

## **Milling Tools**

*Indexable milling tools*



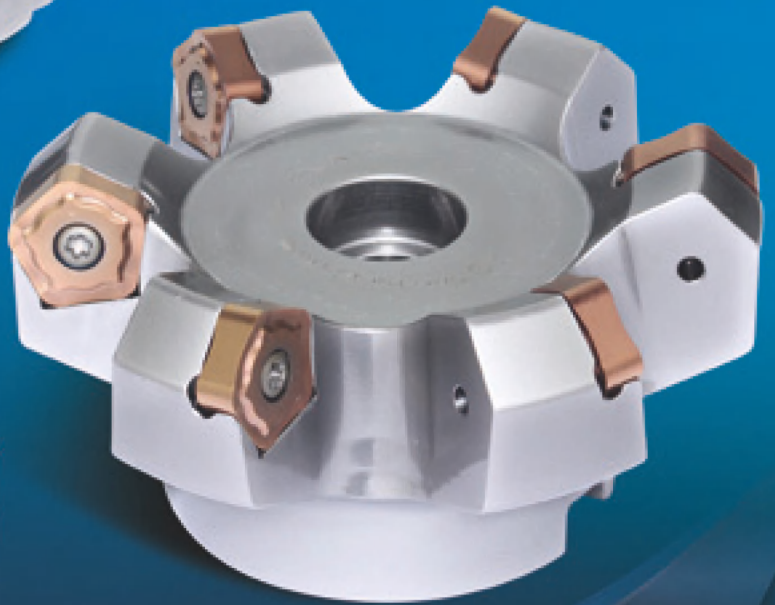
# FMA 11 series

With Outstanding Economy and High Performance



# **FMA12** series

High Performance Face Milling  
with 16 Edges for Outstanding  
Economy Milling



# **FMA14** series







High Efficiency and High Precision  
General Purpose Milling Tools



# **FM\*17** series







***New Generation of the  
Tangential Milling Tools***

***EMP09*** series





**EMP13** Series  
Achieve High-quality 90° Square  
Shoulder Processing



# Milling



<b>Indexable Milling Tools</b>	B1-B276
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Solid carbide end mills	B277-B646
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New champion in milling **YBC302**  
Black Diamond Series Grade



### How to choose the right indexable milling tools

#### Classification of milling tools

According to types of machining operation

Applicable machining operations  
For face milling, chamfering, shoulder milling etc.

Product series

Type of machining

Workpiece materials

Approach angle

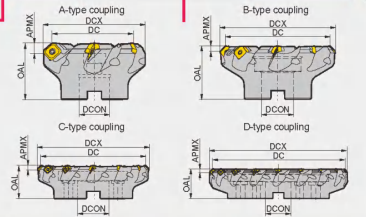
Structure and coupling size

Face milling tools

FMA01

KAPR:45°

Face milling Chamfering



#### Specification of tools

Type	Stock		Basic dimensions(mm)						Number of teeth Z	Type of coupling	Weight (kg)
	R	L	DC	DCX	DCON	OAL	APMX				
<b>FMA01</b> Coarse pitch											
-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	1.52	
-125-B40-SE12-08	▲	△	125	136	40	63	6	8	B	2.6	
-160-B40-SE12-07	▲	△	160	174	40	63	6	7	B	4.548	
-160-B40-SE12-10	▲	△	160	170	40	63	6	10	B	4.92	
-200-C60-SE12-08	▲	△	200	214	60	63	6	8	C	6.175	
-200-C60-SE12-10	▲	△	200	210	60	63	6	12	C	7.6	
-250-C60-SE12-14	▲	△	250	264	60	63	6	10	C	12.586	
-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	
-100-B32-SE18-04	▲	△	100	120	32	63	10.4	4	B	2.22	
-125-B40-SE18-05	▲	△	125	145	40	63	10.4	5	B	3.15	
-160-B40-SE18-06	▲	△	160	180	40	63	10.4	6	B	5.01	
-200-C60-SE18-08	▲	△	200	220	60	63	10.4	8	C	6.9	
-250-C60-SE18-10	▲	△	250	270	60	63	10.4	10	C	13.1	
-315-D60-SE18-12	▲	△	315	335	60	80	10.4	12	D	24.5	

▲ Stock available △ Make-to-order

#### Spare parts

Diameter DC	Insert	Insert screw	Shim	Shim screw	Wrench	Wrench
Ø100-Ø315	SEET18□□	I80M5x17	S188S	SM8x9XA	WT20IT	WH50L

Tools code key E26-E27 Grade selection guide E19-E23 Technical data E271-E276

Spare parts

Tools specification  
Tool shape, dimensions, stock, etc

Assembly of tools and spare parts

Tool shape

Tools code key, reference to grade selection, technical data

Inserts specification

Insert shape, type, dimensions, grade, stock, etc.

#### Selection of inserts

Insert shape	Type	Basic dimensions(mm)							CVD Coating				PVD Coating				Cermets			
		L	IC	S	D1	BCH	R	YG8020	YG8025	YG8030	YG8040	YG8050	YG8060	YG8070	YG8080	YG8090	YG8100	YG8110	YG8120	
SEET12T3-DF	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	SEET12T3-EF	13.4	13.4	3.97	4.1	2.55	--													
	SEET12T3-DM	13.4	13.4	3.97	4.1	2.55	--	★												
SEET18T6-DM	SEET18T6-DM	18.0	18.0	6.1	5.5	1.5	--		○											
	SEET18T6-CM	13.4	13.4	3.97	4.1	2.55	--	★												
SEET12T3-EM	SEET12T3-EM	13.4	13.4	3.97	4.1	2.55	--													
	SEET18T6-EM	18.0	18.0	6.1	5.5	1.5	--		○											
SEET12T3-DR	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	SEET12T3-LH	13.4	13.4	3.97	4.1	2.55	--													○
SEET12T3-W	SEET12T3-W	17.82	13.4	3.97	4.1	9.46	500	★	★											★
SEET18T6-W	SEET18T6-W	24.78	18.0	6.1	5.5	11.0	500													○

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



### How to choose indexable milling inserts

#### ■ Detailed information for indexable milling inserts

Listed according to insert shape

Select insert grade according to workpiece material and working condition. Prior to selecting grade, please refer to the working condition suitable for the workpiece material.

- 😊 Good working condition: machine works well and stably. There are high requirements for dimensional precision of components and quality surface.
- 😐 Normal working condition: machine works normally. There are certain requirements for dimensional precision of components and surface quality.
- 😞 Bad working condition: machine works with bad stability. There are high requirements for high metal removal rate.

**Insert shape and size**

**Insert shape**

**AP** □ □

**Insert grade**

Insert shape	Type	Basic dimensions(mm)					CVD Coating				PVD Coating		Cermet		Cemented carbide										
		INSL	W1	S	D1	RE	YBC302	YBM253	YBD152	YBD203	YBD252	YBG105	YBG202	YBG205	YBG320	YBS302	YBS203	YBS303	YNG151	YNG151C	YD101	YD201			
	APKT11T304-APL	12.24	6.6	3.6	2.8	0.4								*											
	APKT11T308-APL	12.24	6.6	3.6	2.8	0.8	*	*	*					*											
	APKT160408-APL	17.877	9.33	5.76	4.4	0.8	*	*	*					*											
	APKT070204-APM	7.32	4.34	2.38	2	0.4	●	●					*												
	APKT11T304-APM	12.24	6.6	3.6	2.8	0.4	●						*												
	APKT11T308-APM	12.24	6.6	3.6	2.8	0.8	●	●					*		●	●									
	APKT11T312-APM	12.24	6.6	3.6	2.8	1.2		●					*												
	APKT11T316-APM	12.24	6.6	3.6	2.8	1.6							*												
	APKT11T320-APM	12.24	6.6	3.6	2.8	2.0		●					*												
	APKT160408-APM	17.877	9.33	5.76	4.4	0.8		●	●				*		●	●									
	APKT160416-APM	17.877	9.33	5.76	4.4	1.6		●	●				*		●										
	APKT160420-APM	17.877	9.33	5.76	4.4	2.0			●				*												
	APKT160424-APM	17.877	9.33	5.76	4.4	2.4							*												
	APKT160430-APM	17.877	9.33	5.76	4.4	3.0							*												
		APKT070204-APF	7.32	4.34	2.38	2	0.4	●	●					*											
		APKT11T304-APF	12.24	6.6	3.6	2.8	0.4	●	●					*											
APKT11T308-APF		12.24	6.6	3.6	2.8	0.8	●	●					*		●	●									
	APKT160408-APF	17.877	9.33	5.76	4.4	0.8	●						*		●	●									
	APKT11T304-ALH	12.24	6.6	3.6	2.8	0.4															*	*			
	APKT11T308-ALH	12.24	6.6	3.6	2.8	0.8															*	○			
	APKT160408-ALH	17.877	9.33	5.76	4.4	0.8															*	*			

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

**Insert shape**

**Insert dimension**

**Insert type**

**Stock condition**



# MILLING



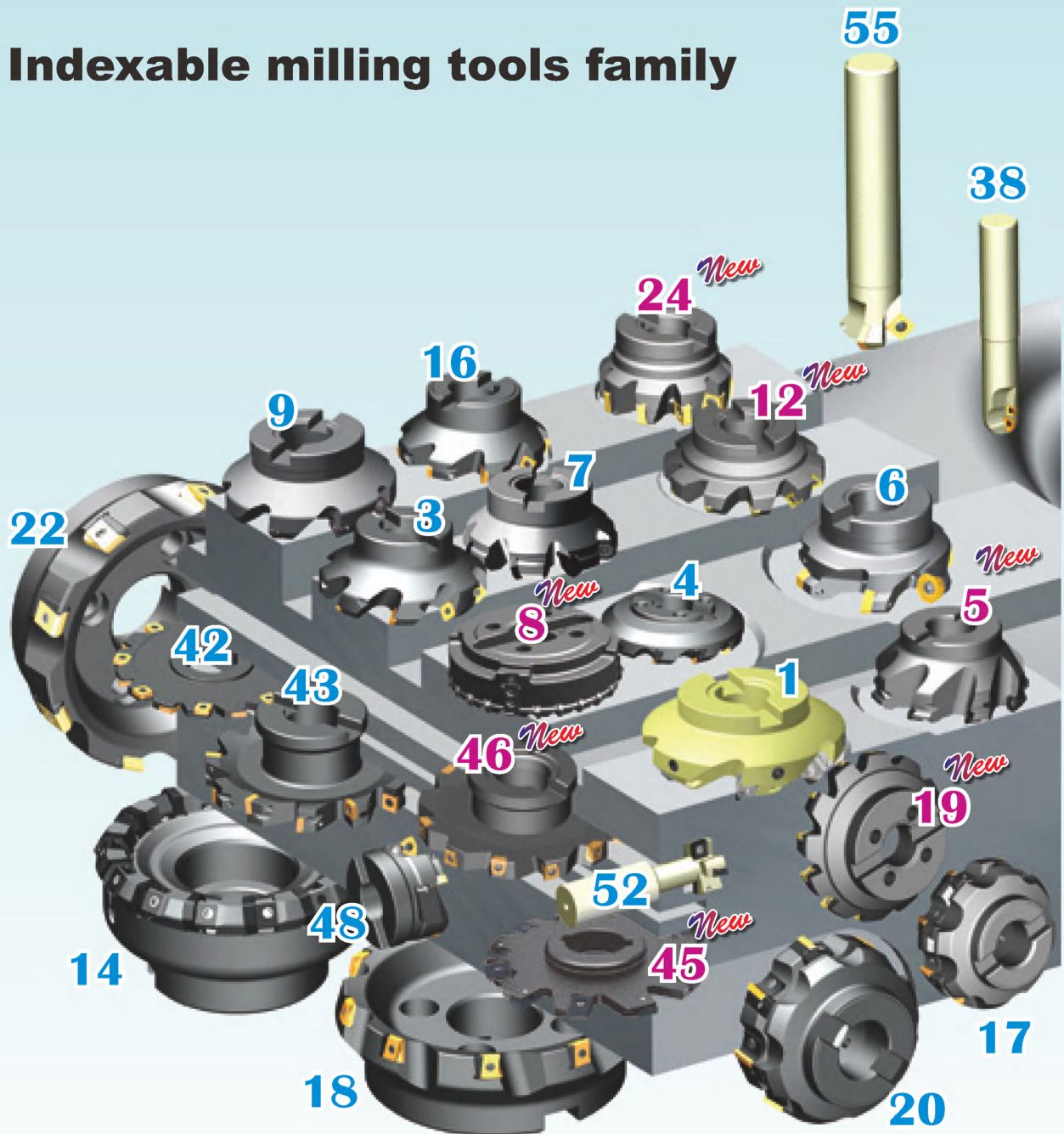
## Indexable Milling Tools

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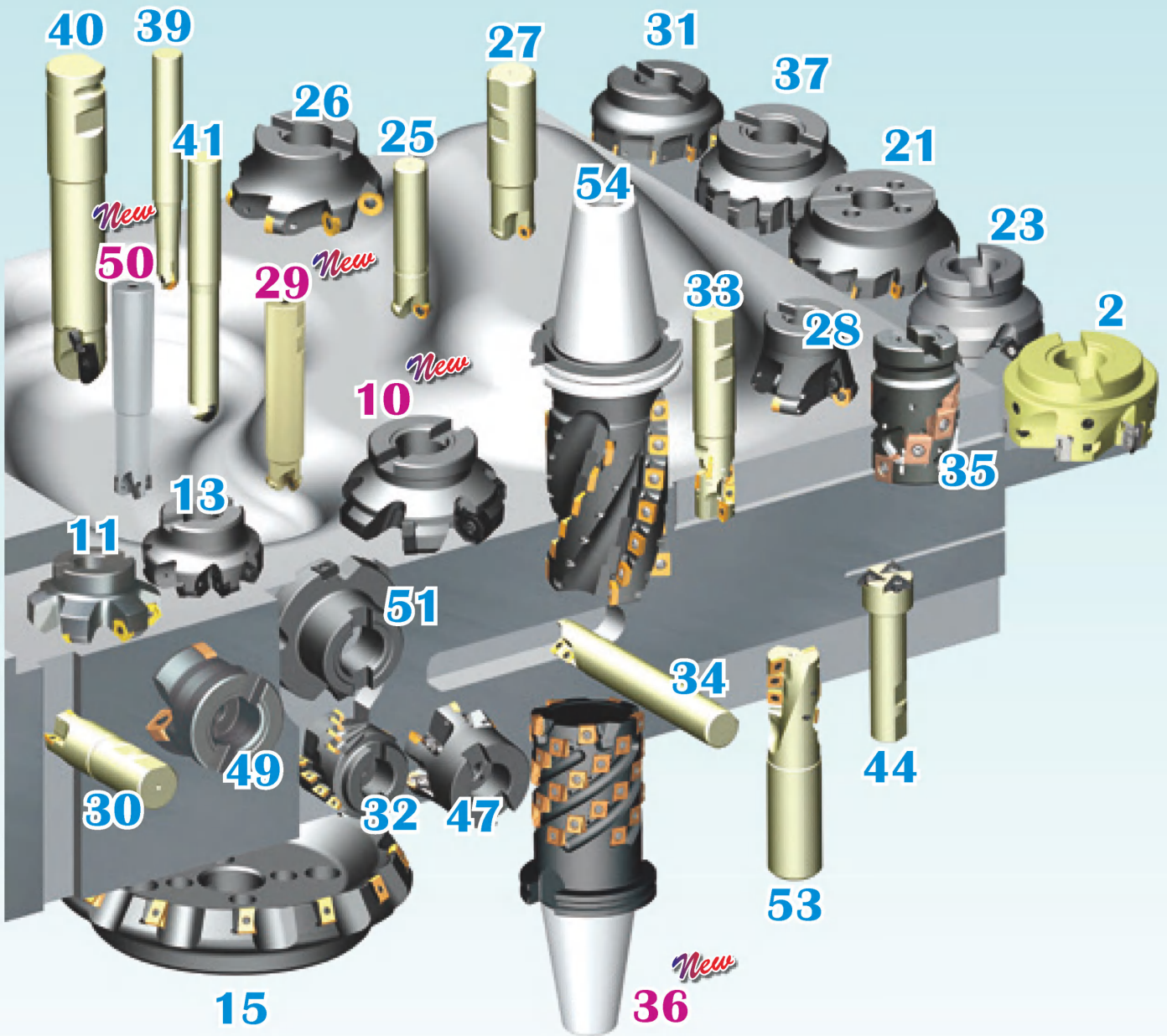




# Indexable milling tools family



Number	Tool category	Page	Number	Tool category	Page	Number	Tool category	Page
1	AMA01	B29	11	FMA14	B63	21	FMP02	B89
2	AMP01	B31	12	FMA17	B65	22	FMP03	B94
3	FMA01	B33	13	FMD02(PN11)	B68	23	FMP12	B97
4	FMA03	B38	14	FMD02(HN09)	B73	24	FMP17	B100
5	FMA04(OFKT05□□)	B41	15	FMD03	B75	25	FMR01	B103
6	FMA04(ODH/MT06□□)	B44	16	FME02	B77	26	FMR02	B105
7	FMA07	B47	17	FME03	B79	27	FMR03	B108
8	FMA08	B51	18	FME04	B83	28	FMR04	B109
9	FMA11	B54	19	FME17	B85	29	FMR11	B112
10	FMA12	B59	20	FMP01	B87	30	EMP01	B116



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32	EMP03	B120	41	BMR04	B167	51	XMP01	B215
33	EMP04	B121	42	SMP01	B175	52	TMP01	B217
34	EMP05	B127	43	SMP03	B178	53	HMP01(Ø40-Ø50)	B219
35	EMP09	B135	44	SMP05	B182	54	HMP01(Ø50-Ø80)	B220
36	EMP09 BT	B140	45	SMP08	B184	54	HMP01 EC(Ø50-Ø80)	B221
	EMP09 JT	B140	46	SMP09	B189		55	CM□01
37	EMP13	B145	47	XMR01(SDMT□□)	B194			
38	BMR01	B150	48	XMR01(WPGT□□)	B198			
39	BMR02	B152	49	XMR03	B206			












**Whirlwind** **FMD02**  
Milling Tools Series



## Indexable milling tools overview








Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
High-speed high-precision milling tools	<b>AMA01</b> 	KAPR=45° a <sub>p</sub> max=6.6	SEHT12T3AFFN-AL	High-speed, high-precision milling of aluminum alloy and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø500</li> <li>• High-strength, lightweight aluminum alloy tool body</li> <li>• Unique tool clamping design</li> <li>• Elastic runout adjustment structure, high-pressure internal cooling, combined with high-precision cutting inserts, to achieve high-precision, efficient, and stable processing of various materials</li> </ul>
		KAPR=45° a <sub>p</sub> max=2.0	SEHT12T308AFFN-CBN		
		KAPR=45° a <sub>p</sub> max=2.5	SEHT12T308AFFN-PCD		
	<b>AMP01</b> 	KAPR=90° a <sub>p</sub> max=12	APHT12T304PPFR-AL		
		KAPR=90° a <sub>p</sub> max=1.0	APHT12T304-W		
		KAPR=90° a <sub>p</sub> max=2.0	APHT12T304PPFR-CBN		
		KAPR=90° a <sub>p</sub> max=3.0	APHT12T304PPFR-PCD		
Face milling tools	<b>FMA01</b> 	KAPR=45° a <sub>p</sub> max=6.0	SEET12T3-DF/DM/DR SEET12T3-CF/CM/CR SEET12T3-EF/EM SEET12T3-LH/W	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy, and high-temperature alloys	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø315</li> <li>• Large lead angle design for quicker cutting</li> <li>• Compatible with a variety of slot inserts, widely applicable</li> <li>• Compatible with wipers to improve surface quality</li> </ul>
		KAPR=45° a <sub>p</sub> max=10.4	SEET18T6-DM/EM/W		
	<b>FMA03</b> 	KAPR=45° a <sub>p</sub> max=5.5	SE□□1203A□□□□	Face milling of steel, stainless steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø315</li> <li>• Large lead angle design for quicker cutting</li> <li>• Block compression structure, good vibration resistance</li> </ul>
		KAPR=45° a <sub>p</sub> max=7.5	SE□□1504A□□□□		
	<b>FMA04</b> <i>New</i> 	KAPR=45° a <sub>p</sub> max=3.5	OFKT05T3-DF/DM OFKT05T3-LH	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy, and high-temperature alloys	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø160</li> <li>• 8-flute high-economic milling cutter</li> <li>• High precision with screw compression</li> </ul>
			KAPR=45° a <sub>p</sub> max=4.0		
	<b>FMA07</b> 		KAPR=45° a <sub>p</sub> max=4.0	ONHU060408-PF/PM/W	Common face milling of steel and cast iron
			KAPR=45° a <sub>p</sub> max=5.0	ONHU08T508-PF/PM/W	

Indexable milling tools

Indexable milling tools overview











## Indexable milling tools overview

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Face milling tools	<b>FMA08</b> <i>New</i>  B51	KAPR=45° a <sub>p</sub> max=1.0	ONHU060408-CM	Precision face milling of cast iron components	<ul style="list-style-type: none"> <li>• Tool diameter Ø100-Ø315</li> <li>• Precision face milling cutter with adjustable dedicated wipers for strong operability</li> <li>• Double-sided 16-flute inserts, economically efficient, compatible with FMA07 series</li> <li>• Preferred tool for broad surface precision machining of K-class materials</li> </ul>
			XEEC120904		
	<b>FMA11</b>  B54-55	KAPR=45° a <sub>p</sub> max=5.5	SNEG1205ANR-GM/HGR/GR/W	Face milling of steel, alloy steel, stainless steel, cast iron, and high-temperature alloys	<ul style="list-style-type: none"> <li>• Tool diameter Ø63-Ø315</li> <li>• Double-sided slot milling inserts with 8 cutting edges, economically efficient</li> <li>• Large lead angle design for inserts, unique chipbreaker structure, low power consumption during machining</li> <li>• Double-negative structure and ultra-thick inserts ensure higher tool safety and excellent impact resistance, suitable for deep cutting operations</li> <li>• Inserts have wiper edges, excellent machining performance</li> </ul>
		KAPR=45° a <sub>p</sub> max=7.0	SNEG1506ANR-GM/HGR/GR/W		
		KAPR=45° a <sub>p</sub> max=9.0	SNEG1907ANR-HGR/GR		
	<b>FMA12</b> <i>New</i>  B59-60	KAPR=45° a <sub>p</sub> max=4.0	ONHU0604□□ANN-GL/GM/GH ONMU0604□□-GH/GM	Face milling of steel, alloy steel, stainless steel, cast iron, and high-temperature alloys	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø315</li> <li>• Unique 3D spiral insert design with 16 cutting edges</li> <li>• Double-negative structure of the tool body, combined with the spiral insert design, achieves a positive axial lead angle, reducing cutting forces and aiding chip evacuation</li> </ul>
		KAPR=45° a <sub>p</sub> max=5.5	ONMU09□□□□-GM/GH ONHU09□□□□ANN-GM/GH/GL		
	<b>FMA14</b>  B63	KAPR=45° a <sub>p</sub> max=5.5	PNEG110512-GL PNEG110530-GM PNEG110530-GH	Common face milling of steel, stainless steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø315</li> <li>• 10-flute high-economic milling cutter</li> <li>• 45° entering angle balance design</li> <li>• Strong vibration resistance ensures good machining surface quality</li> </ul>
	<b>FMA17</b> <i>New</i>  B65	KAPR=45° a <sub>p</sub> max=6.5	SNGX1205ANN-GL/GM/GH/LH/W SNMX1205ANN-GM SNMX120512-GL/GM/GH	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy, and high-temperature alloys	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø400</li> <li>• Double-sided slot milling inserts with 8 cutting edges, economically efficient</li> <li>• Left and right use the same inserts, with the cutter divided into sparse and dense teeth.</li> <li>• Inserts have wiper edges, high machining surface quality</li> <li>• Various chipbreakers with different coating materials, widely applicable</li> </ul>
	<b>FMD02</b>  B68-69  B73	KAPR=67° a <sub>p</sub> max=5.0	PNEG110512R/L-CF/CM/CR	Common face milling of steel and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø315</li> <li>• 10-flute high-economic milling cutter</li> </ul>
KAPR=67° a <sub>p</sub> max=7.5		PNEG110512R/L-PF/PM/PR			
KAPR=67° a <sub>p</sub> max=6.5		PNEG110512-KH/KM/KL	Common face milling of cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø315</li> <li>• 12-flute high-economic milling cutter</li> <li>• Block compression structure, convenient for tool insert installation and removal</li> </ul>	

Indexable milling tools

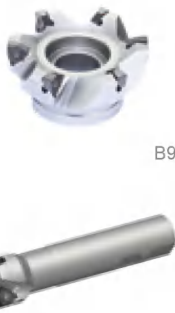






Indexable milling tools overview

## Indexable milling tools overview






Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Face milling tools	<b>FMD03</b>  B75	KAPR=60° a <sub>p</sub> max=12.0	LNKT2007DN-ZR	Steel, alloy steel, stainless steel, cast iron heavy face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø125-Ø400</li> <li>• Double-positive lead angle design, effectively reduces cutting forces</li> <li>• Insert mounting, suitable for heavy-duty machining with large cutting depths</li> <li>• Simple and convenient clamping form</li> </ul>
		KAPR=60° a <sub>p</sub> max=17.0	LNKT2510-ZR		
	<b>FME02</b>  B77	KAPR=75° a <sub>p</sub> max=6.0	SPKW1204EDFR SPKW1204EDSR SPKT1204EDR	Common face milling of steel, alloy steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø125</li> <li>• 75° entering angle general face milling cutter</li> <li>• Compatible with different chipbreaker inserts, widely applicable</li> </ul>
	<b>FME03</b>  B79	KAPR=75° a <sub>p</sub> max=6.0	SP□N1203(1504)ED□□ SP□R1203(1504)ED□□ SPEX1203□□-1	Common face milling of steel, alloy steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø315</li> <li>• 75° entering angle general face milling cutter</li> <li>• Block compression structure, convenient for tool insert installation and removal</li> </ul>
		KAPR=75° a <sub>p</sub> max=8.0	SP□N1504ED□□ SP□R1504ED□□ SPEX1504□□-1		
	<b>FME04</b>  B83	KAPR=75° a <sub>p</sub> max=12.0	LNKT1506EN-ZR	Steel, alloy steel heavy face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø125-Ø315</li> <li>• Double-positive lead angle design, effectively reduces cutting forces</li> <li>• Insert mounting, suitable for heavy-duty machining with large cutting depths</li> <li>• Simple and convenient clamping form</li> </ul>
	<b>FME17</b> <i>New</i>  B85	KAPR=75° a <sub>p</sub> max=8.0	SNGX1205ENN-GL/GM/GH/W SNMX120512-GL/GM/GH	Steel, alloy steel, stainless steel, cast iron, high-temperature alloy face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø400</li> <li>• Double-sided slot milling inserts, 8 cutting edges, economically efficient</li> <li>• Left and right use the same inserts, with the cutter divided into sparse and dense teeth.</li> <li>• Inserts have wiper edges, high machining surface quality</li> <li>• Various chipbreakers with different coating materials</li> <li>• Widely applicable</li> </ul>
	<b>FMP01</b>  B87	KAPR=90° a <sub>p</sub> max=18.0	TPKN2204PD□ TPKN2204PDF□ TPKN2204PDT□ TPMR2204PDS□	Face milling of steel, alloy steel, cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø315</li> <li>• 90° entering angle, suitable for square shoulder milling</li> <li>• Block structure for faster tool insert installation and removal</li> </ul>
	<b>FMP02</b>  B89	KAPR=90° a <sub>p</sub> max=6.7	SEET09T308PER-APF/APM/APR	Face milling of steel, alloy steel, stainless steel, cast iron, aluminum alloy, and high-temperature alloy	<ul style="list-style-type: none"> <li>• Tool diameter Ø40-Ø315</li> <li>• 90° entering angle, suitable for square shoulder milling</li> <li>• Sparse teeth, dense teeth, ultra-dense teeth design</li> <li>• Edge precision ground inserts, high workpiece surface quality</li> <li>• Correct chipbreaker and grade matching, suitable for finishing, semi-finishing, and roughing</li> </ul>
		KAPR=90° a <sub>p</sub> max=10.8	SEET120308PER-APF/APM/APR SEET120308-LH		
<b>FMP03</b>  B94	KAPR=90° a <sub>p</sub> max=13.0	LNKT1506EN-ZR	Steel, alloy steel heavy face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø125-Ø315</li> <li>• Double-positive lead angle design, effectively reduces cutting forces</li> <li>• Insert mounting, suitable for heavy-duty machining with large cutting depths</li> <li>• Simple and convenient clamping form</li> </ul>	
	KAPR=90° a <sub>p</sub> max=17.0	LNKT2007DN-ZR			
	KAPR=90° a <sub>p</sub> max=22.0	LNKT2510-ZR			



## Indexable milling tools overview

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features	
Face milling tools	<b>FMP12</b> 	KAPR=90° a <sub>p</sub> max=5.7	WNHU0604□□PNR-GM WNMU060408PNN-GM	Steel, alloy steel, stainless steel, cast iron, aluminum alloy, and high-temperature alloy face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø315</li> <li>• 90° entering angle can be used for shoulder milling, face milling, slot milling, etc.; 6-flute double-sided groove milling cutter, equipped with wiper edge, suitable for high-feed processing; tool body with double negative angles, combined with unique insert structure to achieve double positive tool angle, reducing cutting force</li> </ul>	
		B97	KAPR=90° a <sub>p</sub> max=7.7			WNHU0806□□PNR-GM WNMU080608PNN-GM WNHU080616PNR-LH
		B98	KAPR=90° a <sub>p</sub> max=5.7			WNHU0604□□PNR-GM
	<b>FMP17</b> <i>New</i> 	KAPR=88° a <sub>p</sub> max=10.5	SNGX1205PNN-GL/GM/GH/W SNMX120512-GL/GM/GH SNCU120420-W4	Steel, alloy steel, stainless steel, cast iron, and high-temperature alloy face milling.	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø400</li> <li>• 88° entering angle, strong tool functionality</li> <li>• Double-sided groove milling cutter, 8 cutting edges, good economy</li> <li>• Left and right use the same inserts, with the cutter divided into sparse and dense teeth.</li> <li>• Multiple groove types combined with various coating materials, widely used</li> </ul>	
	<b>FMR01</b> 	a <sub>p</sub> max=5.0	RCKT10T3MO-DM	Steel, alloy steel, stainless steel, cast iron, and difficult-to-machine material type profile milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø25-Ø50</li> <li>• R-type inserts have extremely strong cutting edges</li> <li>• Suitable for surface machining of molds</li> <li>• Economical milling cutter with screw clamping</li> </ul>	
		B103	a <sub>p</sub> max=6.0			RCKT1204MO-DM/DR/ER/NM
	<b>FMR02</b> 	a <sub>p</sub> max=6.0	RCKT1204MO-DM/DR/ER/NM	Steel, alloy steel, stainless steel, cast iron, hardened steel, and difficult-to-machine materials, profile milling, face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø160</li> <li>• R-type inserts have extremely strong cutting edges</li> <li>• Suitable for surface machining of molds</li> <li>• Economical milling cutter with screw tightening</li> </ul>	
		B105	a <sub>p</sub> max=8.0			RCKT1606MO-DM/DR/ER/NM
		a <sub>p</sub> max=10.0	RCKT2006MO-DR/ER			
	<b>FMR03</b> 	a <sub>p</sub> max=4.0	RDKW0803MO	Steel, alloy steel, stainless steel, cast iron, and difficult-to-machine material type profile milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø16-Ø50</li> <li>• R-type inserts have extremely strong cutting edges</li> <li>• Suitable for surface machining of molds</li> <li>• Economical milling cutter with screw tightening</li> </ul>	
		B108	a <sub>p</sub> max=5.0			RDKW10T3MO
		a <sub>p</sub> max=6.0	RDKW1204MO			
	<b>FMR04</b> 	a <sub>p</sub> max=6.0	RDKW1204MO	Steel, alloy steel, stainless steel, cast iron profile milling, face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø160</li> <li>• R-type inserts have extremely strong cutting edges</li> <li>• Suitable for surface machining of molds</li> </ul>	
		B109	a <sub>p</sub> max=8.0			RDKW1605MO
a <sub>p</sub> max=10.0		RDKW2006MO				
<b>FMR11</b> <i>New</i> 	a <sub>p</sub> max=5.0	R□MW10T3MO-H R□MT10T3MO-M R□MT10T3MO-MM	Steel, alloy steel, stainless steel, cast iron, hardened steel and difficult-to-machine materials, cavity copy milling, face milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø20-Ø40</li> <li>• Insert anti-rotation structure designed for stable processing</li> <li>• A wide range of groove options to handle various material processing</li> <li>• Screw compression, can be indexed 8 times, excellent economy</li> </ul>		
	B112	a <sub>p</sub> max=6.0			R□MW1204MO-H R□MT1204MO-M R□MT1204MO-MM	
	a <sub>p</sub> max=5.0	R□MW10T3MO-H R□MT10T3MO-M R□MT10T3MO-MM				
	B113	a <sub>p</sub> max=6.0			R□MW1204MO-H R□MT1204MO-M R□MT1204MO-MM	

## Indexable milling tools overview













Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Square shoulder milling tools	<b>EMP01</b>  B116-118	KAPR=90° a <sub>p</sub> max=6.0	APKT070204-APF/APM	Steel, alloy steel, stainless steel, difficult-to-machine materials, cast iron, aluminum alloy multi-functional milling	<ul style="list-style-type: none"> <li>Two interface forms of straight shank and end mill shank, tool diameter Ø10-Ø63</li> <li>90° entering angle, suitable for shoulder milling, slot milling, ramp milling, etc</li> <li>With wipers, also suitable for flat milling</li> <li>The insert is a 3D helical edge, with low cutting resistance</li> </ul>
		KAPR=90° a <sub>p</sub> max=10.5	APKT11T3□□-APF/APM APKT11T3□□-ALH		
		KAPR=90° a <sub>p</sub> max=15.5	APKT160408-APF/APM APKT160408-ALH		
	<b>EMP02</b>  B119	KAPR=90° a <sub>p</sub> max=11.5	APKT11T3□□-APF/APM/APL APKT11T3□□-ALH	Steel, alloy steel, stainless steel, difficult-to-machine materials, cast iron, and aluminum alloy face milling	<ul style="list-style-type: none"> <li>Tool diameter Ø50-Ø160</li> <li>90° entering angle, suitable for shoulder milling</li> <li>Equipped with wipers, also suitable for flat milling</li> <li>The insert is a 3D helical edge, with low cutting resistance</li> </ul>
		KAPR=90° a <sub>p</sub> max=15.5	APKT160408-APF/APM/APL APKT160408-ALH		
	<b>EMP03</b>  B120	KAPR=90° a <sub>p</sub> max=39.0	APKT11T3□□-APF/APM/APL APKT11T3□□-ALH	Steel, alloy steel, stainless steel, cast iron, aluminum alloy, difficult-to-machine materials, and deep milling processing	<ul style="list-style-type: none"> <li>Tool diameter Ø50-Ø100</li> <li>Spiral vertical milling cutter with positive spiral angle, good chip removal</li> <li>Used for side milling and slotting</li> <li>With dense teeth structure for high processing efficiency</li> </ul>
			APKT16-APF/APM/APL		
	<b>EMP04</b>  B121	KAPR=90° a <sub>p</sub> max=29.4~58.0	APKT11T3□□-APF/APM APKT11T3□□-ALH	Steel, alloy steel, stainless steel, cast iron, aluminum alloy, difficult-to-machine materials, and deep milling processing	<ul style="list-style-type: none"> <li>Tool diameter Ø20-Ø40</li> <li>Spiral vertical milling cutter with positive spiral angle, good chip removal</li> <li>Used for side milling and slotting</li> <li>With dense teeth structure for high processing efficiency</li> </ul>
	<b>EMP05</b>  B127  B128	KAPR=90° a <sub>p</sub> max=20~40	ADKT□□-GM	Drilling, milling, and multi-functional processing of steel, alloy steel, stainless steel, cast iron materials	<ul style="list-style-type: none"> <li>Tool diameter Ø16-Ø50</li> <li>Tool functions include drilling, slotting, shoulder milling</li> <li>Slot milling, and ramp milling</li> </ul>
	<b>EMP09</b>  B135  B136-137  B138  B139	KAPR=90° a <sub>p</sub> max=8.0	LNKT0804□□PNR-GM/GL LNMT080404PNR-GM	Shoulder and face milling of steel, alloy steel, stainless steel, and cast iron	<ul style="list-style-type: none"> <li>Tool diameter Ø25-Ø40</li> <li>Two interface forms: straight shank and end mill shank</li> <li>90° entering angle, suitable for shoulder milling, slot milling, etc. Vertical installation of the insert, able to withstand greater cutting force</li> </ul>
		KAPR=90° a <sub>p</sub> max=11.5	LNKT1206□□PNR-GM/GL LNMT120608PNR-GM		
		KAPR=90° a <sub>p</sub> max=8.0	LNKT0804□□PNR-GM/GL LNMT080404PNR-GM	Face milling of steel, alloy steel, stainless steel, cast iron	<ul style="list-style-type: none"> <li>Tool diameter Ø40-Ø125</li> <li>90° entering angle, suitable for shoulder milling, face milling vertical installation of the insert, good tool rigidity</li> </ul>
		KAPR=90° a <sub>p</sub> max=11.5	LNKT1206□□PNR-GM/GL LNMT120608PNR-GM		
		KAPR=90° a <sub>p</sub> max=15	LNKT1607□□PNR-GM/GL LNMT160708PNR-GM		
KAPR=90° a <sub>p</sub> max=33~63		LNKT1206□□PNR-GM/GL LNMT120608PNR-GM	Deep milling of steel, alloy steel, stainless steel, cast iron	<ul style="list-style-type: none"> <li>Tool diameter Ø40-Ø80</li> <li>Used for side milling and slotting</li> <li>Spiral cutting edge design, swift cutting</li> </ul>	
KAPR=90° a <sub>p</sub> max=30~53		LNKT0804□□PNR-GM/GL LNMT080404PNR-GM LNKT1206□□PNR-GM/GL LNMT120608PNR-GM			

Indexable milling tools





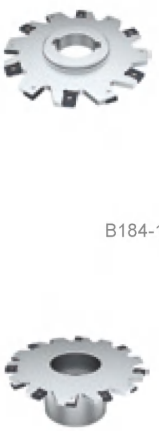
Indexable milling tools overview



## Indexable milling tools overview

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Square shoulder milling tools	<b>EMP09 BT</b> <i>New</i>  B140	KAPR=90° a <sub>pmax</sub> =63~125	LNKT1206□□PNR-GM/GL LNMT120608PNR-GM	Deep milling of steel, alloy steel, stainless steel, cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø50-Ø80</li> <li>• 90° entering angle, suitable for shoulder milling, face milling, slot milling, etc</li> <li>• Spiral cutting edge design, large rake angle, quick and smooth chip removal</li> <li>• Vertical installation of the insert, good tool rigidity, more stable processing</li> </ul>
	<b>EMP09 JT</b> <i>New</i>  B140	KAPR=90° a <sub>pmax</sub> =85~125			
	<b>EMP13</b>  B145	KAPR=90° a <sub>pmax</sub> =11.2	AN□X1105□□PNR-GM/LH	Steel, alloy steel, cast iron, aluminum alloy multifunctional processing	<ul style="list-style-type: none"> <li>• Tool diameter Ø25-Ø160</li> <li>• Thickened insert design, combined with a double negative structure body, greatly enhances impact resistance while achieving double positive cutting angles and reducing cutting resistance</li> <li>• Reasonably designed, high-precision controlled cutting edge, capable of achieving high-quality 90° shoulder processing</li> </ul>
	 B146	KAPR=90° a <sub>pmax</sub> =14.5	AN□X1506□□PNR-GM/LH		
	 B147	KAPR=90° a <sub>pmax</sub> =43~64	AN□X1105□□PNR-GM/LH AN□X1506□□PNR-GM/LH		
 B147	KAPR=90° a <sub>pmax</sub> =43~53	AN□X1506□□PNR-GM/LH			
Profile milling tools	<b>BMR01</b>  B150	Refer to tool specifications for cutting depth details	ZDET□□CYR□□ ZPNT2204CYR□□ SPMT060304 SDMT□□	Steel, alloy steel, stainless steel, cast iron profile milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø20-Ø63</li> <li>• Best suited for roughing of large molds</li> <li>• Arc edge with three-edge insert, economical</li> </ul>
	<b>BMR02</b>  B152		ROHX□□	Steel, alloy steel, stainless steel, cast iron profile milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø12-Ø20</li> <li>• Used for profile finishing</li> <li>• High precision and stable installation</li> <li>• Double-ended insert, economical</li> </ul>
	<b>BMR03</b>  B154		 B155  B156  B157	XPHT□□R□□-GM	Steel, alloy steel, stainless steel, cast iron profile milling

## Indexable milling tools overview










Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Profile milling tools	<b>BMR04</b>  B167 B168	Refer to tool specifications for cutting depth details	ZOHX□□	Steel, alloy steel, stainless steel, cast iron profile milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø12-Ø32</li> <li>• High precision tool, used for profile finishing</li> <li>• Two groove types, suitable for different working conditions</li> <li>• High installation precision, good stability</li> </ul>
	<b>SMP01</b>  B175 B176		XSEQ12□□	Steel, alloy steel, stainless steel, cast iron slot milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø63-Ø250</li> <li>• Available in both key and core shaft connections</li> <li>• Slot width series: 4, 5, 6, 7, 8mm</li> </ul>
<b>SMP03</b>  B178 B179	MPHT□□		Steel, alloy steel, stainless steel, cast iron slot milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø200</li> <li>• Available in both key and core shaft connections</li> <li>• Slot width series: 8, 10, 12, 16, 18, 20mm</li> </ul>	
<b>SMP05</b>  B182	QC16L□□ QC22L□□		Steel, alloy steel, stainless steel, cast iron grooving	<ul style="list-style-type: none"> <li>• Tool diameter Ø25-Ø44</li> </ul>	
Side and face milling tools	<b>SMP08</b> <i>New</i>  B184-185 B186-187		LNET10□□□□-GM LNET12□□□□-GM	Steel, alloy steel, stainless steel, cast iron slot milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø63-Ø250</li> <li>• The positioning structure of the cutter body is optimized and the positioning is reliable. The insert adopts a vertical mounting structure, which has excellent impact resistance and makes cutting faster</li> <li>• The size of the tool tip arc can be customized according to different cutting widths and diameters. The optimized design of the tool body is matched with a high-precision insert to process the groove bottom surface with good quality and high precision</li> <li>• Tool diameter Ø63-Ø250</li> <li>• Optimized design of cutter body positioning structure, reliable positioning</li> <li>• The insert adopts a vertical structure, which has excellent impact resistance and makes cutting faster</li> <li>• The size of the tool tip arc can be customized according to different cutting widths and diameters</li> <li>• The optimized design of the cutter body is matched with a high-precision insert to process the groove bottom with good surface quality and high precision</li> </ul>

Indexable milling tools









Indexable milling tools overview



## Indexable milling tools overview

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features	
Side and face milling tools	<b>SMP09</b> <i>New</i>  B189-190		LNGX1005□□-GM LNGX1407□□-GM	Steel, alloy steel, stainless steel, cast iron slot milling	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø250</li> <li>• Optimized design for tool body positioning, reliable positioning</li> <li>• Insert adopts vertical installation structure, excellent impact resistance, with a large front angle design, effectively reducing cutting forces, ensuring swift cutting</li> <li>• Tools and inserts can be customized to meet various width and arc size groove processing needs</li> </ul>	
	 B191-192				<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø315</li> <li>• Optimized design for tool body positioning, reliable positioning</li> <li>• Insert adopts vertical installation structure, excellent impact resistance, with a large front angle design, effectively reducing cutting forces, ensuring swift cutting</li> <li>• Tools and inserts can be customized to meet various width and arc size groove processing needs</li> </ul>	
Special milling (high feed) tools	<b>XMR01</b>  B194	Refer to tool specifications for cutting depth details	SDMT□□-DM/PM/NM	profile milling and face milling for steel, alloy steel, stainless steel, cast iron, and difficult-to-machine materials	<ul style="list-style-type: none"> <li>• Tool diameter Ø20-Ø160</li> <li>• Available in straight shank and collet chuck interfaces</li> <li>• Effectively dissipates radial cutting forces, enabling high feed cutting</li> <li>• Suitable for plunge milling operations</li> <li>• Double clamping for secure and reliable operation</li> </ul>	
	 B195					WPGT□□ZSR WPGT□□ZSR-PM
	 B198		 B199	SNGU□□-GM	Cavity milling and face milling for steel, alloy steel, and stainless steel materials	
	<b>XMR03</b>  B206					 B208
 B209						

## Indexable milling tools overview

Operating pattern	Series/Shape	Approach angle / Max. cutting depth.	Applicable insert	Application overview	Features
Boring and milling tools	<b>XMP01</b>  B215	KAPR=90° a <sub>pmax</sub> =18~36	CNE121006A/B	Flat milling, side milling, slot milling, and hole milling for steel, alloy steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø80-Ø400</li> <li>• 90° entering angle, with insert vertical installation structure, axial and radial cutting widths adjustable as required. Open chip groove design ensures smooth chip removal. Large bottom insert width, strong ability for spiral interpolation milling. Both types of groove insert are interchangeable, suitable for different machining conditions</li> </ul>
T-slot milling tools	<b>TMP01</b>  B217	KAPR=90° a <sub>pmax</sub> =9~28	MPHT□□	T-slot machining on cast iron workbenches	<ul style="list-style-type: none"> <li>• Tool diameter Ø21-Ø60</li> <li>• Machining nominal sizes of T-slots 12, 14, 18, 22, 28, 36</li> <li>• Uses 86° diamond-shaped positive angle insert</li> </ul>
Helical end mills	<b>HMP01</b>  B219	KAPR=90° a <sub>pmax</sub> =55	APKT150412-PM/KM SPMT120408-PM/KM	Deep milling for steel, alloy steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameter Ø40, Ø80</li> <li>• Uneven teeth pitch structure reduces vibration</li> <li>• Integral structure provides good rigidity; interchangeable head structure offers good economy</li> </ul>
	 B220	KAPR=90° a <sub>pmax</sub> =74~144			
	<b>HMP01 EC</b>  B221	KAPR=90° a <sub>pmax</sub> =74~144			
Chamfering tools	<b>CMZ01</b>  B224	KAPR=30°	SPMT120408	Chamfering for steel, alloy steel, stainless steel, and cast iron	<ul style="list-style-type: none"> <li>• Tool diameters Ø12, Ø25, Ø32, Ø36</li> <li>• Also capable of small flat milling operations</li> </ul>
	<b>CMA01</b>  B225	KAPR=45°			
	<b>CMD01</b>  B226	KAPR=60°			

Indexable milling tools

Indexable milling tools overview





***Profile Milling Tool Series***

BMR04-026-632-M

BMR04-026-632-M

BMR04-026-632-M

S13

Milling insert grades overview

Workpiece material	ISO code	Coating		Cermet	Cemented carbide	PCBN and PCD material
		CVD	PVD			
<b>P</b> Steel	P01					
	P10			YNG151 YNG151C		
	P20	YBC302 YBM253	YBG202 YBG205 YB9320			
	P30					
	P40		YBG302			
<b>M</b> Stainless steel	M01					
	M10	YBC302 YBM253	YBG202 YBG205 YB9320	YNG151 YNG151C		
	M20					
	M30					
	M40		YBG302			
<b>K</b> Cast iron	K01					BK1021 BK1041
	K10	YBD152 YBD203 YBD252	YBG105	YNG151 YNG151C	YD051	
	K20					
	K30				YD201	BK2531
	K40					
<b>N</b> Non ferrous metal	N01					
	N10				YD101	DN1021
	N20					
	N30				YD201	
<b>S</b> Heat resistant alloy & Ti alloy	S01					
	S10		YBG202 YBS203			
	S20					
	S30		YBS303			
<b>H</b> Super hard material	H01					
	H10					
	H20					
	H30					

Indexable milling tools

Milling insert grades overview



## Grade classification for milling inserts

### Coated Cemented Carbide CVD

Grade	Coating structure	Micro-structure	ISO applied range	Application field
<b>YBC302</b>	Combination of high toughness and high strength substrate with TiCN, thin Al <sub>2</sub> O <sub>3</sub> , and TiN coatings		<b>P15~35</b>	Suitable for rough milling and semi-finish milling of P and M class materials with hardness up to HRC45
			<b>M10~30</b>	
<b>YBM253</b>	Combination of high toughness gradient alloy substrate with TiCN and ultrafine Al <sub>2</sub> O <sub>3</sub> coatings		<b>M10~30</b>	Suitable for semi-finish milling and rough milling of P and M class materials
<b>YBD152</b>	Excellent combination of high wear-resistant substrate with TiCN and thick Al <sub>2</sub> O <sub>3</sub> coatings		<b>K05~25</b>	Suitable for semi-finish milling and finish milling of K class materials
<b>YBD203</b>	Substrate with good toughness and wear resistance combined with high toughness and high strength TiCN and Al <sub>2</sub> O <sub>3</sub> coatings		<b>K10~30</b>	Suitable for general milling of K class materials such as ductile iron and malleable iron
<b>YBD252</b>	Substrate with high toughness combined with TiCN and thick Al <sub>2</sub> O <sub>3</sub> coatings		<b>K15~35</b>	Suitable for rough milling and semi-finish milling of K class materials

### Application case

Component shape			
Machine and cooling	CNC gantry milling machine, wet processing	Vertical machining center, dry processing	Horizontal machining center, dry processing
Workpiece material and hardness	Cast stainless steel HB220-260	Forging steel No. 45 HB240-270	HT250 HB220
Type of machining	Milling flat surfaces	Milling flat surfaces	Milling flat surfaces
Applicable tool	FMA04-160-C40-OD06-10	FMA01-125-B40-SE12-08	FMP02-100-B32-SE12-07
Applicable insert	YBM253/ODHT060512-GM	YBC302/SEET12T3-DR	YBD252/SEET120308PER-APM
Cutting parameters	Vc=120m/min, fz=0.15mm/z, ap=2mm	Vc=212m/min, fz=0.2mm/z, ap=3mm	Vc=160m/min, fz=0.2mm/z, ap=1.5mm
Application results			

## Grade classification for milling inserts

Coated Cemented Carbide PVD

Grade	Coating structure	ISO applied range	Application field
<b>YBG105</b>	Fine-grain alloy substrate + nano coating	<b>K05~K20</b>	Suitable for precision milling and semi-finish milling of K class materials
<b>YBG202</b>	Substrate with excellent deformation resistance + nano coating	<b>P10~30</b>	A highly versatile PVD grade, widely applicable to semi-finish milling of P, M, and S class materials
		<b>M10~30</b>	
		<b>S05~20</b>	
<b>YBG205</b>	Ultrafine carbide substrate + nano coating	<b>P10~30</b>	Suitable for precision milling and semi-finish milling of P and M class materials
		<b>M10~30</b>	
<b>YBG302</b>	Substrate with good toughness and strength + nano coating	<b>P25~40</b>	Suitable for rough milling of P and M class materials
		<b>M25~40</b>	
<b>YB9320</b>	High-toughness substrate + TiAlN-based nano-multilayer coating	<b>P10~30</b>	A highly versatile PVD grade, suitable for precision and semi-finish milling of P and M materials
		<b>M10~30</b>	
<b>YBS203</b>	Substrate material with excellent deformation resistance + nano coating	<b>S10~20</b>	A general grade for S-class machining, suitable for milling S-class difficult-to-machine materials
<b>YBS303</b>	Substrate with good toughness and strength + nano coating	<b>S20~30</b>	Suitable for milling titanium alloy materials
<b>YBH053</b>	Ultrafine carbide substrate + TiAlN-based nano-multilayer coating	<b>H05~20</b>	Suitable for precision milling of H-class hardened materials

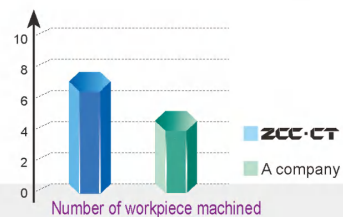
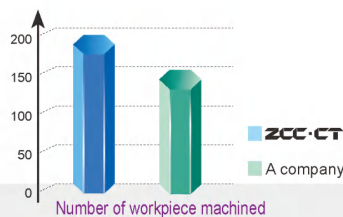
Indexable milling tools

Grade classification for milling inserts

### Application case

Component shape		
Machine and cooling	Machining center, dry cutting	Gantry milling machine, dry cutting
Workpiece material and hardness	Ductile cast iron HB 220	7CrSiMoV HRC25
Type of machining	Milling flat surfaces	Milling cavity
Applicable tool	EMP02-050-A22-AP11-06	BMR03-050-MT5-M
Applicable insert	YBG105/APKT11T308-APM	YBG302/XPHT50R2507- GM
Cutting parameters	Vc=235m/min, fz=0.15mm/z, ap=1~3mm	Vc=120m/min, fz=0.25mm/z, ap=8mm



Application results





## Grade classification for milling inserts




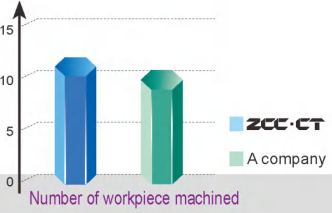
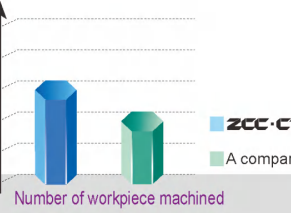
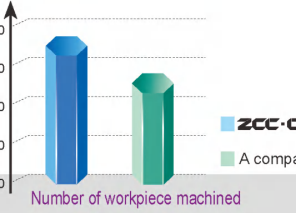
# Cemented Carbide

Grade	Coating structure	ISO applied range	Application field
<b>YD101</b>		<b>N05~25</b>	Suitable for finish milling and semi-finish milling of N-class materials
<b>YD201</b>		<b>K15~35</b>	Suitable for semi-finish milling and rough milling of K-class materials, as well as rough milling of N-class materials
		<b>N15~30</b>	

Indexable milling tools

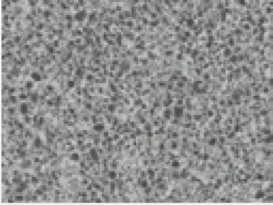
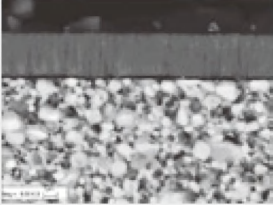
Grade classification for milling inserts

### Application case

Component shape			
Machine and cooling	Vertical machining center, wet processing	Gantry milling machine, wet processing	Gantry milling machine, dry cutting
Workpiece material and hardness	Aluminum alloy HB100	40CrMnMo HB240	HT250 HB220
Type of machining	Milling flat surfaces	Milling flat surfaces	Milling flat surfaces
Applicable tool	FMA01-100-B32-SE12-07	FMP01-100-B32-TP22-06	FME03-160-B40-SP15-10
Applicable insert	YD101/SEET12T3-LH	YD201/TPKN2204PDR	YD201/SPKN1504EDTR
Cutting parameters	$V_c=300-350\text{m/min}$ , $a_p=1\sim 2\text{mm}$ , $f_z=0.2\text{mm/z}$	$V_c=170\text{m/min}$ , $a_p=5\sim 7\text{mm}$ , $f_z=0.3\text{mm/z}$	$V_c=100-130\text{m/min}$ , $a_p=7\text{mm}$ , $f_z=0.35\text{mm/z}$
Application results			

## Grade classification for milling inserts

**Cermet**

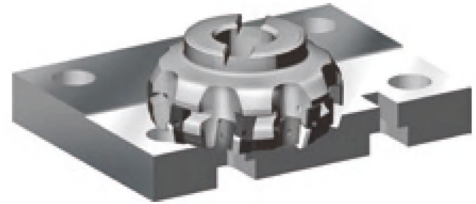
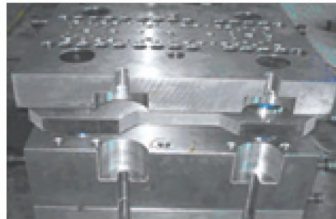
Grade	Coating structure	ISO applied range	Application field
YNG151		P05~20	Widely used in finish milling of P, M, and K-class materials
		M05~20	
		K05~20	
YNG151C		P01~20	Widely used in finish milling of P, M, and K-class materials
		M01~20	
		K01~20	

Indexable milling tools

Grade classification for milling inserts

### Application case

Component shape



Machine and cooling

Machining center, dry cutting

Machining center, dry cutting

Workpiece material and hardness

Grade 45 steel HB 170~220

NAK80 HRC42~48

Type of machining

Finish milling flat surfaces

Finish milling flat surfaces

Applicable tool

FMA03-160-B40-SE12-08

FME03-160-B40-SP12-10

Applicable insert

YNG151/SEEN1203AFTN

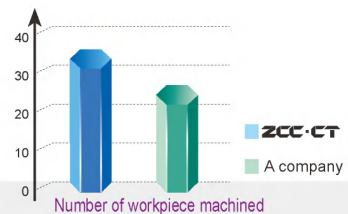
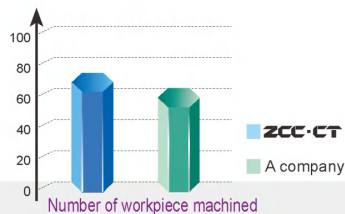
YNG151C/SPEN1203EDER

Cutting parameters

$V_c=400\text{m/min}$ ,  $f_z=0.1\text{mm/z}$ ,  $a_p=0.3\text{mm}$

$V_c=420\text{m/min}$ ,  $f_z=0.12\text{mm/z}$ ,  $a_p=0.35\text{mm}$

Application results







# **SMP05**

*Slot Milling Tools*



*Side and Face  
Milling Tools* **SMP08**  
**SMP09**

