08
8.00	20.00	63.00	8.00	0.20	E663L08000-0200V08
10.00	25.00	72.00	10.00	0.30	E663L10000-0250V08
12.00	30.00	83.00	12.00	0.40	E663L12000-0300V08
14.00	35.00	92.00	14.00	0.50	E663L14000-0350V08
16.00	40.00	102.00	16.00	0.50	E663L16000-0400V08
20.00	40.00	102.00	20.00	0.60	E663L20000-0400V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Different coating available based on application requirement.

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
Coated	●	●			●									◐	●

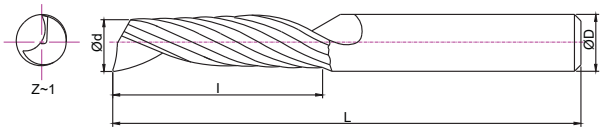
Material Recommendation: ● Highly Recommended ◐ Recommended

Single Flute End Mill for Aluminium

E010

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- More suitable for non ferrous materials like Aluminium, plastic, Acrylic etc
- Better chip evacuation due to single flute design
- Works better in thin plate machining



MG | Single Flute | 25° | CH | Shank Dia h6 | Polished | P.062

Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
3.00	6.00	30.00	3.00	E010-03000-0060VB8
3.00	11.00	38.00	3.00	E010-03000-0110VC8
3.00	22.00	50.00	3.00	E010-03000-0220VB8
2.00	6.00	50.00	4.00	E010-02000-0060VC8
3.00	11.00	50.00	4.00	E010-03000-0110VD8
4.00	8.00	50.00	4.00	E010-04000-0080V08
4.00	12.00	50.00	4.00	E010-04000-0120V08
4.00	14.00	50.00	4.00	E010-04000-0140V08
4.00	22.00	50.00	4.00	E010-04000-0220V08
4.00	32.00	64.00	4.00	E010-04000-0320V08
2.00	6.00	50.00	6.00	E010-02000-0060VD8
3.00	6.00	50.00	6.00	E010-03000-0060VC8
3.00	11.00	50.00	6.00	E010-03000-0110VE8
3.00	22.00	60.00	6.00	E010-03000-0220VC8
4.00	8.00	50.00	6.00	E010-04000-0080VA8
4.00	12.00	50.00	6.00	E010-04000-0120VA8
4.00	14.00	50.00	6.00	E010-04000-0140VA8
4.00	22.00	50.00	6.00	E010-04000-0220VA8
5.00	12.00	50.00	6.00	E010-05000-0120V08
5.00	16.00	50.00	6.00	E010-05000-0160V08
5.00	22.00	50.00	6.00	E010-05000-0220V08
6.00	12.00	50.00	6.00	E010-06000-0120V08
6.00	22.00	50.00	6.00	E010-06000-0220V08
6.00	22.00	58.00	6.00	E010-06000-0220VA8
6.00	32.00	64.00	6.00	E010-06000-0320V08
6.00	42.00	75.00	6.00	E010-06000-0420V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

Single Flute End Mill for Aluminium

E010

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
6.00	32.00	100.00	6.00	E010-06000-0320VA8
8.00	22.00	64.00	8.00	E010-08000-0220V08
8.00	32.00	64.00	8.00	E010-08000-0320V08
8.00	42.00	75.00	8.00	E010-08000-0420V08
8.00	42.00	100.00	8.00	E010-08000-0420VA8
8.00	55.00	100.00	8.00	E010-08000-0550V08
10.00	22.00	64.00	10.00	E010-10000-0220V08
10.00	32.00	75.00	10.00	E010-10000-0320V08
10.00	55.00	100.00	10.00	E010-10000-0550V08
10.00	75.00	120.00	10.00	E010-10000-0750V08

CUTTING DIA	TOLERANCES (mm)
3.1 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

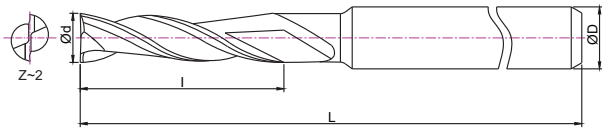
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute End Mill for Aluminium

E160

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Best suitable for high speed machining in Aluminium, copper, plastic, Acrylic..
- Good surface finish
- Reduction in cycle time, increased tool life
- Better chip evacuation



MG | 2 Flute | 45° | CH | Shank Dia h6 | Polished | P.060

Unit: mm

DESCRIPTION				PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	
3.00	8.00	57.00	6.00	E160-03000-0080V08
3.00	25.00	64.00	6.00	E160-03000-0250V08
3.00	30.00	75.00	6.00	E160-03000-0300V08
4.00	11.00	57.00	6.00	E160-04000-0110V08
4.00	25.00	64.00	6.00	E160-04000-0250V08
4.00	35.00	75.00	6.00	E160-04000-0350V08
5.00	13.00	57.00	6.00	E160-05000-0130V08
5.00	25.00	75.00	6.00	E160-05000-0250V08
5.00	40.00	90.00	6.00	E160-05000-0400V08
6.00	13.00	57.00	6.00	E160-06000-0130V08
6.00	25.00	75.00	6.00	E160-06000-0250V08
6.00	40.00	90.00	6.00	E160-06000-0400V08
8.00	19.00	63.00	8.00	E160-08000-0190V08
8.00	30.00	83.00	8.00	E160-08000-0300V08
8.00	50.00	100.00	8.00	E160-08000-0500V08
10.00	22.00	72.00	10.00	E160-10000-0220V08
10.00	50.00	100.00	10.00	E160-10000-0500V08
12.00	26.00	83.00	12.00	E160-12000-0260V08
12.00	50.00	100.00	12.00	E160-12000-0500V08
12.00	75.00	125.00	12.00	E160-12000-0750V08
14.00	26.00	83.00	14.00	E160-14000-0260V08
16.00	32.00	92.00	16.00	E160-16000-0320V08
16.00	60.00	110.00	16.00	E160-16000-0600V08
16.00	75.00	130.00	16.00	E160-16000-0750V08
20.00	38.00	100.00	20.00	E160-20000-0380V08
20.00	75.00	125.00	20.00	E160-20000-0750V08
20.00	90.00	150.00	20.00	E160-20000-0900V08

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

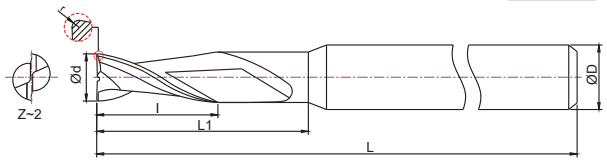
Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Corner Radius End Mill for Aluminium

E170

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Best suitable for high speed machining in Aluminium, copper, plastic, Acrylic..
- Good surface finish
- Reduction in cycle time, increased tool life
- Better chip evacuation



MG | 2 Flute | 45° | CH | Shank Dia h6 | Polished | P.061

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	
3.00	8.00	57.00	6.00	0.30	E170-03000-0080V08
3.00	25.00	64.00	6.00	0.30	E170-03000-0250V08
3.00	30.00	75.00	6.00	0.30	E170-03000-0300V08
4.00	11.00	57.00	6.00	0.30	E170-04000-0110V08
4.00	25.00	64.00	6.00	0.30	E170-04000-0250V08
4.00	35.00	75.00	6.00	0.30	E170-04000-0350V08
4.00	11.00	57.00	6.00	0.50	E170-04000-0110VA8
4.00	25.00	64.00	6.00	0.50	E170-04000-0250VA8
4.00	35.00	75.00	6.00	0.50	E170-04000-0350VA8
5.00	13.00	57.00	6.00	0.50	E170-05000-0130V08
5.00	25.00	75.00	6.00	0.50	E170-05000-0250V08
5.00	40.00	90.00	6.00	0.50	E170-05000-0400V08
6.00	13.00	57.00	6.00	0.50	E170-06000-0130V08
6.00	25.00	75.00	6.00	0.50	E170-06000-0250V08
6.00	40.00	90.00	6.00	0.50	E170-06000-0400V08
8.00	19.00	63.00	8.00	0.50	E170-08000-0190V08
8.00	30.00	83.00	8.00	0.50	E170-08000-0300V08
8.00	50.00	100.00	8.00	0.50	E170-08000-0500V08
8.00	19.00	63.00	8.00	1.00	E170-08000-0190VA8
8.00	30.00	83.00	8.00	1.00	E170-08000-0300VA8
8.00	50.00	100.00	8.00	1.00	E170-08000-0500VA8
10.00	22.00	72.00	10.00	0.50	E170-10000-0220V08
10.00	50.00	100.00	10.00	0.50	E170-10000-0500VA8

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

2 Flute Corner Radius End Mill for Aluminium

E170

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Radius r	
10.00	22.00	72.00	10.00	1.00	E170-10000-0220VA8
10.00	50.00	100.00	10.00	1.00	E170-10000-0500VB8
12.00	26.00	83.00	12.00	1.00	E170-12000-0260V08
12.00	50.00	100.00	12.00	1.00	E170-12000-0500V08
12.00	75.00	125.00	12.00	1.00	E170-12000-0750V08
12.00	26.00	83.00	12.00	1.50	E170-12000-0260VA8
12.00	50.00	100.00	12.00	1.50	E170-12000-0500VQ8
12.00	75.00	125.00	12.00	1.50	E170-12000-0750VA8
14.00	26.00	83.00	14.00	1.00	E170-14000-0260V08
16.00	32.00	92.00	16.00	1.00	E170-16000-0320V08
16.00	60.00	110.00	16.00	1.00	E170-16000-0600V08
16.00	75.00	130.00	16.00	1.00	E170-16000-0750V08
16.00	32.00	92.00	16.00	2.00	E170-16000-0320VA8
16.00	60.00	110.00	16.00	2.00	E170-16000-0600VA8
16.00	75.00	130.00	16.00	2.00	E170-16000-0750VA8
20.00	38.00	100.00	20.00	1.00	E170-20000-0380V08
20.00	50.00	125.00	20.00	1.00	E170-20000-0500V08
20.00	75.00	150.00	20.00	1.00	E170-20000-0750V08
20.00	38.00	100.00	20.00	2.00	E170-20000-0380VA8
20.00	50.00	125.00	20.00	2.00	E170-20000-0500VA8
20.00	75.00	150.00	20.00	2.00	E170-20000-0750VA8

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

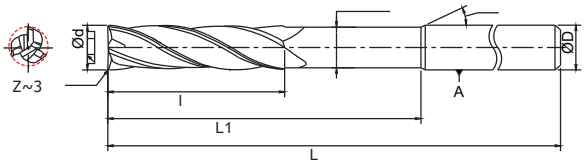
Material Recommendation: ● Highly Recommended ◐ Recommended

3 Flute End Mill for Aluminium

E810

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Designed for machining Aluminium and copper.
- Excellent performance, higher parameters
- Better tool life, accuracy, consistancy.
- Superior design, polished flute enhances better chip evacuation, excellent part quality.



MG | 3 Flute | 45° | DH | Shank Dia h6 | Polished | P.061

Unit: mm

DESCRIPTION					PART NUMBER
Diameter Ød	Flute Length l	Neck Length L1	Overall Length L	Shank Dia ØD h6	
3.00	8.00		57.00	6.00	E810-03000-0080V08
3.00	25.00		64.00	6.00	E810-03000-0250V08
4.00	8.00	12.00	50.00	4.00	E810-04000-0080V08
4.00	9.00		57.00	6.00	E810-04000-0090V08
4.00	25.00		64.00	6.00	E810-04000-0250V08
5.00	10.00	15.00	63.00	5.00	E810-05000-0100V08
5.00	11.00		57.00	6.00	E810-05000-0110V08
5.00	25.00		64.00	6.00	E810-05000-0250V08
6.00	13.00	18.00	63.00	6.00	E810-06000-0130VA8
6.00	13.00		57.00	6.00	E810-06000-0130V08
6.00	30.00		75.00	6.00	E810-06000-0300V08
8.00	18.00	24.00	76.00	8.00	E810-08000-0180V08
8.00	19.00		63.00	8.00	E810-08000-0190V08
8.00	35.00		83.00	8.00	E810-08000-0350V08
10.00	22.00	30.00	76.00	10.00	E810-10000-0220VA8
10.00	22.00		72.00	10.00	E810-10000-0220V08
10.00	40.00		89.00	10.00	E810-10000-0400V08
12.00	25.00	36.00	76.00	12.00	E810-12000-0250V08
12.00	26.00		83.00	12.00	E810-12000-0260VA8
12.00	50.00		100.00	12.00	E810-12000-0500V08
14.00	30.00		92.00	14.00	E810-14000-0300V08
16.00	32.00	48.00	89.00	16.00	E810-16000-0320VA8
16.00	32.00		92.00	16.00	E810-16000-0320V08
16.00	65.00		110.00	16.00	E810-16000-0650V08
20.00	38.00		100.00	20.00	E810-20000-0380V08
20.00	40.00	60.00	115.00	20.00	E810-20000-0400V08
20.00	50.00		125.00	20.00	E810-20000-0500V08

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

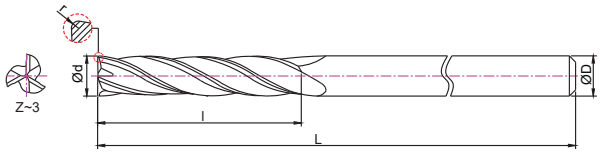
Material Recommendation: ● Highly Recommended ◐ Recommended

3 Flute Corner Radius End Mill for Aluminium

E820

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Designed for machining Aluminium and copper.
- Excellent performance, higher parameters
- Better tool life, accuracy, consistancy.
- Superior design, polished flute enhances better chip evacuation, excellent part quality.



MG | 3 Flute | 45° | DH | Shank Dia h6 | Polished | P.061

Unit: mm

DESCRIPTION						PART NUMBER
Diameter Ød	Flute Length l	Neck Length L1	Overall Length L	Shank Dia ØD	Radius r	
3.00	10.00		50.00	4.00	0.30	E820-03000-0100V08
3.00	20.00		64.00	4.00	0.30	E820-03000-0200V08
4.00	8.00	12.00	50.00	4.00	0.20	E820-04000-0080V08
4.00	10.00		50.00	6.00	0.30	E820-04000-0100V08
4.00	20.00		64.00	6.00	0.30	E820-04000-0200V08
5.00	10.00	15.00	63.00	5.00	0.20	E820-05000-0100V08
5.00	10.00	15.00	63.00	5.00	0.50	E820-05000-0100VA8
5.00	20.00		60.00	6.00	0.30	E820-05000-0200V08
6.00	13.00	18.00	63.00	6.00	0.20	E820-06000-0130V08
6.00	13.00	18.00	63.00	6.00	0.50	E820-06000-0130VA8
6.00	13.00	18.00	63.00	6.00	1.00	E820-06000-0130VB8
8.00	18.00	24.00	76.00	8.00	0.20	E820-08000-0180V08
8.00	18.00	24.00	76.00	8.00	0.50	E820-08000-0180VA8
8.00	18.00	24.00	76.00	8.00	1.50	E820-08000-0180VB8
8.00	18.00	24.00	76.00	8.00	1.00	E820-08000-0180VC8
10.00	22.00	30.00	76.00	10.00	0.20	E820-10000-0220V08
10.00	22.00	30.00	76.00	10.00	0.50	E820-10000-0220VA8
10.00	22.00	30.00	76.00	10.00	1.50	E820-10000-0220VB8
10.00	22.00	30.00	76.00	10.00	1.00	E820-10000-0220VC8
10.00	30.00		75.00	10.00	0.50	E820-10000-0300V08
12.00	25.00	36.00	76.00	12.00	0.20	E820-12000-0250V08
12.00	25.00	36.00	76.00	12.00	0.50	E820-12000-0250VA8
12.00	25.00	36.00	76.00	12.00	1.50	E820-12000-0250VB8
12.00	25.00	36.00	76.00	12.00	1.00	E820-12000-0250VC8
12.00	25.00	36.00	76.00	12.00	2.00	E820-12000-0250VD8
12.00	25.00	36.00	76.00	12.00	3.00	E820-12000-0250VE8
16.00	32.00	48.00	89.00	16.00	0.20	E820-16000-0320V08
16.00	32.00	48.00	89.00	16.00	0.50	E820-16000-0320VA8
16.00	32.00	48.00	89.00	16.00	1.50	E820-16000-0320VB8
16.00	32.00	48.00	89.00	16.00	1.00	E820-16000-0320VC8
16.00	32.00	48.00	89.00	16.00	2.50	E820-16000-0320VD8
16.00	32.00	48.00	89.00	16.00	3.00	E820-16000-0320VE8
16.00	32.00	48.00	89.00	16.00	4.00	E820-16000-0320VF8
20.00	40.00	60.00	115.00	20.00	0.20	E820-20000-0400V08
20.00	40.00	60.00	115.00	20.00	1.50	E820-20000-0400VA8
20.00	40.00	60.00	115.00	20.00	2.00	E820-20000-0400VB8
20.00	40.00	60.00	115.00	20.00	3.00	E820-20000-0400VC8
20.00	40.00	60.00	115.00	20.00	4.00	E820-20000-0400VD8
20.00	40.00	60.00	115.00	20.00	5.00	E820-20000-0400VE8

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

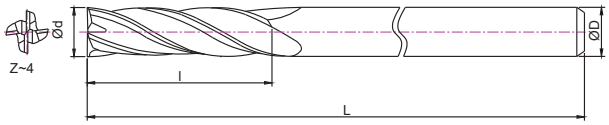
Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill for Aluminium

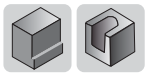
E840

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Designed for machining Aluminium and copper.
- Excellent performance, higher parameters
- Better tool life, accuracy, consistancy.
- Superior design, polished flute enhances better chip evacuation, excellent part quality.



MG | 4 Flute | 35°-37° | CH & CP | Shank Dia h6 | Polished | P.062



Unit: mm

DESCRIPTION							PART NUMBER
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD	Step length l1	Neck Dia d1	No of flutes z	
3.00	6.00	57.00	6.00	10.00	2.70	3	E840-03000-0060V08
4.00	8.00	57.00	6.00	14.00	3.70	3	E840-04000-0080V08
5.00	10.00	57.00	6.00	16.00	5.70	3	E840-05000-0100V08
6.00	12.00	57.00	6.00	20.00	5.70	3	E840-06000-0120V08
6.00	12.00	70.00	6.00	30.00	5.70	3	E840-06000-0120VA8
6.00	12.00	80.00	6.00	40.00	5.70	3	E840-06000-0120VB8
8.00	16.00	80.00	8.00	35.00	7.70	3	E840-08000-0160V08
8.00	16.00	90.00	8.00	45.00	7.70	3	E840-08000-0160VA8
8.00	16.00	100.00	8.00	55.00	7.70	3	E840-08000-0160VB8
10.00	20.00	80.00	10.00	35.00	9.70	3	E840-10000-0200V08
10.00	20.00	90.00	10.00	45.00	9.70	3	E840-10000-0200VA8
10.00	20.00	100.00	10.00	55.00	9.70	3	E840-10000-0200VC8
12.00	24.00	80.00	12.00	35.00	11.70	4	E840-12000-0240V08
12.00	24.00	100.00	12.00	55.00	11.70	4	E840-12000-0240VA8
12.00	24.00	115.00	12.00	70.00	11.70	4	E840-12000-0240VB8
16.00	32.00	90.00	16.00	45.00	15.70	4	E840-16000-0320V08
16.00	32.00	100.00	16.00	55.00	15.70	4	E840-16000-0320VA8
16.00	32.00	115.00	16.00	70.00	15.70	4	E840-16000-0320VB8
20.00	45.00	115.00	20.00	60.00	19.70	4	E840-20000-0450V08
20.00	45.00	125.00	20.00	75.00	19.70	4	E840-20000-0450VA8
20.00	45.00	150.00	20.00	90.00	19.70	4	E840-20000-0450VB8

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

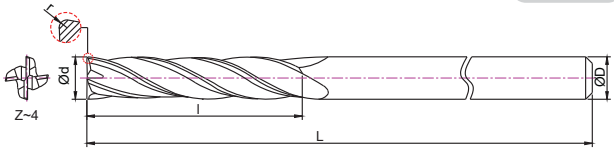
Material Recommendation: ● Highly Recommended ◐ Recommended

4 Flute End Mill for Aluminium with Corner Radius

E841

STANDARD LENGTH
LONG LENGTH
EXTRA LONG LENGTH

- Designed for machining Aluminium and copper.
- Excellent performance, higher parameters
- Better tool life, accuracy, consistancy.
- Superior design, polished flute enhances better chip evacuation, excellent part quality.



MG | 4 Flute | 35°-37° | CH & CP | Shank Dia h6 | Polished | P.062

Unit: mm

DESCRIPTION							PART NUMBER	
Diameter Ød	Flute Length l	Overall Length L	Shank Dia ØD h6	Step length l1	Neck Dia d1	Radius r	Uncoated	G Coating
2.00	4.00	57.00	6.00	6.00	1.80	0.30	E841-02000-0040V08	E841G02000-0040V08
3.00	6.00	57.00	6.00	10.00	2.70	0.30	E841-03000-0060V08	E841G03000-0060V08
4.00	8.00	57.00	6.00	14.00	3.70	0.30	E841-04000-0080V08	E841G04000-0080V08
5.00	10.00	57.00	6.00	16.00	5.70	0.50	E841-05000-0100V08	E841G05000-0100V08
6.00	12.00	57.00	6.00	20.00	5.70	0.50	E841-06000-0120V08	E841G06000-0120V08
6.00	12.00	70.00	6.00	30.00	5.70	0.50	E841-06000-0120VA8	E841G06000-0120VA8
6.00	12.00	80.00	6.00	40.00	5.70	1.00	E841-06000-0120VB8	E841G06000-0120VB8
8.00	16.00	80.00	8.00	35.00	7.70	0.50	E841-08000-0160V08	E841G08000-0160V08
8.00	16.00	90.00	8.00	45.00	7.70	1.00	E841-08000-0160VA8	E841G08000-0160VA8
8.00	16.00	100.00	8.00	55.00	7.70	1.00	E841-08000-0160VB8	E841G08000-0160VB8
10.00	20.00	80.00	10.00	35.00	9.70	0.50	E841-10000-0200V08	E841G10000-0200V08
10.00	20.00	90.00	10.00	45.00	9.70	1.00	E841-10000-0200VA8	E841G10000-0200VA8
10.00	20.00	100.00	10.00	55.00	9.70	1.00	E841-10000-0200VB8	E841G10000-0200VB8
12.00	24.00	80.00	12.00	35.00	11.70	0.50	E841-12000-0240V08	E841G12000-0240V08
12.00	24.00	100.00	12.00	55.00	11.70	1.00	E841-12000-0240VA8	E841G12000-0240VA8
12.00	24.00	115.00	12.00	70.00	11.70	1.00	E841-12000-0240VB8	E841G12000-0240VB8
16.00	32.00	90.00	16.00	45.00	15.70	1.00	E841-16000-0320V08	E841G16000-0320V08
16.00	32.00	100.00	16.00	55.00	15.70	1.00	E841-16000-0320VA8	E841G16000-0320VA8
16.00	32.00	115.00	16.00	70.00	15.70	1.50	E841-16000-0320VB8	E841G16000-0320VB8
18.00	36.00	100.00	18.00	55.00	17.70	1.00	E841-18000-0360V08	E841G18000-0360V08
18.00	36.00	115.00	18.00	70.00	17.70	1.00	E841-18000-0360VA8	E841G18000-0360VA8
18.00	36.00	130.00	18.00	85.00	17.70	1.50	E841-18000-0360VB8	E841G18000-0360VB8
20.00	40.00	100.00	20.00	55.00	19.70	1.00	E841-20000-0400V08	E841G20000-0400V08
20.00	40.00	115.00	20.00	70.00	19.70	2.00	E841-20000-0400VA8	E841G20000-0400VA8
20.00	40.00	130.00	20.00	85.00	19.70	2.00	E841-20000-0400VB8	E841G20000-0400VB8

CUTTING DIA	TOLERANCES (mm)
3.0 - 6.0	+0.000/- 0.025
6.0 - 10.0	+0.000/- 0.035
10.1 - 20.0	+0.000/- 0.050

*Polished / G -coating is available based on application requirement.

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							●		●		●	●	●		

Material Recommendation: ● Highly Recommended ◐ Recommended

Cutting parameter recommendations

B300 Series, 4 flute Ball nose Endmill

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Hardened steel upto 50 HRc	
	RPM	Feed	RPM	Feed	RPM	Feed
2	13300	680	10000	405	4100	605
3	11500	870	8550	585	3850	605
4	8950	950	7150	680	3600	605
5	7800	1045	6200	745	3100	715
6	7250	1330	5900	1090	2700	715
8	6100	1660	4900	1185	2100	820
10	5450	1950	4350	1330	1750	820
12	4985	2230	4000	1425	1500	945
14	4500	2230	3600	1425	1300	945
16	4085	2230	3200	1380	1100	820
18	3800	2135	3000	1330	1050	820
20	3550	2135	2800	1330	950	820

B000 Series, 2 flute Ball nose Endmill

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Hardened steel upto 50 HRc	
	RPM	Feed	RPM	Feed	RPM	Feed
2	12400	640	9200	415	4000	395
3	11400	575	8600	390	3800	395
4	8950	630	7150	450	3600	395
5	7800	700	6200	490	3100	470
6	7200	870	5900	705	2700	470
8	6100	1090	4900	785	2050	540
10	5450	1330	4350	870	1750	540
12	5000	1500	3950	1000	1500	630
14	4500	1495	3600	925	1300	630
16	4100	1470	3200	905	1150	540
18	3800	1425	3000	890	1050	540
20	3500	1425	2800	885	950	540

E330 Series, 2 flute Ball nose Endmill

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless steel		Cast Iron		Non Ferrous Metals	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	7600	270	4750	170	3950	145	6050	640	11000	1035
4	6450	485	3950	300	3300	240	4600	640	8800	1035
5	5350	510	3200	305	2700	255	3650	640	6800	1035
6	4750	560	2850	350	2400	280	2950	770	5700	1100
8	3550	605	2150	325	1800	300	2200	815	4400	1100
10	2750	520	1700	255	1450	255	1850	860	3400	1100
12	2350	440	1450	215	1150	205	1450	900	2850	1100
14	2100	395	1300	195	1050	190	1300	945	2400	1100
16	1850	350	1150	170	950	170	1100	970	2200	1100
20	1450	270	900	135	700	130	900	1035	1700	1100

Cutting parameter recommendations

E340 Series, 4 Flute Endmill Corner Radius-General purpose

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless steel		Cast Iron		Non Ferrous Metals	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	7600	270	4750	170	3950	145	6050	640	11000	1035
4	6450	485	3950	300	3300	240	4600	640	8800	1035
5	5350	510	3200	305	2700	255	3650	640	6800	1035
6	4750	560	2850	350	2400	280	2950	770	5700	1100
8	3550	605	2150	325	1800	300	2200	815	4400	1100
10	2750	520	1700	255	1450	255	1850	860	3400	1100
12	2350	440	1450	215	1150	205	1450	900	2850	1100
14	2100	395	1300	195	1050	190	1300	945	2400	1100
16	1850	350	1150	170	950	170	1100	970	2200	1100
20	1450	270	900	135	700	130	900	1035	1700	1100

E730 Series, 4 Flute Endmill Long, Extra long-General purpose

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless steel		Cast Iron		Non Ferrous Metals	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	6840	250	4275	150	3555	125	5445	600	9900	1035
4	5805	460	3555	270	2970	220	4140	600	7920	1035
5	4815	480	2880	270	2430	230	3285	600	6120	1035
6	4275	540	2565	320	2160	250	2655	700	5130	1100
8	3195	580	1935	300	1620	280	1980	770	3960	1100
10	2475	500	1530	230	1305	230	1665	800	3060	1100
12	2115	420	1305	200	1035	180	1305	850	2565	1100
14	1890	370	1170	175	945	170	1170	900	2160	1100
16	1665	330	1035	160	855	160	990	910	1980	1100
20	1305	250	810	120	630	120	810	950	1530	1100

E490/E510/E500/E302 Series, 4 Flute Endmill Long, Extra long-General purpose

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless steel		Titanium		Nickel Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	16130	325	11350	225	6790	120	5445	140	5200	110
4	12100	385	8510	270	5090	140	4140	160	4100	120
5	9680	425	6810	300	4070	150	3285	180	3400	140
6	8060	515	5680	365	3400	180	2655	200	2800	160
8	6050	655	4260	460	2550	180	1980	200	2100	170
10	5350	815	3720	565	2230	240	1665	210	2200	200
12	4460	840	3100	585	1860	240	1305	220	1700	210
14	3820	750	2660	520	1590	215	1170	190	1600	210
16	3340	710	2330	495	1390	205	990	180	1400	200
20	2970	700	2070	490	1240	205	810	140	1200	200

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

E480/E450/E520/E303 Series, 5 Flute Endmill

Feed: mm/min

Dia	Carbon steel		Alloy Steel		Stainless steel		Titanium		Nickel Alloy	
	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	10616	531	9554	478	8493	425	272	140	6369	318
4	7962	597	7166	537	6369	478	311	160	4777	358
5	6369	796	5732	717	5096	637	411	180	3822	478
6	5308	663	4777	597	4246	531	332	200	3185	398
8	3981	697	3583	627	3185	557	347	200	2389	418
10	3185	637	2866	573	2548	510	333	210	1911	382
12	2654	597	2389	537	2123	478	294	220	1592	358
14	2275	569	2047	512	1820	455	293	190	1365	341
16	1990	547	1791	493	1592	438	272	180	1194	328
20	1592	478	1433	430	1274	382	243	140	955	287

E160 Series, 2 flute Endmill Aluminium Application

Feed: mm/min

Dia	Aluminium		Aluminium	
	Slotting (0.5xD)		Side Milling (1XD)	
	RPM	Feed	RPM	Feed
3	10000	700	10000	900
4	10000	900	10000	1100
5	10000	1000	10000	1300
6	10000	1200	10000	1500
8	8000	1400	8000	1800
10	8000	1700	8000	2100
12	8000	2100	8000	2600
14	6000	1800	6000	2200
16	6000	1900	6000	2400
18	4000	1400	4000	1800
20	4000	1600	4000	1900

E810 Series, 3 flute Endmill Aluminium Application

Feed: mm/min

Dia	Aluminium		Aluminium	
	Slotting (0.5xD)		Side Milling (1XD)	
	RPM	Feed	RPM	Feed
3	7000	730	7000	940
4	7000	940	7000	1150
5	7000	1050	7000	1360
6	7000	1250	7000	1580
8	5600	1470	5600	1900
10	5600	1630	5600	2050
12	5600	1780	5600	2200
14	5600	2200	5600	2740
16	4200	1990	4200	2520
20	2800	1680	2800	2000

Cutting parameter recommendations

E170 Series, 2 flute Corner Radius Endmill Aluminium Long Reach

Feed: mm/min

Dia	Aluminium		Aluminium	
	Slotting (0.5xD)		Side Milling (1XD)	
	RPM	Feed	RPM	Feed
3	9000	730	9500	910
4	9000	910	9500	1050
5	9000	980	9500	1230
6	9000	1280	9500	1380
8	7400	1360	7800	1680
10	7400	1630	7800	1940
12	7400	1960	7800	2380
14	5400	1680	5500	2060
16	5400	1770	5500	2220
18	3800	1360	4000	1680
20	3800	1520	3800	1760

E810 Series, 3 flute Endmill Aluminium Long Reach

Feed: mm/min

Dia	Aluminium		Aluminium	
	Slotting (0.5xD)		Side Milling (1XD)	
	RPM	Feed	RPM	Feed
3	6000	680	6000	820
4	6000	860	6000	940
5	6000	920	6000	1150
6	6000	1100	6000	1320
8	5100	1250	5100	1650
10	5100	1400	5100	1780
12	5100	1500	5100	1980
14	5100	1800	5100	2450
16	4000	1800	4000	2320
20	2600	1850	2600	1840

E820 Series, 3 flute Endmill Aluminium Long Reach

Feed: mm/min

Dia	Aluminium		Aluminium	
	Slotting (0.5xD)		Side Milling (1XD)	
	RPM	Feed	RPM	Feed
3	7000	780	7000	920
4	6800	920	6800	980
5	6800	960	6800	1180
6	6800	1160	6800	1380
8	5400	1320	5400	1750
10	5400	1460	5400	1830
12	5400	1580	5400	1980
14	5400	1860	5400	2450
16	4400	1860	4400	2380
20	2800	1850	2800	1880

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

E840/841 Series, 4 flute Endmill Aluminium Long Reach

Feed: mm/min

Dia	Aluminium		Aluminium	
	Slotting (0.5xD)		Side Milling (1XD)	
	RPM	Feed	RPM	Feed
3	6400	800	6600	1000
4	6400	1000	6600	1100
5	6400	1100	6600	1300
6	6400	1200	6600	1500
8	5200	1400	5200	1800
10	5200	1600	5200	2000
12	5200	1800	5200	2200
14	5200	2000	5200	2450
16	4200	2000	4200	2400
20	2800	2200	2800	2200

E01 Series, Single flute Endmill Aluminium

Feed: mm/min

Dia	Acrylic		Aluminium	
	RPM	Feed	RPM	Feed
0.1	40000	1000	30000	800
0.5	38000	1200	28000	1000
1	35000	1500	25000	1200
1.5	32000	2000	23000	1200
2	32000	2200	23000	1500
3	25000	2400	18000	1700
4	20000	2400	15000	1800
5	15000	2200	12000	1800
6	13500	2300	10000	1800
8	10000	2400	7800	1900
10	8000	2400	6000	2000
12	6700	2300	5000	2200

E630/E610

Feed: mm/min

Cutting Speed	Carbon steel				Alloy Steel				Tool Steel				Stainless Steel			
Diameter	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz	RPM	Feed	Vc	Fz
6	15890	6440	300	0.068	10770	3240	203	0.05	5300	1300	100	0.041	7820	1920	147	0.041
8	11920	8270	300	0.116	8080	4115	203	0.085	3970	1685	100	0.071	5860	2485	147	0.071
10	9540	8255	300	0.144	6460	4125	203	0.106	3180	1680	100	0.088	4690	2475	147	0.088
12	7950	8245	300	0.173	5380	4130	203	0.128	2650	1675	100	0.105	3910	2470	147	0.105
16	5960	7210	300	0.202	4040	3620	203	0.149	1990	1465	100	0.123	2930	2160	147	0.123
20	4770	6440	300	0.225	3230	3235	203	0.167	1590	1310	100	0.137	2340	1930	147	0.137

Cutting parameter recommendations

E440/E441/E442, Side Milling Operation Ap-2.0xD, Ae-0.5xD

Feed: mm/min

Material	Steel		Cast Iron		Stainless Steel		Titanium		PH/Duplex	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	15924	637	12208	488	5838	234	4777	191	4777	191
4	11937	716	9156	549	4378	210	3582	172	3582	172
6	7958	955	6104	610	2919	234	2388	191	2388	191
8	5968	955	4578	641	2189	263	1791	215	1791	215
10	4775	898	3662	659	1751	245	1433	201	1433	201
12	3979	828	3052	549	1459	233	1194	191	1194	191
14	3410	791	2616	523	1251	225	1023	184	1023	184
16	2984	728	2289	504	1094	219	895	179	895	179
20	2387	621	1831	439	875	193	716	158	716	158

E440/E441/E442, Side Milling Operation Ap-2.0xD, Ae-0.5xD

Feed: mm/min

Material	Steel		Cast Iron		Stainless Steel		Titanium		PH/Duplex	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	18047	722	14862	594	5839	234	4777	191	4777	191
4	13535	1083	11146	892	4379	350	3583	287	3583	287
6	9023	1444	7431	1189	2919	467	2389	382	2389	382
8	6768	1354	5573	1115	2189	438	1791	358	1791	358
10	5414	1299	4459	1070	1752	420	1433	344	1433	344
12	4512	1263	3715	1040	1460	409	1194	334	1194	334
14	3867	1237	3185	1019	1251	400	1024	328	1024	328
16	3384	1150	2787	947	1095	372	896	305	896	305
20	2707	975	2229	803	876	315	717	258	717	258

E631/E632/E663, Slotting Operation 1.0xD

Feed: mm/min

Material	Steel		Cast Iron		Stainless Steel		Titanium		PH/Duplex	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	15924	764	12208	586	5838	280	4777	229	4777	229
4	11937	859	9156	659	4378	252	3582	206	3582	206
6	7958	1146	6104	732	2919	280	2388	229	2388	229
8	5968	1146	4578	769	2189	315	1791	258	1791	258
10	4775	1078	3662	791	1751	294	1433	241	1433	241
12	3979	994	3052	659	1459	280	1194	229	1194	229
14	3410	949	2616	628	1251	270	1023	221	1023	221
16	2984	874	2289	604	1094	263	895	215	895	215
20	2387	745	1831	527	875	231	716	189	716	189

Cutting parameter recommendations

E631/E632/E663, Side Milling Operation Ap-2.0xD, Ae-0.5xD

Feed: mm/min

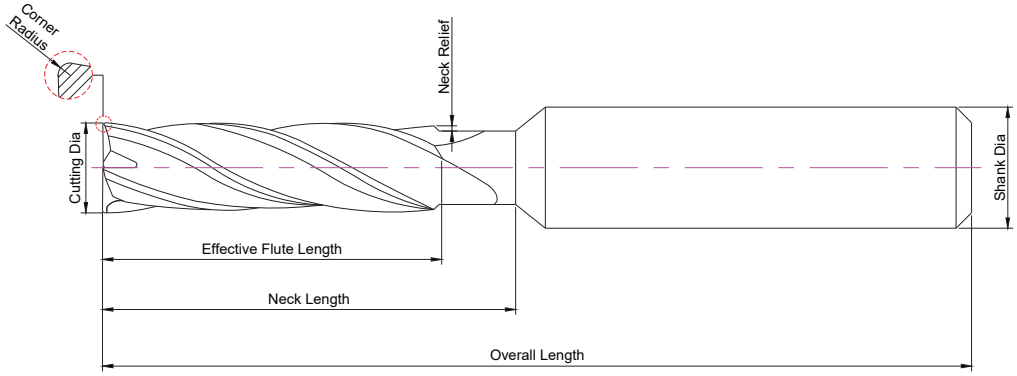
Material	Steel		Cast Iron		Stainless Steel		Titanium		PH/Duplex	
Diameter	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed	RPM	Feed
3	18047	866	14862	713	5839	280	4777	229	4777	229
4	13535	1299	11146	1070	4379	420	3583	344	3583	344
6	9023	1732	7431	1427	2919	561	2389	459	2389	459
8	6768	1624	5573	1338	2189	525	1791	430	1791	430
10	5414	1559	4459	1284	1752	504	1433	413	1433	413
12	4512	1516	3715	1248	1460	490	1194	401	1194	401
14	3867	1485	3185	1223	1251	480	1024	393	1024	393
16	3384	1381	2787	1137	1095	447	896	365	896	365
20	2707	1169	2229	963	876	378	717	310	717	310

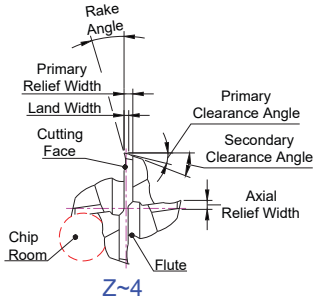
E110/E130 Solid Carbide Micro Endmills

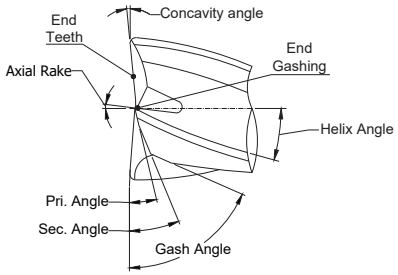
Feed: mm/min

Material	Structural steel		Carbon Steels Alloy steels		Pre Hardened steel		Stainless steel		Cast Iron		Aluminium	
Hardness			25HRc		30-40HRc							
Diameter	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED	RPM	FEED
0.1	22293	0.04	15924	0.04	11146	0.03	7962	0.02	25478	0.04	27070	0.05
0.5	19108	0.05	12739	0.05	9554	0.04	7643	0.02	19745	0.05	20382	0.06
0.8	13933	0.06	10350	0.06	7962	0.05	7166	0.03	14331	0.06	15924	0.06
1.0	12739	0.07	11146	0.07	7962	0.06	6369	0.03	12739	0.08	14331	0.08
1.2	10616	0.08	9289	0.08	6635	0.07	5839	0.04	11146	0.09	12739	0.08
1.5	8493	0.08	7431	0.08	5945	0.07	5096	0.04	9554	0.09	10616	0.09
1.8	7077	0.09	6192	0.09	5308	0.08	4600	0.04	8493	0.09	9731	0.09
2.0	6369	0.1	6369	0.1	5096	0.09	4459	0.04	8280	0.1	9554	0.1
2.2	7238	0.1	6514	0.1	5067	0.09	4343	0.05	7962	0.1	9409	0.1
2.5	7006	0.1	6369	0.1	4841	0.09	4076	0.05	7643	0.1	8662	0.1
2.8	6824	0.1	6256	0.1	4550	0.1	3981	0.05	7393	0.11	8189	0.12
3.0	6369	0.1	5839	0.1	4246	0.1	3715	0.05	6900	0.11	7962	0.12
3.5	5460	0.12	5200	0.12	3800	0.11	3600	0.06	6500	0.12	6900	0.12
4.0	4780	0.12	4700	0.12	3600	0.11	3400	0.08	6200	0.12	5900	0.13
4.5	4230	0.12	4200	0.12	3200	0.11	3100	0.1	5500	0.12	5300	0.14
5	3850	0.12	3800	0.12	2900	0.11	2700	0.1	5500	0.13	4800	0.15
5.5	3500	0.12	3500	0.12	2800	0.12	2500	0.1	5000	0.13	4300	0.15
6	3200	0.15	3200	0.15	2800	0.15	2500	0.1	5000	0.13	4000	0.15

End Mill Nomenclature





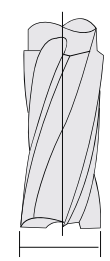


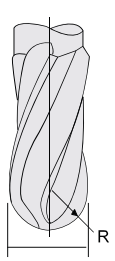
D - Cutter Diameter
d - Shank Diameter
L - Over All Length
l - Cutting Length
l1- Neck Length
a - Neck Relief
Cr - Corner Radius
r - Radius
Z - Number of Teeths
Y - Rake angle

1 - Primary Relief width
2 - Land Width
3 - Primary Clearence angle
4 - Secondary Clearence angle
5 - Axial Relief Width
6 - Flute
7 - Chip room
8 - Cutting Face
9 - Concavity angle
10 - End Gashing

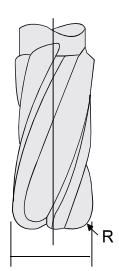
11 - Axial primary relief angle
12 - Axial secondary relief angle
13 - End Teeth
14 - Axial Rake angle

Types of End Mill


ØD
Square End Mill



ØD
Ball Nose End Mill



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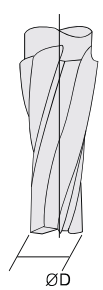
Radius End Mill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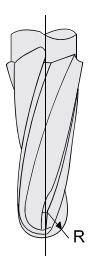
Taper End Mill



Taper Ball End Mill

Trouble Shooting In Milling

Problem	Occurance	Solution
End Mill Breakage	During the entry into the component At the exit from component	1. Reduce the feed rate 2. Reduce the overhang length 3. Select a shorter tool
	During normal cutting	1. Reduce the feed rate 2. Replace the tool with minimal wear out 3. Change the tool holder or collet 4. Reduce the tool overhang 5. Increase the honing 6. Check for chip evacuation, if required reduce the number of flute 7. Increase the coolant concentration 8. Check for coolant flow and reach
Chip off at the cutting edges	Corner Chipping	1. Use the endmill with chamfer or radius 2. Change the cutting direction
	Flute chipping	1. Change the cutting speed 2. Change the cutting direction 3. Check for honing 4. Change the feed rate 5. Check for coolant concentration 6. Check for coolant flow and reach 7. Change the tool holder or collet
	Cutting edge chipping	1. Change the feed rate 2. Check for chip evacuation, if required 3. reduce the number of flute 4. Increase the honing 5. Check for coolant concentration and increase 6. Check for coolant flow and reach 7. Change the tool holder or collet 8. Reduce the rpm
Faster tool wear		1. Reduce the rpm 2. Increase the feed rate 3. Increase the depth of cut 4. Increase the coolant concentration”

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

Trouble Shooting In Milling

Problem	Occurance	Solution
Inferior finish	Rough finish	1. Increase the number of flutes 2. Reduce feed 3. Increase rpm
	Chip welding	1. Increase the feed rate 2. Increase rpm 3. Increase the coolant concentration 4. Smoothen the coated surface
	Scoring marks	1. Reduce depth of cut 2. Increade rpm 3. Reduce the feed rate
Poor Accuracy	Inaccurate Dimensions	1. Change up milling to down milling or vice versa 2. Reduce depth of cut 3. Change the tool holder 4. Change rpm 5. Reduce the overhang
	Issue with perpendicularity	1. Check the wear pattern 2. Reduce depth of cut 3. Change the tool holder 4. Increase the rpm 5. Reduce the overhang 6. Increase the number of flutes
Chattering mark		1. Change the feed rate 2. Change the rpm 3. Increase the number of flutes 4. Change the tool holder 5. Reduce the tool overhang

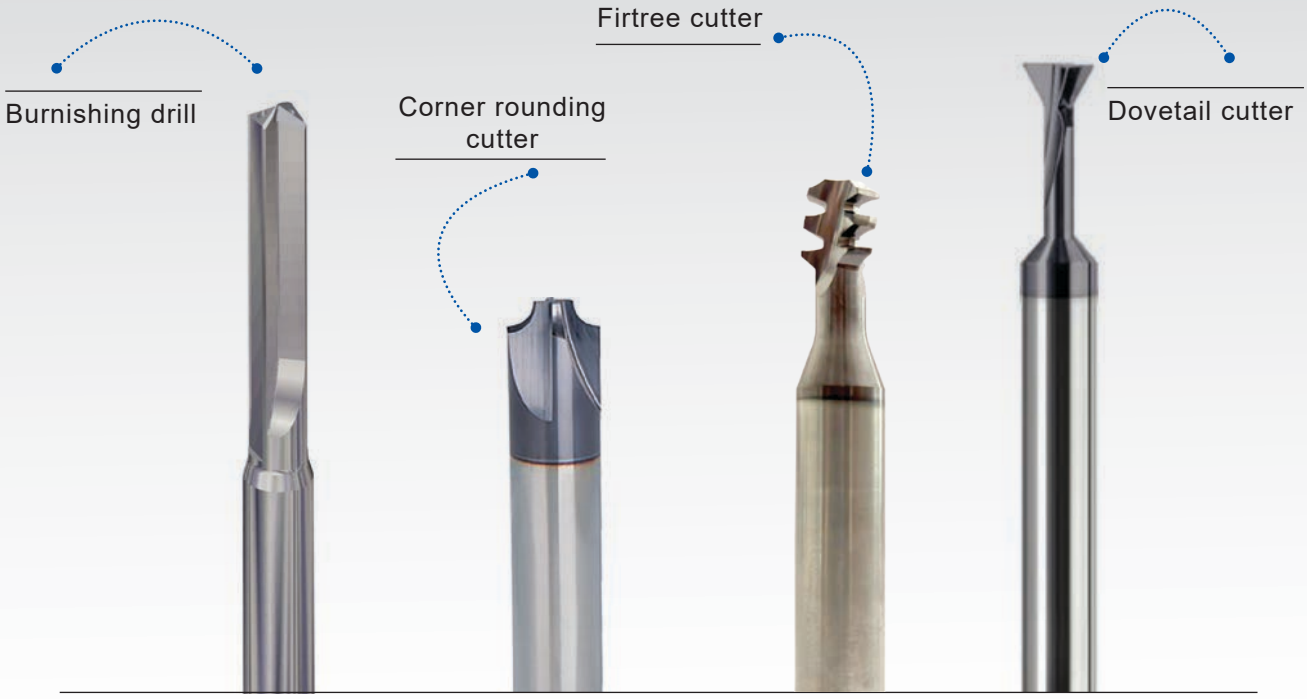
Following factors should be kept in mind when using the recommended feed per tooth

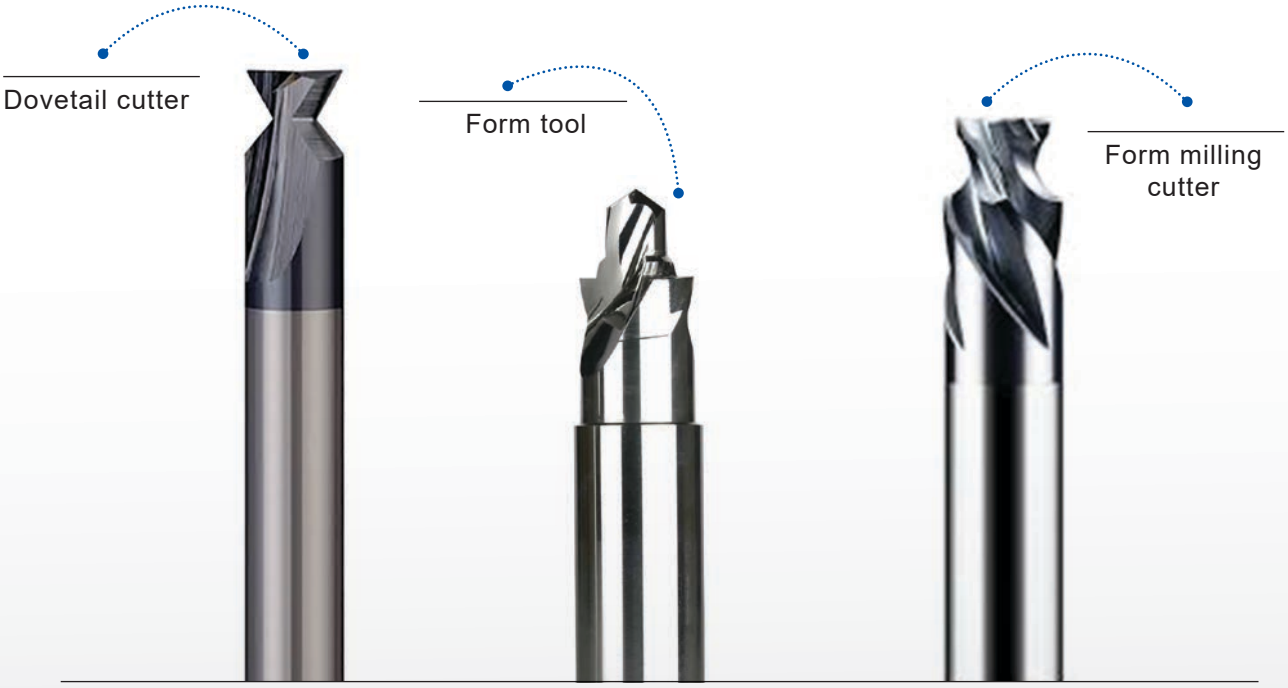
Use Higher feed rates for:	Use Lower feed rates for:
• Heavy, roughing cuts • When the setup is rigid • For easy to machine materials • For rugged cutters • For low tensile strength materials • For course pitch roughing cutters • For abrasive materials	• For finishing cuts • For non rigid setup • For hard to machine materials • For smaller size cutters • For low tensile strength materials • Fine pitch roughing cutters

Speed Feed Calculations for Milling cutters and other tools

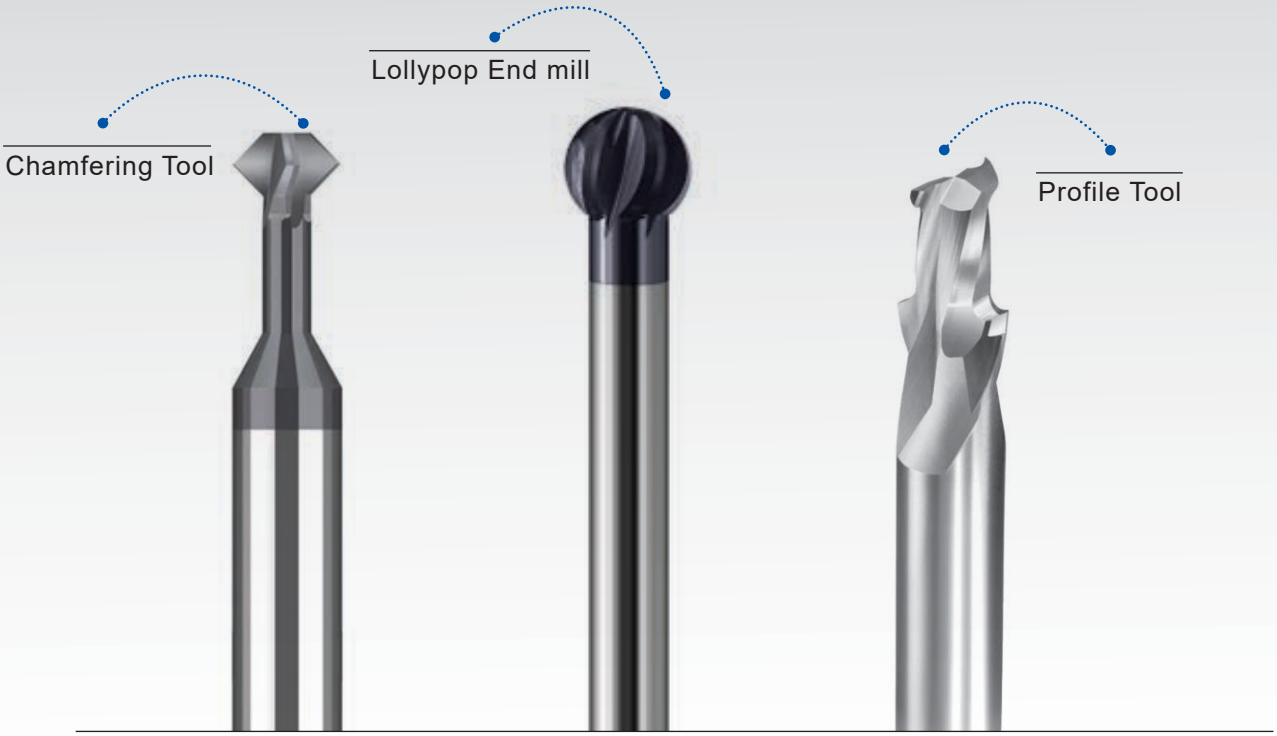
To Find	Available	Formulae
Speed in meters per minute (Vc)	Diameter of tool: D Rev Per Min (RPM): N	Vc=(3.1416x DxN)/1000
Rev Per Min (RPM) N	Diameter of tool: D Speed: Vc	N=(Vcx1000)/ (3.1416xD)
Feed (mm/min)-F	Feed per tooth: Fz No of flute : Z Rev Per Min (RPM): N	F=FzxZxN(rpm)
Feed Per Tooth- Fz	Feed (mm/min) :F No of flute : Z Rev Per Min (RPM): N	Fz= F/(ZxN)

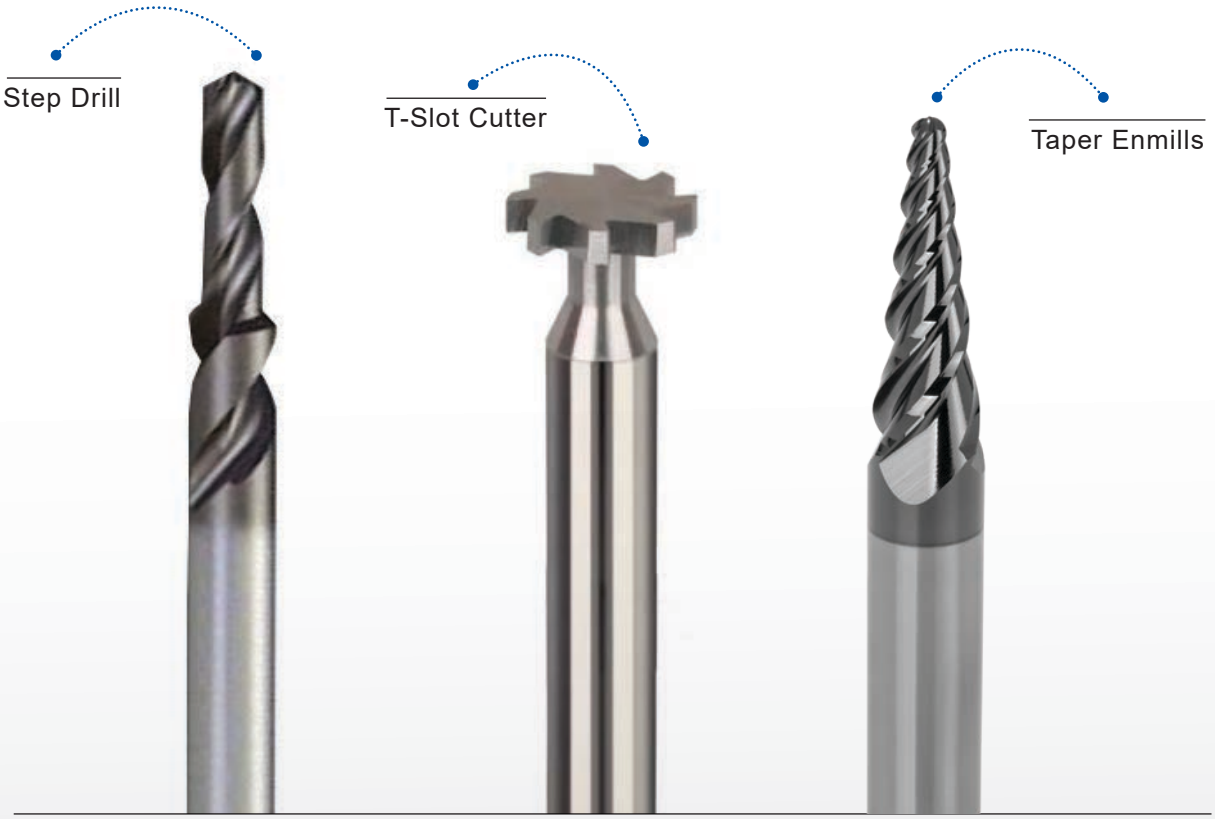
Special tools





Special tools





NOTES

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