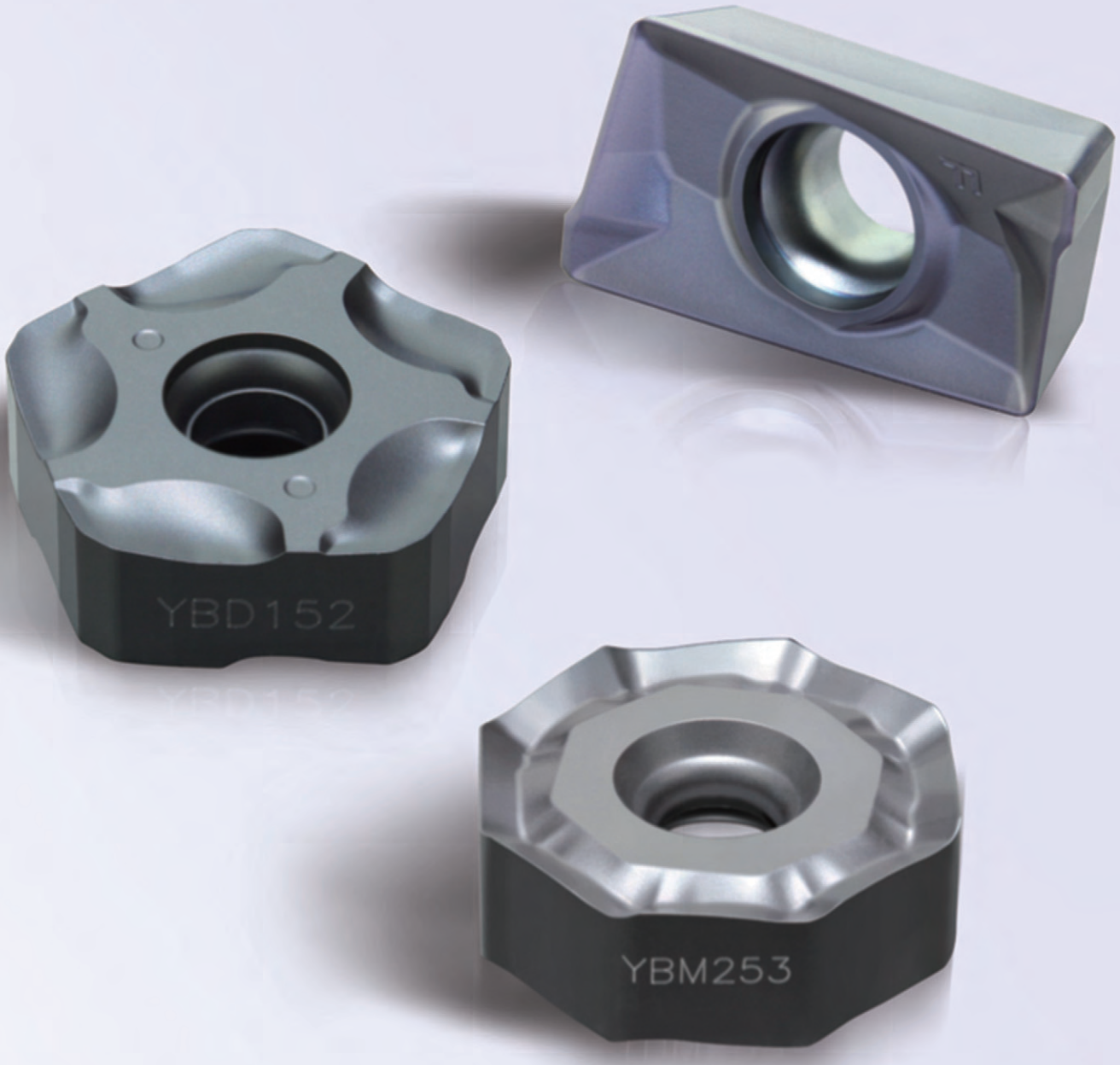
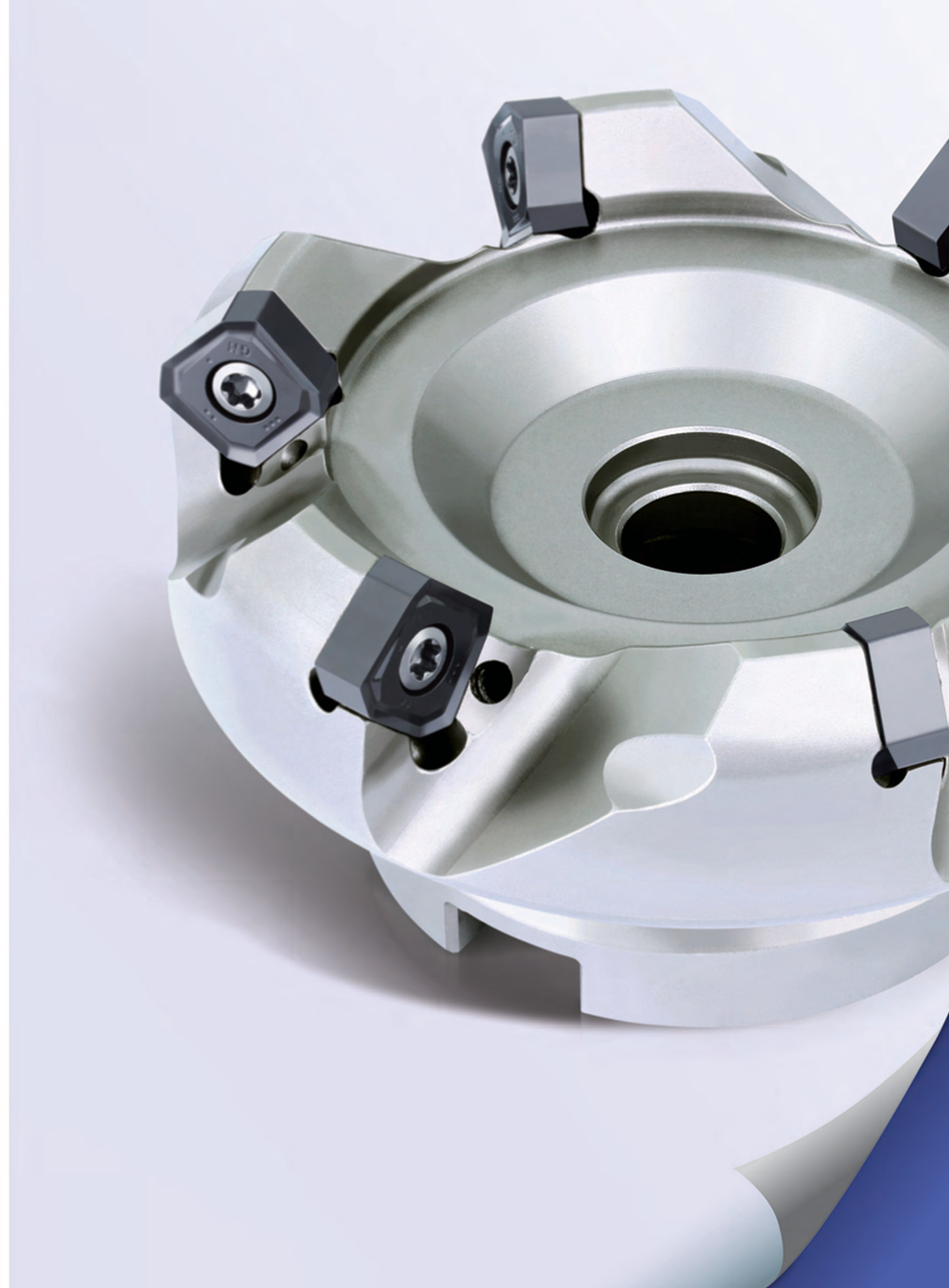
Milling Tools



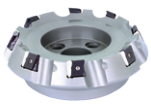


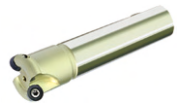

FMA11-100-B32-SN15-07
70022168
YBM253

Milling

MILLING TOOLS

Face milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.(inch)	Applicable insert	Application overview	Features
Face milling	**FMA01**  P198	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"~Ø10.00" • 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		
	FMA02  P199	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  P202	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  P205	Kr=45° a_{pmax}=0.138	OFKT05T3-DF/DM OFKT05T3-LH	Face milling steel, alloy steel, cast iron, aluminum alloy	• Diameter rangeØ2.00"~Ø6.00" • High economy milling tool with 8 cutting edges • Screw clamping, high precision
	 P208	Kr=45° a_{pmax} =0.197	OFKR0704-DF/DM	Face milling steel, alloy steel and cast iron	• Diameter range Ø5.00"~Ø12.50" • High economy milling tool with 8 cutting edges • Top clamping is easy to assemble and disassemble
	FMA11  P212-213	Kr=45° a_{pmax} =0.216	SNEG1205ANR-GM/HGR/W	General face milling steel, stainless steel, 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  P217	Kr=45° a_{pmax} =0.197	ONHU08T624R-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
	FMD02  P220-221	Kr=67° a_{pmax}=0.197/0.276	PNEG110512R/L-CF/CM/CR PNEG110512R/L-PF/PM/PR	Face milling of cast iron and steel	• Diameter range Ø2.00"-Ø12.00" • High-economy milling tool with 10 cutting edges
	FMD03  P224	Kr=60° a_{pmax}=0.472	LNKT2007DN-ZR	Heavy-duty face milling of steel and alloy steel	• 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		

Operating pattern	Series/Shape	Approach angle / Max. cutting depth. (inch)	Applicable insert	Application overview	Features
Face milling	**FMD04**  P226	Kr=67° a_{pmax}=0.472	PNGU170712R-GR	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  P228	Kr=75° a_{pmax}=0.472	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.
	FMP01  P230	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  P232	Kr=90° a_{pmax}=0.285	SEET09T308PER-APF/APM SEET120308PER-APR	Face milling steel, alloy steel, stainless steel and cast iron	• Diameter range Ø2.00"~Ø10.00" • Kr 90°, for square shoulder millin • 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 SEET120308PER-APR		
	FMP03  P235	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		
	FMP12  P237	Kr=90° a_{pmax}=0.224	WNHU060404PNR-GM WNHU060408PNR-GM	Steel, alloy steel, cast iron	•Diameter range Ø2.00"-Ø6.00" •90° approach angle can be used for shoulder milling, face milling, groove milling, etc.; -Six-flute double-sided groove milling inserts with wiper for large feed machining; double negative angle of the tool body combined with unique insert structure to achieve double positive tool angle, reducing cutting forces.
		Kr=90° a_{pmax}=0.303	WNHU080608PNR-GM WNHU080616PNR-GM		
	FMP12  P238	Kr=90° a_{pmax}=0.224	WNHU060404PNR-GM WNHU060408PNR-GM		•Diameter range Ø1.00"-Ø2.00" •90° approach angle can be used for shoulder milling, face milling, groove milling, etc.; -six-flute double-sided groove milling inserts with wiper for large feed machining; •Double negative angle of cutter body combined with unique insert structure to achieve double positive tool angle, reducing cutting forces.
	FMR01  P240	a_{pmax}=0.197	RCKT10T3MO-DM	Cavity profile milling steel, alloy steel, stainless steel 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		

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Face milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth. (inch)	Applicable insert	Application overview	Features
Face milling	**FMR02**  P242	a_{pmax}=0.236	RCKT1204MO-DM/DR/ER/NM	Face milling and cavity profile milling steel, alloy steel, stainless steel 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  P244	a_{pmax}=0.157	RDKW0803MO	Cavity profile milling steel, alloy steel, stainless steel 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		
		a_{pmax}=0.236	RDKW1204MO		
	FMR04  P246	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  P248	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	RPMW3T300		
		a_{pmax}=0.250	RPMW40400		
	 P249	a_{pmax}=0.250	RPMW40400	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	RPMW60600		

Square shoulder milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.(inch)	Applicable insert	Application overview	Features
Square shoulder milling	**EMP01**  P251-252	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  P257	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		

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.(inch)	Applicable insert	Application overview	Features
Square shoulder milling	**EMP03**  P260	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 rangeØ2.00"~Ø4.00" • End milling tools with positive helical angle, good chip removal • For side face milling and slot machining • Close pitch, high machining efficiency.
	EMP04  P261	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.
	EMP13  P265	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		
	EMP13  P266	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 90osquare shoulder milling.
		Kr=90° a_{pmax}=0.571	ANGX1506□□PNR-GM/LH		

Profile milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Profile milling	**BMR02**  P268	Cutting depth: see the detailed information about tool specifications	ROHX□□	Profile machining steel, stainless steel and cast iron	• Diameter range Ø0.472"~Ø0.787" • Applied for profile finish machining. • Good assembly stability. • Insert with two cutting edges, perfect economical efficiency.
	BMR04  P270		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**  P274  P275  P277  P278	Cutting depth: see the detailed information about tool specifications	SDMT□□-DM/PM/NM	Face and profile milling steel, stainless steel and cast iron in cavity applications	• Diameter rangeØ0.75"~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 rangeØ0.75"~Ø4.00" •Two mounting types: Straight shank and Arbor mounting •The cutting forces are decomposed effectively, realize cutting with high feed rate. •Double clamping, firm and reliable.

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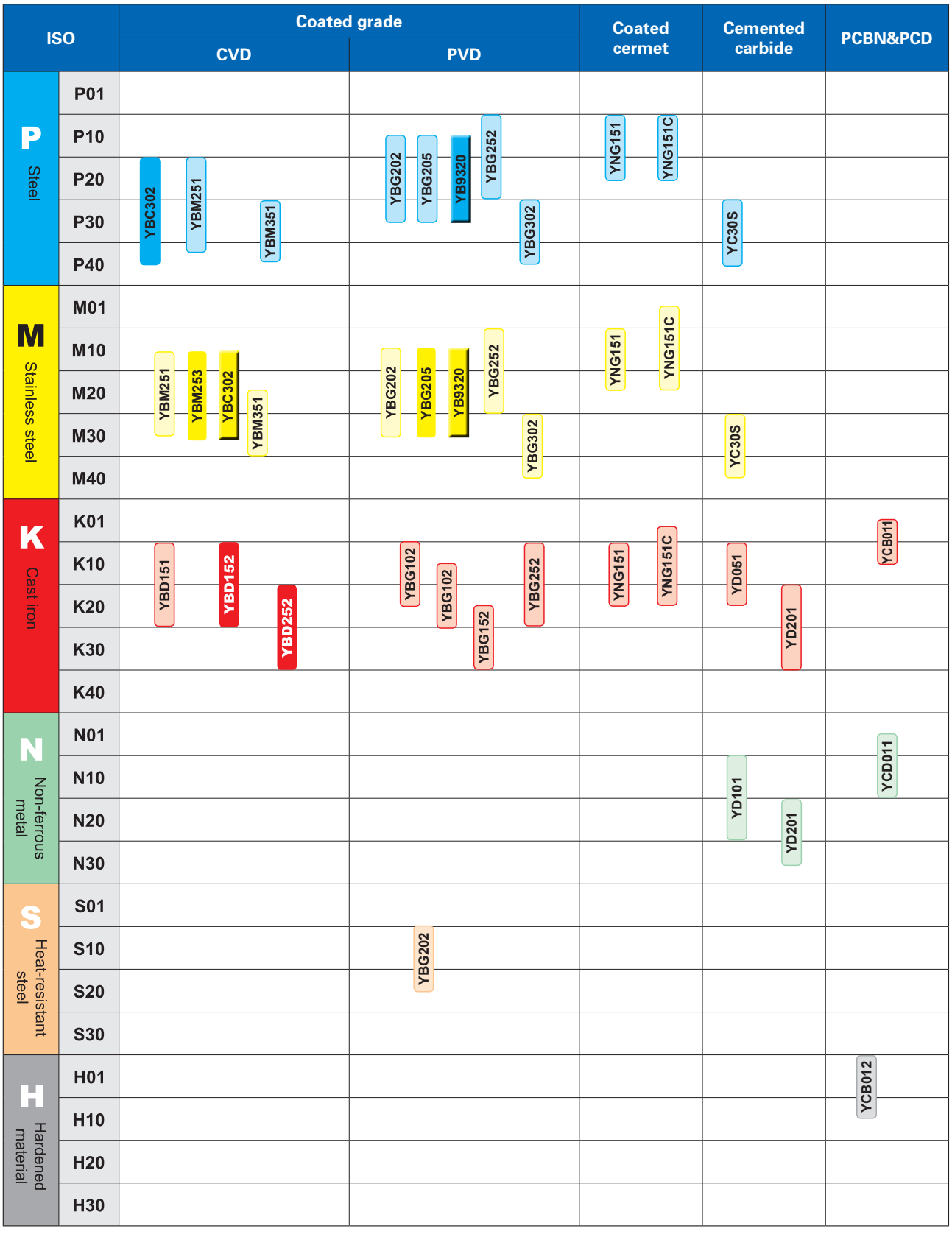
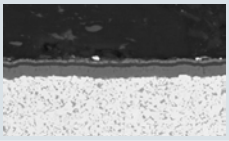
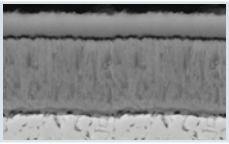
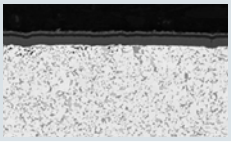
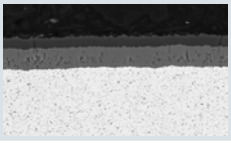
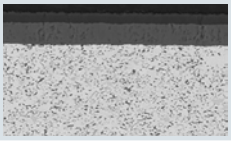
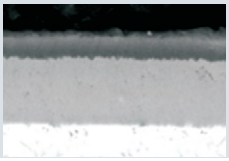
Chamfer milling tools

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Chamfer machining	**CMA01**  P281	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  P282	Kr=60°			

Milling insert grades overview



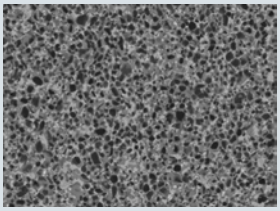
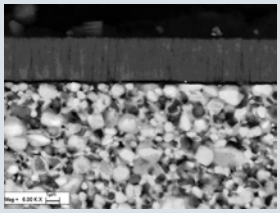
Coated Cemented Carbide CVD

Grade	Coating structure	Micro-structure	ISO applied range	Application field
YBM251	Combination of high toughness and strength substrate and the coating comprised of TiCN. thin Al_2O_3,TiN		P15~40 M10~30	Applicable for semi-finish and rough milling P, M type materials
YBM253	Combination of high-toughness gradient substrate and coating composed of TiCN and ultra fine Al_2O_3		M10~30	Suitable for rough milling of M-type material
YBM351	Combination of high toughness substrate and the coating composed of TiCN,thin Al_2O_3,TiN		P25~40 M20~35	Applicable for rough milling P, M type 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 K-type material
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 K-type material
YBC302	Combination of high toughness, high strength substrate and coating composed of TiCN, thin Al_2O_3 and TiN.		P15-35 M10-30	Suitable for rough and semifinish milling of P-type,M-type, whose hardness is below HRC45 and under.

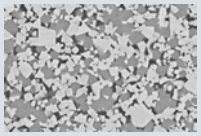
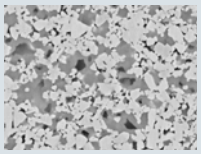
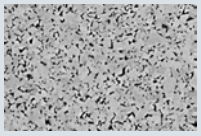
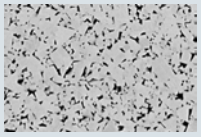
Coated Cemented Carbide PVD

Grade	Coating structure	ISO applied range	Application field
YBG102	Fine grain carbide substrate+Nano coating	K05~20	Applicable for finish and semi-finish milling K type material
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	M10~30	Suitable for rough milling of M-type material
YBG302	Substrate with high toughness and strength + Nano-coating	P25~40 M25~40	Applicable for rough milling type P and M materials
YBG152	Substrate with reasonable hardness and strength + Nano coating	K20~35	Applicable for rough and semi-finish milling type K material
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

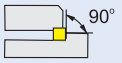
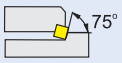
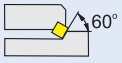
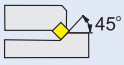
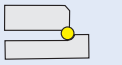
Cermet

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
YC30S		P25~40 M25~40	Applicable for roughing milling Code P, M type materials
YD051		K05~20	Applicable for finishing milling type K material
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

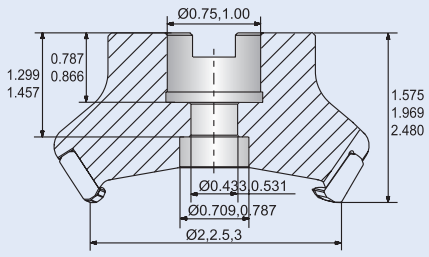
Arbor/spindle Mounting
(as follow figure)

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		

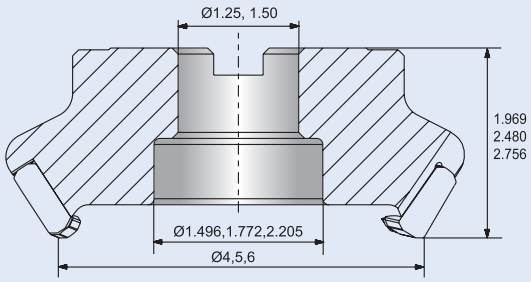
FM A 02 - 2.00" - A

Arbor/spindle Mounting

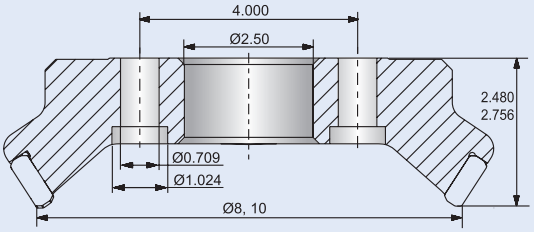
A



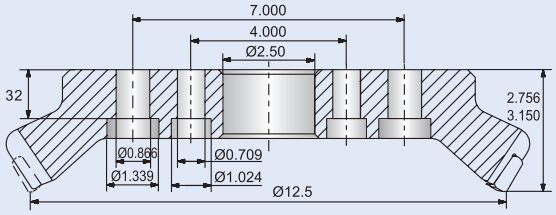
B



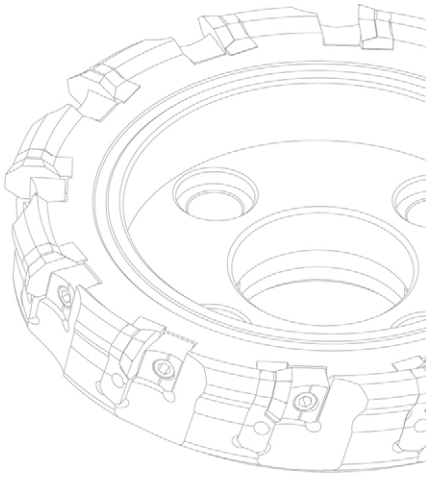
C



D



Arbor hole size(inch)
(as follow figure)



Insert shape

80° C	55° D	R	S
60° 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 C

Cutting edge length of insert

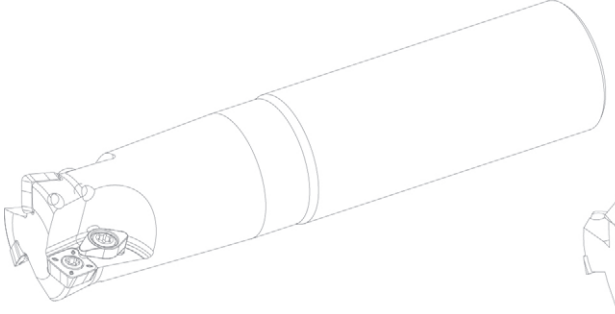
Inscribed circle	Insert shape					
	C	D	R	S	T	L
0.219	—	—	—	—	09	—
0.250	06	07	—	—	11	—
0.375	09	11	09	09	16	—
0.500	12	15	12	12	22	—
0.625	16	19	15	15	27	—
0.750	19	—	19	19	33	—
1.000	25	—	25	25	44	2

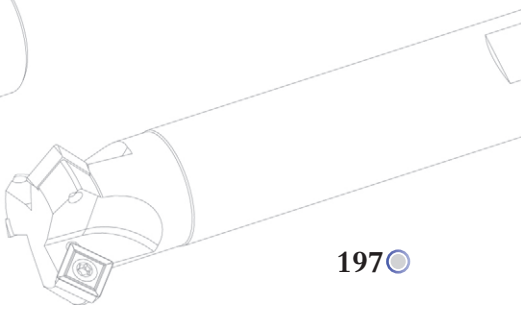
Number of teeth
(number of flute for corn-shaped milling tools)

Cutting direction
(Default:Right L:left)

Internal cooling structure

D



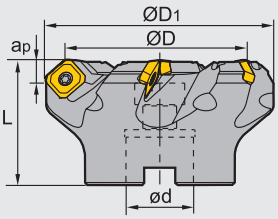


Face milling tools Kr:45°

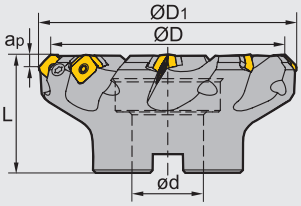
FMA01 P M K N S

Close pitch

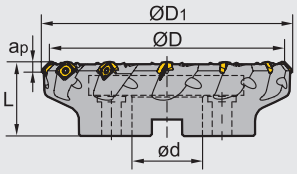
A type of mounting



B type of mounting



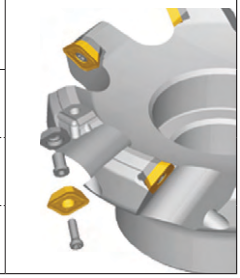
C type of mounting



Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	Ød	L	apmax	Z	Interface form
FMA01	-2.00"-A0.75"-SE12-04	2.000	2.510	0.750	1.500	0.236	4	A
	-2.50"-A0.75"-SE12-05	2.500	3.010	0.750	1.500	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
	-4.00"-B1.25"-SE18-04	4.000	4.510	1.250	2.500	0.384	4	B
	-5.00"-B1.50"-SE12-08	5.000	5.510	1.500	2.500	0.236	8	B
	-5.00"-B1.50"-SE18-05	5.000	5.510	1.500	2.500	0.384	5	B
	-6.00"-B1.50"-SE12-10	6.000	6.510	1.500	2.500	0.236	10	B
	-6.00"-B1.50"-SE18-06	6.000	6.510	1.500	2.500	0.384	6	B
	-8.00"-C2.50"-SE12-12	8.000	8.510	2.500	2.500	0.236	12	C
	-8.00"-C2.50"-SE18-08	8.000	8.510	2.500	2.500	0.384	8	C
	-10.0"-C2.50"-SE12-14	10.00	10.510	2.500	2.500	0.236	14	C

Spare parts

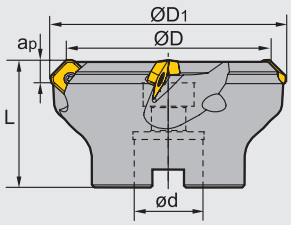
Diameter ØD	Insert specifrication	Insert screw	Shim	Shim screw	Wrench	Wrench	Sketch of installation
							
Ø2", Ø2.5" Ø3", Ø4"	SEET12T3-□□	I60M3.5×10	--	--	WT15IS	--	
Ø5", Ø6" Ø8", Ø10"	SEET12T3-□□	I60M3.5×12	S13BS	SM5×7XA		WH35L	
Ø4"~Ø8"	SEET18T6-DM	I60M5×17	S18BS	SM8×9XA	WT20IT	WH50L	

Face milling tools Kr:45°

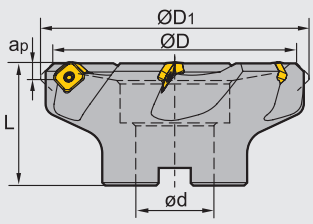
FMA02 P M K N S

Coarse pitch differential

A type of mounting



B type of mounting

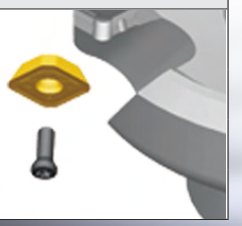


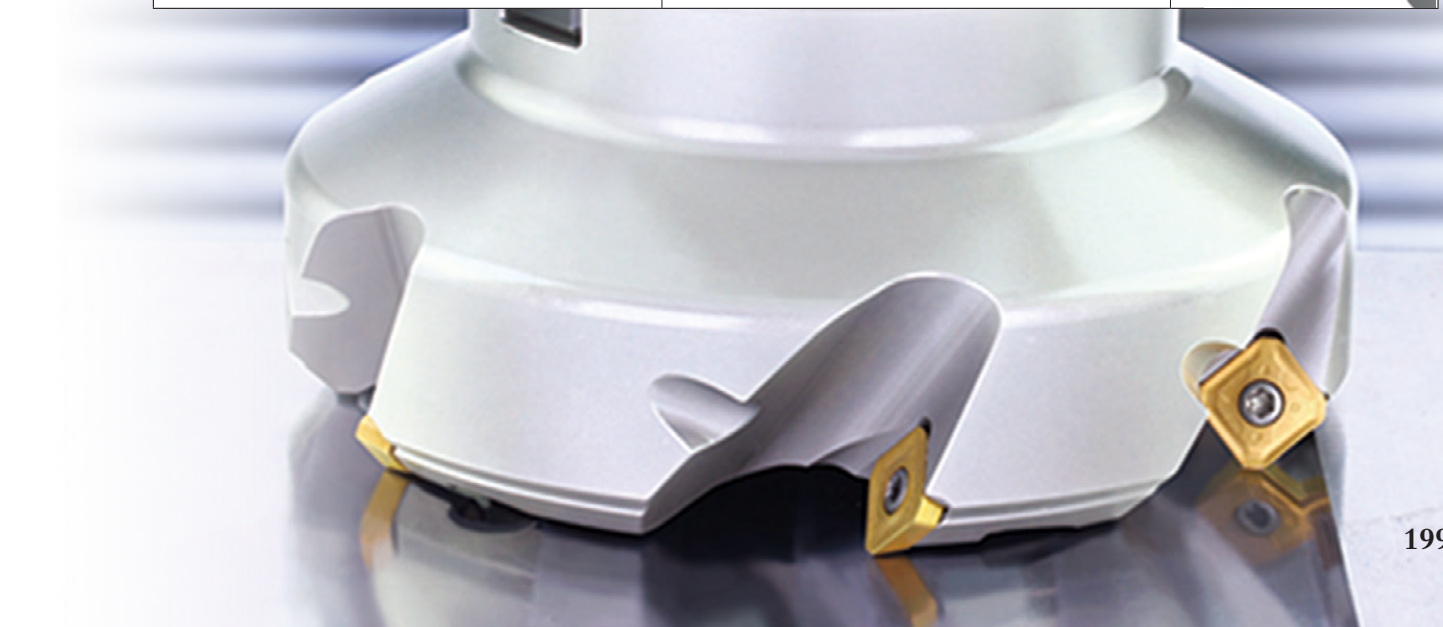
Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	Ød	L	apmax	Z	Interface form
FMA02	-2.00"-A0.75"-SE12-04	2.000	2.510	0.750	1.500	0.236	4	A
	-2.50"-A0.75"-SE12-05	2.500	3.010	0.750	1.500	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

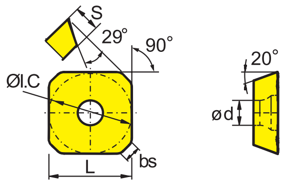
D

Spare parts

Insert screw	Wrench	Sketch of installation
		
I60M3.5×10	WT15IS	



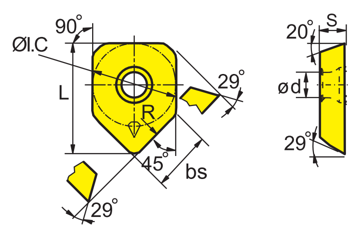
Selection of inserts



Good working conditions / General working conditions / Adverse working conditions

Workpiece material	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	General	General	General	Adverse				General	General	Good	General		Good	Good	Good	Adverse			
M Stainless steel	General	General	General	Adverse				General	General	General	General		Good	Good	Good	Adverse			
K Cast iron					General	Adverse	Good					General	Good				Good		Adverse
N Ferrite materials																		General	Adverse
S Heat-resistant steel							Good	General	General										

Insert shape	Type	L	ØI.C	S	ød	bs	R	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
		Dimensions(inch)						Coated grade													Cermet		Cemented carbide			
	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	0.039	●		●						●										
	SEET12T3-CM	0.528	0.528	0.156	0.161	0.100						●				●		○								
	SEET12T3-EM	0.528	0.528	0.156	0.161	0.100			●		●					●		●								
	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	●	●			●				●					●					



● Always stock available ○ 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		

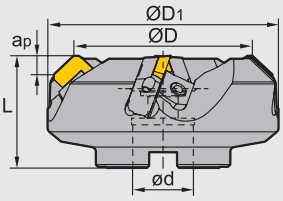
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(SFPM)	f(in/z)		
					-DF	-DM	-DR
P	Low–carbon steel、Soft steel	⩽180	YBM251	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)
			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	YBM251	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)
			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	YBM251	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)
			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	YBM251	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)	
			YBG302	450(300-800)	0.006(0.004-0.008)	0.008(0.004-0.012)	
K					-CF	-CM	-CR
	Cast iron	180-250	YBG102	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	YBG102	150(60-200)	0.004(0.004-0.008)	0.006(0.004-0.012)	

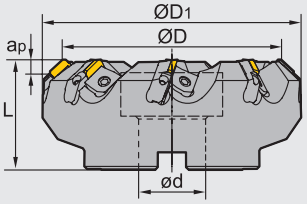
Face milling tools Kr:45°

FMA03 P M K

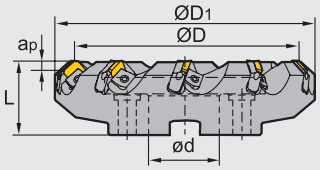
A type of mounting



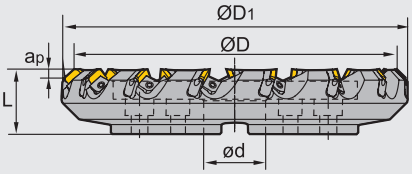
B type of mounting



C type of mounting



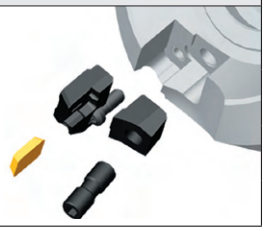
D type of mounting



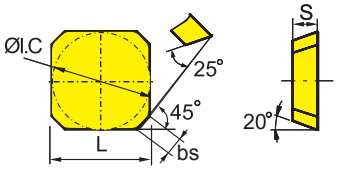
Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	Ød	L	apmax	Z	Interface form
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	10.00	10.858	2.500	2.500	0.217	12	C
	-12.0"-D2.50"-SE12-15	12.00	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	10.00	10.858	2.500	2.500	0.295	12	C
	-12.0"-D2.50"-SE15-15	12.00	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



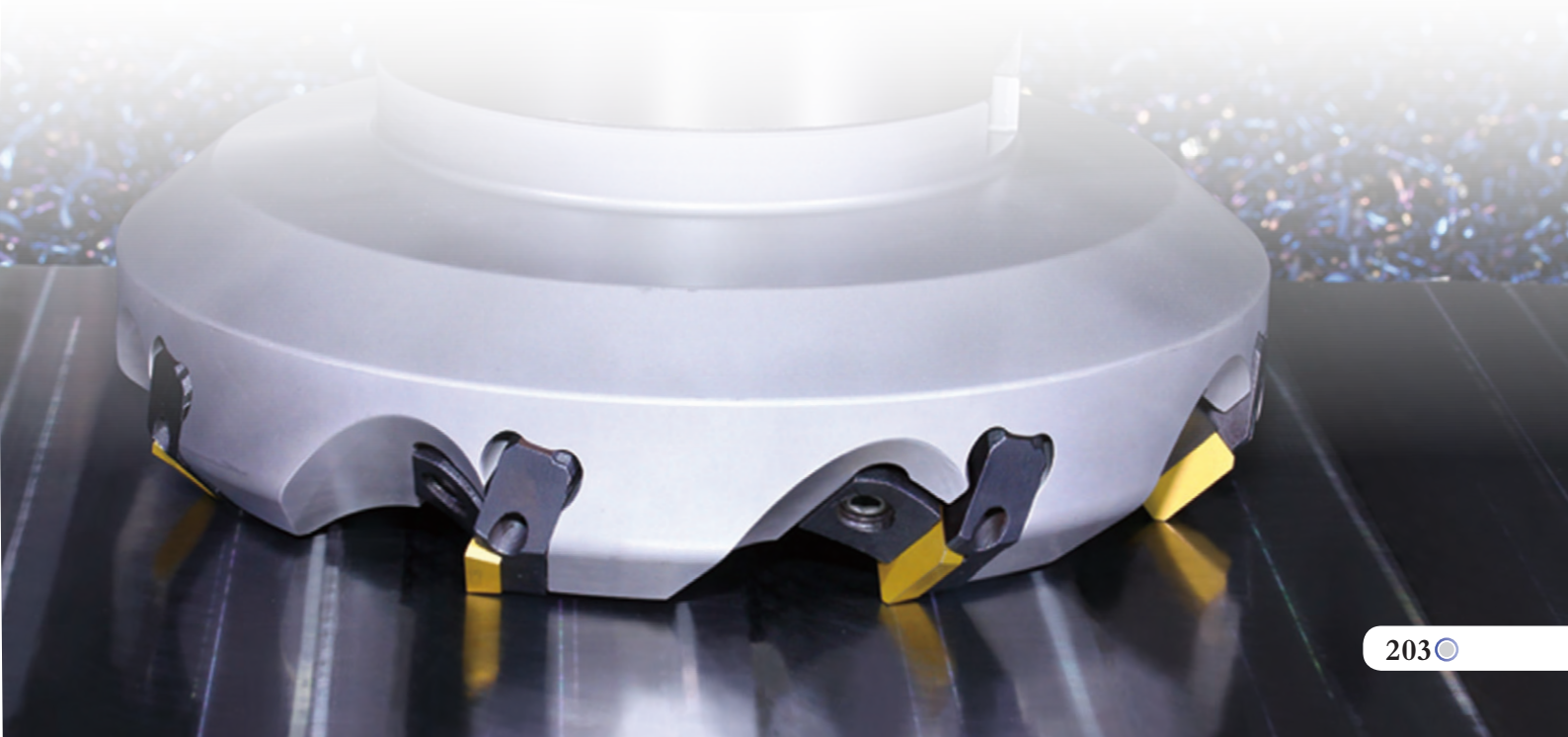
Good working conditions General working conditions Adverse working conditions

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	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	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		●		●				●			○					●			●
	SEKR1203AFN	0.500	0.500	0.071	0.125								○			○								
	SEKN1504AFN	0.625	0.625	0.063	0.187		●																	●
	SEKN1504AFTN	0.625	0.625	0.063	0.187		●		●							○					●			●
	SEKR1504AFN	0.625	0.625	0.063	0.187						●					●								

● Always stock available ○ Produce according to order



Recommended cutting parameters

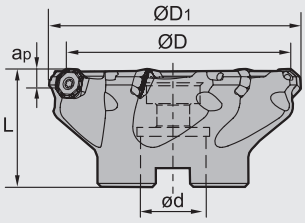
Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(SFPM)	f(in/z)
P	Low–carbon steel、 Soft steel	≤180	YNG151	1400 (1100 -1600)	0.008(0.004-0.016)
			YBM251	900 (700 -1100)	0.008(0.004-0.016)
			YBM351	700 (600 -1000)	0.01(0.006-0.012)
			YBG202	900 (650 -1200)	0.008(0.004-0.012)
			YC30S	450 (300 -700)	0.011(0.004-0.016)
	High–carbon steel、 Alloy steel	180—280	YNG151	1300 (1000 -1600)	0.008(0.004-0.016)
			YBM251	800 (650 -1000)	0.008(0.006-0.016)
			YBM351	650 (500 -900)	0.010(0.006-0.012)
			YBG202	800 (600 -1100)	0.008(0.004-0.012)
			YC30S	400 (260 -650)	0.011(0.004-0.016)
	Alloy tool steel	280—350	YNG151	1100 (1000 -1500)	0.008(0.004-0.016)
			YBM251	700 (600 -1000)	0.008(0.004-0.016)
			YBM351	600 (500 -800)	0.01(0.006-0.012)
			YBG202	700 (550 -1100)	0.008(0.004-0.012)
			YC30S	300 (200 -600)	0.011(0.004-0.016)
M	Stainless steel	≤270	YNG151	700 (500 -900)	0.008(0.004-0.016)
			YBM251	400 (300 -700)	0.008(0.004-0.016)
			YBM351	450 (300 -800)	0.01(0.006-0.012)
			YBG202	450 (300 -800)	0.008(0.004-0.012)
K	Cast iron	180-250	YBG102	700 (400 -1000)	0.008(0.004-0.012)
			YD201	300 (260 -500)	0.01(0.004-0.016)

Face milling tools Kr:45°

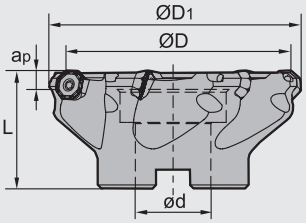
FMA04 P M K N

Screw clamping

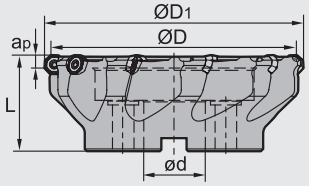
A type of mounting



B type of mounting



C type of mounting



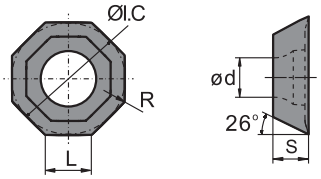
Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	Ød	L	apmax	Z	Interface form
FMA04	-2.00" -A0.75" -OF05-04	2.000	2.356	0.750	1.500	0.138	4	A
	-2.00" -A0.75"-OF05-05	2.000	2.356	0.750	1.500	0.138	5	A
	-2.50" -A0.75"-OF05-05	2.500	2.856	0.750	2.000	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

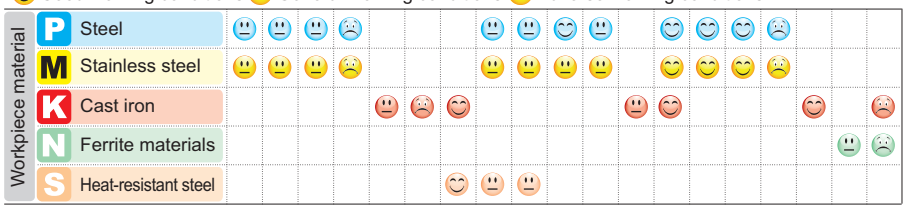
Spare parts

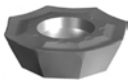
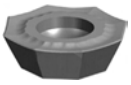
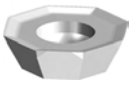
Adaptable tool holders	Insert screw	Wrench	Sketch of installation
			
Ø2",Ø2.5"	I60M4×8.4	WT15IS	
Ø3",Ø4",Ø5",Ø6"	I60M4×10	WT15IS	

Selection of inserts



Good working conditions General working conditions Adverse working conditions



Insert shape	Type	Dimensions(inch)					Coated grade												Cermet		Cemented carbide			
		L	ØI.C	bs	S	R	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	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																		○	

● Always stock available ○ Produce according to order

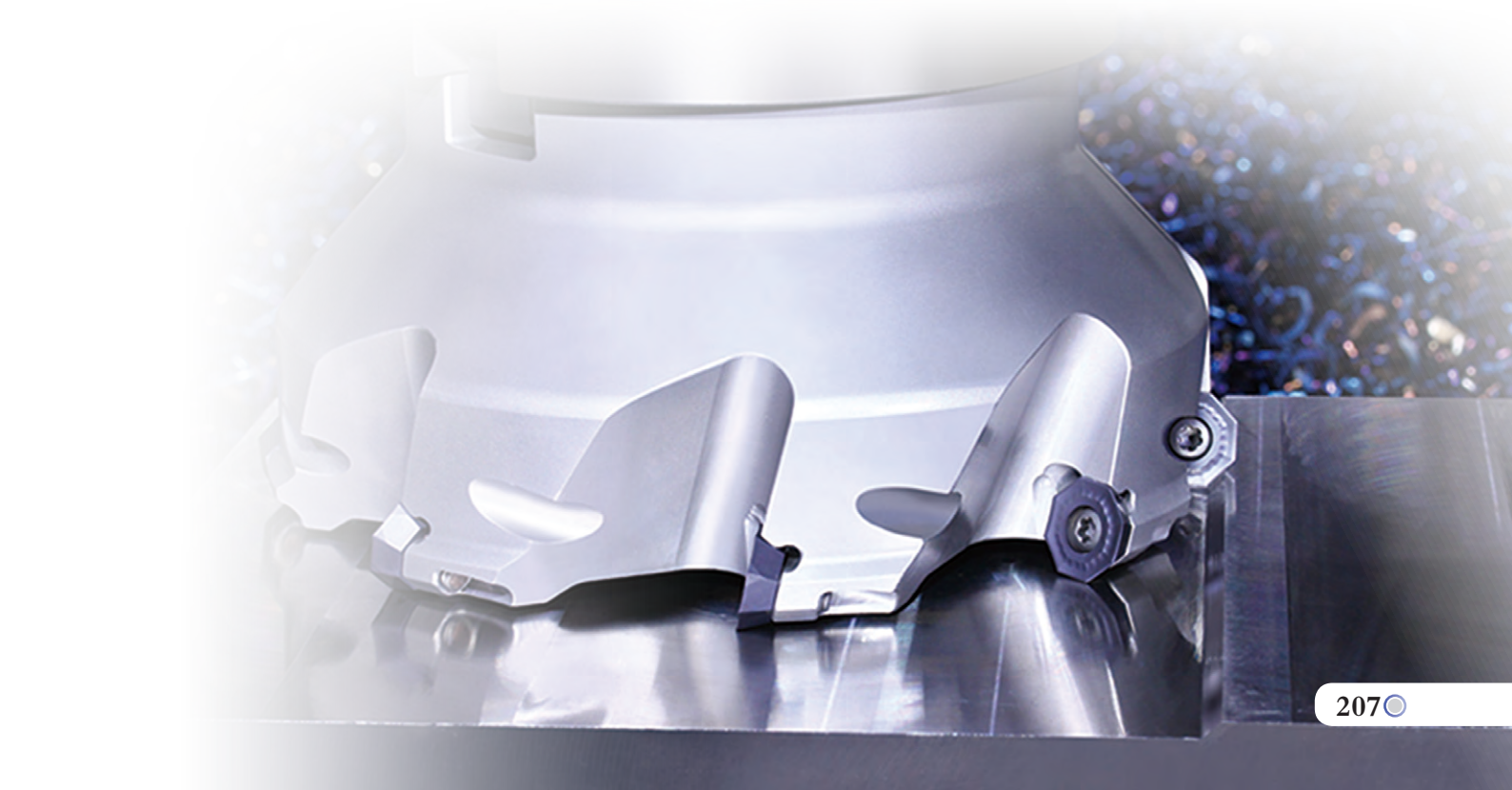
Chipbreaker selection for FMA04 milling inserts

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(in/z)	
					-DF	-DM
P	Low–carbon steel、Soft steel	≤180	YBM251	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)
			YBM351	700(600-1000)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302	750(550-1200)	0.008(0.004-0.012)	0.01(0.004-0.016)
	High–carbon steel、Alloy steel	180-280	YBM251	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)
			YBM351	650(500-900)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302	700(500-1100)	0.008(0.004-0.012)	0.01(0.004-0.016)
	Alloy tool steel	280-350	YBM251	700(600-1000)	0.008(0.004-0.012)	0.008(0.004-0.016)
			YBG202	700(550-1100)	0.008(0.004-0.012)	0.008(0.004-0.016)
			YBM351	600(500-800)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302	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)
			YBM251	500(400-800)	0.006(0.004-0.012)	0.008(0.004-0.016)
K	Cast iron	180-250	YBG102	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)	

D

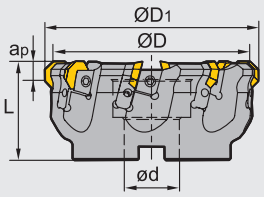


Face milling tools Kr:45°

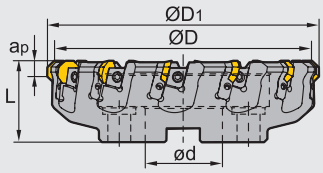
FMA04 P M K

Top clamping

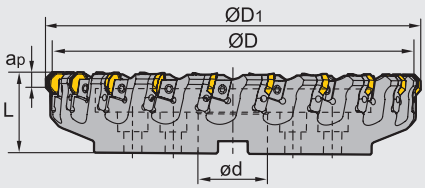
B type of mounting



C type of mounting



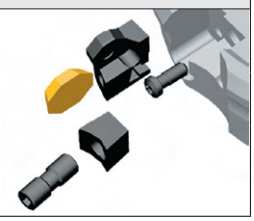
D type of mounting



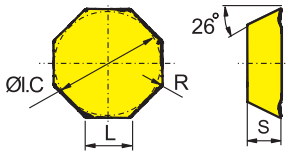
Specification of tools

Type		Dimensions(inch)						
		ØD	ØD1	Ød	L	apmax	Z	Interface form
FMA04	-5.00"-B1.50"-OF07-08	5.000	5.469	1.500	2.500	0.197	8	B
	-6.00"-B1.50"-OF07-10	6.000	6.469	1.500	2.500	0.197	10	B
	-8.00"-C2.50"-OF07-12	8.000	8.469	2.500	2.500	0.197	12	C
	-10.0"-C2.50"-OF07-16	10.00	10.469	2.500	2.500	0.197	16	C
	-12.5"-D2.50"-OF07-20	12.50	12.969	2.500	2.500	0.197	20	D

Spare parts

Locator	Wedge	Wedge screw	Locator screw	Wrench	Sketch of installation
					
LOF07R/L	W02R/L	DM8×21X	LOM5×15.1	WH20T WH40T	

Selection of inserts



Good working conditions General working conditions Adverse working conditions

Workpiece material

		YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P	Steel	😐	😐	😐	☹				😐	😐	😊	😐		😊	😊	😊	☹			
M	Stainless steel	😐	😐	😐	☹				😐	😐	😐	😐		😊	😊	😊	☹			
K	Cast iron					😐	☹	😊					😐	😊				😊		☹
N	Ferrite materials																		😐	☹
S	Heat-resistant steel							😊	😐	😐										

Insert shape	Type	Dimensions(inch) L	ØI.C	S	R	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	OFKR0704-DF	0.293	0.706	0.187	0.031		●	○					○											
	OFKR0704-DM	0.293	0.706	0.187	0.031		●	○	●		○	○	●			●								

● Always stock available ○ Produce according to order

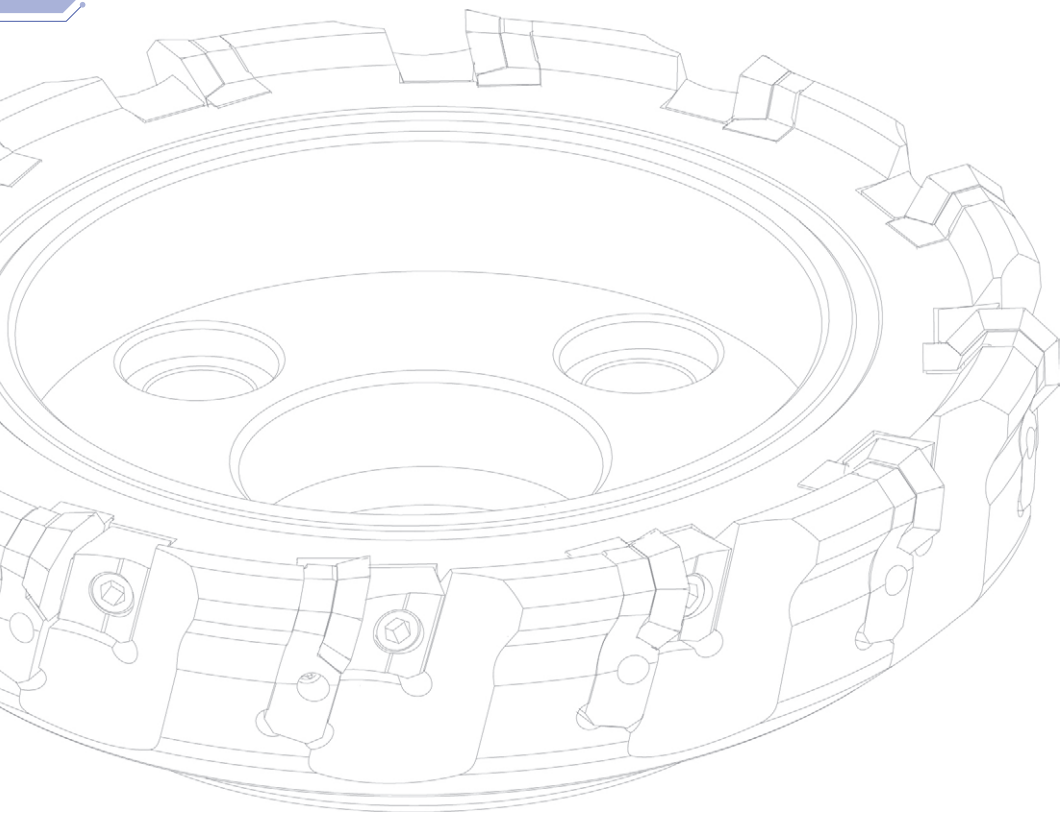
D

Chipbreaker selection for FMA04 milling inserts

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

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(SFPM)	f(in/z)	
					-DF	-DM
P	Low–carbon steel、Soft steel	≤180	YBM251 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)
			YBM351	700(600-1000)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302	750(550-1100)	0.008(0.004-0.012)	0.01(0.004-0.016)
	High–carbon steel、Alloy steel	180-280	YBM251 YBM253	800(650-1000)	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)
			YBM351	650(500-900)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302	700(500-1100)	0.008(0.004-0.012)	0.01(0.004-0.016)
	Alloy tool steel	280-350	YBM251 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)
			YBM351	600(500-800)	0.008(0.004-0.012)	0.01(0.004-0.016)
			YBG302	600(400-1000)	0.008(0.004-0.012)	0.01(0.004-0.016)
M	Stainless steel	≤270	YBG202	500(360-900)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBG302	450(300-800)	0.006(0.004-0.012)	0.008(0.004-0.016)
			YBM251 YBM253	500(400-800) 750(550-1000)	0.006(0.004-0.012)	0.008(0.004-0.016)
K	Cast iron	180-250	YBG102	700(400-1000) 600(500-800)	0.008(0.002-0.012)	0.01(0.004-0.016)



FMA11 Kr:45° Series Face Mills

With outstanding economy and high performance

4 × 2=8edge

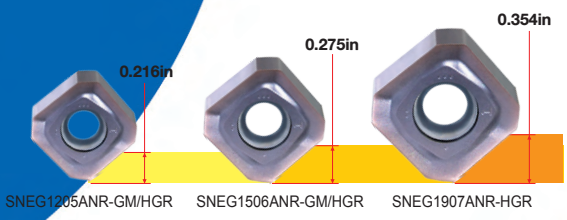
Cutter body with PVD coating for superior corrosion and heat resistance resulting in longer service life.

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.

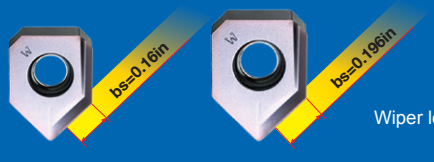


Double negative structure, excellent impact resistance.

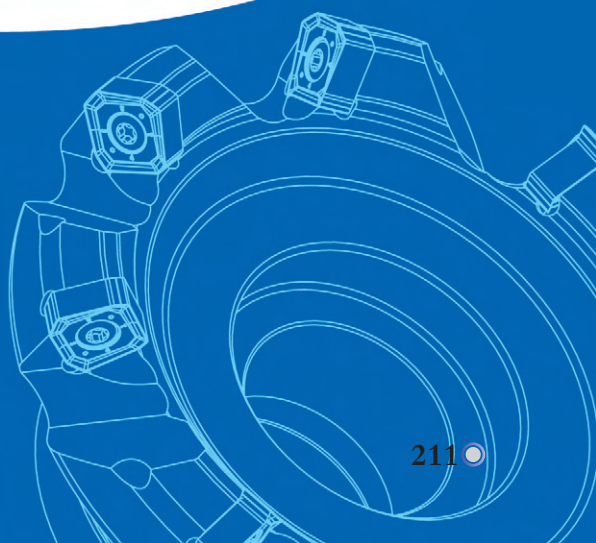
Optimized design of pitch and chip pocket, for unobstructed chip flow and higher cutting efficiency.

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

Extra long wiper, moresuited to semi-finishing and finishing with large diameter cutters.



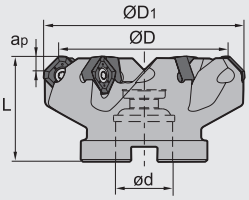
SNEG1205ANR-W SNEG1506ANR-W



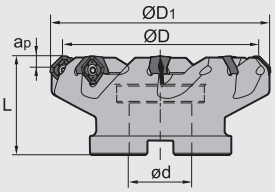
Face milling tools Kr:45°


FMA11 P K

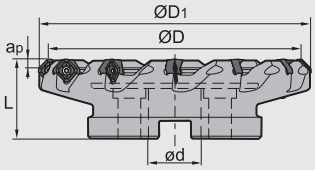
A type of mounting



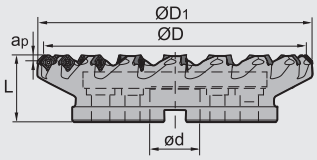
B type of mounting



C type of mounting



D type of mounting



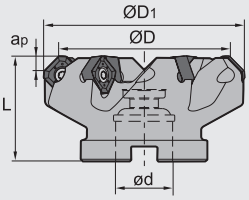
Specification of tools

Type		Basic dimensions (inch)					Z	Interface form
		ØD	ØD1	Ød	L	apmax		
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

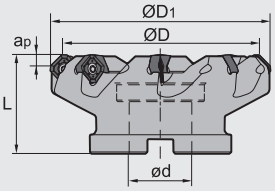
Face milling tools Kr:45°


FMA11 P K

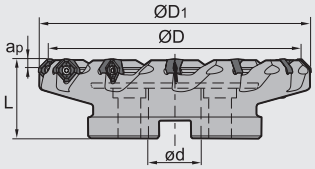
A type of mounting



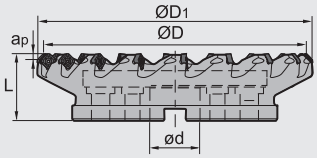
B type of mounting



C type of mounting



D type of mounting

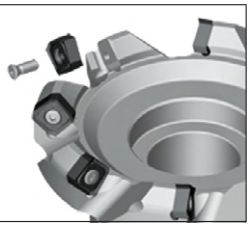


Specification of tools

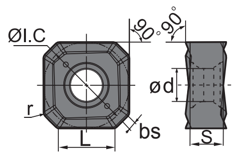
Type		Basic dimensions (inch)					Z	Interface form
		ØD	ØD1	Ød	L	apmax		
FMA11 Close pitch	**-2.50"-A0.75"-SN12-06C**	2.500	2.953	0.750	1.750	0.216	6	A
	-3.00"-A1.00"-SN12-07C	3.000	3.453	1.000	2.000	0.216	7	A
	-4.00"-B1.50"-SN12-09	4.000	4.453	1.500	2.500	0.216	9	B
	-5.00"-B1.50"-SN12-10	5.000	5.453	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	
				
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	--

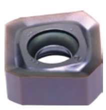
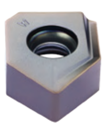


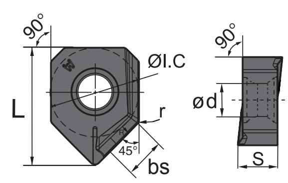
Selection of inserts



Good working conditions / General working conditions / Adverse working conditions

Workpiece material	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	General	General	General	Adverse				General	General	Good	General		Good	Good	Good	Adverse			
M Stainless steel	General	General	General	Adverse				General	General	General	General		Good	Good	Good	Adverse			
K Cast iron					General	Adverse	Good					General	Good				Good		Adverse
N Ferrite materials																		General	Adverse
S Heat-resistant steel							Good	General	General										

Insert shape	Type	Dimensions(inch) L	ØI.C	S	bs	ød	r	Coated grade YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YB9320	YBG302	YBG152	YBG252	Cermet YNG151	YNG151C	Cemented carbide YC30S	YD051	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									●										



● Always stock available ○ Produce according to order

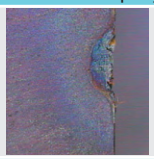
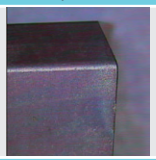
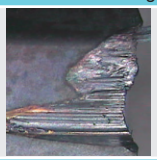
Recommended cutting parameters

Workpiece material		Hardness HB	Grade	Cutting data		
				V(SFPM)	f(inch/z)	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)	
K	Cast iron	180-250	YBD152	880 (490-980)	0.012(0.004-0.02)	
			YBD252	650 (490-820)	0.016 (0.008-0.024)	

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=0.08in/z，
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

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