



TEN SOON

Users' Experience is our Priority!

CUTTING TOOLS SERIES
PRODUCT
CATALOGUE
2018

Provides Solution

to all your machining requirements.

Committed to customer satisfaction through quality product and service provision, Ten Soon Machine Tools provides precision cutting tools, Machine Tool Accessories and Machine Tool Holders; enabling its clients to focus on efficient machining. It offers variety of innovative products contemporaneous with the industrial and technological progress.

After-sales is also a paramount as Ten Soon closely collaborates with its clients during its growth process, creating mutual benefit, growth, and sustainable development through excellent products with them.



Ten Soon Machine Tools, Inc.

2nd Floor, Bldg. 4 No. 124 North Science Avenue,
Laguna Technopark SEPZ, Biñan City, Laguna
(049) 572 3717 | (049) 545 4658
info@ts-machinetools.com
sales@ts-machinetools.com

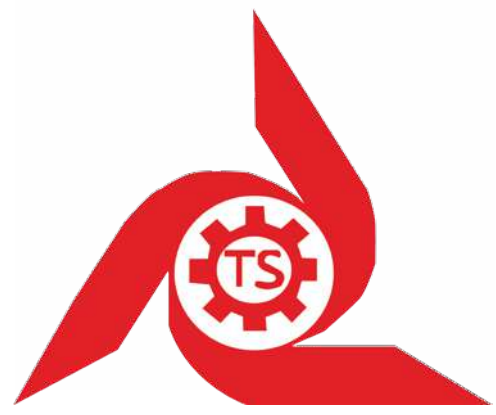


Company Profile

Ten Soon Machine Tools, Inc. (Terng Shuenn) was founded in 1989 at Taipei, Taiwan. With its high quality products and customer-oriented service, Ten Soon became the most famous machine tool accessories supplier in Taiwan.

In 1992, it expanded its business in China with the establishment of Jousn (Ten Soon China) at Dongguan, China, and has established almost 13 branches around the country.

In 2018, Ten Soon Machine Tools was established in Laguna Technopark, Biñan City, Laguna, Philippines. With its company tagline of "*Users' Experience is our Priority*", Ten Soon Machine Tools, Inc. aims to become the leading local and professional machine tools supplier across the national market by providing quality and superior products and service to attain customers' need and satisfaction.



TEN SOON
MACHINE TOOLS, INC.

Users' Experience is Our Priority

is an
authorized distributor
of



Ask for a CATALOG now!



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Drills

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SPECIFICATIONS GUIDELINE

Tool Material

MG
Carbide

Micro Grain

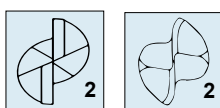
UMG
Carbide

Ultra Micro Grain

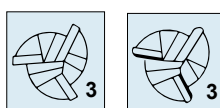
SMG
Carbide

Super Micro Grain

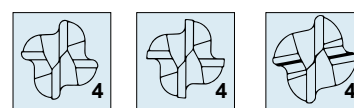
Number of Flute



2 Flutes

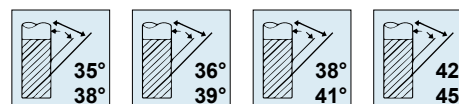
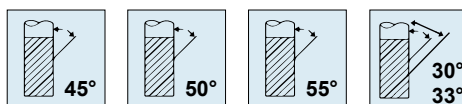
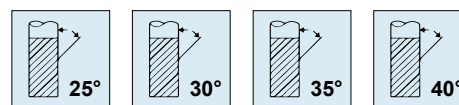
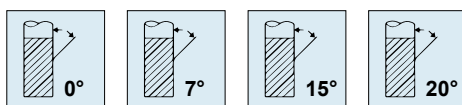


3 Flutes





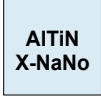
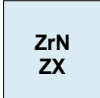
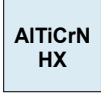
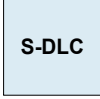

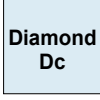
4 Flutes

Helix Angle



SPECIFICATIONS GUIDELINE

Coating Type

 <p>TiAlN F-MDT</p>	<p>High heat resistance High oxidation resistance Nanocomposite coating with lubrication property Suitable for any material and steels <48HRC</p>	 <p>TiAlN SX</p>	<p>The cutting tools that are coated with multilayer nano rainbow film have some advantages as ff: Abrasion resistance, low-coefficient of friction, anti-adhesion that enhances tool life.</p>
 <p>AlTiN X-NaNo</p>	<p>Very high heat resistance Very high oxidation resistance Suitable for steels <60HRC</p>	 <p>ZrN ZX</p>	<p>Coating features: high surface finish with strong wear resistance, anti-oxidationb, low-friction, anti-adhesion. Application: Suitable for machining difficult materials like aluminum, copper, stainless steels, titanium</p>
 <p>AlTiCrN HX</p>	<p>Multilayer Higher hardness High oxidation resistance Suitable for steels <52 HRC</p>	 <p>S-DLC</p>	<p>The cutting tools that are coated with multilayer nano rainbow film have some advantages as ff: Abrasion resistance, low-coefficient of friction, anti-adhesion that enhances tool life.</p>
 <p>AlTiSiN TX</p>	<p>Multilayer; Higher nanohardness Extremely high heat resistance; Very good thermal insulation Suitable for high performance machining condition and also for midhardness alloy steels to 70HRC</p>	 <p>Diamond Dc</p>	<p>Extremely high hardness Good chemical stability Suitable for machining graphite</p>

Relief

 <p>Slant Relief</p>	 <p>Big Eccentric Relief</p>
 <p>Eccentric Relief</p>	

Corner of Edges

 <p>Sharp</p>	 <p>Corner Edge 45°</p>
 <p>Ball Nose</p>	 <p>Corner Radius</p>















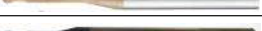
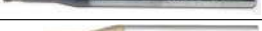





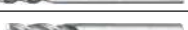






ENDMILL SELECTION CHART

Based on Work Material

		<input checked="" type="radio"/> Most Suitable <input type="radio"/> Suitable																		
Endmill Type	Product Code	Product Name / Product Image	Specifications	Work Material																
				P			H				M	K	N				S			
				GR1 Carbon Steel	GR2 Low Alloyed Steel <24 HRC	GR3 High Alloyed Steel <30 HRC	GR4 Hardened Steel 30-39 HRC	GR5 Hardened Steel 38-48 HRC	GR6 Hardened Steel 48-56 HRC	GR7 Hardened Steel 56-66 HRC	GR8 Stainless Steel	GR9 Cast Iron	GR10 Aluminum	GR11 Copper	GR12 Plastics	GR13 Composite Material	GR14 Graphite	GR15 Titanium	GR16 Nickel	GR17 Heat Resistant Steel
PAGE																				
FLAT ENDMILLS FOR GENERAL USE	FBF200P	2 Flutes Flat Endmill	A07	●	●	●	●	●				○	●		○					
	FBF200L	2 Flutes Flat Endmill, Long Shank	A09	●	●	●	●	●				○	●		○					
	FBF200XL	2 Flutes, Flat Endmill, Extra Long Shank	A10	●	●	●	●	●				○	●		○					
	FBF400P	4 Flutes Flat Endmill	A11	●	●	●	●	●				○	●		○					
	FBF400L	4 Flutes Flat Endmill, Long Shank	A12	●	●	●	●	●				○	●		○					
	FBF201P	2 Flutes, Flat Endmill Hard Material	A13	●	●	●	●	●	○				○	●						
	FBF201L	2 Flutes, Flat Endmill, Long Shank, Hard Material	A14	●	●	●	●	●	○				○	●						
	FBF401P	4 Flutes, Flat Endmill Hard Material	A15	●	●	●	●	●	○				○	●						
	FBF401L	4 Flutes, Flat Endmill Long Shank, Hard Material	A16	●	●	●	●	●	○				○	●						
	FBF402P	4 Flutes, Flat Endmill Hard Metal	A17	●	●	●	●	●	○				○	●		○				
	FBF402L	4 Flutes, Flat Endmill Long Shank, Hard Metal	A17	●	●	●	●	●	○				○	●		○				
	FAK402P	4 Flutes, Flat Endmill Hard Material	A18					●	●	○				○	●					
	FAK402L	4 Flutes, Flat Endmill Long Shank, Hard Metal	A18					●	●	○				○	●					
	BALL ENDMILLS	FBB200P	2 Flutes, Ball Endmill	A19	●	●	●	●	●				○	●		○				
FBB200L		2 Flutes, Ball Endmill, Long Shank	A20	●	●	●	●	●				○	●		○					
FBB200XL		2 Flutes, Ball Endmill, Extra Long Shank	A21	●	●	●	●	●				○	●		○					
FBB200XXL		2 Flutes, Ball Endmill, Extra XLong Shank	A22	●	●	●	●	●				○	●		○					
FBB201P		2 Flutes, Ball Endmill, Hard Material	A23	●	●	●	●	●	○				○	●						
FBB201L		2 Flutes, Ball Endmill, Long Shank, Hard Material	A24	●	●	●	●	●	○				○	●						
FBB201XL		2 Flutes, Ball Endmill, Extra Long Shank, Hard Material	A24	●	●	●	●	●	○				○	●						
FAB202P		2 Flutes, Ball Endmill, Hard Material	A25					●	●	○				○	●					
FAB202L		2 Flutes, Ball Endmill, Long Shank, Hard Material	A26					●	●	○				○	●					
UNEQUAL HILEX	FBUF300P	3 Flutes, Flat Endmill Unequal Helix	A37	●	●	●	●	●				○	●					○	○	○
	FBUF400P	4 Flutes, Flat Endmill Unequal Helix	A38	●	●	●	●	●				○	●					○	○	○
	FBUR400P	4 Flutes, Radius Endmill, Unequal Helix	A39	●	●	●	●	●				○	●					○	○	○
	FBUK401P	4 Flutes, Flat Endmill, Unequal Helix, Hard Material	A41	●	●	●	●	●	○				○	●				○	○	○
OTHER ENDMILL	FBTF200P	2 Flutes, Flat Endmill, Taper End	A63	●	●	●	●	●				○	●		○					
	FBC200P	2 Flutes, Chamfering Endmill	A65	●	●	●	●	●				○	●		○					

ENDMILL SELECTION CHART

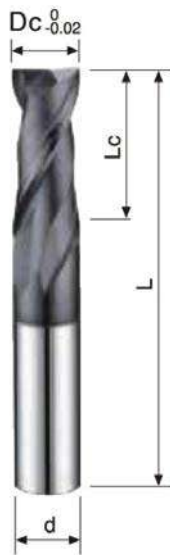
Based on Work Material

Endmill Type	Product Code	Product Name / Product Image	Specifications PAGE	Work Material																
				P		H					M	K	N				S			
				GR1	GR2	GR3	GR4	GR5	GR6	GR7	GR8	GR9	GR10	GR11	GR12	GR13	GR14	GR15	GR16	GR17
				Carbon Steel	Low Alloy Steel <24 HRC	High Alloy Steel <30 HRC	Hardened Steel 30-38 HRC	Hardened Steel 38-48 HRC	Hardened Steel 48-56 HRC	Hardened Steel 56-68 HRC	Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Material	Graphite	Titanium	Nickel	Heat Resistant Steel
RADIUS ENDMILL (BULL)	FBR200P	2 Flutes Radius Endmill	 A27	●	●	●	●	●	●	●	○	●	○							
	FBR200L	2 Flutes, Radius Endmill Long Shank	 A28	●	●	●	●	●	●		○	●	○							
	FBR400P	4 Flutes, Flat Endmill	 A29	●	●	●	●	●	●		○	●	○							
	FBR400L	4 Flutes, Radius Endmill, Long Shank	 A30	●	●	●	●	●	●		○	●	○							
	FBR201P	2 Flutes, Radius Endmill, Hard Material	 A31	●	●	●	●	●	●	○										
	FBR201L	2 Flutes, Radius Endmill, Long Shank, Hard Material	 A32	●	●	●	●	●	●	○										
	FBR401P	4 Flutes, Radius Endmill, Hard Material	 A33	●	●	●	●	●	●	○										
	FBR401L	4 Flutes, Radius Endmill, Long Shank, Hard Material	 A34	●	●	●	●	●	●	○										
	FAR402P	4 Flutes, Radius Endmill, Hard Material	 A35					●	●	●										
	FAR402L	4 Flutes, Radius Endmill, Long Shank, Hard Material	 A36					●	●	●										
LONG NECK (RIB SERIES)	Flat Endmill	FBDF201P	2 Flutes, Flat Endmill, Long Neck, Hard Material	 A43	●	●	●	●	●	●						○				
	Flat Endmill	FADF201P	2 Flutes, Flat Endmill, Long Neck, Hard Material	 A45	●	●	●	●	●	●						○				
	Ball Endmill	FBDB201P	2 Flutes, Ball Endmill, Long Neck, Hard Material	 A47	●	●	●	●	●	●						○				
	Ball Endmill	FADB201P	2 Flutes, Ball Endmill, Long Neck, Hard Material	 A49	●	●	●	●	●	○						○				
	Radius Endmill	FBDR201P	2 Flutes, Radius Endmill, Long Neck, Hard Metal	 A51	●	●	●	●	●	●						○				
	Radius Endmill	FADR202P	2 Flutes, Radius Endmill, Long Neck, Hard Material	 A52	●	●	●	●	●	●						○				
	Radius Endmill	FADR402P	4 Flutes, Radius Endmill, Long Neck, Hard Material	 A55					●	●	●									
ALUMINUM USE	Flat Endmill	FCAF30NP	3 Flutes, Flat Endmill, Aluminum Use	 A57											●	○	○			
	Flat Endmill	FCAF30NL	3 Flutes, Flat Endmill, Long Shank, Aluminum Use	 A57											●	○	○			
	Flat Endmill	FCAF30NXL	3 Flutes, Flat Endmill, XLong Shank, Aluminum Use	 A58											●	○	○			
	Flat Endmill	FCAF30NXXL	3 Flutes, Flat Endmill, XLong Shank, Aluminum Use	 A58											●	○	○			
	Flat Endmill	FBAF30NP	3 Flutes, Flat Endmill, Aluminum Use	 A59											●					
	Flat Endmill	FBAF30NXL	3 Flutes, Flat Endmill, XLong Shank, Aluminum Use	 A59											●					
	Ball Endmill	FCAB20NS	2 Flutes, Ball Endmill, Aluminum Use	 A60	●	●	●								○	●	●	●		
	Ball Endmill	FCAB20NP	2 Flutes, Ball Endmill, Long Shank, Aluminum Use	 A61	●	●	●								○	●	●	●		
	Ball Endmill	FCAB20NL	2 Flutes, Ball Endmill, XLong Shank, Aluminum Use	 A61	●	●	●								○	●	●	●		
	Other Endmill	FBAHF20NP	3 Flutes, Flat Endmill, Roughing, Aluminum Use	 A62											●					
	Other Endmill	FBALF30NP	3 Flutes, Flat Endmill, Finishing, Aluminum Use	 A62											●					

FBF200P (2 Flutes ♦ Flat Endmill)

MG Carbide
AlTiN X-NaNo
35°
2
90°
<48 HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	○	○	○	○	○	○	○	○



Code No.	Dc	Lc	L	d
FBF200P-0.1	0.1	0.3	50	4
FBF200P-0.2	0.2	0.5	50	4
FBF200P-0.3	0.3	0.8	50	4
FBF200P-0.4	0.4	1	50	4
FBF200P-0.5	0.5	1.2	50	4
FBF200P-0.6	0.6	1.5	50	4
FBF200P-0.7	0.7	1.8	50	4
FBF200P-0.8	0.8	2	50	4
FBF200P-0.9	0.9	2.5	50	4
FBF200P-1	1	3	50	4
FBF200P-1.1	1.1	3	50	4
FBF200P-1.2	1.2	4	50	4
FBF200P-1.3	1.3	4	50	4
FBF200P-1.4	1.4	4	50	4
FBF200P-1.5	1.5	5	50	4
FBF200P-1.6	1.6	5	50	4
FBF200P-1.7	1.7	5	50	4
FBF200P-1.8	1.8	5	50	4
FBF200P-1.9	1.9	5	50	4
FBF200P-2.0	2.0	6	50	4
FBF200P-2.1	2.1	6	50	4
FBF200P-2.2	2.2	6	50	4
FBF200P-2.3	2.3	6	50	4
FBF200P-2.4	2.4	8	50	4
FBF200P-2.5	2.5	8	50	4
FBF200P-2.6	2.6	8	50	4
FBF200P-2.7	2.7	8	50	4
FBF200P-2.8	2.8	8	50	4
FBF200P-2.9	2.9	8	50	4
FBF200P-3A	3.0	8	50	4

Code No.	Dc	Lc	L	d
FBF200P-3.0	3.0	8	50	6
FBF200P-3.1	3.1	10	50	6
FBF200P-3.2	3.2	10	50	6
FBF200P-3.3	3.3	10	50	6
FBF200P-3.4	3.4	10	50	6
FBF200P-3.5	3.5	10	50	6
FBF200P-3.6	3.6	10	50	6
FBF200P-3.7	3.7	10	50	6
FBF200P-3.8	3.8	11	50	6
FBF200P-3.9	3.9	11	50	6
FBF200P-4A	4.0	11	50	4
FBF200P-4.0	4.0	11	50	6
FBF200P-4.1	4.1	11	50	6
FBF200P-4.2	4.2	11	50	6
FBF200P-4.3	4.3	11	50	6
FBF200P-4.4	4.4	11	50	6
FBF200P-4.5	4.5	11	50	6
FBF200P-4.6	4.6	11	50	6
FBF200P-4.7	4.7	11	50	6
FBF200P-4.8	4.8	13	50	6
FBF200P-4.9	4.9	13	50	6
FBF200P-5.0	5.0	13	50	6
FBF200P-5.1	5.1	13	50	6
FBF200P-5.2	5.2	13	50	6
FBF200P-5.3	5.3	13	50	6
FBF200P-5.4	5.4	13	50	6
FBF200P-5.5	5.5	13	50	6
FBF200P-5.6	5.6	16	50	6
FBF200P-5.7	5.7	16	50	6
FBF200P-5.8	5.8	16	50	6
FBF200P-5.9	5.9	16	50	6
FBF200P-6.0	6.0	16	50	6
FBF200P-6.1	6.1	16	60	8
FBF200P-6.2	6.2	16	60	8
FBF200P-6.3	6.3	16	60	8
FBF200P-6.4	6.4	16	60	8
FBF200P-6.5	6.5	16	60	8
FBF200P-6.6	6.6	20	60	8
FBF200P-6.7	6.7	20	60	8
FBF200P-6.8	6.8	20	60	8
FBF200P-6.9	6.9	20	60	8
FBF200P-7.0	7.0	20	60	8
FBF200P-7.1	7.1	20	60	8
FBF200P-7.2	7.2	20	60	8
FBF200P-7.3	7.3	20	60	8
FBF200P-7.4	7.4	20	60	8
FBF200P-7.5	7.5	20	60	8
FBF200P-7.6	7.6	20	60	8
FBF200P-7.7	7.7	20	60	8

A

General Use

Ball Endmill

Radius Endmill

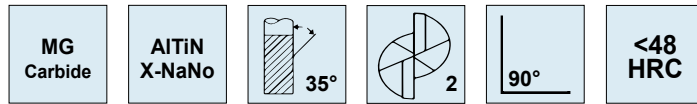
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBF200P (2 Flutes ♦ Flat Endmill)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	○	○	○	○	○	○	○	○

Code No.	Dc	Lc	L	d
FBF200P-7.8	7.8	20	60	8
FBF200P-7.9	7.9	20	60	8
FBF200P-8.0	8.0	20	60	8
FBF200P-8.1	8.1	20	72	10
FBF200P-8.2	8.2	20	72	10
FBF200P-8.3	8.3	20	72	10
FBF200P-8.4	8.4	20	72	10
FBF200P-8.5	8.5	20	72	10
FBF200P-8.6	8.6	22	72	10
FBF200P-8.7	8.7	22	72	10
FBF200P-8.8	8.8	22	72	10
FBF200P-8.9	8.9	22	72	10
FBF200P-9.0	9.0	22	72	10
FBF200P-9.1	9.1	22	72	10
FBF200P-9.2	9.2	22	72	10
FBF200P-9.3	9.3	22	72	10
FBF200P-9.4	9.4	22	72	10
FBF200P-9.5	9.5	22	72	10
FBF200P-9.6	9.6	22	72	10
FBF200P-9.7	9.7	22	72	10
FBF200P-9.8	9.8	22	72	10
FBF200P-9.9	9.9	22	72	10
FBF200P-10.0	10.0	22	72	10
FBF200P-10.1	10.1	22	75	12
FBF200P-10.2	10.2	22	75	12
FBF200P-10.3	10.3	22	75	12
FBF200P-10.4	10.4	22	75	12
FBF200P-10.5	10.5	22	75	12
FBF200P-10.6	10.6	26	75	12
FBF200P-10.7	10.7	26	75	12
FBF200P-10.8	10.8	26	75	12
FBF200P-10.9	10.9	26	75	12
FBF200P-11.0	11.0	26	75	12
FBF200P-11.1	11.1	26	75	12
FBF200P-11.2	11.2	26	75	12
FBF200P-11.3	11.3	26	75	12
FBF200P-11.4	11.4	26	75	12
FBF200P-11.5	11.5	26	75	12
FBF200P-11.6	11.6	26	75	12
FBF200P-11.7	11.7	26	75	12
FBF200P-11.8	11.8	26	75	12
FBF200P-11.9	11.9	26	75	12
FBF200P-12.0	12.0	26	75	12
FBF200P-12.1	12.1	26	80	12
FBF200P-12.2	12.2	26	80	12
FBF200P-12.3	12.3	26	80	12
FBF200P-12.4	12.4	26	80	12
FBF200P-12.5	12.5	26	80	12
FBF200P-12.6	12.6	26	80	12

Code No.	Dc	Lc	L	d
FBF200P-12.7	12.7	26	80	12
FBF200P-12.8	12.8	26	80	12
FBF200P-12.9	12.9	26	80	12
FBF200P-13.0	13.0	26	80	12
FBF200P-13.1	13.1	26	80	12
FBF200P-13.2	13.2	26	80	12
FBF200P-13.3	13.3	26	80	12
FBF200P-13.4	13.4	26	80	12
FBF200P-13.5	13.5	26	80	12
FBF200P-13.6	13.6	26	80	12
FBF200P-13.7	13.7	26	80	12
FBF200P-13.8	13.8	26	80	12
FBF200P-13.9	13.9	26	80	12
FBF200P-14.0	14.0	32	90	16
FBF200P-14.1	14.1	32	90	16
FBF200P-14.2	14.2	32	90	16
FBF200P-14.3	14.3	32	90	16
FBF200P-14.4	14.4	32	90	16
FBF200P-14.5	14.5	32	90	16
FBF200P-14.6	14.6	32	90	16
FBF200P-14.7	14.7	32	90	16
FBF200P-14.8	14.8	32	90	16
FBF200P-14.9	14.9	32	90	16
FBF200P-15.0	15.0	32	90	16
FBF200P-15.1	15.1	38	100	16
FBF200P-15.2	15.2	38	100	16
FBF200P-15.3	15.3	38	100	16
FBF200P-15.4	15.4	38	100	16
FBF200P-15.5	15.5	38	100	16
FBF200P-15.6	15.6	38	100	16
FBF200P-15.7	15.7	38	100	16
FBF200P-15.8	15.8	38	100	16
FBF200P-15.9	15.9	38	100	16
FBF200P-16.0	16.0	38	100	16
FBF200P-16.1	16.1	38	100	20
FBF200P-16.2	16.2	38	100	20
FBF200P-16.3	16.3	38	100	20
FBF200P-16.4	16.4	38	100	20
FBF200P-16.5	16.5	38	100	20
FBF200P-16.6	16.6	38	100	20
FBF200P-16.7	16.7	38	100	20
FBF200P-16.8	16.8	38	100	20
FBF200P-16.9	16.9	38	100	20
FBF200P-17.0	17.0	38	100	20
FBF200P-17.1	17.1	38	100	20
FBF200P-17.2	17.2	38	100	20
FBF200P-17.3	17.3	38	100	20
FBF200P-17.4	17.4	38	100	20
FBF200P-17.5	17.5	38	100	20

Code No.	Dc	Lc	L	d
FBF200P-17.6	17.6	38	100	20
FBF200P-17.7	17.7	38	100	20
FBF200P-17.8	17.8	38	100	20
FBF200P-17.9	17.9	38	100	20
FBF200P-18.0	18.0	38	100	20
FBF200P-18.1	18.1	38	100	20
FBF200P-18.2	18.2	38	100	20
FBF200P-18.3	18.3	38	100	20
FBF200P-18.4	18.4	38	100	20
FBF200P-18.5	18.5	38	100	20
FBF200P-18.6	18.6	38	100	20
FBF200P-18.7	18.7	38	100	20
FBF200P-18.8	18.8	38	100	20
FBF200P-18.9	18.9	38	100	20
FBF200P-19.0	19.0	38	100	20
FBF200P-19.1	19.1	38	100	20
FBF200P-19.2	19.2	38	100	20
FBF200P-19.3	19.3	38	100	20
FBF200P-19.4	19.4	38	100	20
FBF200P-19.5	19.5	38	100	20
FBF200P-19.6	19.6	38	100	20
FBF200P-19.7	19.7	38	100	20
FBF200P-19.8	19.8	38	100	20
FBF200P-19.9	19.9	38	100	20
FBF200P-20.0	20.0	38	100	20
FBF200P-1/8	1/8	8	50	6
FBF200P-3/16	3/16	12	50	6
FBF200P-1/4	1/4	18	60	8
FBF200P-5/16	5/16	20	60	8
FBF200P-3/8	3/8	22	72	10
FBF200P-1/2	1/2	26	75	12
FBF200P-5/8	5/8	38	100	16
FBF200P-3/4	3/4	38	100	20

A

General Use

Ball Endmill

Radius Endmill

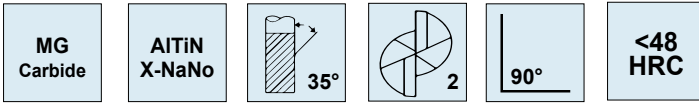
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBF200L (2 Flutes ♦ Flat Endmill ♦ Long Shank)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										
●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●

A

General Use

Ball Endmill

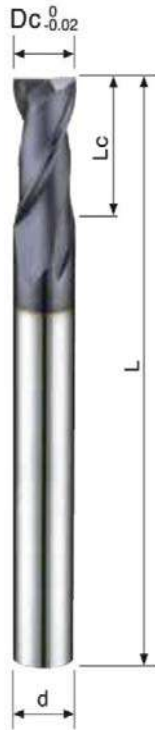
Radius Endmill

Unequal Helix

Long Neck Endmill


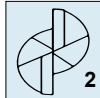

Aluminum Use

Other Endmill



Code No.	Dc	Lc	L	d
FBF200L-3	3	12	70	6
FBF200L-4	4	15	70	6
FBF200L-5	5	20	80	6
FBF200L-6	6	20	80	6
FBF200L-7	7	25	100	8
FBF200L-8	8	25	100	8
FBF200L-9	9	30	100	10
FBF200L-10	10	30	100	10
FBF200L-11	11	35	110	12
FBF200L-12	12	40	110	12
FBF200L-14	14	40	120	16
FBF200L-16	16	50	140	16
FBF200L-20	20	60	160	20

FBF200XL (2 Flutes ♦ Flat Endmill ♦ Extra Long Shank)

MG Carbide	AlTiN X-NaNo	 35°	 2	 90°	<48 HRC
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Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	30-38 HRC	38-48 HRC	48-50 HRC	50-68 HRC	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Code No.	Dc	Lc	L	d
FBF200XL-3	3	12	80	4
FBF200XL-4	4	15	80	4
FBF200XL-5	5	20	100	6
FBF200XL-6	6	20	100	6
FBF200XL-8	8	25	130	8
FBF200XL-10	10	30	160	10
FBF200XL-12	12	40	180	12
FBF200XL-16	16	50	210	16
FBF200XL-20	20	60	210	20



General Use

Ball Endmill

Radius Endmill

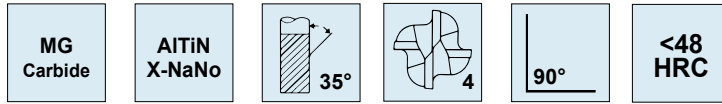
Unequal Helix

Long Neck Endmill

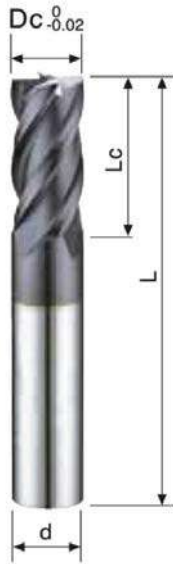
Aluminum Use

Other Endmill

FBF400P (4 Flutes ♦ Flat Endmill)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composites	Graphite	Titanium	Nickel	Heat-Resistant Steel
●	●	●	30-38 HRC	38-45 HRC	45-55 HRC	55-68 HRC	●	○	○	○	○	○	○	○	○



Code No.	Dc	Lc	L	d
FBF400P-1	1	3	50	4
FBF400P-1.2	1.2	4	50	4
FBF400P-1.4	1.4	4	50	4
FBF400P-1.5	1.5	5	50	4
FBF400P-1.6	1.6	5	50	4
FBF400P-1.8	1.8	5	50	4
FBF400P-2	2	6	50	4
FBF400P-2.2	2.2	6	50	4
FBF400P-2.4	2.4	8	50	4
FBF400P-2.5	2.5	8	50	4
FBF400P-2.6	2.6	8	50	4
FBF400P-2.8	2.8	8	50	4
FBF400P-3A	3.0	8	50	4
FBF400P-3.0	3.0	8	50	6
FBF400P-3.5	3.5	10	50	6
FBF400P-4A	4.0	11	50	4
FBF400P-4	4.0	11	50	6
FBF400P-4.5	4.5	11	50	6
FBF400P-5	5	13	50	6
FBF400P-5.5	5.5	13	50	6
FBF400P-6	6	16	50	6
FBF400P-6.5	6.5	16	60	8
FBF400P-7	7	20	60	8
FBF400P-7.5	7.5	20	60	8
FBF400P-8	8	20	60	8
FBF400P-8.5	8.5	20	72	10
FBF400P-9	9	22	72	10
FBF400P-9.5	9.5	22	72	10
FBF400P-10	10	22	72	10
FBF400P-10.5	10.5	22	75	12
FBF400P-11	11	26	75	12
FBF400P-12	12	26	75	12
FBF400P-13	13	26	80	12
FBF400P-14	14	32	90	16
FBF400P-15	15	32	90	16
FBF400P-16	19	38	100	16
FBF400P-17	17	38	100	20
FBF400P-18	18	38	100	20
FBF400P-19	19	38	100	20
FBF400P-20	20	38	100	20
FBF400P-1/8	1/8	8	50	6
FBF400P-3/16	3/16	12	50	6
FBF400P-1/4	1/4	18	60	8
FBF400P-5/16	5/16	20	60	8
FBF400P-3/8	3/8	22	72	10
FBF400P-1/2	1/2	26	75	12
FBF400P-5/8	5/8	38	100	16
FBF400P-3/4	3/4	38	100	20

A

General Use

Ball Endmill

Radius Endmill

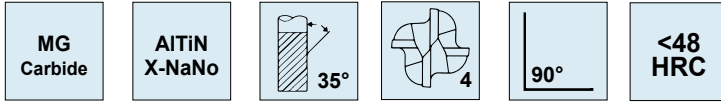
Unequal Helix

Long Neck Endmill

Aluminum Use

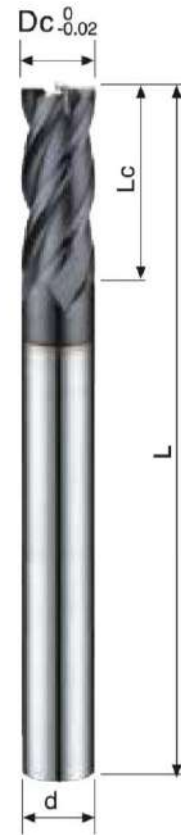
Other Endmill

FBF400L (4 Flutes ♦ Flat Endmill ♦ Long Shank)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●

Code No.	Dc	Lc	L	d
FBF400L-3	3	12	70	6
FBF400L-4	4	15	70	6
FBF400L-5	5	20	80	6
FBF400L-6	6	20	80	6
FBF400L-7	7	25	100	8
FBF400L-8	8	25	100	8
FBF400L-9	9	30	100	10
FBF400L-10	10	30	100	10
FBF400L-11	11	35	110	12
FBF400L-12	12	40	110	12
FBF400L-14	14	40	120	16
FBF400L-16	16	50	140	16
FBF400L-20	20	60	160	20



General Use

Ball Endmill

Radius Endmill

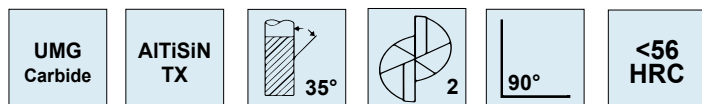
Unequal Helix

Long Neck Endmill

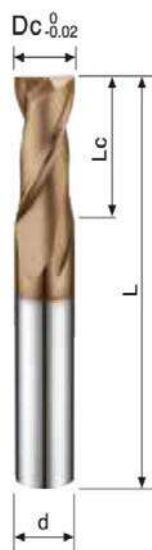
Aluminum Use

Other Endmill

FBF201P (2 Flutes ♦ Flat Endmill ♦ Hard Material)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●									



Code No.	Dc	Lc	L	d
FBF201P-0.1	0.1	0.3	50	4
FBF201P-0.2	0.2	0.5	50	4
FBF201P-0.3	0.3	0.8	50	4
FBF201P-0.4	0.4	1	50	4
FBF201P-0.5	0.5	1.2	50	4
FBF201P-0.6	0.6	1.5	50	4
FBF201P-0.8	0.8	2	50	4
FBF201P-1	1	3	50	4
FBF201P-1.5	1.5	5	50	4
FBF201P-2	2	6	50	4
FBF201P-2.5	2.5	8	50	4
FBF201P-3A	3.0	8	50	4
FBF201P-3	3.0	8	50	6
FBF201P-3.5	3.5	10	50	6
FBF201P-4A	4.0	11	50	4
FBF201P-4	4.0	11	50	6
FBF201P-4.5	4.5	11	50	6
FBF201P-5	5	13	50	6
FBF201P-5.5	5.5	13	50	6
FBF201P-6	6	16	50	6
FBF201P-7	7	20	60	8
FBF201P-8	8	20	60	8
FBF201P-9	9	22	72	10
FBF201P-10	10	22	72	10
FBF201P-11	11	26	75	12
FBF201P-12	12	26	75	12
FBF201P-14	14	32	90	16
FBF201P-16	16	38	100	16
FBF201P-18	18	38	100	20
FBF201P-20	20	38	100	20

A

General Use

Ball Endmill

Radius Endmill

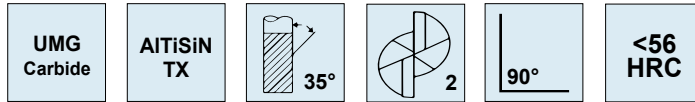
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBF201L (2 Flutes ♦ Flat Endmill ♦ Long Shank ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	Lc	L	d
FBF201L-3	3	12	70	6
FBF201L-4	4	15	70	6
FBF201L-5	5	20	80	6
FBF201L-6	6	20	80	6
FBF201L-7	7	25	100	8
FBF201L-8	8	25	100	8
FBF201L-9	9	30	100	10
FBF201L-10	10	30	100	10
FBF201L-11	11	35	110	12
FBF201L-12	12	40	100	12
FBF201L-14	14	40	120	16
FBF201L-16	16	50	140	16
FBF201L-20	20	60	160	20



General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

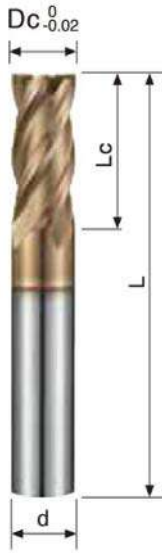
Aluminum Use

Other Endmill

FBF401P (4 Flutes ♦ Flat Endmill ♦ Hard Material)

UMG Carbide
AITiN TX
35°
4
90°
<56 HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●									



Code No.	Dc	Lc	L	d
FBF401P-1	1	3	50	4
FBF401P-1.5	1.5	5	50	4
FBF401P-2	2	6	50	4
FBF401P-2.5	2.5	8	50	4
FBF401P-3A	3.0	8	50	4
FBF401P-3	3.0	8	50	6
FBF401P-3.5	3.5	10	50	6
FBF401P-4A	4.0	11	50	4
FBF401P-4	4.0	11	50	6
FBF401P-4.5	4.5	11	50	6
FBF401P-5	5	13	50	6
FBF401P-5.5	5.5	13	50	6
FBF401P-6	6	16	50	6
FBF401P-7	7	20	60	8
FBF401P-8	8	20	60	8
FBF401P-9	9	22	72	10
FBF401P-10	10	22	72	10
FBF401P-11	11	26	75	12
FBF401P-12	12	26	75	12
FBF401P-14	14	32	90	16
FBF401P-16	16	38	100	16
FBF401P-18	18	38	100	20
FBF401P-20	20	38	100	20



General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill


Aluminum Use

Other Endmill


FBF401L (4 Flutes ♦ Flat Endmill ♦ Long Shank ♦ Hard Material)

UMG
Carbide

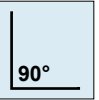
AITIN
TX



35°



4



90°

<56
HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●									

Code No.	Dc	Lc	L	d
FBF401L-3	3	12	70	6
FBF401L-4	4	15	70	6
FBF401L-5	5	20	80	6
FBF401L-6	6	20	80	6
FBF401L-7	7	25	100	8
FBF401L-8	8	25	100	8
FBF401L-9	9	30	100	10
FBF401L-10	10	30	100	10
FBF401L-11	11	35	110	12
FBF401L-12	12	40	110	12
FBF401L-14	14	40	120	16
FBF401L-16	16	50	140	16
FBF401L-20	20	60	160	20



General Use

Ball Endmill

Radius Endmill

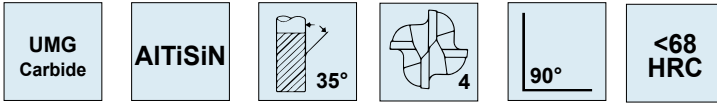
Unequal Helix

Long Neck Endmill

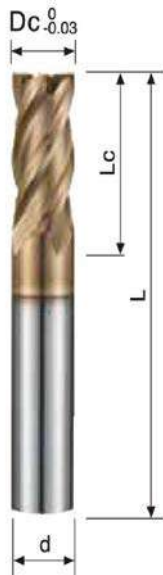
Aluminum Use

Other Endmill

FBF402P (4 Flutes ♦ Flat Endmill ♦ Hard Material)

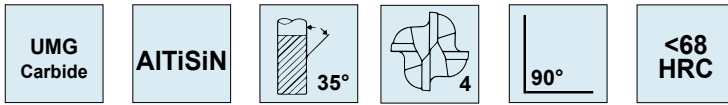


Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Springless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	○	○	○	○	○	○	○	○



Code No.	Dc	Lc	L	d
FBF402P-1	1	3	50	4
FBF402P-1.5	1.5	5	50	4
FBF402P-2	2	6	50	4
FBF402P-2.5	2.5	8	50	4
FBF402P-3A	3.0	8	50	4
FBF402P-3B	3.0	8	50	3
FBF402P-3	3.0	8	50	6
FBF402P-4A	4	11	50	4
FBF402P-4	4.0	11	50	6
FBF402P-5	5	13	50	6
FBF402P-6	6	16	50	6
FBF402P-8	8	20	60	8
FBF402P-10	10	25	72	10
FBF402P-12	12	30	75	12
FBF402P-14	14	32	90	16
FBF402P-16	16	40	100	16
FBF402P-18	18	40	100	20
FBF402P-20	20	40	100	20

FBF402L (4 Flutes ♦ Flat Endmill ♦ Long Shank ♦ Hard Material)

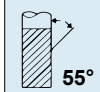




Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Springless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	○	○	○	○	○	○	○	○



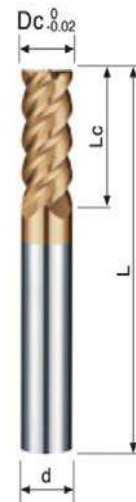
Code No.	Dc	Lc	L	d
FBF402L-3	3	12	70	6
FBF402L-4	4	15	70	6
FBF402L-5	5	20	80	6
FBF402L-6	6	20	80	6
FBF402L-8	8	25	100	8
FBF402L-10	10	30	100	10
FBF402L-12	12	40	110	12
FBF402L-16	16	50	140	16
FBF402L-20	20	60	160	20

FAK402P (4 Flutes ♦ Flat Endmill ♦ Hard Material)




SMG Carbide	AITiSiN TX	 55°	 4	0.5 - 0.15  45°	<40-70 HRC
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Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC									
			●	●	●	●									

Code No.	Dc	Lc	L	d
FAK402P-3	3	8	50	6
FAK402P-4	4	11	50	6
FAK402P-5	5	13	50	6
FAK402P-6	6	16	50	6
FAK402P-8	8	20	60	8
FAK402P-10	10	22	72	10
FAK402P-12	12	26	75	12
FAK402P-16	16	38	100	16
FAK402P-20	20	38	100	20

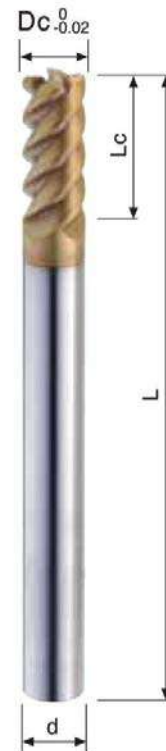


FAK402L (4 Flutes ♦ Flat Endmill ♦ Long Shank ♦ Hard Material)

SMG Carbide	AITiSiN TX	 55°	 4	0.5 - 0.15  45°	<40-70 HRC
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Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC									
			●	●	●	●									

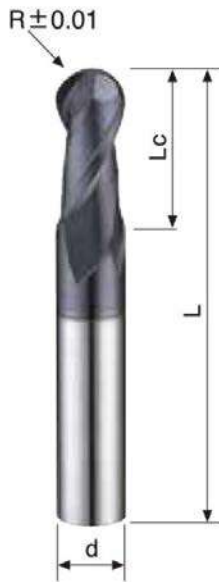
Code No.	Dc	Lc	L	d
FAK402L-6	6	20	80	6
FAK402L-8	8	25	100	8
FAK402L-10	10	30	100	10
FAK402L-12	12	40	110	12
FAK402L-16	16	50	140	16
FAK402L-20	20	60	160	20



FBB200P (2 Flutes ♦ Ball Endmill)

MG Carbide
AlTiN X-NaNo
30°
2
U
<48 HRC

Carbon Steel	Low Alloyed Steels	High Alloyed Steels	Hardened Steel			Signlays Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steels
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●



Code No.	Dc	R	Lc	L	d
FBB200P-0.1	0.1	0.05R	0.2	50	4
FBB200P-0.2	0.2	0.1R	0.4	50	4
FBB200P-0.3	0.3	0.15R	0.6	50	4
FBB200P-0.4	0.4	0.2R	0.8	50	4
FBB200P-0.5	0.5	0.25R	1	50	4
FBB200P-0.6	0.6	0.3R	1.2	50	4
FBB200P-0.7	0.7	0.35R	1.4	50	4
FBB200P-0.8	0.8	0.4R	1.6	50	4
FBB200P-0.9	0.9	0.45R	1.8	50	4
FBB200P-1	1	0.5R	2	50	4
FBB200P-1.2	1.2	0.6R	2.4	50	4
FBB200P-1.4	1.4	0.7R	2.8	50	4
FBB200P-1.5	1.5	0.75R	3	50	4
FBB200P-1.6	1.6	0.8R	3.2	50	4
FBB200P-1.8	1.8	0.9R	3.6	50	4
FBB200P-2	2	1R	4	50	4
FBB200P-2.5	2.5	1.25R	5	50	4
FBB200P-3A	3.0	1.5R	6	50	4
FBB200P-3	3.0	1.5R	6	50	6
FBB200P-3.5	3.5	1.75R	8	50	6
FBB200P-4A	4.0	2R	8	50	4
FBB200P-4	4.0	2R	8	50	6
FBB200P-4.5	4.5	2.25R	10	50	6
FBB200P-5	5	2.5R	10	50	6
FBB200P-5.5	5.5	2.75R	12	50	6
FBB200P-6	6	3R	12	50	6
FBB200P-6.5	6.5	3.25R	14	60	8
FBB200P-7	7	3.5R	14	60	8
FBB200P-7.5	7.5	3.75R	14	60	8
FBB200P-8	8	4R	14	60	8
FBB200P-8.5	8.5	4.25R	18	72	10
FBB200P-9	9	4.5R	18	72	10
FBB200P-9.5	9.5	4.75R	18	72	10
FBB200P-10	10	5R	18	72	10
FBB200P-11	11	5.5R	22	75	12
FBB200P-12	12	6R	22	75	12
FBB200P-13	13	6.5R	26	90	16
FBB200P-14	14	7R	26	90	16
FBB200P-15	15	7.5R	30	90	16
FBB200P-16	16	8R	30	100	16
FBB200P-17	17	8.5R	34	100	20
FBB200P-18	18	9R	34	100	20
FBB200P-19	19	9.5R	38	100	20
FBB200P-20	20	10R	38	100	20

A

General Use

Ball Endmill

Radius Endmill

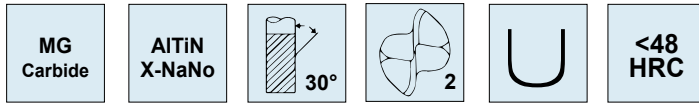
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBB200L (2 Flutes ♦ Ball Endmill ♦ Long Shank)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	Lc	L	d
FBB200L-1	1	0.5R	2	50	6
FBB200L-1.5	1.5	0.75R	3	50	6
FBB200L-2	2	1R	4	60	6
FBB200L-2.5	2.5	1.25R	5	60	6
FBB200L-3	3	1.5R	6	70	6
FBB200L-4	4	2R	8	70	6
FBB200L-5	5	2.5R	10	80	6
FBB200L-6	6	3R	12	80	6
FBB200L-7	7	3.5R	14	100	8
FBB200L-8	8	4R	14	100	8
FBB200L-9	9	4.5R	18	100	10
FBB200L-10	10	5R	18	100	10
FBB200L-12	12	6R	22	110	12
FBB200L-14	14	7R	26	120	16
FBB200L-16	16	8R	30	140	16
FBB200L-20	20	10R	38	160	20



General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBB200XL (2 Flutes ♦ Ball Endmill ♦ Extra Long Shank)

MG Carbide
AlTiN X-NaNo
30°
2
U
<48 HRC

Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●



Code No.	Dc	R	Lc	L	d
FBB200XL-1	1	0.5R	2	70	3
FBB200XL-2	2	1R	4	70	3
FBB200XL-3	3	1.5R	6	80	4
FBB200XL-4	4	2R	8	80	4
FBB200XL-5	5	2.5R	10	100	6
FBB200XL-6	6	3R	12	100	6
FBB200XL-8	8	4R	14	130	8
FBB200XL-10	10	5R	18	160	10
FBB200XL-12	12	6R	22	180	12
FBB200XL-16	16	8R	30	210	16
FBB200XL-20	20	10R	38	210	20



General Use

Ball Endmill

Radius Endmill

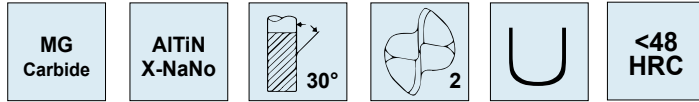
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBB200XXL (2 Flutes ♦ Ball Endmill ♦ Extra XLong Shank)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	Lc	L	d
FBB200XXL-2	2	1R	4	100	3
FBB200XXL-4	4	2R	8	130	4
FBB200XXL-6	6	3R	12	160	6
FBB200XXL-8	8	4R	14	180	8
FBB200XXL-10	10	5R	18	200	10
FBB200XXL-12	12	6R	22	210	12



General Use

Ball Endmill

Radius Endmill

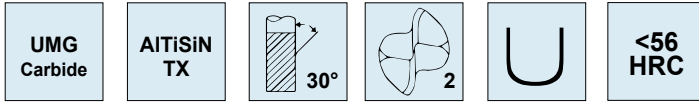
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBB201P (2 Flutes ♦ Ball Endmill ♦ Hard Material)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC										

A

General Use

Ball Endmill

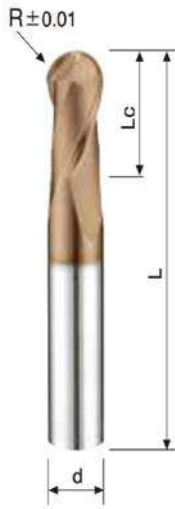
Radius Endmill

Unequal Helix

Long Neck Endmill

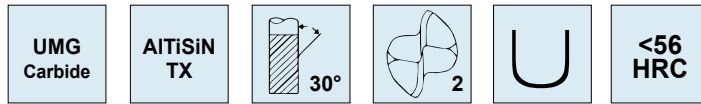
Aluminum Use

Other Endmill



Code No.	Dc	R	Lc	L	d
FBB201P-0.1	0.1	0.05R	0.2	50	4
FBB201P-0.2	0.2	0.1R	0.4	50	4
FBB201P-0.3	0.3	0.15R	0.6	50	4
FBB201P-0.4	0.4	0.2R	0.8	50	4
FBB201P-0.5	0.5	0.25R	1	50	4
FBB201P-0.6	0.6	0.3R	1.2	50	4
FBB201P-0.8	0.8	0.4R	1.8	50	4
FBB201P-1	1	0.5R	2	50	4
FBB201P-1.5	1.5	0.75R	3	50	4
FBB201P-2	2	1R	4	50	4
FBB201P-2.5	2.5	1.25R	5	50	4
FBB201P-3A	3	1.5R	6	50	4
FBB201P-3	3	1.5R	6	50	6
FBB201P-4A	4	2R	8	50	4
FBB201P-4	4	2R	8	50	6
FBB201P-5	5	2.5R	10	50	6
FBB201P-6	6	3R	12	50	6
FBB201P-7	7	3.5R	14	60	8
FBB201P-8	8	4R	14	60	8
FBB201P-9	9	4.5R	18	72	10
FBB201P-10	10	5R	18	72	10
FBB201P12	12	6R	22	75	12
FBB201P14	14	7R	26	90	16
FBB201P16	16	8R	30	100	16
FBB201P20	20	10R	38	100	20

FBB201L (2 Flutes ♦ Ball Endmill ♦ Long Shank ♦ Hard Material)

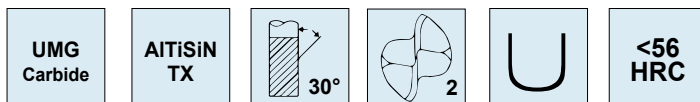


Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC										

Code No.	Dc	R	Lc	L	d
FBB201L-1	1	0.5R	2	50	6
FBB201L-1.5	1.5	0.75	3	50	6
FBB201L-2	2	1R	4	60	6
FBB201L-2.5	2.5	1.25R	5	60	6
FBB201L-3	3	1.5R	6	70	6
FBB201L-4	4	2R	8	70	6
FBB201L-5	5	2.5R	10	80	6
FBB201L-6	6	3R	12	80	6
FBB201L-7	7	3.5R	14	100	8
FBB201L-8	8	4R	14	100	8
FBB201L-9	9	4.5R	18	100	10
FBB201L-10	10	5R	18	100	10
FBB201L-12	12	6R	22	110	12
FBB201L-14	14	7R	26	120	16
FBB201L-16	16	8R	30	140	16
FBB201L-20	20	10R	38	160	20



FBB201XL (2 Flutes ♦ Ball Endmill ♦ Extra Long Shank ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC										

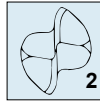
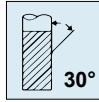
Code No.	Dc	R	Lc	L	d
FBB201XL-1	1	0.5R	2	70	3
FBB201XL-2	2	1R	4	70	3
FBB201XL-3	3	1.5R	6	80	4
FBB201XL-4	4	2R	8	80	4
FBB201XL-5	5	2.5R	10	100	6
FBB201XL-6	6	3R	12	100	6
FBB201XL-8	8	4R	14	130	8
FBB201XL-10	10	5R	18	160	10
FBB201XL-12	12	6R	22	180	12
FBB201XL-16	16	8R	30	210	16
FBB201XL-20	20	10R	38	210	20



FAB202P (2 Flutes ♦ Ball Endmill ♦ Hard Material)

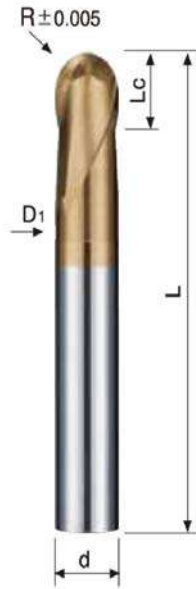
SMG
Carbide

AITiSiN
TX



<40-70
HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										
			●	●	●											



Code No.	Dc	R	Lc	L	d
FAB202P-0.1	0.1	0.05R	0.1	40	4
FAB202P-0.2	0.2	0.1R	0.2	40	4
FAB202P-0.3	0.3	0.15R	0.3	40	4
FAB202P-0.4	0.4	0.2R	0.4	40	4
FAB202P-0.5	0.5	0.25R	0.5	40	4
FAB202P-0.6	0.6	0.3R	0.6	40	4
FAB202P-0.8	0.8	0.3R	0.8	40	4
FAB202P-1	1	0.5R	1	40	4
FAB202P-1.5	1.5	0.75R	1.5	40	4
FAB202P-2	2	1R	2	45 (40)	6
FAB202P-2.5	2.5	1.25R	2.5	45	6
FAB202P-3	3	1.5R	3	45	6
FAB202P-4	4	2R	4	45	6
FAB202P-5	5	2.5R	5	50	6
FAB202P-6	6	3R	6	50	6
FAB202P-8	8	4R	8	60	8
FAB202P-10	10	5R	10	72	10
FAB202P-12	12	6R	12	75	12

A

General
Use

Ball
Endmill

Radius
Endmill

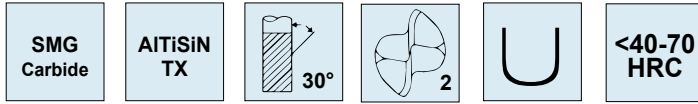
Unequal
Helix

Long Neck
Endmill

Aluminum
Use

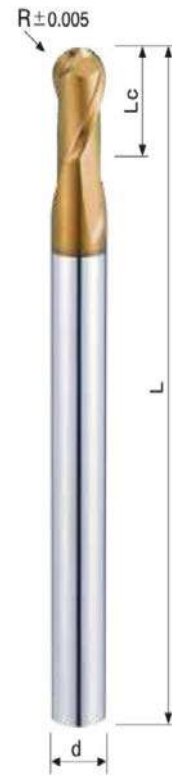
Other
Endmill

FAB202L (2 Flutes ♦ Ball Endmill ♦ Long Shank ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										

Code No.	Dc	R	Lc	L	d
FAB202L-1	1	0.5R	1.5	50	4
FAB202L-1.5	1.5	0.75R	2.5	50	4
FAB202L-2	2	1R	3	50	6
FAB202L-2.5	2.5	1.25R	4	50	6
FAB202L-3	3	1.5R	4.5	70	6
FAB202L-4	4	2R	6	70	6
FAB202L-5	5	2.5R	7.5	80	6
FAB202L-6	6	3R	9	80	6
FAB202L-8	8	4R	12	100	8
FAB202L-10	10	5R	15	100	10
FAB202L-12	12	6R	18	110	12



General Use

Ball Endmill

Radius Endmill

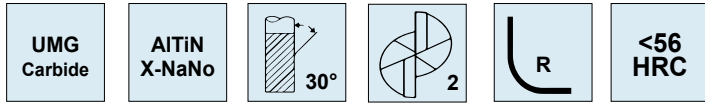
Unequal Helix

Long Neck Endmill

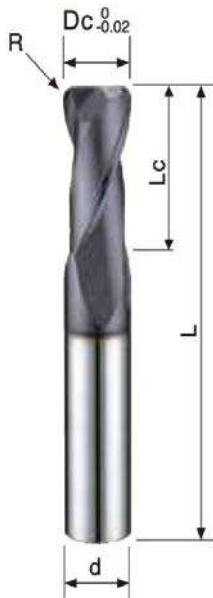
Aluminum Use

Other Endmill

FBR200P (2 Flutes ♦ Radius Endmill)



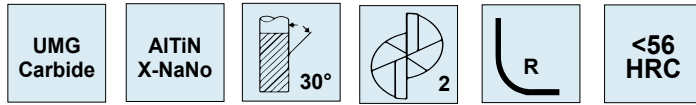
Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	○	○	○	○	○	○	○	○	○	○



Code No.	Dc	R	Lc	L	d
FBR200P-4*0.2R*11	4	R0.2	11	50	6
FBR200P-4*0.3R*11	4	R0.3	11	50	6
FBR200P-4*0.5R*11	4	R0.5	11	50	6
FBR200P-4*1R*11	4	R1	11	50	6
FBR200P-5*0.2R*13	5	R0.2	13	50	6
FBR200P-5*0.3R*13	5	R0.3	13	50	6
FBR200P-5*0.5R*13	5	R0.5	13	50	6
FBR200P-5*1R*13	5	R1	13	50	6
FBR200P-6*0.2R*16	6	R0.2	16	50	6
FBR200P-6*0.3R*16	6	R0.3	16	50	6
FBR200P-6*0.5R*16	6	R0.5	16	50	6
FBR200P-6*1R*16	6	R1	16	50	6
FBR200P-6*1.5R*16	6	R1.5	16	50	6
FBR200P-6*2R*16	6	R2	16	50	6
FBR200P-8*0.2R*20	8	R0.2	20	60	8
FBR200P-8*0.3R*20	8	R0.3	20	60	8
FBR200P-8*0.5R*20	8	R0.5	20	60	8
FBR200P-8*1R*20	8	R1	20	60	8
FBR200P-8*1.5R*20	8	R1.5	20	60	8
FBR200P-8*2R*20	8	R2	20	60	8
FBR200P-10*0.2R*22	10	R0.2	22	72	10
FBR200P-10*0.3R*22	10	R0.3	22	72	10
FBR200P-10*0.5R*22	10	R0.5	22	72	10
FBR200P-10*1R*22	10	R1	22	72	10
FBR200P-10*1.5R*22	10	R1.5	22	72	10
FBR200P-10*2R*22	10	R2	22	72	10
FBR200P-10*3R*22	10	R3	22	72	10
FBR200P-12*0.2R*26	12	R0.2	26	75	12
FBR200P-12*0.3R*26	12	R0.3	26	75	12
FBR200P-12*0.5R*26	12	R0.5	26	75	12
FBR200P-12*1R*26	12	R1	26	75	12
FBR200P-12*1.5R*26	12	R1.5	26	75	12
FBR200P-12*2R*26	12	R2	26	75	12
FBR200P-12*3R*26	12	R3	26	75	12
FBR200P-16*0.5R*38	16	R0.5	38	100	16
FBR200P-16*1R*38	16	R1	38	100	16
FBR200P-16*1.5R*38	16	R1.5	38	100	16
FBR200P-16*2R*38	16	R2	38	100	16
FBR200P-16*3R*38	16	R3	38	100	16
FBR200P-16*4R*38	16	R4	38	100	16
FBR200P-20*0.5R*38	20	R0.5	38	100	20
FBR200P-20*1R*38	20	R1	38	100	20
FBR200P-20*1.5R*38	20	R1.5	38	100	20
FBR200P-20*2R*38	20	R2	38	100	20
FBR200P-20*3R*38	20	R3	38	100	20
FBR200P-20*4R*38	20	R4	38	100	20
FBR200P-20*5R*38	20	R5	38	100	20

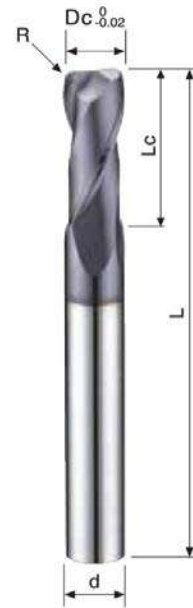
Code No.	Dc	R	Lc	L	d
FBR200P-1*0.1R*3	1	R0.1	3	50	4
FBR200P-1*0.2R*3	1	R0.2	3	50	4
FBR200P-1*0.3R*3	1	R0.3	3	50	4
FBR200P-1.5*0.1R*5	1.5	R0.1	5	50	4
FBR200P-1.5*0.2R*5	1.5	R0.2	5	50	4
FBR200P-1.5*0.3R*5	1.5	R0.3	5	50	4
FBR200P-1.5*0.5R*5	1.5	R0.5	5	50	4
FBR200P-2*0.1R*6	2	R0.1	6	50	4
FBR200P-2*0.2R*6	2	R0.2	6	50	4
FBR200P-2*0.3R*6	2	R0.3	6	50	4
FBR200P-2*0.5R*6	2	R0.5	6	50	4
FBR200P-2.5*0.1R*8	2.5	R0.1	8	50	4
FBR200P-2.5*0.2R*8	2.5	R0.2	8	50	4
FBR200P-2.5*0.3R*8	2.5	R0.3	8	50	4
FBR200P-2.5*0.5R*8	2.5	R0.5	8	50	4
FBR200P-3A*0.1R*8	3	R0.1	8	50	4
FBR200P-3A*0.2R*8	3	R0.2	8	50	4
FBR200P-3A*0.3R*8	3	R0.3	8	50	4
FBR200P-3A*0.5R*8	3	R0.5	8	50	4
FBR200P-3*0.1R*8	3	R0.1	8	50	6
FBR200P-3*0.2R*8	3	R0.2	8	50	6
FBR200P-3*0.3R*8	3	R0.3	8	50	6
FBR200P-3*0.5R*8	3	R0.5	8	50	6
FBR200P-4A*0.1R*11	4	R0.1	11	50	4
FBR200P-4A*0.2R*11	4	R0.2	11	50	4
FBR200P-4A*0.3R*11	4	R0.3	11	50	4
FBR200P-4A*0.5R*11	4	R0.5	11	50	4
FBR200P-4A*1R*11	4	R1	11	50	4
FBR200P-4*0.1R*11	4	R0.1	11	50	6

FBR200L (2 Flutes ♦ Radius Endmill ♦ Long Shank)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	○	○	○	○	○	○	○	○

Code No.	Dc	R	Lc	L	d
FBR200L-3*0.1R*10	3	R0.1	10	50	3
FBR200L-3*0.2R*10	3	R0.2	10	50	3
FBR200L-3*0.3R*10	3	R0.3	10	50	3
FBR200L-3*0.5R*10	3	R0.5	10	50	3
FBR200L-4*0.1R*15	4	R0.1	15	60	4
FBR200L-4*0.2R*15	4	R0.2	15	60	4
FBR200L-4*0.3R*15	4	R0.3	15	60	4
FBR200L-4*0.5R*15	4	R0.5	15	60	4
FBR200L-4*1R*15	4	R1	15	60	4
FBR200L-5*0.2R*18	5	R0.2	18	70	5
FBR200L-5*0.3R*18	5	R0.3	18	70	5
FBR200L-5*0.5R*18	5	R0.5	18	70	5
FBR200L-5*1R*18	5	R1	18	70	5
FBR200L-6*0.2R*20	6	R0.2	20	80	6
FBR200L-6*0.3R*20	6	R0.3	20	80	6
FBR200L-6*0.5R*20	6	R0.5	20	80	6
FBR200L-6*1R*20	6	R1	20	80	6
FBR200L-6*1.5R*20	6	R1.5	20	80	6
FBR200L-6*2R*20	6	R2	20	80	6
FBR200L-8*0.2R*25	8	R0.2	25	100	8
FBR200L-8*0.3R*25	8	R0.3	25	100	8
FBR200L-8*0.5R*25	8	R0.5	25	100	8
FBR200L-8*1R*25	8	R1	25	100	8
FBR200L-8*1.5R*25	8	R1.5	25	100	8
FBR200L-8*2R*25	8	R2	25	100	8
FBR200L-8*3R*25	8	R3	25	100	8
FBR200L-10*0.2R*30	10	R0.2	30	100	10
FBR200L-10*0.3R*30	10	R0.3	30	100	10
FBR200L-10*0.5R*30	10	R0.5	30	100	10
FBR200L-10*1R*30	10	R1	30	100	10
FBR200L-10*1.5R*30	10	R1.5	30	100	10
FBR200L-10*2R*30	10	R2	30	100	10
FBR200L-10*3R*30	10	R3	30	100	10
FBR200L-12*0.2R*40	12	R0.2	40	110	12
FBR200L-12*0.3R*40	12	R0.3	40	110	12
FBR200L-12*0.5R*40	12	R0.5	40	110	12
FBR200L-12*1R*40	12	R1	40	110	12



Code No.	Dc	R	Lc	L	d
FBR200L-12*1.5R*40	12	R1.5	40	110	12
FBR200L-12*2R*40	12	R2	40	110	12
FBR200L-12*3R*40	12	R3	40	110	12
FBR200L-16*0.5R*50	16	R0.5	50	140	16
FBR200L-16*1R*50	16	R1	50	140	16
FBR200L-16*1.5R*50	16	R1.5	50	140	16
FBR200L-16*2R*50	16	R2	50	140	16
FBR200L-16*3R*50	16	R3	50	140	16
FBR200L-16*4R*50	16	R4	50	140	16
FBR200L-20*0.5R*60	20	R0.5	60	160	20
FBR200L-20*1R*60	20	R1	60	160	20
FBR200L-20*1.5R*60	20	R1.5	60	160	20
FBR200L-20*2R*60	20	R2	60	160	20
FBR200L-20*3R*60	20	R3	60	160	20
FBR200L-20*4R*60	20	R4	60	160	20
FBR200L-20*5R*60	20	R5	60	160	20



General Use

Ball Endmill

Radius Endmill

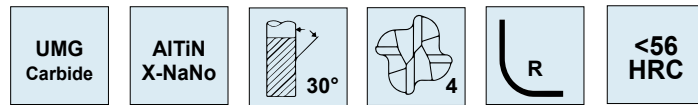
Unequal Helix

Long Neck Endmill

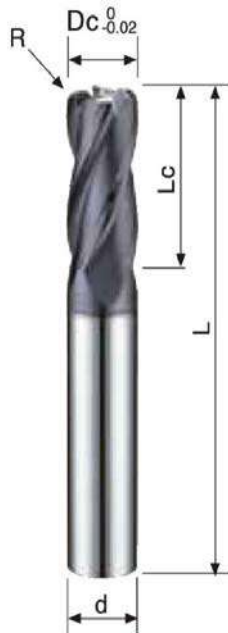
Aluminum Use

Other Endmill

FBR400P (4 Flutes ♦ Radius Endmill)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	○							



Code No.	Dc	R	Lc	L	d
FBR400P-4*0.2R*11	4	R0.2	11	50	6
FBR400P-4*0.3R*11	4	R0.3	11	50	6
FBR400P-4*0.5R*11	4	R0.5	11	50	6
FBR400P-4*1R*11	4	R1	11	50	6
FBR400P-5*0.2R*13	5	R0.2	13	50	6
FBR400P-5*0.3R*13	5	R0.3	13	50	6
FBR400P-5*0.5R*13	5	R0.5	13	50	6
FBR400P-5*1R*13	5	R1	13	50	6
FBR400P-6*0.2R*16	6	R0.2	16	50	6
FBR400P-6*0.3R*16	6	R0.3	16	50	6
FBR400P-6*0.5R*16	6	R0.5	16	50	6
FBR400P-6*1R*16	6	R1	16	50	6
FBR400P-6*1.5R*16	6	R1.5	16	50	6
FBR400P-6*2R*16	6	R2	16	50	6
FBR400P-8*0.2R*20	8	R0.2	20	60	8
FBR400P-8*0.3R*20	8	R0.3	20	60	8
FBR400P-8*0.5R*20	8	R0.5	20	60	8
FBR400P-8*1R*20	8	R1	20	60	8
FBR400P-8*1.5R*20	8	R1.5	20	60	8
FBR400P-8*2R*20	8	R2	20	60	8
FBR400P-8*3R*20	8	R3	20	60	8
FBR400P-10*0.2R*22	10	R0.2	22	72	10
FBR400P-10*0.3R*22	10	R0.3	22	72	10
FBR400P-10*0.5R*22	10	R0.5	22	72	10
FBR400P-10*1R*22	10	R1	22	72	10
FBR400P-10*1.5R*22	10	R1.5	22	72	10
FBR400P-10*2R*22	10	R2	22	72	10
FBR400P-10*3R*22	10	R3	22	72	10
FBR400P-12*0.2R*26	12	R0.2	26	75	12
FBR400P-12*0.3R*26	12	R0.3	26	75	12
FBR400P-12*0.5R*26	12	R0.5	26	75	12
FBR400P-12*1R*26	12	R1	26	75	12
FBR400P-12*1.5R*26	12	R1.5	26	75	12
FBR400P-12*2R*26	12	R2	26	75	12
FBR400P-12*3R*26	12	R3	26	75	12
FBR400P-16*0.5R*38	16	R0.5	38	100	16
FBR400P-16*1R*38	16	R1	38	100	16
FBR400P-16*1.5R*38	16	R1.5	38	100	16
FBR400P-116*2R*38	16	R2	38	100	16
FBR400P-16*3R*38	16	R3	38	100	16
FBR400P-16*4R*38	16	R4	38	100	16
FBR400P-20*0.5R*38	20	R0.5	38	100	20
FBR400P-20*1R*38	20	R1	38	100	20
FBR400P-20*1.5R*38	20	R1.5	38	100	20
FBR400P-20*2R*38	20	R2	38	100	20
FBR400P-20*3R*38	20	R3	38	100	20
FBR400P-20*4R*38	20	R4	38	100	20
FBR400P-20*5R*38	20	R5	38	100	20

Code No.	Dc	R	Lc	L	d
FBR400P-1*0.1R*3	1	R0.1	3	50	4
FBR400P-1*0.2R*3	1	R0.2	3	50	4
FBR400P-1*0.3R*3	1	R0.3	3	50	4
FBR400P-1.5*0.1R*5	1.5	R0.1	5	50	4
FBR400P-1.5*0.2R*5	1.5	R0.2	5	50	4
FBR400P-1.5*0.3R*5	1.5	R0.3	5	50	4
FBR400P-1.5*0.5R*5	1.5	R0.5	5	50	4
FBR400P-2*0.1R*6	2	R0.1	6	50	4
FBR400P-2*0.2R*6	2	R0.2	6	50	4
FBR400P-2*0.3R*6	2	R0.3	6	50	4
FBR400P-2*0.5R*6	2	R0.5	6	50	4
FBR400P-2.5*0.1R*8	2.5	R0.1	8	50	4
FBR400P-2.5*0.2R*8	2.5	R0.2	8	50	4
FBR400P-2.5*0.3R*8	2.5	R0.3	8	50	4
FBR400P-2.5*0.5R*8	2.5	R0.5	8	50	4
FBR400P-3A*0.1R*8	3	R0.1	8	50	4
FBR400P-3A*0.2R*8	3	R0.2	8	50	4
FBR400P-3A*0.3R*8	3	R0.3	8	50	4
FBR400P-3A*0.5R*8	3	R0.5	8	50	4
FBR400P-3*0.1R*8	3	R0.1	8	50	6
FBR400P-3*0.2R*8	3	R0.2	8	50	6
FBR400P-3*0.3R*8	3	R0.3	8	50	6
FBR400P-3*0.5R*8	3	R0.5	8	50	6
FBR400P-4A*0.1R*11	4	R0.1	11	50	4
FBR400P-4A*0.2R*11	4	R0.2	11	50	4
FBR400P-4A*0.3R*11	4	R0.3	11	50	4
FBR400P-4A*0.5R*11	4	R0.5	11	50	4
FBR400P-4A*1R*11	4	R1	11	50	4
FBR400P-4*0.1R*11	4	R0.1	11	50	6



General Use

Ball Endmill

Radius Endmill

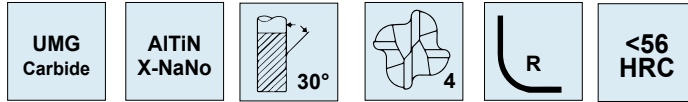
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBR400L (4 Flutes ♦ Radius Endmill ♦ Long Shank)



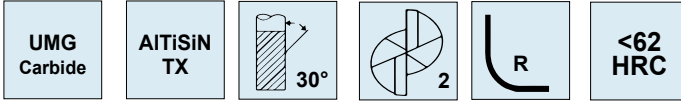
Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	Lc	L	d
FBR400L-3*0.1R*10	3	R0.1	10	50	3
FBR400L-3*0.2R*10	3	R0.2	10	50	3
FBR400L-3*0.3R*10	3	R0.3	10	50	3
FBR400L-3*0.5R*10	3	R0.5	10	50	3
FBR400L-4*0.1R*15	4	R0.1	15	60	4
FBR400L-4*0.2R*15	4	R0.2	15	60	4
FBR400L-4*0.3R*15	4	R0.3	15	60	4
FBR400L-4*0.5R*15	4	R0.5	15	60	4
FBR400L-4*1R*15	4	R1	15	60	4
FBR400L-5*0.2R*18	5	R0.2	18	70	5
FBR400L-5*0.3R*18	5	R0.3	18	70	5
FBR400L-5*0.5R*18	5	R0.5	18	70	5
FBR400L-5*1R*18	5	R1	18	70	5
FBR400L-6*0.2R*20	6	R0.2	20	80	6
FBR400L-6*0.3R*20	6	R0.3	20	80	6
FBR400L-6*0.5R*20	6	R0.5	20	80	6
FBR400L-6*1R*20	6	R1	20	80	6
FBR400L-6*1.5R*20	6	R1.5	20	80	6
FBR400L-6*2R*20	6	R2	20	80	6
FBR400L-8*0.2R*25	8	R0.2	25	100	8
FBR400L-8*0.3R*25	8	R0.3	25	100	8
FBR400L-8*0.5R*25	8	R0.5	25	100	8
FBR400L-8*1R*25	8	R1	25	100	8
FBR400L-8*1.5R*25	8	R1.5	25	100	8
FBR400L-8*2R*25	8	R2	25	100	8
FBR400L-8*3R*25	8	R3	25	100	8
FBR400L-10*0.2R*30	10	R0.2	30	100	10
FBR400L-10*0.3R*30	10	R0.3	30	100	10
FBR400L-10*0.5R*30	10	R0.5	30	100	10
FBR400L-10*1R*30	10	R1	30	100	10
FBR400L-10*1.5R*30	10	R1.5	30	100	10
FBR400L-10*2R*30	10	R2	30	100	10
FBR400L-10*3R*30	10	R3	30	100	10
FBR400L-12*0.2R*40	12	R0.2	40	110	12
FBR400L-12*0.3R*40	12	R0.3	40	110	12
FBR400L-12*0.5R*40	12	R0.5	40	110	12
FBR400L-12*1R*40	12	R1	40	110	12

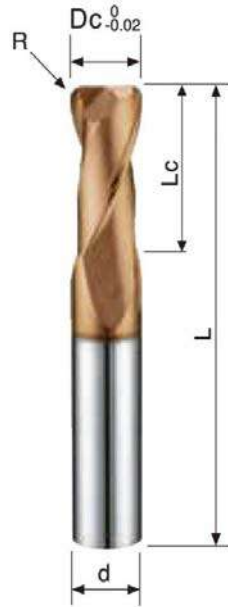


Code No.	Dc	R	Lc	L	d
FBR400L-12*1.5R*40	12	R1.5	40	110	12
FBR400L-12*2R*40	12	R2	40	110	12
FBR400L-12*3R*40	12	R3	40	110	12
FBR400L-16*0.5R*50	16	R0.5	50	140	16
FBR400L-16*1R*50	16	R1	50	140	16
FBR400L-16*1.5R*50	16	R1.5	50	140	16
FBR400L-16*2R*50	16	R2	50	140	16
FBR400L-16*3R*50	16	R3	50	140	16
FBR400L-16*4R*50	16	R4	50	140	16
FBR400L-20*0.5R*60	20	R0.5	60	160	20
FBR400L-20*1R*60	20	R1	60	160	20
FBR400L-20*1.5R*60	20	R1.5	60	160	20
FBR400L-20*2R*60	20	R2	60	160	20
FBR400L-20*3R*60	20	R3	60	160	20
FBR400L-20*4R*60	20	R4	60	160	20
FBR400L-20*5R*60	20	R5	60	160	20

FBR201P (2 Flutes ♦ Radius Endmill ♦ Hard Material)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC										



Code No.	Dc	R	Lc	L	d
FBR201P-4*0.2R*11	4	R0.2	11	50	6
FBR201P-4*0.3R*11	4	R0.3	11	50	6
FBR201P-4*0.5R*11	4	R0.5	11	50	6
FBR201P-4*1R*11	4	R1	11	50	6
FBR201P-5*0.2R*13	5	R0.2	13	50	6
FBR201P-5*0.3R*13	5	R0.3	13	50	6
FBR201P-5*0.5R*13	5	R0.5	13	50	6
FBR201P-5*1R*13	5	R1	13	50	6
FBR201P-6*0.2R*16	6	R0.2	16	50	6
FBR201P-6*0.3R*16	6	R0.3	16	50	6
FBR201P-6*0.5R*16	6	R0.5	16	50	6
FBR201P-6*1R*16	6	R1	16	50	6
FBR201P-6*1.5R*16	6	R1.5	16	50	6
FBR201P-6*2R*16	6	R2	16	50	6
FBR201P-8*0.2R*20	8	R0.2	20	60	8
FBR201P-8*0.3R*20	8	R0.3	20	60	8
FBR201P-8*0.5R*20	8	R0.5	20	60	8
FBR201P-8*1R*20	8	R1	20	60	8
FBR201P-8*1.5R*20	8	R1.5	20	60	8
FBR201P-8*2R*20	8	R2	20	60	8
FBR201P-8*3R*20	8	R3	20	60	8
FBR201P-10*0.2R*22	10	R0.2	22	72	10
FBR201P-10*0.3R*22	10	R0.3	22	72	10
FBR201P-10*0.5R*22	10	R0.5	22	72	10
FBR201P-10*1R*22	10	R1	22	72	10
FBR201P-10*1.5R*22	10	R1.5	22	72	10
FBR201P-10*2R*22	10	R2	22	72	10
FBR201P-10*3R*22	10	R3	22	72	10
FBR201P-12*0.2R*26	12	R0.2	26	75	12
FBR201P-12*0.3R*26	12	R0.3	26	75	12
FBR201P-12*0.5R*26	12	R0.5	26	75	12
FBR201P-12*1R*26	12	R1	26	75	12
FBR201P-12*1.5R*26	12	R1.5	26	75	12
FBR201P-12*2R*26	12	R2	26	75	12
FBR201P-12*3R*26	12	R3	26	75	12
FBR201P-16*0.5R*38	16	R0.5	38	100	16
FBR201P-16*1R*38	16	R1	38	100	16
FBR201P-16*1.5R*38	16	R1.5	38	100	16
FBR201P-16*2R*38	16	R2	38	100	16
FBR201P-16*3R*38	16	R3	38	100	16
FBR201P-16*4R*38	16	R4	38	100	16
FBR201P-20*0.5R*38	20	R0.5	38	100	20
FBR201P-20*1R*38	20	R1	38	100	20
FBR201P-20*1.5R*38	20	R1.5	38	100	20
FBR201P-20*2R*38	20	R2	38	100	20
FBR201P-20*3R*38	20	R3	38	100	20
FBR201P-20*4R*38	20	R4	38	100	20
FBR201P-20*5R*38	20	R5	38	100	20

Code No.	Dc	R	Lc	L	d
FBR201P-1*0.1R*3	1	R0.1	3	50	4
FBR201P-1*0.2R*3	1	R0.2	3	50	4
FBR201P-1*0.3R*3	1	R0.3	3	50	4
FBR201P-1.5*0.1R*5	1.5	R0.1	5	50	4
FBR201P-1.5*0.2R*5	1.5	R0.2	5	50	4
FBR201P-1.5*0.3R*5	1.5	R0.3	5	50	4
FBR201P-1.5*0.5R*5	1.5	R0.5	5	50	4
FBR201P-2*0.1R*6	2	R0.1	6	50	4
FBR201P-2*0.2R*6	2	R0.2	6	50	4
FBR201P-2*0.3R*6	2	R0.3	6	50	4
FBR201P-2*0.5R*6	2	R0.5	6	50	4
FBR201P-2.5*0.1R*8	2.5	R0.1	8	50	4
FBR201P-2.5*0.2R*8	2.5	R0.2	8	50	4
FBR201P-2.5*0.3R*8	2.5	R0.3	8	50	4
FBR201P-2.5*0.5R*8	2.5	R0.5	8	50	4
FBR201P-3A*0.1R*8	3	R0.1	8	50	4
FBR201P-3A*0.2R*8	3	R0.2	8	50	4
FBR201P-3A*0.3R*8	3	R0.3	8	50	4
FBR201P-3A*0.5R*8	3	R0.5	8	50	4
FBR201P-3*0.1R*8	3	R0.1	8	50	6
FBR201P-3*0.2R*8	3	R0.2	8	50	6
FBR201P-3*0.3R*8	3	R0.3	8	50	6
FBR201P-3*0.5R*8	3	R0.5	8	50	6
FBR201P-4A*0.1R*11	4	R0.1	11	50	4
FBR201P-4A*0.2R*11	4	R0.2	11	50	4
FBR201P-4A*0.3R*11	4	R0.3	11	50	4
FBR201P-4A*0.5R*11	4	R0.5	11	50	4
FBR201P-4A*1R*11	4	R1	11	50	4
FBR201P-4*0.1R*11	4	R0.1	11	50	6



General Use

Ball Endmill

Radius Endmill

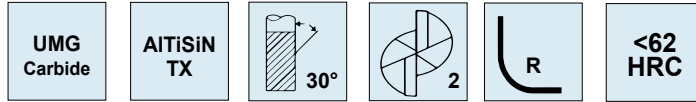
Unequal Helix

Long Neck Endmill

Aluminum Use

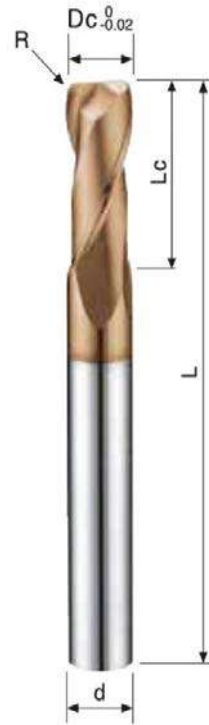
Other Endmill

FBR201L (2 Flutes ♦ Radius Endmill ♦ Long Shank ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	Lc	L	d
FBR201L-3*0.1R*10	3	R0.1	10	50	3
FBR201L-3*0.2R*10	3	R0.2	10	50	3
FBR201L-3*0.3R*10	3	R0.3	10	50	3
FBR201L-3*0.5R*10	3	R0.5	10	50	3
FBR201L-4*0.1R*15	4	R0.1	15	60	4
FBR201L-4*0.2R*15	4	R0.2	15	60	4
FBR201L-4*0.3R*15	4	R0.3	15	60	4
FBR201L-4*0.5R*15	4	R0.5	15	60	4
FBR201L-4*1R*15	4	R1	15	60	4
FBR201L-6*0.2R*20	6	R0.2	20	80	6
FBR201L-6*0.3R*20	6	R0.3	20	80	6
FBR201L-6*0.5R*20	6	R0.5	20	80	6
FBR201L-6*1R*20	6	R1	20	80	6
FBR201L-6*1.5R*20	6	R1.5	20	80	6
FBR201L-8*0.2R*25	8	R0.2	25	100	8
FBR201L-8*0.3R*25	8	R0.3	25	100	8
FBR201L-8*0.5R*25	8	R0.5	25	100	8
FBR201L-8*1R*25	8	R1	25	100	8
FBR201L-8*1.5R*25	8	R1.5	25	100	8
FBR201L-8*2R*25	8	R2	25	100	8
FBR201L-10*0.2R*30	10	R0.2	30	100	10
FBR201L-10*0.3R*30	10	R0.3	30	100	10
FBR201L-10*0.5R*30	10	R0.5	30	100	10
FBR201L-10*1R*30	10	R1	30	100	10
FBR201L-10*1.5R*30	10	R1.5	30	100	10
FBR201L-10*2R*30	10	R2	30	100	10
FBR201L-10*3R*30	10	R3	30	100	10
FBR201L-12*0.2R*40	12	R0.2	40	110	12
FBR201L-12*0.3R*40	12	R0.3	40	110	12
FBR201L-12*0.5R*40	12	R0.5	40	110	12
FBR201L-12*1R*40	12	R1	40	110	12
FBR201L-12*1.5R*40	12	R1.5	40	110	12
FBR201L-12*2R*40	12	R2	40	110	12
FBR201L-12*3R*40	12	R3	40	110	12
FBR201L-16*0.5R*50	16	R0.5	50	140	16
FBR201L-16*1R*50	16	R1	50	140	16
FBR201L-16*1.5R*50	16	R1.5	50	140	16
FBR201L-16*2R*50	16	R2	50	140	16
FBR201L-16*3R*50	16	R3	50	140	16
FBR201L-16*4R*50	16	R4	50	140	16
FBR201L-20*0.5R*60	20	R0.5	60	160	20
FBR201L-20*1R*60	20	R1	60	160	20
FBR201L-20*1.5R*60	20	R1.5	60	160	20
FBR201L-20*2R*60	20	R2	60	160	20
FBR201L-20*3R*60	20	R3	60	160	20
FBR201L-20*4R*60	20	R4	60	160	20
FBR201L-20*5R*60	20	R5	60	160	20



A

General Use

Ball Endmill

Radius Endmill

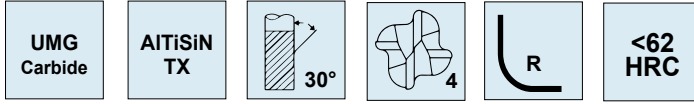
Unequal Helix

Long Neck Endmill

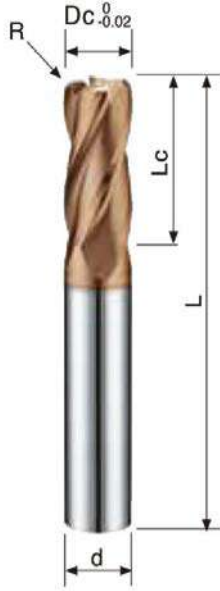
Aluminum Use

Other Endmill

FBR401P (4 Flutes ♦ Radius Endmill ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●



Code No.	Dc	R	Lc	L	d
FBR401P-4*0.2R*11	4	R0.2	11	50	6
FBR401P-4*0.3R*11	4	R0.3	11	50	6
FBR401P-4*0.5R*11	4	R0.5	11	50	6
FBR401P-4*1R*11	4	R1	11	50	6
FBR401P-5*0.2R*13	5	R0.2	13	50	6
FBR401P-5*0.3R*13	5	R0.3	13	50	6
FBR401P-5*0.5R*13	5	R0.5	13	50	6
FBR401P-5*1R*13	5	R1	13	50	6
FBR401P-6*0.2R*16	6	R0.2	16	50	6
FBR401P-6*0.3R*16	6	R0.3	16	50	6
FBR401P-6*0.5R*16	6	R0.5	16	50	6
FBR401P-6*1R*16	6	R1	16	50	6
FBR401P-6*1.5R*16	6	R1.5	16	50	6
FBR401P-6*2R*16	6	R2	16	50	6
FBR401P-8*0.2R*20	8	R0.2	20	60	8
FBR401P-8*0.3R*20	8	R0.3	20	60	8
FBR401P-8*0.5R*20	8	R0.5	20	60	8
FBR401P-8*1R*20	8	R1	20	60	8
FBR401P-8*1.5R*20	8	R1.5	20	60	8
FBR401P-8*2R*20	8	R2	20	60	8
FBR401P-8*3R*20	8	R3	20	60	8
FBR401P-10*0.2R*22	10	R0.2	22	72	10
FBR401P-10*0.3R*22	10	R0.3	22	72	10
FBR401P-10*0.5R*22	10	R0.5	22	72	10
FBR401P-10*1R*22	10	R1	22	72	10
FBR401P-10*1.5R*22	10	R1.5	22	72	10
FBR401P-10*2R*22	10	R2	22	72	10
FBR401P-10*3R*22	10	R3	22	72	10
FBR401P-12*0.2R*26	12	R0.2	26	75	12
FBR401P-12*0.3R*26	12	R0.3	26	75	12
FBR401P-12*0.5R*26	12	R0.5	26	75	12
FBR401P-12*1R*26	12	R1	26	75	12
FBR401P-12*1.5R*26	12	R1.5	26	75	12
FBR401P-12*2R*26	12	R2	26	75	12
FBR401P-12*3R*26	12	R3	26	75	12
FBR401P-16*0.5R*38	16	R0.5	38	100	16
FBR401P-16*1R*38	16	R1	38	100	16
FBR401P-16*1.5R*38	16	R1.5	38	100	16
FBR401P-16*2R*38	16	R2	38	100	16
FBR401P-16*3R*38	16	R3	38	100	16
FBR401P-16*4R*38	16	R4	38	100	16
FBR401P-20*0.5R*38	20	R0.5	38	100	20
FBR401P-20*1R*38	20	R1	38	100	20
FBR401P-20*1.5R*38	20	R1.5	38	100	20
FBR401P-20*2R*38	20	R2	38	100	20
FBR401P-20*3R*38	20	R3	38	100	20
FBR401P-20*4R*38	20	R4	38	100	20
FBR401P-20*5R*38	20	R5	38	100	20

Code No.	Dc	R	Lc	L	d
FBR401P-1*0.1R*3	1	R0.1	3	50	4
FBR401P-1*0.2R*3	1	R0.2	3	50	4
FBR401P-1*0.3R*3	1	R0.3	3	50	4
FBR401P-1.5*0.1R*5	1.5	R0.1	5	50	4
FBR401P-1.5*0.2R*5	1.5	R0.2	5	50	4
FBR401P-1.5*0.3R*5	1.5	R0.3	5	50	4
FBR401P-1.5*0.5R*5	1.5	R0.5	5	50	4
FBR401P-2*0.1R*6	2	R0.1	6	50	4
FBR401P-2*0.2R*6	2	R0.2	6	50	4
FBR401P-2*0.3R*6	2	R0.3	6	50	4
FBR401P-2*0.5R*6	2	R0.5	6	50	4
FBR401P-2.5*0.1R*8	2.5	R0.1	8	50	4
FBR401P-2.5*0.2R*8	2.5	R0.2	8	50	4
FBR401P-2.5*0.3R*8	2.5	R0.3	8	50	4
FBR401P-2.5*0.5R*8	2.5	R0.5	8	50	4
FBR401P-3A*0.1R*8	3	R0.1	8	50	4
FBR401P-3A*0.2R*8	3	R0.2	8	50	4
FBR401P-3A*0.3R*8	3	R0.3	8	50	4
FBR401P-3A*0.5R*8	3	R0.5	8	50	4
FBR401P-3*0.1R*8	3	R0.1	8	50	6
FBR401P-3*0.2R*8	3	R0.2	8	50	6
FBR401P-3*0.3R*8	3	R0.3	8	50	6
FBR401P-3*0.5R*8	3	R0.5	8	50	6
FBR401P-4A*0.1R*11	4	R0.1	11	50	4
FBR401P-4A*0.2R*11	4	R0.2	11	50	4
FBR401P-4A*0.3R*11	4	R0.3	11	50	4
FBR401P-4A*0.5R*11	4	R0.5	11	50	4
FBR401P-4A*1R*11	4	R1	11	50	4
FBR401P-4*0.1R*11	4	R0.1	11	50	6

A

General Use

Ball Endmill

Radius Endmill

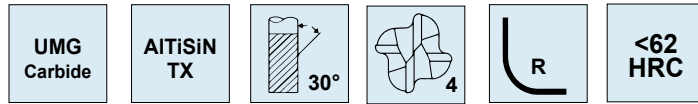
Unequal Helix

Long Neck Endmill

Aluminum Use

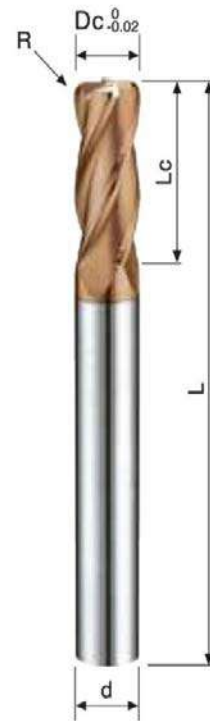
Other Endmill

FBR401L (4 Flutes ♦ Radius Endmill ♦ Long Shank ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	Lc	L	d
FBR401L-3*0.1R*10	3	R0.1	10	50	3
FBR401L-3*0.2R*10	3	R0.2	10	50	3
FBR401L-3*0.3R*10	3	R0.3	10	50	3
FBR401L-3*0.5R*10	3	R0.5	10	50	3
FBR401L-4*0.1R*15	4	R0.1	15	60	4
FBR401L-4*0.2R*15	4	R0.2	15	60	4
FBR401L-4*0.3R*15	4	R0.3	15	60	4
FBR401L-4*0.5R*15	4	R0.5	15	60	4
FBR401L-4*1R*15	4	R1	15	60	4
FBR401L-6*0.2R*20	6	R0.2	20	80	6
FBR401L-6*0.3R*20	6	R0.3	20	80	6
FBR401L-6*0.5R*20	6	R0.5	20	80	6
FBR401L-6*1R*20	6	R1	20	80	6
FBR401L-6*1.5R*20	6	R1.5	20	80	6
FBR401L-8*0.2R*25	8	R0.2	25	100	8
FBR401L-8*0.3R*25	8	R0.3	25	100	8
FBR401L-8*0.5R*25	8	R0.5	25	100	8
FBR401L-8*1R*25	8	R1	25	100	8
FBR401L-8*1.5R*25	8	R1.5	25	100	8
FBR401L-8*2R*25	8	R2	25	100	8
FBR401L-10*0.2R*30	10	R0.2	30	100	10
FBR401L-10*0.3R*30	10	R0.3	30	100	10
FBR401L-10*0.5R*30	10	R0.5	30	100	10
FBR401L-10*1R*30	10	R1	30	100	10
FBR401L-10*1.5R*30	10	R1.5	30	100	10
FBR401L-10*2R*30	10	R2	30	100	10
FBR401L-10*3R*30	10	R3	30	110	12
FBR401L-12*0.2R*40	12	R0.2	40	110	12
FBR401L-12*0.3R*40	12	R0.3	40	110	12
FBR401L-12*0.5R*40	12	R0.5	40	110	12
FBR401L-12*1R*40	12	R1	40	110	12
FBR401L-12*1.5R*40	12	R1.5	40	110	12
FBR401L-12*2R*40	12	R2	40	110	12
FBR401L-12*3R*40	12	R3	40	110	16
FBR401L-16*0.5R*50	16	R0.5	50	140	16
FBR401L-16*1R*50	16	R1	50	140	16
FBR401L-16*1.5R*50	16	R1.5	50	140	16
FBR401L-16*2R*50	16	R2	50	140	16
FBR401L-16*3R*50	16	R3	50	140	16
FBR401L-16*4R*50	16	R4	50	140	20
FBR401L-20*0.5R*60	20	R0.5	60	160	20
FBR401L-20*1R*60	20	R1	60	160	20
FBR401L-20*1.5R*60	20	R1.5	60	160	20
FBR401L-20*2R*60	20	R2	60	160	20
FBR401L-20*3R*60	20	R3	60	160	20
FBR401L-20*4R*60	20	R4	60	160	20
FBR401L-20*5R*60	20	R5	60	160	20



A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

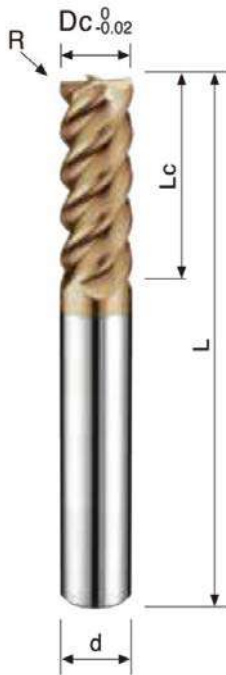
Aluminum Use

Other Endmill

FAR402P (4 Flutes ♦ Radius Endmill ♦ Hard Material)

SMG Carbide
AlTiSiN TX
55°
4
R
<40-70 HRC

Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-56 HRC										
			●	●	●										



Code No.	Dc	R	Lc	L	d
FAR402P-3*0.2R*8	3	R0.2	8	50	6
FAR402P-3*0.5R*8	3	R0.5	8	50	6
FAR402P-4*0.2R*11	4	R0.2	11	50	6
FAR402P-4*0.5R*11	4	R0.5	11	50	6
FAR402P-5*0.2R*13	5	R0.2	13	50	6
FAR402P-5*0.5R*13	5	R0.5	13	50	6
FAR402P-6*0.2R*16	6	R0.2	16	50	6
FAR402P-6*0.5R*16	6	R0.5	16	50	6
FAR402P-6*1R*16	6	R1	16	50	6
FAR402P-6*1.5R*16	6	R1.5	16	50	6
FAR402P-8*0.2R*20	8	R0.2	20	60	8
FAR402P-8*0.5R*20	8	R0.5	20	60	8
FAR402P-8*1R*20	8	R1	20	60	8
FAR402P-8*2R*20	8	R2	20	60	8
FAR402P-10*0.2R*22	10	R0.2	22	72	10
FAR402P-10*0.5R*22	10	R0.5	22	72	10
FAR402P-10*1R*22	10	R1	22	72	10
FAR402P-10*2R*22	10	R2	22	72	10
FAR402P-12*0.2R*26	12	R0.2	26	75	12
FAR402P-12*0.5R*26	12	R0.5	26	75	12
FAR402P-12*1R*26	12	R1	26	75	12
FAR402P-12*2R*26	12	R2	26	75	12
FAR402P-16*0.5R*38	16	R0.5	38	100	16
FAR402P-16*1R*38	16	R1	38	100	16
FAR402P-16*2R*38	16	R2	38	100	16
FAR402P-16*3R*38	16	R3	38	100	16
FAR402P-20*0.5R*38	20	R0.5	38	100	20
FAR402P-20*1R*38	20	R1	38	100	20
FAR402P-20*2R*38	20	R2	38	100	20
FAR402P-20*3R*38	20	R3	38	100	20

A

General Use

Ball Endmill

Radius Endmill

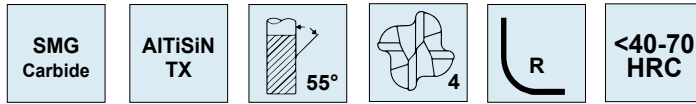
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FAR402L (4 Flutes ♦ Radius Endmill ♦ Long Shank ♦ Hard Material)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC										
			●	●	●										

Code No.	Dc	R	Lc	L	d
FAR402L-6*0.2R*16	6	R0.2	16 (20)	80	6
FAR402L-6*0.5R*16	6	R0.5	16 (20)	80	6
FAR402L-6*1R*16	6	R1	16 (20)	80	6
FAR402L-6*1.5R*16	6	R1.5	16 (20)	80	6
FAR402L-8*0.2R*20	8	R0.2	20 (25)	100	8
FAR402L-8*0.5R*20	8	R0.5	20 (25)	100	8
FAR402L-8*1R*20	8	R1	20 (25)	100	8
FAR402L-8*2R*20	8	R2	20 (25)	100	8
FAR402L-10*0.2R*22	10	R0.2	22 (30)	100	10
FAR402L-10*0.5R*22	10	R0.5	22 (30)	100	10
FAR402L-10*1R*22	10	R1	22 (30)	100	10
FAR402L-10*2R*22	10	R2	22 (30)	100	10
FAR402L-12*0.2R*26	12	R0.2	26 (40)	110	12
FAR402L-12*0.5R*26	12	R0.5	26 (40)	110	12
FAR402L-12*1R*26	12	R1	26 (40)	110	12
FAR402L-12*2R*26	12	R2	26 (40)	110	12
FAR402L-16*0.5R*38	16	R0.5	38 (50)	140	16
FAR402L-16*1R*38	16	R1	38 (50)	140	16
FAR402L-16*2R*38	16	R2	38 (50)	140	16
FAR402L-16*3R*38	16	R3	38 (50)	140	16
FAR402L-20*0.5R*38	20	R0.5	38 (60)	160	20
FAR402L-20*1R*38	20	R1	38 (60)	160	20
FAR402L-20*2R*38	20	R2	38 (60)	160	20
FAR402L-20*3R*38	20	R3	38 (60)	160	20



General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBUF300P (3 Flutes ♦ Flat Endmill ♦ Unequal Helix)

MG Carbide
AlTiCrN HX
38°
41°
3 Flutes
90°
<48 HRC

Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●						○	○	○



Code No.	Dc	Lc	L	d
FBUF300P-1	1	3	50	4
FBUF300P-1.5	1.5	5	50	4
FBUF300P-2	2	6	50	4
FBUF300P-2.5	2.5	8	50	4
FBUF300P-3A	3	8	50	4
FBUF300P-3	3	8	50	6
FBUF300P-4A	4	11	50	4
FBUF300P-4	4	11	50	6
FBUF300P-5	5	13	50	6
FBUF300P-6	6	16	50	6
FBUF300P-7	7	20	60	8
FBUF300P-8	8	20	60	8
FBUF300P-9	9	22	72	10
FBUF300P-10	10	22	72	10
FBUF300P-11	11	26	75	12
FBUF300P-12	12	26	75	12
FBUF300P-14	14	32	90	16
FBUF300P-16	16	38	100	16
FBUF300P-18	18	38	100	20
FBUF300P-20	20	38	100	20

A

General Use

Ball Endmill

Radius Endmill

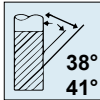
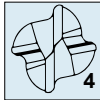
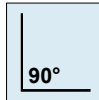
Unequal Helix

Long Neck Endmill

Aluminum Use

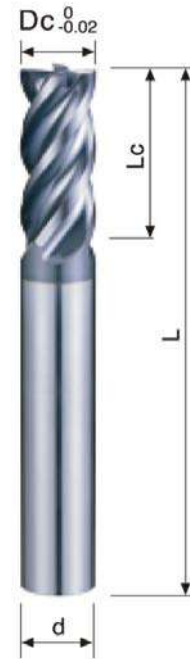
Other Endmill

FBUF400P (4 Flutes ♦ Flat Endmill ♦ Unequal Helix)

MG Carbide
AlTiCrN HX

38°
41°

4

90°
<48 HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steels	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-52 HRC	52-58 HRC	●	●								

Code No.	Dc	Lc	L	d
FBUF400P-1	1	3	50	4
FBUF400P-1.5	1.5	5	50	4
FBUF400P-2	2	6	50	4
FBUF400P-2.5	2.5	8	50	4
FBUF400P-3A	3A	8	50	4
FBUF400P-4A	4A	11	50	4
FBUF400P-3	3	8	50	6
FBUF400P-3.5	3.5	10	50	6
FBUF400P-4	4	11	50	6
FBUF400P-4.5	4.5	11	50	6
FBUF400P-5	5	13	50	6
FBUF400P-5.5	5.5	13	50	6
FBUF400P-6	6	16	50	6
FBUF400P-7	7	16	60	8
FBUF400P-8	8	20	60	8
FBUF400P-9	9	20	72	10
FBUF400P-10	10	22	72	10
FBUF400P-11	11	22	75	12
FBUF400P-12	12	26	75	12
FBUF400P-13	13	26	80	12
FBUF400P-14	14	26	90	16
FBUF400P-15	15	32	100	16
FBUF400P-16	16	38	100	16
FBUF400P-17	17	38	100	20
FBUF400P-18	18	38	100	20
FBUF400P-19	19	38	100	20
FBUF400P-20	20	38	100	20



A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

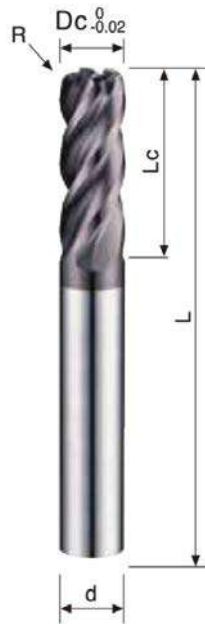
Aluminum Use

Other Endmill

FBUR400P (4 Flutes ♦ Radius Endmill ♦ Unequal Helix)

UMG Carbide
AlTiCrN HX
<56 HRC

Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-45 HRC	45-55 HRC	55-68 HRC	●	●						●	●	●



Code No.	Dc	R	Lc	L	d
FBUR400P-1	1	R0.1	2.5	50	4
FBUR400P-1	1	R0.2	2.5	50	4
FBUR400P-1	1	R0.3	2.5	50	4
FBUR400P-1.5	1.5	R0.1	3.75	50	4
FBUR400P-1.5	1.5	R0.2	3.75	50	4
FBUR400P-1.5	1.5	R0.3	3.75	50	4
FBUR400P-2	2	R0.1	5	50	4
FBUR400P-2	2	R0.2	5	50	4
FBUR400P-2	2	R0.3	5	50	4
FBUR400P-2	2	R0.5	5	50	4
FBUR400P-2.5	2.5	R0.1	6.25	50	4
FBUR400P-2.5	2.5	R0.2	6.25	50	4
FBUR400P-2.5	2.5	R0.3	6.25	50	4
FBUR400P-2.5	2.5	R0.5	6.25	50	4
FBUR400P-3	3	R0.1	7.5	50	6
FBUR400P-3	3	R0.2	7.5	50	6
FBUR400P-3	3	R0.3	7.5	50	6
FBUR400P-3	3	R0.5	7.5	50	6
FBUR400P-4	4	R0.1	10	50	6
FBUR400P-4	4	R0.2	10	50	6
FBUR400P-4	4	R0.3	10	50	6
FBUR400P-4	4	R0.5	10	50	6
FBUR400P-4	4	R1	10	50	6
FBUR400P-5	5	R0.2	12.5	50	6
FBUR400P-5	5	R0.3	12.5	50	6
FBUR400P-5	5	R0.5	12.5	50	6
FBUR400P-5	5	R1	12.5	50	6
FBUR400P-6	6	R0.2	15	50	6
FBUR400P-6	6	R0.3	15	50	6

Code No.	Dc	R	Lc	L	d
FBUR400P-6	6	R0.5	15	50	6
FBUR400P-6	6	R0.8	15	50	6
FBUR400P-6	6	R1	15	50	6
FBUR400P-6	6	R1.2	15	50	6
FBUR400P-6	6	R1.5	15	50	6
FBUR400P-6	6	R1.6	15	50	6
FBUR400P-6	6	R2	15	50	6
FBUR400P-7	7	R0.2	17.5	60	8
FBUR400P-7	7	R0.3	17.5	60	8
FBUR400P-7	7	R0.5	17.5	60	8
FBUR400P-7	7	R1	17.5	60	8
FBUR400P-8	8	R0.2	20	60	8
FBUR400P-8	8	R0.3	20	60	8
FBUR400P-8	8	R0.5	20	60	8
FBUR400P-8	8	R0.8	20	60	8
FBUR400P-8	8	R1	20	60	8
FBUR400P-8	8	R1.2	20	60	8
FBUR400P-8	8	R1.5	20	60	8
FBUR400P-8	8	R1.6	20	60	8
FBUR400P-8	8	R2	20	60	8
FBUR400P-8	8	R3	20	60	8
FBUR400P-9	9	R0.2	22.5	72	10
FBUR400P-9	9	R0.3	22.5	72	10
FBUR400P-9	9	R0.5	22.5	72	10
FBUR400P-9	9	R1	22.5	72	10
FBUR400P-10	10	R0.2	25	72	10
FBUR400P-10	10	R0.3	25	72	10
FBUR400P-10	10	R0.5	25	72	10
FBUR400P-10	10	R0.8	25	72	10
FBUR400P-10	10	R1	25	72	10
FBUR400P-10	10	R1.2	25	72	10
FBUR400P-10	10	R1.5	25	72	10
FBUR400P-10	10	R1.6	25	72	10
FBUR400P-10	10	R2	25	72	10
FBUR400P-10	10	R3	25	72	10
FBUR400P-11	11	R0.2	27.5	75	12
FBUR400P-11	11	R0.3	27.5	75	12
FBUR400P-11	11	R0.5	27.5	75	12
FBUR400P-11	11	R1	27.5	75	12
FBUR400P-12	12	R0.2	30	75	12
FBUR400P-12	12	R0.3	30	75	12
FBUR400P-12	12	R0.5	30	75	12
FBUR400P-12	12	R0.8	30	75	12
FBUR400P-12	12	R1	30	75	12
FBUR400P-12	12	R1.2	30	75	12
FBUR400P-12	12	R1.5	30	75	12
FBUR400P-12	12	R1.6	30	75	12
FBUR400P-12	12	R2	30	75	12

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

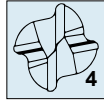
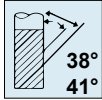
Aluminum Use

Other Endmill

FBUR400P (4 Flutes ♦ Radius Endmill ♦ Unequal Helix)

UMG
Carbide

AlTiCrN
HX



<56
HRC

Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●						●	●	●

Code No.	Dc	R	Lc	L	d
FBUR400P-12	12	R3	30	75	12
FBUR400P-13	13	R0.5	32.5	100	16
FBUR400P-13	13	R1	32.5	100	16
FBUR400P-13	13	R1.5	32.5	100	16
FBUR400P-13	13	R2	32.5	100	16
FBUR400P-13	13	R3	32.5	100	16
FBUR400P-14	14	R0.5	35	100	16
FBUR400P-14	14	R1	35	100	16
FBUR400P-14	14	R1.5	35	100	16
FBUR400P-14	14	R2	35	100	16
FBUR400P-14	14	R3	35	100	16
FBUR400P-15	15	R0.5	37.5	100	16
FBUR400P-15	15	R1	37.5	100	16
FBUR400P-15	15	R1.5	37.5	100	16
FBUR400P-15	15	R2	37.5	100	16
FBUR400P-15	15	R3	37.5	100	16
FBUR400P-16	16	R0.5	40	100	16
FBUR400P-16	16	R1	40	100	16
FBUR400P-16	16	R1.5	40	100	16
FBUR400P-16	16	R2	40	100	16
FBUR400P-16	16	R3	40	100	16
FBUR400P-16	16	R4	40	100	16
FBUR400P-17	17	R0.5	42.5	100	20
FBUR400P-17	17	R1	42.5	100	20
FBUR400P-17	17	R1.5	42.5	100	20
FBUR400P-17	17	R2	42.5	100	20
FBUR400P-17	17	R3	42.5	100	20
FBUR400P-18	18	R0.5	45	100	20
FBUR400P-18	18	R1	45	100	20
FBUR400P-18	18	R1.5	45	100	20
FBUR400P-18	18	R2	45	100	20
FBUR400P-18	18	R3	45	100	20
FBUR400P-19	19	R0.5	47.5	100	20
FBUR400P-19	19	R1	47.5	100	20
FBUR400P-19	19	R1.5	47.5	100	20
FBUR400P-19	19	R2	47.5	100	20
FBUR400P-19	19	R3	47.5	100	20
FBUR400P-20	20	R0.5	50	100	20
FBUR400P-20	20	R1	50	100	20
FBUR400P-20	20	R1.5	50	100	20
FBUR400P-20	20	R2	50	100	20
FBUR400P-20	20	R3	50	100	20
FBUR400P-20	20	R4	50	100	20
FBUR400P-20	20	R5	50	100	20

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

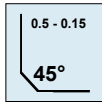
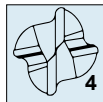
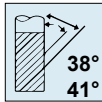
Aluminum Use

Other Endmill

FBUK401P (4 Flutes ♦ Flat Endmill ♦ Unequal Helix ♦ Hard Material)

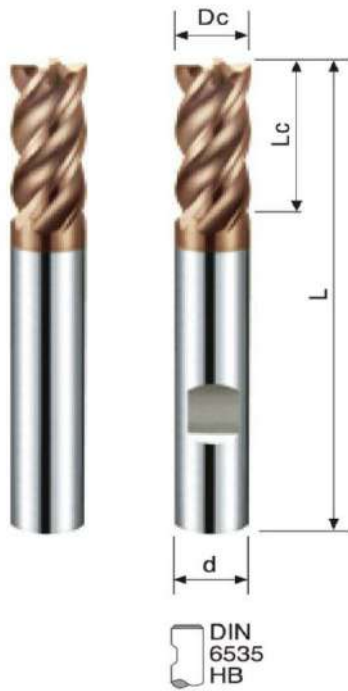
UMG
Carbide

AITiSiN
TX



<60
HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●						●	●	●



DIN
6535
HB

Code No.	Dc	Lc	L	d
FBUK401P-3	3	18	57	6
FBUK401P-4	4	11	57	6
FBUK401P-5	5	13	57	6
FBUK401P-6	6	13	57	6
FBUK401P-8	8	19	63	8
FBUK401P-10	10	22	72	10
FBUK401P-12	12	26	83	12
FBUK401P-16	16	32	92	16
FBUK401P-20	20	38	104	20

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

End Mill Tools



General
Use

Ball
Endmill

Radius
Endmill

Unequal
Helix

Long Neck
Endmill

Aluminum
Use

Other
Endmill

FBDF201P (2 Flutes ♦ Flat Endmill ♦ Long Neck ♦ Hard Material)

SMG Carbide

TICN Nano

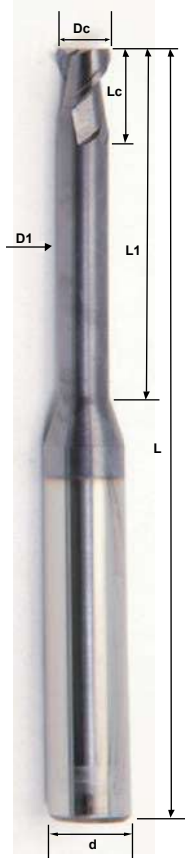
30°

2

90°

<60 HRC

Carbon Steel	Low Alloyed Steels	High Alloyed Steels	Hardened Steel				Sintered Steels	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steels
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										



Code No.	Dc	L1	Lc	L	d	D1
FBDF201P-0.2*0.5	0.2	0.5	0.3	45	4	0.16
FBDF201P-0.2*1	0.2	1	0.3	45	4	0.16
FBDF201P-0.2*1.5	0.2	1.5	0.3	45	4	0.16
FBDF201P-0.3*1	0.3	1	0.4	45	4	0.26
FBDF201P-0.3*2	0.3	2	0.4	45	4	0.26
FBDF201P-0.3*3	0.3	3	0.4	45	4	0.26
FBDF201P-0.4*2	0.4	2	0.6	45	4	0.36
FBDF201P-0.4*3	0.4	3	0.6	45	4	0.36
FBDF201P-0.4*4	0.4	4	0.6	45	4	0.36
FBDF201P-0.4*5	0.4	5	0.6	45	4	0.36
FBDF201P-0.5*2	0.5	2	0.7	45	4	0.46
FBDF201P-0.5*4	0.5	4	0.7	45	4	0.46
FBDF201P-0.5*6	0.5	6	0.7	45	4	0.46
FBDF201P-0.5*8	0.5	8	0.7	45	4	0.46
FBDF201P-0.6*2	0.6	2	0.9	45	4	0.56
FBDF201P-0.6*4	0.6	4	0.9	45	4	0.56
FBDF201P-0.6*6	0.6	6	0.9	45	4	0.56
FBDF201P-0.6*8	0.6	8	0.9	45	4	0.56
FBDF201P-0.6*10	0.6	10	0.9	45	4	0.56
FBDF201P-0.6*2	0.7	2	1	45	4	0.66
FBDF201P-0.7*3	0.7	3	1	45	4	0.66
FBDF201P-0.7*4	0.7	4	1	45	4	0.66

Code No.	Dc	L1	Lc	L	d	D1
FBDF201P-0.7*6	0.7	6	1	45	4	0.66
FBDF201P-0.7*8	0.7	8	1	45	4	0.66
FBDF201P-0.7*10	0.7	10	1	50	4	0.66
FBDF201P-0.8*4	0.8	4	1.2	45	4	0.76
FBDF201P-0.8*6	0.8	6	1.2	45	4	0.76
FBDF201P-0.8*8	0.8	8	1.2	45	4	0.76
FBDF201P-0.8*10	0.8	10	1.2	50	4	0.76
FBDF201P-0.8*12	0.8	12	1.2	50	4	0.76
FBDF201P-0.9*4	0.9	4	1.3	45	4	0.86
FBDF201P-0.9*6	0.9	6	1.3	45	4	0.86
FBDF201P-0.9*8	0.9	8	1.3	45	4	0.86
FBDF201P-0.9*10	0.9	10	1.3	45	4	0.86
FBDF201P-0.9*15	0.9	15	1.3	50	4	0.86
FBDF201P-1*4	1	4	1.5	45	4	0.93
FBDF201P-1*6	1	6	1.5	45	4	0.93
FBDF201P-1*8	1	8	1.5	45	4	0.93
FBDF201P-1*10	1	10	1.5	45	4	0.93
FBDF201P-1*12	1	12	1.5	45	4	0.93
FBDF201P-1*16	1	16	1.5	50	4	0.93
FBDF201P-1*20	1	20	1.5	55	4	0.93
FBDF201P-1.2*6	1.2	6	1.8	45	4	1.13
FBDF201P-1.2*8	1.2	8	1.8	45	4	1.13
FBDF201P-1.2*10	1.2	10	1.8	45	4	1.13
FBDF201P-1.2*12	1.2	12	1.8	45	4	1.13
FBDF201P-1.2*16	1.2	16	1.8	50	4	1.13
FBDF201P-1.4*6	1.4	6	2.1	45	4	1.33
FBDF201P-1.4*8	1.4	8	2.1	45	4	1.33
FBDF201P-1.4*10	1.4	10	2.1	45	4	1.33
FBDF201P-1.4*12	1.4	12	2.1	45	4	1.33
FBDF201P-1.4*14	1.4	14	2.1	45	4	1.33
FBDF201P-1.4*16	1.4	16	2.1	50	4	1.33
FBDF201P-1.4*22	1.4	22	2.1	55	4	1.33
FBDF201P-1.5*6	1.5	6	2.3	45	4	1.43
FBDF201P-1.5*8	1.5	8	2.3	45	4	1.43
FBDF201P-1.5*10	1.5	10	2.3	45	4	1.43
FBDF201P-1.5*12	1.5	12	2.3	45	4	1.43
FBDF201P-1.5*14	1.5	14	2.3	50	4	1.43
FBDF201P-1.5*16	1.5	16	2.3	50	4	1.43
FBDF201P-1.5*18	1.5	18	2.3	55	4	1.43
FBDF201P-1.5*20	1.5	20	2.3	55	4	1.43
FBDF201P-1.6*6	1.6	6	2.4	45	4	1.5
FBDF201P-1.6*8	1.6	8	2.4	45	4	1.5
FBDF201P-1.6*10	1.6	10	2.4	45	4	1.5
FBDF201P-1.6*12	1.6	12	2.4	45	4	1.5
FBDF201P-1.6*14	1.6	14	2.4	50	4	1.5
FBDF201P-1.6*16	1.6	16	2.4	50	4	1.5
FBDF201P-1.6*18	1.6	18	2.4	55	4	1.5
FBDF201P-1.6*20	1.6	20	2.4	55	4	1.5
FBDF201P-1.6*26	1.6	26	2.4	60	4	1.5

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

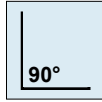
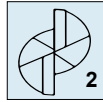
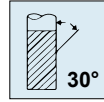
Aluminum Use

Other Endmill

FBDF201P (2 Flutes ♦ Flat Endmill ♦ Long Neck ♦ Hard Material)

SMG
Carbide

TICN
Nano



<60
HRC

Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat-Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●

Code No.	Dc	L1	Lc	L	d	D1
FBDF201P-1.8*6	1.8	6	2.7	45	4	1.7
FBDF201P-1.8*10	1.8	10	2.7	45	4	1.7
FBDF201P-1.8*12	1.8	12	2.7	45	4	1.7
FBDF201P-1.8*14	1.8	14	2.7	50	4	1.7
FBDF201P-1.8*16	1.8	16	2.7	50	4	1.7
FBDF201P-1.8*18	1.8	18	2.7	55	4	1.7
FBDF201P-1.8*25	1.8	25	2.7	60	4	1.7
FBDF201P-2*6	2	6	3	45	4	1.9
FBDF201P-2*8	2	8	3	45	4	1.9
FBDF201P-2*10	2	10	3	45	4	1.9
FBDF201P-2*12	2	12	3	45	4	1.9
FBDF201P-2*14	2	14	3	50	4	1.9
FBDF201P-2*16	2	16	3	50	4	1.9
FBDF201P-2*18	2	18	3	55	4	1.9
FBDF201P-2*20	2	20	3	55	4	1.9
FBDF201P-2*25	2	25	3	60	4	1.9
FBDF201P-2*30	2	30	3	70	4	1.9
FBDF201P-2.5*8	2.5	8	3.7	45	4	2.4
FBDF201P-2.5*10	2.5	10	3.7	45	4	2.4
FBDF201P-2.5*12	2.5	12	3.7	45	4	2.4
FBDF201P-2.5*14	2.5	14	3.7	50	4	2.4
FBDF201P-2.5*16	2.5	16	3.7	50	4	2.4
FBDF201P-2.5*18	2.5	18	3.7	55	4	2.4
FBDF201P-2.5*20	2.5	20	3.7	55	4	2.4
FBDF201P-2.5*25	2.5	25	3.7	60	4	2.4
FBDF201P-2.5*30	2.5	30	3.7	70	4	2.4
FBDF201P-3*8	3	8	4.5	45	6	2.9
FBDF201P-3*10	3	10	4.5	45	6	2.9
FBDF201P-3*12	3	12	4.5	50	6	2.9
FBDF201P-3*14	3	14	4.5	50	6	2.9
FBDF201P-3*16	3	16	4.5	60	6	2.9
FBDF201P-3*18	3	18	4.5	60	6	2.9
FBDF201P-3*20	3	20	4.5	60	6	2.9
FBDF201P-3*25	3	25	4.5	70	6	2.9
FBDF201P-3*30	3	30	4.5	80	6	2.9
FBDF201P-3*35	3	35	4.5	80	6	2.9
FBDF201P-3*40	3	40	4.5	90	6	2.9
FBDF201P-3.5*12	3.5	12	5	50	6	3.35
FBDF201P-3.5*15	3.5	15	5	60	6	3.35
FBDF201P-3.5*16	3.5	16	5	60	6	3.35
FBDF201P-3.5*20	3.5	20	5	60	6	3.35
FBDF201P-3.5*25	3.5	25	5	70	6	3.35
FBDF201P-3.5*30	3.5	30	5	70	6	3.35
FBDF201P-3.5*35	3.5	35	5	80	6	3.35
FBDF201P-4*12	4	12	6	50	6	3.8
FBDF201P-4*16	4	16	6	60	6	3.8
FBDF201P-4*20	4	20	6	60	6	3.8
FBDF201P-4*25	4	25	6	70	6	3.8
FBDF201P-4*30	4	30	6	70	6	3.8

Code No.	Dc	L1	Lc	L	d	D1
FBDF201P-4*35	4	35	6	80	6	3.8
FBDF201P-4*40	4	40	6	90	6	3.8
FBDF201P-4*45	4	45	6	90	6	3.8
FBDF201P-4*50	4	50	6	100	6	3.8
FBDF201P-5*16	5	16	7.5	60	6	4.8
FBDF201P-5*20	5	20	7.5	60	6	4.8
FBDF201P-5*25	5	25	7.5	60	6	4.8
FBDF201P-5*30	5	30	7.5	80	6	4.8
FBDF201P-5*35	5	35	7.5	80	6	4.8
FBDF201P-5*40	5	40	7.5	80	6	4.8
FBDF201P-5*50	5	50	7.5	110	6	4.8
FBDF201P-6*20	6	20	9	80	6	5.8
FBDF201P-6*30	6	30	9	80	6	5.8
FBDF201P-6*40	6	40	9	100	6	5.8
FBDF201P-6*50	6	50	9	120	6	5.8
FBDF201P-6*60	6	60	9	120	6	5.8

A

General Use

Ball Endmill

Radius Endmill

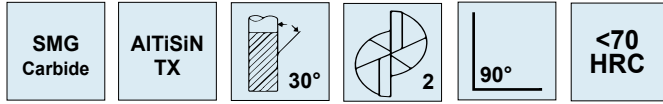
Unequal Helix

Long Neck Endmill

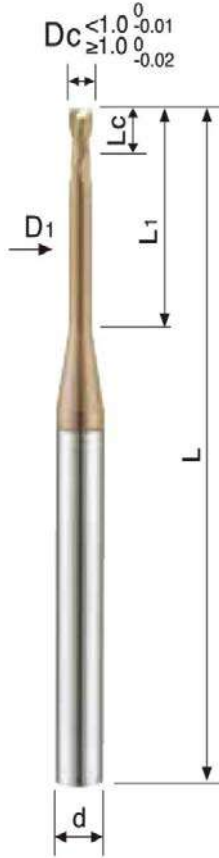
Aluminum Use

Other Endmill

FADF201P (2 Flutes ♦ Flat Endmill ♦ Long Neck ♦ Hard Material)



Carbon Steel	Long Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Cryogenic Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC										



Code No.	Dc	L1	Lc	L	d	D1
FADF201P-0.5*3	0.5	3	0.7	50	4	0.45
FADF201P-0.5*4	0.5	4	0.7	50	4	0.45
FADF201P-0.5*6	0.5	6	0.7	50	4	0.45
FADF201P-0.5*8	0.5	8	0.7	50	4	0.45
FADF201P-0.5*10	0.5	10	0.7	50	4	0.45
FADF201P-0.6*2	0.6	2	0.9	50	4	0.55
FADF201P-0.6*3	0.6	3	0.9	50	4	0.55
FADF201P-0.6*4	0.6	4	0.9	50	4	0.55
FADF201P-0.6*6	0.6	6	0.9	50	4	0.55
FADF201P-0.6*8	0.6	8	0.9	50	4	0.55
FADF201P-0.6*10	0.6	10	0.9	50	4	0.55
FADF201P-0.7*2	0.7	2	1	50	4	0.65
FADF201P-0.7*4	0.7	4	1	50	4	0.65
FADF201P-0.7*6	0.7	6	1	50	4	0.65
FADF201P-0.7*8	0.7	8	1	50	4	0.65
FADF201P-0.8*4	0.8	4	1.2	50	4	0.75
FADF201P-0.8*6	0.8	6	1.2	50	4	0.75
FADF201P-0.8*8	0.8	8	1.2	50	4	0.75
FADF201P-0.8*10	0.8	10	1.2	50	4	0.75
FADF201P-0.8*12	0.8	12	1.2	50	4	0.75
FADF201P-0.9*4	0.9	4	1.4	50	4	0.85
FADF201P-0.9*6	0.9	6	1.4	50	4	0.85
FADF201P-0.9*8	0.9	8	1.4	50	4	0.85
FADF201P-0.9*10	0.9	10	1.4	50	4	0.85
FADF201P-1*2	1	2	1.5	50	4	0.95
FADF201P-1*3	1	3	1.5	50	4	0.95
FADF201P-1*4	1	4	1.5	50	4	0.95
FADF201P-1*6	1	6	1.5	50	4	0.95
FADF201P-1*8	1	8	1.5	50	4	0.95
FADF201P-1*10	1	10	1.5	50	4	0.95
FADF201P-1*12	1	12	1.5	50	4	0.95
FADF201P-1*14	1	14	1.5	50	4	0.95
FADF201P-1*16	1	16	1.5	50	4	0.95
FADF201P-1*18	1	18	1.5	60	4	0.95
FADF201P-1*20	1	20	1.5	60	4	0.95
FADF201P-1.2*6	1.2	6	1.8	50	4	1.15
FADF201P-1.2*8	1.2	8	1.8	50	4	1.15
FADF201P-1.2*10	1.2	10	1.8	50	4	1.15
FADF201P-1.2*12	1.2	12	1.8	50	4	1.15
FADF201P-1.2*14	1.2	14	1.8	50	4	1.15
FADF201P-1.2*16	1.2	16	1.8	50	4	1.15
FADF201P-1.4*6	1.4	6	2.1	50	4	1.35
FADF201P-1.4*8	1.4	8	2.1	50	4	1.35
FADF201P-1.4*10	1.4	10	2.1	50	4	1.35
FADF201P-1.4*12	1.4	12	2.1	50	4	1.35
FADF201P-1.4*14	1.4	14	2.1	50	4	1.35
FADF201P-1.4*16	1.4	16	2.1	50	4	1.35
FADF201P-1.5*4	1.5	4	2.3	50	4	1.45
FADF201P-1.5*6	1.5	6	2.3	50	4	1.45

Code No.	Dc	L1	Lc	L	d	D1
FADF201P-0.1*0.3	0.1	0.3	0.15	50	4	0.08
FADF201P-0.1*0.5	0.1	0.5	0.15	50	4	0.08
FADF201P-0.1*1	0.1	1	0.15	50	4	0.08
FADF201P-0.2*0.5	0.2	0.5	0.3	50	4	0.17
FADF201P-0.2*1	0.2	1	0.3	50	4	0.17
FADF201P-0.2*2	0.2	2	0.3	50	4	0.17
FADF201P-0.2*3	0.2	3	0.3	50	4	0.17
FADF201P-0.3*1	0.3	1	0.45	50	4	0.27
FADF201P-0.3*1.5	0.3	1.5	0.45	50	4	0.27
FADF201P-0.3*2	0.3	2	0.45	50	4	0.27
FADF201P-0.3*3	0.3	3	0.45	50	4	0.27
FADF201P-0.3*4	0.3	4	0.45	50	4	0.27
FADF201P-0.4*1	0.4	1	0.6	50	4	0.37
FADF201P-0.4*1.5	0.4	1.5	0.6	50	4	0.37
FADF201P-0.4*2	0.4	2	0.6	50	4	0.37
FADF201P-0.4*3	0.4	3	0.6	50	4	0.37
FADF201P-0.4*4	0.4	4	0.6	50	4	0.37
FADF201P-0.4*5	0.4	5	0.6	50	4	0.37
FADF201P-0.4*6	0.4	6	0.6	50	4	0.37
FADF201P-0.4*8	0.4	8	0.6	50	4	0.37
FADF201P-0.5*1	0.5	1	0.7	50	4	0.45
FADF201P-0.5*2	0.5	2	0.7	50	4	0.45

A

General Use

Ball Endmill

Radius Endmill

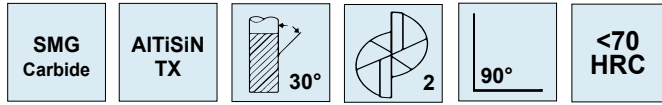
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FADF201P (2 Flutes ♦ Flat Endmill ♦ Long Neck ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composites Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	○	○	○	○	○	○	○	○

Code No.	Dc	L1	Lc	L	d	D1
FADF201P-1.5*8	1.5	8	2.3	50	4	1.45
FADF201P-1.5*10	1.5	10	2.3	50	4	1.45
FADF201P-1.5*12	1.5	12	2.3	50	4	1.45
FADF201P-1.5*14	1.5	14	2.3	50	4	1.45
FADF201P-1.5*16	1.5	16	2.3	50	4	1.45
FADF201P-1.5*18	1.5	18	2.3	60	4	1.45
FADF201P-1.5*20	1.5	20	2.3	60	4	1.45
FADF201P-1.5*25	1.5	25	2.3	65	4	1.45
FADF201P-1.5*30	1.5	30	2.3	70	4	1.45
FADF201P-1.6*6	1.6	6	2.4	50	4	1.55
FADF201P-1.6*8	1.6	8	2.4	50	4	1.55
FADF201P-1.6*10	1.6	10	2.4	50	4	1.55
FADF201P-1.6*12	1.6	12	2.4	50	4	1.55
FADF201P-1.6*14	1.6	14	2.4	50	4	1.55
FADF201P-1.6*16	1.6	16	2.4	50	4	1.55
FADF201P-1.6*18	1.6	18	2.4	60	4	1.55
FADF201P-1.6*20	1.6	20	2.4	60	4	1.55
FADF201P-1.8*6	1.8	6	2.7	50	4	1.75
FADF201P-1.8*8	1.8	8	2.7	50	4	1.75
FADF201P-1.8*10	1.8	10	2.7	50	4	1.75
FADF201P-1.8*12	1.8	12	2.7	50	4	1.75
FADF201P-1.8*14	1.8	14	2.7	50	4	1.75
FADF201P-1.8*16	1.8	16	2.7	50	4	1.75
FADF201P-1.8*18	1.8	18	2.7	60	4	1.75
FADF201P-1.8*20	1.8	20	2.7	60	4	1.75
FADF201P-2*4	2	4	3	50	4	1.95
FADF201P-2*6	2	6	3	50	4	1.95
FADF201P-2*8	2	8	3	50	4	1.95
FADF201P-2*10	2	10	3	50	4	1.95
FADF201P-2*12	2	12	3	50	4	1.95
FADF201P-2*14	2	14	3	50	4	1.95
FADF201P-2*16	2	16	3	50	4	1.95
FADF201P-2*18	2	18	3	60	4	1.95
FADF201P-2*20	2	20	3	60	4	1.95
FADF201P-2*25	2	25	3	60	4	1.95

Code No.	Dc	L1	Lc	L	d	D1
FADF201P-2*30	2	30	3	70	4	1.95
FADF201P-2*35	2	35	3	75	4	1.95
FADF201P-2*40	2	40	3	80	4	1.95
FADF201P-2.5*8	2.5	8	3.7	50	4	2.4
FADF201P-2.5*10	2.5	10	3.7	50	4	2.4
FADF201P-2.5*12	2.5	12	3.7	50	4	2.4
FADF201P-2.5*14	2.5	14	3.7	50	4	2.4
FADF201P-2.5*16	2.5	16	3.7	60	4	2.4
FADF201P-2.5*18	2.5	18	3.7	60	4	2.4
FADF201P-2.5*20	2.5	20	3.7	50	4	2.4
FADF201P-2.5*25	2.5	25	3.7	70	4	1.95
FADF201P-2.5*30	2.5	30	3.7	70	4	1.95
FADF201P-2.5*40	2.5	40	3.7	80	4	1.95
FADF201P-3*8	3	8	4.5	50	4	2.4
FADF201P-3*10	3	10	4.5	50	4	2.4
FADF201P-3*12	3	12	4.5	50	4	2.4
FADF201P-3*14	3	14	4.5	60	4	2.4
FADF201P-3*16	3	16	4.5	60	4	2.4
FADF201P-3*18	3	18	4.5	60	4	2.4
FADF201P-3*20	3	20	4.5	60	4	2.4
FADF201P-3*25	3	25	4.5	70	4	2.4
FADF201P-3*30	3	30	4.5	70	4	2.4
FADF201P-3*35	3	35	4.5	80	6	2.85
FADF201P-3*40	3	40	4.5	90	6	2.85
FADF201P-3*50	3	50	4.5	100	6	2.85
FADF201P-4*12	4	12	6	60	6	3.85
FADF201P-4*16	4	16	6	60	6	3.85
FADF201P-4*20	4	20	6	70	6	3.85
FADF201P-4*25	4	25	6	70	6	3.85
FADF201P-4*30	4	30	6	80	6	3.85
FADF201P-4*35	4	35	6	80	6	3.85
FADF201P-4*40	4	40	6	90	6	3.85
FADF201P-4*45	4	45	6	100	6	3.85
FADF201P-4*50	4	50	6	100	6	3.85

A

General Use

Ball Endmill

Radius Endmill

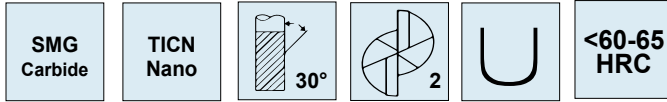
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBDB201P (2 Flutes ♦ Ball Endmill ♦ Long Neck ♦ Hard Material)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Coatings	Graphite	Titanium	Nickel	Heat-Resistant Steel
●	●	●	30-38 HRC	39-45 HRC	46-55 HRC	56-68 HRC	●	○	○	○	○	○	○	○	○

A

General Use

Ball Endmill

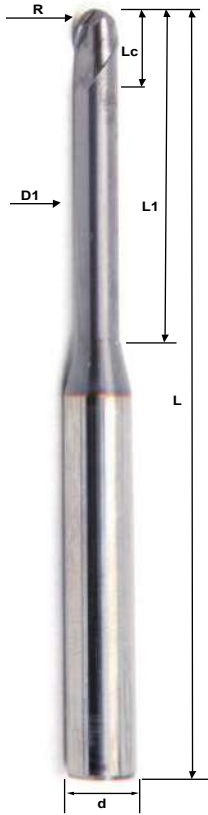
Radius Endmill

Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill



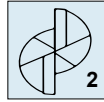
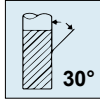
Code No.	R	L1	Lc	L	d	D1
FBDB201P-0.5R*3	R0.5	3	1.2	45	4	0.93
FBDB201P-0.5R*4	R0.5	4	1.2	45	4	0.93
FBDB201P-0.5R*6	R0.5	6	1.2	45	4	0.93
FBDB201P-0.5R*8	R0.5	8	1.2	45	4	0.93
FBDB201P-0.5R*10	R0.5	10	1.2	45	4	0.93
FBDB201P-0.5R*12	R0.5	12	1.2	45	4	0.93
FBDB201P-0.5R*14	R0.5	14	1.2	50	4	0.93
FBDB201P-0.5R*16	R0.5	16	1.2	50	4	0.93
FBDB201P-0.5R*20	R0.5	20	1.2	55	4	0.93
FBDB201P-0.6R*8	R0.6	8	1.3	45	4	1.13
FBDB201P-0.6R*12	R0.6	12	1.3	45	4	1.13
FBDB201P-0.7R*8	R0.7	8	1.4	45	4	1.33
FBDB201P-0.7R*12	R0.7	12	1.4	45	4	1.33
FBDB201P-0.7R*16	R0.7	16	1.4	50	4	1.33
FBDB201P-0.75R*6	R0.75	6	1.45	45	14	1.43
FBDB201P-0.75R*8	R0.75	8	1.45	45	14	1.43
FBDB201P-0.75R*10	R0.75	10	1.45	45	14	1.43
FBDB201P-0.75R*12	R0.75	12	1.45	45	14	1.43
FBDB201P-0.75R*16	R0.75	16	1.45	50	14	1.43
FBDB201P-0.75R*20	R0.75	20	1.45	55	14	1.43
FBDB201P-0.8R*8	R0.8	8	1.5	45	4	1.5
FBDB201P-0.8R*12	R0.8	12	1.5	45	4	1.5
FBDB201P-0.8R*16	R0.8	16	1.5	50	4	1.5
FBDB201P-0.8R*20	R0.8	20	1.5	55	4	1.5
FBDB201P-0.9R*8	R0.9	8	1.6	45	4	1.7
FBDB201P-0.9R*12	R0.9	12	1.6	45	4	1.7
FBDB201P-0.9R*16	R0.9	16	1.6	50	4	1.7
FBDB201P-0.9R*20	R0.9	20	1.6	55	4	1.7
FBDB201P-1R*1	R1	1	1.7	45	4	1.9
FBDB201P-1R*1.5	R1	1.5	1.7	45	4	1.9
FBDB201P-1R*1	R1	1	1.7	45	4	1.9
FBDB201P-1R*2	R1	2	1.7	45	4	1.9
FBDB201P-1R*1	R1	1	1.7	45	4	1.9
FBDB201P-1R*2	R1	2	1.7	50	4	1.9
FBDB201P-1R*3	R1	3	1.7	50	4	1.9
FBDB201P-1R*2	R1	2	1.7	55	4	1.9
FBDB201P-1R*4	R1	4	1.7	60	4	1.9
FBDB201P-1R*6	R1	6	1.7	65	6	1.9
FBDB201P-1R*8	R1	8	1.7	70	6	1.9
FBDB201P-1.5R*10	R1.5	10	2.5	60	6	2.9
FBDB201P-1.5R*2	R1.5	2	2.5	60	6	2.9
FBDB201P-1.5R*4	R1.5	4	2.5	60	6	2.9
FBDB201P-1.5R*6	R1.5	6	2.5	60	6	2.9
FBDB201P-1.5R*8	R1.5	8	2.5	70	6	2.9
FBDB201P-1.5R*2	R1.5	2	2.5	70	6	2.9
FBDB201P-1.5R*4	R1.5	4	2.5	70	6	2.9
FBDB201P-1.5R*6	R1.5	6	2.5	80	6	2.9
FBDB201P-2R*8	R2	8	3	70	6	3.8
FBDB201P-2R*10	R2	10	3	70	6	3.8

Code No.	R	L1	Lc	L	d	D1
FBDB201P-0.1R*0.5	R0.1	0.5	0.2	45	4	0.16
FBDB201P-0.1R*1	R0.1	1	0.2	45	4	0.16
FBDB201P-0.1R*1.5	R0.1	1.5	0.2	45	4	0.16
FBDB201P-0.15R*1	R0.15	1	0.3	45	4	0.26
FBDB201P-0.15R*2	R0.15	2	0.3	45	4	0.26
FBDB201P-0.2R*1	R0.2	1	0.4	45	4	0.36
FBDB201P-0.2R*2	R0.2	2	0.4	45	4	0.36
FBDB201P-0.2R*3	R0.2	3	0.4	45	4	0.36
FBDB201P-0.25R*2	R0.25	2	0.5	45	4	0.46
FBDB201P-0.25R*4	R0.25	4	0.5	45	4	0.46
FBDB201P-0.25R*6	R0.25	6	0.5	45	4	0.46
FBDB201P-0.25R*8	R0.25	8	0.5	45	4	0.46
FBDB201P-0.25R*10	R0.25	10	0.5	50	4	0.46
FBDB201P-0.3R*2	R0.3	2	1	45	4	0.56
FBDB201P-0.3R*4	R0.3	4	1	45	4	0.56
FBDB201P-0.3R*6	R0.3	6	1	45	4	0.56
FBDB201P-0.3R*8	R0.3	8	1	45	4	0.56
FBDB201P-0.4R*2	R0.4	2	1.1	45	4	0.76
FBDB201P-0.4R*4	R0.4	4	1.1	45	4	0.76
FBDB201P-0.4R*6	R0.4	6	1.1	45	4	0.76
FBDB201P-0.4R*8	R0.4	8	1.1	45	4	0.76
FBDB201P-0.4R*10	R0.4	10	1.1	50	4	0.76

FBDB201P (2 Flutes ♦ Ball Endmill ♦ Long Neck ♦ Hard Material)

SMG
Carbide

TICN
Nano



<60-65
HRC

Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Ceramic Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC										

Code No.	R	L1	Lc	L	d	D1
FBDB201P-2R*16	R2	16	3	70	6	3.8
FBDB201P-2R*20	R2	20	3	70	6	3.8
FBDB201P-2R*25	R2	25	3	70	6	3.8
FBDB201P-2R*30	R2	30	3	70	6	3.8
FBDB201P-2R*35	R2	35	3	80	6	3.8
FBDB201P-2R*40	R2	40	3	90	6	3.8
FBDB201P-2R*45	R2	45	3	90	6	3.8
FBDB201P-2R*50	R2	50	3	100	6	3.8
FBDB201P-2.5R*20	R2.5	20	3.5	70	6	4.8
FBDB201P-2.5R*25	R2.5	25	3.5	70	6	4.8
FBDB201P-.5R*30	R2.5	30	3.5	80	6	4.8
FBDB201P-2.5R*35	R2.5	35	3.5	80	6	4.8
FBDB201P-3R*30	R3	30	6	80	6	5.8
FBDB201P-3R*50	R3	50	6	120	6	5.8

A

General Use

Ball Endmill

Radius Endmill


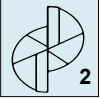
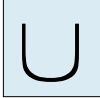
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FADB201P (2 Flutes ♦ Ball Endmill ♦ Long Neck ♦ Hard Material)

SMG Carbide	AlTiSiN TX	 30°	 2		<60-65 HRC	<table border="1"> <tr> <td>Carbon Steel</td> <td>Low Alloy Steel</td> <td>High Alloy Steel</td> <td colspan="4">Hardened Steel</td> <td>Stainless Steel</td> <td>Cast Iron</td> <td>Aluminum</td> <td>Copper</td> <td>Plastics</td> <td>Composite Materials</td> <td>Graphite</td> <td>Titanium</td> <td>Nickel</td> <td>Heat Resistant Steel</td> </tr> <tr> <td>●</td> <td>●</td> <td>●</td> <td>30-38 HRC</td> <td>38-48 HRC</td> <td>48-58 HRC</td> <td>58-68 HRC</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> </table>	Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel	●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●
Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel																								
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●																								



Code No.	R	L1	Lc	L	d	D1
FADB201P-0.25R*3	0.25R	3	0.4	50	4	0.45
FADB201P-0.25R*4	0.25R	4	0.4	50	4	0.45
FADB201P-0.25R*5	0.25R	5	0.4	50	4	0.45
FADB201P-0.25R*6	0.25R	6	0.4	50	4	0.45
FADB201P-0.25R*8	0.25R	8	0.4	50	4	0.45
FADB201P-0.25R*10	0.25R	10	0.4	50	4	0.45
FADB201P-0.3R*1	0.3R	1	0.5	50	4	0.55
FADB201P-0.3R*2	0.3R	2	0.5	50	4	0.55
FADB201P-0.3R*3	0.3R	3	0.5	50	4	0.55
FADB201P-0.3R*4	0.3R	4	0.5	50	4	0.55
FADB201P-0.3R*5	0.3R	5	0.5	50	4	0.55
FADB201P-0.3R*6	0.3R	6	0.5	50	4	0.55
FADB201P-0.3R*8	0.3R	8	0.5	50	4	0.55
FADB201P-0.3R*10	0.3R	10	0.5	50	4	0.55
FADB201P-0.3R*12	0.3R	12	0.5	50	4	0.55
FADB201P-0.4R*2	0.4R	2	0.6	50	4	0.75
FADB201P-0.4R*3	0.4R	3	0.6	50	4	0.75
FADB201P-0.4R*4	0.4R	4	0.6	50	4	0.75
FADB201P-0.4R*5	0.4R	5	0.6	50	4	0.75
FADB201P-0.4R*6	0.4R	6	0.6	50	4	0.75
FADB201P-0.4R*8	0.4R	8	0.6	50	4	0.75
FADB201P-0.4R*10	0.4R	10	0.6	50	4	0.75
FADB201P-0.4R*12	0.4R	12	0.6	50	4	0.75
FADB201P-0.5R*2	0.5R	2	0.8	50	4	0.95
FADB201P-0.5R*3	0.5R	3	0.8	50	4	0.95
FADB201P-0.5R*4	0.5R	4	0.8	50	4	0.95
FADB201P-0.5R*5	0.5R	5	0.8	50	4	0.95
FADB201P-0.5R*6	0.5R	6	0.8	50	4	0.95
FADB201P-0.5R*8	0.5R	8	0.8	50	4	0.95
FADB201P-0.5R*10	0.5R	10	0.8	50	4	0.95
FADB201P-0.5R*12	0.5R	12	0.8	50	4	0.95
FADB201P-0.5R*16	0.5R	16	0.8	50	4	0.95
FADB201P-0.5R*20	0.5R	20	0.8	60	4	0.95
FADB201P-0.5R*25	0.5R	25	0.8	60	4	0.95
FADB201P-0.6R*2	0.6R	2	1	50	4	1.15
FADB201P-0.6R*4	0.6R	4	1	50	4	1.15
FADB201P-0.6R*6	0.6R	6	1	50	4	1.15
FADB201P-0.6R*8	0.6R	8	1	50	4	1.15
FADB201P-0.6R*10	0.6R	10	1	50	4	1.15
FADB201P-0.6R*12	0.6R	12	1	50	4	1.15
FADB201P-0.6R*16	0.6R	16	1	50	4	1.15
FADB201P-0.75R*2	0.75R	2	1.2	50	4	1.45
FADB201P-0.75R*4	0.75R	4	1.2	50	4	1.45
FADB201P-0.75R*6	0.75R	6	1.2	50	4	1.45
FADB201P-0.75R*8	0.75R	8	1.2	50	4	1.45
FADB201P-0.75R*10	0.75R	10	1.2	50	4	1.45
FADB201P-0.75R*12	0.75R	12	1.2	50	4	1.45
FADB201P-0.75R*16	0.75R	16	1.2	50	4	1.45
FADB201P-0.75R*20	0.75R	20	1.2	60	4	1.45

Code No.	R	L1	Lc	L	d	D1
FADB201P-0.05R*0.2	0.05R	0.2	0.08	50	4	0.09
FADB201P-0.05R*0.3	0.05R	0.3	0.08	50	4	0.09
FADB201P-0.05R*0.5	0.05R	0.5	0.08	50	4	0.09
FADB201P-0.1R*0.5	0.1R	0.5	0.16	50	4	0.18
FADB201P-0.1R*1	0.1R	1	0.16	50	4	0.18
FADB201P-0.1R*1.5	0.1R	1.5	0.16	50	4	0.18
FADB201P-0.1R*2	0.1R	2	0.16	50	4	0.18
FADB201P-0.1R*2.5	0.1R	2.5	0.16	50	4	0.18
FADB201P-0.1R*3	0.1R	3	0.16	50	4	0.18
FADB201P-0.15R*1	0.15R	1	0.24	50	4	0.27
FADB201P-0.15R*1.5	0.15R	1.5	0.24	50	4	0.27
FADB201P-0.15R*2	0.15R	2	0.24	50	4	0.27
FADB201P-0.15R*2.5	0.15R	2.5	0.24	50	4	0.27
FADB201P-0.15R*3	0.15R	3	0.24	50	4	0.27
FADB201P-0.2R*1	0.2R	1	0.3	50	4	0.37
FADB201P-0.2R*1.5	0.2R	1.5	0.3	50	4	0.37
FADB201P-0.2R*2	0.2R	2	0.3	50	4	0.37
FADB201P-0.2R*2.5	0.2R	2.5	0.3	50	4	0.37
FADB201P-0.2R*3	0.2R	3	0.3	50	4	0.37
FADB201P-0.2R*4	0.2R	4	0.3	50	4	0.37
FADB201P-0.2R*5	0.2R	5	0.3	50	4	0.37
FADB201P-0.25R*1	0.25R	1	0.4	50	4	0.45
FADB201P-0.25R*2	0.25R	2	0.4	50	4	0.45

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

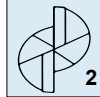
Aluminum Use

Other Endmill

FADB201P (2 Flutes ♦ Ball Endmill ♦ Long Neck ♦ Hard Material)

SMG
Carbide

AITiSiN
TX



<60-65
HRC

Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	R	L1	Lc	L	d	D1
FADB201P-0.75R*25	0.75R	25	1.2	60	4	1.45
FADB201P-0.75R*30	0.75R	30	1.2	70	4	1.45
FADB201P-1R*3	1R	3	1.6	50	4	1.95
FADB201P-1R*4	1R	4	1.6	50	4	1.95
FADB201P-1R*6	1R	6	1.6	50	4	1.95
FADB201P-1R*8	1R	8	1.6	50	4	1.95
FADB201P-1R*10	1R	10	1.6	50	4	1.95
FADB201P-1R*12	1R	12	1.6	50	4	1.95
FADB201P-1R*16	1R	16	1.6	50	4	1.95
FADB201P-1R*20	1R	20	1.6	60	4	1.95
FADB201P-1R*25	1R	25	1.6	60	4	1.95
FADB201P-1R*30	1R	30	1.6	70	4	1.95
FADB201P-1R*35	1R	35	1.6	75	4	1.95
FADB201P-1R*40	1R	40	1.6	80	4	1.95
FADB201P-1.5R*6	1.5R	6	2.4	50	6	2.85
FADB201P-1.5R*8	1.5R	8	2.4	50	6	2.85
FADB201P-1.5R*10	1.5R	10	2.4	50	6	2.85
FADB201P-1.5R*12	1.5R	12	2.4	50	6	2.85
FADB201P-1.5R*16	1.5R	16	2.4	60	6	2.85
FADB201P-1.5R*20	1.5R	20	2.4	60	6	2.85
FADB201P-1.5R*25	1.5R	25	2.4	70	6	2.85
FADB201P-1.5R*30	1.5R	30	2.4	70	6	2.85
FADB201P-1.5R*35	1.5R	35	2.4	80	6	2.85
FADB201P-1.5R*40	1.5R	40	2.4	80	6	2.85
FADB201P-2R*8	2R	8	3.2	60	6	3.85
FADB201P-2R*10	2R	10	3.2	60	6	3.85
FADB201P-2R*12	2R	12	3.2	60	6	3.85
FADB201P-2R*16	2R	16	3.2	60	6	3.85
FADB201P-2R*20	2R	20	3.2	70	6	3.85
FADB201P-2R*25	2R	25	3.2	70	6	3.85
FADB201P-2R*30	2R	30	3.2	80	6	3.85
FADB201P-2R*35	2R	35	3.2	80	6	3.85
FADB201P-2R*40	2R	40	3.2	90	6	3.85
FADB201P-2R*45	2R	45	3.2	100	6	3.85
FADB201P-2R*50	2R	50	3.2	100	6	3.85
FADB201P-2.5R*10	2.5R	10	4	60	6	4.85
FADB201P-2.5R*20	2.5R	20	4	70	6	4.85
FADB201P-2.5R*30	2.5R	30	4	80	6	4.85
FADB201P-2.5R*40	2.5R	40	4	90	6	4.85
FADB201P-2.5R*50	2.5R	50	4	100	6	4.85
FADB201P-3R*12	3R	12	4.8	60	6	5.85
FADB201P-3R*20	3R	20	4.8	70	6	5.85
FADB201P-3R*30	3R	30	4.8	80	6	5.85
FADB201P-3R*40	3R	40	4.8	90	6	5.85
FADB201P-3R*50	3R	50	4.8	100	6	5.85



General Use

Ball Endmill

Radius Endmill




Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBDR201P (2 Flutes ♦ Radius Endmill ♦ Long Neck ♦ Hard Material)

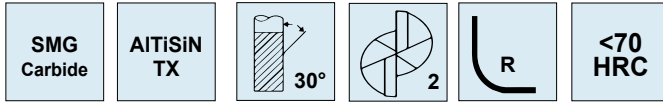
SMG Carbide	TICN Nano	 30°	 2	 R	<60 HRC	<table border="1"> <tr> <th>Carbon Steel</th> <th>Low-Alloyed Steel</th> <th>High-Alloyed Steel</th> <th colspan="4">Hardened Steel</th> <th>Stainless Steel</th> <th>Cast Iron</th> <th>Aluminum</th> <th>Copper</th> <th>Plastics</th> <th>Composite Materials</th> <th>Graphite</th> <th>Titanium</th> <th>Nickel</th> <th>Heat Resistant Steel</th> </tr> <tr> <td>●</td> <td>●</td> <td>●</td> <td>30-38 HRC</td> <td>38-48 HRC</td> <td>48-58 HRC</td> <td>58-68 HRC</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> </table>	Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel	●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●
Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel																								
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●																								



Code No.	Dc	R	L1	Lc	L	d	D1
FBDR201P-1*0.1R*2	1	R0.1	2	1	50	4	0.93
FBDR201P-1*0.1R*5	1	R0.1	5	1	50	4	0.93
FBDR201P-2*0.1R*4	2	R0.1	4	2	50	4	1.9
FBDR201P-2*0.1R*10	2	R0.1	10	2	50	4	1.9
FBDR201P-2*0.3R*4	2	R0.3	4	2	50	4	1.9
FBDR201P-2*0.3R*10	2	R0.3	10	2	50	4	1.9
FBDR201P-3*0.1R*6	3	R0.1	6	3	50	4	2.9
FBDR201P-3*0.1R*15	3	R0.1	15	3	60	4	2.9
FBDR201P-3*0.3R*6	3	R0.3	6	3	50	4	2.9
FBDR201P-3*0.3R*15	3	R0.3	15	3	60	4	2.9
FBDR201P-4*0.1R*8	4	R0.1	8	4	50	4	3.8
FBDR201P-4*0.1R*20	4	R0.1	20	4	60	4	3.8
FBDR201P-4*0.3R*8	4	R0.3	8	4	50	4	3.8
FBDR201P-4*0.3R*20	4	R0.3	20	4	60	4	3.8
FBDR201P-4*0.5R*8	4	R0.5	8	4	50	4	3.8
FBDR201P-4*0.5R*20	4	R0.5	20	4	60	4	3.8
FBDR201P-6*0.1R*12	6	R0.1	12	6	50	6	5.8
FBDR201P-6*0.1R*30	6	R0.1	30	6	70	6	5.8
FBDR201P-6*0.3R*12	6	R0.3	12	6	50	6	5.8
FBDR201P-6*0.3R*30	6	R0.3	30	6	70	6	5.8
FBDR201P-6*0.5R*12	6	R0.5	12	6	50	6	5.8
FBDR201P-6*0.5R*30	6	R0.5	30	6	70	6	5.8

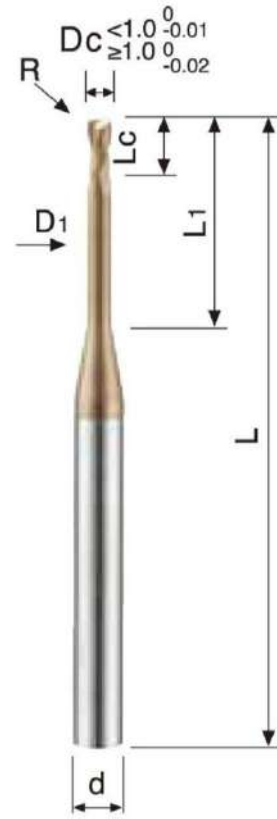
- A**
- General Use
- Ball Endmill
- Radius Endmill
- Unequal Helix
- Long Neck Endmill**
- Aluminum Use
- Other Endmill

FADR202P (2 Flutes ♦ Radius Endmill ♦ Long Neck ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	L1	Lc	L	d	D1
FADR202P-0.2*0.02R*0.5	0.2	R0.02	0.5	0.15	50	4	0.18
FADR202P-0.2*0.02R*1	0.2	R0.02	1	0.15	50	4	0.18
FADR202P-0.2*0.02R*2	0.2	R0.02	2	0.15	50	4	0.18
FADR202P-0.2*0.05R*0.5	0.2	R0.05	0.5	0.15	50	4	0.18
FADR202P-0.2*0.05R*1	0.2	R0.05	1	0.15	50	4	0.18
FADR202P-0.2*0.05R*2	0.2	R0.05	2	0.15	50	4	0.18
FADR202P-0.3*0.02R*1	0.3	R0.02	1	0.25	50	4	0.28
FADR202P-0.3*0.02R*2	0.3	R0.02	2	0.25	50	4	0.28
FADR202P-0.3*0.02R*3	0.3	R0.02	3	0.25	50	4	0.28
FADR202P-0.3*0.05R*1	0.3	R0.05	1	0.25	50	4	0.28
FADR202P-0.3*0.05R*2	0.3	R0.05	2	0.25	50	4	0.28
FADR202P-0.3*0.05R*3	0.3	R0.05	3	0.25	50	4	0.28
FADR202P-0.4*0.02R*1	0.4	R0.02	1	0.3	50	4	0.37
FADR202P-0.4*0.02R*2	0.4	R0.02	2	0.3	50	4	0.37
FADR202P-0.4*0.02R*3	0.4	R0.02	3	0.3	50	4	0.37
FADR202P-0.4*0.02R*4	0.4	R0.02	4	0.3	50	4	0.37
FADR202P-0.4*0.05R*1	0.4	R0.05	1	0.3	50	4	0.37
FADR202P-0.4*0.05R*2	0.4	R0.05	2	0.3	50	4	0.37
FADR202P-0.4*0.05R*3	0.4	R0.05	3	0.3	50	4	0.37
FADR202P-0.4*0.05R*4	0.4	R0.05	4	0.3	50	4	0.37
FADR202P-0.4*0.1R*1	0.4	R0.1	1	0.3	50	4	0.37
FADR202P-0.4*0.1R*2	0.4	R0.1	2	0.3	50	4	0.37
FADR202P-0.4*0.1R*3	0.4	R0.1	3	0.3	50	4	0.37
FADR202P-0.4*0.1R*4	0.4	R0.1	4	0.3	50	4	0.37
FADR202P-0.5*0.02R*1	0.5	R0.02	1	0.4	50	4	0.46
FADR202P-0.5*0.02R*2	0.5	R0.02	2	0.4	50	4	0.46
FADR202P-0.5*0.02R*3	0.5	R0.02	3	0.4	50	4	0.46
FADR202P-0.5*0.02R*4	0.5	R0.02	4	0.4	50	4	0.46
FADR202P-0.5*0.02R*5	0.5	R0.02	5	0.4	50	4	0.46
FADR202P-0.5*0.02R*6	0.5	R0.02	6	0.4	50	4	0.46
FADR202P-0.5*0.05R*1	0.5	R0.05	1	0.4	50	4	0.46
FADR202P-0.5*0.05R*2	0.5	R0.05	2	0.4	50	4	0.46
FADR202P-0.5*0.05R*3	0.5	R0.05	3	0.4	50	4	0.46
FADR202P-0.5*0.05R*4	0.5	R0.05	4	0.4	50	4	0.46
FADR202P-0.5*0.05R*5	0.5	R0.05	5	0.4	50	4	0.46
FADR202P-0.5*0.05R*6	0.5	R0.05	6	0.4	50	4	0.46
FADR202P-0.5*0.1R*1	0.5	R0.1	1	0.4	50	4	0.46
FADR202P-0.5*0.1R*2	0.5	R0.1	2	0.4	50	4	0.46
FADR202P-0.5*0.1R*3	0.5	R0.1	3	0.4	50	4	0.46
FADR202P-0.5*0.1R*4	0.5	R0.1	4	0.4	50	4	0.46
FADR202P-0.5*0.1R*5	0.5	R0.1	5	0.4	50	4	0.46
FADR202P-0.5*0.1R*6	0.5	R0.1	6	0.4	50	4	0.46
FADR202P-0.6*0.02R*2	0.6	R0.02	2	0.5	50	4	0.55
FADR202P-0.6*0.02R*4	0.6	R0.02	4	0.5	50	4	0.55
FADR202P-0.6*0.02R*6	0.6	R0.02	6	0.5	50	4	0.55
FADR202P-0.6*0.02R*8	0.6	R0.02	8	0.5	50	4	0.55
FADR202P-0.6*0.05R*2	0.6	R0.05	2	0.5	50	4	0.55
FADR202P-0.6*0.05R*4	0.6	R0.05	4	0.5	50	4	0.55
FADR202P-0.6*0.05R*6	0.6	R0.05	6	0.5	50	4	0.55



Code No.	Dc	R	L1	Lc	L	d	D1
FADR202P-0.6*0.05R*8	0.6	R0.05	8	0.5	50	4	0.55
FADR202P-0.6*0.1R*2	0.6	R0.1	2	0.5	50	4	0.55
FADR202P-0.6*0.1R*4	0.6	R0.1	4	0.5	50	4	0.55
FADR202P-0.6*0.1R*6	0.6	R0.1	6	0.5	50	4	0.55
FADR202P-0.6*0.1R*8	0.6	R0.1	8	0.5	50	4	0.55
FADR202P-0.8*0.02R*4	0.8	R0.02	4	0.65	50	4	0.75
FADR202P-0.8*0.02R*6	0.8	R0.02	6	0.65	50	4	0.75
FADR202P-0.8*0.02R*8	0.8	R0.02	8	0.65	50	4	0.75
FADR202P-0.8*0.02R*12	0.8	R0.02	12	0.65	50	4	0.75
FADR202P-0.8*0.05R*4	0.8	R0.05	4	0.65	50	4	0.75
FADR202P-0.8*0.05R*6	0.8	R0.05	6	0.65	50	4	0.75
FADR202P-0.8*0.05R*8	0.8	R0.05	8	0.65	50	4	0.75
FADR202P-0.8*0.05R*12	0.8	R0.05	12	0.65	50	4	0.75
FADR202P-0.8*0.1R*4	0.8	R0.1	4	0.65	50	4	0.75
FADR202P-0.8*0.1R*6	0.8	R0.1	6	0.65	50	4	0.75
FADR202P-0.8*0.1R*8	0.8	R0.1	8	0.65	50	4	0.75
FADR202P-0.8*0.1R*12	0.8	R0.1	12	0.65	50	4	0.75
FADR202P-0.8*0.2R*4	0.8	R0.2	4	0.65	50	4	0.75
FADR202P-0.8*0.2R*6	0.8	R0.2	6	0.65	50	4	0.75
FADR202P-0.8*0.2R*8	0.8	R0.2	8	0.65	50	4	0.75
FADR202P-0.8*0.2R*12	0.8	R0.2	12	0.65	50	4	0.75
FADR202P-1*0.02R*2	1	R0.02	2	0.8	50	4	0.95
FADR202P-1*0.02R*4	1	R0.02	4	0.8	50	4	0.95



General Use

Ball Endmill

Radius Endmill

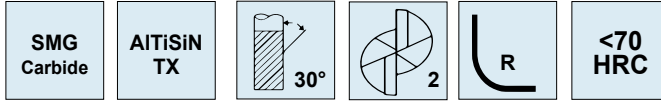
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FADR202P (2 Flutes ♦ Radius Endmill ♦ Long Neck ♦ Hard Material)

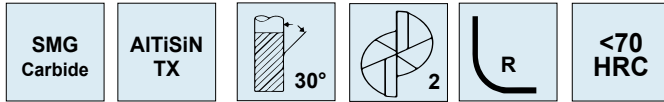


Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	L1	Lc	L	d	D1
FADR202P-1*0.02R*6	1	R0.02	6	0.8	50	4	0.95
FADR202P-1*0.02R*8	1	R0.02	8	0.8	50	4	0.95
FADR202P-1*0.02R*10	1	R0.02	10	0.8	50	4	0.95
FADR202P-1*0.02R*12	1	R0.02	12	0.8	50	4	0.95
FADR202P-1*0.05R*2	1	R0.05	2	0.8	50	4	0.95
FADR202P-1*0.05R*4	1	R0.05	4	0.8	50	4	0.95
FADR202P-1*0.05R*6	1	R0.05	6	0.8	50	4	0.95
FADR202P-1*0.05R*8	1	R0.05	8	0.8	50	4	0.95
FADR202P-1*0.05R*10	1	R0.05	10	0.8	50	4	0.95
FADR202P-1*0.05R*12	1	R0.05	12	0.8	50	4	0.95
FADR202P-1*0.1R*2	1	R0.1	2	0.8	50	4	0.95
FADR202P-1*0.1R*4	1	R0.1	4	0.8	50	4	0.95
FADR202P-1*0.1R*6	1	R0.1	6	0.8	50	4	0.95
FADR202P-1*0.1R*8	1	R0.1	8	0.8	50	4	0.95
FADR202P-1*0.1R*10	1	R0.1	10	0.8	50	4	0.95
FADR202P-1*0.1R*12	1	R0.1	12	0.8	50	4	0.95
FADR202P-1*0.2R*2	1	R0.2	2	0.8	50	4	0.95
FADR202P-1*0.2R*4	1	R0.2	4	0.8	50	4	0.95
FADR202P-1*0.2R*6	1	R0.2	6	0.8	50	4	0.95
FADR202P-1*0.2R*8	1	R0.2	8	0.8	50	4	0.95
FADR202P-1*0.2R*10	1	R0.2	10	0.8	50	4	0.95
FADR202P-1*0.2R*12	1	R0.2	12	0.8	50	4	0.95
FADR202P-1*0.3R*2	1	R0.3	2	0.8	50	4	0.95
FADR202P-1*0.3R*4	1	R0.3	4	0.8	50	4	0.95
FADR202P-1*0.3R*6	1	R0.3	6	0.8	50	4	0.95
FADR202P-1*0.3R*8	1	R0.3	8	0.8	50	4	0.95
FADR202P-1*0.3R*10	1	R0.3	10	0.8	50	4	0.95
FADR202P-1*0.3R*12	1	R0.3	12	0.8	50	4	0.95
FADR202P-1.2*0.2R*6	1.2	R0.2	6	1	50	4	1.15
FADR202P-1.2*0.2R*8	1.2	R0.2	8	1	50	4	1.15
FADR202P-1.2*0.2R*10	1.2	R0.2	10	1	50	4	1.15
FADR202P-1.5*0.1R*4	1.5	R0.1	4	1.2	50	4	1.15
FADR202P-1.5*0.1R*6	1.5	R0.1	6	1.2	50	4	1.15
FADR202P-1.5*0.1R*8	1.5	R0.1	8	1.2	50	4	1.15
FADR202P-1.5*0.1R*10	1.5	R0.1	10	1.2	50	4	1.15
FADR202P-1.5*0.1R*12	1.5	R0.1	12	1.2	50	4	1.15
FADR202P-1.5*0.1R*16	1.5	R0.1	16	1.2	50	4	1.15
FADR202P-1.5*0.2R*4	1.5	R0.2	4	1.2	50	4	1.15
FADR202P-1.5*0.2R*6	1.5	R0.2	6	1.2	50	4	1.15
FADR202P-1.5*0.2R*8	1.5	R0.2	8	1.2	50	4	1.15
FADR202P-1.5*0.2R*10	1.5	R0.2	10	1.2	50	4	1.15
FADR202P-1.5*0.2R*12	1.5	R0.2	12	1.2	50	4	1.15
FADR202P-1.5*0.2R*16	1.5	R0.2	16	1.2	50	4	1.15
FADR202P-1.5*0.3R*4	1.5	R0.3	4	1.2	50	4	1.15
FADR202P-1.5*0.3R*6	1.5	R0.3	6	1.2	50	4	1.15
FADR202P-1.5*0.3R*8	1.5	R0.3	8	1.2	50	4	1.15
FADR202P-1.5*0.3R*10	1.5	R0.3	10	1.2	50	4	1.15
FADR202P-1.5*0.3R*12	1.5	R0.3	12	1.2	50	4	1.15
FADR202P-1.5*0.3R*16	1.5	R0.3	16	1.2	50	4	1.15

Code No.	Dc	R	L1	Lc	L	d	D1
FADR202P-2*0.1R*4	2	R0.1	4	1.6	50	4	1.95
FADR202P-2*0.1R*6	2	R0.1	6	1.6	50	4	1.95
FADR202P-2*0.1R*8	2	R0.1	8	1.6	50	4	1.95
FADR202P-2*0.1R*10	2	R0.1	10	1.6	50	4	1.95
FADR202P-2*0.1R*12	2	R0.1	12	1.6	50	4	1.95
FADR202P-2*0.1R*16	2	R0.1	16	1.6	50	4	1.95
FADR202P-2*0.1R*20	2	R0.1	20	1.6	50	4	1.95
FADR202P-2*0.2R*4	2	R0.2	4	1.6	50	4	1.95
FADR202P-2*0.2R*6	2	R0.2	6	1.6	50	4	1.95
FADR202P-2*0.2R*8	2	R0.2	8	1.6	50	4	1.95
FADR202P-2*0.2R*10	2	R0.2	10	1.6	50	4	1.95
FADR202P-2*0.2R*12	2	R0.2	12	1.6	50	4	1.95
FADR202P-2*0.2R*16	2	R0.2	16	1.6	50	4	1.95
FADR202P-2*0.2R*20	2	R0.2	20	1.6	50	4	1.95
FADR202P-2*0.3R*4	2	R0.3	4	1.6	50	4	1.95
FADR202P-2*0.3R*6	2	R0.3	6	1.6	50	4	1.95
FADR202P-2*0.3R*8	2	R0.3	8	1.6	50	4	1.95
FADR202P-2*0.3R*10	2	R0.3	10	1.6	50	4	1.95
FADR202P-2*0.3R*12	2	R0.3	12	1.6	50	4	1.95
FADR202P-2*0.3R*16	2	R0.3	16	1.6	50	4	1.95
FADR202P-2*0.3R*20	2	R0.3	20	1.6	60	4	1.95
FADR202P-2*0.5R*4	2	R0.5	4	1.6	50	4	1.95
FADR202P-2*0.5R*6	2	R0.5	6	1.6	50	4	1.95
FADR202P-2*0.5R*8	2	R0.5	8	1.6	50	4	1.95
FADR202P-2*0.5R*10	2	R0.5	10	1.6	50	4	1.95
FADR202P-2*0.5R*12	2	R0.5	12	1.6	50	4	1.95
FADR202P-2*0.5R*16	2	R0.5	16	1.6	50	4	1.95
FADR202P-2*0.5R*20	2	R0.5	20	1.6	60	4	1.95
FADR202P-3*0.1R*6	3	R0.1	6	2.5	50	6	2.85
FADR202P-3*0.1R*8	3	R0.1	8	2.5	50	6	2.85
FADR202P-3*0.1R*12	3	R0.1	12	2.5	50	6	2.85
FADR202P-3*0.1R*16	3	R0.1	16	2.5	60	6	2.85
FADR202P-3*0.1R*20	3	R0.1	20	2.5	60	6	2.85
FADR202P-3*0.1R*25	3	R0.1	25	2.5	70	6	2.85
FADR202P-3*0.1R*30	3	R0.1	30	2.5	70	6	2.85
FADR202P-3*0.2R*6	3	R0.2	6	2.5	50	6	2.85
FADR202P-3*0.2R*8	3	R0.2	8	2.5	50	6	2.85
FADR202P-3*0.2R*10	3	R0.2	12	2.5	50	6	2.85
FADR202P-3*0.2R*16	3	R0.2	16	2.5	60	6	2.85
FADR202P-3*0.2R*20	3	R0.2	20	2.5	60	6	2.85
FADR202P-3*0.2R*25	3	R0.2	25	2.5	70	6	2.85
FADR202P-3*0.2R*30	3	R0.2	30	2.5	70	6	2.85
FADR202P-3*0.3R*6	3	R0.3	6	2.5	50	6	2.85
FADR202P-3*0.3R*8	3	R0.3	8	2.5	50	6	2.85
FADR202P-3*0.3R*12	3	R0.3	12	2.5	50	6	2.85
FADR202P-3*0.3R*16	3	R0.3	16	2.5	60	6	2.85
FADR202P-3*0.3R*20	3	R0.3	20	2.5	60	6	2.85
FADR202P-3*0.3R*25	3	R0.3	25	2.5	70	6	2.85
FADR202P-3*0.3R*30	3	R0.3	30	2.5	70	6	2.85

FADR202P (2 Flutes ♦ Radius Endmill ♦ Long Neck ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel			Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-60 HRC	55-68 HRC	●	○	○	○	○	○	○	○	○

Code No.	Dc	R	L1	Lc	L	d	D1
FADR202P-3*0.5R*6	3	R0.5	6	2.5	50	6	2.85
FADR202P-3*0.5R*8	3	R0.5	8	2.5	50	6	2.85
FADR202P-3*0.5R*12	3	R0.5	12	2.5	50	6	2.85
FADR202P-3*0.5R*16	3	R0.5	16	2.5	60	6	2.85
FADR202P-3*0.5R*20	3	R0.5	20	2.5	60	6	2.85
FADR202P-3*0.5R*25	3	R0.5	25	2.5	70	6	2.85
FADR202P-3*0.5R*30	3	R0.5	30	2.5	70	6	2.85
FADR202P-4*0.1R*8	4	R0.1	8	4	60	6	3.85
FADR202P-4*0.1R*12	4	R0.1	12	4	60	6	3.85
FADR202P-4*0.1R*16	4	R0.1	16	4	60	6	3.85
FADR202P-4*0.1R*20	4	R0.1	20	4	70	6	3.85
FADR202P-4*0.1R*25	4	R0.1	25	4	70	6	3.85
FADR202P-4*0.1R*30	4	R0.1	30	4	80	6	3.85
FADR202P-4*0.1R*40	4	R0.1	40	4	90	6	3.85
FADR202P-4*0.2R*8	4	R0.2	8	4	60	6	3.85
FADR202P-4*0.2R*12	4	R0.2	12	4	60	6	3.85
FADR202P-4*0.2R*16	4	R0.2	16	4	60	6	3.85
FADR202P-4*0.2R*20	4	R0.2	20	4	70	6	3.85
FADR202P-4*0.2R*25	4	R0.2	25	4	70	6	3.85
FADR202P-4*0.2R*30	4	R0.2	30	4	80	6	3.85
FADR202P-4*0.2R*40	4	R0.2	40	4	90	6	3.85
FADR202P-4*0.3R*8	4	R0.3	8	4	60	6	3.85
FADR202P-4*0.3R*12	4	R0.3	12	4	60	6	3.85
FADR202P-4*0.3R*16	4	R0.3	16	4	60	6	3.85
FADR202P-4*0.3R*20	4	R0.3	20	4	70	6	3.85
FADR202P-4*0.3R*25	4	R0.3	25	4	70	6	3.85
FADR202P-4*0.3R*30	4	R0.3	30	4	80	6	3.85
FADR202P-4*0.3R*40	4	R0.3	40	4	90	6	3.85
FADR202P-4*0.5R*8	4	R0.5	8	4	60	6	3.85
FADR202P-4*0.5R*12	4	R0.5	12	4	60	6	3.85
FADR202P-4*0.5R*16	4	R0.5	16	4	60	6	3.85
FADR202P-4*0.5R*20	4	R0.5	20	4	70	6	3.85
FADR202P-4*0.5R*25	4	R0.5	25	4	70	6	3.85
FADR202P-4*0.5R*30	4	R0.5	30	4	80	6	3.85
FADR202P-4*0.5R*40	4	R0.5	40	4	90	6	3.85
FADR202P-4*1R*8	4	R1	8	4	60	6	3.85
FADR202P-4*1R*12	4	R1	12	4	60	6	3.85
FADR202P-4*1R*16	4	R1	16	4	60	6	3.85
FADR202P-4*1R*20	4	R1	20	4	70	6	3.85
FADR202P-4*1R*25	4	R1	25	4	70	6	3.85
FADR202P-4*1R*30	4	R1	30	4	80	6	3.85
FADR202P-4*1R*40	4	R1	40	4	90	6	3.85
FADR202P-5*0.1R*20	5	R0.1	20	4	70	6	4.85
FADR202P-5*0.1R*40	5	R0.1	40	4	90	6	4.85
FADR202P-5*0.2R*20	5	R0.2	20	4	70	6	4.85
FADR202P-5*0.2R*40	5	R0.2	40	4	90	6	4.85
FADR202P-5*0.3R*20	5	R0.3	20	4	70	6	4.85
FADR202P-5*0.3R*40	5	R0.3	40	4	90	6	4.85
FADR202P-5*0.5R*20	5	R0.5	20	4	70	6	4.85

Code No.	Dc	R	L1	Lc	L	d	D1
FADR202P-5*0.5R*40	5	R0.5	40	4	90	6	4.85
FADR202P-5*1R*20	5	R1	20	4	70	6	4.85
FADR202P-5*1R*40	5	R1	40	4	90	6	4.85
FADR202P-6*0.1R*12	6	R0.1	12	5	60	6	5.85
FADR202P-6*0.1R*18	6	R0.1	18	5	60	6	5.85
FADR202P-6*0.1R*24	6	R0.1	24	5	70	6	5.85
FADR202P-6*0.1R*36	6	R0.1	36	5	80	6	5.85
FADR202P-6*0.1R*54	6	R0.1	54	5	100	6	5.85
FADR202P-6*0.2R*12	6	R0.2	12	5	60	6	5.85
FADR202P-6*0.2R*18	6	R0.2	18	5	60	6	5.85
FADR202P-6*0.2R*24	6	R0.2	24	5	70	6	5.85
FADR202P-6*0.2R*36	6	R0.2	36	5	80	6	5.85
FADR202P-6*0.2R*54	6	R0.2	54	5	100	6	5.85
FADR202P-6*0.3R*12	6	R0.3	12	5	60	6	5.85
FADR202P-6*0.3R*18	6	R0.3	18	5	60	6	5.85
FADR202P-6*0.3R*24	6	R0.3	24	5	70	6	5.85
FADR202P-6*0.3R*36	6	R0.3	36	5	80	6	5.85
FADR202P-6*0.3R*54	6	R0.3	54	5	100	6	5.85
FADR202P-6*0.5R*12	6	R0.5	12	5	60	6	5.85
FADR202P-6*0.5R*18	6	R0.5	18	5	60	6	5.85
FADR202P-6*0.5R*24	6	R0.5	24	5	70	6	5.85
FADR202P-6*0.5R*36	6	R0.5	36	5	80	6	5.85
FADR202P-6*0.5R*54	6	R0.5	54	5	100	6	5.85
FADR202P-6*1R*12	6	R1	12	5	60	6	5.85
FADR202P-6*1R*18	6	R1	18	5	60	6	5.85
FADR202P-6*1R*24	6	R1	24	5	70	6	5.85
FADR202P-6*1R*36	6	R1	36	5	80	6	5.85
FADR202P-6*1R*54	6	R1	54	5	100	6	5.85

A

General Use

Ball Endmill

Radius Endmill

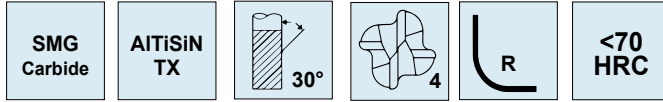
Unequal Helix

Long Neck Endmill

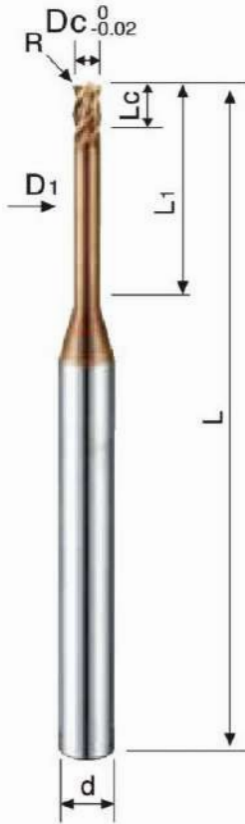
Aluminum Use

Other Endmill

FADR402P (4 Flutes ♦ Radius Endmill ♦ Long Neck ♦ Hard Material)



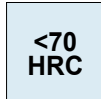
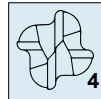
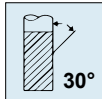
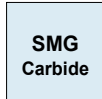
Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC										



Code No.	Dc	R	L1	Lc	L	d	D1
FADR402P-1.5*0.2R*8	1.5	R0.2	8	1.2	50	4	1.45
FADR402P-1.5*0.2R*12	1.5	R0.2	12	1.2	50	4	1.45
FADR402P-1.5*0.2R*16	1.5	R0.2	16	1.2	50	4	1.45
FADR402P-1.5*0.3R*4	1.5	R0.3	4	1.2	50	4	1.45
FADR402P-1.5*0.3R*6	1.5	R0.3	6	1.2	50	4	1.45
FADR402P-1.5*0.3R*8	1.5	R0.3	8	1.2	50	4	1.45
FADR402P-1.5*0.3R*12	1.5	R0.3	12	1.2	50	4	1.45
FADR402P-1.5*0.3R*16	1.5	R0.3	16	1.2	50	4	1.45
FADR402P-2*0.1R*6	2	R0.1	6	1.6	50	4	1.95
FADR402P-2*0.1R*8	2	R0.1	8	1.6	50	4	1.95
FADR402P-2*0.1R*12	2	R0.1	12	1.6	50	4	1.95
FADR402P-2*0.1R*16	2	R0.1	16	1.6	50	4	1.95
FADR402P-2*0.1R*20	2	R0.1	20	1.6	60	4	1.95
FADR402P-2*0.2R*6	2	R0.2	6	1.6	50	4	1.95
FADR402P-2*0.2R*8	2	R0.2	8	1.6	50	4	1.95
FADR402P-2*0.2R*12	2	R0.2	12	1.6	50	4	1.95
FADR402P-2*0.2R*16	2	R0.2	16	1.6	50	4	1.95
FADR402P-2*0.2R*20	2	R0.2	20	1.6	60	4	1.95
FADR402P-2*0.3R*6	2	R0.3	6	1.6	50	4	1.95
FADR402P-2*0.3R*8	2	R0.3	8	1.6	50	4	1.95
FADR402P-2*0.3R*12	2	R0.3	12	1.6	50	4	1.95
FADR402P-2*0.3R*16	2	R0.3	16	1.6	50	4	1.95
FADR402P-2*0.3R*20	2	R0.3	20	1.6	60	4	1.95
FADR402P-2*0.5R*6	2	R0.5	6	1.6	50	4	1.95
FADR402P-2*0.5R*8	2	R0.5	8	1.6	50	4	1.95
FADR402P-2*0.5R*12	2	R0.5	12	1.6	50	4	1.95
FADR402P-2*0.5R*16	2	R0.5	16	1.6	50	4	1.95
FADR402P-2*0.5R*20	2	R0.5	20	1.6	60	4	1.95
FADR402P-3*0.1R*8	3	R0.1	8	2.5	50	6	2.85
FADR402P-3*0.1R*12	3	R0.1	12	2.5	50	6	2.85
FADR402P-3*0.1R*16	3	R0.1	16	2.5	60	6	2.85
FADR402P-3*0.1R*20	3	R0.1	20	2.5	60	6	2.85
FADR402P-3*0.1R*25	3	R0.1	25	2.5	70	6	2.85
FADR402P-3*0.1R*30	3	R0.1	30	2.5	70	6	2.85
FADR402P-3*0.2R*8	3	R0.2	8	2.5	50	6	2.85
FADR402P-3*0.2R*12	3	R0.2	12	2.5	50	6	2.85
FADR402P-3*0.2R*16	3	R0.2	16	2.5	60	6	2.85
FADR402P-3*0.2R*20	3	R0.2	20	2.5	60	6	2.85
FADR402P-3*0.2R*25	3	R0.2	25	2.5	70	6	2.85
FADR402P-3*0.2R*30	3	R0.2	30	2.5	70	6	2.85
FADR402P-3*0.3R*8	3	R0.3	8	2.5	50	6	2.85
FADR402P-3*0.3R*12	3	R0.3	12	2.5	50	6	2.85
FADR402P-3*0.3R*16	3	R0.3	16	2.5	60	6	2.85
FADR402P-3*0.3R*20	3	R0.3	20	2.5	60	6	2.85
FADR402P-3*0.3R*25	3	R0.3	25	2.5	70	6	2.85
FADR402P-3*0.3R*30	3	R0.3	30	2.5	70	6	2.85
FADR402P-3*0.5R*8	3	R0.5	8	2.5	50	6	2.85
FADR402P-3*0.5R*12	3	R0.5	12	2.5	50	6	2.85
FADR402P-3*0.5R*16	3	R0.5	16	2.5	60	6	2.85

Code No.	Dc	R	L1	Lc	L	d	D1
FADR402P-1*0.1R*4	1	R0.1	4	0.8	50	4	0.95
FADR402P-1*0.1R*6	1	R0.1	6	0.8	50	4	0.95
FADR402P-1*0.1R*8	1	R0.1	8	0.8	50	4	0.95
FADR402P-1*0.1R*10	1	R0.1	10	0.8	50	4	0.95
FADR402P-1*0.1R*12	1	R0.1	12	0.8	50	4	0.95
FADR402P-1*0.2R*4	1	R0.2	4	0.8	50	4	0.95
FADR402P-1*0.2R*6	1	R0.2	6	0.8	50	4	0.95
FADR402P-1*0.2R*8	1	R0.2	8	0.8	50	4	0.95
FADR402P-1*0.2R*10	1	R0.2	10	0.8	50	4	0.95
FADR402P-1*0.2R*12	1	R0.2	12	0.8	50	4	0.95
FADR402P-1*0.3R*4	1	R0.3	4	0.8	50	4	0.95
FADR402P-1*0.3R*6	1	R0.3	6	0.8	50	4	0.95
FADR402P-1*0.3R*8	1	R0.3	8	0.8	50	4	0.95
FADR402P-1*0.3R*10	1	R0.3	10	0.8	50	4	0.95
FADR402P-1*0.3R*12	1	R0.3	12	0.8	50	4	0.95
FADR402P-1.5*0.1R*4	1.5	R0.1	4	1.2	50	4	1.45
FADR402P-1.5*0.1R*6	1.5	R0.1	6	1.2	50	4	1.45
FADR402P-1.5*0.1R*8	1.5	R0.1	8	1.2	50	4	1.45
FADR402P-1.5*0.1R*10	1.5	R0.1	10	1.2	50	4	1.45
FADR402P-1.5*0.1R*12	1.5	R0.1	12	1.2	50	4	1.45
FADR402P-1.5*0.1R*16	1.5	R0.1	16	1.2	50	4	1.45
FADR402P-1.5*0.2R*4	1.5	R0.2	4	1.2	50	4	1.45
FADR402P-1.5*0.2R*6	1.5	R0.2	6	1.2	50	4	1.45

FADR402P (4 Flutes ♦ Radius Endmill ♦ Long Neck ♦ Hard Material)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composites Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										

Code No.	Dc	R	L1	Lc	L	d	D1
FADR402P-3*0.5R*20	3	R0.5	20	2.5	60	6	2.85
FADR402P-3*0.5R*25	3	R0.5	25	2.5	70	6	2.85
FADR402P-3*0.5R*30	3	R0.5	30	2.5	70	6	2.85
FADR402P-4*0.1R*12	4	R0.1	12	4	60	6	3.85
FADR402P-4*0.1R*16	4	R0.1	16	4	60	6	3.85
FADR402P-4*0.1R*20	4	R0.1	20	4	70	6	3.85
FADR402P-4*0.1R*30	4	R0.1	30	4	80	6	3.85
FADR402P-4*0.1R*40	4	R0.1	40	4	90	6	3.85
FADR402P-4*0.2R*12	4	R0.2	12	4	60	6	3.85
FADR402P-4*0.2R*16	4	R0.2	16	4	60	6	3.85
FADR402P-4*0.2R*20	4	R0.2	20	4	70	6	3.85
FADR402P-4*0.2R*30	4	R0.2	30	4	80	6	3.85
FADR402P-4*0.2R*40	4	R0.2	40	4	90	6	3.85
FADR402P-4*0.3R*12	4	R0.3	12	4	60	6	3.85
FADR402P-4*0.3R*16	4	R0.3	16	4	60	6	3.85
FADR402P-4*0.3R*20	4	R0.3	20	4	70	6	3.85
FADR402P-4*0.3R*30	4	R0.3	30	4	80	6	3.85
FADR402P-4*0.3R*40	4	R0.3	40	4	90	6	3.85
FADR402P-4*0.5R*12	4	R0.5	12	4	60	6	3.85
FADR402P-4*0.5R*16	4	R0.5	16	4	60	6	3.85
FADR402P-4*0.5R*20	4	R0.5	20	4	70	6	3.85
FADR402P-4*0.5R*30	4	R0.5	30	4	80	6	3.85
FADR402P-4*0.5R*40	4	R0.5	40	4	90	6	3.85
FADR402P-4*1R*12	4	R1	12	4	60	6	3.85
FADR402P-4*1R*16	4	R1	16	4	60	6	3.85
FADR402P-4*1R*20	4	R1	20	4	70	6	3.85
FADR402P-4*1R*30	4	R1	30	4	80	6	3.85
FADR402P-4*1R*40	4	R1	40	4	90	6	3.85
FADR402P-5*0.2R*20	5	R0.2	20	5	70	6	4.85
FADR402P-5*0.2R*40	5	R0.2	40	5	90	6	4.85
FADR402P-5*0.3R*20	5	R0.3	20	5	70	6	4.85
FADR402P-5*0.3R*40	5	R0.3	40	5	90	6	4.85
FADR402P-5*0.5R*20	5	R0.5	20	5	70	6	4.85
FADR402P-5*0.5R*40	5	R0.5	40	5	90	6	4.85
FADR402P-5*1R*20	5	R1	20	5	70	6	4.85
FADR402P-5*1R*40	5	R1	40	5	90	6	4.85
FADR402P-6*0.2R*36	6	R0.2	36	6	80	6	5.85
FADR402P-6*0.2R*54	6	R0.2	54	6	100	6	5.85
FADR402P-6*0.3R*36	6	R0.3	36	6	80	6	5.85
FADR402P-6*0.3R*54	6	R0.3	54	6	100	6	5.85
FADR402P-6*0.5R*36	6	R0.5	36	6	80	6	5.85
FADR402P-6*0.5R*54	6	R0.5	54	6	100	6	5.85
FADR402P-6*1R*36	6	R1	36	6	80	6	5.85
FADR402P-6*1R*54	6	R1	54	6	100	6	5.85



General Use

Ball Endmill

Radius Endmill

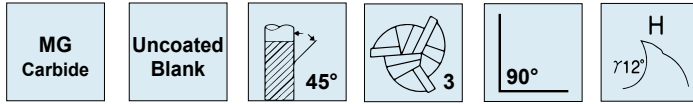
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FCAF30NP (3 Flutes ♦ Flat Endmill ♦ Aluminum Use)

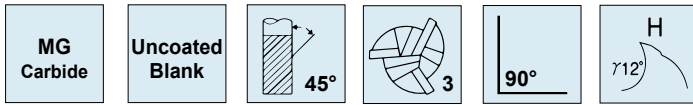


Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC			●	○	○					

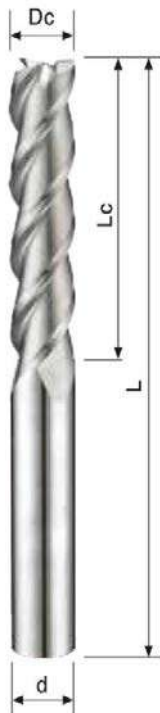


Code No.	Dc	Lc	L	d
FCAF30NP-1	1	3	38	3
FCAF30NP-1.5	1.5	5	38	3
FCAF30NP-2	2	6	38	3
FCAF30NP-2.5	2.5	7	38	3
FCAF30NP-3	3	9	38	3
FCAF30NP-4	4	14	50	4
FCAF30NP-5	5	16	50	5
FCAF30NP-6	6	20	63	6
FCAF30NP-7	7	20	63	8
FCAF30NP-8	8	20	63	8
FCAF30NP-9	9	22	72	10
FCAF30NP-10	10	22	72	10
FCAF30NP-12	12	26	75	12
FCAF30NP-14	14	32	89	14
FCAF30NP-16	16	32	89	16
FCAF30NP-18	18	38	100	18
FCAF30NP-20	20	38	100	20

FCAF30NL (3 Flutes ♦ Flat Endmill ♦ Long Shank ♦ Aluminum Use)

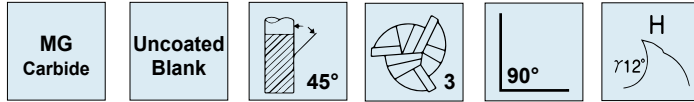


Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC			●	○	○					



Code No.	Dc	Lc	L	d
FCAF30NL-3	3	20	57	3
FCAF30NL-4	4	20	57	4
FCAF30NL-5	5	25	63	5
FCAF30NL-6	6	28	75	6
FCAF30NL-7	7	30	75	8
FCAF30NL-8	8	30	75	8
FCAF30NL-9	9	32	75	10
FCAF30NL-10	10	32	75	10
FCAF30NL-12	12	50	100	12
FCAF30NL-14	14	57	127	14
FCAF30NL-16	16	57	127	16
FCAF30NL-20	20	57	127	20

FCAF30NXL (3 Flutes ♦ Flat Endmill ♦ Extra Long Shank ♦ Aluminum Use)

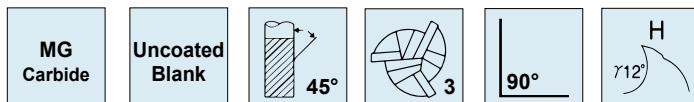


Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Chemical Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC			●	○	○					

Code No.	Dc	Lc	L	d
FCAF30NXL-3	3	25	75	3
FCAF30NXL-4	4	28	75	4
FCAF30NXL-5	5	32	75	5
FCAF30NXL-6	6	38	100	6
FCAF30NXL-8	8	42	100	8
FCAF30NXL-10	10	45	100	10
FCAF30NXL-12	12	75	150	12
FCAF30NXL-14	14	80	150	14
FCAF30NXL-16	16	80	150	16
FCAF30NXL-20	20	80	150	20



FCAF30NXXL (3 Flutes ♦ Flat Endmill ♦ Extra Long Shank ♦ Aluminum Use)

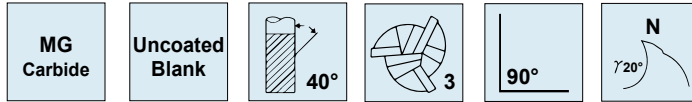


Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Chemical Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
			30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC			●	○	○					

Code No.	Dc	Lc	L	d
FCAF30NXXL-5	5	45	100	6
FCAF30NXXL-6	6	50	100	6
FCAF30NXXL-8	8	75	150	8
FCAF30NXXL-10	10	75	150	10
FCAF30NXXL-12	12	75	200	12
FCAF30NXXL-16	16	80	200	16
FCAF30NXXL-20	20	80	200	20



FBAF30NP (3 Flutes ♦ Flat Endmill ♦ Aluminum Use)

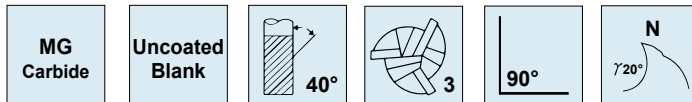


Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat-Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										



Code No.	Dc	Lc	L	d
FBAF30NP-3	3	8	50	6
FBAF30NP-4	4	11	50	6
FBAF30NP-5	5	13	50	6
FBAF30NP-6	6	16	50	6
FBAF30NP-8	8	20	60	8
FBAF30NP-10	10	25	72	10
FBAF30NP-12	12	30	75	12
FBAF30NP-14	14	35	100	16
FBAF30NP-16	16	40	100	16
FBAF30NP-18	18	40	100	20
FBAF30NP-20	20	40	100	20

FBAF30NXL (3 Flutes ♦ Flat Endmill ♦ Long Shank ♦ Aluminum Use)

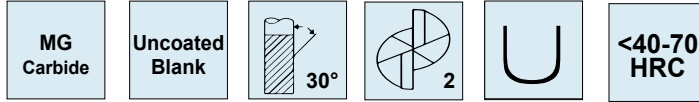


Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat-Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC										



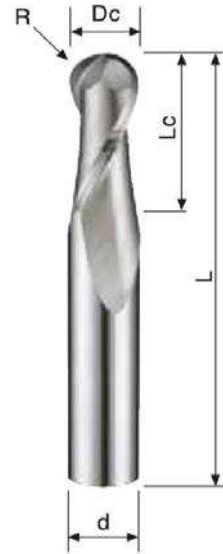
Code No.	Dc	Lc	L	d
FBAF30NXL-3	3	12	50	6
FBAF30NXL-4	4	16	55	6
FBAF30NXL-5	5	20	60	6
FBAF30NXL-6	6	24	65	6
FBAF30NXL-8	8	32	90	8
FBAF30NXL-10	10	40	100	10
FBAF30NXL-12	12	48	110	12
FBAF30NXL-16	16	64	160	16
FBAF30NXL-20	20	80	200	20

FCAB20NS (2 Flutes ♦ Ball Endmill ♦ Aluminum Use)



Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	R	Lc	L	d
FCAB20NS-0.2	0.2	0.1R	0.4	38	3
FCAB20NS-0.3	0.3	0.15R	0.6	38	3
FCAB20NS-0.4	0.4	0.2R	0.8	38	3
FCAB20NS-0.5	0.5	0.25R	1	38	3
FCAB20NS-0.6	0.6	0.3R	1.2	38	3
FCAB20NS-0.7	0.7	0.35R	1.4	38	3
FCAB20NS-0.8	0.8	0.4R	1.6	38	3
FCAB20NS-0.9	0.9	0.45R	2	38	3
FCAB20NS-1	1	0.5R	3	38	3
FCAB20NS-1.5	1.5	0.75R	5	38	3
FCAB20NS-2	2	1R	6	38	3
FCAB20NS-2.5	2.5	1.25R	7	38	3
FCAB20NS-3	3	1.5R	9	38	3
FCAB20NS-3.5	3.5	1.75R	12	50	4
FCAB20NS-4	4	2R	14	50	4
FCAB20NS-4.5	4.5	2.25R	16	50	5
FCAB20NS-5	5	2.5R	16	50	5
FCAB20NS-5.5	5.5	2.75R	16	50	6
FCAB20NS-6	6	3R	20	63	6
FCAB20NS-6.5	6.5	3.25R	20	63	8
FCAB20NS-7	7	3.5R	20	63	8
FCAB20NS-7.5	7.5	3.75R	20	63	8
FCAB20NS-8	8	4R	20	63	8
FCAB20NS-8.5	8.5	4.25R	22	72	10
FCAB20NS-9	9	4.5R	22	72	10
FCAB20NS-9.5	9.5	4.75R	22	72	10
FCAB20NS-10	10	5R	22	72	10
FCAB20NS-11	11	5.5R	26	75	12
FCAB20NS-12	12	6R	26	75	12
FCAB20NS-13	13	6.5R	32	89	14
FCAB20NS-14	14	7R	32	89	14
FCAB20NS-15	15	7.5R	32	89	16
FCAB20NS-16	16	8R	32	89	16
FCAB20NS-17	17	8.5R	38	100	18
FCAB20NS-18	18	9R	38	100	18
FCAB20NS-20	20	10R	38	100	20



A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

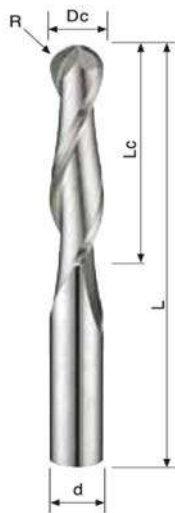
Aluminum Use

Other Endmill

FCAB20NP (2 Flutes ♦ Ball Endmill ♦ Long Shank ♦ Aluminum Use)

MG Carbide
Uncoated Blank
30°
2
U
<30 HRC

Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●

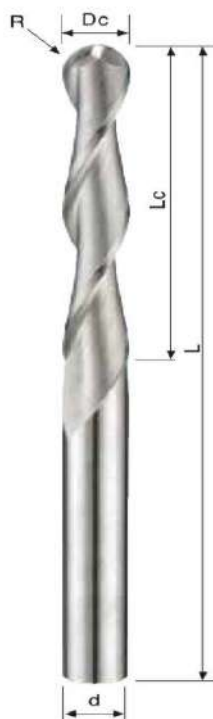


Code No.	Dc	R	Lc	L	d
FCAB20NP-3	3	1.5R	20	57	3
FCAB20NP-4	4	2R	20	57	4
FCAB20NP-5	5	2.5R	25	63	5
FCAB20NP-6	6	3R	28	75	6
FCAB20NP-7	7	3.5R	30	75	8
FCAB20NP-8	8	4R	30	75	8
FCAB20NP-9	9	4.5R	32	75	10
FCAB20NP-10	10	5R	32	75	10
FCAB20NP-12	12	6R	50	100	12
FCAB20NP-14	14	7R	57	127	14
FCAB20NP-16	16	8R	57	127	16
FCAB20NP-20	20	10R	57	127	20

FCAB20NL (2 Flutes ♦ Ball Endmill ♦ Extra Long Shank ♦ Aluminum Use)

MG Carbide
Uncoated Blank
30°
2
U
<30 HRC

Carbon Steel	Low Alloy Steel	High Alloy Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●



Code No.	Dc	R	Lc	L	d
FCAB20NL-3	3	1.5R	25	75	3
FCAB20NL-4	4	2R	28	75	4
FCAB20NL-5	5	2.5R	32	75	5
FCAB20NL-6	6	3R	38	100	6
FCAB20NL-7	8	4R	42	100	8
FCAB20NL-8	10	5R	45	100	10
FCAB20NL-9	12	6R	75	150	12
FCAB20NL-10	14	7R	80	150	14
FCAB20NL-12	16	8R	80	150	16
FCAB20NL-14	20	10R	80	150	20

A

General Use

Ball Endmill

Radius Endmill

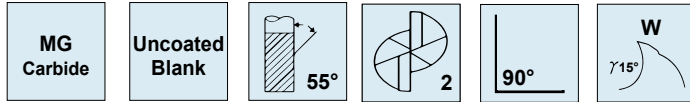
Unequal Helix

Long Neck Endmill

Aluminum Use

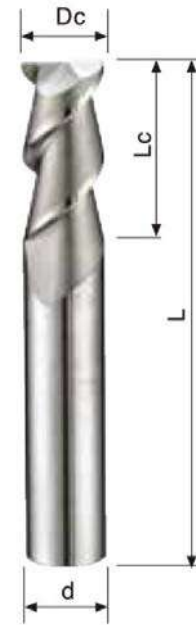
Other Endmill

FBAHF20NP (2 Flutes ♦ Flat Endmill ♦ Roughing ♦ Aluminum Use)

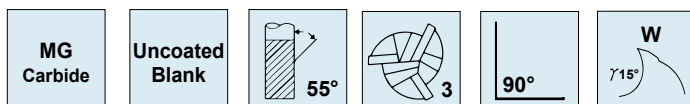


Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat-Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC			●							

Code No.	Dc	Lc	L	d
FBAHF20NP-3	3	9	38	3
FBAHF20NP-4	4	14	50	4
FBAHF20NP-5	5	16	50	5
FBAHF20NP-6	6	20	63	6
FBAHF20NP-8	8	22	63	8
FBAHF20NP-10	10	30	72	10
FBAHF20NP-12	12	30	75	12
FBAHF20NP-16	16	40	100	16
FBAHF20NP-20	20	45	100	20

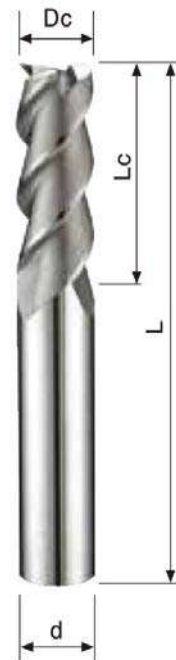


FBALF30NP (3 Flutes ♦ Flat Endmill ♦ Finishing ♦ Aluminum Use)

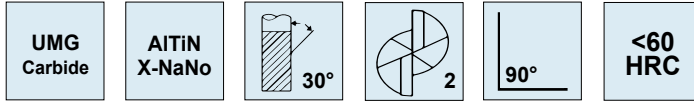


Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat-Resistant Steel
			30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC			●							

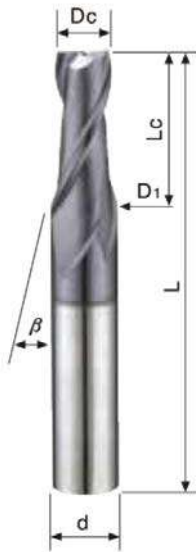
Code No.	Dc	Lc	L	d
FBALF30NP-3	3	9	50	6
FBALF30NP-4	4	14	50	6
FBALF30NP-5	5	16	50	6
FBALF30NP-6	6	20	63	6
FBALF30NP-8	8	22	63	8
FBALF30NP-10	10	30	72	10
FBALF30NP-12	12	30	75	12
FBALF30NP-16	16	40	100	16
FBALF30NP-20	20	45	100	20



FBTF200P (2 Flutes ♦ Flat Endmill ♦ Taper End)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	○	○	○	○	○	○	○	○	○



Code No.	Dc	β	D1	Lc	L	d
FBTF200P-1*30'	1	30'	1.07	4	50	4
FBTF200P-1*1°	1	1°	1.14	4	50	4
FBTF200P-1*1° 30'	1	1° 30'	1.21	4	50	4
FBTF200P-1*2°	1	2°	1.28	4	50	4
FBTF200P-1*2° 30'	1	2° 30'	1.35	4	50	4
FBTF200P-1*3°	1	3°	1.42	4	50	4
FBTF200P-1*4°	1	4°	1.56	4	50	4
FBTF200P-1*5°	1	5°	1.7	4	50	4
FBTF200P-1*6°	1	6°	1.84	4	50	4
FBTF200P-1*7°	1	7°	1.98	4	50	4
FBTF200P-1*10°	1	10°	2.41	4	50	4
FBTF200P-1.5*30'	1.5	30'	1.59	5	50	4
FBTF200P-1.5*1°	1.5	1°	1.67	5	50	4
FBTF200P-1.5*1° 30'	1.5	1° 30'	1.76	5	50	4
FBTF200P-1.5*2°	1.5	2°	1.85	5	50	4
FBTF200P-1.5*2° 30'	1.5	2° 30'	1.93	5	50	4
FBTF200P-1.5*3°	1.5	3°	2.02	5	50	4
FBTF200P-1.5*4°	1.5	4°	2.2	5	50	4
FBTF200P-1.5*5°	1.5	5°	2.37	5	50	4
FBTF200P-1.5*6°	1.5	6°	2.55	5	50	4
FBTF200P-1.5*7°	1.5	7°	2.73	5	50	4
FBTF200P-1.5*10°	1.5	10°	3.26	5	50	4
FBTF200P-2*30'	2	30'	2.1	6	50	4
FBTF200P-2*1°	2	1°	2.21	6	50	4
FBTF200P-2*1° 30'	2	1° 30'	2.31	6	50	4
FBTF200P-2*2°	2	2°	2.41	6	50	4
FBTF200P-2*2° 30'	2	2° 30'	2.52	6	50	4
FBTF200P-2*3°	2	3°	2.62	6	50	4
FBTF200P-2*4°	2	4°	2.84	6	50	4

Code No.	Dc	β	D1	Lc	L	d
FBTF200P-2*5°	2	5°	3.05	6	50	4
FBTF200P-2*6°	2	6°	3.26	6	50	4
FBTF200P-2*7°	2	7°	3.47	6	50	4
FBTF200P-2*10°	2	10°	4.11	6	50	6
FBTF200P-2.5*30'	2.5	30'	2.64	8	50	4
FBTF200P-2.5*1°	2.5	1°	2.78	8	50	4
FBTF200P-2.5*1° 30'	2.5	1° 30'	2.91	8	50	4
FBTF200P-2.5*2°	2.5	2°	3.05	8	50	4
FBTF200P-2.5*2° 30'	2.5	2° 30'	3.2	8	50	4
FBTF200P-2.5*3°	2.5	3°	3.33	8	50	4
FBTF200P-2.5*4°	2.5	4°	3.62	8	50	4
FBTF200P-2.5*5°	2.5	5°	3.9	8	50	4
FBTF200P-2.5*6°	2.5	6°	4.18	8	50	6
FBTF200P-2.5*7°	2.5	7°	4.46	8	50	6
FBTF200P-2.5*10°	2.5	10°	5.32	8	50	6
FBTF200P-3*30'	3	30'	3.17	10	50	6
FBTF200P-3*1°	3	1°	3.35	10	50	6
FBTF200P-3*1° 30'	3	1° 30'	3.52	10	50	6
FBTF200P-3*2°	3	2°	3.69	10	50	6
FBTF200P-3*2° 30'	3	2° 30'	3.87	10	50	6
FBTF200P-3*3°	3	3°	4.05	10	50	6
FBTF200P-3*4°	3	4°	4.4	10	50	6
FBTF200P-3*5°	3	5°	4.75	10	50	6
FBTF200P-3*6°	3	6°	5.1	10	50	6
FBTF200P-3*7°	3	7°	5.46	10	50	6
FBTF200P-3*10°	3	10°	6.53	10	60	8
FBTF200P-4*30'	4	30'	4.26	15	50	6
FBTF200P-4*1°	4	1°	4.52	15	50	6
FBTF200P-4*1° 30'	4	1° 30'	4.79	15	50	6
FBTF200P-4*2°	4	2°	5.04	15	50	6
FBTF200P-4*2° 30'	4	2° 30'	5.31	15	50	6
FBTF200P-4*3°	4	3°	5.57	15	50	6
FBTF200P-4*4°	4	4°	6.1	15	60	8
FBTF200P-4*5°	4	5°	6.62	15	60	8
FBTF200P-4*6°	4	6°	7.15	15	60	8
FBTF200P-4*7°	4	7°	7.68	15	60	8
FBTF200P-4*10°	4	10°	9.3	15	70	10
FBTF200P-5*30'	5	30'	5.34	20	60	6
FBTF200P-5*1°	5	1°	5.7	20	60	6
FBTF200P-5*1° 30'	5	1° 30'	6	20	60	6
FBTF200P-5*2°	5	2°	6.39	20	60	8
FBTF200P-5*2° 30'	5	2° 30'	6.75	20	60	8
FBTF200P-5*3°	5	3°	7.1	20	60	8
FBTF200P-5*4°	5	4°	7.8	20	60	8
FBTF200P-5*5°	5	5°	8.5	20	70	10
FBTF200P-5*6°	5	6°	9.2	20	70	10
FBTF200P-5*7°	5	7°	9.91	20	70	10
FBTF200P-5*10°	5	10°	12	20	75	12
FBTF200P-6*30'	6	30'	6.35	20	60	8

A

General Use

Ball Endmill

Radius Endmill

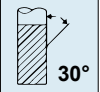
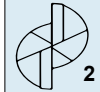
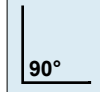
Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

FBTF200P (2 Flutes ♦ Flat Endmill ♦ Taper End)

UMG Carbide	AlTiN X-NaNo	 30°	 2	 90°	<60 HRC	<table border="1"> <tr> <td>Carbon Steel</td> <td>Low Alloyed Steel</td> <td>High Alloyed Steel</td> <td colspan="4">Hardened Steel</td> <td>Stainless Steel</td> <td>Cast Iron</td> <td>Aluminum</td> <td>Copper</td> <td>Plastics</td> <td>Composite Materials</td> <td>Graphite</td> <td>Titanium</td> <td>Nickel</td> <td>Heat Resistant Steel</td> </tr> <tr> <td>●</td> <td>●</td> <td>●</td> <td>30-38 HRC</td> <td>38-48 HRC</td> <td>48-56 HRC</td> <td>56-68 HRC</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> <td>●</td> </tr> </table>	Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel	●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●
Carbon Steel	Low Alloyed Steel	High Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel																								
●	●	●	30-38 HRC	38-48 HRC	48-56 HRC	56-68 HRC	●	●	●	●	●	●	●	●	●	●																								

Code No.	Dc	β	D1	Lc	L	d
FBTF200P-6*1°	6	1°	6.7	20	60	8
FBTF200P-6*1° 30'	6	1° 30'	7.05	20	60	8
FBTF200P-6*2°	6	2°	7.4	20	60	8
FBTF200P-6*2° 30'	6	2° 30'	7.75	20	60	8
FBTF200P-6*3°	6	3°	8	20	60	8
FBTF200P-6*4°	6	4°	8.8	20	70	10
FBTF200P-6*5°	6	5°	9.5	20	70	10
FBTF200P-6*6°	6	6°	10.2	20	75	12
FBTF200P-6*7°	6	7°	10.91	20	75	12
FBTF200P-6*10°	6	10°	13.05	20	75	12
FBTF200P-8*30'	8	30'	8.44	25	70	10
FBTF200P-8*1°	8	1°	8.87	25	70	10
FBTF200P-8*1° 30'	8	1° 30'	9.31	25	70	10
FBTF200P-8*2°	8	2°	9.74	25	70	10
FBTF200P-8*2° 30'	8	2° 30'	10	25	70	10
FBTF200P-8*3°	8	3°	10.62	25	75	12
FBTF200P-8*5°	8	5°	12.37	25	90	12
FBTF200P-10*30'	10	30'	10.61	35	90	10
FBTF200P-10*1°	10	1°	11.22	35	90	10
FBTF200P-10*1° 30'	10	1° 30'	11.83	35	90	10
FBTF200P-10*2°	10	2°	12.44	35	90	12
FBTF200P-10*2° 30'	10	2° 30'	13.06	35	90	12
FBTF200P-10*3°	10	3°	13.67	35	90	12
FBTF200P-10*5°	10	5°	16	35	100	16

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

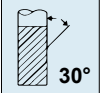
Aluminum Use

Other Endmill

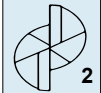
FBC200P (2 Flutes ♦ Endmill for Chamfering)

MG Carbide


AlTiN X-NaNo



30°



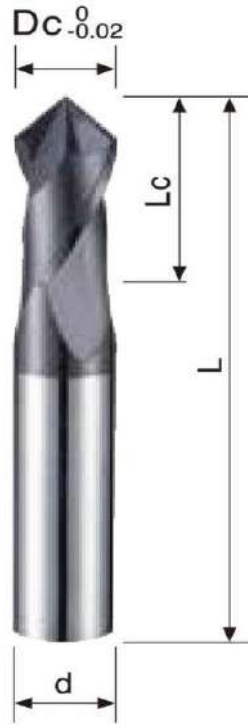
2



90°

<48 HRC

Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat-Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●



Code No.	Dc	Lc	L	d
FBC200P-0.5	0.5	1	38	3
FBC200P-0.6	0.6	1.2	38	3
FBC200P-0.8	0.8	1.6	38	3
FBC200P-1	1	2	38	3
FBC200P-1.2	1.2	2.4	38	3
FBC200P-1.5	1.5	3	38	3
FBC200P-1.8	1.8	3.6	38	3
FBC200P-2	2	4	38	3
FBC200P-2.5	2.5	5	38	3
FBC200P-3	3	6	50	3
FBC200P-4	4	8	50	4
FBC200P-5	5	12	50	6
FBC200P-6	6	12	50	6
FBC200P-8	8	16	60	8
FBC200P-10	10	20	72	10
FBC200P-12	12	24	75	12
FBC200P-16	16	32	100	16
FBC200P-20	20	40	100	20

A

General Use

Ball Endmill

Radius Endmill

Unequal Helix

Long Neck Endmill

Aluminum Use

Other Endmill

CARBIDE DRILL

Contents

CSD

(Carbide NC Spot Drill) **B02**

CCD-MM

(Carbide Centerdrill - mm) **B03**

CCD-IN

(Carbide Drill and Countersink - in) **B03**

CDS - A

(Carbide Drill Shorter Length) **B04**

CDS - B

(Carbide Drill Shank) **B05**

CDP

(Straight Shank) **B06**

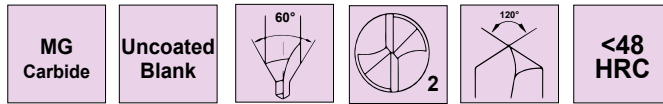
CSD (Carbide NC Spot Drill)



β°	Code No.	D	L	e
60°	CSD 060 - 2	2	40	5
	CSD 060 - 3	3	50	8
	CSD 060 - 4	4	50	10
	CSD 060 - 5	5	50	12
	CSD 060 - 6	6	50	12
	CSD 060 - 8	8	60	18
	CSD 060 - 10	10	75	20
	CSD 060 - 12	12	75	22
90°	CSD 090 - 2	2	40	5
	CSD 090 - 3	3	50	8
	CSD 090 - 4	4	50	10
	CSD 090 - 5	5	50	12
	CSD 090 - 6	6	50	12
	CSD 090 - 8	8	60	18
	CSD 090 - 10	10	75	20
	CSD 090 - 12	12	75	22
120°	CSD 120 - 2	2	40	5
	CSD 120 - 3	3	50	8
	CSD 120 - 4	4	50	10
	CSD 120 - 5	5	50	12
	CSD 120 - 6	6	50	12
	CSD 120 - 8	8	60	18
	CSD 120 - 10	10	75	20
	CSD 120 - 12	12	75	22
CUSTOM MADE	CSD 082 - 6	6	50	12
	CSD 142 - 4	4	50	10
	CSD 100 - 5	5	50	12

Carbide Drill

CCD-MM (Carbide Centerdrill - mm)

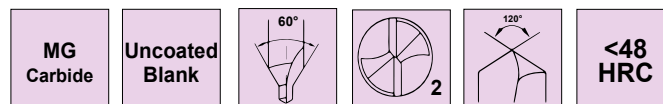


Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	●

Code No.	Dc	Lc	L	d
CCD-MM*0.5	0.5	0.8	38	3
CCD-MM*0.8	0.8	1.1	38	3
CCD-MM*1	1	1.3	38	3
CCD-MM*1.25	1.25	1.6	38	3
CCD-MM*1.6	1.6	2	38	4
CCD-MM*2	2	2.5	50	5
CCD-MM*2.5	2.5	3.1	50	6
CCD-MM*3.15	3.15	3.9	63	8
CCD-MM*4	4	5	66	10
CCD-MM*5	5	6.3	73	12



CCD-IN (Carbide Drill and Countersink - in)



Carbon Steel	Low-Alloyed Steel	High-Alloyed Steel	Hardened Steel				Stainless Steel	Cast Iron	Aluminum	Copper	Plastics	Composite Materials	Graphite	Titanium	Nickel	Heat Resistant Steel
●	●	●	30-38 HRC	38-48 HRC	48-58 HRC	58-68 HRC	●	●	●	●	●	●	●	●	●	

Code No.	Size #	Dc	L	d
CCD-IN*1/32	#0	1/32	1-1/4	1/8
CCD-IN*3/64	#1	3/64	1-1/4	1/8
CCD-IN*5/64	#2	5/64	1-7/8	3/16
CCD-IN*7/64	#3	7/64	2	1/4
CCD-IN*1/8	#4	1/8	2-1/2	5/16
CCD-IN*3/16	#5	3/16	3	7/16
CCD-IN*7/32	#6	7/32	3	1/2
CCD-IN*1/4	#7	1/4	3-1/4	5/8
CCD-IN*5/16	#8	5/16	3-1/2	3/4



CDS - A (Carbide Drill Shorter Length)



Code No.	D	L	ℓ
CDS1.0-A	1.0	26	6
CDS1.1-A	1.1	28	7
CDS1.2-A	1.2	30	8
CDS1.3-A	1.3	30	8
CDS1.4-A	1.4	32	9
CDS1.5-A	1.5	32	9
CDS1.6-A	1.6	34	10
CDS1.7-A	1.7	34	10
CDS1.8-A	1.8	36	11
CDS1.9-A	1.9	36	11
CDS2.0-A	2.0	38	12
CDS2.1-A	2.1	38	12
CDS2.2-A	2.2	40	13
CDS2.3-A	2.3	40	13
CDS2.4-A	2.4	43	14
CDS2.5-A	2.5	43	14
CDS2.6-A	2.6	43	14

Code No.	D	L	ℓ
CDS2.7-A	2.7	46	16
CDS2.8-A	2.8	46	16
CDS2.9-A	2.9	46	16
CDS3.0-A	3.0	46	16
CDS3.1-A	3.1	49	18
CDS3.2-A	3.2	49	18
CDS3.3-A	3.3	49	18
CDS3.4-A	3.4	52	20
CDS3.5-A	3.5	52	20
CDS3.6-A	3.6	52	20
CDS3.7-A	3.7	52	20
CDS3.8-A	3.8	55	22
CDS3.9-A	3.9	55	22
CDS4.0-A	4.0	55	22
CDS4.1-A	4.1	55	22
CDS4.2-A	4.2	55	22
CDS4.3-A	4.3	58	24
CDS4.4-A	4.4	58	24
CDS4.5-A	4.5	58	24
CDS4.6-A	4.6	58	24
CDS4.7-A	4.7	58	24
CDS4.8-A	4.8	62	26
CDS4.9-A	4.9	62	26
CDS5.0-A	5.0	62	26
CDS5.1-A	5.1	62	26
CDS5.2-A	5.2	62	26
CDS5.3-A	5.3	62	26
CDS5.4-A	5.4	66	28
CDS5.5-A	5.5	66	28
CDS5.6-A	5.6	66	28
CDS5.7-A	5.7	66	28
CDS5.8-A	5.8	66	28
CDS5.9-A	5.9	66	28
CDS6.0-A	6.0	66	28
CDS6.1-A	6.1	70	31
CDS6.2-A	6.2	70	31
CDS6.3-A	6.3	70	31
CDS6.4-A	6.4	70	31
CDS6.5-A	6.5	70	31
CDS6.6-A	6.6	70	31
CDS6.7-A	6.7	70	31
CDS6.8-A	6.8	74	34
CDS6.9-A	6.9	74	34
CDS7.0-A	7.0	74	34
CDS7.1-A	7.1	74	34
CDS7.2-A	7.2	74	34
CDS7.3-A	7.3	74	34
CDS7.4-A	7.4	74	34
CDS7.5-A	7.5	74	34
CDS7.6-A	7.6	79	37
CDS7.7-A	7.7	79	37
CDS7.8-A	7.8	79	37

Code No.	D	L	ℓ
CDS7.9-A	7.9	79	37
CDS8.0-A	8.0	79	37
CDS8.1-A	8.1	79	37
CDS8.2-A	8.2	79	37
CDS8.3-A	8.3	79	37
CDS8.4-A	8.4	79	37
CDS8.5-A	8.5	79	37
CDS8.6-A	8.6	84	40
CDS8.7-A	8.7	84	40
CDS8.8-A	8.8	84	40
CDS8.9-A	8.9	84	40
CDS9.0-A	9.0	84	40
CDS9.1-A	9.1	84	40
CDS9.2-A	9.2	84	40
CDS9.3-A	9.3	84	40
CDS9.4-A	9.4	84	40
CDS9.5-A	9.5	84	40
CDS9.6-A	9.6	89	43
CDS9.7-A	9.7	89	43
CDS9.8-A	9.8	89	43
CDS9.9-A	9.9	89	43
CDS10.0-A	10.0	89	43
CDS10.1-A	10.1	89	43
CDS10.2-A	10.2	89	43
CDS10.3-A	10.3	89	43
CDS10.4-A	10.4	89	43
CDS10.5-A	10.5	89	43
CDS10.6-A	10.6	89	43
CDS10.7-A	10.7	95	47
CDS10.8-A	10.8	95	47
CDS10.9-A	10.9	95	47
CDS11.0-A	11.0	95	47
CDS11.1-A	11.1	95	47
CDS11.2-A	11.2	95	47
CDS11.3-A	11.3	95	47
CDS11.4A	11.4	95	47
CDS11.5-A	11.5	95	47
CDS11.6-A	11.6	95	47
CDS11.7-A	11.7	95	47
CDS11.8-A	11.8	95	47
CDS11.9-A	11.9	102	51
CDS12.0-A	12.0	102	51
CDS12.1-A	12.1	102	51
CDS12.2-A	12.2	102	51
CDS12.3-A	12.3	102	51
CDS12.4-A	12.4	102	51
CDS12.5-A	12.5	102	51
CDS12.6-A	12.6	102	51
CDS12.7-A	12.7	102	51
CDS12.8-A	12.8	102	51
CDS12.9-A	12.9	102	51
CDS13.0-A	13.0	102	51

CDS - B (Carbide Drill Shank)

Code No.	D	ℓ	L	d
CDS1.0-B	1.0	6	26	3
CDS1.1-B	1.1	7	28	3
CDS1.2-B	1.2	8	30	3
CDS1.3-B	1.3	8	30	3
CDS1.4-B	1.4	9	32	3
CDS1.5-B	1.5	9	32	3
CDS1.6-B	1.6	10	34	3
CDS1.7-B	1.7	10	34	3
CDS1.8-B	1.8	11	36	3
CDS1.9-B	1.9	11	36	3
CDS2.0-B	2.0	12	38	3
CDS2.1-B	2.1	12	38	3
CDS2.2-B	2.2	13	50	3
CDS2.3-B	2.3	13	50	3
CDS2.4-B	2.4	14	50	3
CDS2.5-B	2.5	14	50	3
CDS2.6-B	2.6	14	50	3
CDS2.7-B	2.7	16	50	3
CDS2.8-B	2.8	16	50	3
CDS2.9-B	2.9	16	50	3
CDS3.0-B	3.0	16	50	3
CDS3.1-B	3.1	18	50	4
CDS3.2-B	3.2	18	50	4
CDS3.3-B	3.3	18	50	4
CDS3.4-B	3.4	20	50	4
CDS3.5-B	3.5	20	50	4
CDS3.6-B	3.6	20	60	4
CDS3.7-B	3.7	20	60	4
CDS3.8-B	3.8	22	60	4
CDS3.9-B	3.9	22	60	4
CDS4.0-B	4.0	22	60	4
CDS4.1-B	4.1	22	60	5
CDS4.2-B	4.2	22	60	5
CDS4.3-B	4.3	24	60	5
CDS4.4-B	4.4	24	60	5
CDS4.5-B	4.5	24	60	5
CDS4.6-B	4.6	24	60	5
CDS4.7-B	4.7	24	60	5
CDS4.8-A	4.8	26	60	5
CDS4.9-B	4.9	26	60	5
CDS5.0-B	5.0	26	60	5
CDS5.1-B	5.1	26	65	6
CDS5.2-B	5.2	26	65	6
CDS5.3-B	5.3	26	65	6
CDS5.4-B	5.4	28	65	6
CDS5.5-B	5.5	28	65	6
CDS5.6-B	5.6	28	65	6
CDS5.7-B	5.7	28	65	6
CDS5.8-B	5.8	28	65	6
CDS5.9-B	5.9	28	65	6
CDS6.0-B	6.0	28	65	6



CDP (Carbide Drill Straight Shank)



Code No.	D	L	ℓ
CDP1.0	1.0	34	12
CDP1.1	1.1	36	12
CDP1.2	1.2	38	16
CDP1.3	1.3	38	16
CDP1.4	1.4	40	18
CDP1.5	1.5	40	18
CDP1.6	1.6	43	20
CDP1.7	1.7	43	20
CDP1.8	1.8	46	22
CDP1.9	1.9	46	22
CDP2.0	2.0	49	24
CDP2.1	2.1	49	24
CDP2.2	2.2	53	27
CDP2.3	2.3	53	27
CDP2.4	2.4	57	30
CDP2.5	2.5	57	30
CDP2.6	2.6	57	30

Code No.	D	L	ℓ
CDP2.7	2.7	61	33
CDP2.8	2.8	61	33
CDP2.9	2.9	61	33
CDP3.0	3.0	61	33
CDP3.1	3.1	65	36
CDP3.2	3.2	65	36
CDP3.3	3.3	65	36
CDP3.4	3.4	70	39
CDP3.5	3.5	70	39
CDP3.6	3.6	70	39
CDP3.7	3.7	70	39
CDP3.8	3.8	75	43
CDP3.9	3.9	75	43
CDP4.0	4.0	75	43
CDP4.1	4.1	75	43
CDP4.2	4.2	75	43
CDP4.3	4.3	80	47
CDP4.4	4.4	80	47
CDP4.5	4.5	80	47
CDP4.6	4.6	80	47
CDP4.7	4.7	80	47
CDP4.8	4.8	86	52
CDP4.9	4.9	86	52
CDP5.0	5.0	86	52
CDP5.1	5.1	86	52
CDP5.2	5.2	86	52
CDP5.3	5.3	86	52
CDP5.4	5.4	93	57
CDP5.5	5.5	93	57
CDP5.6	5.6	93	57
CDP5.7	5.7	93	57
CDP5.8	5.8	93	57
CDP5.9	5.9	93	57
CDP6.0	6.0	93	57
CDP6.1	6.1	101	63
CDP6.2	6.2	101	63
CDP6.3	6.3	101	63
CDP6.4	6.4	101	63
CDP6.5	6.5	101	63
CDP6.6	6.6	101	63
CDP6.7	6.7	101	63
CDP6.8	6.8	109	69
CDP6.9	6.9	109	69
CDP7.0	7.0	109	69
CDP7.1	7.1	109	69
CDP7.2	7.2	109	69
CDP7.3	7.3	109	69
CDP7.4	7.4	109	69
CDP7.5	7.5	109	69
CDP7.6	7.6	117	75
CDP7.7	7.7	117	75
CDP7.8	7.8	117	75

Code No.	D	L	ℓ
CDP7.9	7.9	117	75
CDP8.0	8.0	117	75
CDP8.1	8.1	117	75
CDP8.2	8.2	117	75
CDP8.3	8.3	117	75
CDP8.4	8.4	117	75
CDP8.5	8.5	117	75
CDP8.6	8.6	125	75
CDP8.7	8.7	125	75
CDP8.8	8.8	125	75
CDP8.9	8.9	125	75
CDP9.0	9.0	125	75
CDP9.1	9.1	125	75
CDP9.2	9.2	125	75
CDP9.3	9.3	125	75
CDP9.4	9.4	125	75
CDP9.5	9.5	125	75
CDP9.6	9.6	133	80
CDP9.7	9.7	133	80
CDP9.8	9.8	133	80
CDP9.9	9.9	133	80
CDP10.0	10.0	133	80
CDP10.1	10.1	133	80
CDP10.2	10.2	133	80
CDP10.3	10.3	133	80
CDP10.4	10.4	133	80
CDP10.5	10.5	133	80
CDP10.6	10.6	133	80
CDP10.7	10.7	142	80
CDP10.8	10.8	142	80
CDP10.9	10.9	142	80
CDP11.0	11.0	142	80
CDP11.1	11.1	142	80
CDP11.2	11.2	142	80
CDP11.3	11.3	142	80
CDP11.4	11.4	142	80
CDP11.5	11.5	142	80
CDP11.6	11.6	142	80
CDP11.7	11.7	142	80
CDP11.8	11.8	142	80
CDP11.9	11.9	151	80
CDP12.0	12.0	151	80
CDP12.1	12.1	151	80
CDP12.2	12.2	151	80
CDP12.3	12.3	151	80
CDP12.4	12.4	151	80
CDP12.5	12.5	151	80
CDP12.6	12.6	151	80
CDP12.7	12.7	151	80
CDP12.8	12.8	151	80
CDP12.9	12.9	151	80
CDP13.0	13.0	151	80

CARBIDE REAMER

Contents

Carbide Straight

Chucking Reamer

C02

Carbide Straight Chucking Reamers



Code No.	D	I	I1	L	N
CRA-2.0	2	11	24	49	4
CRA-2.1	2.1	11	24	49	4
CRA-2.2	2.2	12	26	53	4
CRA-2.3	2.3	12	26	53	4
CRA-2.4	2.4	14	28	57	4
CRA-2.5	2.5	14	28	57	4
CRA-2.6	2.6	14	28	57	4
CRA-2.7	2.7	15	32	61	4
CRA-2.8	2.8	15	32	61	4
CRA-2.9	2.9	15	32	61	4
CRA-3.0	3	16	32	61	4
CRA-3.1	3.1	16	35	65	4
CRA-3.2	3.2	16	35	65	4
CRA-3.3	3.3	18	35	65	4
CRA-3.4	3.4	18	40	70	4
CRA-3.5	3.5	18	40	70	4
CRA-3.6	3.6	18	40	70	4
CRA-3.7	3.7	18	40	70	4
CRA-3.8	3.8	19	43	75	4
CRA-3.9	3.9	19	43	75	4
CRA-4.0	4	19	43	75	4
CRA-4.1	4.1	19	43	75	4
CRA-4.2	4.2	21	43	75	4
CRA-4.3	4.3	21	47	80	4
CRA-4.4	4.4	21	47	80	4
CRA-4.5	4.5	21	47	80	4
CRA-4.6	4.6	21	47	80	4
CRA-4.7	4.7	21	47	80	4
CRA-4.8	4.8	4.8	52	86	4
CRA-4.9	4.9	23	52	86	4
CRA-5.0	5	23	52	86	4
CRA-5.1	5.1	23	52	86	4
CRA-5.2	5.2	23	52	86	4
CRA-5.3	5.3	23	52	86	4
CRA-5.4	5.4	26	57	93	4
CRA-5.5	5.5	26	57	93	4
CRA-5.6	5.6	26	57	93	4
CRA-5.7	5.7	26	57	93	4
CRA-5.8	5.8	26	57	93	4
CRA-5.9	5.9	26	57	93	4
CRA-6.0	6	26	57	93	4
CRA-6.1	6.1	28	63	101	4

Code No.	D	I	I1	L	N
CRA-6.2	6.2	28	63	101	6
CRA-6.3	6.3	28	63	101	6
CRA-6.4	6.4	28	63	101	6
CRA-6.5	6.5	28	63	101	6
CRA-6.6	6.6	28	63	101	6
CRA-6.7	6.7	28	63	101	6
CRA-6.8	6.8	31	69	109	6
CRA-6.9	6.9	31	69	109	6
CRA-7.0	7	31	69	109	6
CRA-7.1	7.1	31	69	109	6
CRA-7.2	7.2	31	69	109	6
CRA-7.3	7.3	31	69	109	6
CRA-7.4	7.4	31	69	109	6
CRA-7.5	7.5	31	69	109	6
CRA-7.6	7.6	31	69	109	6
CRA-7.7	7.7	31	69	109	6
CRA-7.8	7.8	31	69	109	6
CRA-7.9	7.9	31	69	109	6
CRA-8.0	8	31	69	110	6
CRA-8.1	8.1	31	69	110	6
CRA-8.2	8.2	31	69	110	6
CRA-8.3	8.3	31	69	110	6
CRA-8.4	8.4	31	69	110	6
CRA-8.5	8.5	31	69	110	6
CRA-8.6	8.6	33	69	110	6
CRA-8.7	8.7	33	69	110	6
CRA-8.8	8.8	33	69	110	6
CRA-8.9	8.9	33	69	110	6
CRA-9.0	9	33	80	125	6
CRA-9.1	9.1	33	80	125	6
CRA-9.2	9.2	33	80	125	6
CRA-9.3	9.3	33	80	125	6
CRA-9.4	9.4	33	80	125	6
CRA-9.5	9.5	33	80	125	6
CRA-9.6	9.6	36	90	133	6
CRA-9.7	9.7	36	90	133	6
CRA-9.8	9.8	36	90	133	6
CRA-9.9	9.9	36	90	133	6
CRA-10	10	36	90	133	6
CRA-11	11	41	95	142	6
CRA-12	12	44	105	151	6
CRA-13	13	44	105	151	6



Carbide Reamer

Micro Boring Tools

MICRO BORING TOOL

Contents

Micro Boring Tool Series	D03
Micro Boring Tool's Features	D04
The Reference Plane	D05
Tool Identification	D05
Type of Boring Tools	D06-D11
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10 Degree Turning Tools	D07
47 Degree Turning Tools	D08
Grooving Tools	D09
Threading Tools	D10
Face Grooving Tools	D11
Patented Tool Holder Series	D13-D18
Direct Tool Holders	D14
Butterfly Tool Holders	D16
Easy Tool Holder	D18
Flash Tool Holder	D18
Special Tool Holder	D18

MICRO BORING Tool Series



0 degree
Turning Tool



10 degree
Turning Tool



47 degree
Turning Tool



Threading
Tool



Grooving
Tool



Face
Grooving
Tool

Premium Quality

▶▶ *Long-lifetime tool with higher quality and speedy delivery. Easy to use for beginner technicians.*

Reasonable Price

▶▶ *Very reasonable and competitive price compare to other branded tooling company*

Easy Exchanging Tool

▶▶ *Easy positioning and high precision repeatability. Time-saver without mistakes.*

Customized Design

▶▶ *Creates boring tools based on your own designs and specifications.*



Micro
Boring
Tools
Series

Micro
Boring
Tool's
Feature

Refer-
ence
Plane

Tool
ID

Types

0°

10°

47°

Grooving

Threading

Face
Grooving

Tool
Holder

Direct

Butterfly

Easy

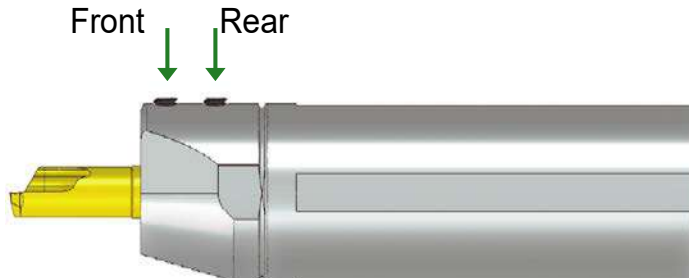
Flash

Special

MICRO-BORING Tool Features

1. Customized upon request.
 - ▶ Provides exclusive micro/internal boring tools based on your own specification.
2. The concept of systematic boring tool design.
 - ▶ Quick change tool (change done in 2 minutes), fool-proofing function design, and Standard Operation Procedures.
3. Coated using professional and advanced imported equipment.
4. Specialized in “difficult-to-cut” materials.
5. Longer lifetime compare to other brands.

MICRO-BORING Tool Special Features



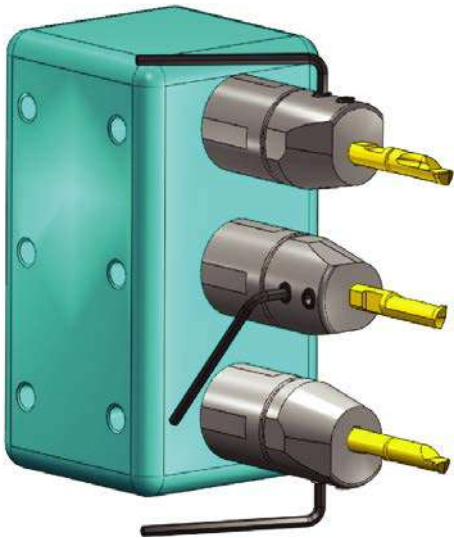
Tool locking procedure:

1. Find the right angle and align the tool appropriately. Make sure to insert the tool until the end.
2. Gently lock the rear screw then lock the front screw tightly.
3. Lastly, relock the rear screw firmly.

Micro Boring Tools

The REFERENCE PLANE

To facilitate easy tool change despite the difference in machine brands and types, we designed two (2) types of reference plane.

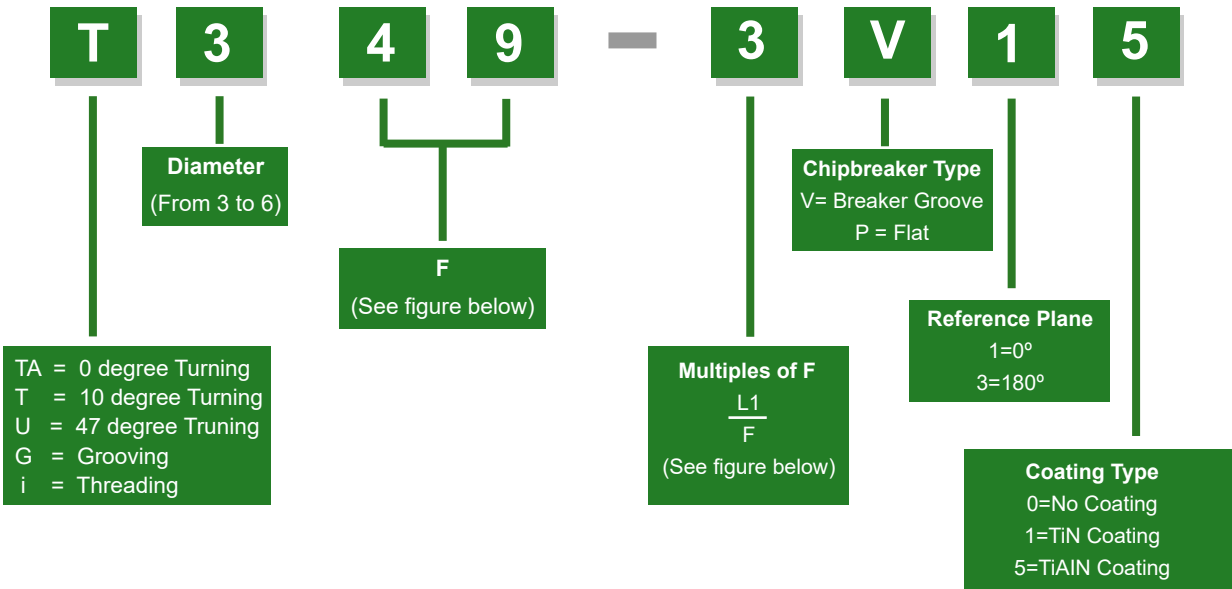
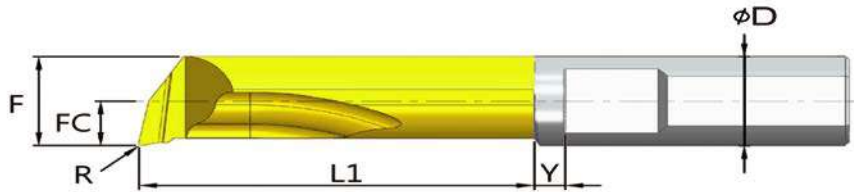


▶▶ **0°** : The reference plane and the tip are on the same side.



▶▶ **180°** : The reference plane and the tip are on the opposite side (top and bottom).

Tools Identification



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

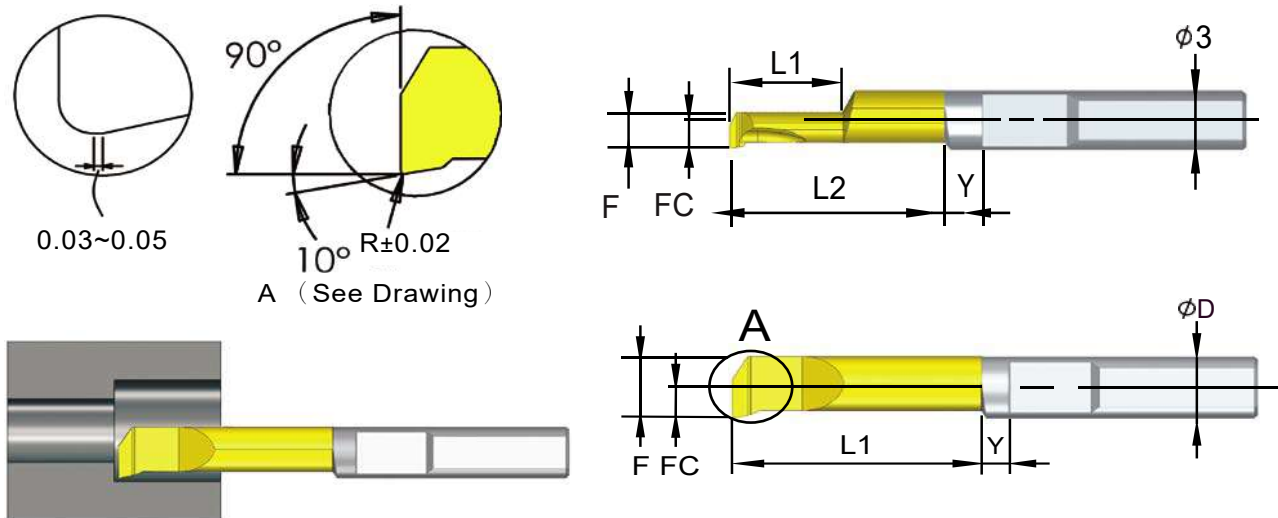
Butterfly

Easy

Flash

Special

0 Degree (0°) Degree Turning Tools (TA Tools)



Code No.	Shank		Dimension						Grade		
	D	̸D	L1	L2	F	FC	R	Y	Carbide	Tin Coat	AlTiN Coat
A3BV-007027R	3	0.7	2.7	4	0.6	1.4	0.03	3		•	•
A3BV-012045R	3	1.2	4.5	6	1	1.4	0.03	3		•	•
A3BV-020060R	3	2	6	8	1.8	1.4	0.05	3		•	•
A3BV-020080R	3	2	8	10.4	1.8	1.4	0.05	3		•	•
A3BV-020100R	3	2	10	13	1.8	1.4	0.05	3		•	•
A3BV-020120R	3	2	12	13	1.8	1.4	0.05	3		•	•
A3BV-020140R	3	2	14	17	1.8	1.4	0.05	3		•	•
A3BV-032080R	3	3.2	8	-	2.9	1.4	0.1	3		•	•
A3BV-032104R	3	3.2	10.4	-	2.9	1.4	0.1	3		•	•
A3BV-032130R	3	3.2	13	-	2.9	1.4	0.1	3		•	•
A3BV-032170R	3	3.2	17	-	2.9	1.4	0.1	3		•	•
A3BV-032200R	3	3.2	20	-	2.9	1.4	0.1	3		•	•
A4BV-042100R	4	4.2	10	-	3.9	1.9	0.1	3		•	•
A4BV-042135R	4	4.2	13.5	-	3.9	1.9	0.1	3		•	•
A4BV-042170R	4	4.2	17	-	3.9	1.9	0.1	3		•	•
A4BV-042220R	4	4.2	22	-	3.9	1.9	0.1	3		•	•
A4BV-042260R	4	4.2	26	-	3.9	1.9	0.1	3		•	•
A5BV-052140R	5	5.2	14	-	4.9	2.4	0.1	3		•	•
A5BV-052180R	5	5.2	18	-	4.9	2.4	0.1	3		•	•
A5BV-052220R	5	5.2	22	-	4.9	2.4	0.1	3		•	•
A5BV-052290R	5	5.2	29	-	4.9	2.4	0.1	3		•	•
A5BV-052340R	5	5.2	34	-	4.9	2.4	0.1	3		•	•
A6BV-062160R	6	6.2	16	-	5.9	2.9	0.1	3		•	•
A6BV-062220R	6	6.2	22	-	5.9	2.9	0.1	3		•	•
A6BV-062270R	6	6.2	27	-	5.9	2.9	0.1	3		•	•
A6BV-062330R	6	6.2	33	-	5.9	2.9	0.1	3		•	•
A6BV-062410R	6	6.2	41	-	5.9	2.9	0.1	3		•	•



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

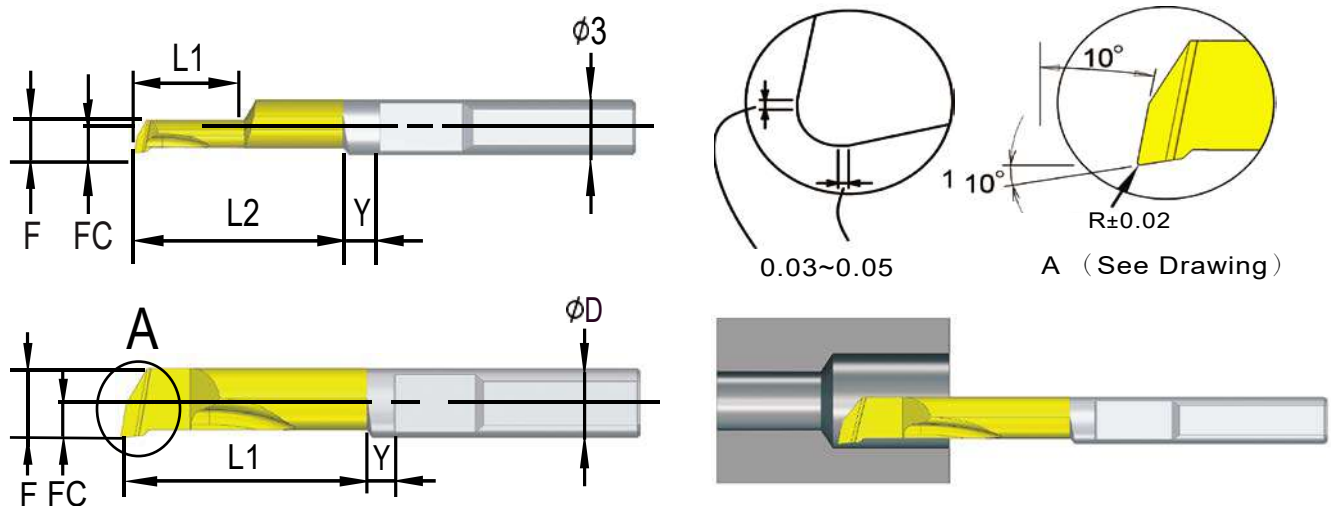
Butterfly

Easy

Flash

Special

10 Degree (10°) Turning Tools (T Tools)



Code No.	Shank		Dimension						Coating		
	D	øD	L1	L2	F	FC	R	Y	Carbide	Tin Coat	AlTiN Coat
B3BV-007027R	3	0.7	2.7	4	0.6	1.4	0.03	3		•	•
B3BV-012045R	3	1.2	4.5	6	1	1.4	0.03	3		•	•
B3BV-020060R	3	2	6	8	1.8	1.4	0.05	3		•	•
B3BV-020080R	3	2	8	10.4	1.8	1.4	0.05	3		•	•
B3BV-020100R	3	2	10	13	1.8	1.4	0.05	3		•	•
B3BV-020120R	3	2	12	13	1.8	1.4	0.05	3		•	•
B3BV-020140R	3	2	14	17	1.8	1.4	0.05	3		•	•
B3BV-032080R	3	3.2	8	-	2.9	1.4	0.1	3		•	•
B3BV-032104R	3	3.2	10.4	-	2.9	1.4	0.1	3		•	•
B3BV-032130R	3	3.2	13	-	2.9	1.4	0.1	3		•	•
B3BV-032170R	3	3.2	17	-	2.9	1.4	0.1	3		•	•
B3BV-032200R	3	3.2	20	-	2.9	1.4	0.1	3		•	•
B4BV-042100R	4	4.2	10	-	3.9	1.9	0.1	3		•	•
B4BV-042135R	4	4.2	13.5	-	3.9	1.9	0.1	3		•	•
B4BV-042170R	4	4.2	17	-	3.9	1.9	0.1	3		•	•
B4BV-042220R	4	4.2	22	-	3.9	1.9	0.1	3		•	•
B4BV-042260R	4	4.2	26	-	3.9	1.9	0.1	3		•	•
B5BV-052140R	5	5.2	14	-	4.9	2.4	0.1	3		•	•
B5BV-052180R	5	5.2	18	-	4.9	2.4	0.1	3		•	•
B5BV-052220R	5	5.2	22	-	4.9	2.4	0.1	3		•	•
B5BV-052290R	5	5.2	29	-	4.9	2.4	0.1	3		•	•
B5BV-052340R	5	5.2	34	-	4.9	2.4	0.1	3		•	•
B6BV-062160R	6	6.2	16	-	5.9	2.9	0.1	3		•	•
B6BV-062220R	6	6.2	22	-	5.9	2.9	0.1	3		•	•
B6BV-062270R	6	6.2	27	-	5.9	2.9	0.1	3		•	•
B6BV-062330R	6	6.2	33	-	5.9	2.9	0.1	3		•	•
B6BV-062410R	6	6.2	41	-	5.9	2.9	0.1	3		•	•



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

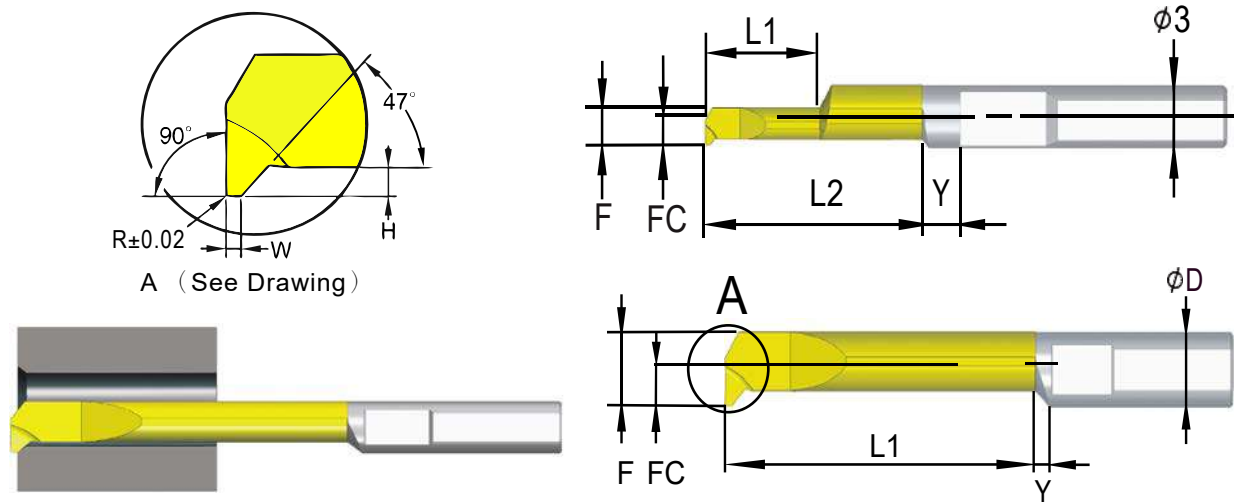
Butterfly

Easy

Flash

Special

47 Degree (47°) Turning Tool (U Tool)



Code No.	Shank	Min. Boring	Dimension								Coating		
	D	øD	L1	L2	F	FC	R	W	H	Y	Carbide	Tin Coat	AlTiN Coat
C3BV-020060R	3	2	6	8	1.8	1.4	0.05	0.3	0.5	3		•	•
C3BV-020080R	3	2	8	10.4	1.8	1.4	0.05	0.3	0.5	3		•	•
C3BV-020100R	3	2	10	13	1.8	1.4	0.05	0.3	0.5	3		•	•
C3BV-020120R	3	2	12	13	1.8	1.4	0.05	0.3	0.5	3		•	•
C3BV-020140R	3	2	14	17	1.8	1.4	0.05	0.3	0.5	3		•	•
C3BV-032080R	3	3.2	8	-	2.9	1.4	0.05	0.4	0.7	3		•	•
C3BV-032104R	3	3.2	10.4	-	2.9	1.4	0.05	0.4	0.7	3		•	•
C3BV-032130R	3	3.2	13	-	2.9	1.4	0.05	0.4	0.7	3		•	•
C3BV-032170R	3	3.2	17	-	2.9	1.4	0.05	0.4	0.7	3		•	•
C3BV-032200R	3	3.2	20	-	2.9	1.4	0.05	0.4	0.7	3		•	•
C4BV-042100R	4	4.2	10	-	3.9	1.9	0.1	0.5	0.8	3		•	•
C4BV-042135R	4	4.2	13.5	-	3.9	1.9	0.1	0.5	0.8	3		•	•
C4BV-042170R	4	4.2	17	-	3.9	1.9	0.1	0.5	0.8	3		•	•
C4BV-042220R	4	4.2	22	-	3.9	1.9	0.1	0.5	0.8	3		•	•
C4BV-042260R	4	4.2	26	-	3.9	1.9	0.1	0.5	0.8	3		•	•
C5BV-052140R	5	5.2	14	-	4.9	2.4	0.1	0.5	1.1	3		•	•
C5BV-052180R	5	5.2	18	-	4.9	2.4	0.1	0.5	1.1	3		•	•
C5BV-052220R	5	5.2	22	-	4.9	2.4	0.1	0.5	1.1	3		•	•
C5BV-052290R	5	5.2	29	-	4.9	2.4	0.1	0.5	1.1	3		•	•
C5BV-052340R	5	5.2	34	-	4.9	2.4	0.1	0.5	1.1	3		•	•
C6BV-062160R	6	6.2	16	-	5.9	2.9	0.1	0.5	1.2	3		•	•
C6BV-062220R	6	6.2	22	-	5.9	2.9	0.1	0.5	1.2	3		•	•
C6BV-062270R	6	6.2	27	-	5.9	2.9	0.1	0.5	1.2	3		•	•
C6BV-062330R	6	6.2	33	-	5.9	2.9	0.1	0.5	1.2	3		•	•
C6BV-062410R	6	6.2	41	-	5.9	2.9	0.1	0.5	1.2	3		•	•



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

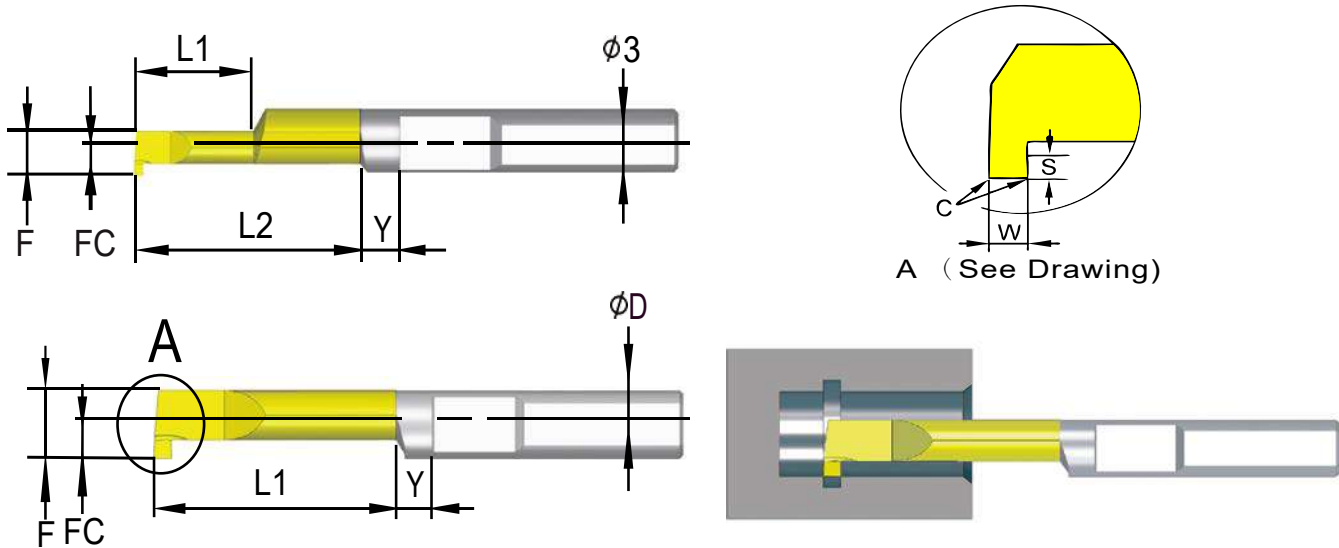
Butterfly

Easy

Flash

Special

Grooving Tool (G Tool)



Code No.	Shank		Min. Boring	Dimension						Coating		
	D	φD		L1	C±0.01	F	FC	W	S	H	Carbide	Tin Coat
G3BV-020080R	3	2	8	0.04	1.8	1.4	0.5	0.3	0.5		•	•
G3BV-032080R	3	3.2	8	0.04	2.9	1.4	0.5	0.5	0.7		•	•
G3BV-032080R	3	3.2	8	0.04	2.9	1.4	0.75	0.8	1		•	•
G4BV-042100R	4	4.2	10	0.04	3.9	1.9	0.5	0.5	0.7		•	•
G4BV-042100R	4	4.2	10	0.04	3.9	1.9	0.75	0.8	1		•	•
G5BV-052140R	5	5.2	14	0.04	4.9	2.4	0.5	0.6	0.8		•	•
G5BV-052140R	5	5.2	14	0.04	4.9	2.4	1	1	1.2		•	•
G5BV-052140R	5	5.2	14	0.04	4.9	2.4	1.25	1.5	1.7		•	•
G6BV-062160R	6	6.2	16	0.04	5.9	2.9	0.5	0.6	0.8		•	•
G6BV-062160R	6	6.2	16	0.04	5.9	2.9	1	1.5	1.7		•	•
G6BV-062160R	6	6.2	16	0.04	5.9	2.9	1.5	1.8	2		•	•



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

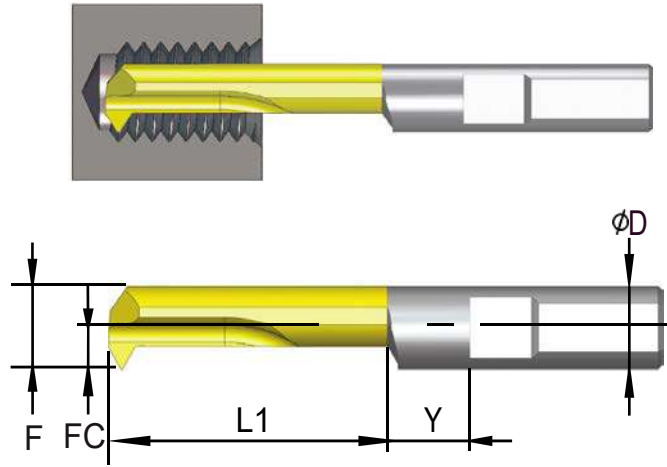
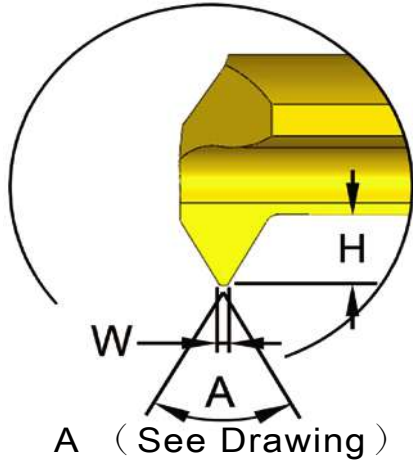
Butterfly

Easy

Flash

Special

Threading Tool (I Tool)



Code No.	Shank	Max Pitch	Dimension							Coating		
	D		L1	A	F	FC	W	H	Y	Carbide	Tin Coat	AlTiN Coat
T3BV-021080R	3	0.6	8	60	2.1	1.05	0.03	0.5	3		•	•
T3BV-026080R	3	0.7	8	60	2.6	1.4	0.04	0.6	3		•	•
T3BV-026099R	3	0.7	9.9	60	2.6	1.4	0.04	0.6	3.5		•	•
T4BV-035100R	4	0.8	10	60	3.5	1.9	0.05	0.7	3		•	•
T4BV-035125R	4	0.8	12.5	60	3.5	1.9	0.05	0.7	4		•	•
T4BV-035150R	4	0.8	15	60	3.5	1.9	0.05	0.7	5		•	•
T5BV-045140R	5	1.25	14	60	4.5	2.4	0.07	1.1	3		•	•
T5BV-045160R	5	1.25	16	60	4.5	2.4	0.07	1.1	5		•	•
T5BV-045180R	5	1.25	18	60	4.5	2.4	0.07	1.1	7		•	•
T6BV-059160R	6	1.5	16	60	5.9	2.9	0.11	1.3	3		•	•
T6BV-059190R	6	1.5	19	60	5.9	2.9	0.11	1.3	6		•	•
T6BV-059220R	6	1.5	22	60	5.9	2.9	0.11	1.3	8		•	•



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

Butterfly

Easy

Flash

Special

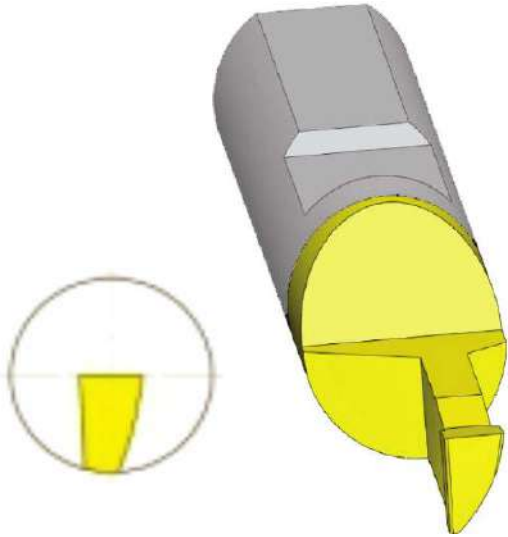
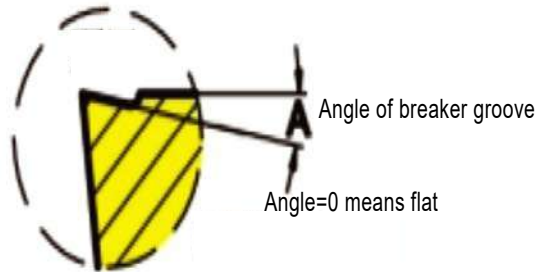
Micro Boring Tools

Face Grooving Tools (D Tools)

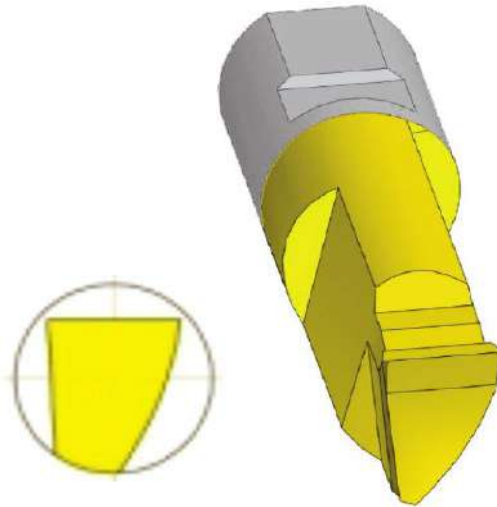
Specification Tool Range:
0.6mm - 8mm Tungsten carbide materials (imported from Europe and Japan).

Feature:
General and Heavy-duty type.

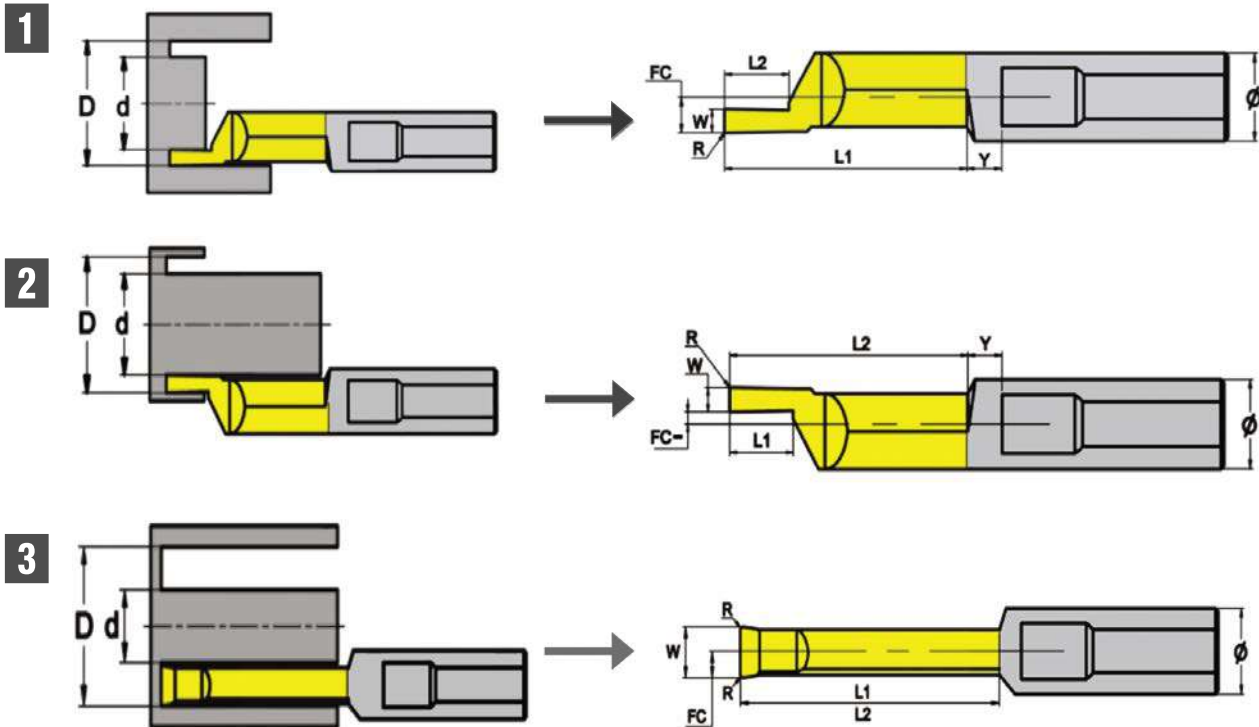
Remarks:
Coated by an imported equipment.



General Type



Heavy-duty Type



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holders

Direct

Butterfly

Easy

Flash

Special



Micro
Boring
Tools
Series

Micro
Boring
Tool's
Feature

Refer-
ence
Plane

Tool
ID

Types

0°

10°

47°

Grooving

Threading

Face
Grooving

Tool
Holder

Direct

Butterfly

Easy

Flash

Special

Micro Boring Tool Holder

Micro Boring Toolholders



Holder Classification

Patented Toolholder Series	Series
D Types = Direct Holders	BJA
B Type = Butterfly Holders	BJM BJJ BJR BNR
E Type = Easy Holders	BJAS
F Type = Flash Holders	BJZ BJZN
S Type = Special Holders	Customized upon request



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

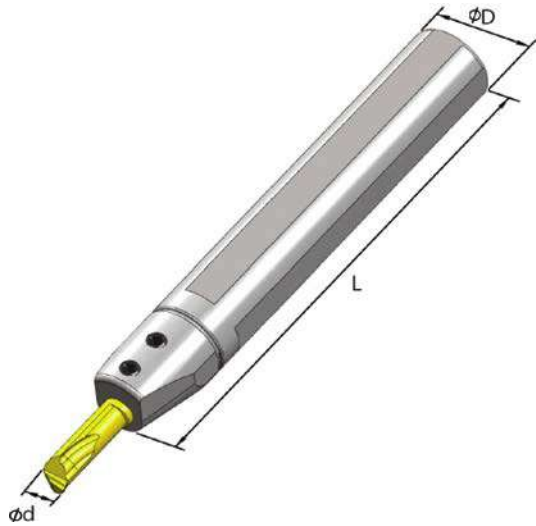
Butterfly

Easy

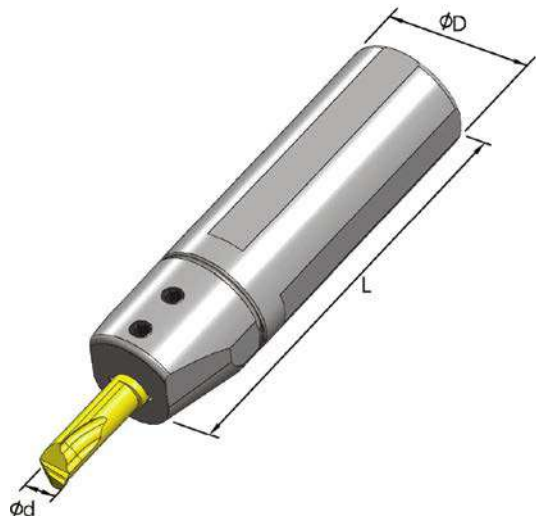
Flash

Special

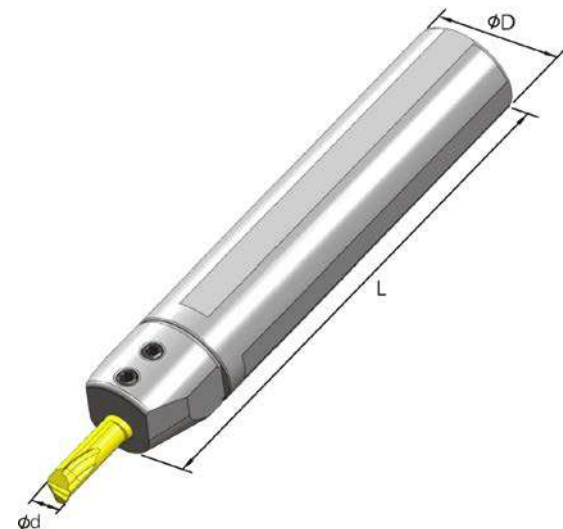
Specifications of Direct Toolholder (D Type)



Item Number	Specifications		
	ØD	Ød	L
BJA-16-03-100WB	16	3	100
BJA-16-04-100WB		4	
BJA-16-05-100WB		5	
BJA-16-06-100WB		6	
BJA-17-03-100WB	17	3	100
BJA-17-04-100WB		4	
BJA-17-05-100WB		5	
BJA-17-06-100WB		6	
BJA-1905-03-95WB	19.05	3	95
BJA-1905-04-95WB		4	
BJA-1905-05-95WB		5	
BJA-1905-06-95WB		6	
BJA-1905-08-95WB		8	



Item Number	Specifications		
	ØD	Ød	L
BJA-20-03-100WB	20	3	100
BJA-20-04-100WB		4	
BJA-20-05-100WB		5	
BJA-20-06-100WB		6	
BJA-20-08-100WB		8	
BJA-20-03-150WB	20	3	150
BJA-20-04-150WB		4	
BJA-20-05-150WB		5	
BJA-20-06-150WB		6	
BJA-20-08-150WB		8	



Item Number	Specifications		
	ØD	Ød	L
BJA-22-03-110WB	22	3	110
BJA-22-04-110WB		4	
BJA-22-05-110WB		5	
BJA-22-06-110WB		6	
BJA-22-08-110WB		8	
BJA-22-03-150WB	22	3	150
BJA-22-04-150WB		4	
BJA-22-05-150WB		5	
BJA-22-06-150WB		6	
BJA-22-08-150WB		8	

D

Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

Butterfly

Easy

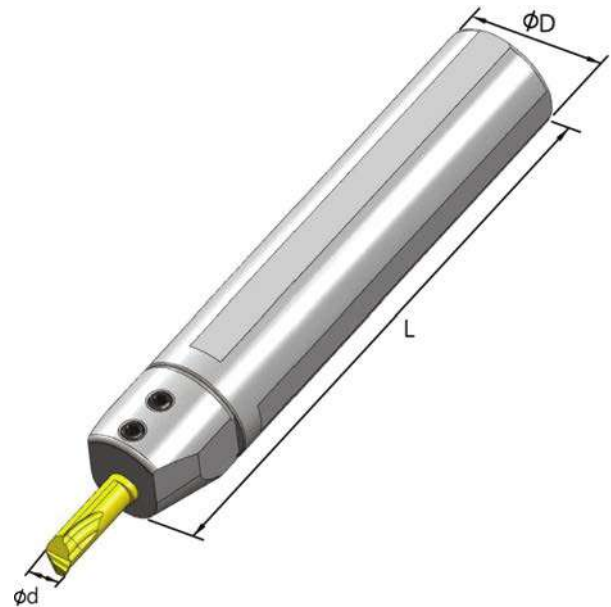
Flash

Special

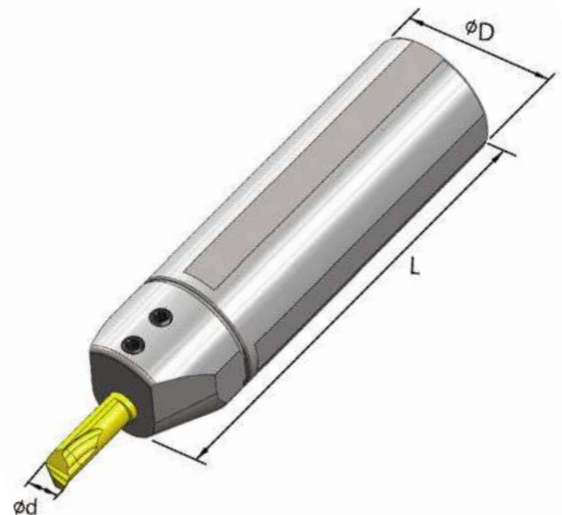
Micro Boring Tool Holder

Specifications of Direct Toolholder (D Type)

Item Number	Specifications		
	$\varnothing D$	$\varnothing d$	L
BJA-23-03-110WB	23	3	110
BJA-23-04-110WB		4	
BJA-23-05-110WB		5	
BJA-23-06-110WB		6	
BJA-23-08-110WB		8	



Item Number	Specifications		
	$\varnothing D$	$\varnothing d$	L
BJA-25-03-90WB	25	3	90
BJA-25-04-90WB		4	
BJA-25-05-90WB		5	
BJA-25-06-90WB		6	
BJA-25-08-90WB	8		
BJA-25-03-150WB	25	3	150
BJA-25-04-150WB		4	
BJA-25-05-150WB		5	
BJA-25-06-150WB		6	
BJA-25-08-150WB	8		
BJA-254-03-90WB	25.4	3	90
BJA-254-04-90WB		4	
BJA-254-05-90WB		5	
BJA-254-06-90WB		6	
BJA-254-08-90WB		8	



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

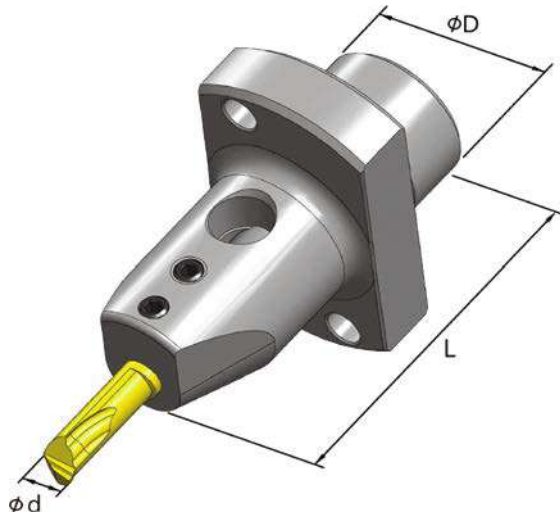
Butterfly

Easy

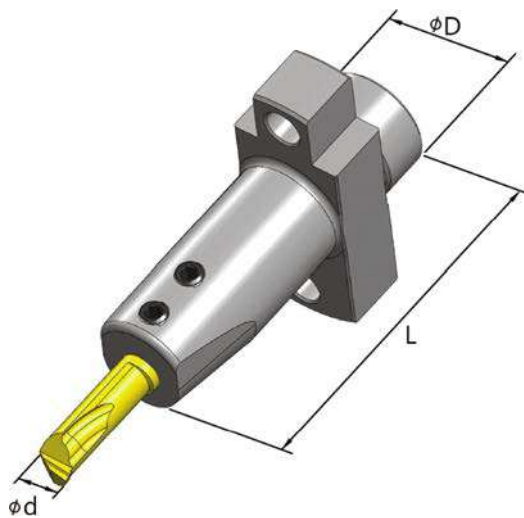
Flash

Special

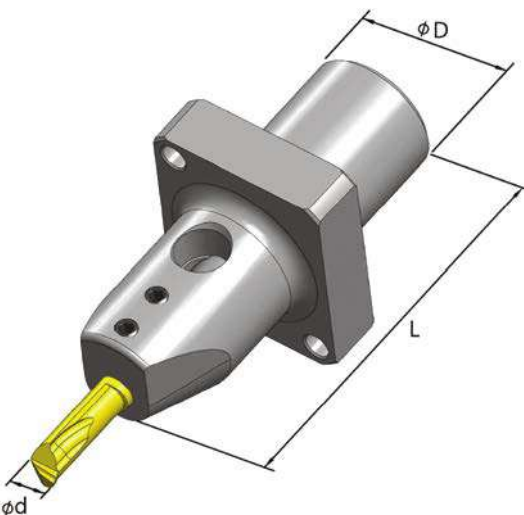
Specifications of Butterfly Toolholder (B Type)



Item Number	Specification			Type of Machine
	ϕD	ϕd	L	
BJM-22-03-59WB		3		
BJM-22-04-59WB		4		
BJM-22-05-59WB	22	5	59	STAR
BJM-22-06-59WB		6		
BJM-22-08-59WB		8		



Item Number	Specification			Type of Machine
	ϕD	ϕd	L	
BJJ-16-03-53WB		3		
BJJ-16-04-53WB		4		STAR
BJJ-16-05-53WB		5		10J
BJJ-16-06-53WB		6		
BJJ-16-08-53WB		8		



Item Number	Specification			Type of Machine
	ϕD	ϕd	L	
BJR-22-03-69WB		3		
BJR-22-03-69WB		4		STAR
BJR-22-03-69WB	22	5	69	20RIV
BJR-22-03-69WB		6		
BJR-22-03-69WB		8		

D

Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

Butterfly

Easy

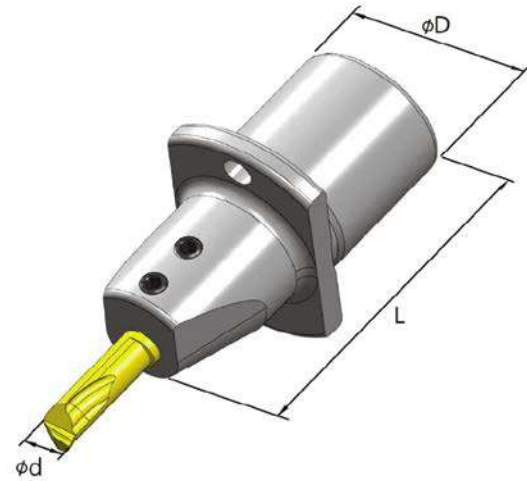
Flash

Special

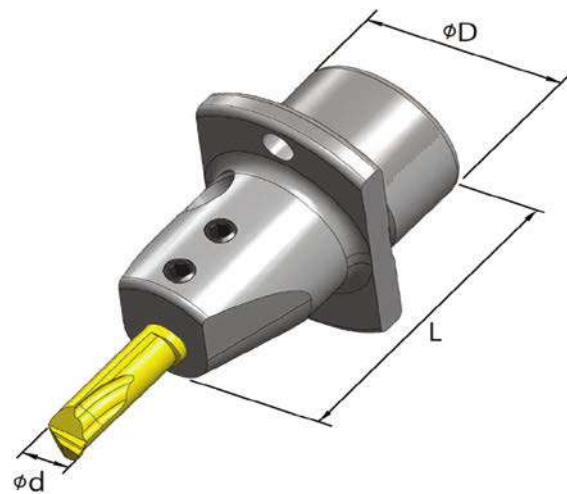
Micro Boring Tool Holder

Specifications of Butterfly Toolholder (B Type)

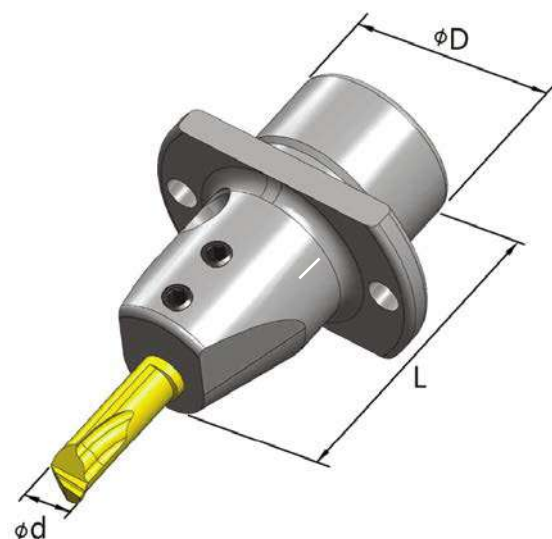
Item Number	Specification			Type of Machine
	$\varnothing D$	$\varnothing d$	L	
BJN-23-03-53WB	23	3	53	NOMURA
BJN-23-04-53WB		4		
BJN-23-05-53WB		5		
BJN-23-06-53WB		6		
BJN-23-08-53WB		8		



Item Number	Specification			Type of Machine
	$\varnothing D$	$\varnothing d$	L	
BJN-E22-03-43WB	22	3	43	NOMURA
BJN-E22-04-43WB		4		
BJN-E22-05-43WB		5		
BJN-E22-06-43WB		6		
BJN-E22-08-43WB		8		



Item Number	Specification			Type of Machine
	$\varnothing D$	$\varnothing d$	L	
BJN-N22-03-43WB	22	3	43	NOMURA
BJN-N22-04-43WB		4		
BJN-N22-05-43WB		5		
BJN-N22-06-43WB		6		
BJN-N22-08-43WB		8		



Micro Boring Tools Series

Micro Boring Tool's Feature

Reference Plane

Tool ID

Types

0°

10°

47°

Grooving

Threading

Face Grooving

Tool Holder

Direct

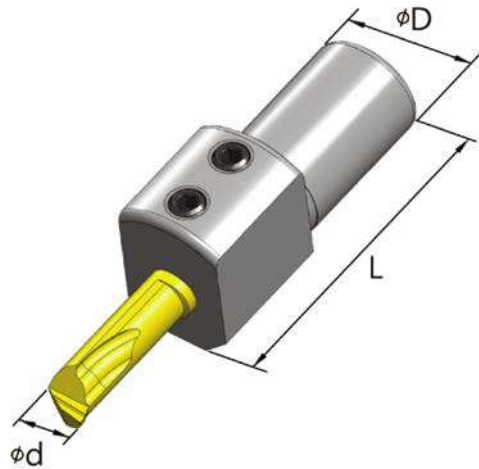
Butterfly

Easy

Flash

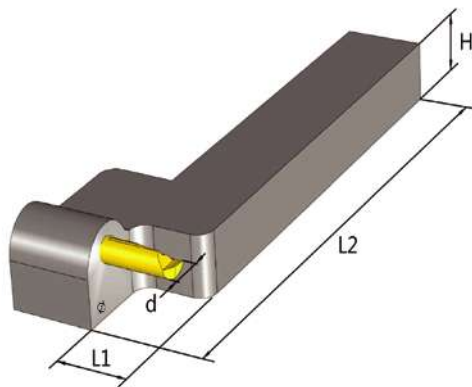
Special

Specifications of Easy Toolholder (E Type)



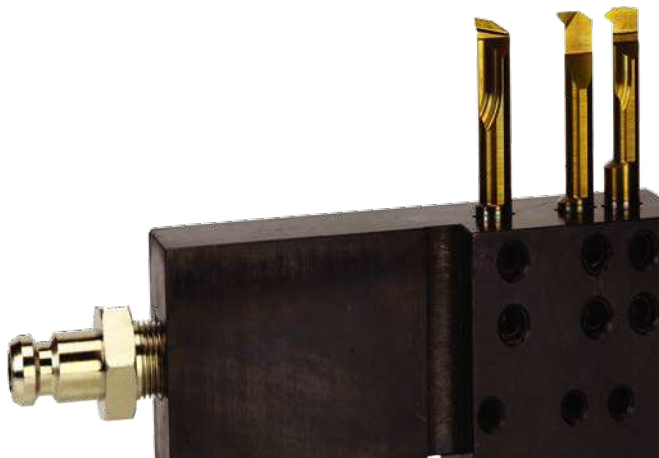
Item Number	Specification		
	ØD	Ød	L
BJAS-10-03-36	10	3	36
BJAS-10-04-36		4	
BJAS-10-05-36		5	
BJAS-10-06-36		6	
BJAS-13-03-36	13	3	36
BJAS-13-04-36		4	
BJAS-13-05-36		5	
BJAS-13-06-36		6	

Specifications of Flash Toolholder (F Type)



Item Number	H	Specification			Machine Type
		ØD	L2	L2	
BJZ-10-03-4	10	3	13.4	100	General
BJZ-10-04-4		4	16.5		
BJZ-12-03-4	12	3	13.4		
BJZ-12-04-4		4	16.5		
BJZ-12-05-4		5	21		
BJZN-10-03-4	10	3	13.4	100	Nomura
BJZN-10-04-4		4	16.5		
BJZN-12-03-4	12	3	16.4		
BJZN-12-04-4		4	16.5		
BJZN-12-05-4		5	21		

Specifications of Special Toolholder (S Type)



►► *Special toolholders are designed based on the customer's machine type and specifications in order to meet his/her demand.*

This holder was designed for multi-axis lathe machine use.



TEN SOON

Users' Experience is our Priority

2nd Floor, Bldg. 4 No. 124 North Science Avenue,
Laguna Trenchopark SEPZ, Biñan City, Laguna
(049) 572 3717 | (049) 545 4658

info@ts-machinetools.com

sales@ts-machinetools.com

Website: ts-machinetools.com

facebook: @TSMachinetools