

MILLING TOOLS

ZZ HARDMETAL is a modern joint-stock company focusing on R & D, production and distribution in the area of CNC cutter. The company is located in Zhuzhou--the biggest manufacturing bases of CNC cutter and carbide in China.

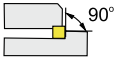
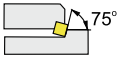
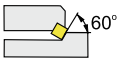
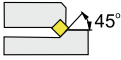
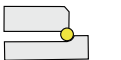
Our company's main products include external turning tools, internal turning tools of M,P,D,S,W,C type and threading tools, parting and grooving tools, indexable milling tools, drilling tools. At the same time, we can also undertake all types of non-standard tools.

Based on the excellent design, top-class CNC center, accurate testing equipment and perfect management process, Sant series' quality is always in the leading level. Since the establishment of our company we has always insisted: "United and Innovative, Honest and Pragmatic, Pioneering for progress, Pursuing win-win outcomes". We've established good cooperation relationship with many large and medium-size enterprises and dealers all over the world. We'll work hard together persistently to support high-quality products and satisfactory service for all the customers!



MILLING TOOLS

Indexable Milling Tools Code Key

Type of Tools		Lead Angle			Number of Type	
FM	Face milling tool	P	90°		Diameter ØD	
EM	Square-shoulder milling tool	E	75°		Side and face milling tool: diameter *blade width	
HM	Helical and face milling tool	D	60°		Tool Installation Position	
SM	Side and face milling tool	A	45°		A	A type of adapter
BM	Profile milling tool	R			XP	Weldon shank
CM	Chamfer milling tool				B	B type of adapter
XM	T slot milling tool				G	straight shank
TM	Special milling tool				C	C type of adapter
					MW	anury morse
					D	D type of adapter
					Dimension	

FM E 03 - 100 - B 32

A type of adapter	
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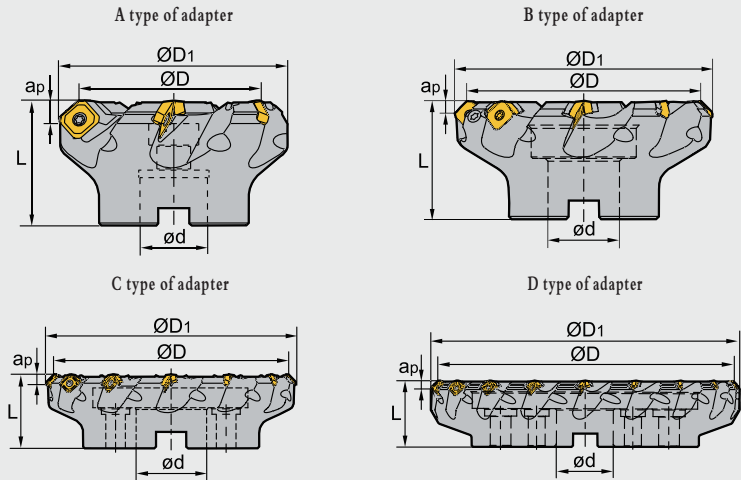
MILLING TOOLS

Face Milling tool

Kr:45°



FMA01 P M K N S



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	ap _{max}			
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 △ Order

Spare Parts

Diameter ØD	Applicable Insert	insert screw	Shim	shim screw	Wrench	Wrench
Ø50-Ø100						
Ø125-Ø315		L60M3.5×10	--	—	T15T	—
		L60M3.5×10	S13BS	SM5×7XA		S4

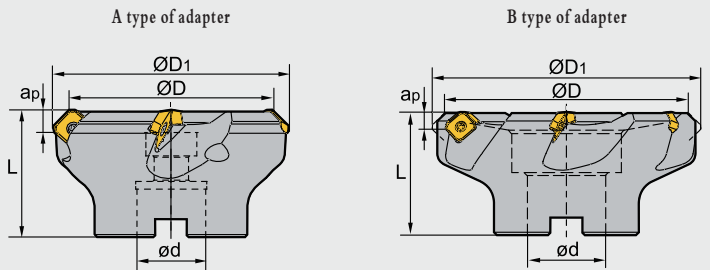
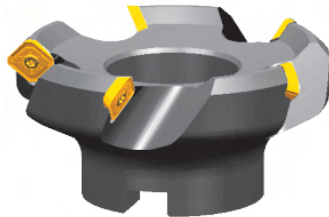
MILLING TOOLS

Face Milling tool

Kr:45°



FMA02 P M K N S



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	ap _{max}			
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 △ Order

Spare Parts

Diameter ØD	Applicable Insert	insert screw	Wrench
Ø50-Ø125			
		L60M3.5×10	T15T

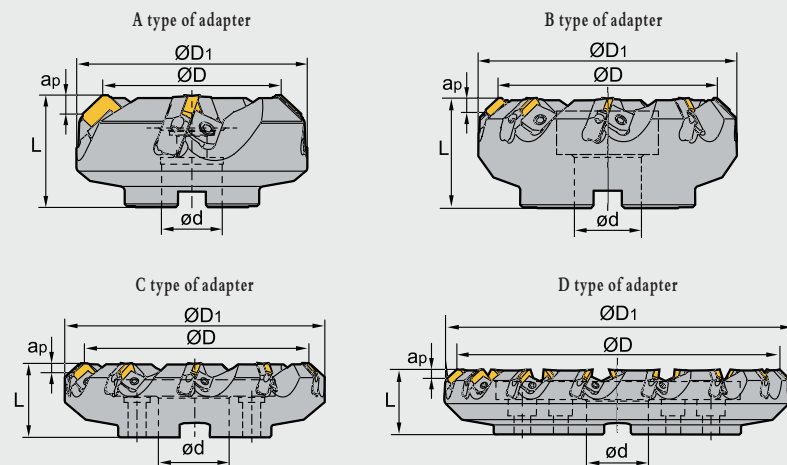
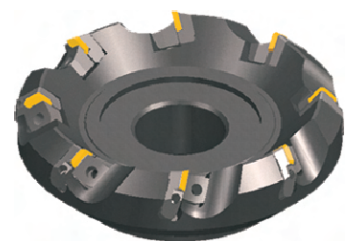
MILLING TOOLS

Face Milling tool

Kr:45°



FMA03 P M K



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	ap _{max}			
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 △ Order

Spare Parts

Diameter ØD	Insert	Knife-holder	Block	clamping screw	knife-holder screw	Wrench
Ø80-Ø315						
Ø80-Ø315	SE□N1504	LSE12R/L LSE15R/L	W01R/L	DM8×21X	LOM5×15.1	S3 S4

MILLING TOOLS

Face Milling tool

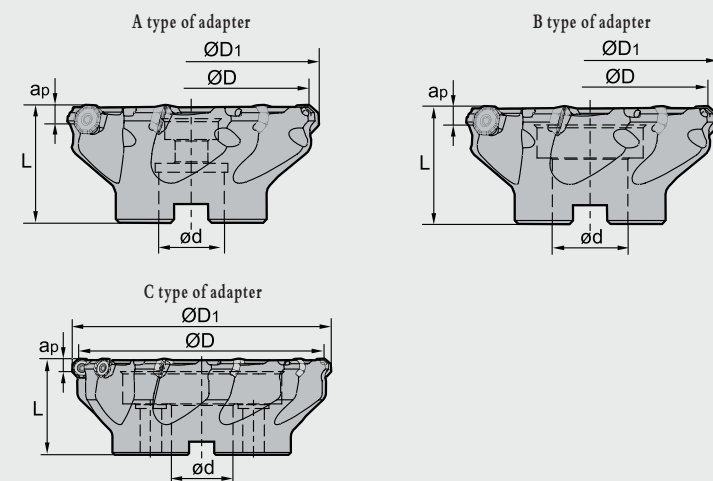
Kr:45°



FMA04 P M K N



screw on



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	ap _{max}			
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 △ Order

Spare Parts

Diameter ØD	Insert	insert screw	Wrench
Ø50-Ø63			
Ø80-Ø160	OFKT05T3	L60M4×10	T15

MILLING TOOLS

Face Milling tool

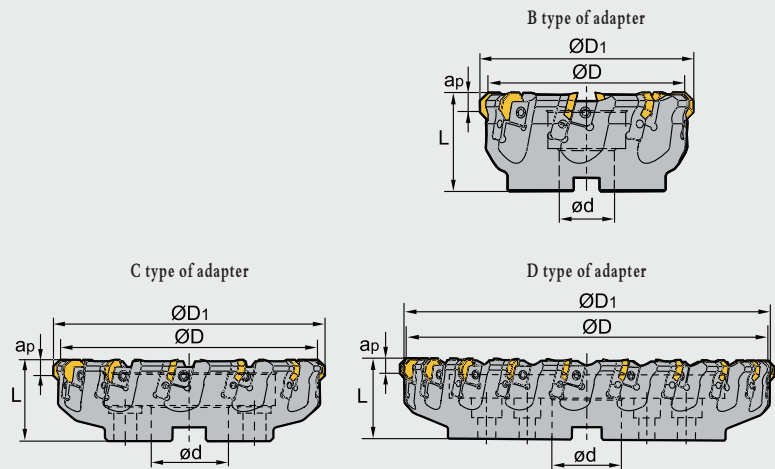
Kr:45°



FMA04 P M K



Block on



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	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 △ Order

Spare Parts

Diameter ØD	Applicable Insert	Knife-holder	Block	clamping screw	knife-holder screw	Wrench
Ø125-Ø315						
	OFKR0704	LOF07R/L	W02R/L	DM8×21X	LOM5×15.1	S3 S4

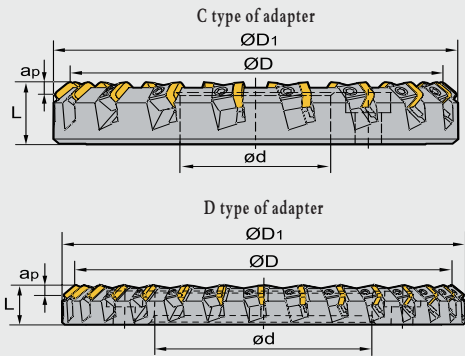
MILLING TOOLS

Face Milling tool

Kr:45°



FMA05 P K



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Installation disk Number	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	apmax			
FMA05	-200-C60-SN12-18	△	△	200	215	80	40	5	18	Adapter1	6.9
	-250-C60-SN12-24	△	△	250	265	120	40	5	24	Adapter2	9.4
	-315-D60-SN12-30	△	△	315	330	180	40	5	30	Adapter3	12.5
	-355-D60-SN12-34	△	△	355	370	220	40	5	34	Adapter4	15.1
	-400-D60-SN12-38	△	△	400	415	250	40	5	38	Adapter5	18.4
	-450-D60-SN12-44	△	△	450	465	300	40	5	44	Adapter6	21.7
	-200-C60-SN15-18	△	△	200	220	80	40	5.5	18	Adapter1	6.9
	-250-C60-SN15-24	△	△	250	270	120	40	5.5	24	Adapter2	9.4
	-315-D60-SN15-30	△	△	315	335	180	40	5.5	30	Adapter3	12.6
	-355-D60-SN15-34	△	△	355	375	220	40	5.5	34	Adapter4	15.2
	-400-D60-SN15-38	△	△	400	420	250	40	5.5	38	Adapter5	18.4
	-450-D60-SN15-44	△	△	450	470	300	40	5.5	44	Adapter6	21.8

▲ Stock △ Order

Spare Parts

Diameter ØD	Insert	Block	clamping screw	Wrench
Ø200-Ø450				
	SNKN1204 SNKN1504	W04N W05N	DM8×21X	S4

The Installation disk Specification of FMA 05

Installation	Type	Dimension (mm)											
		ØD	ød	Ød ₁	Ød ₂	Ød ₃	Ød ₄	Ød ₅	ØC	ØC ₁	ØC ₂	N	刀具ØD
	Adapter1	180	60	26	18	—	—	80	120	101.6	—	4	Ø200
	Adapter2	230	60	26	18	—	—	120	170	101.6	—	4	Ø250
	Adapter3	290	60	26	18	32	22	180	230	101.6	177.8	6	Ø315
	Adapter4	330	60	26	18	32	22	220	270	101.6	177.8	6	Ø355
	Adapter5	370	60	26	18	32	22	250	300	101.6	177.8	6	Ø400
	Adapter6	420	60	26	18	32	22	300	350	101.6	177.8	6	Ø450

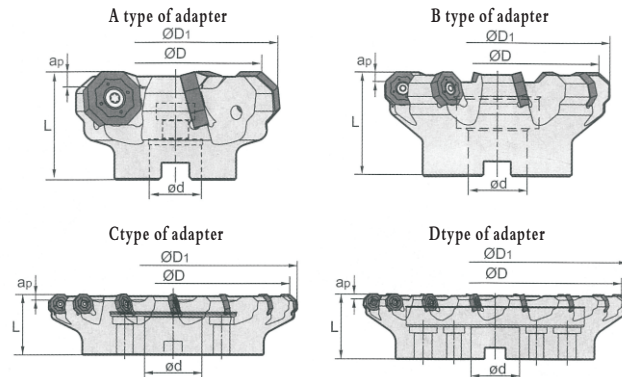
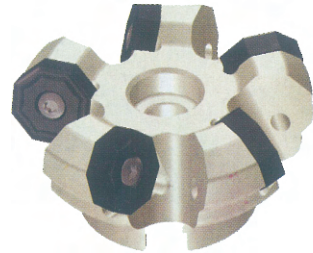
MILLING TOOLS

Face Milling tool

Kr:45°



FMA07 P K



Type of Milling Tools

Type	Stock		Dimension (mm)					Tooth Z	Adapter	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-ON08-12	▲	△	250	265	60	63	5	14	C	12
-315-D60-ON08-16	▲	△	315	330	60	80	5	16	D	21

▲ Stock △ Order

Spare Parts

Diameter ØD	Insert	insert screw	Wrench
Ø50-Ø315	ONHU06□□□□ -PF/PM/W	L60M4×10	T15T
Ø63-Ø315	ONHU08□□□□ -PF/PM/W	L60M 5×13	T20T

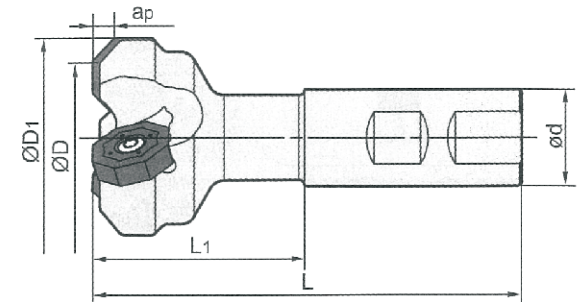
MILLING TOOLS

Face Milling tool

Kr:45°



FMA07 P K



Type of Milling Tools

Type	Stock		Dimension (mm)					Tooth Z	Weight (kg)
	R	L	ØD	ØD1	ød	L	L1		
FMA07 -025-XP20-ON06-02	▲	△	25	37	20	95	45	4	0.2
-040-XP25-ON06-03	▲	△	40	52	25	106	50	4	0.4
-032-XP25-ON08-02	▲	△	32	47	25	111	55	5	0.4
-040-XP25-ON08-03	▲	△	40	55	25	111	55	5	0.5
-050-XP25-ON08-04	▲	△	50	65	25	111	55	5	0.6

▲ Stock △ Order

Spare Parts

Diameter ØD	Insert	insert screw	Wrench
Ø25-Ø40	ONHU06□□□□ -PF/PM/W	L60M4×10	T15T
Ø32-Ø50	ONHU08□□□□ -PF/PM/W	L60M 5×13	T20T

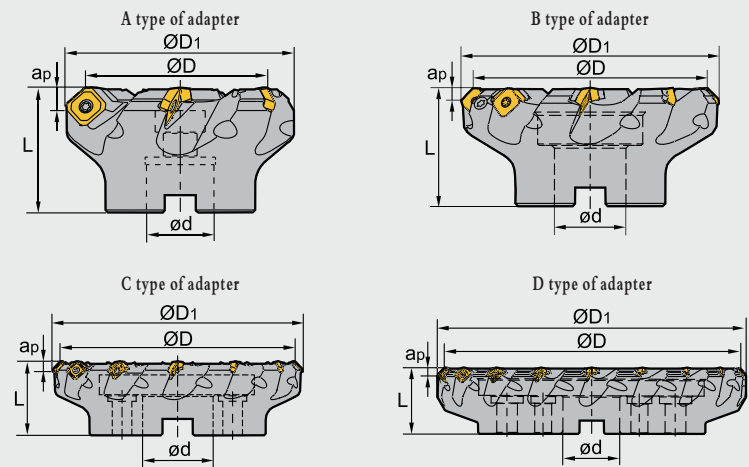
MILLING TOOLS

Face Milling tool

Kr:45°



FMA08 P M K N S



Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD1	ød	L	apmax			
FMA08	-050-A22-SE13-03	▲	△	50	61	22	40	6	3	A	0.3
	-063-A22-SE13-04	▲	△	63	74	22	40	6	4	A	0.5
	-080-A27-SE13-04	▲	△	80	91	27	50	6	4	A	1.2
	-100-B32-SE13-05	▲	△	100	107	32	50	6	5	B	1.2
	-125-B40-SE13-06	▲	△	125	136	40	63	6	6	B	2.6
	-050-A22-SE13-04	▲	△	50	61	22	40	6	4	A	0.3
	-063-A22-SE13-05	▲	△	63	74	22	40	6	5	A	0.5
	-080-A27-SE13-06	▲	△	80	91	27	50	6	6	A	1.2
	-100-B32-SE13-07	▲	△	100	107	32	50	6	7	B	1.2
	-125-B40-SE13-08	▲	△	125	136	40	63	6	8	B	2.6
	-160-B40-SE13-10	▲	△	160	170	40	63	6	10	B	4.3
	-200-C60-SE13-12	▲	△	200	210	60	63	6	12	C	7.6
	-250-C60-SE13-14	▲	△	250	260	60	63	6	14	C	13.5
	-315-D60-SE13-18	△	△	315	325	60	70	6	18	D	20.8

▲ Stock △ Order

Spare Parts

Diameter ØD	Applicable Insert	insert screw	Shim	shim screw	Wrench	Wrench
Ø50-Ø100	SEET13T3AGEN-JL	L60M3.5×10	—	—	T15T	—
Ø125-Ø315	SEMT13T3AGSN-JM/JH/FT SEGT13T3AGFN-JP	L60M3.5×10	S13BS	SM5×7XA	—	S4

Note: The insert is Mitsubishi brand

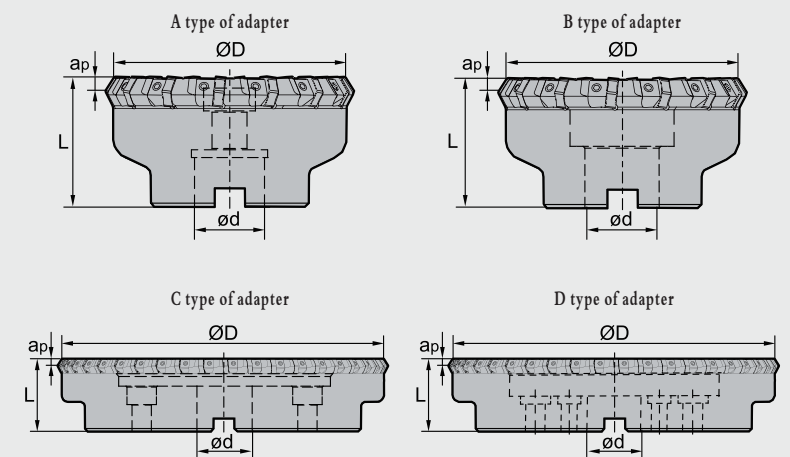
MILLING TOOLS

Face Milling tool

Kr:55°



FMD02 K



Type of Milling Tools

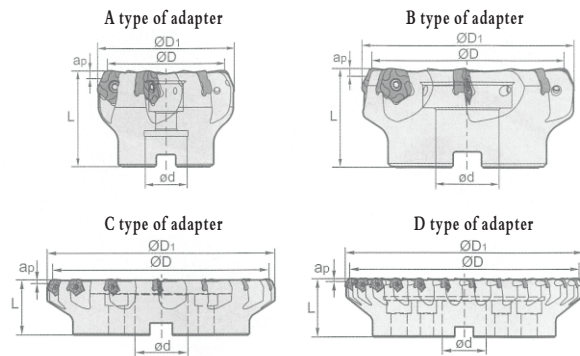
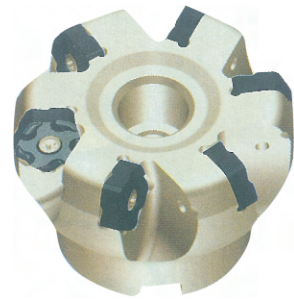
Type	Stock	Dimension (mm)						Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ød	L	apmax			
FMD02	-080-A27-HN09-08	▲	△	80	27	50	6	8	A	1.1
	-100-B32-HN09-10	▲	△	100	32	63	6	10	B	2.6
	-125-B40-HN09-14	▲	△	125	40	70	6	14	B	3.7
	-160-B40-HN09-18	▲	△	160	40	63	6	18	B	5.6
	-200-C60-HN09-22	▲	△	200	60	63	6	22	C	6.3
	-250-C60-HN09-28	▲	△	250	60	63	6	28	C	10.3
	-315-D60-HN09-32	▲	△	315	60	63	6	32	D	21.7

▲ Stock △ Order

Spare Parts

Diameter ØD	Applicable Insert	Block	clamping screw	Wrench
Ø80-Ø315	HNEX0905	W06T	DM6×25	S3

MILLING TOOLS



Face Milling tool **Kr: 67°****FMD02 K**

Type of Milling Tools

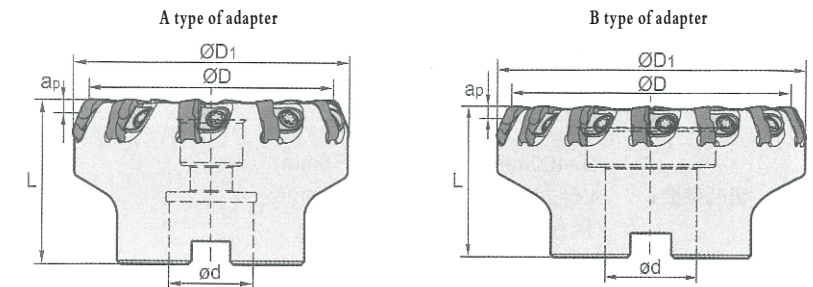
Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD1	ød	L	apmax			
FMD02 sparsely unequally teeth space	-050-A22-PN11-04	▲	△	50	60.1	22	50	5	4	A	0.6
	-063-A22-PN11-05	▲	△	63	73.1	22	50	5	5	A	0.8
	-080-B27-PN11-06	▲	△	80	90.1	27	50	5	6	A	1.1
	-100-B32-PN11-07	▲	△	100	110.1	32	50	5	7	B	1.8
	-125-B40-PN11-08	▲	△	125	135.1	40	63	5	8	B	2.9
densely Toothed	-160-B40-PN11-10	▲	△	160	170.1	40	63	5	10	B	5.6
	-200-C60-PN11-12	▲	△	200	210.1	60	63	5	12	C	7.9
	-250-C60-PN11-14	▲	△	250	260.1	60	63	5	14	C	13.4
	-050-A22-PN11-05	▲	△	50	60.1	22	50	5	5	A	0.6
	-063-A22-PN11-06	▲	△	63	73.1	22	50	5	6	A	0.9
	-080-B27-PN11-08	▲	△	80	90.1	27	50	5	8	A	1.2
	-100-B32-PN11-10	▲	△	100	110.1	32	50	5	10	B	1.9
	-125-B40-PN11-12	▲	△	125	135.1	40	63	5	12	B	3.2
	-160-B40-PN11-14	▲	△	160	170.1	40	63	5	14	B	6.4
	-200-C60-PN11-16	▲	△	200	210.1	60	63	5	16	C	8.5
	-250-C60-PN11-18	▲	△	250	260.1	60	63	5	18	C	18.0
	-315-D60-PN11-26	▲	△	315	325.1	60	80	5	26	D	24.5

▲ Stock △ Order

Spare Parts

Diameter ØD	Insert	insert screw 	Wrench 
Ø50-Ø315	PNEG110512R-CR	L60M4×10	T15T
	PNEG110512R-CM		

MILLING TOOLS



Face Milling tool **Kr: 67°****FMD02 K**

Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD1	ød	L	apmax			
FMD02 Super dense tooth	-080-A27-PN11-10	▲	△	80	90.1	27	50	5	10	A	1.3
	-100-B32-PN11-14	▲	△	100	110.1	32	50	5	14	B	1.6
	-125-B40-PN11-18	▲	△	125	135.1	40	63	5	18	B	3.2
	-160-B40-PN11-22	▲	△	160	170.1	40	63	5	22	B	5.8

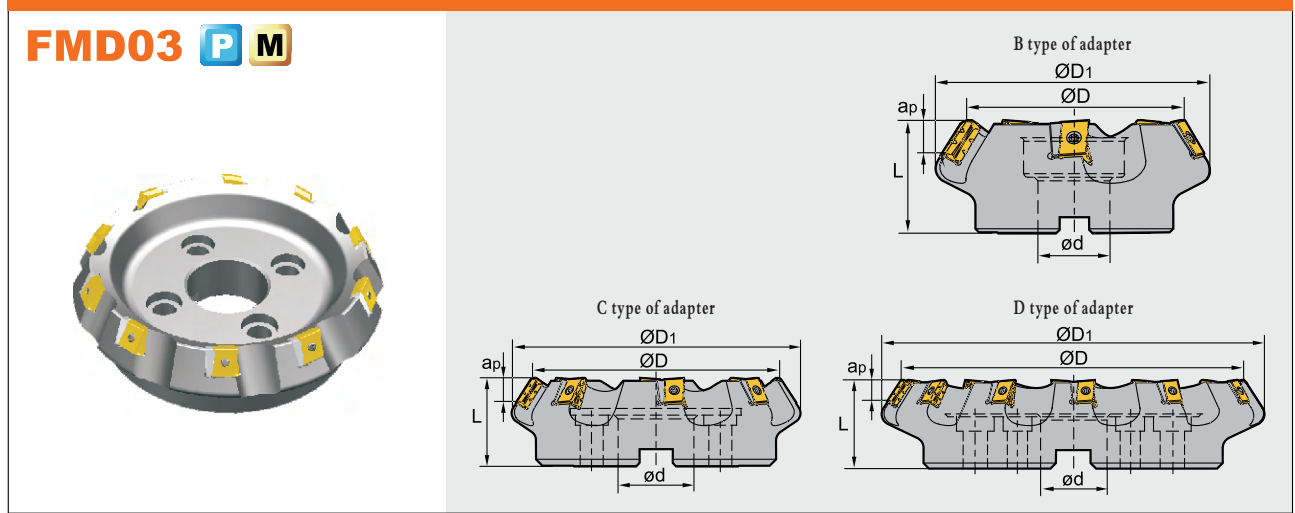
▲ Stock △ Order

Spare Parts

Diameter ØD	Insert	Block	clamping screw 	Wrench 
			DM6×20A	S3
Ø80-Ø160	PNEG110512R-CR	W18N	DM6×20A	S3
	PNEG110512R-CM			

MILLING TOOLS

Face Milling tool **Kr:60°**



■ Type of Milling Tools

Type		Stock	Dimension (mm)					Tooth Z	Adapter	Weight (kg)
			ØD	ØD ₁	ød	L	a _p max			
FMD03	-125-B40-LN25-05	△	125	154	40	63	17	5	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

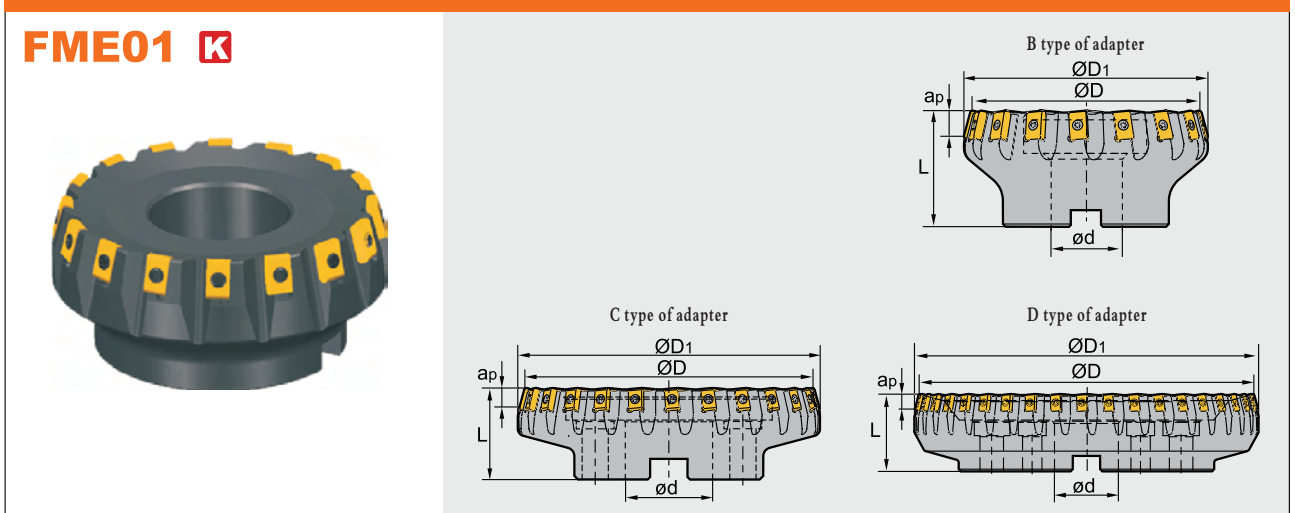
▲ Stock △ Order

■ Spare Parts

Diameter ØD	Applicable Insert	shim screw	Shim	insert screw	Wrench	
Ø125-Ø315	LNKT2007	L60M3×8	LLN20R-ZR	L60M4×15	T15T	T08
Ø125-Ø400	LNKT2510	L60M3.5×10	LLN25R-ZR	L60M5×17	T20T	T15

MILLING TOOLS

Face Milling tool **Kr:75°**



■ Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	a _p max			
FME01	-125-B40-LN15-16	△	△	125	132	40	63	8	16	B	3.5
	-160-B40-LN15-20	△	△	160	168	40	63	8	20	B	6.1
	-200-C60-LN15-25	△	△	200	208	60	63	8	25	C	7.4
	-250-C60-LN15-32	△	△	250	257	60	63	8	32	C	13.1
	-315-D60-LN15-40	△	△	315	323	60	70	8	40	D	25.5

▲ Stock △ Order

■ Spare Parts

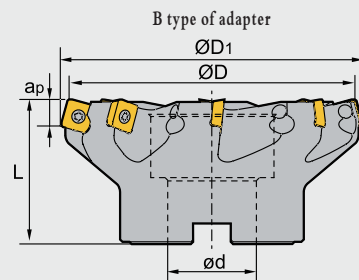
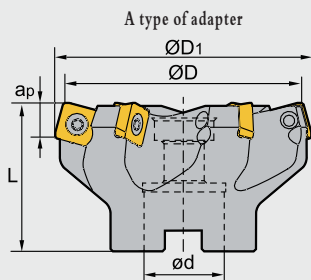
Diameter ØD	Insert	insert screw	Wrench
Ø125-Ø315	LNE32.534	L90M4×11	T15T

MILLING TOOLS

Face Milling tool **Kr:75°**



FME02 **P M K**



■ Type of Milling Tools

Type		Stock	Dimension (mm)					Tooth Z	Adapter	Weight (kg)
			ØD	ØD ₁	ød	L	apmax			
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 △ Order

■ Spare Parts

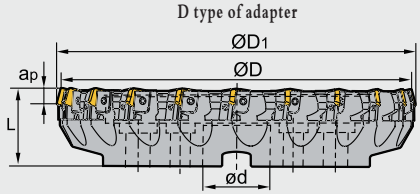
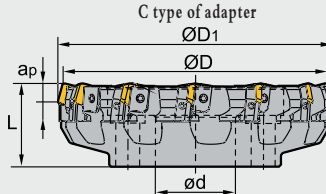
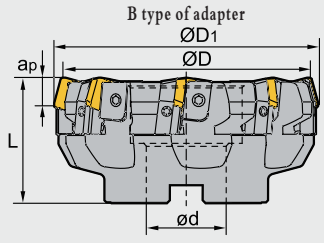
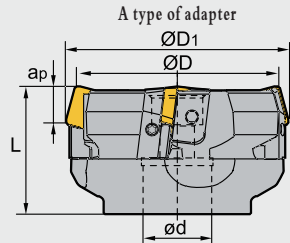
Diameter ØD	Applicable Insert	insert screw	Wrench
Ø50-Ø125			
	SPKW1204		
			
	SPKT1204		

MILLING TOOLS

Face Milling tool **Kr:75°**



FME03 **P M K**









■ Type of Milling Tools

Type		Stock		Dimension (mm)					Tooth Z	Adapter	Weight (kg)
		R	L	ØD	ØD ₁	ød	L	ap _{max}			
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 △ Order

■ Spare Parts

Diameter ØD	Insert	Knife-holder	Block	Clamping	knife-holder screw	Wrench
Ø80-Ø100						
				WM8x22		
				WM8x22		
Ø125-Ø315	SPKN1203	LSP12R/L	W04R/L			
Ø80-Ø315	SPKN1504	LSP15R/L	W04R/L			