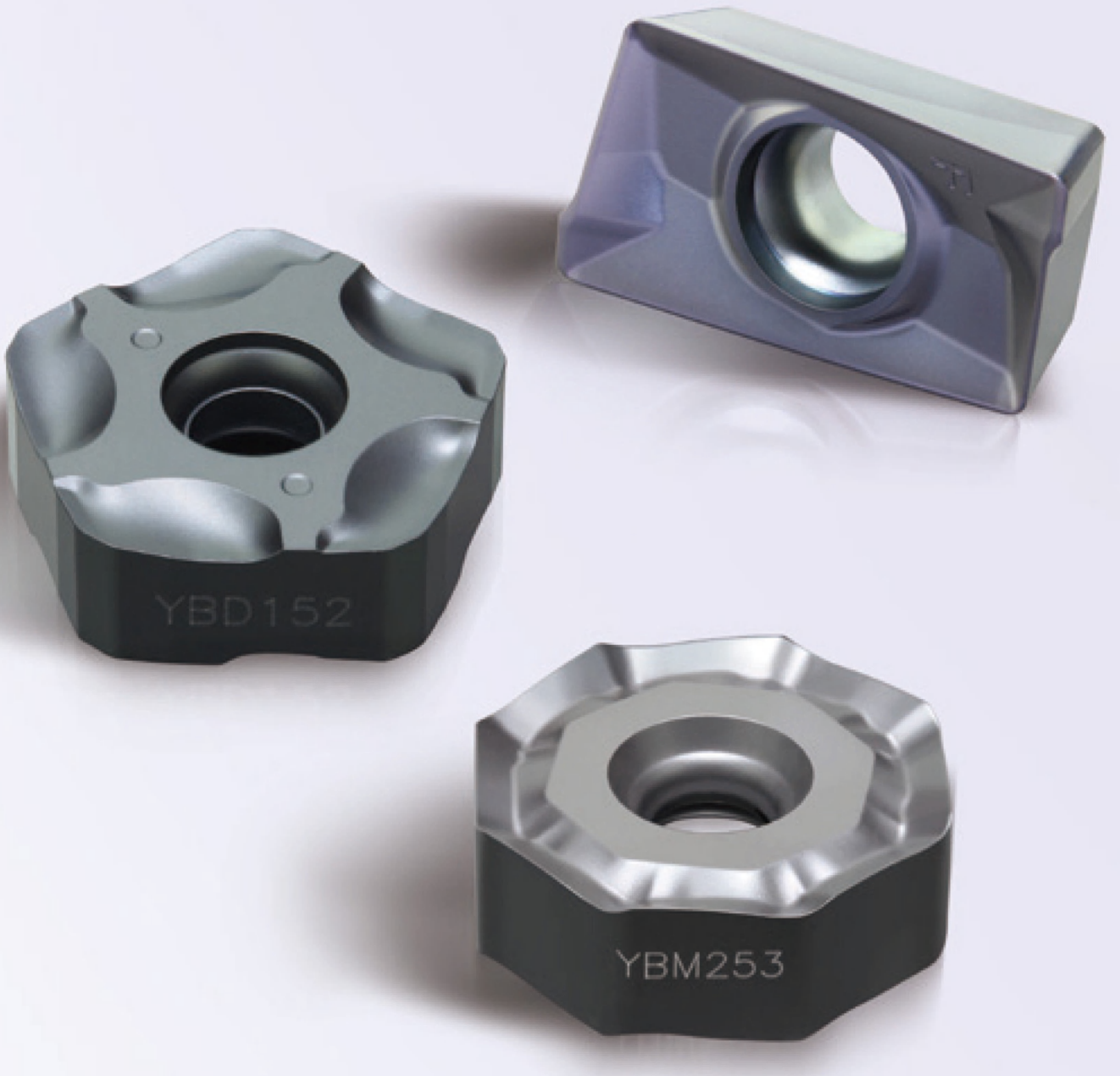
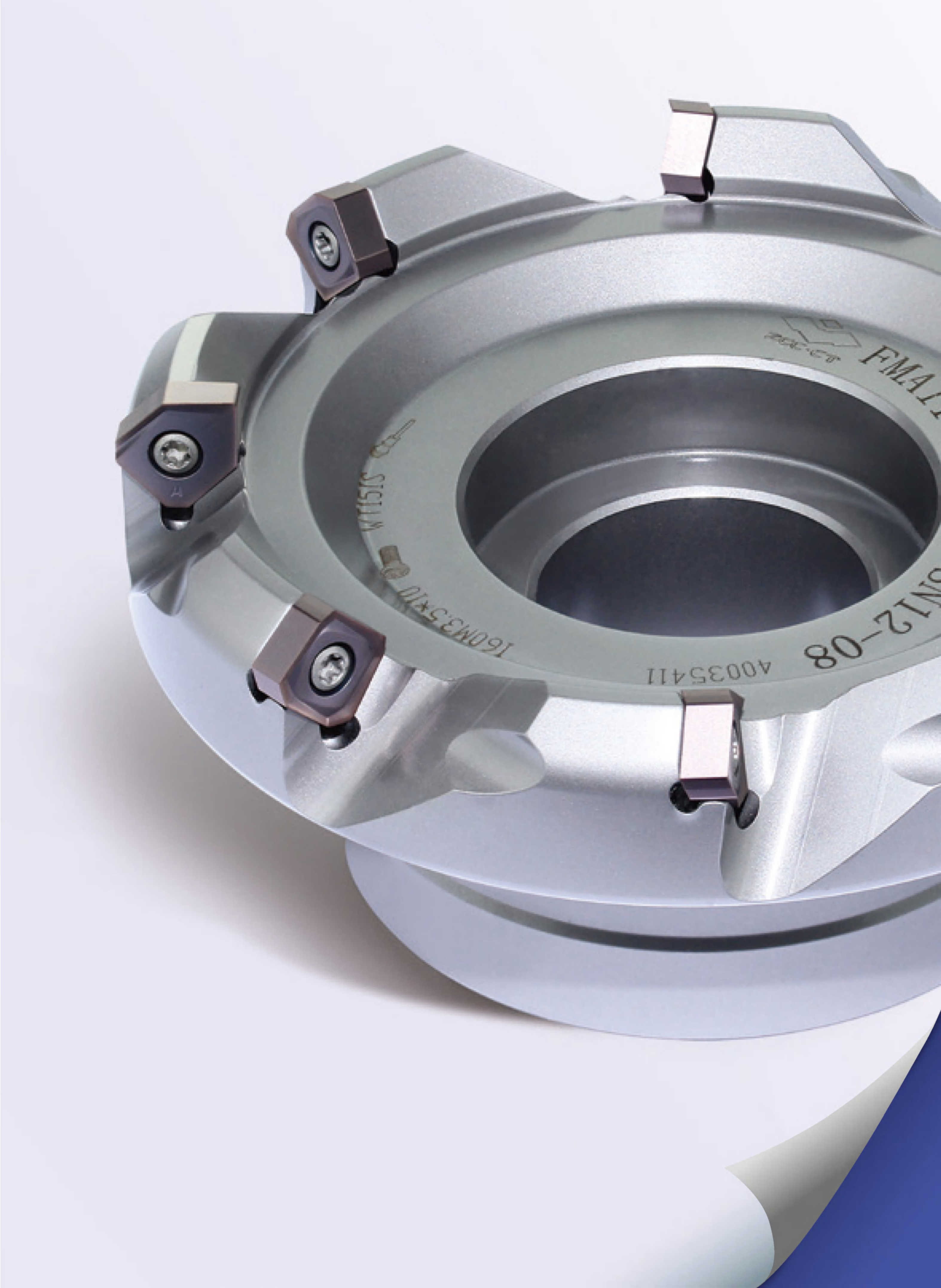
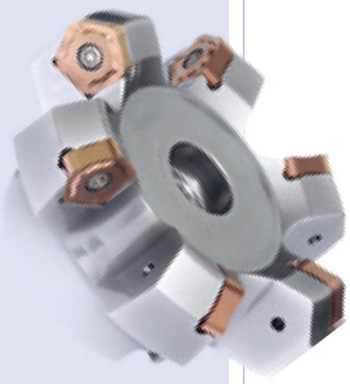
Milling Tools





EMP09 Series

Next Generation Multi Functional Heavy Duty Shoulder Milling Tool



MILLING TOOLS

Face milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth. (inch)	Applicable insert	Application overview	Features
Face milling	**FMA01**  D218-D219	Kr=45° a_{pmax}=0.236	SEET12T3-DF/DM/DR SEET12T3-CF/CM/CR SEET12T3-EF/EM SEET12T3-LH/W	General face milling the following material: Steel, alloy steel, stainless steel, cast iron, aluminium alloy, high temperature alloy	• Diameter range Ø2.00"~Ø12.00" • Large rake angle designed makes cutting more light and fast • Wide applications can achieve using available inserts with different chipbreaker • Adopting wiper inserts improve surface quality
		Kr=45° a_{pmax}=0.384	SEET18T6-DM/EM/W		
	FMA02  D220	Kr=45° a_{pmax}=0.236	SEET12T3-DF/DM/DR SEET12T3-CF/CM/CR SEET12T3-EF/EM SEET12T3-LH/W	General face milling the following material: Steel, alloy steel, stainless steel, cast iron, aluminum alloy, high temperature alloy	• Diameter range Ø2.00"~Ø5.00" • Large rake angle designed makes cutting more light and fast • Wide applications can achieve using available inserts with different chipbreaker • Coarse and differential pitch, reduce vibration
	FMA03  D223	Kr=45° a_{pmax}=0.217	SE□N1203AF□□ SE□R1203AF□□	General face milling steel, stainless steel, cast iron	• Diameter range Ø3.00"~Ø12.00" • Large rake angle makes cutting more light and fast • Top clamping achieves better reduces vibrations resistance
		Kr=45° a_{pmax}=0.295	SE□N1504AF□□ SE□R1504AF□□		
	FMA04  D226	Kr=45° a_{pmax}=0.138	OFKT05T3-DF/DM OFKT05T3-LH	Face milling steel, alloy steel, cast iron, aluminum alloy	• Diameter range Ø2.00"~Ø6.00" • High economy milling tool with 8 cutting edges • Screw clamping, high precision
	New  D230	Kr=45° a_{pmax}=0.157	ODHT060508-GL/GM/GH/LH ODMT060512-GM	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy and superalloy.	• Diameter range Ø2.00"~Ø6.00" • High enconomic insert with 8 cutting edges • Screw clamping, high precision
	FMA11  D234-D235	Kr=45° a_{pmax}=0.216	SNEG1205ANR-GM/HGR/W	General face milling steel, stainless steel, high-temperature alloy, cast iron	• Diameter range Ø2.00"~Ø12.00" • Double-sided chipbreaker milling insert has eight cutting edges and high economy • Large rake angle design and unique chip breaker structure of insert lead to low power consumption • Double negative rake angle structure and super thick insert has higher safety and outstanding toughness, which can realize great depth cutting • Insert has excellent machining performance with wiper edge
		Kr=45° a_{pmax}=0.275	SNEG1506ANR-GM/HGR/W		
		Kr=45° a_{pmax}=0.354	SNEG1907ANR-HGR		
	FMA12 New  D238-D239	Kr=45° a_{pmax}=0.157	ONHU060404ANN-GL ONHU060408ANN-GM/GH ONMU060412-GH/GM	General face milling steel, stainless steel, cast iron	• Diameter range Ø2.50"~Ø12.00" • High Performance Face Mill with 16 edges for outstanding economy • Double negative rake angle, in combination with helical insert structure, achieves double positive axial angle, which will help reduce cutting resistance and improve chip evacuation • Unique 3-dimentional edge
		Kr=45° a_{pmax}=0.197	ONHU09T508ANN-GL/GM/GH ONMU09T512-GM/GH		
	FMA14  D242	Kr=45° a_{pmax}=0.217	PNEG110512-GL PNEG110530-GM PNEG110530-GH	General face milling for steel, stainless steel and cast iron	• Diameter range Ø2.00"~Ø12.00" • 10 cutting edges high economy milling cutter • 45° approach angle balanced design • Great capability of anti-vibration ensures higher surface quality

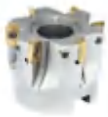
Operating pattern	Series/Shape	Approach angle / Max. cutting depth. (inch)	Applicable insert	Application overview	Features
Face milling	**FMA17** New  D244	Kr=45° a_{pmax}=0.256	SNGX1205ANN-GL/GM/GH/LH/W SNMX1205ANN-GM SNMX120512-GL/GM/GH	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy and superalloy	• Diameter range Ø2.00"~Ø12.00" • Double sided insert, 8 cutting edges • Neutral inserts, normal and fine pitch cutters Wiper geometry for good surface quality • A variety of chipbreakers and grades for wide application range
	FMD02  D247-D248	Kr=67° a_{pmax}=0.197	PNEG110512R/L-CF/CM/CR	Face milling of cast iron and steel	• Diameter range Ø2.00"~Ø12.00" • High-economy milling tool with 10 cutting edges
		Kr=67° a_{pmax}=0.276	PNEG110512R/L-PF/PM/PR		
		Kr=67° a_{pmax}=0.256	PNEG110512-KH/KM/KL		
	FMD03  D251	Kr=60° a_{pmax}=0.472	LNKT2007DN-ZR	Heavy-duty face milling of steel, alloy steel, stainless steel and cast iron	• Diameter range Ø5.00"~Ø12.00" • Double positive rake angles can reduce cutting forces • Inserts are mounted upright, suitable for heavy machining with high cutting depth • Easy to assemble and clamp inserts
		Kr=60° a_{pmax}=0.669	LNKT2510-ZR		
	FMD04  D253	Kr=67° a_{pmax}=0.472	PNGU170712R-GR PNGU170712-HDR	Rough milling of steel and cast iron	• Diameter range Ø5.00"~Ø12.00" • High-economy milling tool with 10 cutting edges • Double negative rake angle, in combination with helical insert structure, achieves double positive axial angle, which will help reduce cutting resistance and improve chip evacuation
	FME04  D255	Kr=75° a_{pmax}=0.472	LNKT1506EN-ZR	Heavy-duty face milling of steel, alloy steel, stainless steel and cast iron	• Diameter range Ø5.00"~Ø12.00" • Double positive rake angles can reduce the cutting force • Inserts are mounted upright, suitable for heavy machining at high cutting depth • Easy to assemble and clamp inserts
	FME17 New  D257	Kr=75° a_{pmax}=0.315	SNGX1205ENN-GL/GM/GH/W SNMX120512-GL/GM/GH	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy and superalloy	• Diameter range Ø2.00"~Ø8.00" • Double sided insert, 8 cutting edges • Neutral inserts, normal and fine pitch cutters Wiper geometry for good surface quality • A variety of chipbreakers and grades for wide application range
	FMP01  D259	Kr=90° a_{pmax}=0.709	TP□N2204PD□ TPKN2204PDF□ TPKN2204PDT□	Face milling steel, alloy steel and cast iron	• Diameter range Ø3.00"~Ø12.00" • Kr 90° , square shoulder milling • Top clamping is easy to assemble and disassemble
	FMP02  D261	Kr=90° a_{pmax}=0.285	SEET09T308PER-APF/ APM/APR	Face milling steel, alloy steel, stainless steel, cast iron and AL alloy	• Diameter range Ø2.00"~Ø10.00" • Kr 90°, for square shoulder milling • Different pitch design: coarse pitch, close pitch and extra close pitch • High precision insert, high work-piece surface quality • Optimized chipbreaker and grade, for finish machining, semi-finish machining and rough machining
		Kr=90° a_{pmax}=0.425	SEET120308PER-APF/ APM/APR SEET120308-LH		

Face milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth. (inch)	Applicable insert	Application overview	Features
Face milling	**FMP03**  D264	Kr=90° a_{pmax}=0.512	LNKT1506EN-ZR	Heavy-duty face milling of steel and alloy steel	• Diameter range Ø5.00"~Ø12.00" • Double positive rake angles can reduce the cutting force • Inserts are mounted upright, suitable for heavy machining at high cutting depth • Easy to assemble and clamp inserts
		Kr=90° a_{pmax}=0.669	LNKT2007DN-ZR		
		Kr=90° a_{pmax}=0.866	LNKT2510-ZR		
	FMP17 New  D266-D267	Kr=88° a_{pmax}=0.398	SNGX1205PNN-GL/GM/GH/W SNMX120512-GL/GM/GH SNCU120420-W4	Face milling of steel, alloy steel, stainless steel, cast iron and superalloy	• Diameter range Ø2.00"~Ø12.00" • Double sided insert, 8 cutting edges • Neutral inserts, normal and fine pitch cutters • Wide application range
	FMR01  D270	a_{pmax}=0.197	RCKT10T3MO-DM	Cavity profile milling steel, alloy steel, stainless steel, high-temperature alloy and cast iron	• Diameter range Ø1.00"~Ø2.00" • R-type inserts possess stronger cutting edges • Suitable for machining curved surface of mould • Economical milling cutters with screw clamping
		a_{pmax}=0.236	RCKT1204MO-DM/DR/ER/NM		
	FMR02  D273	a_{pmax}=0.236	RCKT1204MO-DM/DR/ER/NM	Face milling and cavity profile milling steel, alloy steel, stainless steel, high-temperature alloy and cast iron	• Diameter range Ø2.50"~Ø6.00" • R-type inserts possess stronger cutting edges • Suitable for machining curved surface of mould • Economical milling tools with screw clamping
		a_{pmax}=0.315	RCKT1606MO-DM/DR/ER/NM		
		a_{pmax}=0.394	RCKT2006MO-DR/ER/NM		
	FMR03  D277	a_{pmax}=0.157	RDKW0803MO	Cavity profile milling steel, alloy steel, stainless steel, high-temperature alloy and cast iron	• Diameter range Ø1.00"~Ø2.00" • R-type inserts possess stronger cutting edges • Suitable for machining curved surface of mould • Economical milling tools with screw clamping
		a_{pmax}=0.197	RDKW10T3MO RDKT10T3MO-NM		
		a_{pmax}=0.236	RDKW1204MO		
	FMR04  D280	a_{pmax}=0.236	RDKW1204MO	Face milling and cavity profile milling steel, alloy steel, stainless steel and cast iron	• Diameter range Ø2.00"~Ø6.00" • R-type inserts possess stronger cutting edges • Suitable for machining curved surface of mould
		a_{pmax}=0.315	RDKW1605MO		
		a_{pmax}=0.394	RDKW2006MO		
	FMR05  D283	a_{pmax}=0.125	RPMW2T200	Cavity profile milling steel, alloy steel, stainless steel and cast iron	• Diameter range Ø0.625"~Ø1.75" • R-type inserts possess stronger cutting edges • Suitable for machining curved surface of mould • Economical milling cutters with screw clamping
		a_{pmax}=0.180	RPMW3(2.5)		
		a_{pmax}=0.250	RPMW43		
	 D284	a_{pmax}=0.250	RPMW43	Face milling and cavity profile milling steel, alloy steel, stainless steel and cast iron	• Diameter range Ø2.00"~Ø8.00" • R-type inserts possess stronger cutting edges • Suitable for machining curved surface of mould • Economical milling tools with screw clamping
		a_{pmax}=0.315	RPMW50500		
		a_{pmax}=0.375	RPMW64		

Operating pattern	Series/Shape	Approach angle / Max. cutting depth. (inch)	Applicable insert	Application overview	Features
Face milling	**FMR11** New  D288  D289	a_{pmax}=0.197	R□MW10T3MO-H R□MT10T3MO-M R□MT10T3MO-MM	Face milling and profile milling of steel, alloy steel, stainless steel, cast iron, hardening steel and superalloy	• Diameter range Ø1.00"~Ø1.50" • Anti-indexation structure design • Wide application range • Insert can be indexed 8 times
		a_{pmax}=0.236	R□MW1204MO-H R□MT1204MO-M R□MT1204MO-MM		
		a_{pmax}=0.197	R□MW10T3MO-H R□MT10T3MO-M R□MT10T3MO-MM		• Diameter range Ø2.00"~Ø3.00" • Anti-indexation structure design • Wide application range • Insert can be indexed 8 times
		a_{pmax}=0.236	R□MW1204MO-H R□MT1204MO-M R□MT1204MO-MM		

Square shoulder milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.(inch)	Applicable insert	Application overview	Features
Square shoulder milling	**EMP01**  D291-D292	Kr=90° a_{pmax}=0.433	APKT11T3□□-APF/APM APKT11T3□□-ALH	Multi-function milling steel, alloy steel, stainless steel, cast iron and Al alloy	• Two mounting modes: Straight shank and Weldon shank, Diameter range Ø0.50"~Ø2.50" • Kr 90°, for square shoulder milling, slot milling, ramp milling etc • Wiper inserts also suitable for face milling • Inserts with 3D helical cutting edge, less cutting force
		Kr=90° a_{pmax}=0.630	APKT160408-APF/APM APKT160408-ALH		
	EMP02  D297	Kr=90° a_{pmax}=0.433	APKT11T3□□-APF/APM APKT11T3□□-ALH	Face milling steel, alloy steel, stainless steel, cast iron and Al alloy	• Diameter range Ø2.00"~Ø8.00" • Kr 90°, for square shoulder milling • Wiper inserts also suitable for face milling • Inserts with 3D helical cutting edge, less cutting force
		Kr=90° a_{pmax}=0.630	APKT160408-APF/APM APKT160408-ALH		
	EMP03  D300	Kr=90° a_{pmax}=1.535	APKT11T3□□-APF/APM APKT11T3□□-ALH	Adopting large cutting depth, for milling steel, alloy steel, stainless steel, cast iron and Al alloy	• Diameter range Ø2.00"~Ø4.00" • End milling tools with positive helical angle, good chip removal • For side face milling and slot machining • Close pitch, high machining efficiency

Square shoulder milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.(inch)	Applicable insert	Application overview	Features
Square shoulder milling	**EMP04**  D301	Kr=90° a_{pmax}=1.157~2.283	APKT11T3□□-APF/APM APKT11T3□□-ALH	Adopting large cutting depth, for milling steel, alloy steel, stainless steel, cast iron and Al alloy	• Diameter range Ø0.75"~Ø1.50" • End milling tools with positive helical angle, good chip removal • For side face milling and slot machining • Close pitch, high machining efficiency
	EMP09  D306	Kr=90° a_{pmax}=0.315	LNKT0804□□PNR-GM/GL	Multifunction milling machining for steel, alloy steel, stainless steel and cast iron	• Diameter range Ø1.00"~Ø1.50" • 2 kinds of interface of straight shank and Weldon shank • With 90° approach angle, the cutter can be used in shoulder milling, chamfer milling and other tangential machining, and the cutter can stand greater cutting force
		Kr=90° a_{pmax}=0.453	LNKT1206□□PNR-GM/GL		
	 D307-D308	Kr=90° a_{pmax}=0.315	LNKT0804□□PNR-GM/GL	Face milling for steel, alloy steel, stainless steel and cast iron	• Diameter range Ø1.50"~Ø6.00" • With 90° approach angle, the cutter can be used in shoulder milling, chamfer milling and other tangential machining, and the cutter has better rigidity
		Kr=90° a_{pmax}=0.453	LNKT1206□□PNR-GM/GL		
		Kr=90° a_{pmax}=0.591	LNKT1607□□PNR-GM/GL		
	 D309	Kr=90° a_{pmax}=1.7	LNKT1206□□PNR-GM/GL	Large cutting depth milling for steel, alloy steel, stainless steel and cast iron	• Diameter range Ø1.50"~Ø3.00" • Used in side milling and slot machining • Spiral cutting-edge design ensures easier and faster cutting
	 D310	Kr=90° a_{pmax}=1.215~1.5	LNKT0804□□PNR-GM/GL	Large cutting depth milling for steel, alloy steel, stainless steel and cast iron	• Diameter range Ø1.00"~Ø1.25" • Greater nose strength and shaper cutting-edge • Used in side milling and slot machining • Tangential inserts clamping style improves the capability of cutting force bearing
	EMP13  D314	Kr=90° a_{pmax}=0.441	ANGX1105□□PNR-GM/LH	Face milling steel, alloy steel, stainless steel and cast iron	• Diameter range Ø2.00"~Ø6.00" • Kr 90°, for square shoulder milling • Double negative rake angle of the tool body in combination with extra thick insert achieves double positive tool angle, which will help reduce cutting resistance and greatly improve impact resistance • Properly designed cutting edge with high precision control can achieve high quality 90osquare shoulder milling
		Kr=90° a_{pmax}=0.571	ANGX1506□□PNR-GM/LH		

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.(inch)	Applicable insert	Application overview	Features
Square shoulder milling	**EMP13**  D315	Kr=90° a_{pmax}=0.441	ANGX1105□□PNR-GM/LH	Multi-function milling steel, alloy steel, stainless steel and cast iron	• Two mounting modes: Straight shank and Weldon shank, Diameter range Ø0.75"~Ø1.50" • Kr90°, for square shoulder milling, slot milling, ramp milling ect • Double negative rake angle of the tool body in combination with extra thick insert achieves double positive tool angle, which will help reduce cutting resistance and greatly improve impact resistance • Properly designed cutting edge with high precision control can achieve high quality 90°square shoulder milling
		Kr=90° a_{pmax}=0.571	ANGX1506□□PNR-GM/LH		
	EMP14 New  D319  D320	Kr=90° a_{pmax}=0.472	VPGT□□□□-LP	Suitable for face milling, square shoulder milling, cavity milling and high-speed milling in aliuminum alloy.	• Diameter range: Ø2.00"~Ø4.00", V-shaped structure design insert with stable positioning
			VPGT□□□□-LP		• Diameter range: Ø1.25"~Ø1.50", V-shaped structure design insert with stable positioning

D

Profile milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Profile milling	**BMR02**  D322	Cutting depth: see the detailed information about tool specifications	ROHX□□	Profile machining steel, stainless steel and cast iron	• Diameter range Ø0.625"~Ø1.00" • Applied for profile finish machining • Good assembly stability • Insert with two cutting edges, perfect economical efficiency
	BMR04  D324		ZOHX□□	Profile machining steel, stainless steel and cast iron	• Diameter range Ø0.625"~Ø1.25" • High precision, for finish profile machining • Two types of chipbreaker, used in different machining condition • High assembling precision, good stability

Special milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Special milling (high feed)	**XMR01**  D328  D329  D331  D332	Cutting depth: see the detailed information about tool specifications	SDMT□□-DM/PM/NM	Face and profile milling steel, stainless steel, high-temperature alloy and cast iron in cavity applications	• Diameter range Ø0.75"~Ø6.00" • Two mounting types: Straight shank and Arbor mounting • The cutting forces are decomposed effectively, realize cutting with high feed rate • For plunge milling • Double clamping, firm and reliable
			WPGT□□ZSR WPGT□□ZSR-PM	Face and profile milling steel, stainless steel and cast iron in cavity applications	• Diameter range Ø0.75"~Ø4.00" • Two mounting types: Straight shank and Arbor mounting • The cutting forces are decomposed effectively, realize cutting with high feed rate • For plunge milling • Double clamping, firm and reliable

D

Chamfer milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Chamfer machining	**CMA01**  D337	Kr=45°	SPMT120408	Chamfer machining steel, alloy steel, stainless steel and cast iron	• Diameter range Ø0.50"~Ø1.25" • With the function of milling small surface
	CMD01  D338	Kr=60°			

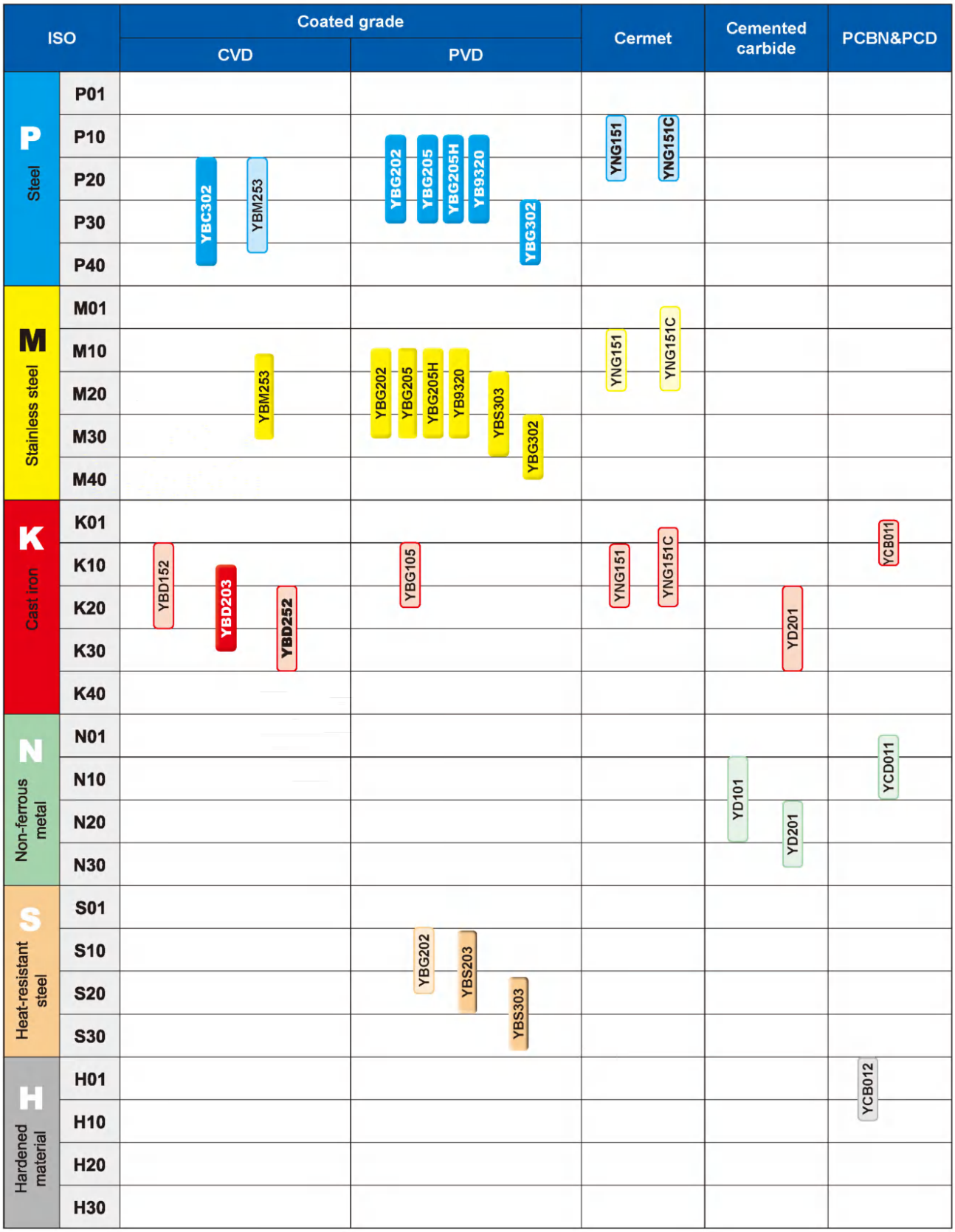
Upgraded FMA12 Series

High Performance Face Mill
with 16 edges for outstanding economy;
New ONHU inserts with GL, GM and GH chip-breakers
for a wide range of applications.

FMA17 FME17 FMP17

New Generation High Efficiency and High Precision Milling Cutters

Milling insert grades overview



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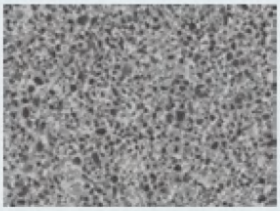
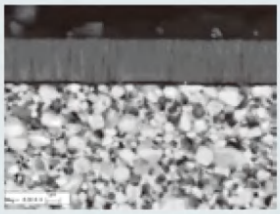
Coated Cemented Carbide CVD

Grade	Coating structure	Micro-structure	ISO applied range	Application field
YBM253	Combination of high-toughness gradient substrate and coating composed of TiCN and ultra fine Al_2O_3		P15~40 M10~30	Suitable for rough milling of ISO P, ISO M materials
YBD152	Good combination of substrate with high wear-resistance and coating composed of TiCN and thick Al_2O_3		K05~25	Suitable for finish and semi-finish milling of ISO K materials
YBD252	Good combination of substrate with high wear-resistance and coating composed of TiCN and thick Al_2O_3		K15~35	Suitable for rough and semi-finish milling of ISO K materials
YBC302	Combination of high toughness, high strength substrate and coating composed of TiCN, thin Al_2O_3 and TiN		P15-35	Suitable for rough and semi-finish milling of ISO P materials
YBD203	The matrix with good toughness and wear resistance is combined with TiCN and Al2O3 coatings with high toughness and high bonding strength		K10~30	Suitable for universal purpose milling of ISO K materials such as ductile iron and vermicular iron

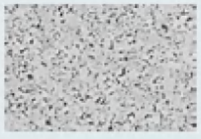
Coated Cemented Carbide PVD

Grade	Coating structure	ISO applied range	Application field
YBG105	Fine grain carbide substrate+Nano coating	K05~20	Applicable for finish and semi-finish milling K type materials
YBG202	Carbide substrate with excellent deformation resistance +Nano coating	P10~30 M10~30 S05~20	PVD grade with wide application,widely applicable for semifinish milling type P, M, S materials
YBG205	Ultra fine carbide substrate + Nano coating	P10~30 M10~30	Suitable for rough milling of P, M type materials
YBG205H	Ultra-modern TiAlSiN PVD coating	P10~30 M10~30	Suitable for machining steel, stainless steel and hardened steel
YBG302	Substrate with high toughness and strength + Nano-coating	P25~40 M25~40	Applicable for rough milling type P and M materials
YB9320	Substrate with good toughness and strength +TiAlN Nano coating	P10~30 M10~30	PVD grade with wide application,widely applicable for semifinish milling type P, M materials
YBS203	Substrate with marvelous anti-deformation capability + nano coating	S10~20	Grade for S material's general machining, suitable for S material's milling
YBS303	Substrate with both good toughness and strength + nano coating	M20~30 S20~30	Grade for S, M materials, especially suitable for milling Ti-alloy

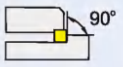
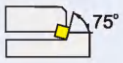
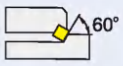
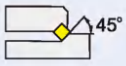
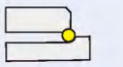
Cermet

Grade	Coating structure	ISO applied range	Application field
YNG151		P05~20 M05~20 K05~20	Wide application of finish milling P, M, K type materials
YNG151C		P01~20 M01~20 K01~20	Wide application of finish milling P, M, K type materials

Cemented Carbide

Grade	Coating structure	ISO applied range	Application field
YD101		N05~25	Applicable for semi-finish and finish milling type N material
YD201		K15~35 N15~30	Applicable for rough and semi-finish type K material, and for rough milling type N material

Cutter stype	
FM	Face milling
EM	Square shoulder milling
HM	Helical end milling
SM	Side and face milling
BM	Profile milling
CM	Chamfer milling
XM	Special milling

Approach angle		
P	90°	
E	75°	
D	60°	
A	45°	
R		

Sequence number of series

Cutting diameter ØD

Side and face milling tool: diameter
X cutting edge width

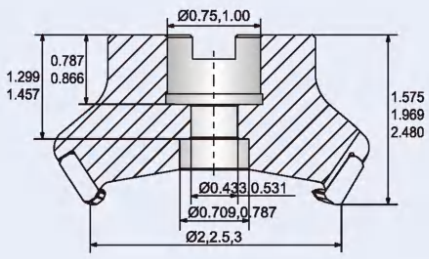
Arbor/spindle Mounting
(as follow figure)

A	A type of mounting	XP	Weldon shank
B	B type of mounting	G	Straight shank
C	C type of mounting	MW	Morse adapter with a conical hole and without a flat end
D	D type of mounting		

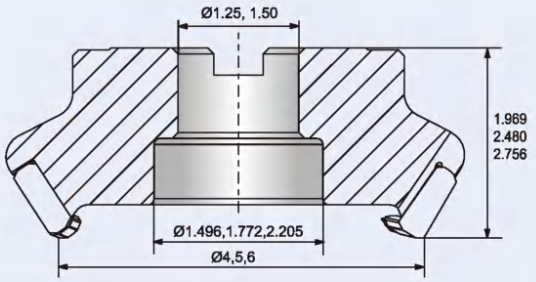
FM A 02 - 2.00" - A

Arbor/spindle Mounting

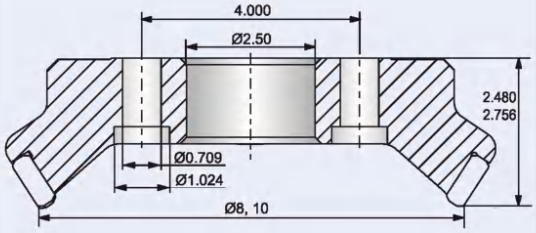
A



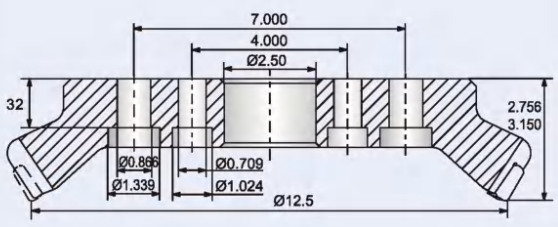
B

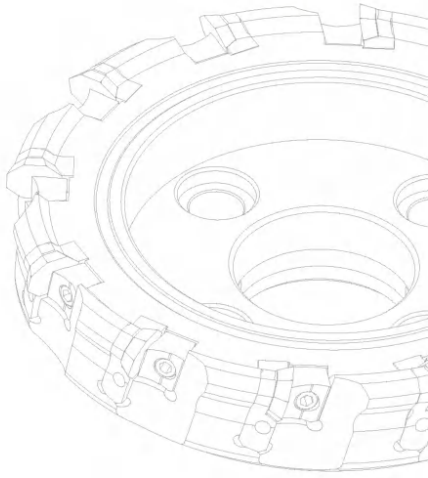


C



D





Arbor hole size(inch)
(as follow figure)

Insert shape

 C	 D	 R	 S
 T	 L	 H	 O

Insert clearance angle

N	B	C	P	D	E	F
0°	5°	7°	11°	15°	20°	25°

0.75" - S E 12 - 04 L C

Cutting edge length of insert

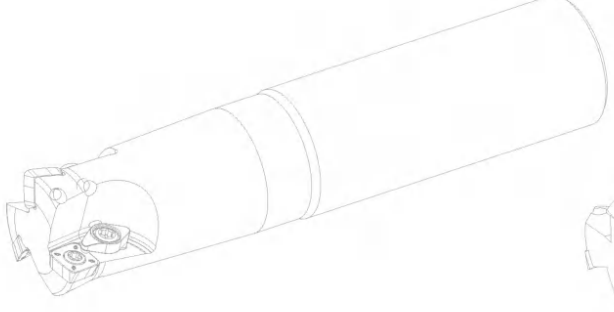
Inscribed circle	Insert shape					
	C	D	R	S	T	L
0.219	—	—	—	—	09	—
0.250	06	07	—	—	11	—
0.375	09	11	09	09	16	—
0.500	12	15	12	12	22	—
0.625	16	19	15	15	27	—
0.750	19	—	19	19	33	—
1.000	25	—	25	25	44	2

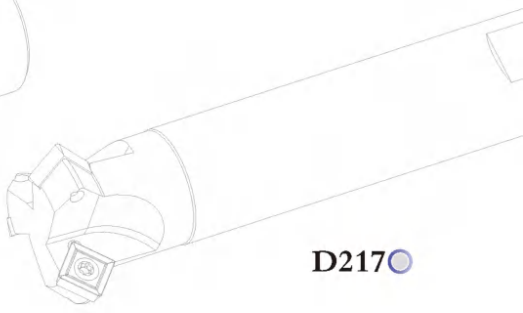
Number of teeth
(Number of flute for corn-shaped milling tools)

Cutting direction
(Default:Right L:left)

Internal cooling structure

D



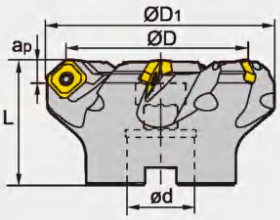


Face milling tools Kr:45°

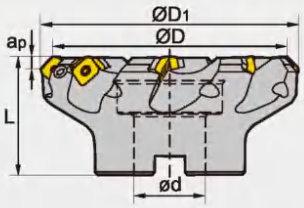
FMA01 P M K N S

Coarse pitch

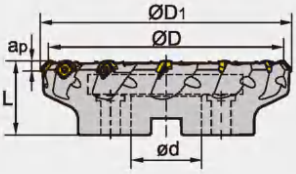
A type of mounting



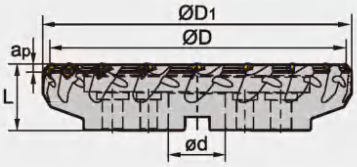
B type of mounting



C type of mounting



D type of mounting



Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMA01	-2.00"-A0.75"-SE12-04	2.000	2.510	0.750	1.750	0.236	4	A
	-2.50"-A0.75"-SE12-05	2.500	3.010	0.750	1.750	0.236	5	A
	-3.00"-A1.00"-SE12-06	3.000	3.510	1.000	2.000	0.236	6	A
	-4.00"-B1.25"-SE12-07	4.000	4.510	1.250	2.000	0.236	7	B
	-5.00"-B1.50"-SE12-08	5.000	5.510	1.500	2.500	0.236	8	B
	-6.00"-B1.50"-SE12-07	6.000	6.510	1.500	2.500	0.236	7	B
	-6.00"-B1.50"-SE12-10	6.000	6.510	1.500	2.500	0.236	10	B
	-8.00"-C2.50"-SE12-08	8.000	8.510	2.500	2.500	0.236	8	C
	-8.00"-C2.50"-SE12-12	8.000	8.510	2.500	2.500	0.236	12	C
	-10.0"-C2.50"-SE12-10	10.000	10.510	2.500	2.500	0.236	10	C
	-10.0"-C2.50"-SE12-14	10.000	10.510	2.500	2.500	0.236	14	C
	-12.0"-D2.50"-SE12-18	12.000	12.510	2.500	2.750	0.236	18	D
	-4.00"-B1.25"-SE18-04	4.000	4.510	1.250	2.500	0.384	4	B
	-5.00"-B1.50"-SE18-05	5.000	5.510	1.500	2.500	0.384	5	B
	-6.00"-B1.50"-SE18-06	6.000	6.510	1.500	2.500	0.384	6	B
	-8.00"-C2.50"-SE18-08	8.000	8.510	2.500	2.500	0.384	8	C
	-10.0"-C2.50"-SE18-10	10.000	10.510	2.500	2.500	0.384	10	C
	-12.0"-D2.50"-SE18-12	12.000	12.510	2.500	3.000	0.384	12	D

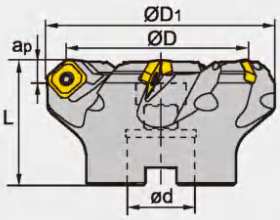
Face milling tools Kr:45°

FMA01

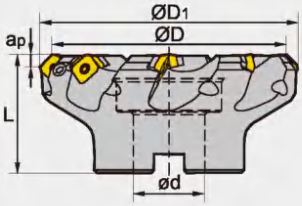
P M K N S

Close pitch

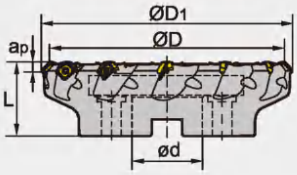
A type of mounting



B type of mounting



C type of mounting



Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMA01	-2.00"-A0.75"-SE12-05	2.000	2.510	0.750	1.750	0.236	5	A
	-2.50"-A0.75"-SE12-06	2.500	3.010	0.750	1.750	0.236	6	A
	-3.00"-A1.00"-SE12-08	3.000	3.510	1.000	2.000	0.236	8	A
	-4.00"-B1.25"-SE12-10	4.000	4.510	1.250	2.000	0.236	10	B
	-5.00"-B1.50"-SE12-12	5.000	5.510	1.500	2.500	0.236	12	B
	-6.00"-B1.50"-SE12-16	6.000	6.510	1.500	2.500	0.236	16	B
	-8.00"-C2.50"-SE12-20	8.000	8.510	2.500	2.500	0.236	20	C
	-10.00"-C2.50"-SE12-24	10.000	10.510	2.500	2.500	0.236	24	C
	-4.00"-B1.25"-SE18-06	4.000	4.510	1.250	2.500	0.384	6	B
	-5.00"-B1.50"-SE18-07	5.000	5.510	1.500	2.500	0.384	7	B
	-8.00"-C2.50"-SE18-12	8.000	8.510	2.500	2.500	0.384	12	C
	-10.00"-C2.50"-SE18-14	10.000	10.510	2.500	2.500	0.384	14	C

Spare parts

Diameter ØD	Insert specifrication	Insert screw	Shim	Shim screw	Wrench		Sketch of installation
							
Ø2", Ø2.5" Ø3", Ø4"	SEET12T3-□□	I60M3.5×10	--	--	WT15IS	--	
Ø5", Ø6" Ø8", Ø10"	SEET12T3-□□	I60M3.5×12	S13BS	SM5×7XA		WH35L	
Ø4"~Ø8"	SEET18T6-□□	I60M5×17	S18BS	SM8×9XA	WT20IT	WH50L	

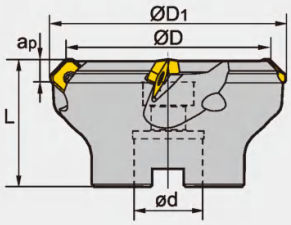
Face milling tools Kr:45°

FMA02

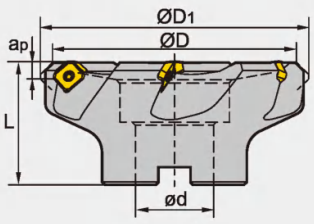
P M K N S

Coarse pitch differential

A type of mounting



B type of mounting



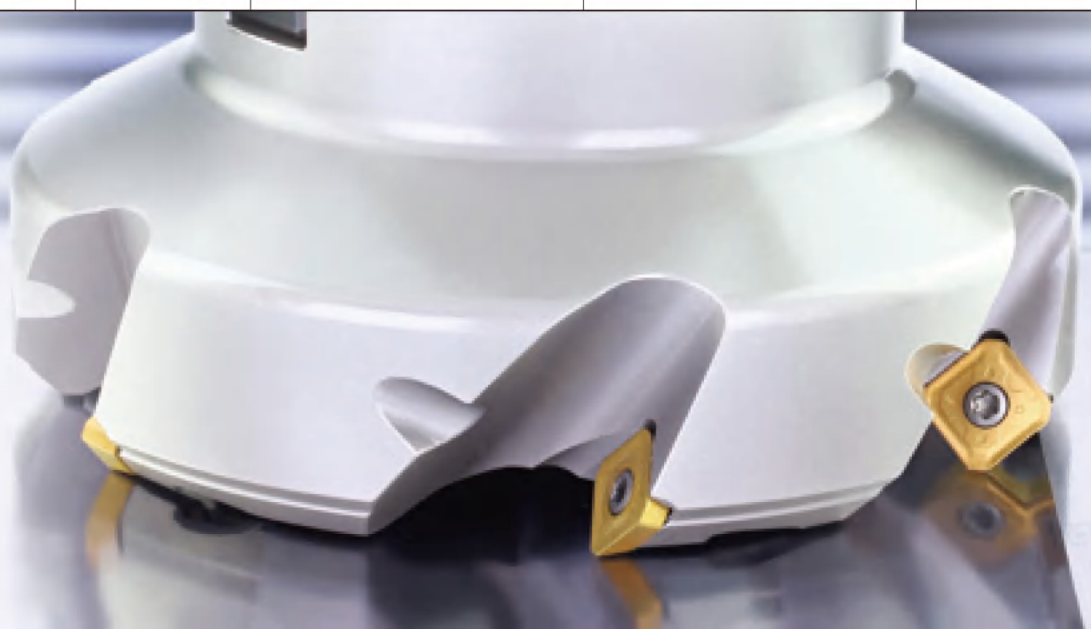
Specification of tools

Type		Dimensions(inch)						
		ØD	$ØD_1$	ød	L	$a_p$max	Z (Number of teeth)	Mounting type
FMA02	-2.00"-A0.75"-SE12-04	2.000	2.510	0.750	1.750	0.236	4	A
	-2.50"-A0.75"-SE12-05	2.500	3.010	0.750	1.750	0.236	5	A
	-3.00"-A1.00"-SE12-05	3.000	3.510	1.000	2.000	0.236	5	A
	-4.00"-B1.25"-SE12-07	4.000	4.510	1.250	2.000	0.236	7	B
	-5.00"-B1.50"-SE12-08	5.000	5.510	1.500	2.500	0.236	8	B

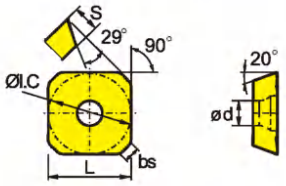
D

Spare parts

Diameter ØD	Insert specifrication	Insert screw	Wrench	Sketch of installation
				
Ø2.00"~Ø5.00"	SEET12T3-□□	I60M3.5×10	WT15IS	



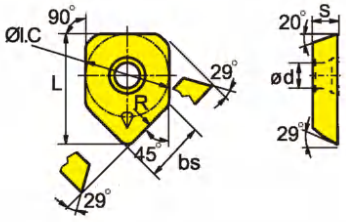
Selection of inserts

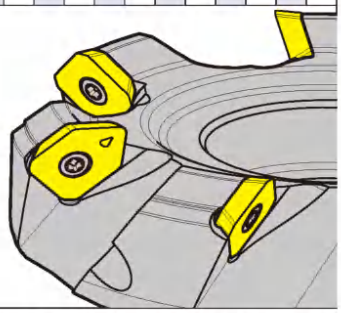


Good working conditions General working conditions Adverse working conditions

Workpiece material		
P	Steel	
M	Stainless steel	
K	Cast iron	
N	Ferrite materials	
S	Heat-resistant steel	

Insert shape	Type	Dimensions(inch)						Coated grade												Cermet		Cemented carbide	
		L	ØI.C	S	ød	bs	R	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SEET12T3-DF	0.528	0.528	0.156	0.161	0.100	-	●			○				●			○						
	SEET12T3-CF	0.528	0.528	0.156	0.161	0.100	-			○					○			○						
	SEET12T3-EF	0.528	0.528	0.156	0.161	0.100	-								●			○						
	SEET12T3-DM	0.528	0.528	0.156	0.161	0.100	-	●			○				○			●						
	SEET18T6-DM	0.709	0.709	0.24	0.217	0.059	-	●	●						●									
	SEET12T3-CM	0.528	0.528	0.156	0.161	0.100	-			●					●			○						
	SEET12T3-EM	0.528	0.528	0.156	0.161	0.100	-								●			●						
	SEET18T6-EM	0.709	0.709	0.240	0.217	0.059	-		○								○							
	SEET12T3-DR	0.528	0.528	0.156	0.161	0.100	-	●							●			●						
	SEET12T3-CR	0.528	0.528	0.156	0.161	0.100	-			●					●			●						
	SEET12T3-LH	0.528	0.528	0.156	0.161	0.100	-																○	●
	SEET12T3-W	0.702	0.528	0.156	0.161	0.372	19.685	●		●					●						●			
	SEET18T6-W	0.976	0.709	0.240	0.217	0.433	19.685								○									





● Recommended grade ○ Produce according to order

D

Chipbreaker selection for FMA01

Classification \ Function	For finishing	For semi-finishing	For roughing
P	-DF	-DM	-DR
M,S	-EF	-EM	
K	-CF	-CM	-CR
AL	-LH		

Recommended cutting parameters

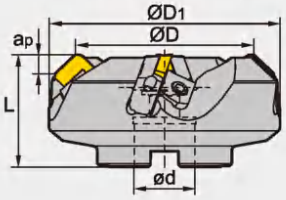
Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(IPT)		
					-DF	-DM	-DR
P	Low-carbon steel, Soft steel	≤180	YBM253	900(700-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBC302	900(700-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBG205	900(650-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YB9320	900(650-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBG302	750(550-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
	High-carbon steel, Alloy steel	180-280	YBM253	800(700-1000)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBG205	800(600-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YB9320	800(600-1200)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBG302	700(500-1100)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
	Alloy tool steel	280-350	YBM253	700(600-1000)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBG205	700(550-1100)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YB9320	700(550-1100)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
			YBG302	600(400-1000)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
M					-EF	-EM	
	Stainless steel	≤270	YBM253	500(400-800)	0.006(0.004-0.008)	0.008(0.004-0.012)	
			YBG205	500(360-900)	0.006(0.004-0.008)	0.008(0.004-0.012)	
			YB9320	500(360-900)	0.006(0.004-0.008)	0.008(0.004-0.012)	
			YBG302	450(300-800)	0.006(0.004-0.008)	0.008(0.004-0.012)	
K					-CF	-CM	-CR
	Cast iron	180-250	YBG105	700(400-1000)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)
N					-LH		
	Al alloy steel	-	YD101	1000-	0.010(0.004-0.016)		
			YD201	1000-			
S					-EF	-EM	
	High-temperature alloy	≤400	YBG105	150(60-200)	0.004(0.004-0.008)	0.006(0.004-0.012)	

Face milling tools Kr:45°

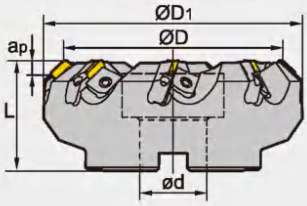
FMA03

P M K

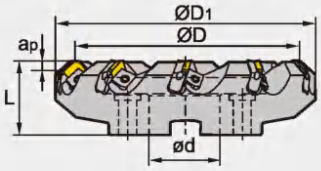
A type of mounting



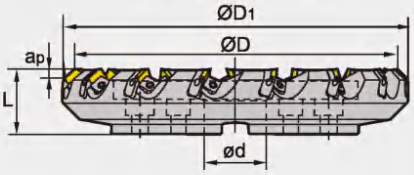
B type of mounting



C type of mounting



D type of mounting



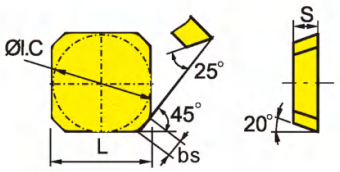
Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMA03	-3.00"-A1.00"-SE12-04	3.000	3.858	1.000	2.000	0.217	4	A
	-4.00"-B1.25"-SE12-05	4.000	4.858	1.250	2.000	0.217	5	B
	-5.00"-B1.50"-SE12-06	5.000	5.858	1.500	2.500	0.217	6	B
	-6.00"-B1.50"-SE12-08	6.000	6.858	1.500	2.500	0.217	8	B
	-8.00"-C2.50"-SE12-10	8.000	8.858	2.500	2.500	0.217	10	C
	-10.0"-C2.50"-SE12-12	10.000	10.858	2.500	2.500	0.217	12	C
	-12.0"-D2.50"-SE12-15	12.000	12.858	2.500	2.500	0.217	15	D
	-3.00"-A1.00"-SE15-04	3.000	3.858	1.000	2.000	0.295	4	A
	-4.00"-B1.25"-SE15-05	4.000	4.858	1.250	2.000	0.295	5	B
	-5.00"-B1.50"-SE15-06	5.000	5.858	1.500	2.500	0.295	6	B
	-6.00"-B1.50"-SE15-08	6.000	6.858	1.500	2.500	0.295	8	B
	-8.00"-C2.50"-SE15-10	8.000	8.858	2.500	2.500	0.295	10	C
	-10.0"-C2.50"-SE15-12	10.000	10.858	2.500	2.500	0.295	12	C
	-12.0"-D2.50"-SE15-15	12.000	12.858	2.500	2.500	0.295	15	D

Spare parts

Locator	Wedge	Wedge screw	Locator screw	Wrench	Sketch of installation
					
LSE 12R/L (Suitable for 12mm inserts)	W01R/L	DM8×21X	LOM5×15.1	WT20T WH40T	
LSE 15R/L (Suitable for 15mm inserts)					

Selection of inserts



Good working conditions General working conditions Adverse working conditions

Workpiece material		
P	Steel	
M	Stainless steel	
K	Cast iron	
N	Ferrite materials	
S	Heat-resistant steel	

Insert shape	Type	Dimensions(inch)				Coated grade												Cermet		Cemented carbide	
		L	ØI.C	bs	S	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SEEN1203AFTN	0.500	0.500	0.071	0.125							○							●			
	SEKN1203AFFN	0.500	0.500	0.071	0.125						●											
	SEKN1203AFN	0.500	0.500	0.071	0.125							○										
	SEKN1203AFTN	0.500	0.500	0.071	0.125	●	●	●				●	●			●			●			
	SEMR1203AN-M	0.500	0.500	-	0.130								●									
	SEKR1203AN-M	0.500	0.500	-	0.130								●									
	SEKN1504AFN	0.625	0.625	0.063	0.187	●	●															
	SEKN1504AFTN	0.625	0.625	0.063	0.187	●	●								●	●						
	SEMR1504AN-M	0.625	0.625	-	0.193								●									
	SEKR1504AN-M	0.625	0.625	-	0.193								●									

●Recommended grade ○ Produce according to order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	≤180	YNG151	1400 (1100-1600)	0.008 (0.004-0.016)
			YBM253 YBC302	900 (700-1100)	0.008 (0.004-0.016)
			YBM253	700 (600-1000)	0.01 (0.006-0.012)
			YBG202 YBG302	900 (650-1200)	0.008 (0.004-0.012)
				900 (650-1200)	0.008 (0.004-0.012)
	High-carbon steel, Alloy steel	180-280	YNG151	1300 (1000-1600)	0.008 (0.004-0.016)
			YBM253 YBC302	800 (650-1000)	0.008 (0.006-0.016)
			YBM253	650 (500-900)	0.010 (0.006-0.012)
			YBG202 YBG302	800 (600-1100)	0.008 (0.004-0.012)
				800 (600-1100)	0.008 (0.004-0.012)
	Alloy tool steel	280-350	YNG151	1100 (1000-1500)	0.008 (0.004-0.016)
			YBM253 YBC302	700 (600-1000)	0.008 (0.004-0.016)
			YBM253	600 (500-800)	0.01 (0.006-0.012)
			YBG202 YBG302	700 (550-1100)	0.008 (0.004-0.012)
				700 (550-1100)	0.008 (0.004-0.012)
M	Stainless steel	≤270	YNG151	700 (500-900)	0.008 (0.004-0.016)
			YBM253	400 (300-700)	0.008 (0.004-0.016)
			YBG202 YBG302	450 (300-800)	0.008 (0.004-0.012)
				450 (300-800)	0.008 (0.004-0.012)
K	Cast iron	180-250	YBG102	700 (400-1000)	0.008 (0.004-0.012)
			YBD252	650 (490-820)	0.008 (0.004-0.016)
			YD201	300 (260-500)	0.01 (0.004-0.016)

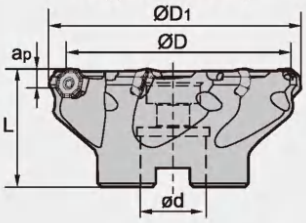
Face milling tools Kr:45°

FMA04

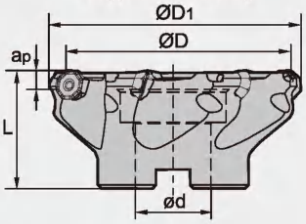
P M K N

Screw clamping

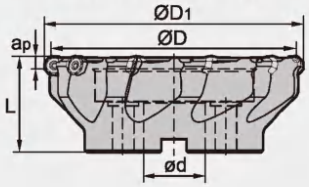
A type of mounting



B type of mounting



C type of mounting



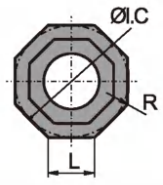
Specification of tools

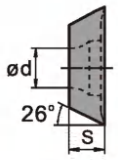
Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMA04	-2.00"-A0.75"-OF05-04	2.000	2.356	0.750	1.750	0.138	4	A
	-2.00"-A0.75"-OF05-05	2.000	2.356	0.750	1.750	0.138	5	A
	-2.50"-A0.75"-OF05-05	2.500	2.856	0.750	1.750	0.138	5	A
	-3.00"-A1.00"-OF05-06	3.000	3.356	1.000	2.000	0.138	6	A
	-4.00"-B1.25"-OF05-07	4.000	4.356	1.250	2.000	0.138	7	B
	-5.00"-B1.50"-OF05-08	5.000	5.356	1.500	2.500	0.138	8	B
	-6.00"-B1.50"-OF05-10	6.000	6.356	1.500	2.500	0.138	10	B
	-6.00"-C1.50"-OF05-10	6.000	6.356	1.500	2.500	0.138	10	C

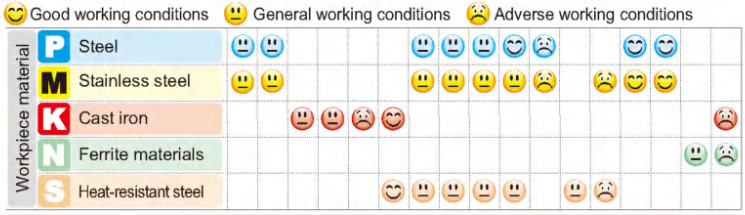
Spare parts

Adaptable tool holders	Insert screw	Wrench	Sketch of installation
			
Ø2", Ø2.5"	I60M4×8.4	WT15IS	
Ø3", Ø4", Ø5", Ø6"	I60M4×10	WT15IS	

Selection of inserts







Insert shape	Type	Dimensions(inch)					Coated grade												Cermet		Cemented carbide	
		L	ØI.C	S	ød	R	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	OFKT05T3-DF	0.207	0.500	0.156	0.173	0.020							●										
	OFKT05T3-DM	0.207	0.500	0.156	0.173	0.020		○					●			●	●						
	OFKT05T3-LH	0.207	0.500	0.156	0.173	0.020																○	

● Recommended grade ○ Produce according to order

Chipbreaker selection for FMA04 milling inserts

Classification \ Function	For finishing	For semi-finishing
P	-DF	-DM
M		
K		
AL	-LH	

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(SFPM)	f(IPT)	
					-DF	-DM
P	Low-carbon steel, Soft steel	≤180	YBM253	900(700-1100)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG202	900(650-1200)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302 YB9320	750(550-1200)	0.008(0.004-0.012)	0.01(0.004-0.016)
	High-carbon steel, Alloy steel	180-280	YBM253	800(650-1100)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBG202	800(600-1100)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBG302 YB9320	700(500-1100)	0.008(0.004-0.012)	0.01(0.004-0.016)
	Alloy tool steel	280-350	YBM253	700(600-1000)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBG202	700(550-1100)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBG302 YB9320	600(400-1000)	0.008(0.004-0.012)	0.01(0.004-0.016)
M	Stainless steel	≤270	YBG202	450(300-800)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBM253	490(390-820)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBG302 YB9320	500(400-800)	0.006(0.004-0.012)	0.008(0.004-0.016)
K	Cast iron	180-250	YBG105	700(400-1000)	0.008(0.004-0.012)	0.01(0.004-0.016)
N					-LH	
	Aluminium alloy	-	YD101	1000-	0.006(0.002-0.012)	

FMA04 Series

P M K N S

Coarse pitch and close pitch available.

Positive axial angle and radial angle pocket, with large rake angle insert design, which achieve low cutting force and good chip control.

Kr:45°

Chipbreaker for Aluminum

LH chipbreaker

Large rake angle design with sharp cutting edge;

Polished rake face, precision ground the periphery.

Chipbreakers for universal purpose

GL chipbreaker

Focus on cutting edge sharpness, suitable for light and medium cutting.

GH chipbreaker

Focus on strength, suitable for heavy cutting and bad condition.

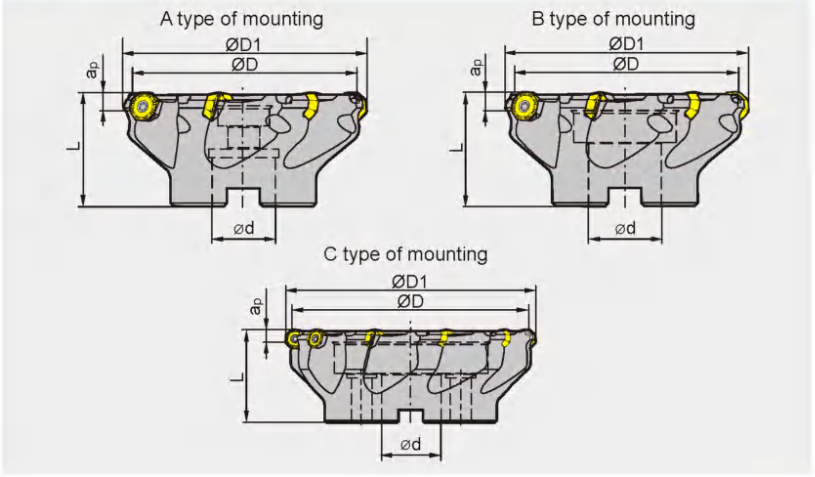
GM chipbreaker

Focus on both sharpness and strength, suitable for medium cutting.

Face milling tools Kr:45°

FMA04 P M K N S

Screw clamping



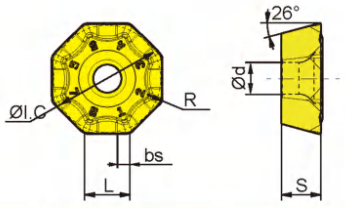
Specification of tools

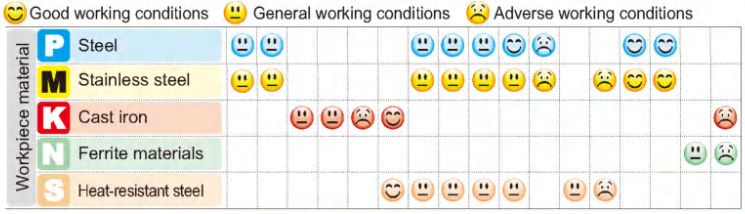
Type		Dimensions(inch)						
		ØD	ØD1	L	ød	a_{pmax}	Z (Number of teeth)	Mounting type
FMA04 Coarse pitch	**-2.00"-A0.75"-OD06-04C**	2.000	2.394	0.750	1.750	0.157	4	A
	-2.50"-A0.75"-OD06-05C	2.500	2.894	0.750	1.750	0.157	5	A
	-3.00"-A1.00"-OD06-06C	3.000	3.394	1.000	2.000	0.157	6	A
	-4.00"-A1.25"-OD06-07C	4.000	4.394	1.250	2.000	0.157	7	A
	-5.00"-B1.50"-OD06-08	5.000	5.394	1.500	2.500	0.157	8	B
	-6.00"-B2.00"-OD06-10	6.000	6.394	2.000	2.500	0.157	10	B
Close pitch	**-2.00"-A0.75"-OD06-05C**	2.000	2.394	0.750	1.750	0.157	5	A
	-2.50"-A0.75"-OD06-06C	2.500	2.894	0.750	1.750	0.157	6	A
	-3.00"-A1.00"-OD06-07C	3.000	3.394	1.000	2.000	0.157	7	A
	-4.00"-A1.25"-OD06-09C	4.000	4.394	1.250	2.000	0.157	9	A
	-5.00"-B1.50"-OD06-10	5.000	5.394	1.500	2.500	0.157	10	B
	-6.00"-B2.00"-OD06-12	6.000	6.394	2.000	2.500	0.157	12	B

Spare parts

Adaptable tool holders	Insert screw	Wrench	Sketch of installation
			
Ø2", Ø2.5"	I60M5×13	WT20IP	
Ø3", Ø4", Ø5"		WT20IS	
Ø6		WT20IT	

Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	R	bs	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	**ODHT060508-GL**	0.256	0.625	0.219	0.213	0.031	0.063		●	●						●	●							
	**ODHT060508-GM**	0.256	0.625	0.219	0.213	0.031	0.063		●	●	○					●	●			●				
	**ODMT060512-GM**	0.256	0.625	0.219	0.213	0.047	-		●	●	○					●	●			●				
	**ODHT060508-GH**	0.256	0.625	0.219	0.213	0.031	0.063		●	●	○					●	●							
	**ODHT060508-LH**	0.256	0.625	0.219	0.213	0.031	0.063																●	●

● Recommended grade ○ Produce according to order

D

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(IPT)		
					-GL	-GM	-GH
P	Low-carbon steel, Soft steel	≤180	YBM253	900(700-1100)	0.006 (0.004-0.008)	0.01 (0.006-0.014)	0.012 (0.006-0.016)
			YBG205H	900(650-1200)			
			YB9320	900(650-1200)			
	High-carbon steel, Alloy steel	180-280	YBM253	800(650-1100)	0.006 (0.004-0.008)	0.006 (0.004-0.012)	0.01 (0.006-0.016)
			YBG205H	800(650-1100)			
			YB9320	800(650-1100)			
	Alloy tool steel	280-350	YBM253	700(600-1000)	0.006 (0.004-0.008)	0.006 (0.004-0.012)	0.01 (0.006-0.016)
			YBG205H	700(550-1000)			
			YB9320	700(550-1000)			
M	Stainless steel	≤270	YBM253	750(600-1000)	0.006 (0.004-0.008)	0.006 (0.004-0.012)	0.01 (0.006-0.016)
			YBG205H	490(400-820)			
			YB9320	490(400-820)			
K	Cast iron	180-250	YBD152	650(490-820)	0.006 (0.004-0.008)	0.006 (0.004-0.012)	0.012 (0.006-0.016)
S	High-temperature alloy	≤400	YBS303	330(200-400)	--	0.006 (0.004-0.01)	--
N					-LH		
	Al alloy steel	--	YD101	1000-	0.006 (0.002-0.012)		
			YD201				

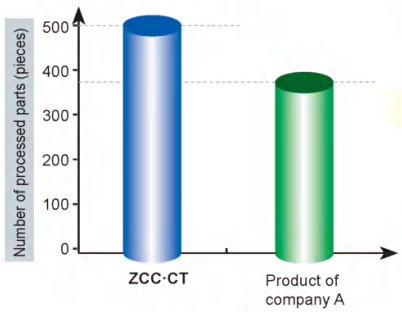
D

Case for FMA04

Cutter body: FMA04-3.00"-A1.00"-OD06-06C

Case1

Workpiece material: 45# steel
Insert: ODHT060508-GM/YB9320
Cutting parameters: Vc=656SFPM,
ap=0.08in,
f=0.008IPT



The tool life of ZCC·CT's product is longer than competitor A under same cutting parameters.

Case2

Workpiece material: Inconel
Insert: ODHT060508-GM/YBS303
Cutting parameters: Vc=492SFPM,
ap=0.02in,
f=0.006IPT

Under the same working conditions, ZCC·CT product has stable cutting, better machined surface quality and dimensional accuracy.

FMA11 Kr:45° Series Face Mills

With outstanding economy and high performance

4 × 2=8edge

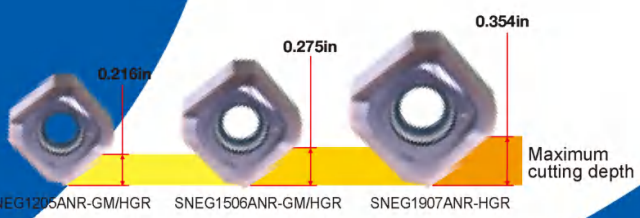
Cutter body with PVD coating for superior corrosion and heat resistance resulting in longer service life.

Comprehensive upgrading of -GM geometry, good chip breaking performance, large rake angle, reduced cutting force.

New -HGR geometry, high edge strength, excellent breakage resistance.

Insert with wiper, smoother surface roughness.

Complete range of insert specifications and geometries, for different cutting depths and different machining demands.

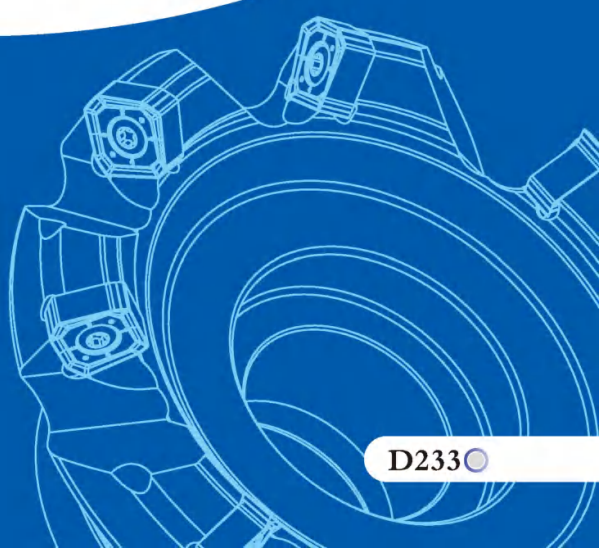


Double negative structure, excellent impact resistance.

Optimized design of pitch and chip pocket, for unobstructed chip flow and higher cutting efficiency.

-W special geometry for wiper inserts, large arc design, improved workpiece quality.

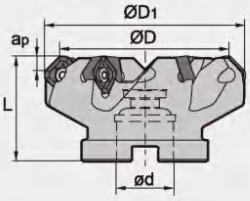
Extra long wiper, more suitable for semi-finishing and finishing with large diameter cutters.



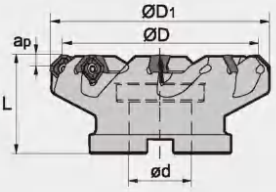
Face milling tools Kr:45°

FMA11 P M K S

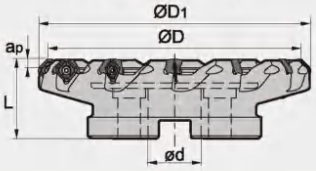
A type of mounting



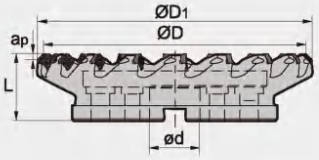
B type of mounting



C type of mounting



D type of mounting



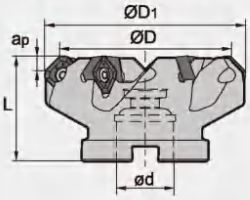
Specification of tools

Type		Dimensions (inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMA11 Coarse pitch	**-2.00"-A0.75"-SN12-04C**	2.000	2.453	0.750	1.750	0.216	4	A
	-2.50"-A0.75"-SN12-05C	2.500	2.953	0.750	1.750	0.216	5	A
	-3.00"-A1.00"-SN12-06C	3.000	3.453	1.000	2.000	0.216	6	A
	-4.00"-B1.50"-SN12-07	4.000	4.453	1.500	2.500	0.216	7	B
	-5.00"-B1.50"-SN12-08	5.000	5.453	1.500	2.500	0.216	8	B
	-6.00"-B2.00"-SN12-10	6.000	6.453	2.000	2.500	0.216	10	B
	-2.00"-A0.75"-SN15-04C	2.000	2.602	0.750	1.750	0.275	4	A
	-2.50"-A0.75"-SN15-05C	2.500	3.102	0.750	1.750	0.275	5	A
	-3.00"-A1.00"-SN15-06C	3.000	3.602	1.000	2.000	0.275	6	A
	-4.00"-B1.50"-SN15-07	4.000	4.602	1.500	2.500	0.275	7	B
	-5.00"-B1.50"-SN15-08	5.000	5.602	1.500	2.500	0.275	8	B
	-6.00"-B2.00"-SN15-10	6.000	6.602	2.000	2.500	0.275	10	B
	-8.00"-C2.50"-SN15-12	8.000	8.602	2.500	2.500	0.275	12	C
	-10.00"-C2.50"-SN15-14	10.000	10.602	2.500	2.500	0.275	14	C
	-12.00"-D2.50"-SN15-18	12.000	12.602	2.500	2.500	0.275	18	D
	-5.00"-B1.50"-SN19-07	5.000	5.720	1.500	2.500	0.354	7	B
	-6.00"-B2.00"-SN19-09	6.000	6.720	2.000	2.500	0.354	9	B
	-8.00"-C2.50"-SN19-11	8.000	8.720	2.500	2.500	0.354	11	C
	-10.00"-C2.50"-SN19-13	10.000	10.720	2.500	2.500	0.354	13	C
	-12.00"-D2.50"-SN19-16	12.000	12.720	2.500	2.500	0.354	16	D

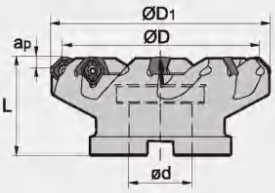
Face milling tools Kr:45°

FMA11 P M K S

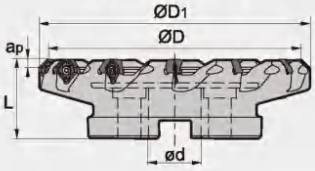
A type of mounting



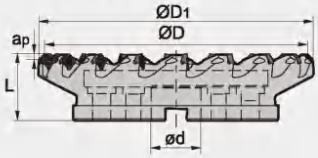
B type of mounting



C type of mounting



D type of mounting



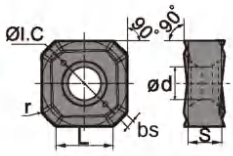
Specification of tools

Type		Dimensions (inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMA11 Close pitch	**-2.50"-A0.75"-SN12-06C**	2.500	2.953	0.750	1.750	0.216	6	A
	-3.00"-A1.00"-SN12-07C	3.000	3.453	1.000	2.000	0.216	7	A
	-4.00"-B1.50"-SN12-09	4.000	4.453	1.500	2.500	0.216	9	B
	-5.00"-B1.50"-SN12-10	5.000	5.453	1.500	2.500	0.216	10	B
	-6.00"-B2.00"-SN12-12	6.000	6.453	2.000	2.500	0.216	12	B
	-2.50"-A0.75"-SN15-06C	2.500	3.102	0.750	1.750	0.275	6	A
	-3.00"-A1.00"-SN15-07C	3.000	3.602	1.000	2.000	0.275	7	A
	-4.00"-B1.50"-SN15-09	4.000	4.602	1.500	2.500	0.275	9	B
	-5.00"-B1.50"-SN15-10	5.000	5.602	1.500	2.500	0.275	10	B
	-6.00"-B2.00"-SN15-12	6.000	6.602	2.000	2.500	0.275	12	B
	-8.00"-C2.50"-SN15-15	8.000	8.602	2.500	2.500	0.275	15	C
	-10.00"-C2.50"-SN15-18	10.000	10.602	2.500	2.500	0.275	18	C
	-12.00"-D2.50"-SN15-22	12.000	12.602	2.500	2.500	0.275	22	D
	-5.00"-B1.50"-SN19-09	5.000	5.720	1.500	2.500	0.354	9	B
	-6.00"-B2.00"-SN19-11	6.000	6.720	2.000	2.500	0.354	11	B
	-8.00"-C2.50"-SN19-14	8.000	8.720	2.500	2.500	0.354	14	C
	-10.00"-C2.50"-SN19-17	10.000	10.720	2.500	2.500	0.354	17	C
	-12.00"-D2.50"-SN19-20	12.000	12.720	2.500	2.500	0.354	20	D

Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench		Sketch of installation
					
Ø2.00"~Ø6.00"	SNEG1205ANR-GM/HGR/W	I60M3.5×10	--	WT15IS	
Ø2.00"~Ø12.00"	SNEG1506ANR-GM/HGR/W	I60M5×13	WT20IT	--	
Ø5.00"~Ø12.00"	SNEG1907ANR-HGR	I43M6×16	WT25IT	--	

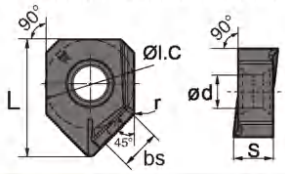
Selection of inserts

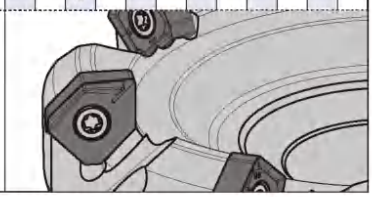


Good working conditions General working conditions Adverse working conditions

Workpiece material	
P	Steel
M	Stainless steel
K	Cast iron
N	Ferrite materials
S	Heat-resistant steel

Insert shape	Type	Dimensions(inch)						Coated grade												Cermet		Cemented carbide	
		L	ØI.C	S	bs	ød	r	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SNEG1205ANR-GM	0.299	0.472	0.187	0.041	0.181	0.031	●	●	●	○				●		●		○	○				
	SNEG1506ANR-GM	0.370	0.591	0.218	0.051	0.217	0.035	●	●	●	○				●		●		○	○				
	SNEG1205ANR-HGR	0.299	0.472	0.187	0.041	0.181	0.031	●	●	●	○	○			●		●							
	SNEG1506ANR-HGR	0.370	0.591	0.218	0.051	0.217	0.035	●	●	●	○	○			●		●							
	SNEG1907ANR-HGR	0.476	0.748	0.276	0.066	0.283	0.039	●	●	●		○			●		●							
	SNEG1205ANR-W	0.626	0.472	0.187	0.16	0.181	0.236								●									
	SNEG1506ANR-W	0.783	0.591	0.218	0.196	0.217	0.035								●									





● Recommended grade ○ Produce according to order

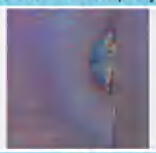
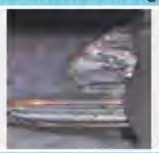
Recommended cutting parameters

Workpiece material		Hardness HB	Grade	Cutting data		
				V(SFPM)	f(IPT)	a_{pmax}(inch)
P	Low carbon steel Soft steel	≤180	YBM253 YBC302 YBG205 YB9320	880 (720-1200)	0.008 (0.004-0.016)	0.216(SN12) 0.275(SN15) 0.354(SN19)
P	High carbon steel Alloy steel	180-280	YBM253 YBC302 YBG205 YB9320	850 (650-1050)	0.008 (0.004-0.016)	
P	Alloy tool steel	280-350	YBM253 YBC302 YBG205 YB9320	780 (590-1000)	0.008 (0.004-0.016)	
M	Stainless steel	≤270	YBG205 YB9320	720 (520-820)	0.007 (0.004-0.016)	
M			YBM253	750 (590-980)	0.009 (0.005-0.013)	
K	Cast iron	180-250	YBD152	880 (490-980)	0.012 (0.004-0.02)	
K			YBD252	650 (490-820)	0.016 (0.008-0.024)	
S	High-temperature alloy	≤400	YBS203 YBS303	300 (200-400)	0.006 (0.003-0.012)	

Case for FMA11

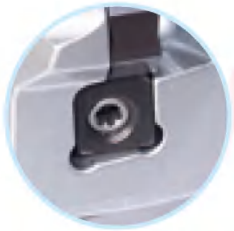
(Comparison of tool life)

Workpiece material: NAK80
Operation: Face milling
Tool: FMA11-5.00"-B1.50"-SN12-08
Insert: SNEG1205ANR-HGR/YBG205
Cutting data: Vc=650 SFPM, fz=0.08IPT, Ap=0.08in, Ae=2.0in

	Products of company A	-HGR / YBG205
Test Group 1		
Life	22 minutes Breakage	35 minutes, wear 0.0008in
Test Group 2		
Life	27 minutes Breakage	35 minutes, wear 0.0004 in

FMA12 Series Kr:45°

High Performance Face Mill with 16 edges for outstanding economy

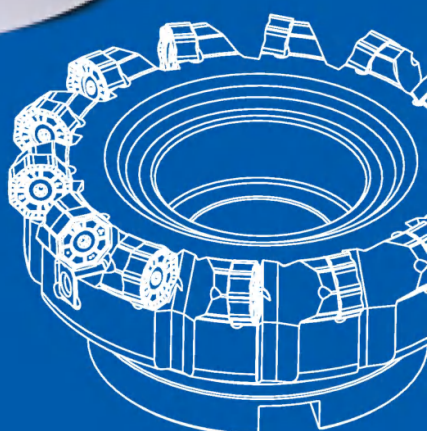


Adjustment screw of wiper insert

The wiper insert of the finishing cutter can be finely adjusted in the axial direction and is used in processing situations with high surface quality requirements.

The double negative structure of the cutter body, with the spiral insert cutting edge, realizes the positive axial rake angle, reduces the cutting force and is conducive to chip removal.

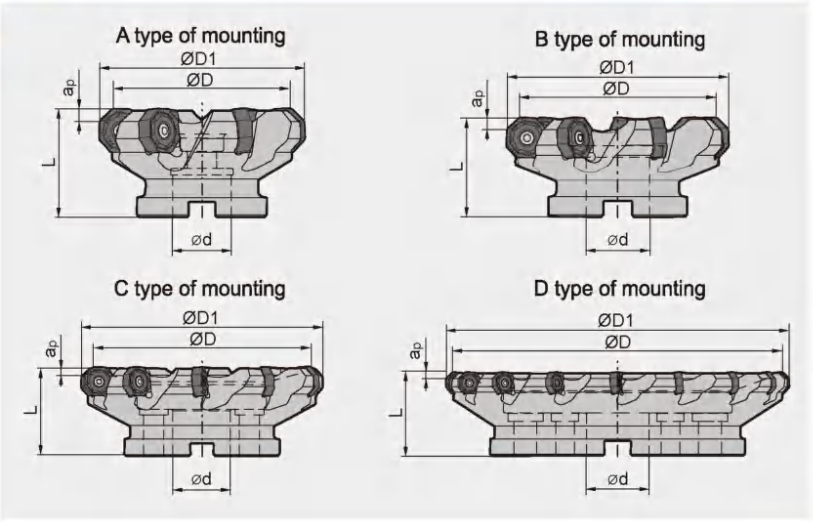
Unique 3-dimentional edge



Face milling tools Kr:45°

FMA12

P M K S



Specification of tools

Type		Dimensions (inch)						
		ØD	ØD1	L	ød	$a_p$max	Z (Number of teeth)	Mounting type
FMA12 Coarse pitch	**-2.00"-A0.75"-ON06-04C**	2.000	2.394	0.750	1.750	0.157	4	A
	-2.50"-A1.00"-ON06-05C	2.500	2.894	1.000	1.750	0.157	5	A
	-3.00"-A1.00"-ON06-07C	3.000	3.394	1.000	2.000	0.157	7	A
	-4.00"-A1.25"-ON06-08C	4.000	4.394	1.250	2.000	0.157	8	A
	-5.00"-B1.50"-ON06-10	5.000	5.394	1.500	2.500	0.157	10	B
	-6.00"-C1.50"-ON06-12	6.000	6.394	1.500	2.500	0.157	12	C
	-2.50"-A1.00"-ON09-04C	2.500	3.012	1.000	1.750	0.216	4	A
	-3.00"-A1.00"-ON09-05C	3.000	3.512	1.000	2.000	0.216	5	A
	-4.00"-A1.25"-ON09-06C	4.000	4.512	1.250	2.000	0.216	6	A
	-5.00"-B1.50"-ON09-08	5.000	5.512	1.500	2.500	0.216	8	B
	-6.00"-B2.00"-ON09-10	6.000	6.512	2.000	2.500	0.216	10	B
	-8.00"-C2.50"-ON09-12	8.000	8.512	2.500	2.500	0.216	12	C
	-10.00"-C2.50"-ON09-16	10.000	10.512	2.500	2.500	0.216	16	C
	-12.00"-D2.50"-ON09-20	12.000	12.512	2.500	2.500	0.216	20	D

Note: ONHU08 inserts do not fit in any FMA12-**-ON09-* cutters.

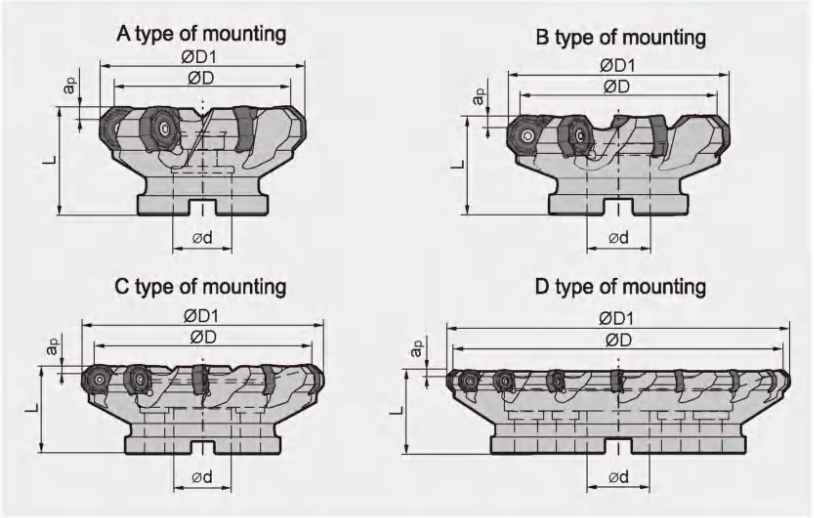
Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
Ø2.00"~Ø6.00"	ONMU06□□□□-GM/GH ONHU06□□□□ANN-GL/GM/GH	IRM4×10	WT15IS	
Ø2.50"~Ø12.00"	ONMU09□□□□-GM/GH ONHU09□□□□ANN-GL/GM/GH	IRM5×13	WT20IT	

Face milling tools Kr:45°

FMA12

P M K S



Specification of tools

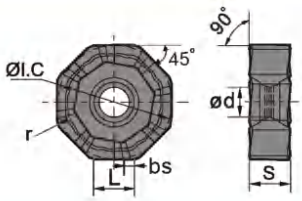
Type		Dimensions (inch)						
		ØD	ØD1	L	ød	apmax	Z (Number of teeth)	Mounting type
FMA12 Close pitch	**-2.00"-A0.75"-ON06-05C**	2.000	2.394	0.750	1.750	0.157	5	A
	-2.50"-A1.00"-ON06-07C	2.500	2.894	1.000	1.750	0.157	7	A
	-3.00"-A1.00"-ON06-09C	3.000	3.394	1.000	2.000	0.157	9	A
	-4.00"-A1.25"-ON06-11C	4.000	4.394	1.250	2.000	0.157	11	A
	-5.00"-B1.50"-ON06-14	5.000	5.394	1.500	2.500	0.157	14	B
	-6.00"-C1.50"-ON06-18	6.000	6.394	1.500	2.500	0.157	18	C
	-2.50"-A1.00"-ON09-06C	2.500	3.012	1.000	1.750	0.216	6	A
	-3.00"-A1.00"-ON09-07C	3.000	3.512	1.000	2.000	0.216	7	A
	-4.00"-A1.25"-ON09-10C	4.000	4.512	1.250	2.000	0.216	10	A
	-5.00"-B1.50"-ON09-12	5.000	5.512	1.500	2.500	0.216	12	B
	-6.00"-B2.00"-ON09-15	6.000	6.512	2.000	2.500	0.216	15	B
	-8.00"-C2.50"-ON09-18	8.000	8.512	2.500	2.500	0.216	18	C

Note: ONHU08 inserts do not fit in any FMA12-**-ON09-* cutters.

Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
Ø2.00"~Ø6.00"	ONMU06□□□□-GM/GH ONHU06□□□□ANN-GL/GM/GH	IRM4×10	WT15IS	
Ø2.50"~Ø12.00"	ONMU09□□□□-GM/GH ONHU09□□□□ANN-GL/GM/GH	IRM5×13	WT20IT	

Selection of inserts



Good working conditions General working conditions Adverse working conditions

Workpiece material		
P	Steel	😐😐 😐😐😐😊☹ 😊😊
M	Stainless steel	😐😐 😐😐😐😐☹ ☹😊😊
K	Cast iron	😐😐☹😊 ☹
N	Ferrite materials	😐☹
S	Heat-resistant steel	😊😐😐😐😐 😐☹

Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	r	bs	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	ONHU060404ANN-GL	0.242	0.625	0.218	0.236	0.016	0.047		●	●					●		●			●				
	ONHU09T508ANN-GL	0.315	0.795	0.228	0.276	0.031	0.047		●	●	○				●		●			●				
	ONHU060408ANN-GM	0.242	0.625	0.218	0.236	0.031	0.039		●	●	○				●		●			●				
	ONMU060408-GM	0.242	0.625	0.218	0.236	0.031	-		●	●	○				●		●							
	ONHU09T508ANN-GM	0.315	0.795	0.228	0.276	0.031	0.047		●	●	○				●		●			●				
	ONMU09T512-GM	0.315	0.795	0.228	0.276	0.047	-		●	●	○				●		●							
	ONMU060408-GH	0.242	0.625	0.218	0.236	0.031	-		●	●	○				●		●			●				
	ONHU060408ANN-GH	0.242	0.625	0.218	0.236	0.031	0.039		●	●	○				●		●			●				
	ONHU09T508ANN-GH	0.315	0.795	0.228	0.276	0.031	0.047		●	●	○				●		●			●				
	ONMU09T512-GH	0.315	0.795	0.228	0.276	0.047	-		●	●					●		●							

● Recommended grade ○ Produce according to order

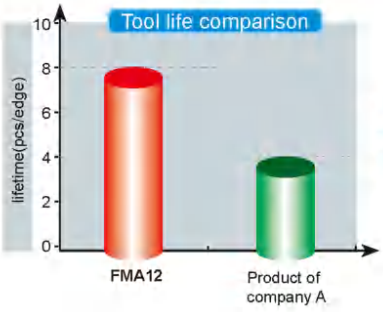
Recommended cutting parameters

Workpiece material		Hardness HB	Grade	Cutting data						
				-GL		-GM		-GH		a_{pmax}(in)
				Cutting speed (SFPM)	f(IPT)	Cutting speed (SFPM)	f(IPT)	Cutting speed (SFPM)	f(IPT)	
P	Low carbon steel	≤180	YBM253 YBG205 YB9320	880(720-1100)	0.008(0.004-0.012)	880(720-1100)	0.008(0.004-0.016)	880(720-1100)	0.012(0.008-0.02)	0.157(ON06) 0.216(ON09)
	Alloy steel	180-350	YBM253 YBG205 YB9320	780(590-1050)	0.006(0.004-0.012)	780(590-1050)	0.008(0.004-0.016)	780(590-1050)	0.012(0.008-0.02)	
M	Stainless steel	≤270	YBM253 YBG205 YB9320	750 (590-1050) 520 (360-880)	0.006 (0.004-0.012)	520 (360-880)	0.006(0.004-0.012)	520 (360-880)	0.008(0.004-0.012)	
K	Cast iron	180-260	YBD152	880(590-1050)	0.008(0.004-0.012)	880(590-1050)	0.012(0.004-0.016)	880(590-1050)	0.016(0.008-0.02)	
S	Hard-to-cut material	≤400	YBS303	320(200-400)	0.006 (0.003-0.012)	320(200-400)	0.006(0.004-0.01)	320(200-400)	--	

Case for FMA12

Case (Cast iron machining)

Workpiece: Cylinder
Workpiece material: Gray cast iron (HB250)
Machining location: Milling 4 sides
Tool: FMA12-6.00"-B2.00"-ON09-10
Insert: ONHU09T508ANN-GM/YBD152
Cutting data: Vc=500 SFPM, fz=0.01IPT,
a_p=0.12in, a_e=6in
System of cooling: External



Doubled tool life of FMA12 series compared to similar product of company A.

FMA14

High efficiency and multiple cutting edge general milling cutter

- 45° approach angle balanced design realizes low cutting resistance and high efficiency machining.
- Brand new optimized chip breaker, suitable for steel and cast iron.
- Double sided pentagon, 10 cutting edges, both great stability and economy performance.
- Greater anti-vibration capability ensures better surface quality.

Spiral cutting-edge design ensures easier and faster cutting.

Optimized chip breaker ensures the nose strength and improves the capability of anti-breakage.

Multi series of chip breakers for different kinds of machining.

-GM: First choice for P material
Big nose radius design. Strengthened cutting edge design

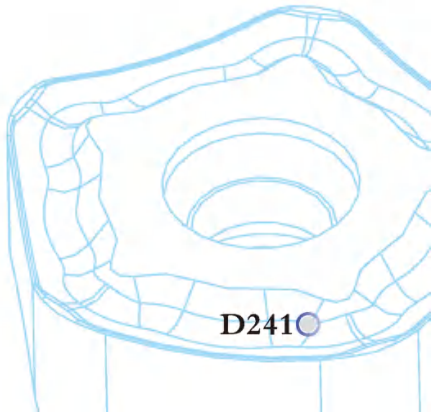
-GL: Suitable for stable machining
Suitable for low cutting force and low machine power machining

-GH: High anti-breakage capability
High inserts strength inhibits the breakage effectively

Pair with the brand-new grade YB9320 ensures longer cutting life and more stable machining.

-GH/-GM/-GL

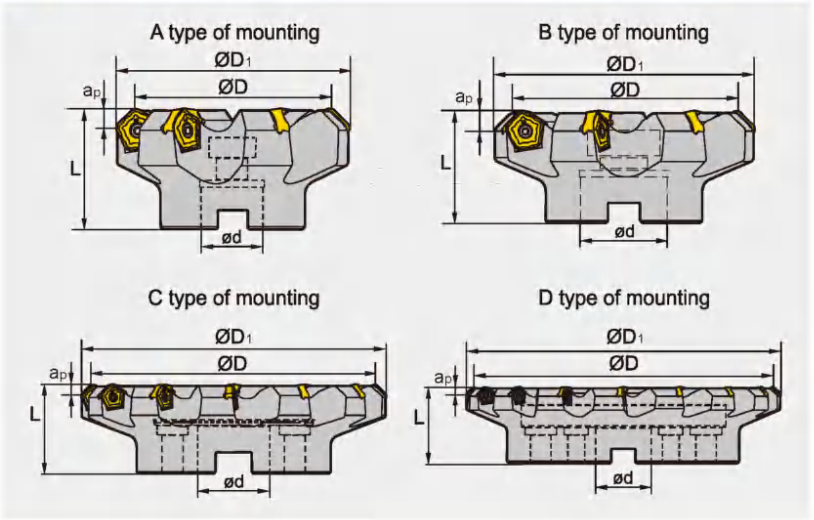
5 ×2=10cutting edges



Face milling tools Kr:45°

FMA14

P M K



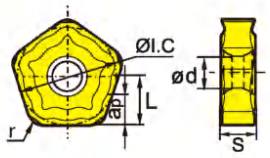
Specification of tools

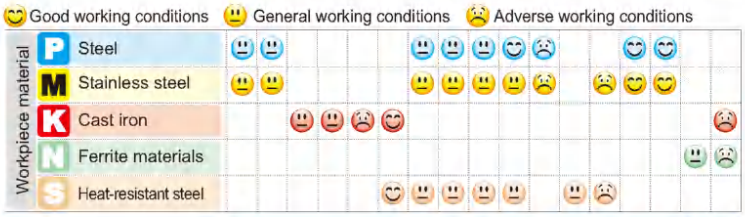
Type		Dimensions (inch)						
		ØD	ØD1	L	ød	apmax	Z (Number of teeth)	Mounting type
FMA14 Coarse pitch	**-2.00"-A0.75"-PN11-04**	2.000	2.657	2.000	0.750	0.217	4	A
	-2.50"-A0.75"-PN11-05	2.500	3.157	2.000	0.750	0.217	5	A
	-3.00"-A1.00"-PN11-06	3.000	3.657	2.000	1.000	0.217	6	A
	-4.00"-B1.25"-PN11-07	4.000	4.657	2.000	1.250	0.217	7	B
	-5.00"-B1.50"-PN11-08	5.000	5.657	2.500	1.500	0.217	8	B
	-6.00"-B1.50"-PN11-10	6.000	6.657	2.500	1.500	0.217	10	B
	-8.00"-C2.50"-PN11-12	8.000	8.657	2.500	2.500	0.217	12	C
	-10.00"-C2.50"-PN11-14	10.000	10.657	2.500	2.500	0.217	14	C
	-12.00"-D2.50"-PN11-16	12.000	12.657	3.000	2.500	0.217	16	D
Close pitch	**-2.00"-A0.75"-PN11-05**	2.000	2.657	2.000	0.750	0.217	5	A
	-2.50"-A0.75"-PN11-06	2.500	3.157	2.000	0.750	0.217	6	A
	-3.00"-A1.00"-PN11-08	3.000	3.657	2.000	1.000	0.217	8	A
	-4.00"-B1.25"-PN11-10	4.000	4.657	2.000	1.250	0.217	10	B
	-5.00'-B1.50"-PN11-12	5.000	5.657	2.500	1.500	0.217	12	B
	-6.00'-B1.50"-PN11-14	6.000	6.657	2.500	1.500	0.217	14	B
	-8.00'-C2.50"-PN11-16	8.000	8.657	2.500	2.500	0.217	16	C
	-10.00'-C2.50"-PN11-18	10.000	10.657	2.500	2.500	0.217	18	C
	-12.00'-D2.50"-PN11-26	12.000	12.657	3.000	2.500	0.217	26	D

Spare parts

Insert specification	Insert screw	Wrench	Sketch of installation
			
PNEG11□□□□-GL/GM/GH	I60M4×10	WT15IS	

Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	r	apmax	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	PNEG110512-GL	0.295	0.625	0.219	0.183	0.047	0.217		●						●		●							
	PNEG110530-GM	0.295	0.625	0.219	0.183	0.118	0.217		●						●		●							
	PNEG110530-GH	0.295	0.625	0.219	0.183	0.118	0.217		●						●		●							

• Inserts can be assembled in both left and right side.

● Recommended grade ○ Produce according to order

Recommended cutting parameters

ISO	Workpiece material	Hardness HB	Grade	Cutting data						apmax (in)
				-GM		-GL		-GH		
				V(SFPM)	Fz(IPT)	V(SFPM)	Fz(IPT)	V(SFPM)	Fz(IPT)	
P	Low carbon steel	≤HB180	YB9320 YBG205 YBM253	320~820	0.006~0.02	320~820	0.004~0.016	320~750	0.008~0.025	0.217
P	High carbon steel	180~280	YB9320 YBG205 YBM253	320~750	0.006~0.02	320~750	0.004~0.016	320~750	0.008~0.025	
P	Alloy steel	180~280	YB9320 YBG205 YBM253	320~720	0.006~0.016	320~720	0.004~0.012	320~720	0.008~0.02	
P	Tool steel	280~350	YB9320 YBG205 YBM253	320~720	0.006~0.02	320~720	0.004~0.012	320~720	0.008~0.02	
M	Stainless steel	≤270	YB9320 YBG205 YBM253	290~590	0.004~0.012	290~590	0.004~0.016	290~590	0.008~0.024	
K	Cast iron, Ductile iron High-nickel cast iron	180~250	YB9320 YBG205	320~780	0.006~0.016	320~850	0.004~0.012	320-780	0.008~0.02	

Case for FMA14

Workpiece material: 42CrMo

Tool: FMA14-5.00"-B1.50"-PN11-08

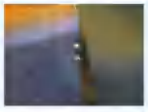
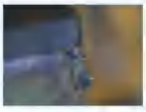
Insert: PNEG110530-GM/YB9320

Cutting data: Vc=450SFPM, fz=0.016IPT, ap=0.079in, ae=2.835in

Machine tool: 3-axis machining center

Cutting method: Dry cut

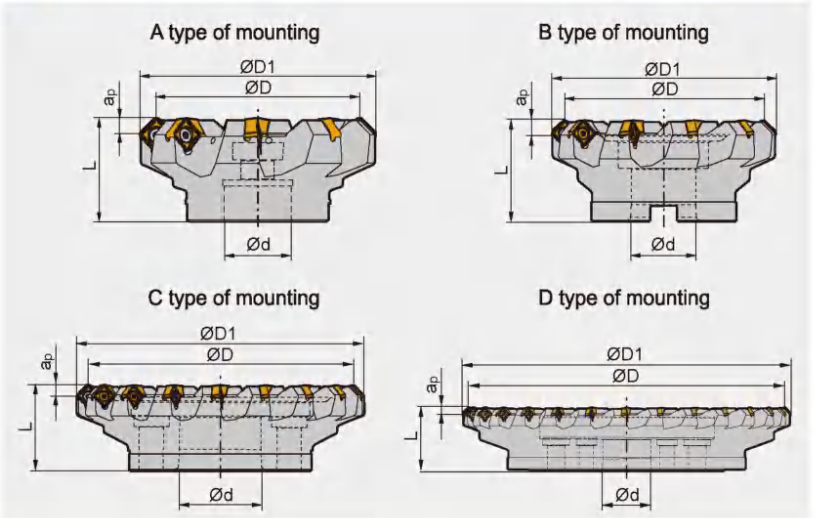
Wear comparison

	PNEG110530-GM	Similar product from Company A
Machining time	135min	65min
Wear on the rear face		
Wear on the rake face		

Results: Under the same processing conditions, our FMA14 has obviously better tool life than the similar product from Company A. It has better performance on the anti-breakage and wear resistance.

Face milling tools Kr:45°

FMA17 P M K N S



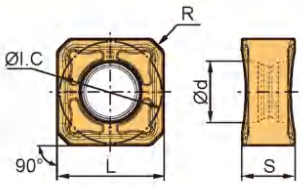
Specification of tools

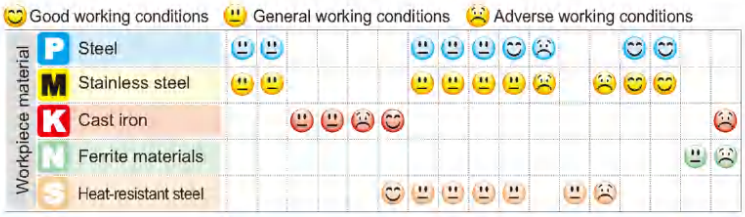
Type		Dimensions (inch)						
		ØD	ØD1	L	ød	$a_p$max	Z (Number of teeth)	Mounting type
FMA17 Coarse pitch	**-2.00"-A0.75"-SN12-04C**	2.000	2.591	0.750	1.750	0.256	4	A
	-2.50"-A0.75"-SN12-06C	2.500	3.091	0.750	1.750	0.256	6	A
	-3.00"-A1.00"-SN12-07C	3.000	3.591	1.000	2.000	0.256	7	A
	-4.00"-A1.25"-SN12-08C	4.000	4.591	1.250	2.000	0.256	8	A
	-5.00"-B1.50"-SN12-10	5.000	5.591	1.500	2.500	0.256	10	B
	-6.00"-B2.00"-SN12-12	6.000	6.591	2.000	2.500	0.256	12	B
	-8.00"-C2.50"-SN12-14	8.000	8.591	2.500	2.500	0.256	14	C
	-10.00"-C2.50"-SN12-20	10.000	10.591	2.500	2.500	0.256	20	C
	-12.00"-D2.50"-SN12-22	12.000	12.591	2.500	2.500	0.256	22	D
Close pitch	**-2.00"-A0.75"-SN12-06C**	2.000	2.591	0.750	1.750	0.256	6	A
	-2.50"-A0.75"-SN12-08C	2.500	3.091	0.750	1.750	0.256	8	A
	-3.00"-A1.00"-SN12-09C	3.000	3.591	1.000	2.000	0.256	9	A
	-4.00"-A1.25"-SN12-12C	4.000	4.591	1.250	2.000	0.256	12	A
	-5.00"-B1.50"-SN12-16	5.000	5.591	1.500	2.500	0.256	16	B
	-6.00"-B2.00"-SN12-18	6.000	6.591	2.000	2.500	0.256	18	B
	-8.00"-C2.50"-SN12-24	8.000	8.591	2.500	2.500	0.256	24	C

Spare parts

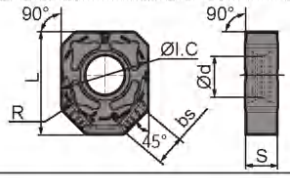
Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
Ø2.00"~Ø2.50"	SNGX1205□□□□-GL/GM/GH/LH/W	IRM4×10	WT15IP	
Ø3.00"~Ø6.00"			WT15IS	
Ø8.00"~Ø12.00"			WT15IT	

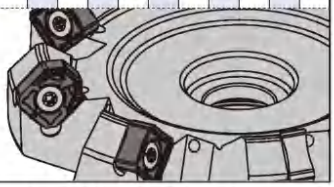
Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	bs	ød	R	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SNGX1205ANN-GL	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	●							
	SNMX120512-GL	0.500	0.500	0.256	-	0.232	0.047		●	●							●							
	SNGX1205ANN-GM	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	●			●				
	SNMX1205ANN-GM	0.500	0.500	0.256	-	0.232	0.031		●	●	○						●			●				
	SNMX120512-GM	0.500	0.500	0.256	-	0.232	0.047		●	●						●	●			●				
	SNGX1205ANN-GH	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	●							
	SNMX120512-GH	0.500	0.500	0.256	-	0.232	0.047		●	●						●	●							
	SNGX1205ANN-LH	0.500	0.500	0.256	-	0.232	0.031																	●
	SNGX1205ANN-W	0.591	0.500	0.189	0.170	0.232	0.047						●											





• Inserts can be assembled in both left and right side.

● Recommended grade ○ Produce according to order

Recommended cutting parameters

ISO	Workpiece material	Hardness HB	Grade	Cutting data				
				Vc(SFPM)	fz(IPT)			
					-GM	-GL	-GH	-LH
P	Low-carbon steel, Soft steel	≤180	YBM253 YBG205H YB9320	880(720-1150)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)	--
P	High-carbon steel, Alloy steel	180-280	YBM253 YBG205H YB9320	850(720-1050)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)	--
P	Alloy tool steel	280-350	YBM253 YBG205H YB9320	780(590-980)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)	--
M	Stainless steel	≤270	YBM253 YBG205H YB9320	520(360-880)	0.004(0.003-0.008)	0.006(0.004-0.012)	0.008(0.004-0.012)	--
K	Cast iron, Ductile iron, High nickel cast iron	180-250	YBD152	880(490-980)	0.008(0.004-0.012)	0.012(0.004-0.016)	0.016(0.008-0.02)	--
S	High-temperature alloy	≤400	YBS303	330(200-400)	--	0.006(0.004-0.01)	--	--
N	Aluminium alloy	--	YD201	980-				0.006(0.002-0.016)

Case for FMA17

Workpiece: gear box housing

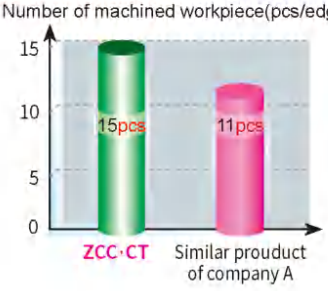
The material: HT250(HB220)

Tool: FMA17-6.00"-B2.00"-SN12-12

Insert: SNGX1205ANN-GM/YBD152

Cutting parameters: Vc=550SFPM, fz=0.006IPT, ap=0.079in, ae=3.937in

Type of cooling: external cooling

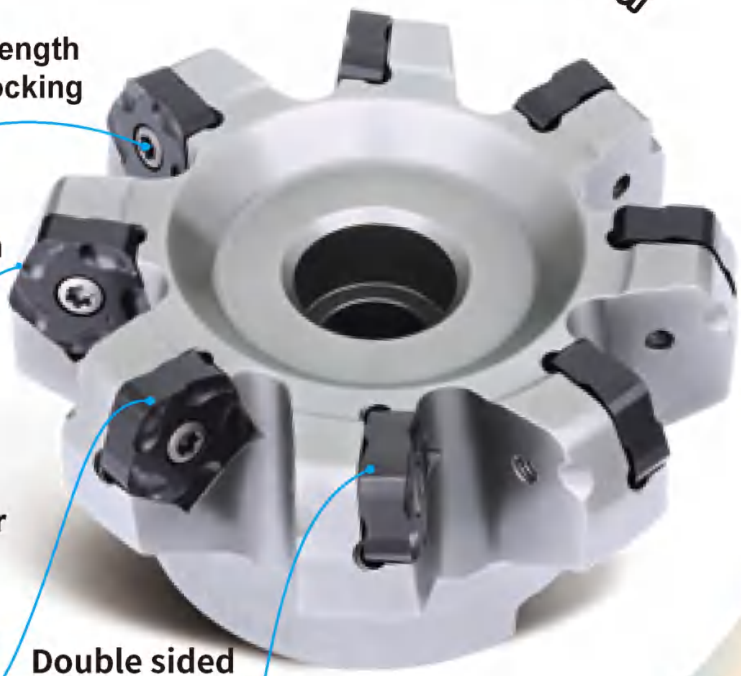


FMD02 series

High price performance ratio milling tool

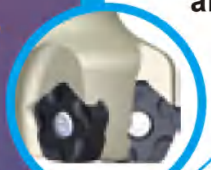
Optimized acute angle position style, good self-locking capability and high positioning precision. Tools can provide enough resistance to make sure the stability during machining.

High strength screw locking



67° approach angle

Wide chip breaker and big rake angle design meets different machining needs under different machine power.



Wiper

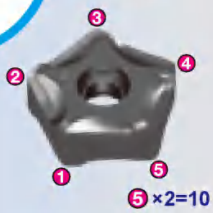
Inserts are design with wiper on, which enabled fine surface quality under different feed rate.

Double sided cutting edges

Great economy features and multi series of chip breakers for most kind of machining circumstances.

New chip breaker for machining in cast iron

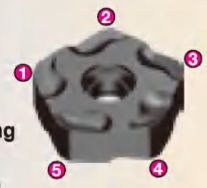
-KH -KM -KL



General face milling for steel and cast iron

-CF -CM -CR

5 ×2=10 cutting edges



General face milling for cast iron

-PF -PM -PR

5×2=10 cutting edges

-KH

Nose strengthened type
Anti-breakage machining

-KM

General machining chip breaker
First choice for cast iron machining

-KL

Low-cutting-power machining
Preventing vibration inhibiting sentus
Guarantee the surface quality

Spiral cutting-edge structure, double rake angle and variable beveling design make the inserts meet the need of different cutting depth machining perfectly.

10 cutting edges design improves the price performance ratio.

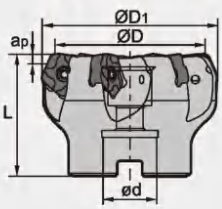
Strengthened nose design, cutting edges' toughness is improved, great wear resistance and long cutting life.

Low cutting resistance design inhibits vibration perfectly. Pair with FMD02 to realize high efficient machining of cast iron.

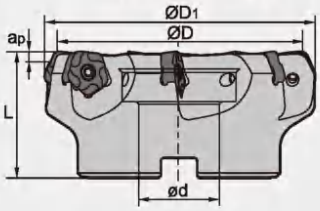
Face milling tools Kr:67°

FMD02

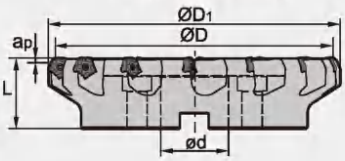
A type of mounting



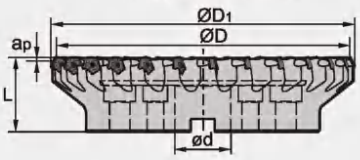
B type of mounting



C type of mounting



D type of mounting



Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMD02 Coarse pitch (unequal pitch)	**-2.00"-A0.75"-PN11-04**	2.000	2.398	0.750	1.750	0.197/0.256/0.276	4	A
	-2.50"-A0.75"-PN11-05	2.500	2.898	0.750	1.750	0.197/0.256/0.276	5	A
	-3.00"-A1.00"-PN11-06	3.000	3.398	1.000	2.000	0.197/0.256/0.276	6	A
	-4.00"-B1.25"-PN11-07	4.000	4.398	1.250	2.000	0.197/0.256/0.276	7	B
	-5.00"-B1.50"-PN11-08	5.000	5.398	1.500	2.500	0.197/0.256/0.276	8	B
	-6.00"-B1.50"-PN11-10	6.000	6.398	1.500	2.500	0.197/0.256/0.276	10	B
	-8.00"-C2.50"-PN11-12	8.000	8.398	2.500	2.500	0.197/0.256/0.276	12	C
	-10.00"-C2.50"-PN11-14	10.000	10.398	2.500	2.500	0.197/0.256/0.276	14	C
Close pitch	**-2.00"-A0.75"-PN11-05**	2.000	2.398	0.750	1.750	0.197/0.256/0.276	5	A
	-2.50"-A0.75"-PN11-06	2.500	2.898	0.750	1.750	0.197/0.256/0.276	6	A
	-3.00"-A1.00"-PN11-08	3.000	3.398	1.000	2.000	0.197/0.256/0.276	8	A
	-4.00"-B1.25"-PN11-10	4.000	4.398	1.250	2.000	0.197/0.256/0.276	10	B
	-5.00"-B1.50"-PN11-12	5.000	5.398	1.500	2.500	0.197/0.256/0.276	12	B
	-6.00"-B1.50"-PN11-14	6.000	6.398	1.500	2.500	0.197/0.256/0.276	14	B
	-8.00"-C2.50"-PN11-16	8.000	8.398	2.500	2.500	0.197/0.256/0.276	16	C
	-10.00"-C2.50"-PN11-18	10.000	10.398	2.500	2.500	0.197/0.256/0.276	18	C
	-12.00"-D2.50"-PN11-26	12.000	12.398	2.500	2.500	0.197/0.256/0.276	26	D

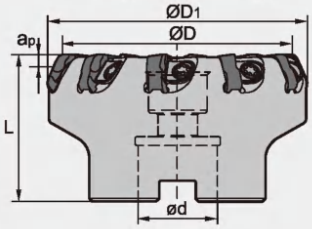
Spare parts

Diameter ØD	Insert screw	Wrench	Sketch of installation
			
Ø2.00"~Ø12.00"	I60M4×10	WT15IS	

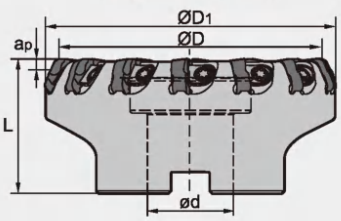
Face milling tools Kr:67°

FMD02 P K

A type of mounting



B type of mounting



Specification of tools

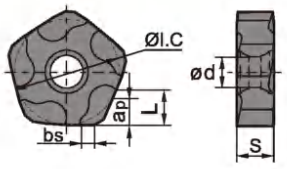
Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMD02 Extra close pitch	**-3.00"-A1.00"-PN11-10**	3.000	3.398	1.000	1.750	0.197/0.256/0.276	10	A
	-4.00"-B1.25"-PN11-14	4.000	4.398	1.250	2.000	0.197/0.256/0.276	14	B
	-5.00"-B1.50"-PN11-18	5.000	5.398	1.500	2.500	0.197/0.256/0.276	18	B
	-6.00"-B1.50"-PN11-22	6.000	6.398	1.500	2.500	0.197/0.256/0.276	22	B

D

Spare parts

Diameter ØD	Wedge	Insert screw	Wrench	Sketch of installation
				
Ø3.00"~Ø6.00"	W18N	DM6×20A	WT15IT	

Selection of inserts



Good working conditions General working conditions Adverse working conditions

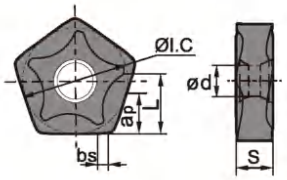
Workpiece material		
P	Steel	
M	Stainless steel	
K	Cast iron	
N	Ferrite materials	
S	Heat-resistant steel	

Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	bs	$a_p$max	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	PNEG110512R-CF	0.213	0.625	0.219	0.183	0.063	0.197			●														
	PNEG110512L-CF	0.213	0.625	0.219	0.183	0.063	0.197			●														
	PNEG110512R-CM	0.213	0.625	0.219	0.183	0.063	0.197			●	○													
	PNEG110512L-CM	0.213	0.625	0.219	0.183	0.063	0.197			●	○													
	PNEG110512R-CR	0.213	0.625	0.219	0.183	0.063	0.197			●	○													
	PNEG110512L-CR	0.213	0.625	0.219	0.183	0.063	0.197			●														

● Recommended grade ○ Produce according to order

D

Selection of inserts



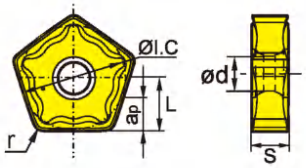
Good working conditions General working conditions Adverse working conditions

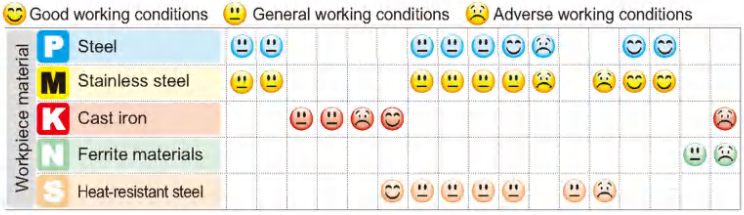
Workpiece material		
P	Steel	
M	Stainless steel	
K	Cast iron	
N	Ferrite materials	
S	Heat-resistant steel	

Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	bs	$a_p$max	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	PNEG110512R-PF	0.296	0.625	0.219	0.183	0.056	0.276	●	●															
	PNEG110512L-PF	0.296	0.625	0.219	0.183	0.056	0.276	●	●															
	PNEG110512R-PM	0.296	0.625	0.219	0.183	0.056	0.276	●	●															
	PNEG110512L-PM	0.296	0.625	0.219	0.183	0.056	0.276	●	●															
	PNEG110512R-PR	0.296	0.625	0.219	0.183	0.056	0.276	●	●															
	PNEG110512L-PR	0.296	0.625	0.219	0.183	0.056	0.276	●	●															

● Recommended grade ○ Produce according to order

Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	r	$a_p$max	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	PNEG110512-KL	0.256	0.625	0.219	0.183	0.047	0.256			●		●												
	PNEG110512-KM	0.256	0.625	0.219	0.183	0.047	0.256			●	○	●												
	PNEG110512-KH	0.256	0.625	0.219	0.183	0.047	0.256			●		●												

• Inserts can be assembled in both left and right side.

● Recommended grade ○ Produce according to order

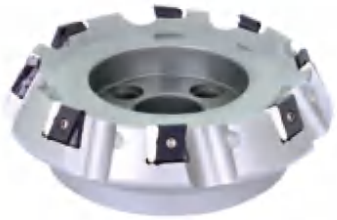
D

Recommended cutting parameters

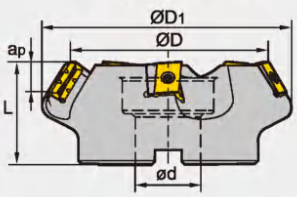
Workpiece material		Hardness HB	Insert grade	Cutting parameters				
				V(SFPM)	f(IPT)			a_{pmax}(in)
					PF	PM	PR	
P	Low carbon steel, Soft steel	⩽180	YBC302 YBM253	900(700-1100)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)	0.295
P	High-carbon steel, Alloy steel	180-280	YBC302 YBM253	850(650-1000)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)	0.295
P	Alloy tool steel	280-350	YBC302 YBM253	800(600-950)	0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)	0.295
K	Cast iron	180-250	YBD152	900(500-1000)	CF	CM	CR	0.197
					0.006(0.004-0.008)	0.008(0.004-0.012)	0.012(0.008-0.016)	
K	Gray cast iron	180-250			KL	KM	KH	0.256
			YBD152	900(500-1000)	0.01(0.004-0.016)	0.012(0.008-0.02)	0.016(0.008-0.024)	
			YBD252	800(500-900)	0.01(0.008-0.016)	0.012(0.008-0.02)	0.016(0.008-0.024)	

Face milling tools Kr:60°

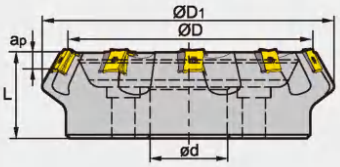
FMD03 P M K



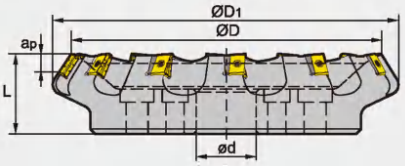
B type of mounting



C type of mounting



D type of mounting



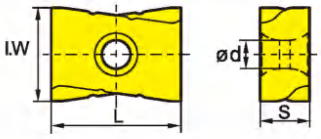
Specification of tools

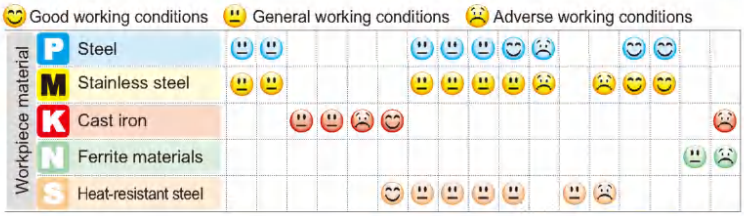
Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMD03	-5.00"-B1.5"-LN20-06	5.000	6.053	1.500	2.500	0.472	6	B
	-6.00"-C1.5"-LN20-08	6.000	7.053	1.500	2.500	0.472	8	C
	-8.00"-C2.5"-LN20-10	8.000	9.053	2.500	2.500	0.472	10	C
	-10.00"-C2.5"-LN20-12	10.000	11.053	2.500	2.500	0.472	12	C
	-12.00"-D2.5"-LN20-15	12.000	13.053	2.500	2.500	0.472	15	D
	-5.00"-B1.5"-LN25-05	5.000	6.172	1.500	2.500	0.669	5	B
	-6.00"-C1.5"-LN25-06	6.000	7.172	1.500	2.500	0.669	6	C
	-8.00"-C2.5"-LN25-08	8.000	9.172	2.500	2.500	0.669	8	C
	-10.00"-C2.5"-LN25-10	10.000	11.172	2.500	2.500	0.669	10	C
	-12.00"-D2.5"-LN25-12	12.000	13.172	2.500	2.500	0.669	12	D

Spare parts

Insert specifrication	Shim	Shim screw	Insert screw	Wrench		Sketch of installation
						
LNKT2007DN-ZR	LLN20R-ZR	I60M3×7	I60M4×15	WT15IS	WT09IS	
LNKT2510-ZR	LLN25R-ZR	I60M3.5×10.4	I60M5×17	WT20IT	WT15IS	

Selection of inserts





Insert shape	Type	Dimensions(inch)				Coated grade												Cermet		Cemented carbide	
		L	l.W	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	LNKT2007DN-ZR	0.787	0.669	0.313	0.181			○								●						
	LNKT2510-ZR	0.984	0.709	0.375	0.217					○						●						

● Recommended grade ○ Produce according to order

Recommended cutting parameters

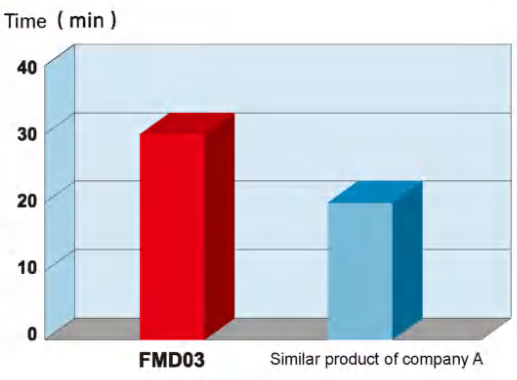
Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low carbon steel, Soft steel	≤180	YBG302	600 (500-1000)	0.02 (0.008-0.031)
			YBM351	600 (500-1000)	0.02 (0.008-0.031)
	High-carbon steel, Alloy steel	180-280	YBG302	500 (400-900)	0.02 (0.008-0.031)
			YBM351	450 (400-900)	0.02 (0.008-0.031)
	Alloy tool steel	280-350	YBG302	400 (250-800)	0.018 (0.008-0.024)
			YBM351	300 (250-800)	0.018 (0.008-0.024)
M	Stainless steel	≤270	YBG302	400 (250-650)	0.018 (0.008-0.024)
			YBM351	300 (250-650)	0.018 (0.008-0.024)
K	Cast iron	180-250	YBD152	700 (500-1000)	0.02 (0.008-0.031)
			YBD252	680 (500-1000)	0.02 (0.008-0.031)
			YBG302	650 (500-1000)	0.02 (0.008-0.031)

Note: Cutting parameters can be adjusted according to the Max. power of machine.

Case for FMD03

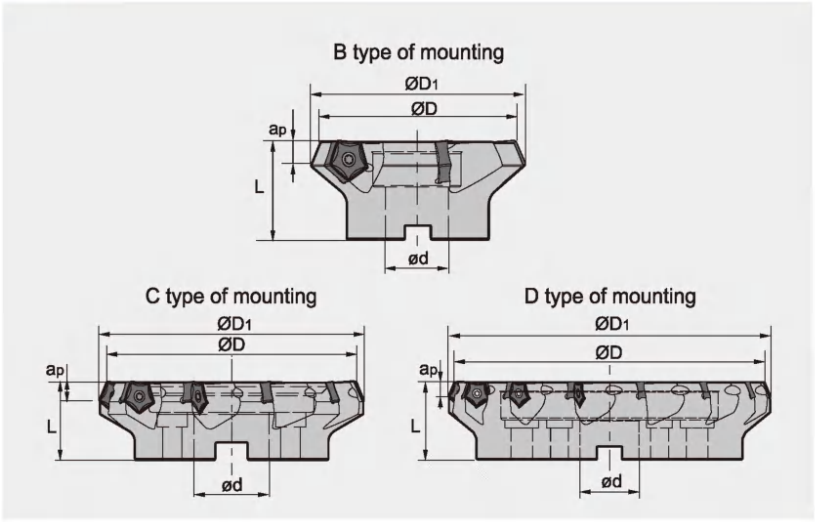
(Comparison of machining time)

Workpiece material: ASTM A743
CA-6NM(HB200)
Tool type: FMD03-12.00"-D2.5"-LN25-12
Insert type/grade: LNKT2510-ZR/YBG302
Cooling system: dry cutting
Machine: NC floor type boring and milling machine,
spindle power≥30KW
Cutting parameters: V_c=400 SFPM, a_p=0.472in
f_z=0.022IPT, a_e=9in



Face milling tools Kr:67°

FMD04



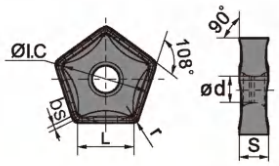
Specification of tools

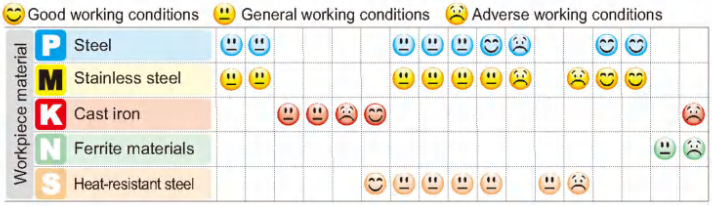
Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FMD04	-5.00"-B1.50"-PN17-06	5.000	5.496	1.500	2.500	0.472	6	B
	-6.00"-B2.00"-PN17-08	6.000	6.496	2.000	2.500	0.472	8	B
	-8.00"-C2.50"-PN17-10	8.000	8.496	2.500	2.500	0.472	10	C
	-10.00"-C2.50"-PN17-12	10.000	10.496	2.500	2.500	0.472	12	C
	-12.00"-D2.50"-PN17-14	12.000	12.496	2.500	2.500	0.472	14	D

Spare parts

Diameter ØD	Insert specifrication	Insert screw	Wrench	Sketch of installation
				
Ø5.00"~Ø12.00"	PNGU170712R-GR/HDR	I43M6×16	WT25IT	

Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	bs	r	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	PNGU170712R-GR	0.554	0.925	0.312	0.283	0.049	0.047	●	●	●														
	PNGU170712-HDR	0.554	0.925	0.312	0.283	0.049	0.047											●						

● Recommended grade ○ Produce according to order

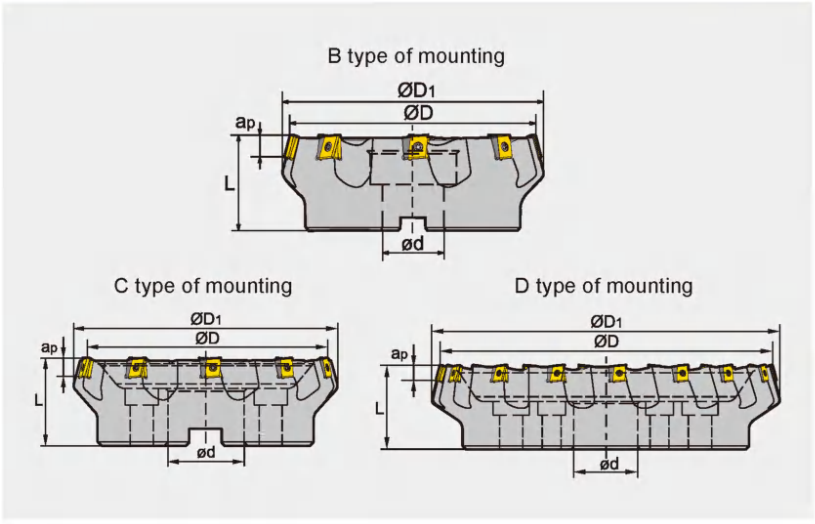
D

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low carbon steel, Soft steel	⩽180	YBC302 YBM253 YBG302	400(300-450)	0.012(0.008-0.016)
P	High-carbon steel, Alloy steel	180-280	YBC302 YBM253 YBG302	350(300-400)	0.008(0.004-0.012)
P	Alloy tool steel	280-350	YBC302 YBM253 YBG302	300(200-400)	0.008(0.004-0.012)
K	Cast iron	180-250	YBD152	500(300-600)	0.012(0.008-0.016)

Face milling tools Kr:75°

FME04 P M K



Specification of tools

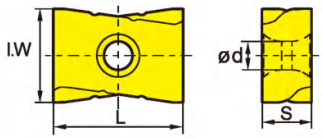
Type		Dimensions(inch)						
		ØD	ØD1	ød	L	apmax	Z (Number of teeth)	Mounting type
FME04	-5.00"-B1.5"-LN15-06	5.000	5.388	1.500	2.500	0.472	6	B
	-6.00"-B1.5"-LN15-08	6.000	6.388	1.500	2.500	0.472	8	B
	-8.00"-C2.5"-LN15-10	8.000	8.388	2.500	2.750	0.472	10	C
	-10.00"-C2.5"-LN15-12	10.000	10.388	2.500	2.750	0.472	12	C
	-12.00"-D2.5"-LN15-16	12.000	12.388	2.500	3.150	0.472	16	D

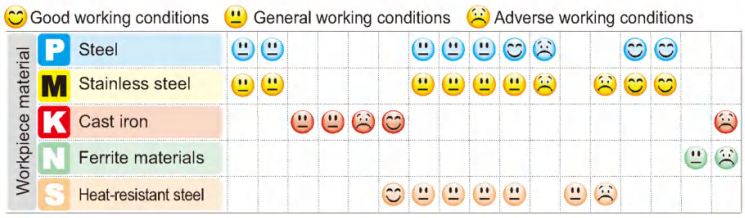
D

Spare parts

Diameter ØD	Insert specifrication	Shim	Shim screw	Insert screw	Wrench	Sketch of installation
						
Ø5.00"~Ø12.00"	LNKT1506EN-ZR	LLN15-ZR	I60M3×7	I60M4×12	WT15IS, WT09IS	

Selection of inserts





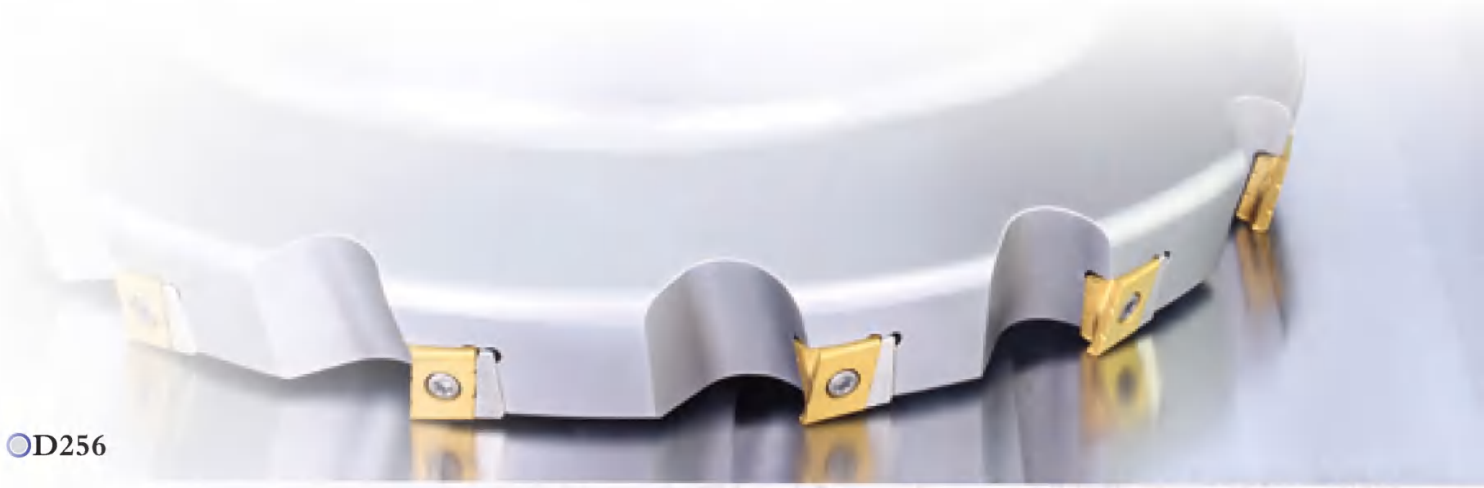
Insert shape	Type	Dimensions(inch)				Coated grade												Cermet		Cemented carbide	
		L	I.W	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	LNKT1506EN-ZR	0.625	0.551	0.25	0.181			○								●						

● Recommended grade ○ Produce according to order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	⩽180	YBG302	600 (500-1000)	0.02 (0.008-0.031)
			YBM351	600 (500-1000)	0.02 (0.008-0.031)
	High-carbon steel, Alloy steel	180-280	YBG302	500 (400-900)	0.02 (0.008-0.031)
			YBM351	450 (400-900)	0.02 (0.008-0.031)
	Alloy tool steel	280-350	YBG302	400 (250-800)	0.018 (0.008-0.024)
			YBM351	300 (250-800)	0.018 (0.008-0.024)
M	Stainless steel	⩽270	YBG302	400 (250-650)	0.018 (0.008-0.024)
			YBM351	300 (250-650)	0.018 (0.008-0.024)
K	Cast iron	180-250	YBD152	700 (500-1000)	0.02 (0.008-0.031)
			YBG302	650 (500-1000)	0.02 (0.008-0.031)

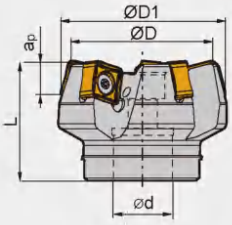
Note: Cutting parameters can be adjusted according to the Max. power of machine.



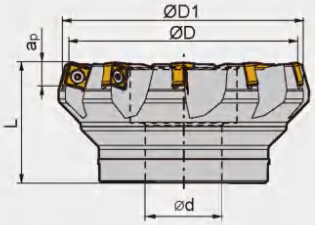
Face milling tools Kr:75°

FME17 P M K S

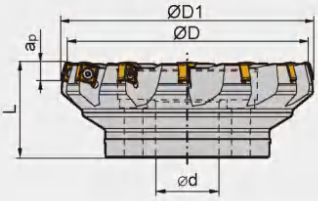
A type of mounting



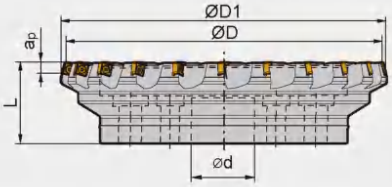
B type of mounting



C type of mounting



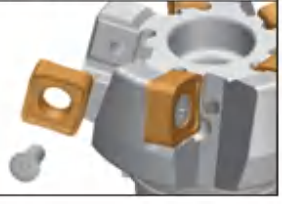
D type of mounting



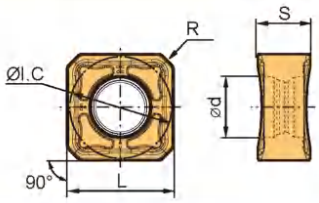
Specification of tools

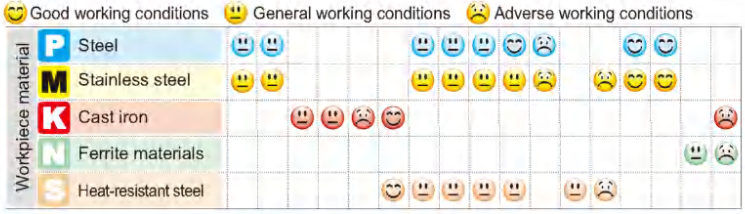
Type		Dimensions(inch)						
		ØD	ØD1	L	ød	apmax	Z (Number of teeth)	Mounting type
FME17 Coarse pitch	**-2.00"-A0.75"-SN12-04C**	2.000	2.394	0.750	1.750	0.315	4	A
	-2.50"-A0.75"-SN12-05C	2.500	2.894	0.750	1.750	0.315	5	A
	-3.00"-A1.00"-SN12-07C	3.000	3.394	1.000	2.000	0.315	7	A
	-4.00"-A1.25"-SN12-08C	4.000	4.394	1.250	2.000	0.315	8	A
	-5.00"-B1.50"-SN12-10	5.000	5.394	1.500	2.500	0.315	10	B
	-6.00"-B2.00"-SN12-12	6.000	6.394	2.000	2.500	0.315	12	B
	-8.00"-C2.50"-SN12-14	8.000	8.394	2.500	2.500	0.315	14	C
	-10.00"-C2.50"-SN12-20	10.000	10.394	2.500	2.500	0.315	20	C
	-12.00"-D2.50"-SN12-22	12.000	12.394	2.500	2.500	0.315	22	D
Close pitch	**-2.00"-A0.75"-SN12-05C**	2.000	2.394	0.750	1.750	0.315	5	A
	-2.50"-A0.75"-SN12-07C	2.500	2.894	0.750	1.750	0.315	7	A
	-3.00"-A1.00"-SN12-09C	3.000	3.394	1.000	2.000	0.315	9	A
	-4.00"-A1.25"-SN12-11C	4.000	4.394	1.250	2.000	0.315	11	A
	-5.00"-B1.50"-SN12-14	5.000	5.394	1.500	2.500	0.315	14	B
	-6.00"-B2.00"-SN12-18	6.000	6.394	2.000	2.500	0.315	18	B
	-8.00"-C2.50"-SN12-22	8.000	8.394	2.500	2.500	0.315	22	C

Spare parts

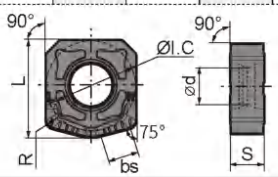
Diameter ØD	Insert specifrication	Insert screw	Wrench	Sketch of installation
				
Ø2.00"~Ø2.50"	SN□X1205□□□-GL/GM/GH/W	IRM4×10	WT15IP	
Ø3.00"~Ø6.00"			WT15IS	
Ø8.00"			WT15IT	

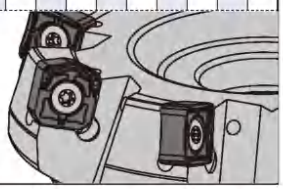
Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	bs	ød	R	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SNGX1205ENN-GL	0.500	0.500	0.256	-	0.232	0.031		●	●						●	●							
	SNMX120512-GL	0.500	0.500	0.256	-	0.232	0.047		●	●							●							
	SNGX1205ENN-GM	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	●			●				
	SNMX120512-GM	0.500	0.500	0.256	-	0.232	0.047		●	●						●	●			●				
	SNGX1205ENN-GH	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	●							
	SNMX120512-GH	0.500	0.500	0.256	-	0.232	0.047		●	●						●	●							
	SNGX1205ENN-W	0.539	0.500	0.189	0.195	0.232	0.047						●											





• Inserts can be assembled in both left and right side.

● Recommended grade ○ Produce according to order

Recommended cutting parameters

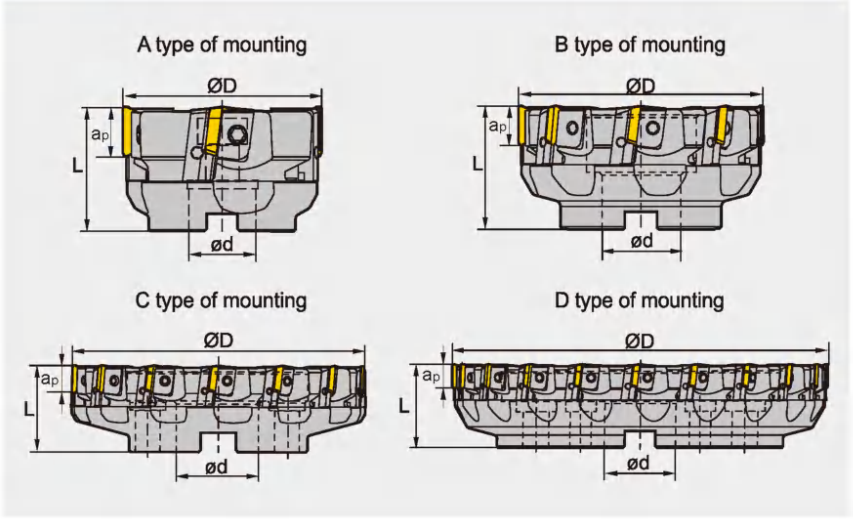
ISO	Workpiece material	Hardness HB	Grade	Cutting data			
				Vc (SFPM)	fz(IPT)		
					-GL	-GM	-GH
P	Low-carbon steel, Soft steel	≤180	YBM253 YBG205H YB9320	880(720-1150)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)
P	High-carbon steel, Alloy steel	180-280	YBM253 YBG205H YB9320	850(720-1050)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)
P	Alloy tool steel	280-350	YBM253 YBG205H YB9320	780(590-980)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)
M	Stainless steel	≤270	YBM253 YBG205H YB9320	520(360-880)	0.004(0.003-0.008)	0.006(0.004-0.012)	0.008(0.004-0.012)
K	Cast iron, Ductile iron, High nickel cast iron	180-250	YBD152	880(490-980)	0.008(0.004-0.012)	0.012(0.004-0.016)	0.016(0.008-0.02)
S	Difficult-to-machine materials	≤400	YBS303	330(200-400)	--	0.006(0.004-0.01)	--

Case for FME17

Workpiece: Transmission
The material of workpiece: 40cr(HRC25-40)
Processing part: Upper face
Tool: FME17-5.00"-B1.50"-SN12-14
Insert: SNGX1205ENN-GM/YB9320
Cutting parameter: Vc=835SFPM, fz=0.003IPT,
ap=0.197in, ae=2.953in
Type of cooling: External cooling

Face milling tools Kr:90°

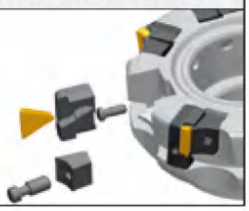
FMP01



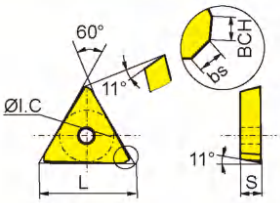
Specification of tools

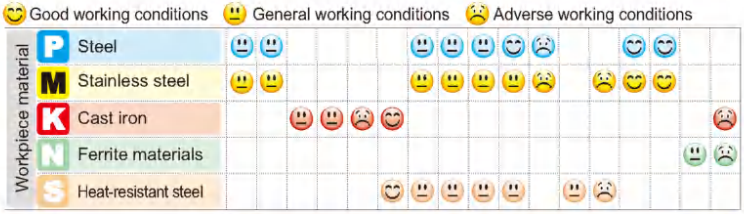
Type		Dimensions(inch)					
		ØD	ød	L	$a_p$max	Z (Number of teeth)	Mounting type
FMP01	-3.00"-A1.00"-TP22-04	3.000	1.000	2.500	0.709	4	A
	-4.00"-B1.25"-TP22-06	4.000	1.250	2.500	0.709	6	B
	-5.00"-B1.50"-TP22-08	5.000	1.500	2.500	0.709	8	B
	-6.00"-B1.50"-TP22-10	6.000	1.500	2.500	0.709	10	B
	-8.00"-C2.50"-TP22-12	8.000	2.500	2.500	0.709	12	C
	-10.00"-C2.50"-TP22-16	10.00	2.500	2.500	0.709	16	C
	-12.00"-D2.50"-TP22-20	12.00	2.500	2.750	0.709	20	D

Spare parts

Diameter ØD	Locator	Wedge	Wedge screw	Locator Screw	Wrench	Sketch of installation
						
Ø3.00"~Ø4.00"	LTP4R1/L1	W04R/L	WM8×17	LOM5×15.1	WT20T	
Ø5.00"~Ø12.00"	LTP4R/L	W04R/L	WM8×22	LOM5×15.1	WT25T	

Selection of inserts





Insert shape	Type	Dimensions(inch)					Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	BCH	bs	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	TPKN2204PDFR	0.266	0.500	0.187	0.055	0.028						●											
	TPKN2204PDFL	0.266	0.500	0.187	0.055	0.028						●											
	TPKN2204PDR	0.266	0.500	0.187	0.055	0.028	●	●				●	●	●			●						
	TPKN2204PDL	0.266	0.500	0.187	0.055	0.028	●							●									
	TPKN2204PDTR	0.266	0.500	0.187	0.055	0.028	●																
	TPKN2204PDTL	0.266	0.500	0.187	0.055	0.028	●																
	TPMR2204PDSL	0.266	0.500	0.187	0.055	0.028	○	○															
	TPMR2204PDSR	0.266	0.500	0.187	0.055	0.028	○	○															

● Recommended grade ○ Produce according to order

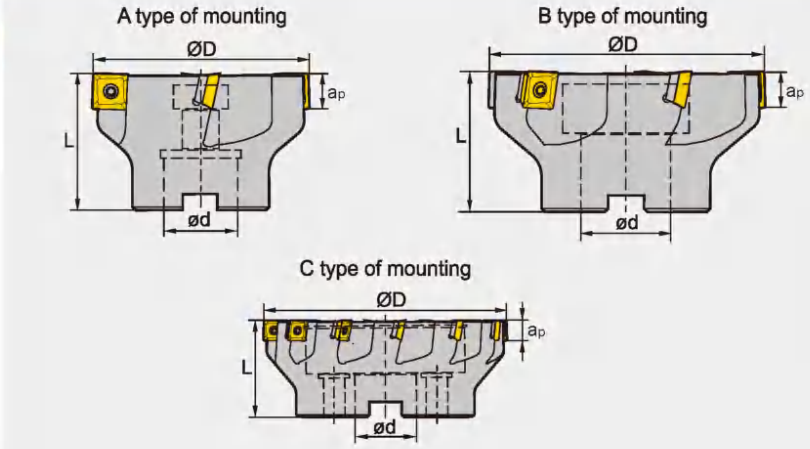
D

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel, Soft steel	≤180	YBC302	900 (700-1100)	0.008 (0.004-0.016)
			YBM253	700 (600-1000)	0.008 (0.003-0.012)
			YBG202	900 (700-1200)	0.008 (0.004-0.012)
	High-carbon steel, Alloy steel	180—280	YBC302	800 (650-1100)	0.008 (0.004-0.016)
			YBM253	650 (500-920)	0.008 (0.003-0.012)
			YBG202	800 (600-1100)	0.008 (0.004-0.012)
	Alloy tool steel	280—350	YBC302	700 (600-1000)	0.008 (0.004-0.016)
			YBM253	600 (490-800)	0.008 (0.003-0.012)
			YBG202	700 (550-1000)	0.008 (0.004-0.012)
M	Stainless steel	≤270	YBM253	460 (320-780)	0.008 (0.003-0.012)
			YBG202	460 (320-800)	0.008 (0.004-0.012)
K	Cast iron	180—250	YBG105	680 (400-980)	0.008 (0.004-0.012)
			YBG302	520 (400-650)	0.014 (0.004-0.016)
			YD201	320 (260-520)	0.01 (0.006-0.016)

Face milling tools

FMP02



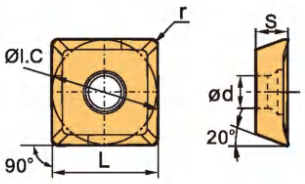
Specification of tools

Type		Dimensions(inch)					
		ØD	ød	L	$a_p$max	Z (Number of teeth)	Mounting type
FMP02	-2.00"-A0.75"-SE09-05	2.000	0.750	1.500	0.285	5	A
	-2.50"-A1.00"-SE09-06	2.500	1.000	1.500	0.285	6	A
	-3.00"-A1.00"-SE09-08	3.000	1.000	2.000	0.285	8	A
	-4.00"-B1.25"-SE09-10	4.000	1.250	2.000	0.285	10	B
	-5.00"-B1.50"-SE09-12	5.000	1.500	2.500	0.285	12	B
	-6.00"-C1.50"-SE09-14	6.000	1.500	2.500	0.285	14	C
Coarse pitch	-2.00"-A0.75"-SE12-03	2.000	0.750	1.500	0.425	3	A
	-2.50"-A1.00"-SE12-04	2.500	1.000	1.500	0.425	4	A
	-3.00"-A1.00"-SE12-06	3.000	1.000	2.000	0.425	6	A
	-4.00"-B1.25"-SE12-07	4.000	1.250	2.000	0.425	7	B
	-5.00"-B1.50"-SE12-08	5.000	1.500	2.500	0.425	8	B
	-6.00"-C1.50"-SE12-12	6.000	1.500	2.500	0.425	12	C
	-8.00"-C2.50"-SE12-14	8.000	2.500	2.500	0.425	14	C
	-10.00"-C2.50"-SE12-16	10.00	2.500	2.500	0.425	16	C
Close pitch	-2.00"-A1.00"-SE12-04	2.000	1.000	1.500	0.425	4	A
	-2.50"-A1.00"-SE12-05	2.500	1.000	1.500	0.425	5	A
	-3.00"-A1.00"-SE12-08	3.000	1.000	2.000	0.425	8	A
	-4.00"-B1.25"-SE12-10	4.000	1.250	2.000	0.425	10	B
	-5.00"-B1.50"-SE12-12	5.000	1.500	2.500	0.425	12	B
	-6.00"-C1.50"-SE12-15	6.000	1.500	2.500	0.425	15	C
	-8.00"-C2.50"-SE12-16	8.000	2.500	2.500	0.425	16	C
	-10.00"-C2.50"-SE12-18	10.00	2.500	2.500	0.425	18	C

Spare parts

Diameter ØD	Insert specification	Shim	Insert screw	Shim screw	Wrench		Sketch of installation
Ø2.00"~Ø6.00"	SE09	---	I60M3×7	---	WT09IS	---	
Ø2.00"	SE12	---	I60M3.5×10	---	WT15IS	---	
Ø2.50"~Ø10.00"		S12BSX	I60M3.5×12	SM5×7XA		WH35L	

Selection of inserts



Good working conditions General working conditions Adverse working conditions

Workpiece material		
P	Steel	
M	Stainless steel	
K	Cast iron	
N	Ferrite materials	
S	Heat-resistant steel	

Insert shape	Type	Dimensions(inch)					Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	ød	r	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SEET09T308PER-APF	0.375	0.375	0.158	0.13	0.031			●				●			●							
	SEET120308PER-APF	0.524	0.524	0.159	0.161	0.031			●				●			●							
	SEET09T308PER-APM	0.375	0.375	0.158	0.13	0.031			●	○			●			●							
	SEET120308PER-APM	0.524	0.524	0.159	0.161	0.031			●	○			●			●							
	SEET09T308PER-APR	0.375	0.375	0.158	0.13	0.031			●	○			●			●							
	SEET120308PER-APR	0.524	0.524	0.159	0.161	0.031			●	○			●			●							
	SEET120308-LH	0.524	0.524	0.159	0.161	0.031																●	

● Recommended grade ○ Produce according to order

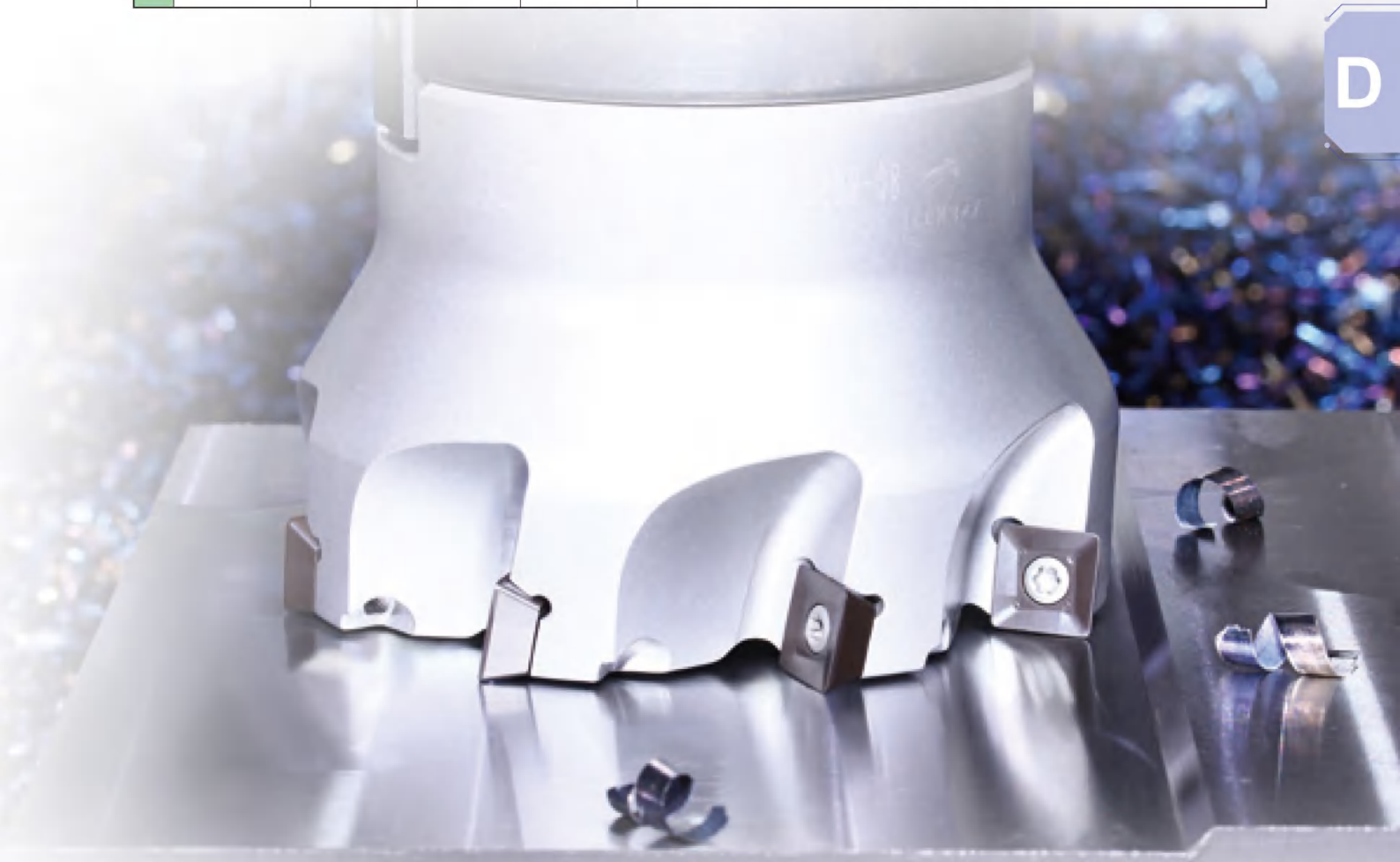
D

Chipbreaker selection for FMP02 milling inserts

Classification \ Function	For finishing	For semi-finishing	For roughing
P	-APF 	-APM 	-APR 
M			
K			
N	-LH 		

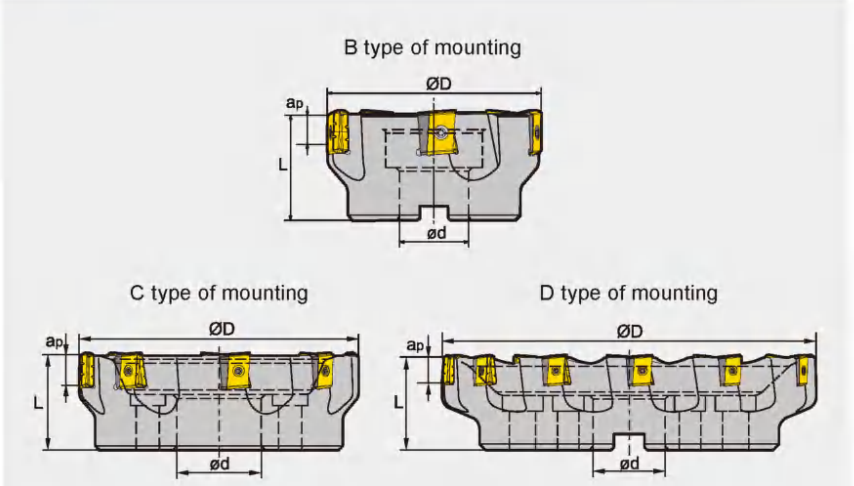
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(IPT)		
					-APF	-APM	-APR
P	Low-carbon steel, soft steeel	⩽180	YBG202	900(650-1200)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YB9320	900(650-1200)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
	High-carbon steel, alloy steel	180-280	YBM253	750 (660-1000)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YBG202	800 (600-1150)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YB9320	800 (600-1150)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
	Alloy tool steel	280-350	YBM253	700 (600-1000)	0.004(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YBG202	700 (550-1100)	0.004(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YB9320	700 (550-1100)	0.004(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
M	Stainless steel	⩽270	YBM253	500 (400-800)	0.004(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YBG202	500 (350-900)	0.004(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YB9320	500 (350-900)	0.004(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
K	Cast iron	180-250	YBG202	500 (400-650)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
			YBD152	900 (500-1000)	0.006(0.004-0.008)	0.008 (0.004-0.012)	0.012 (0.008-0.016)
N	Al alloy steel	--	YD101	1000-	-LH		
					0.01 (0.004-0.016)		



Face milling tools Kr:90°

FMP03 P M K



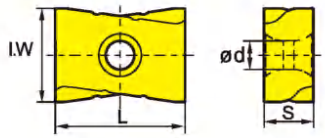
Specification of tools

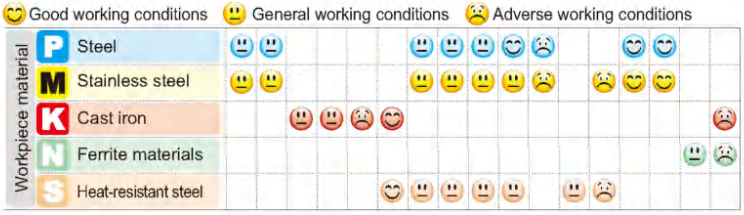
Type		Dimensions(inch)					
		ØD	ød	L	$a_p$max	Z (Number of teeth)	Mounting type
FMP03	-5.00"-B1.5"-LN15-06	5.00	1.50	2.50	0.512	6	B
	-6.00"-C1.5"-LN15-08	6.00	1.50	2.50	0.512	8	C
	-8.00"-C2.5"-LN15-10	8.00	2.50	2.75	0.512	10	C
	-10.00"-C2.5"-LN15-12	10.00	2.50	2.75	0.512	12	C
	-12.00"-D2.5"-LN15-16	12.00	2.50	3.15	0.512	16	D
	-5.00"-B1.5"-LN20-06	5.00	1.50	2.50	0.669	6	B
	-6.00"-C1.5"-LN20-08	6.00	1.50	2.50	0.669	8	C
	-8.00"-C2.5"-LN20-10	8.00	2.50	2.75	0.669	10	C
	-10.00"-C2.5"-LN20-12	10.00	2.50	2.75	0.669	12	C
	-12.00"-D2.5"-LN20-15	12.00	2.50	3.15	0.669	15	D
	-5.00"-B1.5"-LN25-05	5.00	1.50	2.50	0.866	5	B
	-6.00"-C1.5"-LN25-06	6.00	1.50	2.50	0.866	6	C
	-8.00"-C2.5"-LN25-08	8.00	2.50	2.75	0.866	8	C
	-10.00"-C2.5"-LN25-10	10.00	2.50	2.75	0.866	10	C
	-12.00"-D2.5"-LN25-12	12.00	2.50	3.15	0.866	12	D

Spare parts

Insert specification	Shim	Shim screw	Insert screw	Wrench		Sketch of installation
						
LNKT1506EN-ZR	LLN15-ZR	I60M3×7	I60M4×12	WT15IS	WT09IS	
LNKT2007DN-ZR	LLN20R-ZR	I60M3×7	I60M4×15	WT15IS	WT09IS	
LNKT2510-ZR	LLN25R-ZR	I60M3.5×10.4	I60M5×17	WT20IT	WT15IS	

Selection of inserts





Insert shape	Type	Dimensions(inch)				Coated grade												Cermet		Cemented carbide	
		L	ØI.C	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	LNKT1506EN-ZR	0.625	0.551	0.25	0.181			○								●						
	LNKT2007DN-ZR	0.787	0.669	0.313	0.181		○									●						
	LNKT2510-ZR	0.984	0.709	0.375	0.217					○						●						

● Recommended grade ○ Produce according to order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	≤180	YBG302	600 (500-1000)	0.02 (0.008-0.031)
			YBM253	600 (500-1000)	0.02 (0.008-0.031)
	High-carbon steel, Alloy steel	180-280	YBG302	500 (400-900)	0.02 (0.008-0.031)
			YBM253	450 (400-900)	0.02 (0.008-0.031)
	Alloy tool steel	280-350	YBG302	400 (250-800)	0.018 (0.008-0.024)
			YBM253	300 (250-800)	0.018 (0.008-0.024)
M	Stainless steel	≤270	YBG302	400 (250-650)	0.018 (0.008-0.024)
			YBM253	300 (250-650)	0.018 (0.008-0.024)
K	Cast iron	180-250	YBD152	700 (500-1000)	0.02 (0.008-0.031)
			YBD252	680 (500-1000)	0.02 (0.008-0.031)
			YBG302	650 (500-1000)	0.02 (0.008-0.031)

Note: Cutting parameters can be adjusted according to the Max. power of machine.

Case for FMP03

Tool type: FMP03-8"-C2.5"-LN25-08

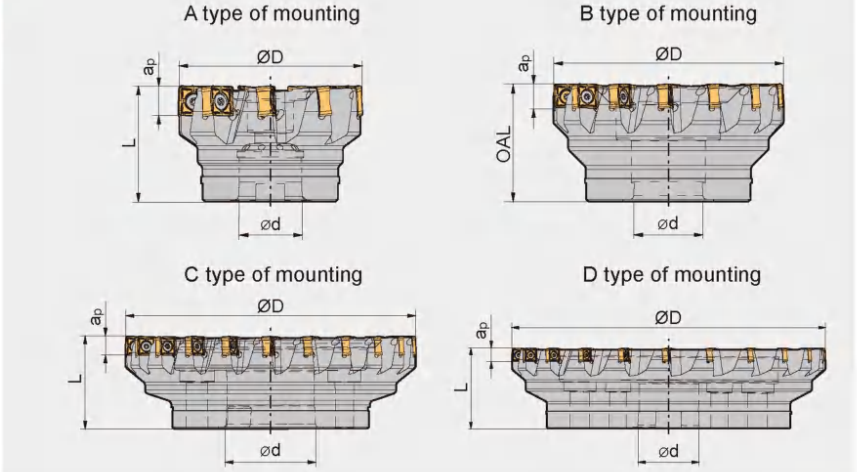
Insert type/grade: LNKT2510-ZR/YBG302

The tool operates easily and fast at high cutting depth with good chip breaking performance. Cutting efficiency is doubled, and tool life increases to 1-2 times that of the original.

Workpiece material: 45#
Hardness(HB): 190
Cooling system: Dry cutting
Cutting parameters: V_c=420SFPM, a_p=0.047in,
f_z=0.02IPT, a_e=5.51in

Face milling tools Kr:88°

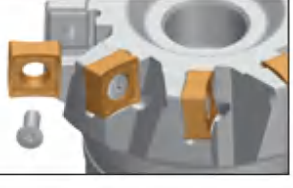
FMP17 P M K S



Specification of tools

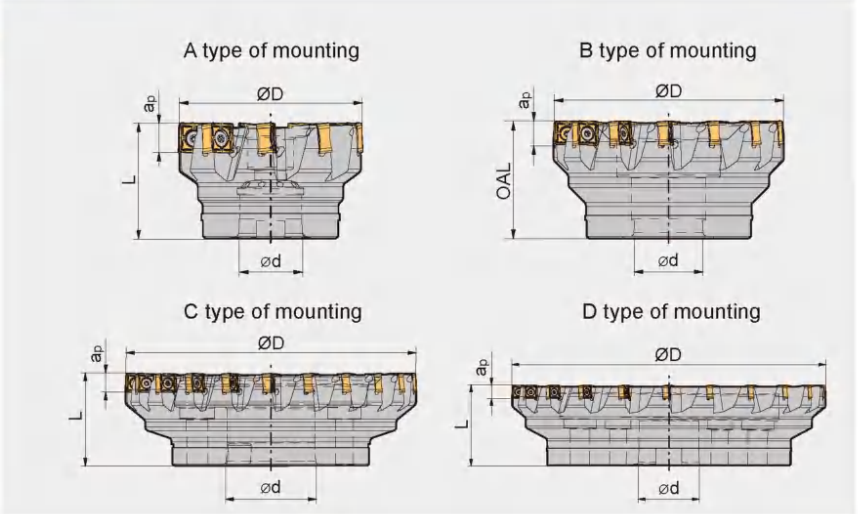
Type		Dimensions(inch)					
		ØD	L	ød	$a_p$max	Z (Number of teeth)	Mounting type
FMP17 Coarse pitch	**-2.00"-A0.75"-SN12-04C**	2.000	0.750	1.750	0.413	4	A
	-2.50"-A0.75"-SN12-05C	2.500	0.750	1.750	0.413	5	A
	-3.00"-A1.00"-SN12-07C	3.000	1.000	2.000	0.413	7	A
	-4.00"-A1.25"-SN12-08C	4.000	1.250	2.000	0.413	8	A
	-5.00"-B1.50"-SN12-10	5.000	1.500	2.500	0.413	10	B
	-6.00"-B2.00"-SN12-12	6.000	2.000	2.500	0.413	12	B
	-8.00"-C2.50"-SN12-14	8.000	2.500	2.500	0.413	14	C
	-10.00"-C2.50"-SN12-18	10.000	2.500	2.500	0.413	18	C
	-12.00"-D2.50"-SN12-22	12.000	2.500	2.500	0.413	22	D

Spare parts

Diameter ØD	Insert specifrication	Insert tightening screw	Wrench	Sketch of installation
				
Ø2.00"~Ø2.50"	SNGX□□PNN-GH/GL/GM SNMX□□□-GH/GL/GM	IRM4×10	WT15IP	
Ø3.00"~Ø5.00"			WT15IS	
Ø6.00"~Ø12.00"			WT15IT	

Face milling tools Kr:88°

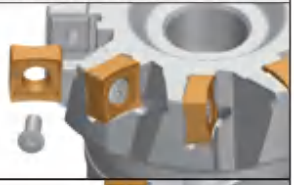
FMP17 P M K S

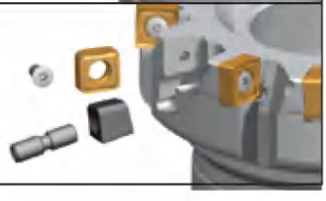


Specification of tools

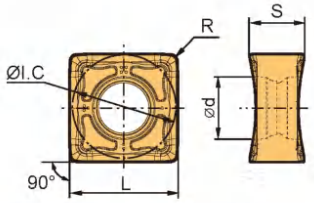
Type		Dimensions(inch)					
		ØD	L	ød	$a_p$max	Z (Number of teeth)	Mounting type
FMP17 Close pitch	**-2.00"-A0.75"-SN12-05C**	2.000	0.750	1.750	0.413	5	A
	-2.50"-A0.75"-SN12-07C	2.500	0.750	1.750	0.413	7	A
	-3.00"-A1.00"-SN12-09C	3.000	1.000	2.000	0.413	9	A
	-4.00"-A1.25"-SN12-11C	4.000	1.250	2.000	0.413	11	A
	-5.00"-B1.50"-SN12-14	5.000	1.500	2.500	0.413	14	B
	-6.00"-B2.00"-SN12-18	6.000	2.000	2.500	0.413	18	B
	-8.00"-C2.50"-SN12-22	8.000	2.500	2.500	0.413	22	C
Finishing cutter (With wiper inserts)	**-5.00"-B1.50"-SN12-14W2**	5.000	1.500	2.500	0.413	12+2	B
	-6.00"-C1.50"-SN12-18W3	6.000	1.500	2.500	0.413	15+3	C
	-8.00"-C2.50"-SN12-24W4	8.000	2.500	2.500	0.413	20+4	C

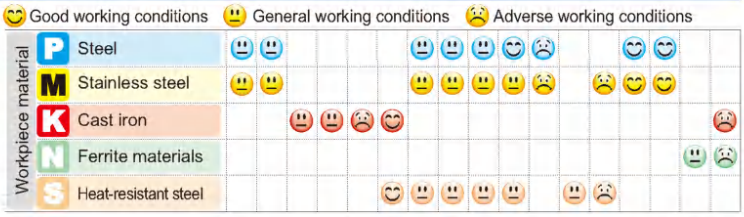
Spare parts

Diameter ØD	Insert specifrication	Insert tightening screw	Wrench	Sketch of installation
				
Ø2.00"~Ø2.50"	SNGX□□PNN-GH/GL/GM SNMX□□□-GH/GL/GM	IRM4×10	WT15IP	
Ø3.00"~Ø5.00"			WT15IS	
Ø6.00"~Ø12.00"			WT15IT	

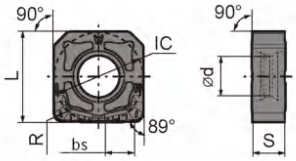
Diameter of the finishing cutter ØD	Insert specifrication	Insert tightening screw	Wedge screw	Adjustment block	Wrench	
						
Ø5.00"~Ø8.00"	SNG□□XPNN-GH/GL/GM SNMX□□□-GH/GL/GM SNCU120420-W4	IRM4×10	DM6×20A	ADJ-M6×1.0A	WT15IT	

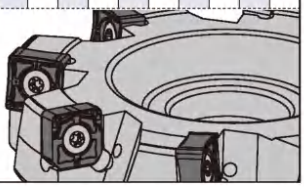
Selection of inserts





Insert shape	Type	Dimensions(inch)						Coated grade													Cermet		Cemented carbide	
		L	ØI.C	S	bs	ød	R	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	SNGX1205PNN-GL	0.500	0.500	0.256	-	0.232	0.031		●	●						●	○	●						
	SNMX120512-GL	0.500	0.500	0.256	-	0.232	0.047		●	●	○						○	●						
	SNGX1205PNN-GM	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	○	●		●				
	SNMX120512-GM	0.500	0.500	0.256	-	0.232	0.047		●	●	○					●	○	●		●				
	SNGX1205PNN-GH	0.500	0.500	0.256	-	0.232	0.031		●	●	○					●	○	●						
	SNMX120512-GH	0.500	0.500	0.256	-	0.232	0.047		●	●	○					●	○	●						
	SNCU120420-W4	0.500	0.500	0.189	-	0.232	0.079						●											
	SNGX1205PNN-W	0.506	0.500	0.189	0.168	0.232	0.047										●							





- Neutral insert for both left and right cutters;
- -W4 wiper insert is used in finishing cutter with adjustable wedge;
- -W wiper insert is used in normal cutter for finishing.

● Recommended grade ○ Produce according to order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V_c(SFPM)	f_z(IPT)		
					-GL	-GM	-GH
P	Low-carbon steel, Soft steel	≤180	YBM253 YBG205H YB9320	880(720-1150)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)
P	High-carbon steel, Alloy steel	180-280	YBM253 YBG205H YB9320	850(720-1050)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)
P	Alloy tool steel	280-350	YBM253 YBG205H YB9320	780(590-980)	0.006(0.004-0.012)	0.008(0.004-0.016)	0.012(0.008-0.02)
M	Stainless steel	≤270	YBM253 YBG205H YB9320	520(360-880)	0.004(0.003-0.008)	0.006(0.004-0.012)	0.008(0.004-0.012)
K	Cast iron, Ductile iron, High nickel cast iron	180-250	YBD152	880(490-980)	0.008(0.004-0.012)	0.012(0.004-0.016)	0.016(0.008-0.02)
S	Hard-to-cut material	≤400	YBS203 YBS303	330(200-400)	--	0.006(0.004-0.01)	--

Case for FMP17

Workpiece: Truck axle housing

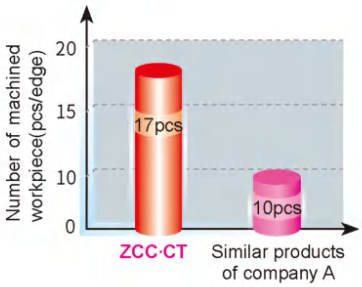
Workpiece material: QT600(HB250)

Tool type: FMP17-4.00"-A1.25"-SN12-08C

Insert: SNGX1205PNN-GM/YB9320

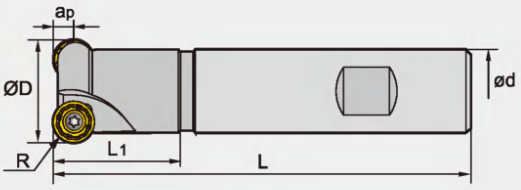
Cutting parameters: Vc=875SFPM, fz=0.007IPT, ap=0.059in, ae=3.543in

Cooling: External coolant



Face milling tools

FMR01

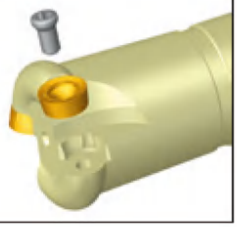


Specification of tools

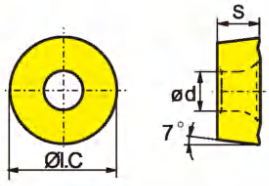
Type		Dimensions(inch)						
		ØD	R	ød	L_1	L	a_{pmax}	Z (Number of teeth)
FMR01	-1.00"-XP0.75" -RC10-02	1.00	0.197	0.75	1.75	4.00	0.197	2
	-1.25"-XP1.00" -RC10-02	1.25	0.197	1.00	2.50	4.75	0.197	2
	-1.50"-XP1.25" -RC12-03	1.50	0.236	1.25	2.50	4.75	0.236	3
	-2.00"-XP1.25" -RC12-03	2.00	0.236	1.25	2.50	4.75	0.236	3

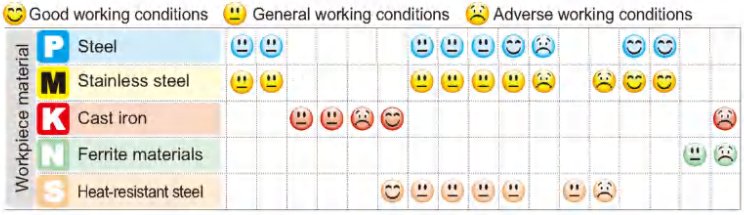
D

Spare parts

Diameter ØD	Insert specifrication	Insert screw	Wrench	Sketch of installation
				
Ø1.00"~Ø1.25"	RCKT10T3MO-DM	I60M4×8.4	WT15S	
Ø1.50"~Ø2.00"	RCKT1204MO-□□	I60M3.5×10	WT15S	

Selection of inserts





Insert shape	Type	Dimensions(inch)			Coated grade												Cermet		Cemented carbide	
		ØI.C	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	RCKT10T3MO-DM	0.394	0.156	0.173							●	●									
	RCKT1204MO-DM	0.472	0.187	0.157			○				●	●			●						
	RCKT1204MO-DR	0.472	0.187	0.157								●	●								
	RCKT1204MO-ER	0.472	0.187	0.157		○															
	RCKT1204MO-NM	0.472	0.187	0.157		○							●			○	○				

● Recommended grade ○ Produce according to order

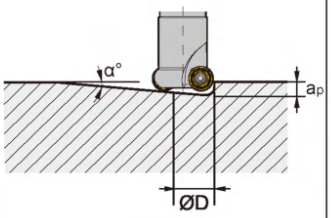
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(IPT)		
					-DM	-DR	-ER
P	Low-carbon steel, Soft steel	≤180	YBG205H YBM251	900(700-1100)	0.008(0.004-0.02)	0.012(0.008-0.032)	
			YBM351	700(600-1000)	0.01(0.004-0.02)	0.012(0.008-0.032)	
			YBG302	900(650-1200)	0.008(0.004-0.02)	0.012(0.008-0.032)	
	High-carbon steel, Alloy steel	180-280	YBG205H YBG202	800(650-1000)	0.008(0.004-0.02)	0.012(0.008-0.032)	
			YBM251 YBG302	650(500-900)	0.01(0.004-0.02)	0.012(0.008-0.032)	
			YBM351	800(600-1100)	0.008(0.004-0.02)	0.012(0.008-0.032)	
	Alloy tool steel	280-350	YBC302	700(600-1000)	0.008(0.004-0.016)	0.012(0.008-0.032)	
			YBG205H YBG202	600(500-800)	0.008(0.004-0.02)	0.012(0.008-0.032)	
			YBM251 YBC301	700(550-1100)	0.008(0.004-0.016)	0.012(0.008-0.032)	
M	Stainless steel	≤270	YBM251	500(400-800)	0.008(0.004-0.016)	0.012(0.008-0.024)	
			YBM253	500(300-800)	0.008(0.004-0.016)	0.012(0.008-0.024)	0.012(0.008-0.024)
			YBG351	500(300-700)	0.008(0.004-0.016)	0.012(0.008-0.024)	
			YBG202 YBG205 YBG205H	500(360-900)	0.008(0.004-0.016)	0.012(0.008-0.024)	
K	Cast iron	180-250	YBG302	700(400-1000)	0.008(0.004-0.02)	0.012(0.008-0.032)	
S	High-temperature alloy	≤400			-NM		
			YBS203 YBS303 YBG205H	300(200-400)	0.006(0.004-0.012)		

D

Ramp milling, helical interpolation milling

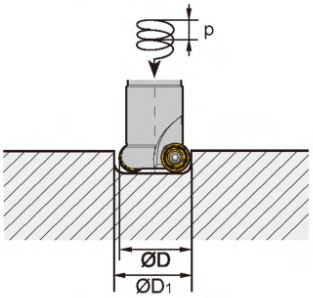
● Ramp milling



$$L_m = \frac{a_p}{\tan\alpha}$$

α:Plunge angle

● Helical interpolation milling



$$P = \tan\alpha \times \pi \times D_1$$

α:Helix angle

Insert	Diameter ØD(in)	Max.cutting depth ap(in)	Max.cutting depth α°	Min.length L_m(in)	Min.diameter $ØD_1$(in)	Max.diameter (in)
RCKT10**	1.00"	0.197	14.4	0.768	1.575	0.197
	1.25"	0.197	8.4	1.339	2.126	0.197
RCKT12**	1.50"	0.236	10.3	1.307	2.677	0.236
	2.00"	0.236	7.1	1.890	3.465	0.236

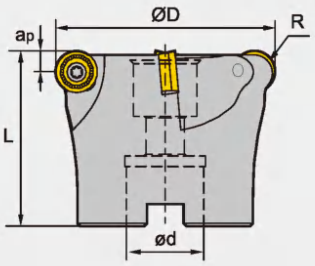
Reduce the feed rate when plunging and circular milling.
"Attention"—drilling can form long chips.

D

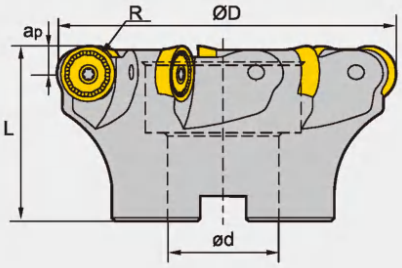
Face milling tools

FMR02

A type of mounting



B type of mounting



Specification of tools

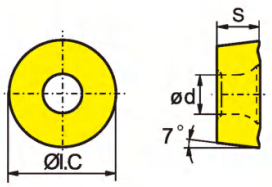
Type		Dimensions(inch)						
		ØD	R	ød	L	a_{pmax}	Z (Number of teeth)	Mounting type
FMR02	**-2.50"-A0.75" -RC12-04**	2.50	0.236	0.75	2.00	0.236	4	A
	-3.00"-B1.00" -RC16-05	3.00	0.315	1.00	2.00	0.315	5	B
	-4.00"-B1.25" -RC16-06	4.00	0.315	1.25	2.50	0.315	6	B
	-5.00"-B1.50" -RC20-07	5.00	0.394	1.50	2.50	0.394	7	B
	-6.00"-B1.50" -RC20-08	6.00	0.394	1.50	2.50	0.394	8	B

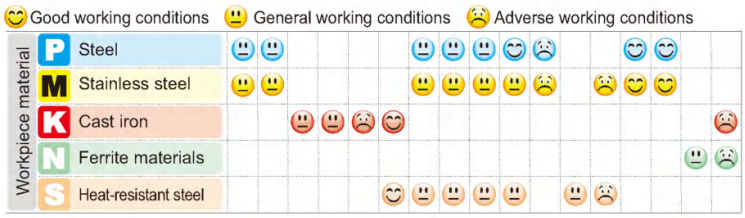
Spare parts

Diameter ØD	Insert specifrication	Insert screw	Wrench	Sketch of installation
				
Ø2.50"	RC□□1204MO-□□	I60M3.5×10	WT15IS	
Ø3.00"~Ø4.00"	RC□□1606MO-□□	I60M5×13	WT20IT	
Ø5.00"~Ø6.00"	RC□□2006MO-□□	I43M6×16	WT25IT	

D

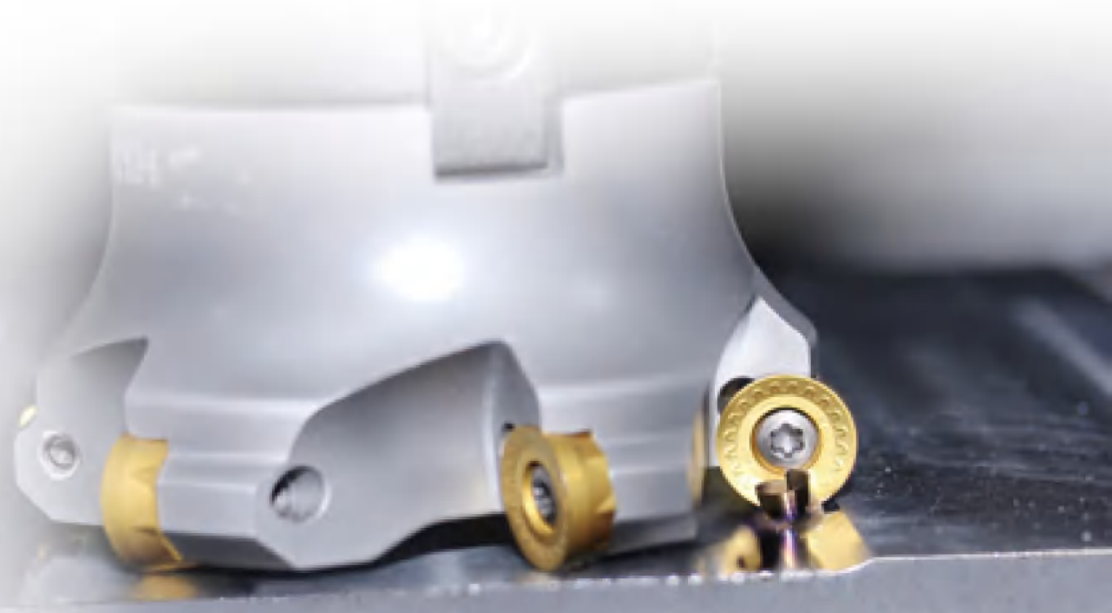
Selection of inserts





Insert shape	Type	Dimensions(inch)			Coated grade													Cermet		Cemented carbide	
		ØI.C	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	RCKT1204MO-DM	0.472	0.187	0.157			○				●	●			●						
	RCKT1606MO-DM	0.630	0.250	0.219											●						
	RCKT1204MO-DR	0.472	0.187	0.157							○	●	●								
	RCKT1606MO-DR	0.630	0.250	0.219							●	●									
	RCKT2006MO-DR	0.787	0.250	0.258							○	●			●						
	RCKT1204MO-ER	0.472	0.187	0.157		●							●								
	RCKT1606MO-ER	0.630	0.250	0.219		●															
	RCKT2006MO-ER	0.787	0.250	0.258		●															
	RCKT1204MO-NM	0.472	0.187	0.157		●							●	●		○	○				
	RCKT1606MO-NM	0.630	0.250	0.219										●		○	○				
	RCKT2006MO-NM	0.787	0.250	0.258									●	●	●	○	○				

● Recommended grade ○ Produce according to order



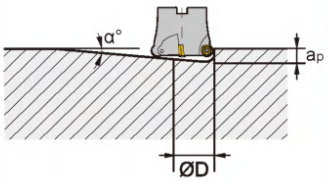
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(IPT)		
					-DM	-DR	-ER
P	Low-carbon steel, Soft steel	≤180	YBM253 YBC302	900(700-1200)	0.008(0.004-0.02)	0.012(0.008-0.032)	
			YBM253 YBG302	700(600-1000)	0.01(0.004-0.02)	0.012(0.008-0.032)	
			YBG202 YB9320 YBG205 YBG205H	900(650-1200)	0.008(0.004-0.02)	0.012(0.008-0.032)	
	High-carbon steel, Alloy steel	180-280	YBM253 YBC302	800(650-1000)	0.008(0.004-0.02)	0.012(0.008-0.032)	
			YBM253 YBG302	650(500-1000)	0.01(0.004-0.02)	0.012(0.008-0.032)	
			YBG202 YB9320 YBG205 YBG205H	800(600-1200)	0.008(0.004-0.02)	0.012(0.008-0.032)	
	Alloy tool steel	280-350	YBM253 YBC302	700(600-1000)	0.008(0.004-0.016)	0.012(0.008-0.032)	
			YBM253 YBG302	600(500-800)	0.008(0.004-0.02)	0.012(0.008-0.032)	
			YBG202 YB9320 YBG205 YBG205H	700(550-1100)	0.008(0.004-0.016)	0.012(0.008-0.024)	
M	Stainless steel	≤HB270	YBM253	500(300-800)	0.008(0.004-0.016)	0.012(0.008-0.024)	0.012(0.008-0.024)
			YBG202 YBG205 YB9320 YBG205H	500(350-900)	0.008(0.004-0.016)	0.012(0.008-0.024)	
K	Cast iron	180-250	YBG302	700(400-1000)	0.008(0.004-0.02)	0.012(0.008-0.032)	
S	High-temperature alloy	≤400			-NM		
			YBG212 YBG205H	150(60-200)	0.004(0.004-0.008)		
			YBS203 YBS303	300(200-400)	0.006(0.004-0.012)		

D

Ramp milling, helical interpolation milling

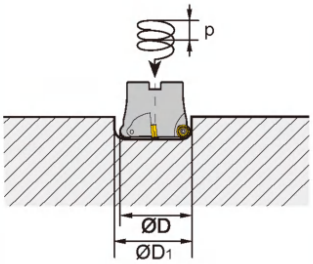
● Ramp milling



$$L_m = \frac{a_p}{\tan\alpha}$$

α:Plunge angle

● Helical interpolation milling



$$P = \tan_{\alpha} \times \pi \times D_1$$

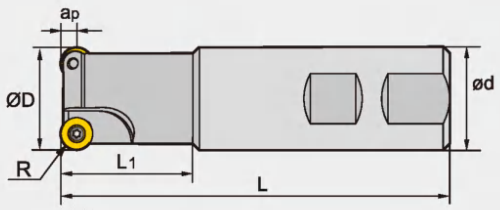
α:Helix angle

Insert	Diameter ØD(in)	Max.cutting depth ap(in)	Max.cutting depth α°	Min.length L_m(in)	Min.diameter $ØD_1$(in)	Max.diameter (in)
RCKT12**	2.50"	0.236	5.1	2.657	4.488	0.236
RCKT16**	3.00"	0.315	5.6	3.190	5.669	0.315
	4.00"	0.315	4.1	4.362	7.244	0.315
RCKT20**	5.00"	0.394	4.2	5.362	9.055	0.394
	6.00"	0.394	3.0	7.512	11.810	0.394

Reduce the feed rate when plunging and circular milling.
"Attention"—drilling can form long chips.

Face milling tools

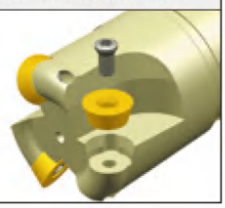
FMR03

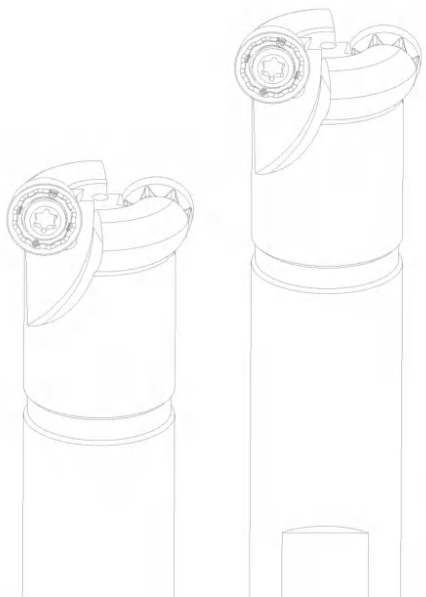


Specification of tools

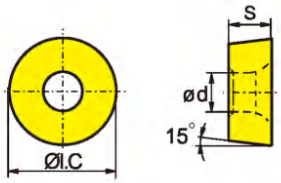
Type		Dimensions(inch)						
		ØD	R	ød	L1	L	apmax	Z (Number of teeth)
FMR03	-1.00"-XP1.00" -RD08-02	1.00	0.157	1.00	1.75	4.00	0.157	2
	-1.25"-XP1.25" -RD10-02	1.25	0.197	1.25	2.50	4.75	0.197	2
	-1.50"-XP1.25" -RD12-03	1.50	0.236	1.25	2.50	4.75	0.236	3
	-2.00"-XP1.25" -RD12-03	2.00	0.236	1.25	2.50	4.75	0.236	3

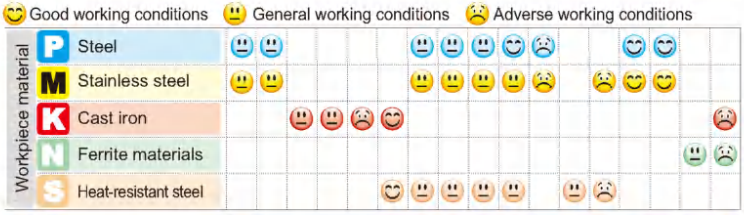
Spare parts

Diameter ØD	Insert specifrication	Insert screw	Wrench	Sketch of installation
				
Ø1.00"	RDKW0803MO	I60M3×7	WT09IP	
Ø1.25"	RDKW10T3MO	I60M4×10	WT15IP	
Ø1.50"~Ø2.00"	RDKW1204MO			



Selection of inserts





Insert shape	Type	Dimensions(inch)			Coated grade													Cermet		Cemented carbide	
		ØI.C	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	RDKW0803MO	0.315	0.125	0.134							●	●			○						
	RDKW10T3MO	0.394	0.156	0.173							●	●									
	RDKW1204MO	0.472	0.186	0.173							●	●			●						
	RDKT10T3MO-NM	0.394	0.156	0.173								○				○	○				

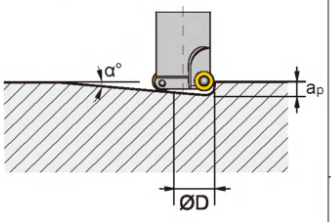
● Recommended grade ○ Produce according to order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	≤180	YBM253 YBC302	900(700-1200)	0.008(0.003-0.018)
			YBM253 YBG302	700(600-1000)	0.01(0.006-0.018)
			YBG202 YBG205	900(650-1200)	0.008(0.004-0.018)
	High-carbon steel, Alloy steel	180-280	YBM253 YBC302	800(650-1000)	0.008(0.003-0.018)
			YBM253 YBG302	650(500-1000)	0.01(0.006-0.018)
			YBG202 YBG205	800(600-1200)	0.008(0.004-0.018)
	Alloy tool steel	280-350	YBM253 YBC302	700(600-1000)	0.008(0.003-0.018)
			YBM253 YBG302	600(500-800)	0.01(0.006-0.018)
			YBG202 YBG205	700(550-1100)	0.008(0.003-0.018)
M	Stainless steel	≤270	YBM253 YBG302	500(400-800)	0.008(0.004-0.018)
			YBM253	500(300-700)	0.01(0.004-0.018)
			YBG202 YBG205	500(350-900)	0.008(0.004-0.018)
K	Cast iron	180-250	YBG302	700(400-1000)	0.008(0.004-0.018)
S	High-temperature alloy	≤400	YBS203 YBS303	300(200-400)	0.006(0.004-0.012)

Ramp milling, helical interpolation milling

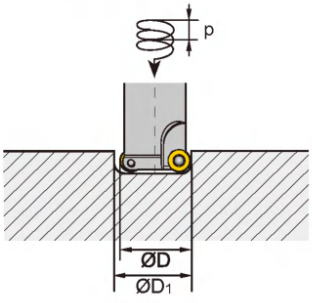
● Ramp milling



$$L_m = \frac{a_p}{\tan\alpha}$$

α:Plunge angle

● Helical interpolation milling



$$P = \tan\alpha \times \pi \times D_1$$

α:Helix angle

Insert	Diameter ØD(in)	Max.cutting depth ap(in)	Max.cutting depth α°	Min.length L_m(in)	Min.diameter $ØD_1$(in)	Max.diameter (in)
RD**08**	1.00"	0.157	8.8	1.016	1.634	0.157
RD**10**	1.25"	0.197	8.4	1.340	2.126	0.197
RD**12**	1.50"	0.236	10.3	1.300	2.677	0.236
	2.00"	0.236	7.1	1.890	3.465	0.236

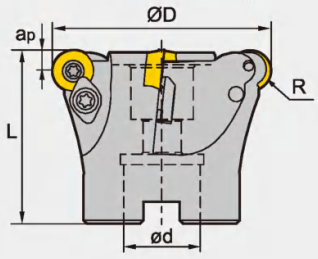
Reduce the feed rate when plunging and circular milling.
"Attention"—drilling can form long chips.

Face milling tools

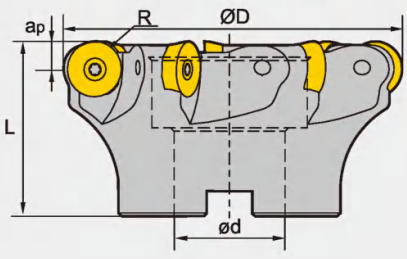
FMR04

P M K

A type of mounting



B type of mounting



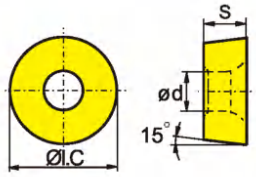
Specification of tools

Type		Dimensions(inch)						
		ØD	R	ød	L	a_{pmax}	Z (Number of teeth)	Mounting type
FMR04	-2.00"-A0.75"-RD12-04	2.00	0.236	0.75	2.00	0.236	4	A
	-2.50"-A0.75"-RD12-04	2.50	0.236	0.75	2.00	0.236	4	A
	-3.00"-A1.00"-RD16-05	3.00	0.315	1.00	2.00	0.315	5	A
	-4.00"-B1.25"-RD16-06	4.00	0.315	1.25	2.00	0.315	6	B
	-5.00"-B1.50"-RD20-06	5.00	0.394	1.50	2.50	0.394	6	B
	-6.00"-B1.50"-RD20-07	6.00	0.394	1.50	2.50	0.394	7	B

Spare parts

Diameter ØD	Insert specifrication	Insert screw	Wedge	Wedge Screw	Wrench	Sketch of installation
						
Ø2.00"~Ø2.50"	RDKW1204MO	I60M3.5×10	WD-204	I60M4×10	WT15IT	
Ø3.00"~Ø4.00"	RDKW1605MO	I60M5×13	WD-207	I60M5x13	WT20IT	
Ø5.00"~Ø6.00"	RDKW2006MO	I43M6×16	--	--	WT25IT	

Selection of inserts



Good working conditions General working conditions Adverse working conditions

Workpiece material		
P	Steel	
M	Stainless steel	
K	Cast iron	
N	Ferrite materials	
S	Heat-resistant steel	

Insert shape	Type	Dimensions(inch)			Coated grade												Cermet		Cemented carbide	
		ØI.C	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	**RDKW1204MO**	0.472	0.187	0.173							●	●			●						
	RDKW1605MO	0.630	0.219	0.217							○	●			○						
	RDKW2006MO	0.787	0.250	0.256								○									

● Recommended grade ○ Produce according to order

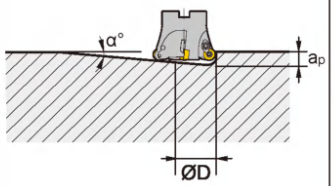
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	≤180	YBM253 YBC302	900(700-1200)	0.008(0.003-0.018)
			YBM253 YBG302	700(600-1000)	0.01(0.006-0.018)
			YBG202 YBG205	900(650-1200)	0.008(0.004-0.018)
	High-carbon steel, Alloy steel	180-280	YBM253 YBC302	800(650-1000)	0.008(0.003-0.018)
			YBM253 YBG302	650(500-1000)	0.01(0.006-0.018)
			YBG202 YBG205	800(600-1200)	0.008(0.004-0.018)
	Alloy tool steel	280-350	YBM253 YBC302	700(600-1000)	0.008(0.003-0.018)
			YBM253 YBG302	600(500-800)	0.01(0.006-0.018)
			YBG202 YBG205	700(550-1100)	0.008(0.004-0.018)
M	Stainless steel	≤270	YBM253 YBG302	500(400-800)	0.008(0.003-0.018)
			YBM253	500(300-700)	0.01(0.004-0.018)
			YBG202 YBG205	500(350-900)	0.008(0.004-0.018)
K	Cast iron	180-250	YBG302	700(400-1000)	0.008(0.004-0.018)

D

Ramp milling, helical interpolation milling

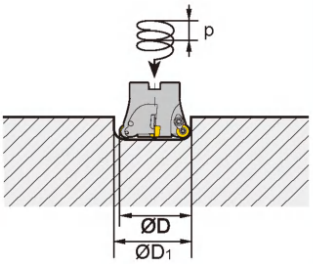
● Ramp milling



$$L_m = \frac{a_p}{\tan\alpha}$$

α:Plunge angle

● Helical interpolation milling



$$P = \tan\alpha \times \pi \times D_1$$

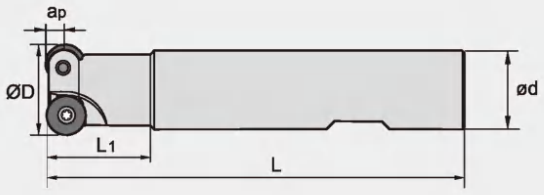
α:Helix angle

Insert	Diameter ØD(in)	Max.cutting depth ap(in)	Max.cutting depth α°	Min.length L_m(in)	Min.diameter $ØD_1$(in)	Max.diameter (in)
RDKW12**	2.00"	0.236	7.1	1.890	3.465	0.236
	2.50"	0.236	5.1	2.638	4.488	0.236
RDKW16**	3.00"	0.315	5.6	3.209	5.669	0.315
	4.00"	0.315	4.1	4.350	7.244	0.315
RDKW20**	5.00"	0.394	4.2	5.360	9.055	0.394
	6.00"	0.394	3.0	7.480	11.810	0.394

Reduce the feed rate when plunging and circular milling.
"Attention"—drilling can form long chips.

Face milling tools

FMR05



Specification of tools

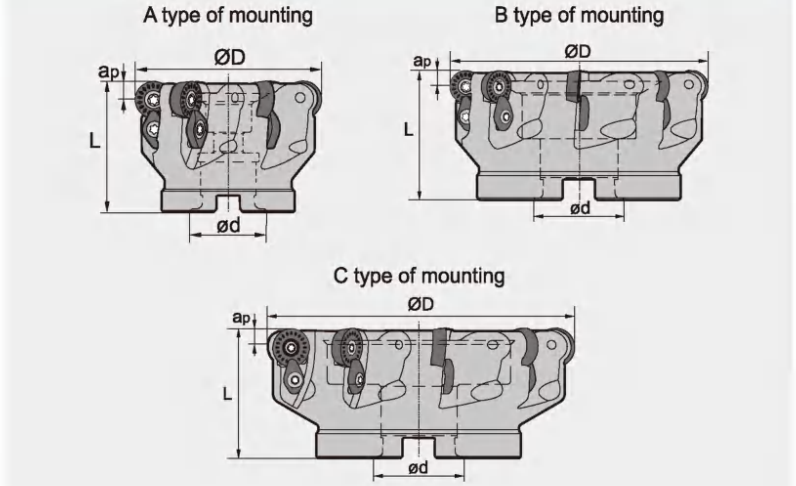
Type		Dimensions(inch)					
		ØD	ød	L_1	L	a_{pmax}	Z (Number of teeth)
FMR05	-0.625"-XP0.75"-RP2-02	0.625	0.75	1.75	4	0.125	2
	-0.750"-XP0.75"-RP2-02	0.750	0.75	1.75	4	0.125	2
	-0.875"-XP0.75"-RP2-03	0.875	0.75	1.75	4	0.125	3
	-0.875"-XP0.75"-RP3-02	0.875	0.75	1.75	4	0.180	2
	-1.000"-XP0.75"-RP3-02	1.000	0.75	1.75	4	0.180	2
	-1.250"-XP1.00"-RP3-03	1.250	1.00	2.75	5	0.180	3
	-1.250"-XP1.00"-RP4-02	1.250	1.00	2.75	5	0.250	2
	-1.500"-XP1.25"-RP4-03	1.500	1.25	2.75	5	0.250	3
	-1.750"-XP1.50"-RP4-04	1.750	1.50	2.75	5	0.250	4

Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
Ø0.625"~Ø0.875"	RPMW06T200	I60M2.2×5.5	WT07IP	
	RPMW2T200			
Ø0.875"~Ø1.250"	RPMW09T300	I60M3×7	WT09IP	
	RPMW3(2.5)			
Ø1.250"~Ø1.750"	RPMW12T400	I60M4×8.4	WT15IP	
	RPMW43			

Face milling tools

FMR05



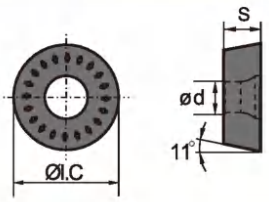
Specification of tools

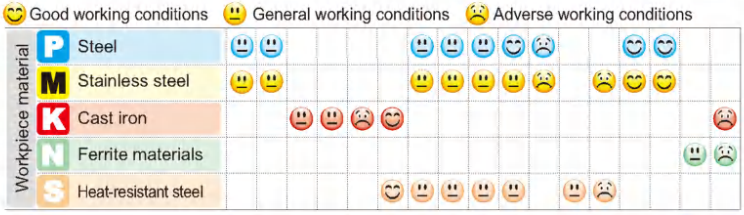
Type		Dimensions(inch)					
		ØD	ød	L	$a_p$max	Z (Number of teeth)	Mounting type
FMR05	-2.00"-A0.75"-RP4-05	2.00	0.75	1.75	0.250	5	A
	-2.50"-A0.75"-RP4-06	2.50	0.75	1.75	0.250	6	A
	-3.00"-A1.00"-RP4-07	3.00	1.00	2.00	0.250	7	A
	-3.00"-A1.00"-RP5-05	3.00	1.00	2.00	0.315	5	A
	-4.00"-B1.50"-RP5-07	4.00	1.50	2.50	0.315	7	B
	-5.00"-B1.50"-RP5-08	5.00	1.50	2.50	0.315	8	B
	-5.00"-B1.50"-RP6-07	5.00	1.50	2.50	0.375	7	B
	-6.00"-B2.00"-RP6-08	6.00	2.00	2.50	0.375	8	B
	-8.00"-C2.50"-RP6-09	8.00	2.50	2.50	0.375	9	C

Spare parts

Diameter ØD	Insert specification	Insert screw	Wedge	Wedge screw	Wrench	Sketch of installation
						
Ø2.00"~Ø3.00"	RPMW120400	I60M4×8.4	WD-204	I60M4×10	WT15IP	
	RPMW43					
Ø3.00"~Ø5.00"	RPMW160500	I60M5×13	WD-208	I60M5×13	WT20IP	
	RPMW50500					
Ø5.00"~Ø8.00"	RPMW190600					
	RPMW64					

Selection of inserts





Insert shape	Type	Dimensions(inch)			Coated grade												Cermet		Cemented carbide	
		ØI.C	S	ød	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	RPMW2T200	0.250	0.101	0.098							○	●			○						
	RPMW3(2.5)	0.375	0.156	0.134							○	●			○						
	RPMW43	0.500	0.187	0.173							○	●			○						
	RPMW50500	0.625	0.219	0.217							○	●			○						
	RPMW64	0.750	0.250	0.256							○	●			○						

● Recommended grade ○ Produce according to order

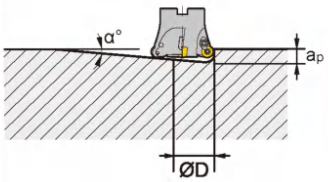
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	≤180	YBG202 YBG205	900(650-1200)	0.008(0.004-0.018)
			YBG302	700(600-1000)	0.010(0.006-0.018)
	High-carbon steel, Alloy steel	180-280	YBG202 YBG205	800(600-1200)	0.008(0.004-0.018)
			YBG302	650(500-1000)	0.010(0.006-0.018)
	Alloy tool steel	280-350	YBG202 YBG205	700(550-1100)	0.008(0.004-0.018)
			YBG302	600(500-800)	0.010(0.006-0.018)
M	Stainless steel	≤270	YBG302	500(300-700)	0.010(0.004-0.018)
			YBG202	500(350-900)	0.008(0.004-0.018)
			YBG205		
K	Cast iron	180-250	YBG302	700(400-1000)	0.008(0.004-0.018)

D

Ramp milling, helical interpolation milling

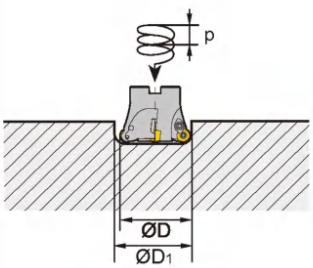
● Ramp milling



$$L_m = \frac{a_p}{\tan\alpha}$$

α:Plunge angle

● Helical interpolation milling



$$P = \tan\alpha \times \pi \times D_1$$

α:Helix angle

Insert	Diameter ØD(in)	Max.cutting depth ap(in)	Max.cutting depth α°	Min.length L_m(in)	Min.diameter $ØD_1$(in)	Max.diameter (in)
RPMW2**	0.625"	0.118	13.0	0.512	1.012	0.118
	0.750"	0.118	9.0	0.748	1.26	0.118
	0.875"	0.118	6.5	1.035	1.516	0.118
RPMW3**	0.875"	0.185	15.0	0.689	1.380	0.185
	1.000"	0.185	13.0	0.803	1.630	0.185
	1.250"	0.185	9.5	1.106	2.130	0.185
RPMW4**	1.250"	0.248	13.0	1.142	2.004	0.248
	1.500"	0.248	9.0	1.567	2.504	0.248
	1.750"	0.248	6.5	2.177	3.004	0.248
	2.000"	0.248	7.0	2.020	3.504	0.248
	2.500"	0.248	5.3	2.670	4.504	0.248
	3.000"	0.248	4.0	3.547	5.504	0.248
RPMW5**	3.000"	0.299	5.0	3.421	5.402	0.299
	4.000"	0.299	3.7	4.626	7.402	0.299
	5.000"	0.299	2.7	6.346	9.402	0.299
RPMW6**	5.000"	0.374	3.5	6.114	9.252	0.374
	6.000"	0.374	2.7	7.929	11.252	0.374
	8.000"	0.374	2.0	10.709	15.252	0.374

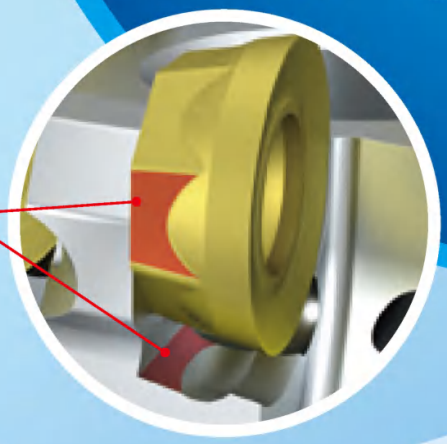
Reduce the feed rate when plunging and circular milling.
"Attention"—drilling can form long chips.

FMR11 series

Anti-rotation designed insert, gets stable processing and long life.

Insert can be indexed 8 times, good cost performance.

Two rear angle specifications of 11 degrees and 15 degrees, cover 08, 10, 12 kinds of sizes, wide application range.



Case for FMR11

Case1

Material: H13(HRC44-48)
Testing tool: FMR11-2.00"-A0.75"-RP12-06C
Testing insert: RPKT1204MO-M/YBG205H
Cutting parameters: Vc=804SFM, Fz=0.035IPR, ap=0.008", ae=1.57"

Conclusion: The FMR cutter gets better surface quality and longer tool life than the similar tool from company K.

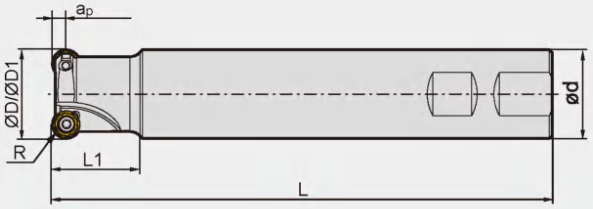
Case2

Material: S136(HRC40-45)
Testing tool: FMR11-1.25"-XP1.25"-RP10-02C
Testing insert: RPKT10T3MO-MM/YBS303
Cutting parameters: Vc=591SFM, Fz=0.024IPR, ap=0.02", ae=0.59"

Conclusion: RPKT10T3MO-MM/YBS303 gets 13% longer tool life than the similar insert from company H.

Face milling tools

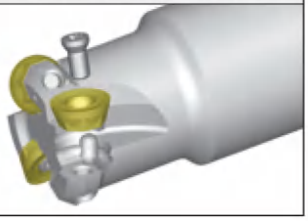
FMR11 P M K S



Specification of tools

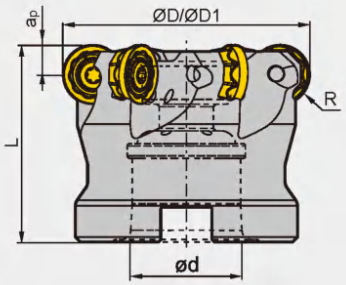
Type		Dimensions(inch)					
		ØD/ØD1	ød	L	L1	a_{pmax}	Z (Number of teeth)
FMR11	-1.00"-XP1.00"-RD10-03C	1.000	1.000	4.500	1.500	0.197	3
	-1.25"-XP1.25"-RD10-03C	1.250	1.250	5.000	1.500	0.197	3
	-1.50"-XP1.25"-RD10-04C	1.500	1.250	5.000	1.500	0.197	4
	-1.25"-XP1.25"-RD12-03C	1.250	1.250	5.000	1.500	0.236	3
	-1.50"-XP1.25"-RD12-04C	1.500	1.250	5.000	1.500	0.236	4
	-1.00"-XP1.00"-RP10-03C	1.000	1.000	4.500	1.500	0.197	3
	-1.25"-XP1.25"-RP10-03C	1.250	1.250	5.000	1.500	0.197	3
	-1.50"-XP1.25"-RP10-04C	1.500	1.250	5.000	1.500	0.197	4
	-1.25"-XP1.25"-RP12-03C	1.250	1.250	5.000	1.500	0.236	3
	-1.50"-XP1.25"-RP12-04C	1.500	1.250	5.000	1.500	0.236	4

Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
Ø1.00"~Ø1.50"	RDDD10DD-H/M/MM	I60M3.5×8	WT15IP	
	RDDD12DD-H/M/MM			

Face milling tools

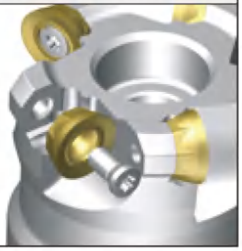
FMR11 P M K S



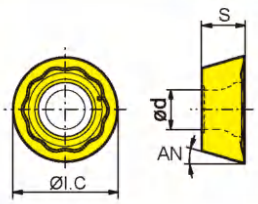
Specification of tools

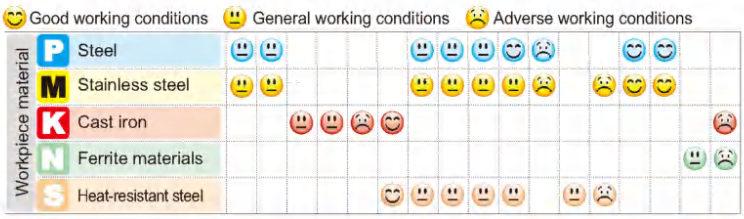
Type		Dimensions(inch)				
		ØD/ØD1	ød	L	$a_p$max	Z (Number of teeth)
FMR11	-2.00"-A0.75"-RD10-07C	2.000	0.750	1.750	0.197	7
	-2.50"-A0.75"-RD10-08C	2.500	0.750	1.750	0.197	8
	-2.00"-A0.75"-RD12-06C	2.000	0.750	1.750	0.236	6
	-2.50"-A0.75"-RD12-07C	2.500	0.750	1.750	0.236	7
	-3.00"-A1.00"-RD12-08C	3.000	1.000	2.000	0.236	8
	-2.00"-A0.75"-RP10-07C	2.000	0.750	1.750	0.197	7
	-2.50"-A0.75"-RP10-08C	2.500	0.750	1.750	0.197	8
	-2.00"-A0.75"-RP12-06C	2.000	0.750	1.750	0.236	6
	-2.50"-A0.75"-RP12-07C	2.500	0.750	1.750	0.236	7
	-3.00"-A1.00"-RP12-08C	3.000	1.000	2.000	0.236	8

Spare parts

Diameter ØD	Insert specification	Insert screw	Wrench	Sketch of installation
				
Ø2.00"~Ø2.50"	R□□□10□□-H/M/MM	I60M3.5×8	WT15IP	
	R□□□12□□-H/M/MM			
Ø3.00"	R□□□12□□-H/M/MM	I60M4×8.4	WT15IS	

Selection of inserts





Insert shape	Type	Dimensions(inch)				Coated grade												Cermet		Cemented carbide	
		ØI.C	S	ød	AN	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG205H	YB9320	YBG302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201
	RPMW10T3MO-H	0.394	0.156	0.161	11°					●				●								
	RPMW1204MO-H	0.472	0.187	0.173	11°					●				●								
	RDMW10T3MO-H	0.394	0.156	0.161	15°					●				●								
	RDMW1204MO-H	0.472	0.187	0.173	15°					●				●								
	RPMT10T3MO-M	0.394	0.156	0.161	11°									●			●	●				
	RPMT1204MO-M	0.472	0.187	0.173	11°					●				●			●	●				
	RDMT10T3MO-M	0.394	0.156	0.161	15°					●				●			●	●				
	RDMT1204MO-M	0.472	0.187	0.173	15°					●				●			●	●				
	RPMT10T3MO-MM	0.394	0.156	0.161	11°									●			●	●				
	RPMT1204MO-MM	0.472	0.187	0.173	11°									●			●	●				
	RDMT10T3MO-MM	0.394	0.156	0.161	15°									●			●	●				
	RDMT1204MO-MM	0.472	0.187	0.173	15°									●			●	●				

● Recommended grade ○ Produce according to order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(IPT)
P	Low-carbon steel, Soft steel	≤180	YBG205H	880(650-1150)	0.008(0.004-0.016)
P	High-carbon steel, Alloy steel	180-280	YBG205H	780(590-1150)	0.008(0.004-0.016)
P	Alloy tool steel	280-350	YBG205H	720(550-1100)	0.008(0.004-0.016)
M	Stainless steel	≤270	YBG205H	520(360-880)	0.008(0.004-0.016)
K	Cast iron	180-250	YBD252	700(400-1000)	0.008(0.004-0.016)
S	Hard-to-cut material	≤400	YBS203 YBS303	320(200-400)	0.006(0.004-0.012)