Face milling tools

Kr:45°

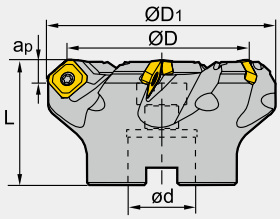
Face milling

Chamfering

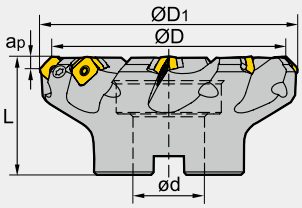
FMA01 P M K N S

Close and even pitch

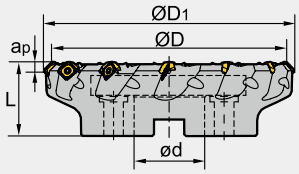
A-type coupling



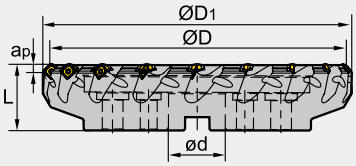
B-type coupling



C-type coupling



D-type coupling



Specification of tools

Type		Stock		Basic dimensions(mm)					Number of teeth Z	Type of coupling	Weight (kg)
		R	L	ØD	ØD1	ød	L	apmax			
FMA01	**-050-A22-SE12-04**	▲	△	50	61	22	40	6	4	A	0.3
	-063-A22-SE12-05	▲	△	63	74	22	40	6	5	A	0.5
	-080-A27-SE12-06	▲	△	80	91	27	50	6	6	A	1.2
	-100-B32-SE12-07	▲	△	100	107	32	50	6	7	B	1.2
	-125-B40-SE12-08	▲	△	125	136	40	63	6	8	B	2.6
	-160-B40-SE12-10	▲	△	160	170	40	63	6	10	B	4.3
	-200-C60-SE12-12	▲	△	200	210	60	63	6	12	C	7.6
	-250-C60-SE12-14	▲	△	250	260	60	63	6	14	C	13.5
	-315-D60-SE12-18	△	△	315	325	60	70	6	18	D	20.8

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Insert screw	Shim	Shim screw	Wrench	Wrench
Ø50 -Ø100	I60M3.5×10	--	--	WT15IS	--
Ø125-Ø315	I60M3.5×12	S13BS	SM5×7XA		WH35L

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

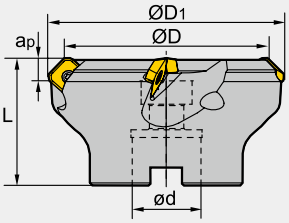
Face milling tools

Kr:45°

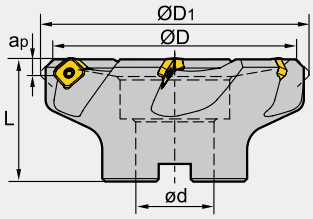
FMA02 P M K N S

Coarse and differential pitch

A-type coupling



B-type coupling



Specification of tools

Type		Stock R	Stock L	Basic dimensions(mm) ØD	ØD1	ød	L	apmax	Number of teeth Z	Type of coupling	Weight (kg)
FMA02	**-050-A22-SE12-03**	▲	△	50	61	22	40	6	3	A	0.4
	-063-A22-SE12-04	▲	△	63	74	22	40	6	4	A	0.6
	-080-A27-SE12-04	▲	△	80	91	27	50	6	4	A	1.3
	-100-B32-SE12-05	▲	△	100	107	32	50	6	5	B	1.3
	-125-B40-SE12-06	▲	△	125	131	40	63	6	6	B	2.6

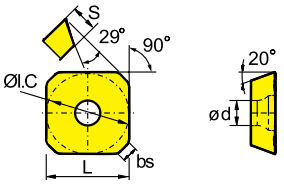
▲Stock available △Make-to-order

Spare parts

Diameter ØD	Insert screw	Wrench
Ø50-Ø125	I60M3.5×10	WT15IS

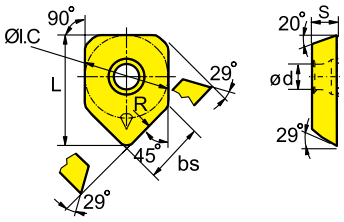
Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



Workpiece material		😊 Good working condition	😐 Normal working condition	☹ Bad working condition
P	Steel	😐 😐 😐 😐 ☹	😐 😐 ☹	😊 😊 😊 ☹
M	Stainless steel	😐 😐 😐 😐 ☹	😐 😐 ☹	😊 😊 😊 ☹
K	Cast iron	😐 ☹ 😊	😐 😊	😊 ☹
N	Non-ferrous metal			😐 ☹
S	Heat resistant alloy, Ti alloy	😊 😐 😐		

Insert shape	Type	Basic dimensions(mm)						CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	ød	bs	R	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	SEET12T3-DF	13.4	13.4	3.97	4.1	2.55		●	★	●						★		○								
	SEET12T3-CF	13.4	13.4	3.97	4.1	2.55							○		★	○		○								
	SEET12T3-EF	13.4	13.4	3.97	4.1	2.55										○		○								
	SEET12T3-DM	13.4	13.4	3.97	4.1	2.55		●	★	●		○				★		★								
	SEET12T3-CM	13.4	13.4	3.97	4.1	2.55							★			★		○								
	SEET12T3-EM	13.4	13.4	3.97	4.1	2.55				●		●				○		★								
	SEET12T3-DR	13.4	13.4	3.97	4.1	2.55		●	★			●				★		★								
	SEET12T3-CR	13.4	13.4	3.97	4.1	2.55		●					★					★								
	SEET12T3-LH	13.4	13.4	3.97	4.1	2.55																			○	★
	SEET12T3-W	17.82	13.4	3.97	4.1	9.46	500		★	●			★			★					★					



★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Chipbreaker selection for FMA01 milling inserts

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

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(m/min)	f(mm/z)		
					-DF	-DM	-DR
P	Low-carbon steel、Soft steel	≤180	YBM251 YBC301	270(220-350)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBG202	270(200-360)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBG302	230(170-350)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
	High-carbon steel、Alloy steel	180-280	YBM251 YBC301	240 (200-320)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBG202	240 (180-350)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBG302	220 (150-330)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
	Alloy tool steel	280-350	YBM251 YBC301	220 (180-300)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBG202	220 (170-340)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBG302	190 (130-300)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
M					-EF	-EM	
	Stainless steel	≤270	YBM251	150 (120-240)	0.15(0.1-0.2)	0.2 (0.1-0.3)	
			YBG202	160 (110-270)	0.15(0.1-0.2)	0.2 (0.1-0.3)	
			YBG302	140 (100-250)	0.15(0.1-0.2)	0.2 (0.1-0.3)	
K					-CF	-CM	-CR
	Cast iron	180-250	YBG102	210 (120-300)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
			YBD152	240 (180-300)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.4)
N					-LH		
	Al alloy steel	-	YD101	300-	0.25 (0.1-0.4)		
			YD201	300-			
S					-EF	-EM	
	High-temperature alloy	≤400	YBG102	50(20-60)	0.1 (0.1-0.2)	0.15 (0.1-0.3)	
			YBG202	40(20-50)	0.1 (0.1-0.2)	0.15 (0.1-0.3)	

Case for FMA01

Workpiece material：1Cr18Ni9Ti (HB180)
Cooling system: Dry cutting
Machine: Vertical machining center
Cutting parameters：
Vc=160m/min
a_p=1mm
fz=0.2mm/z
a_e=60mm

Surface roughness of workpiece:

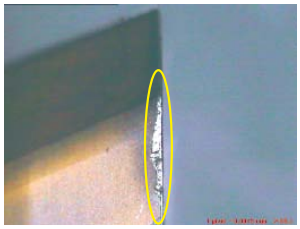
ZCC-CT:Ra1.2

Similar overseas products：Ra1.6

Tool type：FMA01-080-A27-SE12-06

Insert type/grade：SEET12T3-DM/YBG202

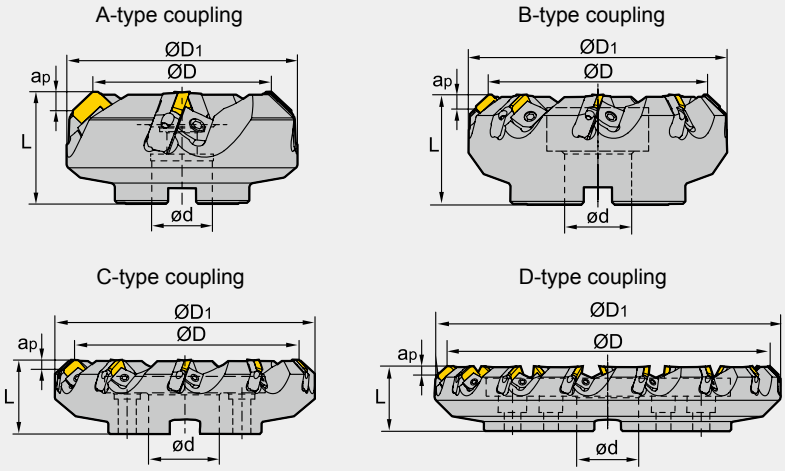
●Comparison of insert abrasion

	ZCC-CT	Similar overseas products
17'30"		
29'30"		
33'30"		

Face milling tools

Kr:45°

FMA03 P M K



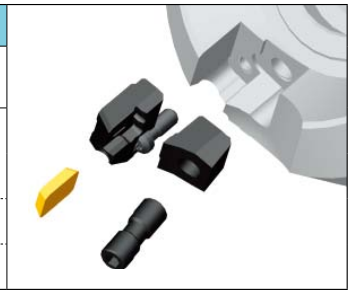
Specification of tools

Type		Stock R	Stock L	Basic dimensions(mm) ØD	ØD1	ød	L	apmax	Number of teeth Z	Type of coupling	Weight (kg)
FMA03	-080-A27-SE12-04	▲	△	80	103	27	50	5.5	4	A	1.8
	-100-B32-SE12-05	▲	△	100	122	32	50	5.5	5	B	2.4
	-125-B40-SE12-06	▲	△	125	147	40	63	5.5	6	B	4.4
	-160-B40-SE12-08	▲	△	160	181	40	63	5.5	8	B	6.4
	-200-C60-SE12-10	▲	△	200	221	60	63	5.5	10	C	8.5
	-250-C60-SE12-12	▲	△	250	270	60	63	5.5	12	C	14.1
	-315-D60-SE12-15	△	△	315	353	60	63	5.5	15	D	22.2
	-080-A27-SE15-04	▲	△	80	103	27	50	7.5	4	A	1.7
	-100-B32-SE15-05	▲	△	100	122	32	50	7.5	5	B	2.3
	-125-B40-SE15-06	▲	△	125	147	40	63	7.5	6	B	4.2
	-160-B40-SE15-08	▲	△	160	181	40	63	7.5	8	B	6.1
	-200-C60-SE15-10	▲	△	200	221	60	63	7.5	10	C	8.3
	-250-C60-SE15-12	▲	△	250	270	60	63	7.5	12	C	13.6
	-315-D60-SE15-15	▲	△	315	353	60	63	7.5	15	D	21.8

▲Stock available △Make-to-order

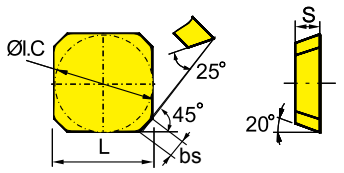
Spare parts

Diameter ØD	Inserts	Locator	Wedge	Wedge screw	Locator screw	Wrench
Ø80-Ø315	SE12	LSE12R/L	W01R/L	DM8×21X	LOM5×15.1	WT20T WH40T
Ø80-Ø315	SE15	LSE15R/L				



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts

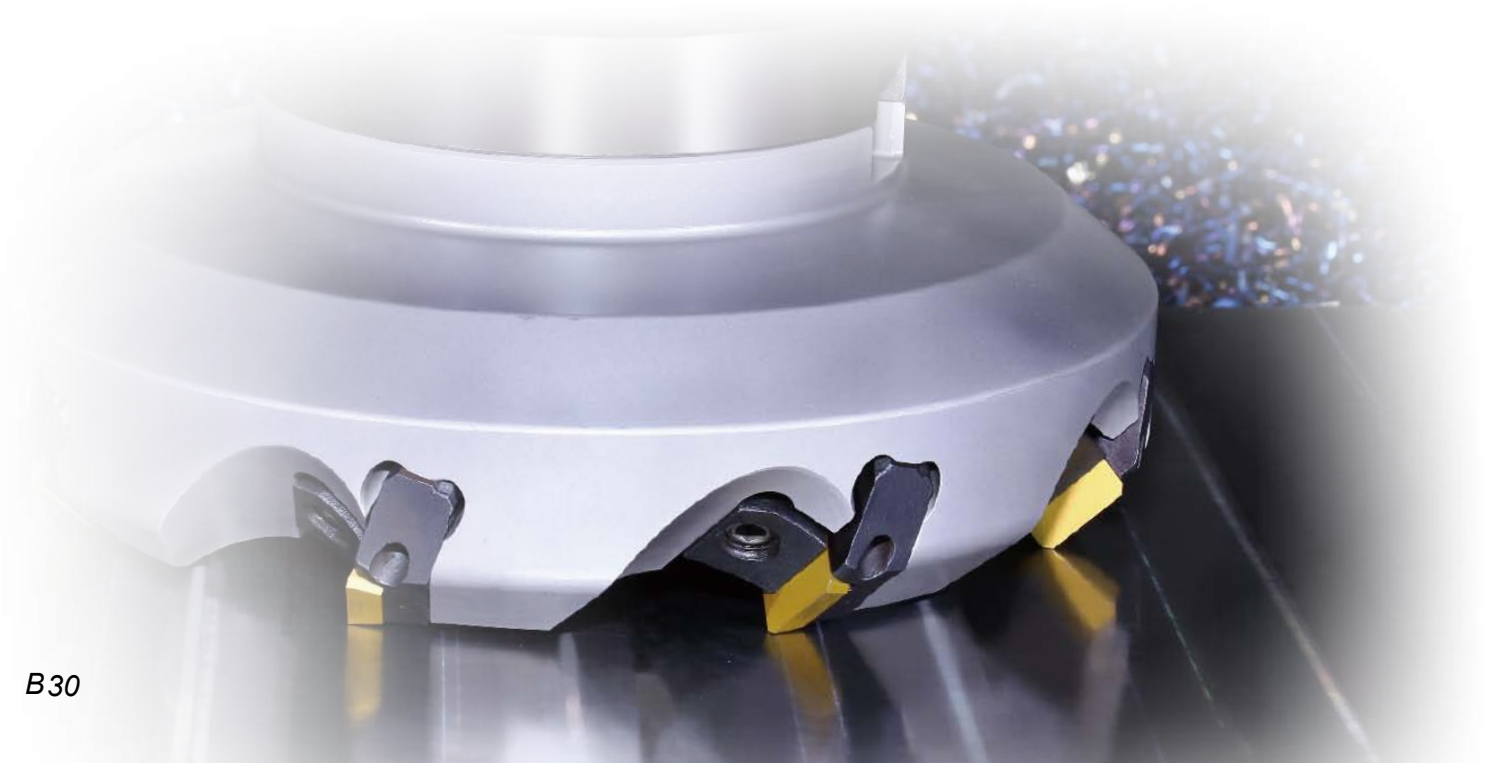


😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
K Cast iron						😐	☹	😊				😐	😊					😊	☹
N Non-ferrous metal																		😐	☹
S Heat resistant alloy, Ti alloy								😊	😐	😐									

Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	bs	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	SEEN1203AFTN	12.7	12.7	3.18	1.8									○					●					
	SEKN1203AFFN	12.7	12.7	3.18	1.8								★											
	SEKN1203AFN	12.7	12.7	3.18	1.8	●								○							●			○
	SEKN1203AFTN	12.7	12.7	3.18	1.8	●		●		●				★		○					●			●
	SEKR1203AFN	12.7	12.7	3.18	1.8	●								○		○								
	SEKN1504AFN	15.875	15.875	4.76	1.6	●		●																●
	SEKN1504AFTN	15.875	15.875	4.76	1.6	○		●		●						○					●			●
	SEKR1504AFN	15.875	15.875	4.76	1.6							★				★					●			

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order



Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YNG151	430 (340-500)	0.2 (0.1-0.4)
			YBM251 YBC301	270 (220-350)	0.2 (0.1-0.4)
			YBM351	220 (180-300)	0.25 (0.15-0.3)
			YBG202	270 (200-360)	0.2 (0.1-0.3)
			YC30S	140 (100-220)	0.27 (0.1-0.4)
	High-carbon steel、Alloy steel	180-280	YNG151	400 (320-480)	0.2 (0.1-0.4)
			YBM251 YBC301	240 (200-320)	0.2 (0.1-0.4)
			YBM351	200 (160-280)	0.25 (0.15-0.3)
			YBG202	240 (180-350)	0.2 (0.1-0.3)
			YC30S	120 (80-200)	0.27 (0.1-0.4)
	Alloy tool steel	280-350	YNG151	350 (300-450)	0.2 (0.1-0.4)
			YBM251 YBC301	220 (180-300)	0.2 (0.1-0.4)
			YBM351	180 (150-250)	0.25 (0.15-0.3)
			YBG202	220 (170-340)	0.2 (0.1-0.3)
			YC30S	100 (60-180)	0.27 (0.1-0.4)
M	Stainless steel	≤270	YNG151	220 (160-280)	0.2 (0.1-0.4)
			YBM251	130 (100-220)	0.2 (0.1-0.4)
			YBM351	140 (100-240)	0.25 (0.15-0.3)
			YBG202	140 (100-250)	0.2 (0.1-0.3)
K	Cast iron	180-250	YBG102	210 (120-300)	0.2 (0.1-0.3)
			YBD252	200 (150-250)	0.2 (0.1-0.4)
			YD201	100 (80-160)	0.25 (0.1-0.4)

Face milling tools

Kr:45°

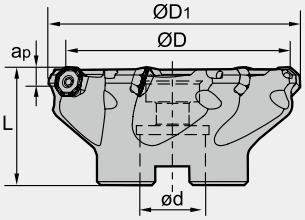
Face milling

Chamfering

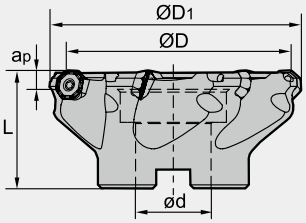
FMA04 P M K N

Screw clamping

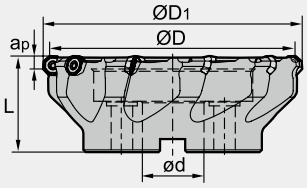
A-type coupling



B-type coupling



C-type coupling



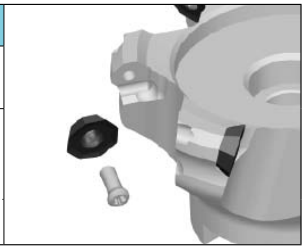
Specification of tools

Type		Stock		Basic dimensions(mm)					Number of teeth Z	Type of coupling	Weight (kg)
		R	L	ØD	ØD1	ød	L	apmax			
FMA04	**-050-A22-OF05-04**	▲	△	50	56	22	40	3.5	4	A	0.3
	-050-A22-OF05-05	△	△	50	56	22	40	3.5	5	A	0.4
	-063-A22-OF05-05	▲	△	63	69	22	40	3.5	5	A	0.5
	-080-A27-OF05-06	▲	△	80	86	27	50	3.5	6	A	0.8
	-100-B32-OF05-07	▲	△	100	106	32	50	3.5	7	B	1.2
	-125-B40-OF05-08	▲	△	125	130	40	63	3.5	8	B	2.7
	-160-B40-OF05-10	▲	△	160	165	40	63	3.5	10	B	5.1
	-160-C40-OF05-10	△	△	160	165	40	63	3.5	10	C	4.1

▲Stock available △Make-to-order

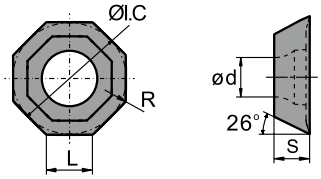
Spare parts

Diameter ØD	Insert screw	Wrench
Ø50- Ø63	I60M4×8.4	WT15IS
Ø80 -Ø160	I60M4×10	



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
K Cast iron						😐	☹	😊				😐	😊					😊	☹
N Non-ferrous metal																		😐	☹
S Heat resistant alloy, Ti alloy								😊	😐	😐									

Insert shape	Type	Basic dimensions(mm)					CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	ød	R	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	OFKT05T3-DF	5.26	12.7	3.97	4.4	0.5								○	★										
	OFKT05T3-DM	5.26	12.7	3.97	4.4	0.5			○					★	★		★								
	OFKT05T3-LH	5.26	12.7	3.97	4.4	0.5																		○	

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Chipbreaker selection for FMA04 milling inserts

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

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(m/min)	f(mm/z)	
					-DF	-DM
P	Low-carbon steel、Soft steel	≤180	YBM251	270 (220-350)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG202	270 (200-360)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBM351	220 (180-300)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG302	230 (170-350)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
	High-carbon steel、Alloy steel	180-280	YBM251	240 (200-320)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBG202	240 (180-350)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM351	200 (160-280)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG302	220 (150-330)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
	Alloy tool steel	280-350	YBM251	220 (180-300)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBG202	220 (170-340)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM351	180 (150-250)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG302	190 (130-300)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
M	Stainless steel	≤270	YBG202	160 (110-270)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBG302	140 (100-250)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM251	150 (120-250)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
K	Cast iron	180-250	YBG102	210 (120-300)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
N					-LH	
	Aluminium alloy	-	YD101	300-	0.15 (0.05-0.3)	

Case for FMA04

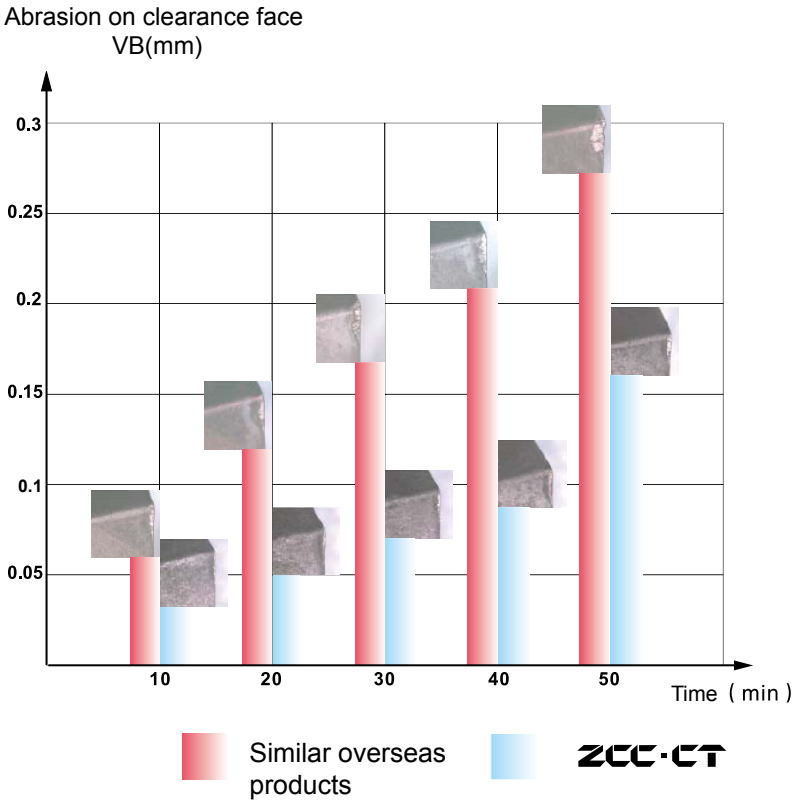
Workpiece material：42CrMo (HB280)
Cooling system: Dry cutting
Machine: Vertical machining center
Cutting parameters：
V_c=180m/min
a_p=1mm
fz=0.2mm/z
a_e=60mm

Tool type：FMA04-100-B32-OF05-07

Insert type/grade：OFKT05T3-DM/YBG202

Surface roughness of workpiece:
ZCC-CT:Ra1.2
Similar overseas products：
Ra1.6

●Comparison of insert abrasion



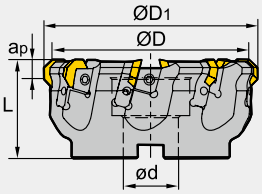
Face milling tools

Kr:45°

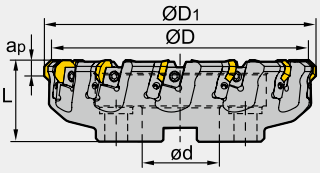
FMA04 P M K

Top clamping

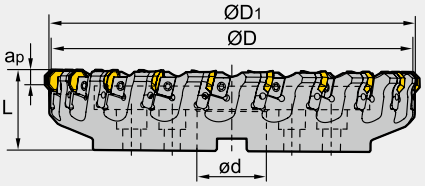
B-type coupling



C-type coupling



D-type coupling



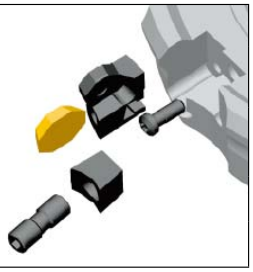
Specification of tools

Type		Stock		Basic dimensions(mm)					Number of teeth Z	Type of coupling	Weight (kg)
		R	L	ØD	ØD1	ød	L	apmax			
FMA04	**-125-B40-OF07-08**	▲	△	125	136	40	63	5	8	B	3.9
	-160-B40-OF07-10	▲	△	160	171	40	63	5	10	B	5.9
	-200-C60-OF07-12	▲	△	200	211	60	63	5	12	C	7.6
	-250-C60-OF07-16	▲	△	250	261	60	63	5	16	C	13.3
	-315-D60-OF07-20	▲	△	315	321	60	63	5	20	D	20.3

▲Stock available △Make-to-order

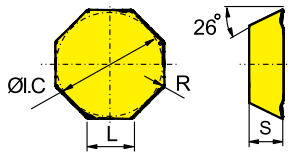
Spare parts

Diameter ØD	Locator	Wedge	Wedge screw	Locator screw	Wrench
Ø125-Ø315	LOF07R/L	W02R/L	DM8×21X	LOM5×15.1	WT20T WH40T



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



Good working condition Normal working condition Bad working condition

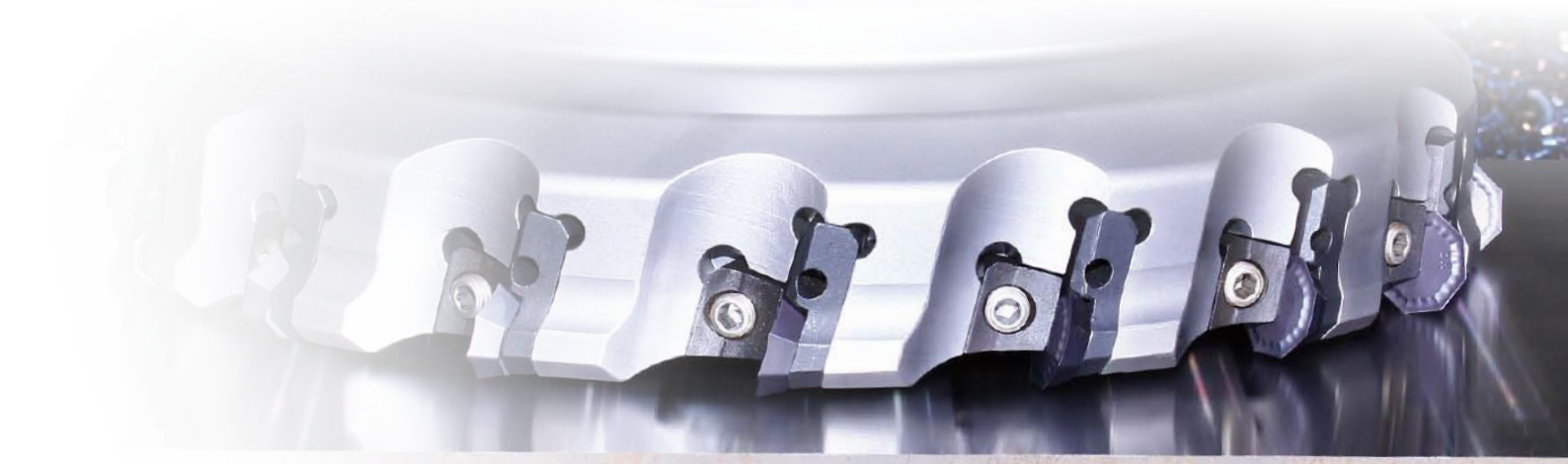
Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
K Cast iron						😐	☹	😊				😐	😊					😊	☹
N Non-ferrous metal																		😐	☹
S Heat resistant alloy, Ti alloy								😊	😐	😐									

Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	R	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	OFKR0704-DF	7.45	17.94	4.76	0.8			●	○					○										
	OFKR0704-DM	7.45	17.94	4.76	0.8	●		●	○	●		○	○	★		★								

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

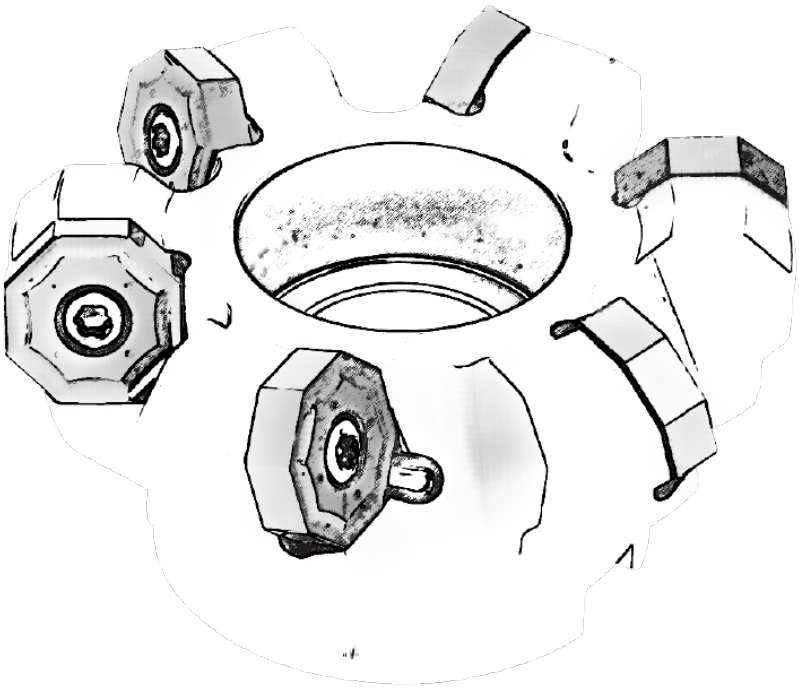
Chipbreaker selection for FMA04 milling inserts

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



Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(m/min)	f(mm/z)	
					-DF	-DM
P	Low-carbon steel、Soft steel	≤180	YBM251 YBM253 YBC301	270 (220-350)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG202	270 (200-360)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBM351	220 (180-300)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG302	230 (170-350)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
	High-carbon steel、Alloy steel	180-280	YBM251 YBM253 YBC301	240 (200-320)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBG202	240 (180-350)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM351	200 (160-280)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG302	220 (150-330)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
	Alloy tool steel	280-350	YBM251 YBM253 YBC301	220 (180-300)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBG202	220 (170-340)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM351	180 (150-250)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBG302	190 (130-300)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
M	Stainless steel	≤270	YBG202	160 (110-270)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBG302	140 (100-250)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM251	150 (120-250)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
			YBM253	230 (180-300)	0.15 (0.1-0.3)	0.2 (0.1-0.4)
K	Cast iron	180-250	YBG102	210 (120-300)	0.2 (0.1-0.3)	0.25 (0.1-0.4)
			YBD252	200 (150-250)	0.2 (0.1-0.3)	0.25 (0.1-0.4)

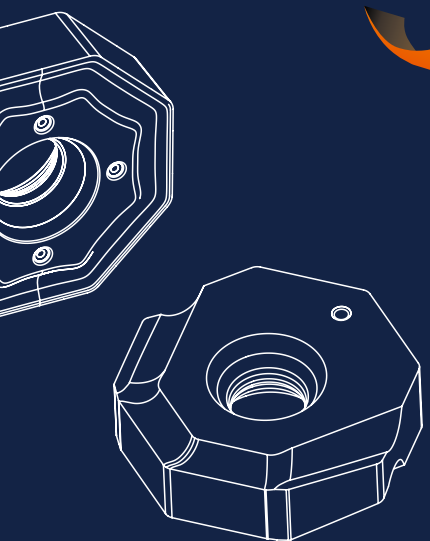


HURRICANE

FMA07 milling cutter series

New generation of high economy milling cutters

16 cutting edges
high economy
8×2=16



- Double negative rake angle structure, both axial and radial direction, super thick insert with outstanding toughness.
- Has good wiper capability, especially under the high feed rate, the wiper effect is better in comparison with similar tools.
- The unique hole design makes the insert clamp more secured.
- Tool diameters from 25 to 315mm and 3 geometries available, -PF, -PM and -W (wiper).

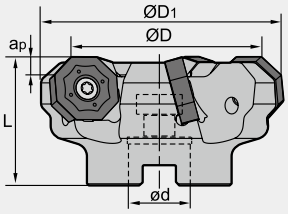
Face milling tools

Kr:45°

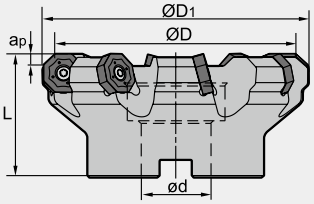
Face milling

FMA07 P M K

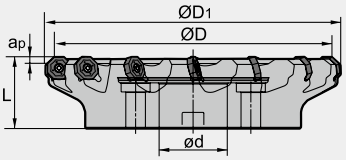
A-type coupling



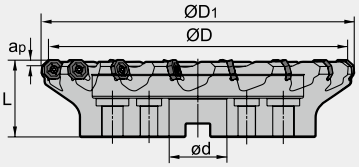
B-type coupling



C-type coupling



D-type coupling



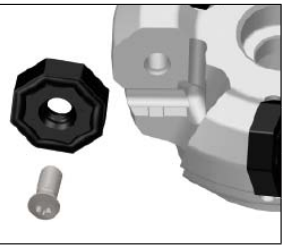
Specification of tools

type		Stock		Basic dimensions(mm)					Number of teeth Z	Style of coupling	Weight (kg)
		R	L	ØD	ØD1	Ød	L	apmax			
FMA07	**-050-A22-ON06-05**	▲	△	50	62	22	40	4	5	A	0.3
	-063-A22-ON06-06	▲	△	63	75	22	40	4	6	A	0.5
	-080-B27-ON06-07	▲	△	80	92	27	50	4	7	B	1.0
	-100-B32-ON06-08	▲	△	100	112	32	63	4	8	B	1.9
	-125-B40-ON06-09	▲	△	125	137	40	63	4	9	B	3.5
	-160-C40-ON06-11	▲	△	160	172	40	63	4	11	C	4.3
	-200-C60-ON06-13	▲	△	200	212	60	63	4	13	C	6.4
	-250-C60-ON06-15	▲	△	250	262	60	63	4	15	C	13.4
	-315-D60-ON06-17	▲	△	315	327	60	80	4	17	D	21.9
	-063-A22-ON08-05	▲	△	63	78	22	40	5	5	A	0.5
	-080-B27-ON08-06	▲	△	80	95	27	50	5	6	B	0.9
	-100-B32-ON08-07	▲	△	100	115	32	63	5	7	B	1.8
	-125-B40-ON08-08	▲	△	125	140	40	63	5	8	B	3.1
	-160-C40-ON08-10	▲	△	160	175	40	63	5	10	C	4.1
	-200-C60-ON08-12	▲	△	200	215	60	63	5	12	C	6.1
	-250-C60-ON08-14	▲	△	250	265	60	63	5	14	C	12.0
	-315-D60-ON08-16	▲	△	315	330	60	80	5	16	D	21.0

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Inserts	Insert screw	Wrench	
Ø50 -Ø315	ONHU06□□□□-PF/PM/W	I60M4×10	--	WT15IS
Ø63 -Ø315	ONHU08□□□□-PF/PM/W	I60M5×13	WT20IT	--



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

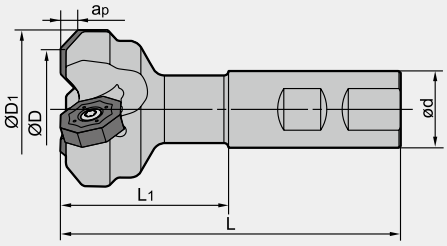
Face milling tools

Kr:45°

Face milling

Chamfering

FMA07 P M K



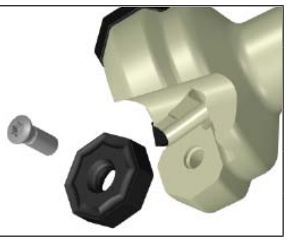
Specification of tools

type		Stock R	Stock L	Basic dimensions(mm) ØD	ØD1	Ød	L	L1	apmax	Number of teeth Z	Weight (kg)
FMA07	-025-XP20-ON06-02	▲	△	25	37	20	95	45	4	2	0.2
	-040-XP25-ON06-03	▲	△	40	52	25	106	50	4	3	0.4
	-032-XP25-ON08-02	▲	△	32	47	25	111	55	5	2	0.4
	-040-XP25-ON08-03	▲	△	40	55	25	111	55	5	3	0.5
	-050-XP25-ON08-04	▲	△	50	65	25	111	55	5	4	0.6

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Inserts	Insert screw	Wrench	
Ø25 -Ø40	ONHU06□□□□-PF/PM/W	I60M4×10	--	WT15IS
Ø32 -Ø50	ONHU08□□□□-PF/PM/W	I60M5×13	WT20IT	--



Case for FMA07

Tool type：FMA07-100-B32-ON08-07

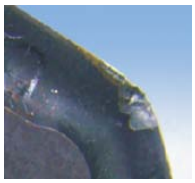
Insert type/grade：ONHU08T508-PM/YBD152

Part: Gear pump body
Workpiece material：HT400
Hardness：HRC22
Cooling system: Dry cutting
Machine: Vertical machining center
Cutting parameters：V_c=267m/min
a_p=1.5mm
f_z=0.42mm/z
a_e=80mm
Milling style: Down milling
Area of machining: End surface

●Comparison of insert abrasion

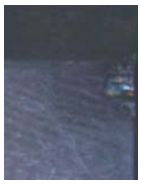
Abrasion on rake face

ZCC-CT


similar product of company A

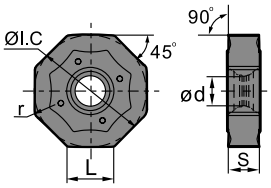
Abrasion on clearance face

ZCC-CT


similar product of company A

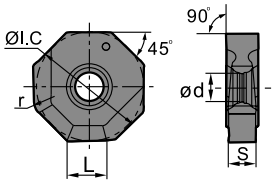
Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



Workpiece material		Good working condition	Normal working condition	Bad working condition
P	Steel			
M	Stainless steel			
K	Cast iron			
N	Non-ferrous metal			
S	Heat resistant alloy, Ti alloy			

Insert shape	Type	Basic dimensions(mm)					CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	ød	r	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	ONHU060408-PF	6.58	15.875	4.76	4.4	0.83		★				★			★										
	ONHU08T508-PF	8.37	20.2	5.77	5.3	0.83		★				★			★										
	ONHU060408-PM	6.58	15.875	4.76	4.4	0.83		★		★		★													
	ONHU08T508-PM	8.37	20.2	5.79	5.3	0.83		★		★		★													
	ONHU08T508-W	6.9	20.5	6.00	5.3	0.80		★				★		★											



★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V_c(m/min)	f_z(mm/z)	a_{pmax}(mm)	
						ONHU06□□□□-PF/PM	ONHU08□□□□-PF/PM/W
P	Low-carbon steel、Soft steel	≤180	YBG102 YBM253 YBG202 YBC302	270 (220-350)	0.2 (0.1-0.4)	4	5
P	High-carbon steel、Alloy steel	180-280	YBG102 YBM253 YBG202 YBC302	260 (200-320)	0.2 (0.1-0.4)	4	5
P	Alloy tool steel	280-350	YBG102 YBM253 YBG202 YBC302	240 (180-300)	0.2 (0.1-0.4)	4	5
M	Stainless steel	≤270	YBM253	230(180-300)	0.2(0.1-0.3)	4	5
K	Cast iron	180-250	YBD152	270 (150-300)	0.4 (0.1-0.5)	4	5

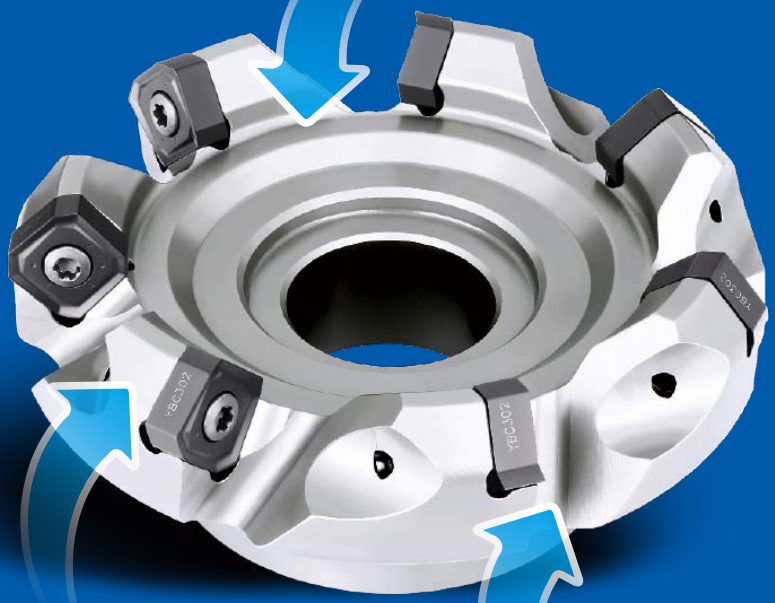
Note: The recommended feed rate per tooth for inserts with wiper fz≤0.25mm/z.

FMA11 Series

With outstanding economy and high performance

Kr:45°

PVD coating of cutter body provides outstanding corrosion resistance and heat resistance for longer tool life

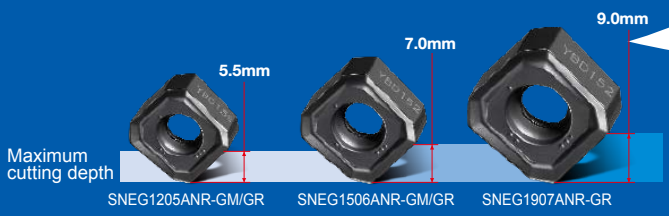


Unique geometry with large rake angle for excellent chip evacuation and low cutting force

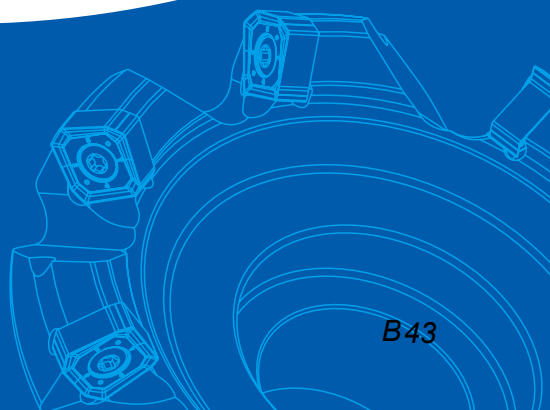
Double-negative rake angle gives exceptional impact resistance.

Optimized pitch and chip pocket ensure smooth chip evacuation and higher cutting efficiency.

Inserts with wiper ensure good surface finish.



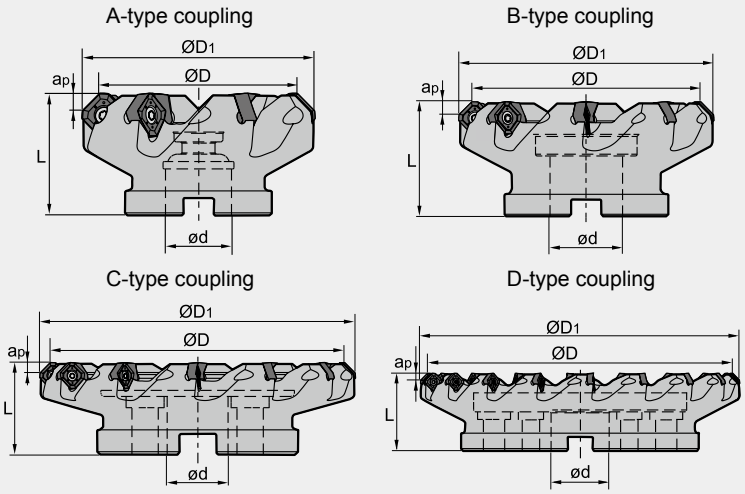
Complete range of insert sizes and geometries for various depths of cut and machining conditions



Face milling tools

Kr:45°

FMA11 P K



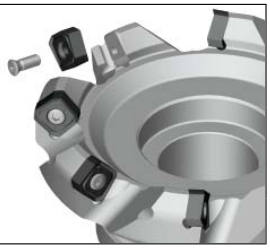
Specification of tools

type		Stock	Basic dimensions(mm)					Number of teeth Z	Style of coupling	Weight (kg)
		R	ØD	ØD1	Ød	L	apmax			
FMA11	**-063-A22-SN15-05**	▲	63	77.4	22	40	7.0	5	A	0.56
	-080-A27-SN15-06	▲	80	94.4	27	50	7.0	6	A	1.06
	-100-B32-SN15-07	▲	100	114.4	32	50	7.0	7	B	1.47
	-125-B40-SN15-08	▲	125	139.4	40	63	7.0	8	B	2.70
	-160-C40-SN15-10	▲	160	174.4	40	63	7.0	10	C	3.92
	-200-C60-SN15-12	▲	200	214.4	60	63	7.0	12	C	5.46
	-250-C60-SN15-14	▲	250	264.4	60	63	7.0	14	C	11.26
	-315-D60-SN15-18	▲	315	329.4	60	80	7.0	18	D	20.00
	-063-A22-SN12-05	▲	63	74.47	22	40	5.5	5	A	0.55
	-080-A27-SN12-06	▲	80	91.47	27	50	5.5	6	A	1.14
	-100-B32-SN12-07	▲	100	111.47	32	50	5.5	7	B	1.42
	-125-B40-SN12-08	▲	125	136.47	40	63	5.5	8	B	2.86
	-160-C40-SN12-10	▲	160	171.47	40	63	5.5	10	C	4.06
	-125-B40-SN19-07	▲	125	142.63	40	63	9.0	7	B	3.00
	-160-C40-SN19-09	▲	160	167.63	40	63	9.0	9	C	4.25
	-200-C60-SN19-11	▲	200	217.63	60	63	9.0	11	C	6.18
	-250-C60-SN19-13	▲	250	267.63	60	63	9.0	13	C	11.55
	-315-D60-SN19-16	▲	315	332.63	60	80	9.0	16	D	20.90

▲Stock available △Make-to-order

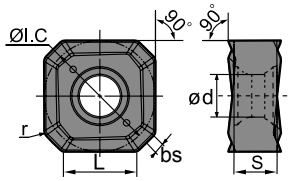
Spare parts

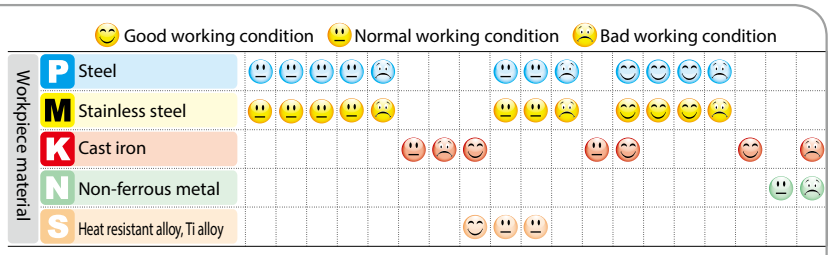
Diameter ØD	Inserts	Insert screw	Wrench	
Ø63 -Ø160	SNEG1205ANR-GR	I60M3.5×10	--	WT15IS
Ø63 -Ø315	SNEG1506ANR-GR	I60M5×13	WT20IT	--
Ø125 -Ø315	SNEG1907ANR-GR	I43M6×16	WT25IT	--



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





Insert shape	Type	Basic dimensions(mm)						CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	bs	ød	r	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	SNEG1205ANR-GM	7.6	12.0	4.76	1.05	4.6	0.8		★		★		★				★									
	SNEG1506ANR-GM	9.4	15.0	5.54	1.30	5.5	0.9		★		★		★				★									
	SNEG1506ANR-GR	9.4	15.0	5.54	1.30	5.5	0.9		★		★		★				★									
	SNEG1907ANR-GR	12.1	19.0	7.0	1.67	7.2	1.0		★		★		★				★									

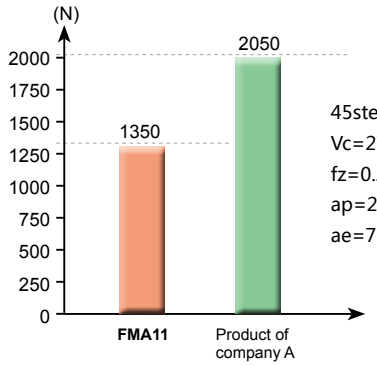
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(m/min)	f(mm/z)	a_{pmax}(mm)
P	Low-carbon steel、Soft steel	≤180	YBG205 YBM253 YBC302	270 (220-350)	0.2 (0.1-0.4)	5.5-9.0
P	High-carbon steel、Alloy steel	180-280	YBG205 YBM253 YBC302	260 (200-320)	0.2 (0.1-0.4)	5.5-9.0
P	Alloy tool steel	280-350	YBG205 YBM253 YBC302	240 (180-300)	0.2 (0.1-0.4)	5.5-9.0
K	Cast iron	180-250	YBD152	270 (150-300)	0.4(0.1-0.5)	5.5-9.0

Case for FMA11

comparison of cutting force



45steel Ø125 tool
Vc=270m/min
fz=0.2mm/z
ap=2mm
ae=75mm

Workpiece: HT300
Operation: Face milling
Tool: FMA11-125-B40-SN12-08
Inser: SNEG1205ANR-GM/YBD152

Cutting data: Vc=300m/min,
fz=0.3mm/z,
a_p=3mm, a_e=80mm

Tool life comparison

	Rake face	Clearance face	Wiper
FMA11 After machining 3 pcs, normal wear.			
Product of ompany A After machining 2 pcs, severe wear.			

FMA12 Series

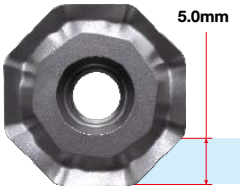
Kr:45°

High Performance Face Mill with 16 edges for outstanding economy

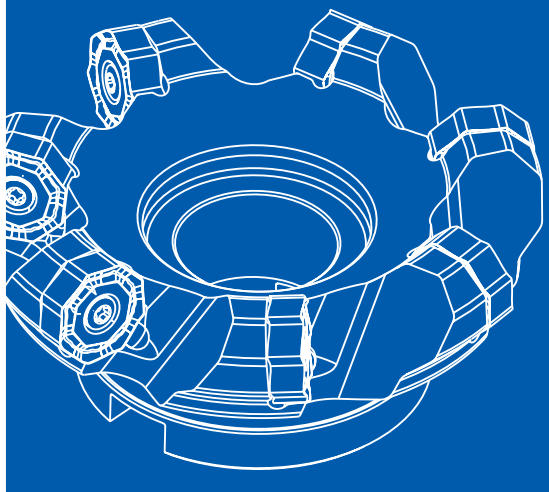
Unique 3-dimentional edge

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.

8 × 2=16edges



ONHU08T624R-GM

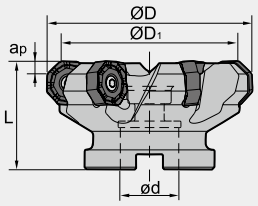


Face milling tools

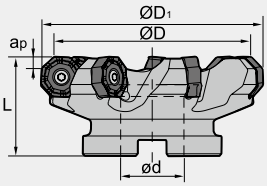
Kr:45°

FMA12 P K

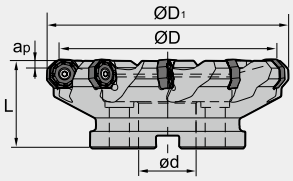
A-type coupling



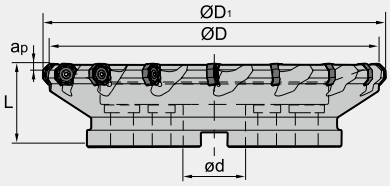
B-type coupling



C-type coupling



D-type coupling



Specification of tools

type		Stock	Basic dimensions(mm)					Number of teeth Z	Style of coupling	Weight (kg)
			ØD	ØD1	Ød	L	apmax			
FMA12	**-080-A27-ON08 -06**	▲	80	95	27	50	5.0	6	A	0.97
	-100-B32-ON08 -07	▲	100	115	32	50	5.0	7	B	1.28
	-125-B40-ON08-08	▲	125	140	40	63	5.0	8	B	2.59
	-160-C40-ON08-10	▲	160	175	40	63	5.0	10	C	4.10
	-200-C60-ON08-12	▲	200	215	60	63	5.0	12	C	5.68
	-250-C60-ON08-14	▲	250	265	60	63	5.0	14	C	11.90
	-315-D60-ON08-18	▲	315	330	60	80	5.0	18	D	20.41

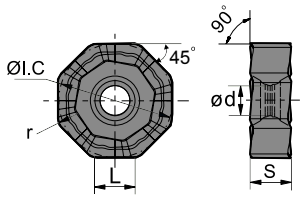
▲Stock available △Make-to-order

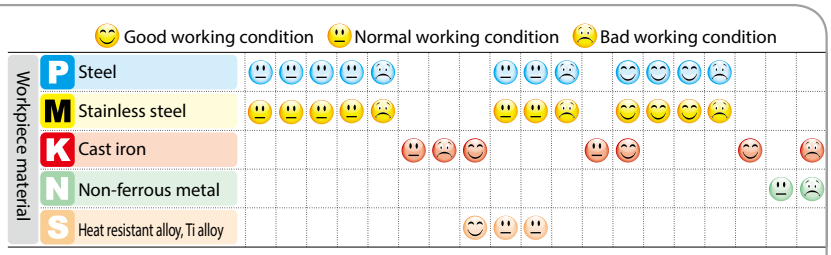
Spare parts

Diameter ØD	Inserts	Insert screw	Wrench
Ø80-Ø315	ONHU08T624R-GM	I60M5X13	WT20IT

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





Insert shape	Type	Basic dimensions(mm)					CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	ød	r	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	ONHU08T624R-GM	6.38	20.2	6.3	5.3	2.4				★		★				★									

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Note：ONHU08T508-PF、ONHU08T508-PM also compatible.

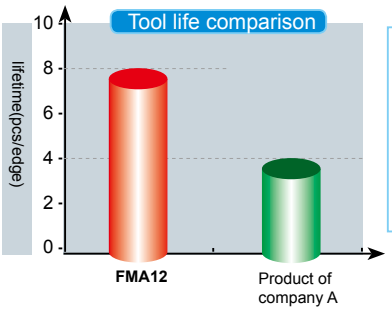
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				Cutting speed (m/min)	Feed per tooth (mm)	a_{pmax}(mm)
P	Low carbon steel	≤180	YBM253 YBG205	270(220-350)	0.2(0.1-0.3)	5
P	Alloy steel	180-350	YBM253 YBG205	240(180-320)	0.15(0.1-0.3)	5
M	Stainless steel	≤270	YBM253 YBG205	230 (180-300) 160 (110-270)	0.15 (0.1-0.3)	5
K	Cast iron	180-260	YBD152	270(150-300)	0.2(0.1-0.3)	5

Case for FMA12

Case (Cast iron machining)

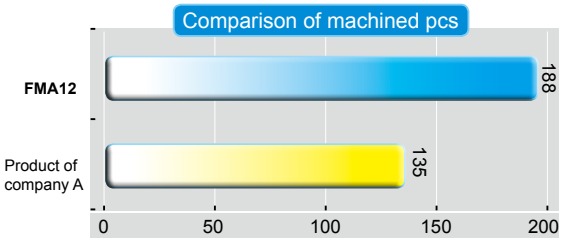
Workpiece: Cylinder
Workpiece material: Gray cast iron (HB250)
Machining location: Milling 4 sides
Tool: FMA12-160-C40-ON08-10
Insert: ONHU08T624R-GM/YBD152
Cutting data: V_c=150m/min，f_z=0.25mm/z，
a_p=3mm，a_e=160mm
System of cooling: External



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

Case (Steel machining)

A36(HB180~220)
Operation: Face milling
Tool: FMA12-200-C60-ON08-12
nsert: ONHU08T624R-GM/YBM253
Cutting data: V_c=250m/min，f_z=0.15mm/z，
a_p=3mm，a_e=125mm

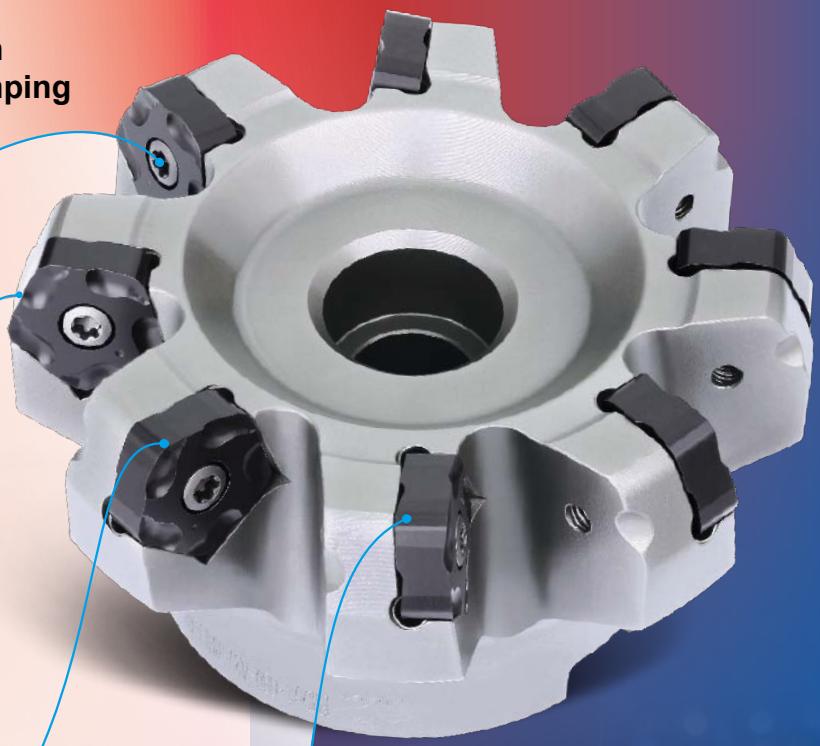


High strength screw clamping

67° approach angle

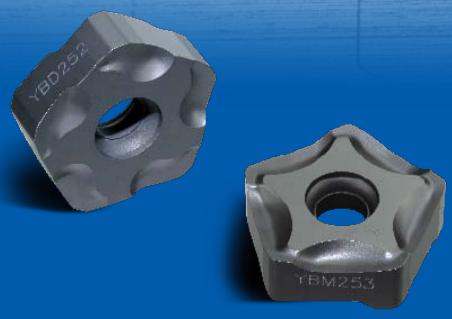
Wiper

Each insert has 10 cutting edges



WHIRLWIND FMD02 milling cutter series

- New generation of milling cutter for face miling mainly in automotive industry.
- Open chipbreaker and large rake angle design, suitable for machines of different power.
- Wiper insert guarantees stable good surface quality at different feed rates.
- The high precision insert pocket design, ensures high accuracy insert positioning and strong clamping of inserts for a stable machining process.
- The Pentagon insert with 10 cutting edges and offers outstanding machining economy.



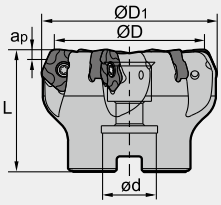
Face milling tools

Kr:67°

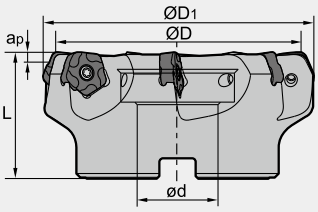
Face milling

FMD02 K

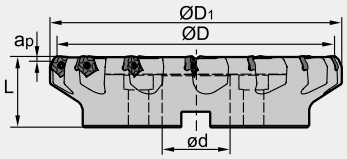
A-type coupling



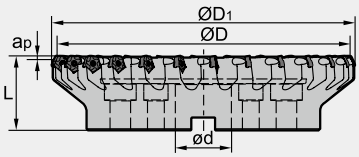
B-type coupling



C-type coupling



D-type coupling



Specification of tools

type		Stock R	Stock L	Basic dimensions(mm) ØD	ØD1	Ød	L	apmax	Number of teeth Z	Style of coupling	Weight (kg)
FMD02 Coarse pitch (unequal pitch)	**-050-A22-PN11-04**	▲	△	50	60.1	22	50	5/7.5	4	A	0.6
	-063-A22-PN11-05	▲	△	63	73.1	22	50	5/7.5	5	A	0.8
	-080-A27-PN11-06	▲	△	80	90.1	27	50	5/7.5	6	A	1.1
	-100-B32-PN11-07	▲	△	100	110.1	32	50	5/7.5	7	B	1.8
	-125-B40-PN11-08	▲	△	125	135.1	40	63	5/7.5	8	B	2.9
	-160-B40-PN11-10	▲	△	160	170.1	40	63	5/7.5	10	B	5.6
	-200-C60-PN11-12	▲	△	200	210.1	60	63	5/7.5	12	C	7.9
	-250-C60-PN11-14	▲	△	250	260.1	60	63	5/7.5	14	C	13.4
Close pitch	**-050-A22-PN11-05**	▲	△	50	60.1	22	50	5/7.5	5	A	0.6
	-063-A22-PN11-06	▲	△	63	73.1	22	50	5/7.5	6	A	0.9
	-080-A27-PN11-08	▲	△	80	90.1	27	50	5/7.5	8	A	1.2
	-100-B32-PN11-10	▲	△	100	110.1	32	50	5/7.5	10	B	1.9
	-125-B40-PN11-12	▲	△	125	135.1	40	63	5/7.5	12	B	3.2
	-160-B40-PN11-14	▲	△	160	170.1	40	63	5/7.5	14	B	6.4
	-200-C60-PN11-16	▲	△	200	210.1	60	63	5/7.5	16	C	8.5
	-250-C60-PN11-18	▲	△	250	260.1	60	63	5/7.5	18	C	18.0
	-315-D60-PN11-26	▲	△	315	325.1	60	80	5/7.5	26	D	24.5

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Insert screw	Wrench
Ø50 -Ø315	I60M4×10	WT15IS

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

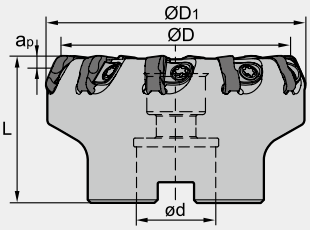
Face milling tools

Kr:67°

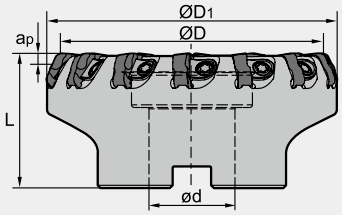
Face milling

FMD02 K

A-type coupling



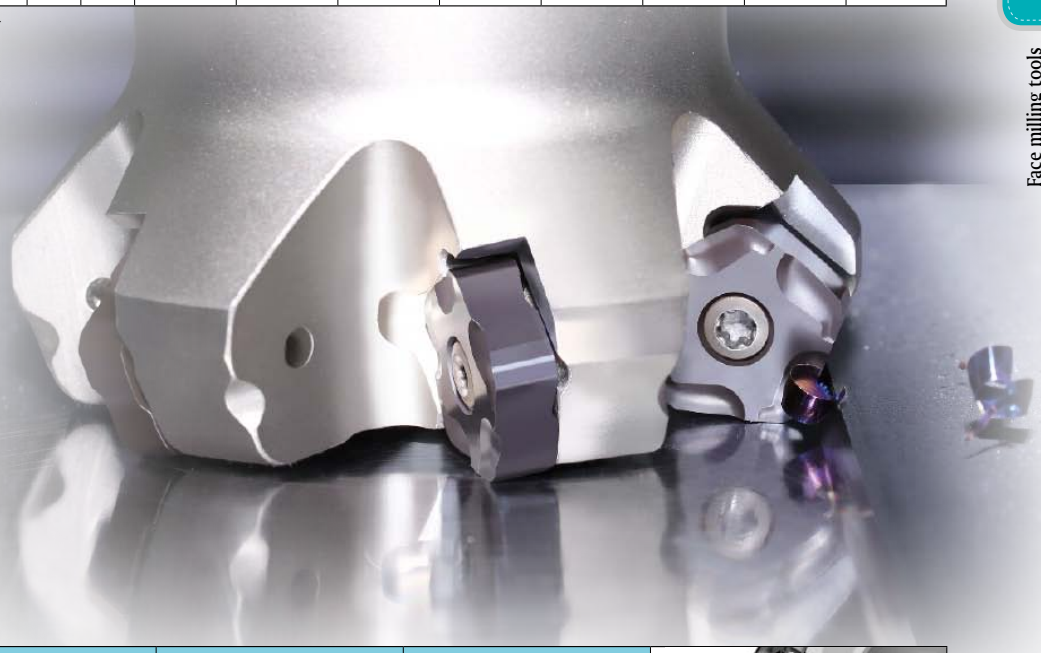
B-type coupling



Specification of tools

type		Stock		Basic dimensions(mm)					Number of teeth Z	Style of coupling	Weight (kg)
		R	L	ØD	ØD1	Ød	L	apmax			
FMD02 Extra close pitch	**-080-A27-PN11-10**	▲	△	80	90.1	27	50	5/7.5	10	A	1.3
	-100-B32-PN11-14	▲	△	100	110.1	32	50	5/7.5	14	B	1.6
	-125-B40-PN11-18	▲	△	125	135.1	40	63	5/7.5	18	B	3.2
	-160-B40-PN11-22	▲	△	160	170.1	40	63	5/7.5	22	B	5.8

▲Stock available △Make-to-order

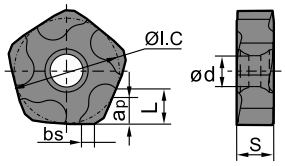


Spare parts

Diameter ØD	Wedge	Screw	Wrench
Ø80 -Ø160	W18N	DM6×20A	WT15IT

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



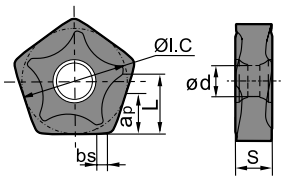
Good working condition · Normal working condition · Bad working condition

Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	Normal	Normal	Normal	Normal	Bad			Normal	Normal	Bad		Good	Good	Good	Bad				
M Stainless steel	Normal	Normal	Normal	Normal	Bad			Normal	Normal	Bad		Good	Good	Good	Bad				
K Cast iron						Normal	Bad	Good				Normal	Good				Good		Bad
N Non-ferrous metal																		Normal	Bad
S Heat resistant alloy, Ti alloy								Good	Normal	Normal									

Insert shape	Type	L	ØI.C	S	ød	bs	apmax	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
		Basic dimensions(mm)						CVD Coating							PVD Coating						Cermet		Cemented carbide			
	PNEG110512R-CF	5.4	15.875	5.56	4.64	1.6	5						●													
	PNEG110512L-CF	5.4	15.875	5.56	4.64	1.6	5						●													
	PNEG110512R-CM	5.4	15.875	5.56	4.64	1.6	5						●													
	PNEG110512L-CM	5.4	15.875	5.56	4.64	1.6	5						●													
	PNEG110512R-CR	5.4	15.875	5.56	4.64	1.6	5						●													
	PNEG110512L-CR	5.4	15.875	5.56	4.64	1.6	5						●													

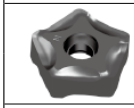
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Selection of inserts



Good working condition · Normal working condition · Bad working condition

Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	Normal	Normal	Normal	Normal	Bad			Normal	Normal	Bad		Good	Good	Good	Bad				
M Stainless steel	Normal	Normal	Normal	Normal	Bad			Normal	Normal	Bad		Good	Good	Good	Bad				
K Cast iron						Normal	Bad	Good				Normal	Good				Good		Bad
N Non-ferrous metal																		Normal	Bad
S Heat resistant alloy, Ti alloy								Good	Normal	Normal									

Insert shape	Type	L	ØI.C	S	ød	bs	apmax	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
		Basic dimensions(mm)						CVD Coating							PVD Coating						Cermet		Cemented carbide			
	PNEG110512R-PF	7.5	15.875	5.56	4.64	1.4	7.5		★		●															
	PNEG110512L-PF	7.5	15.875	5.56	4.64	1.4	7.5		★		●															
	PNEG110512R-PM	7.5	15.875	5.56	4.64	1.4	7.5		★		●															
	PNEG110512L-PM	7.5	15.875	5.56	4.64	1.4	7.5		★		●															
	PNEG110512R-PR	7.5	15.875	5.56	4.64	1.4	7.5		★		●															
	PNEG110512L-PR	7.5	15.875	5.56	4.64	1.4	7.5		★		●															

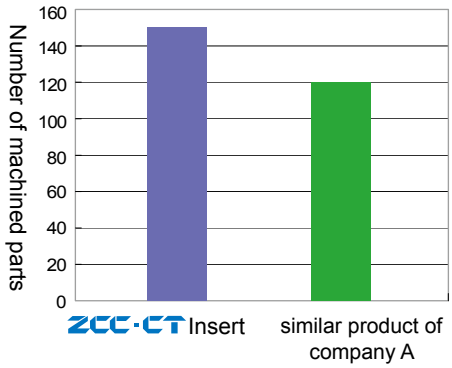
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

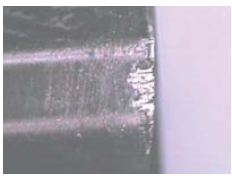
Workpiece material		Hardness HB	Insert grade	Cutting parameters				
				V(m/min)	f(mm/z)			a_{pmax}(mm)
					PF	PM	PR	
P	Low-carbon steel、Soft steel	≤180	YBM253 YBC302	270 (220-350)	0.15 (0.1-0.2)	0.2(0.1-0.3)	0.3(0.2-0.4)	7.5
P	High-carbon steel、Alloy steel	180-280	YBM253 YBC302	260 (200-320)	0.15 (0.1-0.2)	0.2(0.1-0.3)	0.3(0.2-0.4)	7.5
P	Alloy tool steel	280-350	YBM253 YBC302	240 (180-300)	0.15 (0.1-0.2)	0.2(0.1-0.3)	0.3(0.2-0.4)	7.5
K	Cast iron	180-250	YBD152	270 (150-300)	CF	CM	CR	5
					0.15(0.1-0.2)	0.2(0.1-0.3)	0.3(0.2-0.4)	

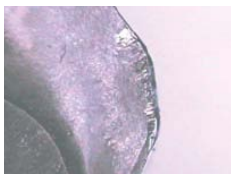
Case for FMD02

Tool type	FMD02-100-B32-PN11-10 ZCC-CT	similar product of company A
Insert type/ grade	PNEG110512R-CR/YBD152 (10-cutting-edge inserts without clearance angle)	
Cutting parameters	D=100mm a_p=3~5mm Vc=243m/min f_z=0.15mm/z T=145~155 piece	D=100mm a_p=3~5mm Vc=243m/min f_z=0.12mm/z T=120~133 piece

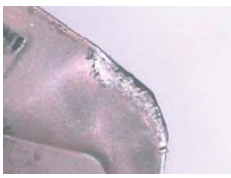


● Comparison of insert abrasion





ZCC-CT insert after 80 minutes machining



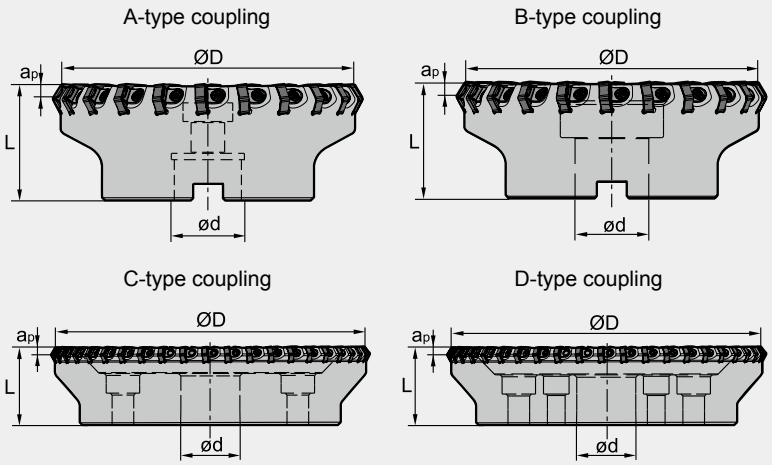
Insert of company A after 48 minutes machining

Face milling tools

Kr:55°

Face milling

FMD02 K



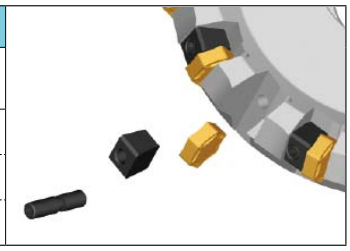
Specification of tools

Type		Stock R	Stock L	Basic dimensions(mm) ØD	ød	L	apmax	Number of teeth Z	Type of coupling	Weight (kg)
FMD02	**-080-A27-HN09-10**	▲	△	80	27	50	6	8	A	1.1
	-100-B32-HN09-14	▲	△	100	32	63	6	10	B	2.6
	-125-B40-HN09-18	▲	△	125	40	70	6	14	B	3.7
	-160-B40-HN09-22	▲	△	160	40	63	6	18	B	5.6
	-200-C60-HN09-28	▲	△	200	60	63	6	22	C	6.3
	-250-C60-HN09-36	▲	△	250	60	63	6	28	C	10.3
	-315-D60-HN09-44	▲	△	315	60	63	6	32	D	21.7

▲Stock available △Make-to-order

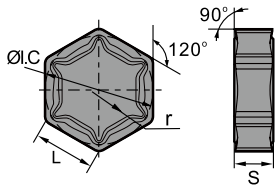
Spare parts

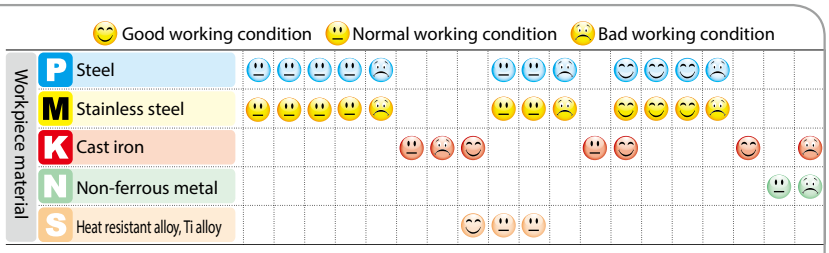
Diameter ØD	Wedge	Wedge screw	Wrench
Ø80-Ø315	W18N	DM6×20A	WT15IT



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	r	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	HNEX090512-DF	9.16	15.875	5.56	1.2						★													
	HNEX090512-DM	9.16	15.875	5.56	1.2						★													
	HNEX090512-DR	9.16	15.875	5.56	1.2						○	★												

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Chipbreaker selection for FMD02 milling inserts

Classification \ Function	For finishing	For semi-finishing	For roughing
K	-DF	-DM	-DR

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(m/min)	f(mm/z)		
					-DF	-DM	-DR
K	Cast iron	180-250	YBD152	180 (110-250)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3(0.2-0.5)
			YBD252	130 (110-200)	0.2(0.1-0.2)	0.25 (0.1-0.3)	0.3(0.2-0.5)

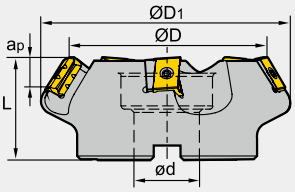
Face milling tools

Kr:60°

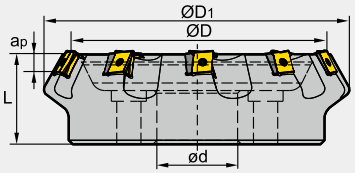
Face milling

FMD03 P M K

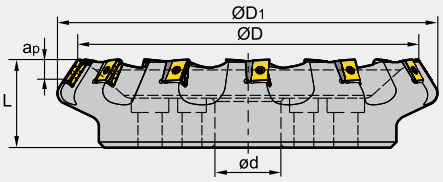
B-type coupling



C-type coupling



D-type coupling



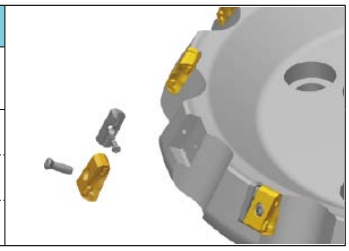
Specification of tools

type		Stock R	Stock L	Basic dimensions(mm) ØD	ØD1	Ød	L	apmax	Number of teeth Z	Applicable inserts	Style of coupling	Weight (kg)
FMD03	-125-B40-LN20-06	▲	△	125	153	40	63	12	6	LNKT2007DN-ZR	B	4.5
	-160-C40-LN20-08	▲	△	160	187	40	63	12	8		C	6.9
	-200-C60-LN20-10	▲	△	200	227	60	70	12	10		C	10.5
	-250-C60-LN20-12	▲	△	250	276	60	70	12	12		C	13.4
	-315-D60-LN20-15	▲	△	315	339	60	80	12	15		D	26.2
	-125-B40-LN25-05	▲	△	125	154	40	63	17	5	LNKT2510-ZR	B	4.5
	-160-C40-LN25-06	▲	△	160	189	40	63	17	6		C	6.9
	-200-C60-LN25-08	▲	△	200	229	60	70	17	8		C	10.5
	-250-C60-LN25-10	▲	△	250	278	60	70	17	10		C	16.7
	-315-D60-LN25-12	▲	△	315	346	60	80	17	12		D	27.3
	-400-D60-LN25-16	▲	△	400	427	60	80	17	16		D	47.1

▲Stock available △Make-to-order

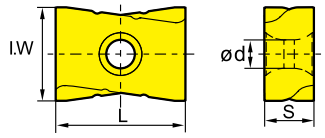
Spare parts

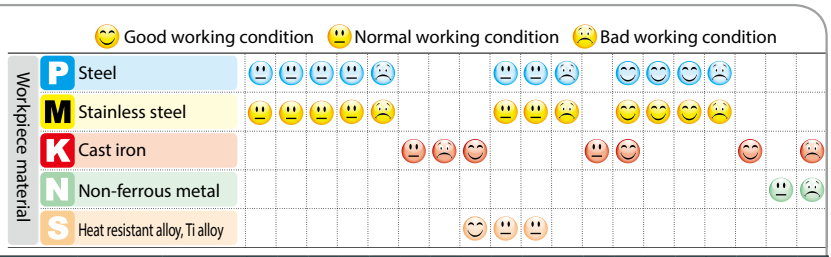
Inserts	Shim	Shim screw	Insert screw	Wrench	
LNKT2007DN-ZR	LLN20R-ZR	I60M3×7	I60M4×15	WT15IS	WT10IS
LNKT2510-ZR	LLN25R-ZR	I60M3.5×10.4	I60M5×17	WT20IT	WT15IS



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	I.W	S	ød	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	LNKT2007DN-ZR	20	17	7.94	4.6					○	○					★								
	LNKT2510-ZR	25	18	9.525	5.5					○		○				★								

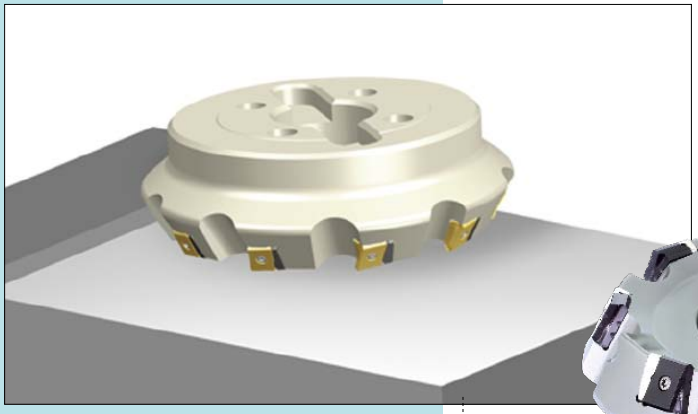
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBG302	180 (150-300)	0.5 (0.2-0.8)
			YBM351	180 (150-300)	0.5 (0.2-0.8)
	High-carbon steel、Alloy steel	180-280	YBG302	150 (120-280)	0.5 (0.2-0.8)
			YBM351	140 (120-280)	0.5 (0.2-0.8)
	Alloy tool steel	280-350	YBG302	120 (80-250)	0.45 (0.2-0.6)
			YBM351	100 (80-250)	0.45 (0.2-0.6)
M	Stainless steel	≤270	YBG302	120 (80-200)	0.45 (0.2-0.6)
			YBM351	100 (80-200)	0.45 (0.2-0.6)
K	Cast iron	180-250	YBD152	220 (150-300)	0.5 (0.2-0.8)
			YBD252	210 (150-300)	0.5 (0.2-0.8)
			YBG302	200 (150-300)	0.5 (0.2-0.8)

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

Case for FMD03

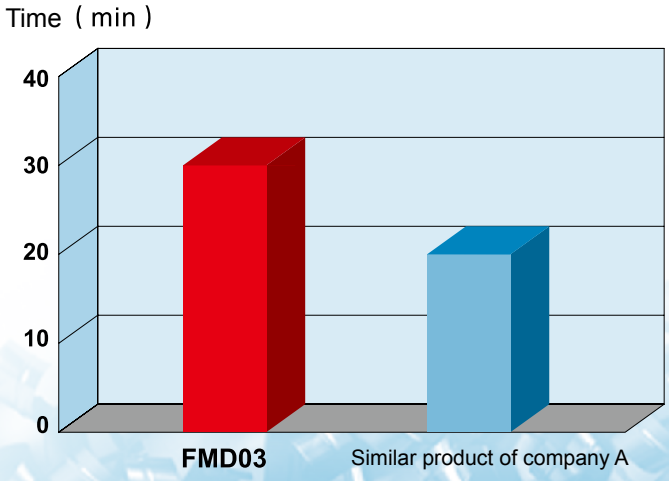


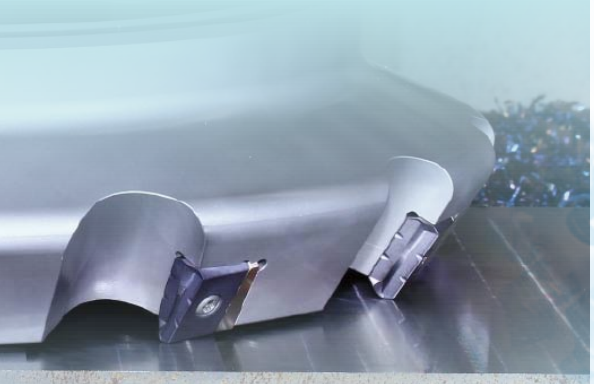
Workpiece material: ASTM A743
CA-6NM(HB200)
Cooling system: Dry cutting
Machine: NC floor type boring and milling machine, spindle power⩾30KW
Cutting parameters: Vc=120m/min
a_p=12mm
f_z=0.55mm/z
a_e=230mm

Tool type: FMD03-315-D60-LN25-12

Insert type/grade: LNKT2510-ZR/YBG302

●Comparison of machining time





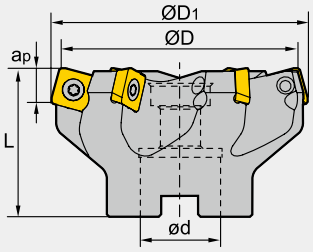
Face milling tools

Kr:75°

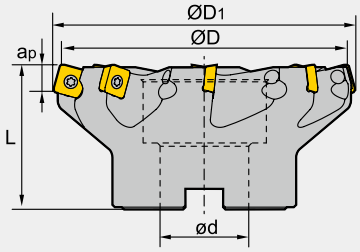
Face milling

FME02 P M K

A-type coupling



B-type coupling



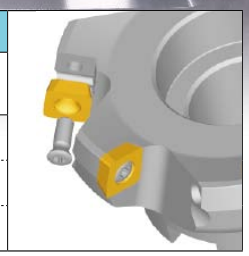
Specification of tools

Type		Stock	Basic dimensions(mm)					Number of teeth Z	Type of coupling	Weight (kg)
			ØD	ØD1	ød	L	$a_p$max			
FME02	**-050-A22-SP12-04**	△	50	54	22	40	6	4	A	0.3
	-063-A22-SP12-05	△	63	66	22	50	6	5	A	0.6
	-080-A27-SP12-06	△	80	83	27	50	6	6	A	0.9
	-100-B32-SP12-07	△	100	103	32	50	6	7	B	1.4
	-125-B40-SP12-08	△	125	128	40	63	6	8	B	2.5

▲Stock available △Make-to-order

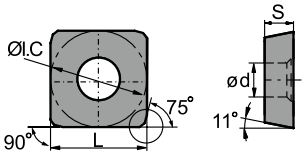
Spare parts

Diameter ØD	Insert screw	Wrench
Ø50-Ø125	I60M5×13.2	WT20IS



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material																								
P Steel	😐	😐	😐	😐	☹				😐	😐	☹		😊	😊	😊	☹								
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹		😊	😊	😊	☹								
K Cast iron						😐	☹	😊				😐	😊						😊		☹			
N Non-ferrous metal																				😐	☹			
S Heat resistant alloy, Ti alloy								😊	😐	😐														

Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	ød	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	SPKW1204EDFR	12.7	12.7	4.76	5.56									○										
	SPKW1204EDSR	12.7	12.7	4.76	5.56									○										
	SPKT1204EDR	12.7	12.7	4.76	5.56									★										

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Cutting edge treatment selection for FME02 milling inserts

Classification \ Function	For finishing	For semi-finishing	For roughing
P	EDFR	EDR	EDSR
M	EDFR	EDR	
K	EDFR	EDR	

Recommended cutting parameters

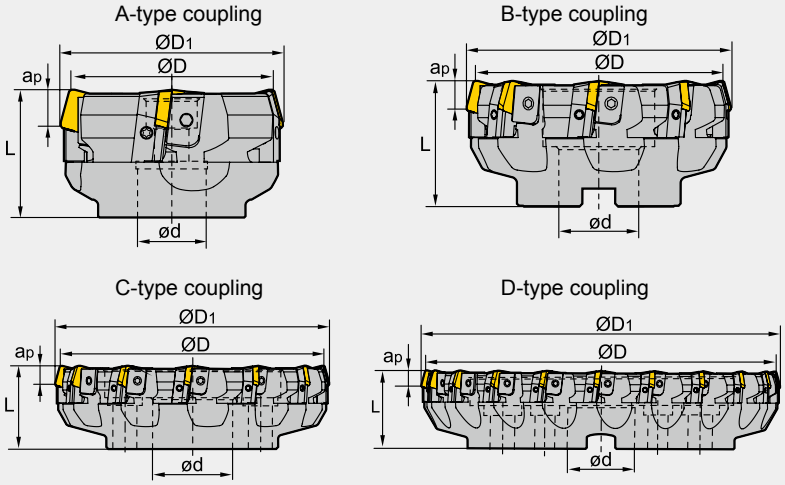
Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBG202	270(200-360)	0.2 (0.1-0.3)
	High-carbon steel、Alloy steel	180-280	YBG202	240 (180-350)	0.2 (0.1-0.3)
	Alloy tool steel	280-350	YBG202	220 (170-340)	0.2 (0.1-0.3)
M	Stainless steel	≤270	YBG202	160 (110-270)	0.2 (0.1-0.3)
K	Cast iron	180-250	YBG202	160 (120-200)	0.2 (0.1-0.3)

Face milling tools

Kr:75°

Face milling

FME03 P M K



Specification of tools

Type		Stock R	Stock L	Basic dimensions(mm) ØD	ØD1	ød	L	apmax	Number of teeth Z	Type of coupling	Weight (kg)
FME03	-080-A27-SP12-04	▲	△	80	84	27	50	6	4	A	1.1
	-100-B32-SP12-06	▲	△	100	104	32	50	6	6	B	1.9
	-125-B40-SP12-08	▲	△	125	129	40	63	6	8	B	3.5
	-160-B40-SP12-10	▲	△	160	164	40	63	6	10	B	5.7
	-200-C60-SP12-12	▲	△	200	203	60	63	6	12	C	8.2
	-250-C60-SP12-16	▲	△	250	253	60	63	6	16	C	13.8
	-315-D60-SP12-20	▲	△	315	318	60	70	6	20	D	23.5
	-080-A27-SP15-04	▲	△	80	84	27	50	8	4	A	1.0
	-100-B27-SP15-06	▲	△	100	104	27	50	8	6	B	1.8
	-125-B40-SP15-08	▲	▲	125	129	40	63	8	8	B	3.3
	-160-B40-SP15-10	▲	▲	160	164	40	63	8	10	B	5.4
	-200-C60-SP15-12	▲	▲	200	204	60	63	8	12	C	7.9
	-250-C60-SP15-16	▲	▲	250	253	60	63	8	16	C	13.6
	-315-D60-SP15-20	▲	▲	315	318	60	70	8	20	D	23.1

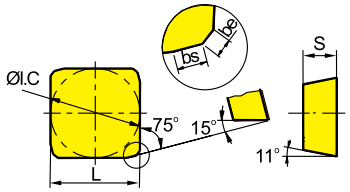
▲Stock available △Make-to-order

Spare parts

Diameter ØD	Inserts	Locator	Wedge	Wedge Screw	Locator screw	Wrench
Ø80-Ø100	SP12	LSP12R/L	W04R/L	WM8×17	LOM5×15.1	WT20T WT25T
Ø125-Ø315				WM8×22		
Ø80-Ø315	SP15	LSP15R/L	W04R/L	WM8×22		

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



Good working condition · Normal working condition · Bad working condition

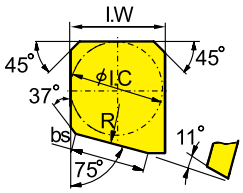
Workpiece material																								
P Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹							
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹							
K Cast iron						😐	☹	😊				😐	😊					😊		☹				
N Non-ferrous metal																					😐	☹		
S Heat resistant alloy, Ti alloy								😊	😐	😐														

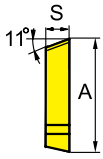
Insert shape	Type	Basic dimensions(mm)					CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	be	bs	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	SPKN1203EDER	12.7	12.7	3.18	1	1.4									○										
	SPKN1203EDEL	12.7	12.7	3.18	1	1.4									○										
	SPKN1203EDFR	12.7	12.7	3.18	1	1.4								★	○										●
	SPKN1203EDFL	12.7	12.7	3.18	1	1.4								○	○										○
	SPKN1203EDSKR	12.7	12.7	3.18	1	1.4											○					○			
	SPKN1203EDSKL	12.7	12.7	3.18	1	1.4											○					○			
	SPKN1203EDTKR	12.7	12.7	3.18	1	1.4	●				●				○		★					●			○
	SPKN1203EDTKL	12.7	12.7	3.18	1	1.4									○		○					○			○
	SPKN1203EDS31R	12.7	12.7	3.18	1	1.4											○					○			
	SPKN1203EDS31L	12.7	12.7	3.18	1	1.4											○					○			
	SPKN1203EDT31R	12.7	12.7	3.18	1	1.4	●				●				○		★					●			○
	SPKN1203EDT31L	12.7	12.7	3.18	1	1.4									○		○					○			○
	SPKR1203EDR-GM	12.7	12.7	3.18	1	1.4			●						★		★					●			●
	SPKR1203EDL-GM	12.7	12.7	3.18	1	1.4			●						★		★					●			●
	SPKN1504EDER	15.875	15.875	4.76	1	1.4									○										
	SPKN1504EDEL	15.875	15.875	4.76	1	1.4									○										
	SPKN1504EDFR	15.875	15.875	4.76	1	1.4								○	○										○
	SPKN1504EDFL	15.875	15.875	4.76	1	1.4								○	○										○
	SPKN1504EDSKR	15.875	15.875	4.76	1	1.4											○					○			
	SPKN1504EDSKL	15.875	15.875	4.76	1	1.4											○					○			
	SPKN1504EDTKR	15.875	15.875	4.76	1	1.4	●								★		○					●			●
	SPKN1504EDTKL	15.875	15.875	4.76	1	1.4									○		○					○			●
	SPKN1504EDS32R	15.875	15.875	4.76	1	1.4											○					○			
	SPKN1504EDS32L	15.875	15.875	4.76	1	1.4											○					○			
	SPKN1504EDT32R	15.875	15.875	4.76	1	1.4	●								★		○					●			●
	SPKN1504EDT32L	15.875	15.875	4.76	1	1.4									○		○					○			●
	SPKR1504EDR-GM	15.875	15.875	4.76	1	1.4			●						★		★					●			●
	SPKR1504EDL-GM	15.875	15.875	4.76	1	1.4			●						★		★					●			●

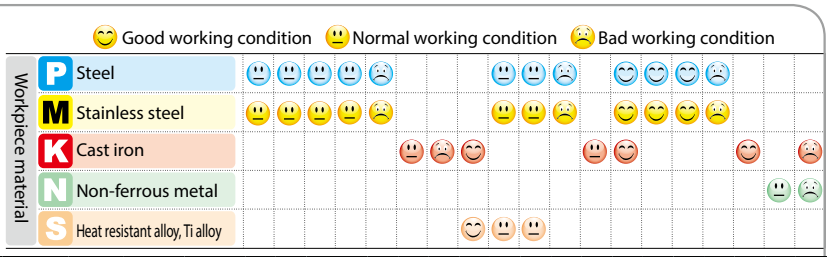
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Ordering guide: **SPKN1203EDT3 1 R** chamfering angle 20°, chamfering width 0.15mm. For other edge shapes, see inserts code key standard.

Selection of inserts







Insert shape	Type	Basic dimensions(mm)						CVD Coating							PVD Coating						Cermet		Cemented carbide			
		A	ØI.C	I.W	S	bs	R	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
Wiper inserts	**SPEX1203EDL-1**	15	12.7	12.7	3.18	10	500																			●
	SPEX1203EDR-1	15	12.7	12.7	3.18	10	500																			●
	SPEX1504EDL-1	18.2	15.875	15.875	4.76	10	500																	○		●
	SPEX1504EDR-1	18.2	15.875	15.875	4.76	10	500																	○		●

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Cutting edge treatment selection for FME03 milling inserts

Treatment of cutting edge	Recommended selection
SP□□EDER/L	Honing edge is suitable for semi-finish and finish machining of steel and stainless steel.
SP□□EDFR/L	Sharp cutting edge is suitable for finish machining of cast iron materials.
SP□□EDSKR/L **SP□□EDS□□R/L**	After chamfering and honing, the edge has strong anti-breakage capability, suitable for rough machining of steel parts under poor working conditions.
SP□□EDTKR/L **SP□□EDT□□R/L**	Chamfered edge is suitable for semi-finish and finish machining of steel, stainless steel and cast iron materials.
SP□□EDR/L-GM	3D chipbreaker can reduce cutting force, reinforce the capability of chip control, and improve insert life. It is widely applied in semi-finish machining of steel, stainless steel and cast iron materials.

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBG202	270(200-360)	0.2 (0.1-0.4)
			YBG302	230 (170-350)	0.24 (0.1-0.3)
			YBM251 YBC301	270(220-350)	0.2 (0.1-0.4)
			YBM351	220 (180-300)	0.25 (0.15-0.3)
			YC30S	140 (100-220)	0.22 (0.1-0.3)
	High-carbon steel、Alloy steel	180-280	YBG202	240 (180-350)	0.2 (0.1-0.3)
			YBG302	220 (150-330)	0.24 (0.1-0.3)
			YBM251 YBC301	240 (200-320)	0.2 (0.1-0.4)
			YBM351	200 (160-280)	0.25 (0.15-0.3)
			YC30S	120 (80-200)	0.22 (0.1-0.3)
	Alloy tool steel	280-350	YBG202	220 (170-340)	0.2 (0.1-0.3)
			YBG302	190 (130-300)	0.24 (0.1-0.3)
			YBM251 YBC301	220 (180-300)	0.2 (0.1-0.4)
			YBM351	180 (150-250)	0.25 (0.15-0.3)
			YC30S	100 (60-180)	0.22 (0.1-0.3)
M	Stainless steel	≤270	YBG202	160 (110-270)	0.2 (0.1-0.3)
			YBG302	140 (100-250)	0.24 (0.1-0.3)
			YBM251	150 (120-240)	0.2 (0.1-0.4)
			YBM351	140 (100-240)	0.25 (0.15-0.3)
K	Cast iron	180-250	YBG102	210 (120-300)	0.12 (0.08-0.3)
			YBG302	160 (120-200)	0.2 (0.1-0.3)
			YD201	100 (80-160)	0.24 (0.15-0.4)

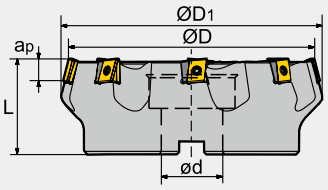
Face milling tools

Kr:75°

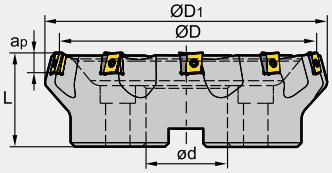
Face milling

FME04 P M K

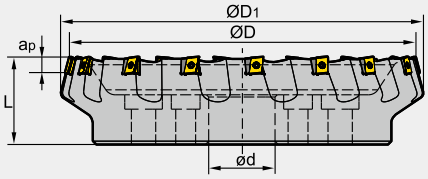
B-type coupling



C-type coupling



D-type coupling



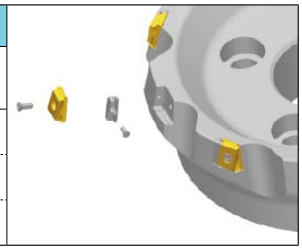
Specification of tools

type		Stock R	Stock L	ØD	ØD1	Ød	L	apmax	Number of teeth Z	Applicable inserts	Style of coupling	Weight (kg)
FME04	**-125-B40-LN15-06**	▲	△	125	137	40	63	8	6	LNKT1506EN-ZR	B	3.8
	-160-B40-LN15-08	▲	△	160	170	40	63	8	8		C	6.6
	-200-C60-LN15-10	▲	△	200	208	60	70	8	10		C	9.6
	-250-C60-LN15-12	▲	△	250	257	60	70	8	12		C	13.4
	-315-D60-LN15-16	▲	△	315	328	60	80	8	16		D	25.2

▲Stock available △Make-to-order

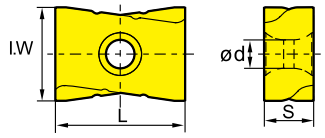
Spare parts

Diameter ØD	Shim	Shim screw	Insert screw	Wrench
Ø125-Ø315	LLN15-ZR	I60M3×7	I60M4×12	WT15IS, WT10IS



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



Good working condition · Normal working condition · Bad working condition

Workpiece material		YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P	Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
M	Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
K	Cast iron						😐	☹	😊				😐	😊				😊		☹
N	Non-ferrous metal																		😐	☹
S	Heat resistant alloy, Ti alloy								😊	😐	😐									

Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	I.W	S	ød	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	LNKT1506EN-ZR	15.875	14	6.35	4.6					○	○					★								

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

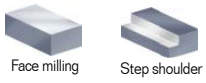
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBG302	180 (150-300)	0.5 (0.2-0.8)
			YBM351	180 (150-300)	0.5 (0.2-0.8)
	High-carbon steel、Alloy steel	180-280	YBG302	150 (120-280)	0.5 (0.2-0.8)
			YBM351	140 (120-280)	0.5 (0.2-0.8)
	Alloy tool steel	280-350	YBG302	120 (80-250)	0.45 (0.2-0.6)
			YBM351	100 (80-250)	0.45 (0.2-0.6)
M	Stainless steel	≤270	YBG302	120 (80-200)	0.45 (0.2-0.6)
			YBM351	100 (80-200)	0.45 (0.2-0.6)
K	Cast iron	180-250	YBD152	220 (150-300)	0.5 (0.2-0.8)
			YBD252	210 (150-300)	0.5 (0.2-0.8)
			YBG302	200 (150-300)	0.5 (0.2-0.8)

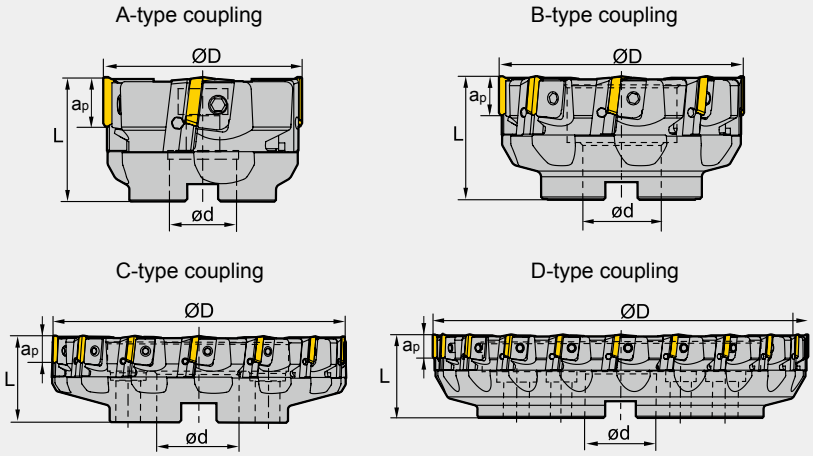
Note: Cutting parameters can be adjusted according to the Max. power of machine.

Face milling tools

Kr:90°



FMP01 P M K



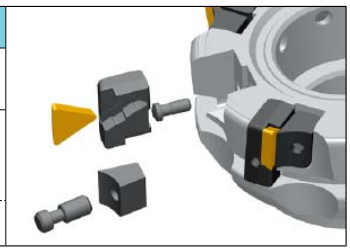
Specification of tools

Type		Stock R	Stock L	Basic dimensions(mm) ØD	ød	L	apmax	Number of teeth Z	Type of coupling	Weight (kg)
FMP01	**-080-A27-TP22-04**	▲	△	80	27	50	18	4	A	1.2
	-100-B32-TP22-06	▲	△	100	32	50	18	6	B	1.7
	-125-B40-TP22-08	▲	△	125	40	63	18	8	B	3.2
	-160-B40-TP22-10	▲	△	160	40	63	18	10	B	5.1
	-200-C60-TP22-12	▲	△	200	60	63	18	12	C	7.4
	-250-C60-TP22-16	▲	△	250	60	63	18	16	C	12.3
	-315-D60-TP22-20	▲	△	315	60	70	18	20	D	21.9

▲Stock available △Make-to-order

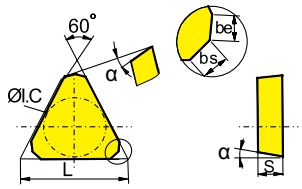
Spare parts

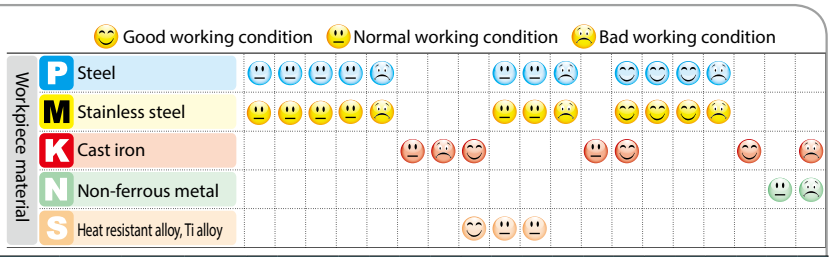
Diameter ØD	Locator	Wedge	Wedge Screw	Locator screw	Wrench
Ø80 Ø100	LTP4R1/L1	W04R/L	WM8×17	LOM5×15.1	WT20T WT25T
Ø125 ~ Ø315	LTP4R/L		WM8×22		



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





Insert shape	Type	Basic dimensions(mm)						CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	be	bs	α	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	TPKN2204PDFR	22	12.7	4.76	1.4	0.7	11°								○											○
	TPKN2204PDFL	22	12.7	4.76	1.4	0.7	11°								○											○
	TPKN2204PDR	22	12.7	4.76	1.4	0.7	11°	●				●			★	★		★					●	○	○	●
	TPKN2204PDL	22	12.7	4.76	1.4	0.7	11°																●			
	TPKN2204PDTR	22	12.7	4.76	1.4	0.7	11°	●															●			
	TPKN2204PDTL	22	12.7	4.76	1.4	0.7	11°	○															○			

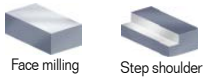
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

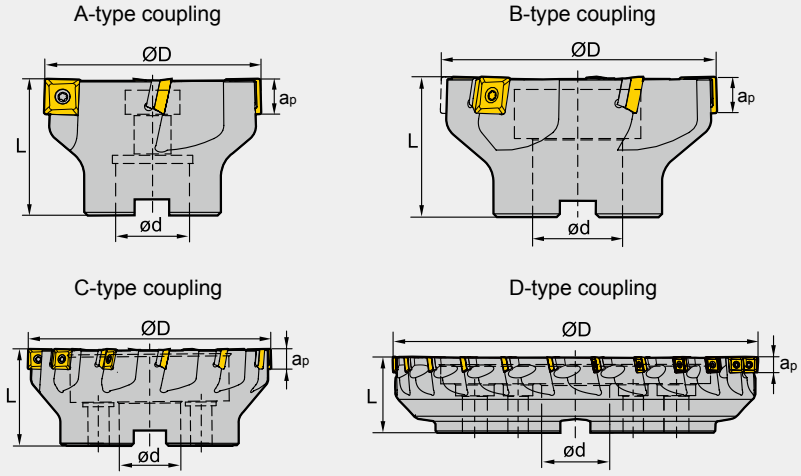
Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBC301	270 (220-350)	0.2 (0.1-0.4)
			YBM351	220 (180-300)	0.2 (0.08-0.3)
			YBG202	270 (200-360)	0.2 (0.1-0.3)
			YC30S	140 (100-220)	0.22 (0.1-0.3)
	High-carbon steel、Alloy steel	180—280	YBC301	240 (200-320)	0.2 (0.1-0.4)
			YBM351	200 (160-280)	0.2 (0.08-0.3)
			YBG202	240 (180-350)	0.2 (0.1-0.3)
			YC30S	120 (80-200)	0.22 (0.1-0.3)
	Alloy tool steel	280—350	YBC301	220 (180-300)	0.2 (0.1-0.4)
			YBM351	180 (150-250)	0.2 (0.08-0.3)
			YBG202	220 (170-340)	0.2 (0.1-0.3)
			YC30S	100 (60-180)	0.22 (0.1-0.3)
M	Stainless steel	≤270	YBM351	140 (100-240)	0.2 (0.08-0.3)
			YBG202	140 (100-250)	0.2 (0.1-0.3)
K	Cast iron	180—250	YBG102	210 (120-300)	0.2 (0.1-0.3)
			YBG302	160 (120-200)	0.35 (0.10-0.4)
			YD201	100 (80-160)	0.24 (0.15-0.4)

Face milling tools

Kr:90°



FMP02 P M K



Specification of tools

Type		Stock	Basic dimensions(mm)				Number of teeth Z	Type of coupling	Weight (kg)
			ØD	ød	L	$a_p$max			
FMP02	**-050-A22-SE09-05**	▲	50	22	40	6.7	5	A	0.3
	-063-A22-SE09-06	▲	63	22	40	6.7	6	A	0.5
	-080-A27-SE09-08	▲	80	27	50	6.7	8	A	0.9
	-100-B32-SE09-08	▲	100	32	50	6.7	8	B	1.7
	-100-B32-SE09-10	△	100	32	50	6.7	10	B	1.7
	-125-B40-SE09-12	△	125	40	63	6.7	12	B	2.6

▲Stock available △Make-to-order

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Specification of tools

Type		Stock	Basic dimensions(mm)				Number of teeth Z	Type of coupling	Weight (kg)
			ØD	ød	L	apmax			
FMP02	**-050-A22-SE12-03**	▲	50	22	40	10.8	3	A	0.3
	-063-A22-SE12-04	▲	63	22	40	10.8	4	A	0.4
	-080-A27-SE12-04	▲	80	27	50	10.8	4	A	0.9
	-100-B32-SE12-05	▲	100	32	50	10.8	5	B	1.2
	-125-B40-SE12-06	▲	125	40	63	10.8	6	B	3.1
	-160-C40-SE12-08	▲	160	40	63	10.8	8	C	4.1
	-250-C60-SE12-12	▲	250	60	63	10.8	12	C	11.1
	-050-A22-SE12-04	▲	50	22	40	10.8	4	A	0.3
	-063-A22-SE12-05	▲	63	22	40	10.8	5	A	0.4
	-080-A27-SE12-06	▲	80	27	50	10.8	6	A	0.8
	-100-B32-SE12-07	▲	100	32	50	10.8	7	B	1.2
	-125-B40-SE12-08	▲	125	40	63	10.8	8	B	3.0
	-160-C40-SE12-12	▲	160	40	63	10.8	12	C	3.9
	-050-A22-SE12-05	▲	50	22	40	10.8	5	A	0.2
	-063-A22-SE12-06	▲	63	22	40	10.8	6	A	0.4
	-080-A27-SE12-08	▲	80	27	50	10.8	8	A	0.8
	-100-B32-SE12-10	▲	100	32	50	10.8	10	B	1.2
	-125-B40-SE12-12	▲	125	40	63	10.8	12	B	2.9
	-200-C60-SE12-16	▲	200	60	63	10.8	16	C	6.1
	-250-C60-SE12-18	▲	250	60	63	10.8	18	C	10.9
	-315-D60-SE12-24	▲	315	60	63	10.8	24	D	21.6

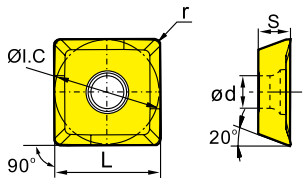
▲Stock available △Make-to-order

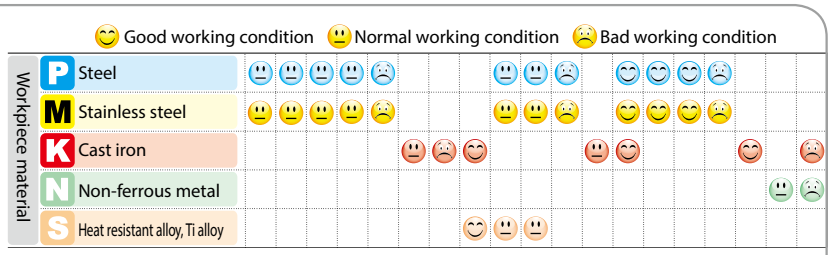
Spare parts

Diameter ØD	Inserts	Shim	Insert screw	Shim screw	Wrench	Wrench
Ø50 ~ Ø125	SE09	--	I60M3×7	--	WT09IS	--
Ø50	SE12	--	I60M3.5×10	--	WT15IS	--
Ø63 ~ Ø315		S12BSX	I60M3.5×12	SM5×7XA		WH35L

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





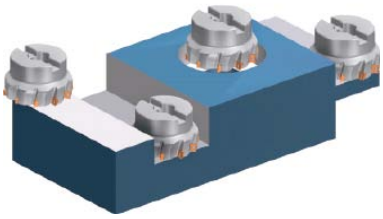
Insert shape	Type	Basic dimensions(mm)					CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	ØI.C	S	ød	r	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	SEET09T308PER-PF	9.525	9.525	4.01	3.3	0.8									★										
	SEET09T308PER-PM	9.525	9.525	4.01	3.3	0.8						○			★										
	SEET09T308PER-PR	9.525	9.525	4.01	3.3	0.8						★			○										
	SEET120308PER-PF	13.308	13.308	4.04	4.1	0.8									○										
	SEET120308PER-PM	13.308	13.308	4.04	4.1	0.8			●				★	★	★		★								
	SEET120308PER-PR	13.308	13.308	4.04	4.1	0.8					○			★	★		★								

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Chipbreaker selection for FMP02 milling inserts

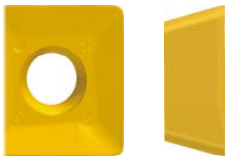
Classification \ Function	For finishing	For semi-finishing	For roughing
P	**PF**	**PM**	**PR**
M			
K			

Features of FMP02 series milling cutters



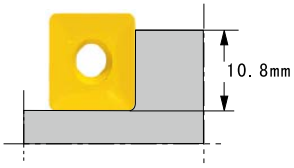
High economical efficiency

FMP02 series square shoulder milling cutters can carry out a variety of cutting operations including face milling, vertical square shoulder milling, slot milling, etc. Coarse pitch, close pitch and extra close pitch, each has its unique merit. Inserts' chipbreakers and grades have been applied and optimized over a long period of time. They can achieve high-efficiency machining under different conditions. Each insert has 4 cutting edges, which is highly economical.



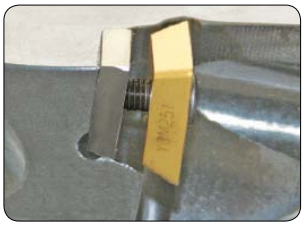
Low cutting force

Large positive rake angle makes cutting easy and fast.



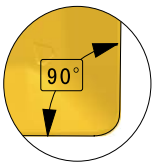
High productivity

The major cutting edge is a α-curve, therefore, the S type insert can obtain an ideal 90° approach angle while retaining a suitable minor angle, ensuring stable cutting operation. The maximum cutting depth can reach 10.8mm, and the maximum feed rate can reach 0.3mm/z.



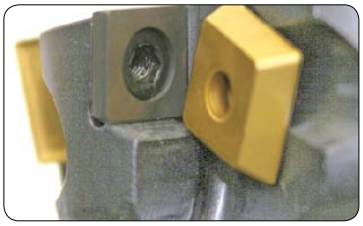
Easy and convenient use

Simple screw clamping, convenient insert displacement, large chip pocket of rake face for smooth chip removal.



High precision

Special structure design of inserts and tools and proper production ensure high precision, greatly improving the workpiece precision and surface quality.

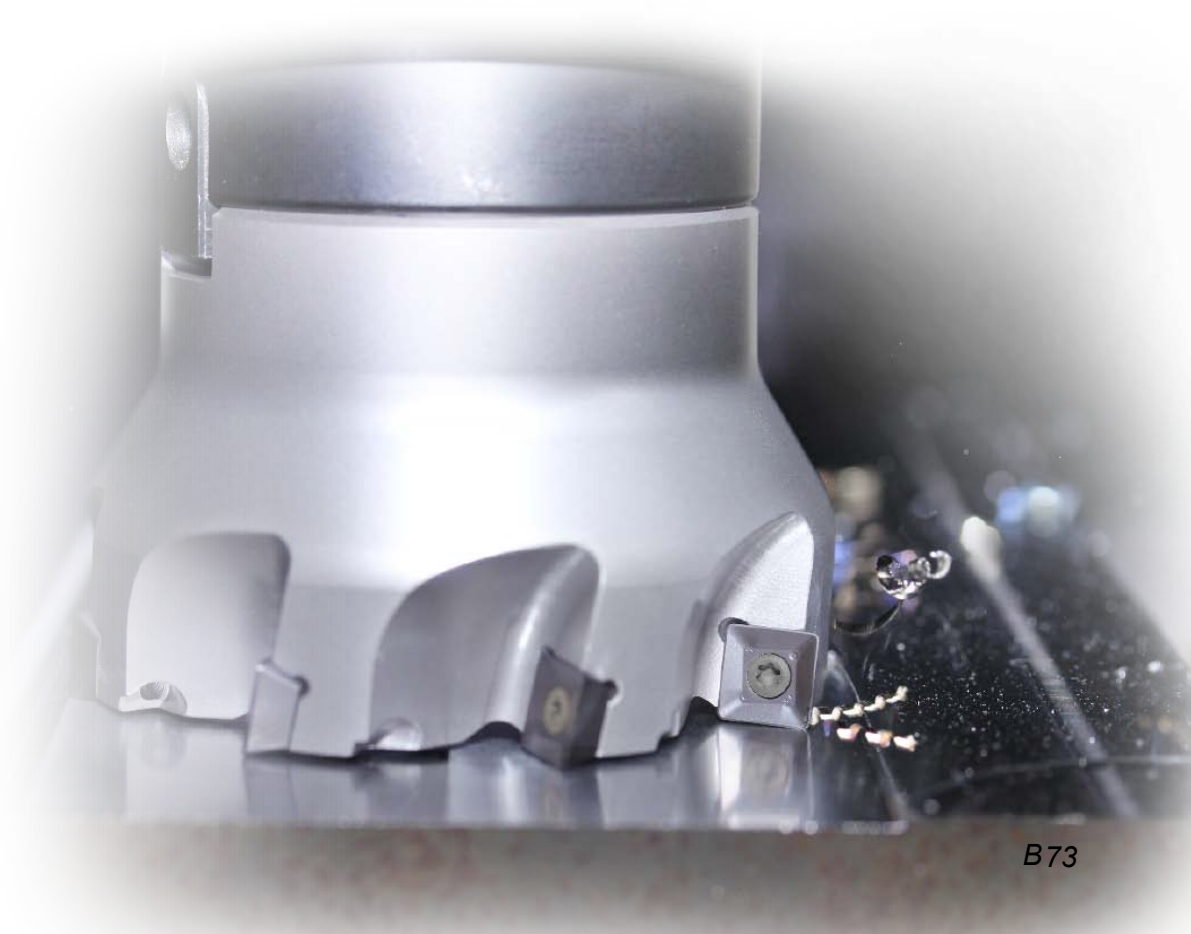


High security

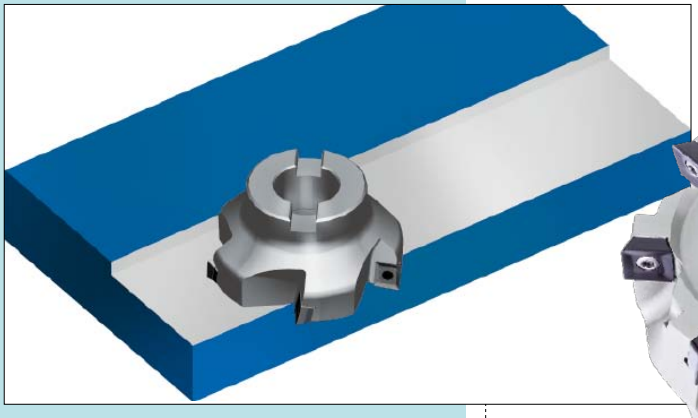
Precisely machined carbide shim is adopted to protect tool body and make it durable.

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters			
				V(m/min)	f(mm/z)		
					-PF	-PM	-PR
P	Low-carbon steel、Soft steel	≤180	YBM251	270(220-350)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG202	270(200-360)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG302	230 (170-350)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	High-carbon steel、Alloy steel	180—280	YBM251	240 (200-320)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG202	240 (180-350)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG302	220 (150-330)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
	Alloy tool steel	280—350	YBM251	220 (180-300)	0.1(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG202	220 (170-340)	0.1(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG302	190 (130-300)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
M	Stainless steel	≤270	YBM251	150 (120-240)	0.1(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG202	160 (110-270)	0.1(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG302	140 (100-250)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
K	Cast iron	180—250	YBG102	210 (120-300)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBG202	160 (120-200)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)
			YBD252	200 (150-250)	0.15(0.1-0.2)	0.2 (0.1-0.3)	0.3 (0.2-0.4)



Case for FMP02

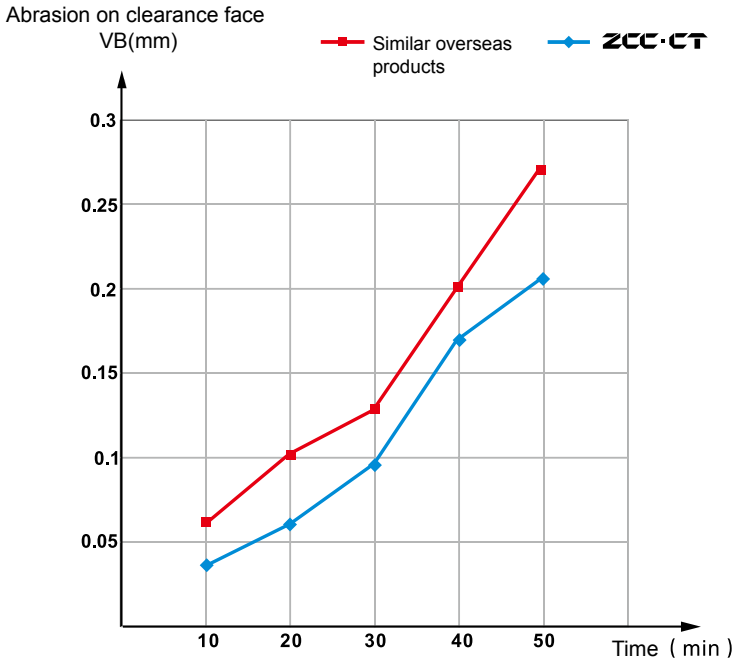


Workpiece material：HT300(HB150)
Cooling system: Dry cutting
Machine: Vertical machining center
Cutting parameters：
Vc=200m/min
a_p=3mm
f_z=0.2mm/z
a_e=80mm

Tool type：FMP02-100-B32-SE12-05

Insert type/grade：SEET120308PER-PM/YBD252

●Comparison of insert abrasion



Face milling tools

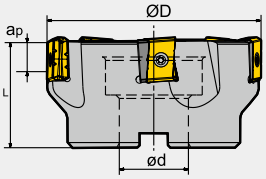
Kr:90°

Face milling

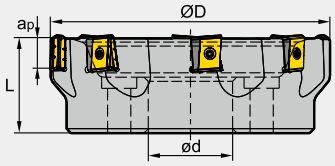
Step shoulder

FMP03 P M K

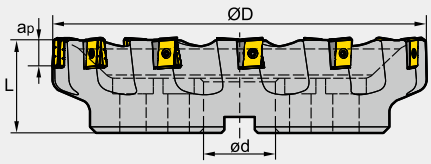
B-type coupling



C-type coupling



D-type coupling



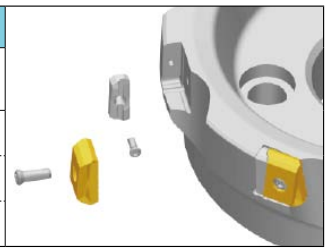
Specification of tools

type		Stock R	Stock L	ØD	Ød	L	apmax	Number of teeth Z	Applicable inserts	Style of coupling	Weight (kg)
FMP03	**-125-B40-LN15-06**	▲	△	125	40	63	8	6	LNKT1506EN-ZR	B	3.2
	-160-C40-LN15-08	▲	△	160	40	63	8	8		C	5.1
	-200-C60-LN15-10	▲	△	200	60	70	8	10		C	7.5
	-250-C60-LN15-12	▲	△	250	60	70	8	12		C	12.2
	-315-D60-LN15-16	▲	△	315	60	80	8	16		D	23.7
	-125-B40-LN20-06	▲	△	125	40	63	12	6	LNKT2007DN-ZR	B	3.3
	-160-C40-LN20-08	▲	△	160	40	63	12	8		C	5.3
	-200-C60-LN20-10	▲	△	200	60	70	12	10		C	8.8
	-250-C60-LN20-12	▲	△	250	60	70	12	12		C	14.0
	-315-D60-LN20-15	▲	△	315	60	80	12	15		D	23.9
	-125-B40-LN25-05	▲	△	125	40	63	15	5	LNKT2510-ZR	B	3.3
	-160-C40-LN25-06	▲	△	160	40	63	15	6		C	5.1
	-200-C60-LN25-08	▲	△	200	60	70	15	8		C	8.9
	-250-C60-LN25-10	▲	△	250	60	70	15	10		C	12.0
	-315-D60-LN25-12	▲	△	315	60	80	15	12		D	21.9

▲Stock available △Make-to-order

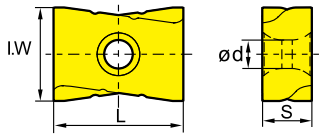
Spare parts

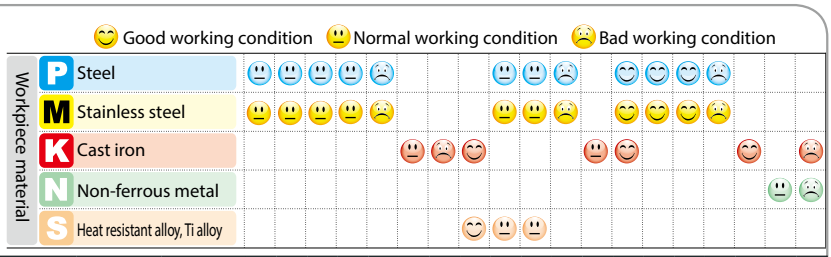
Inserts	Shim	Shim screw	Insert screw	Wrench	
LNKT1506EN-ZR	LLN15-ZR	I60M3×7	I60M4×12	WT15IS	WT10IS
LNKT2007DN-ZR	LLN20R-ZR	I60M3×7	I60M4×15	WT15IS	WT10IS
LNKT2510-ZR	LLN25R-ZR	I60M3.5×10.4	I60M5×17	WT20IT	WT15IS



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





Insert shape	Type	Basic dimensions(mm)				CVD Coating							PVD Coating						Cermet		Cemented carbide			
		L	I.W	S	ød	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	LNKT1506EN-ZR	15.875	14	6.35	4.6					○	○					★								
	LNKT2007DN-ZR	20	17	7.94	4.6					○	○					★								
	LNKT2510-ZR	25	18	9.525	5.5					○		○				★								

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters	
				V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBG302	180 (150-300)	0.5 (0.2-0.8)
			YBM351	180 (150-300)	0.5 (0.2-0.8)
	High-carbon steel、Alloy steel	180-280	YBG302	150 (120-280)	0.5 (0.2-0.8)
			YBM351	140 (120-280)	0.5 (0.2-0.8)
	Alloy tool steel	280-350	YBG302	120 (80-250)	0.45 (0.2-0.6)
			YBM351	100 (80-250)	0.45 (0.2-0.6)
M	Stainless steel	≤270	YBG302	120 (80-200)	0.45 (0.2-0.6)
			YBM351	100 (80-200)	0.45 (0.2-0.6)
K	Cast iron	180-250	YBD152	220 (150-300)	0.5 (0.2-0.8)
			YBD252	210 (150-300)	0.5 (0.2-0.8)
			YBG302	200 (150-300)	0.5 (0.2-0.8)

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

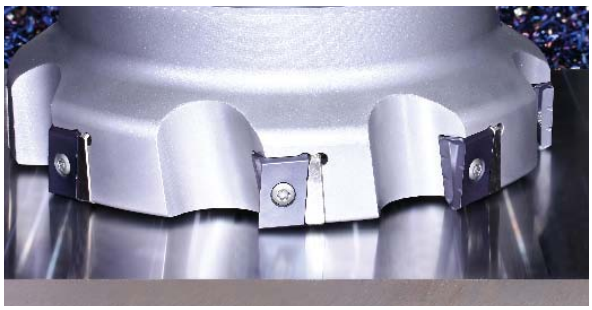
Case for FMP03

Tool type：FMP03-200-C60-LN25-08

Insert type/grade：LNKT2510-ZR/YBG302

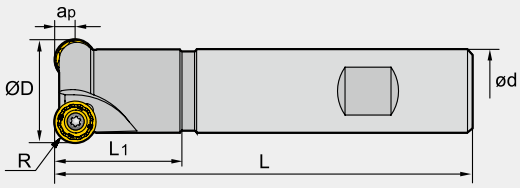
The tool operates easily and fast at high cutting depth with good chip breaking performance. Cutting efficiency is doubled, and tool life increases to 1-2 times that of the original.

Workpiece material：45#
Hardness(HB)：190
Cooling system: Dry cutting
Cutting parameters：Vc=130m/min, a_p=12mm, f_z=0.5mm/z
a_e=140mm



Face milling tools

FMR01 P M K



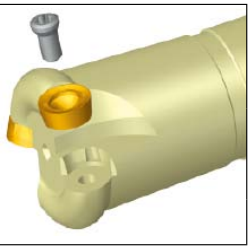
Specification of tools

Type		Stock	Basic dimensions(mm)						Number of teeth Z	Weight (kg)
			ØD	ød	L	L_1	R	$a_p$max		
FMR01	**-025-XP20-RC10-02**	▲	25	20	100	30	5	5	2	0.2
	-032-XP25-RC10-02	▲	32	25	120	35	5	5	2	0.5
	-040-XP32-RC12-03	▲	40	32	120	40	6	6	3	0.7
	-050-XP32-RC12-03	▲	50	32	120	40	6	6	3	0.8

▲Stock available △Make-to-order

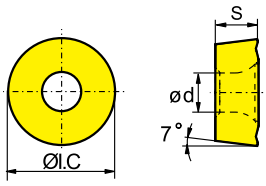
Spare parts

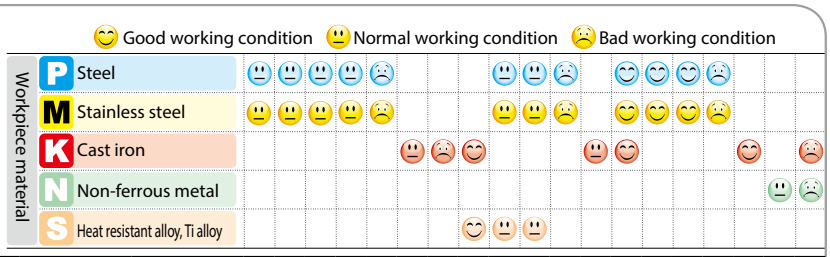
Diameter ØD	Insert screw	Wrench
Ø25 -Ø32	I60M4×8.4	WT15S
Ø40 -Ø50	I60M3.5×10	



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts





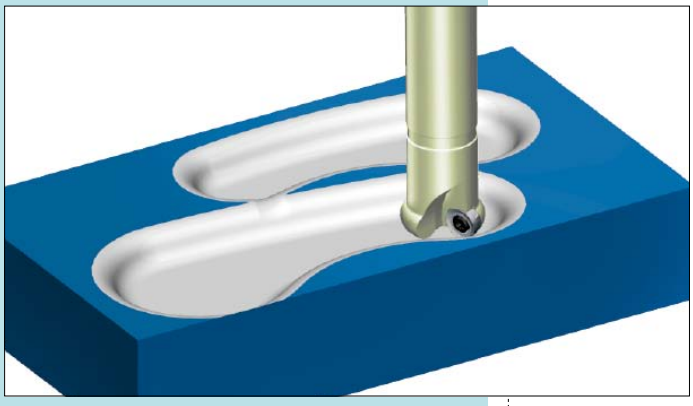
Insert shape	Type	Basic dimensions(mm)			CVD Coating							PVD Coating						Cermet		Cemented carbide			
		ØI.C	S	ød	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	RCKT10T3MO-DM	10.0	3.97	4.4	●								●	★									
	RCKT1204MO-DM	12.0	4.76	4.0	●		●		●	○			●	★	★								
	RCKT1204MO-DR	12.0	4.76	4.0	○		○		○				●	★									
	RCKT1204MO-ER	12.0	4.76	4.0				★															

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters		
				V(m/min)	f(mm/z)	
					-DM	-DR
P	Low-carbon steel、Soft steel	⩽180	YBM251 YBC301	270 (220-350)	0.2(0.1-0.5)	0.3 (0.2-0.8)
			YBM351 YBC302	220 (180-300)	0.25(0.1-0.5)	0.3 (0.2-0.8)
			YBG202	270 (200-360)	0.2(0.1-0.5)	0.3 (0.2-0.8)
	High-carbon steel、Alloy steel	180-280	YBM251 YBC301	240 (200-320)	0.2(0.1-0.5)	0.3 (0.2-0.8)
			YBM351 YBG302	200 (160-280)	0.25(0.1-0.5)	0.3 (0.2-0.8)
			YBG202	240 (180-350)	0.2(0.1-0.5)	0.3 (0.2-0.8)
	Alloy tool steel	280-350	YBM251 YBC301	220 (180-300)	0.2(0.1-0.4)	0.3 (0.2-0.6)
			YBM351 YBG302	180 (150-250)	0.2(0.1-0.5)	0.3 (0.2-0.8)
			YBG202	220 (170-340)	0.2(0.1-0.4)	0.3 (0.2-0.6)
M	Stainless steel	⩽270	YBM251	150 (120-240)	0.2(0.1-0.4)	0.3 (0.2-0.6)
			YBM253 YBM351	150 (100-220)	0.2(0.1-0.4)	0.3 (0.2-0.6)
			YBG202	160 (110-270)	0.2(0.1-0.4)	0.3 (0.2-0.6)
K	Cast iron	180-250	YBG302	210 (120-300)	0.2(0.1-0.5)	0.3 (0.2-0.8)

Case for FMR01



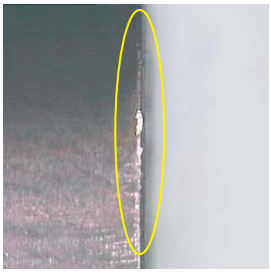
Workpiece material：42CrMo (HRC35)
Cooling system: Dry cutting
Machine: Vertical machining center
Cutting parameters：
Vc=200m/min
a_p=3mm
f_z=0.2mm/z

Tool type：FMR01-025-XP20-RC10-02

Insert type/grade：RCKT10T3MO-DM/YBG202

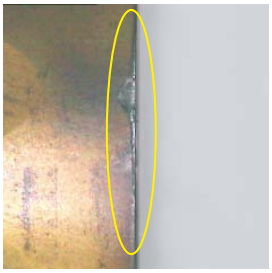
●Comparison of insert abrasion

ZCC-CT



22minutes later

Similar overseas products



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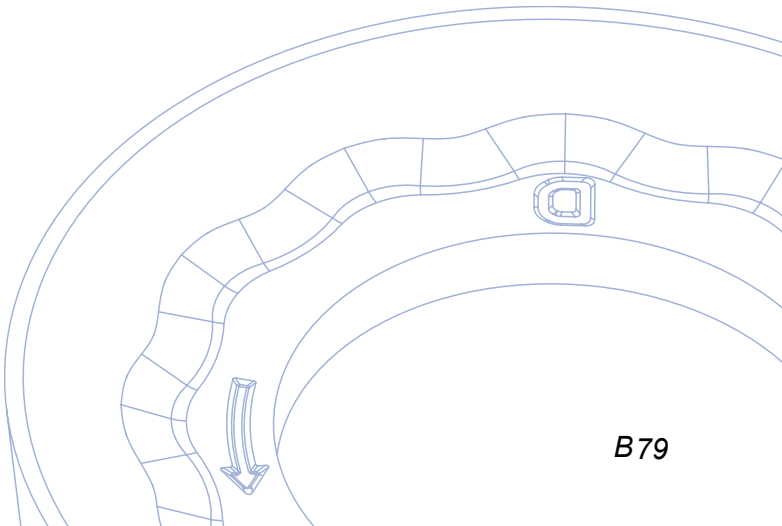
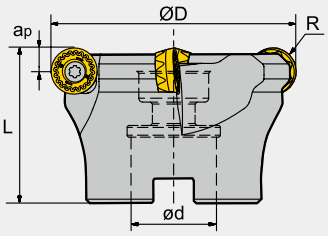


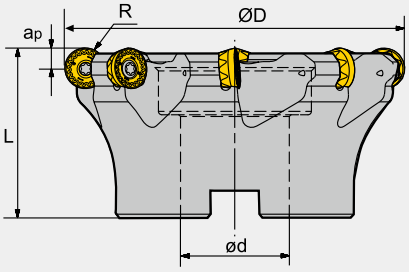
Face milling tools

FMR02 P M K

A-type coupling



B-type coupling



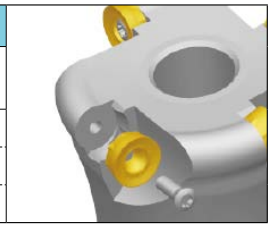
Specification of tools

Type		Stock	Basic dimensions(mm)					Number of teeth Z	Type of coupling	Weight (kg)
			ØD	ød	L	R	apmax			
FMR02 Coarse pitch	**-050-A22-RC12-03**	△	50	22	40	6	6	3	A	0.29
	-063-A22-RC12-04	▲	63	27	50	6	6	4	A	0.41
	-080-B27-RC12-05	▲	80	27	50	6	6	5	B	0.81
	-100-B32-RC12-06	△	100	32	50	6	6	6	B	1.25
	-063-A22-RC16-04	△	63	22	40	8	8	4	A	0.35
	-080-B27-RC16-05	△	80	27	50	8	8	5	B	0.74
	-100-B32-RC16-06	▲	100	32	50	8	8	6	B	1.18
	-125-B40-RC16-07	△	125	40	63	8	8	7	B	2.49
	-080-A27-RC20-04	△	80	27	50	10	10	4	A	0.77
	-100-B32-RC20-05	△	100	32	50	10	10	5	B	1.07
	-125-B40-RC20-06	△	125	40	63	10	10	6	B	2.42
	-160-B40-RC20-06	△	160	40	63	10	10	6	B	4.17
Close pitch	**-050-A22-RC12-05**	△	50	22	40	6	6	5	A	0.27
	-063-A22-RC12-06	△	63	27	50	6	6	6	A	0.38
	-080-B27-RC12-07	△	80	27	50	6	6	7	B	0.79
	-100-B32-RC12-08	△	100	32	50	6	6	8	B	1.23
	-063-A22-RC16-05	△	63	22	40	8	8	5	A	0.34
	-080-B27-RC16-07	△	80	27	50	8	8	7	B	0.72
	-100-B32-RC16-08	△	100	32	50	8	8	8	B	1.17
	-125-B40-RC16-09	△	125	40	63	8	8	9	B	2.47
	-080-A27-RC20-05	△	80	27	50	10	10	5	A	0.74
	-100-B32-RC20-06	△	100	32	50	10	10	6	B	1.07
	-125-B40-RC20-07	△	125	40	63	10	10	7	B	2.39
	-160-B40-RC20-08	△	160	40	63	10	10	8	B	4.06

▲Stock available △Make-to-order

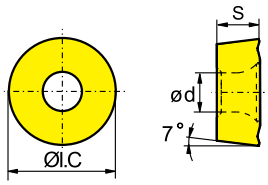
Spare parts

Diameter ØD	Insert	Insert screw	Wrench	
Ø50 -Ø100	RC□□1204MO-□□	I60M3.5×10	WT15IS	--
Ø63 -Ø125	RC□□1606MO-□□	I60M5×13	--	WT20IT
Ø125 -Ø160	RC□□2006MO-□□	I43M6×16	--	WT25IT



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



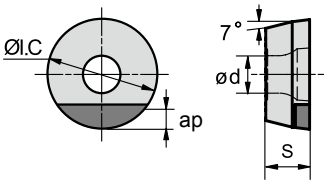
😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material																						
P Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹					
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹					
K Cast iron						😐	☹	😊				😐	😊					😊		☹
N Non-ferrous metal																			😐	☹
S Heat resistant alloy, Ti alloy								😊	😐	😐										

Insert shape	Type	Basic dimensions(mm)			CVD Coating							PVD Coating						Cermet		Cemented carbide			
		ØI.C	S	ød	YBC301	**YBC302**	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	RCKT1204MO-DM	12.0	4.76	4.0	●		●		●	○			●	★	●								
	RCKT1606MO-DM	16.0	6.35	5.56	●										●								
	RCKT1204MO-DR	12.0	4.76	4.0	○		○		○				●	★									
	RCKT1606MO-DR	16.0	6.35	5.56	●				●		○		●	★									
	RCKT2006MO-DR	20.0	6.35	6.55	●				●		○		○	★	●								
	RCKT1204MO-ER	12.0	4.76	4.0				★															
	RCKT1606MO-ER	16.0	6.35	5.56				★															
	RCKT2006MO-ER	20.0	6.35	6.55				★															

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Selection of inserts



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material								
H Super hard material		😐	😊					
K Cast iron	😊			😊	😊			☹
N Non-ferrous metal							😐	☹

Insert shape	Type	Basic dimensions(mm)				PCBN				Cemented carbide		
		ØI.C	S	ød	$a_p$max	**YCB011**	**YCB012**	**YCB121**	**YCB211**	YD051	YD101	YD201
	RCMW1204MO-PCBN	12.0	4.76	4.1	2.7	○	●		●			

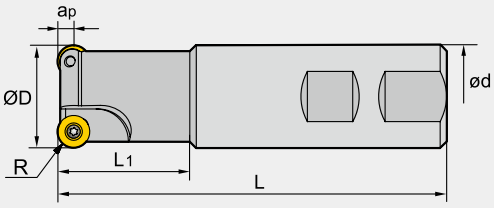
★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters				
				V(m/min)	f(mm/z)			
					-DM	-DR	-ER	-PCBN
P	Low-carbon steel、Soft steel	≤HB180	YBM251 YBC301	270 (220-350)	0.2(0.1-0.5)	0.3 (0.2-0.8)		
			YBM351 YBG302	220 (180-300)	0.25(0.1-0.5)	0.3 (0.2-0.8)		
			YBG202	270 (200-360)	0.2(0.1-0.5)	0.3 (0.2-0.8)		
	High-carbon steel、Alloy steel	HB180-280	YBM251 YBC301	240 (200-320)	0.2(0.1-0.5)	0.3 (0.2-0.8)		
			YBM351 YBG302	200 (160-280)	0.25(0.1-0.5)	0.3 (0.2-0.8)		
			YBG202	240 (180-350)	0.2(0.1-0.5)	0.3 (0.2-0.8)		
	Alloy tool steel	HB280-350	YBM251 YBC301	220 (180-300)	0.2(0.1-0.4)	0.3 (0.2-0.6)		
			YBM351 YBG302	180 (150-250)	0.2(0.1-0.5)	0.3 (0.2-0.8)		
			YBG202	220 (170-340)	0.2(0.1-0.4)	0.3 (0.2-0.6)		
M	Stainless steel	≤HB270	YBM251	150 (120-240)	0.2(0.1-0.4)	0.3 (0.2-0.6)		
			YBM253	150 (100-220)	0.2(0.1-0.4)	0.3 (0.2-0.6)	0.3(0.2-0.6)	
			YBM351	150 (100-220)	0.2(0.1-0.4)	0.3 (0.2-0.6)		
			YBG202	160 (110-270)	0.2(0.1-0.4)	0.3 (0.2-0.6)		
K	Cast iron	HB180-250	YBG302	210 (120-300)	0.2(0.1-0.5)	0.3 (0.2-0.8)		
			YCB011	800 (500-1200)				0.2(0.1-0.5)
			YCB211	800 (500-1200)				0.2(0.1-0.5)
H	Hardened steel	≥HRC45	YCB012	150 (100-500)				0.15(0.1-0.5)

Face milling tools

FMR03 P M K



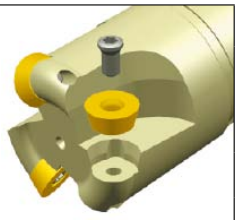
Specification of tools

Type		Stock	Basic dimensions(mm)						Number of teeth Z	Weight (kg)
			ØD	ød	L	L1	R	apmax		
FMR03	**-016-XP16-RD08-02**	▲	16	16	100	25	4	4	2	0.1
	-025-XP25-RD08-02	▲	25	25	100	30	4	4	2	0.3
	-032-XP32-RD10-02	▲	32	32	120	40	5	5	2	0.7
	-040-XP32-RD12-03	▲	40	32	120	40	6	6	3	0.7
	-050-XP32-RD12-04	▲	50	32	120	40	6	6	4	0.8

▲Stock available △Make-to-order

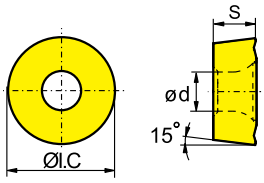
Spare parts

Diameter ØD	Insert screw	Wrench
Ø16-Ø25	I60M3×7	WT09IP
Ø32-Ø50	I60M4×10	WT15IP



Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198

Selection of inserts



😊 Good working condition 😐 Normal working condition ☹ Bad working condition

Workpiece material	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
P Steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
M Stainless steel	😐	😐	😐	😐	☹				😐	😐	☹			😊	😊	😊	☹		
K Cast iron						😐	☹	😊				😐	😊				😊		☹
N Non-ferrous metal																		😐	☹
S Heat resistant alloy, Ti alloy								😊	😐	😐									

Insert shape	Type	Basic dimensions(mm) ØI.C	S	ød	YBC301	YBC302	YBM251	YBM253	YBM351	YBD152	YBD252	YBG102	YBG202	YBG205	YBG302	YBG152	YBG252	YNG151	YNG151C	YC30S	YD051	YD101	YD201
	RDKW0803MO	8	3.18	3.4	○				○				●	★	○								
	RDKW10T3MO	10	3.97	4.4	○				●				●	★									
	RDKW1204MO	12	4.76	4.4	●		●		●				●	★	●								

★Recommended grade (always stock available) ●Available grade (always stock available) ○Make-to-order

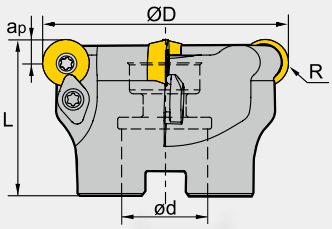
Recommended cutting parameters

Workpiece material		Hardness HB	Insert grade	Cutting parameters V(m/min)	f(mm/z)
P	Low-carbon steel、Soft steel	≤180	YBM251 YBC301	270 (220-350)	0.2 (0.08-0.45)
			YBM351 YBG302	220 (180-300)	0.25 (0.15-0.45)
			YBG202	270 (200-360)	0.2 (0.1-0.45)
	High-carbon steel、Alloy steel	180-280	YBM251 YBC301	240 (200-320)	0.2 (0.08-0.45)
			YBM351 YBG302	200 (160-280)	0.25 (0.15-0.45)
			YBG202	240 (180-350)	0.2 (0.1-0.45)
	Alloy tool steel	280-350	YBM251 YBC301	220 (180-300)	0.2 (0.08-0.45)
			YBM351 YBG302	180 (150-250)	0.25 (0.15-0.45)
			YBG202	220 (170-340)	0.2 (0.1-0.45)
M	Stainless steel	≤270	YBG205	150 (120-240)	0.2 (0.08-0.45)
			YBM251	150 (120-240)	0.2 (0.08-0.45)
			YBM351	150 (100-220)	0.25 (0.1-0.45)
			YBG202	160 (110-270)	0.2 (0.1-0.45)
K	Cast iron	180-250	YBG302	210 (120-300)	0.2 (0.1-0.45)

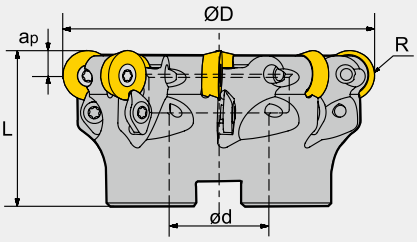
Face milling tools

FMR04 P M K

A-type coupling



B-type coupling



Specification of tools

Type		Stock	Basic dimensions(mm)					Number of teeth Z	Type of coupling	Weight (kg)
			ØD	ød	L	R	apmax			
FMR02 Coarse pitch	**-050-A22-RD12-03**	▲	50	22	40	6	6	3	A	0.25
	-063-A22-RD12-04	▲	63	22	40	6	6	4	A	0.37
	-080-B27-RD12-05	▲	80	27	50	6	6	5	B	0.77
	-063-A22-RD16-04	△	63	22	40	8	8	4	A	0.32
	-080-B27-RD16-05	△	80	27	50	8	8	5	B	0.67
	-100-B32-RD16-06	▲	100	32	50	8	8	6	B	1.18
	-125-B40-RD16-08	△	125	40	63	8	8	8	B	2.55
	-125-B40-RD20-06	▲	125	40	63	10	10	6	B	2.33
	-160-B40-RD20-07	▲	160	40	63	10	10	7	B	3.83
Close pitch	**-050-A22-RD12-05**	△	50	22	40	6	6	5	A	0.23
	-063-A22-RD12-06	△	63	22	40	6	6	6	A	0.48
	-080-B27-RD12-07	△	80	27	50	6	6	7	B	0.78
	-063-A22-RD16-05	△	63	22	40	8	8	5	A	0.3
	-080-B27-RD16-07	△	80	27	50	8	8	7	B	0.66
	-100-B32-RD16-08	△	100	32	50	8	8	8	B	1.18
	-125-B40-RD16-10	△	125	40	63	8	8	10	B	2.51
	-125-B40-RD20-08	△	125	40	63	10	10	8	B	2.45
	-160-B40-RD20-10	△	160	40	63	10	10	10	B	3.98

▲Stock available △Make-to-order

Spare parts

Diameter ØD	Insert	Insert screw	Clamp	Clamp screw	Wrench	
Ø50-Ø80	RDKW1204MO	I60M3.5×10	WD-204	I60M4×10	WT15IP	--
Ø63 -Ø125	RDKW1605MO	I60M5×13	WD-207	I60M5×13	--	WT20IT
Ø125 -Ø160	RDKW2006MO	I43M6×16	--	--	--	WT25IT

Tools code key B22–B23
Grade selection guide B18–B21
Technical data B192–B198