

YG-1 Indexable Insert Milling Solutions

Now With 75 New Items to Maximize Your Milling Performance Cut your toughest materials – and production costs – with high-performance YG-1 milling kits in six convenient geometries. Stay in the thick of tough milling with our new thicker designed, high-feed ENMX insert kits. And make the most of modular milling with our new economical modular endmill kits. Each kit contains the cutter body and inserts you need to hit those higher performance targets. And all kits come with this rugged ammo box as part of the package! Order yours today and score a bulls-eye for performance and value.

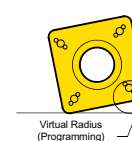
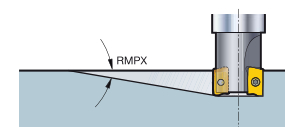
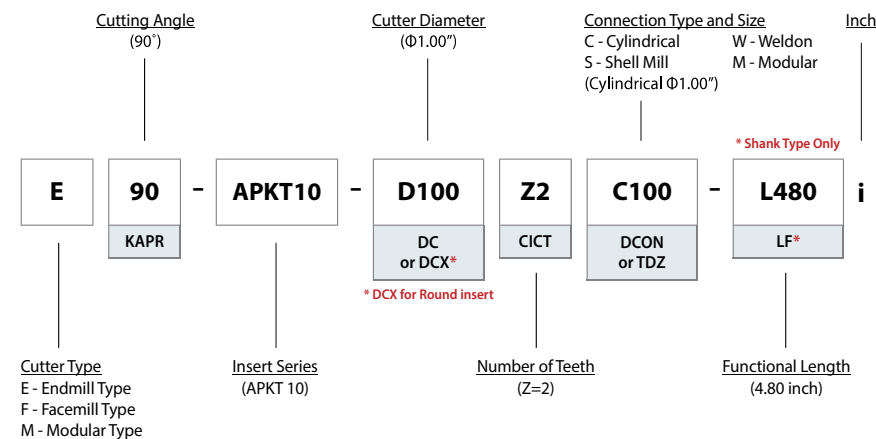
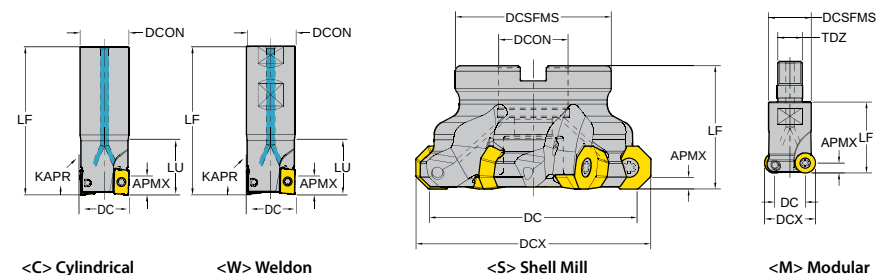
All kit orders include this ammo box.



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Milling Inserts - Cutters Designation Systems



Attribute	Definition
APMX	Depth of cut maximum
APMXR	Maximum depth of cut - radial plunge
CICT	Cutting item count
DC	Cutting diameter
DCON	Connection diameter
DCSFMS	Contact surface diameter machine side
DCX	Maximum cutting diameter
KAPR	Tool cutting edge angle
LF	Functional length
LU	Usable length (max. recommended)
RMPX	Maximum ramp angle
TDZ	Thread diameter size

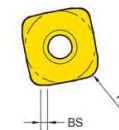
Discover Higher Caliber Cutting Performance

When it comes to high performance cutting ability, the SDMT series blows the competition away. From super stainless to mold steels, the SDMT line-up provides exceptional milling performance. YG-1's SDMT inserts are backed up by a NEW stronger, longer lasting stainless steel cutter body giving you the reliability for those longer run times between insert changes.



Milling – Inserts SDMT/W – 4-Corner Square High Feed

- Coated carbide for superior wear resistance
- High-feed and high-speed geometries for outstanding performance
- Cost-effective, multipurpose solution



Kit Part Number	Tool Description	Insert	Qty
Kit HF-SDMW-D200Z5	FHF-SD1204-D200Z5S075i	SDMT120420-ST YG602-T2	10
Kit HF-SDMW-D250Z5	FHF-SD1204-D250Z5S100i	SDMT120420-ST YG602-T2	10
Kit HF-SDMW-D300Z5	FHF-SD1204-D300Z5S100i	SDMT120420-ST YG602-T2	20
Kit HF-SDMW-D300Z7	FHF-SD1204-D300Z7S100i	SDMT120420-ST YG602-T2	20
Kit HF-SDMW-D400Z7	FHF-SD1204-D400Z7S150i	SDMT120420-ST YG602-T2	30
Kit HF-SDMW-D400Z9	FHF-SD1204-D400Z9S150i	SDMT120420-ST YG602-T2	30

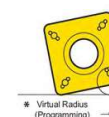
All kit orders include this ammo box.



EDP	Holder Description	Insert Class	Type	CIC	DC	DCX	LF	DCON	LU	DCSFS	KAPR	RMPX
17000388	FHF-SD1204-D200Z5S075i	SD..12	S	5	2.000	2.00	2.00	0.750	----	1.75	10	4.2
17000389	FHF-SD1204-D250Z5S100i	SD..12	S	5	2.500	2.50	2.00	1.000	----	2.13	10	3.2
17000436	FHF-SD1204-D300Z5S100i	SD..12	S	5	3.000	3.00	2.00	1.000	----	2.13	10	2.2
17000437	FHF-SD1204-D300Z7S100i	SD..12	S	7	3.000	3.00	2.00	1.000	----	2.13	10	2.2
17000438	FHF-SD1204-D400Z7S150i	SD..12	S	7	4.000	4.00	2.55	1.500	----	3.81	10	1.5
17000439	FHF-SD1204-D400Z9S150i	SD..12	S	9	4.000	4.00	2.55	1.500	----	3.81	10	1.5

EDP	Insert Description	Grade	Series	RE	APMX	fz (min)	fz (max)	Application	Program R
NEW 12000634	SDMW120420-YG713 / SDMW435 (10pcs/Pack)	YG713	SDMW12	0.079	0.07 (max)	0.0230	0.0590	General Steel Only	0.1575
12000273	SDMW120420-YG602 / SDMW435 (10pcs/Pack)	YG602	SDMW12	0.079	0.07 (max)	0.0240	0.0550	General/Multi Material	0.1575
NEW 12000341	SDMW120420-YG622 / SDMW435 (10pcs/Pack)	YG622	SDMW12	0.079	0.07 (max)	0.0240	0.0550	General/Multi Material	0.1575
NEW 12000341	SDMW120420-YG622 / SDMW435 (10pcs/Pack)	YG622	SDMW12	0.079	0.07 (max)	0.0230	0.0590	General/Steel and Cast Iron	0.1575
12000369	SDMT120420-ST-YG602-T1 / SDMT435-ST (10pcs/Pack)	YG602	SDMT12	0.079	0.07 (max)	0.0230	0.0590	-ST Stainless Steel/Steel	0.1575
12000274	SDMT120420-SI-YG602 / SDMT433SI (10pcs/Pack)	YG602	SDMT12	0.079	0.07 (max)	0.0230	0.0590	-SI Stainless Steel/Steel	0.1575
NEW 12000666	SDMT120420-ST-YG613 / SDMT435-ST (10pcs/Pack)	YG613	SDMT12	0.079	0.07 (max)	0.0150	0.0450	-ST Stainless Steel/Steel	0.1575

Screw : TP154011 Wrench : JS2015



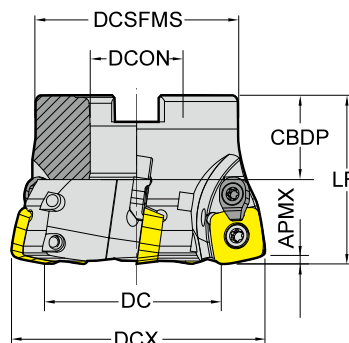
For more application information please see pages 6 and 7

Milling - High Feed Milling - Cutter

Cutters for SDMT, SDMW

Entry Angle : 10°
4 Corner Positive

<S> Shell Mill



ZEFP : Effective Number of Cutting Edges
CBDP : Connection Bore Depth

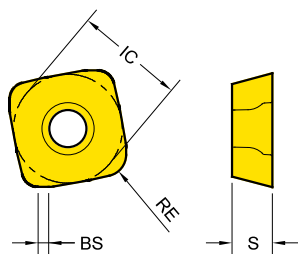
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Unit : mm

Series	APMX	Designation	EDP 1700..	DC	DCX	ZEFP	LF	TYPE	DCON /TDZ	CBDP	DCSFMS	
SDMT SDMW 1204	.059	FHF-SD1204-D200Z5S075i	0388	2.000	2.00	5	2.00	Shellmill	.75	0.789	1.75	●
		FHF-SD1204-D250Z5S100i	0389	2.500	2.50	5	2.00		1.00	0.945	2.13	●
		FHF-SD1204-D300Z5S100i	0436	3.000	3.00	5	2.00		1.00	0.945	2.13	●
		FHF-SD1204-D300Z7S100i	0437	3.000	3.00	7	2.00		1.00	0.945	2.13	●
		FHF-SD1204-D400Z7S150i	0438	4.000	4.00	7	2.55		1.50	1.181	3.81	●
		FHF-SD1204-D400Z9S150i	0439	4.000	4.00	9	2.55		1.50	1.181	3.81	●

Milling - High Feed Milling - Inserts

SDMT / SDMW - High Feed Positive (4 Corners)



Series	IC	S
SDM* 1204	.500	.185

EDP 1200..

●: Stock item ○: Order made item

P25	P30	P20	P30	P40		
M30	K30			M35	K15	K20
S20	H15			S30		

SDMT SDMW	Designation	RE (in)	Fz (in/tooth)	BS (in)	YG602	YG622	YG712	YG713	YG613	YG501	YG5020
-ST Stainless Steel Super Alloy	SDMT 120420-ST	.075	.024~.047	.057	● 0274				● 0666		
SDMW Hard Materials	SDMW 120420	.075	.024~.055	.055	● 0273	○ 0341		○ 0634	● 0691		

Cutting Speed			Vc (ft/min)													
ISO	VDI	Sub Group	YG602		YG622		YG712		YG713		YG613		YG501		YG5020	
			Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max	Min	Max
P	1~5	Non-Alloyed Steel	590	1250	460	1310	560	980	660	980	330	690	-	-	-	-
	6~9	Low-Alloyed Steel	390	980	390	1050	590	820	560	890	230	590	-	-	-	-
	10~11	High-Alloyed Steel	230	490	230	560	330	460	280	480	130	290	-	-	-	-
M	12~13	Ferritic & Martensitic	390	660	-	-	-	-	-	-	230	590	-	-	-	-
	14	Austenitic Stainless Steel	430	820	-	-	-	-	-	-	230	660	-	-	-	-
K	15~16	Grey Cast Iron	390	820	390	890	-	-	-	-	-	-	590	1150	660	1150
	17~18	Nodular Cast Iron	430	720	430	790	-	-	-	-	-	-	390	890	490	980
N	21~30	Non-Ferrous Metals (Al)	-	-	-	-	-	-	-	-	-	-	-	-	-	-
S	31~37	Superalloys & Titanium	80	150	-	-	-	-	-	-	-	-	-	-	-	-
H	38~41	Hard Materials	130	260	130	330	-	-	-	-	-	-	-	-	-	-

Milling - Code System

Insert ISO Code System

TURNING

PARTING & GROOVING

MILLING

DRILLING

TECHNICAL INFORMATION

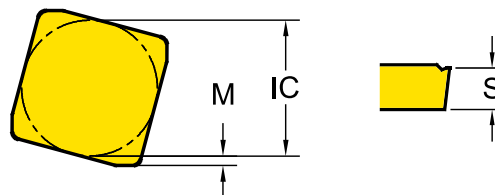
1	2	3	4	5	6	7
A	P	K	T	16	04	08
Shape	Relief Angle (AN)	Tolerance	Clamping & Chipbreaker	Insert Size	Insert Thickness (S)	Corner Radius

1 - Shape

Symbol	Shape	
H	Hexagonal	
O	Octagonal	
P	Pentagonal	
S	Square	
T	Triangular	
V	Rhombic 35°	
W	Trigon	
L	Rectangular	
A	Parallelogram 80°	
R	Round	

2 - Relief Angle (AN)

Symbol	Relief Angle (AN)	
N	No Relief Angle	
B	Relief 5°	
C	Relief 7°	
P	Relief 11°	
D	Relief 15°	
E	Relief 20°	
F	Relief 25°	
O	Special	



3 - Tolerance Class

Symbol	Inner Circle IC (in)	Nose Height M (in)	Thickness S (in)
C	±.0010	±.0005	±.0010
E	±.001	±.0010	±.001
G	±.001	±.0010	±.005
H	±.0005	±.0005	±.0010
K*	±.002~.006*	±.0005	±.005
M*	±.002~.006*	±.003~.010*	±.005
U*	±.003~.010*	±.005~.015*	±.005

* Tolerance is different by insert IC size. Please see ISO 1832

4 - Clamping & Chipbreaker

Symbol	Clamping	Chipbreaker	Figure
N	No clamping hole	X	
R		One Face	
W	Screw Hole	X	
T		One Face	
U		Both Faces	
X	Special		

5 - Insert Size

* No Standard for milling insert size

6 - Insert Thickness

* No Standard for milling insert thickness

Milling - Code System

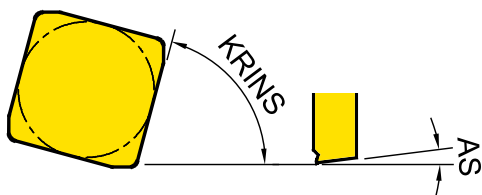
Insert ISO Code System

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8	9	10
PDTR	-TR	YG602
Corner Geometry	Chipbreaker	Grade

7 - Corner Radius (RE)

Symbol	Thickness - S (in)	Symbol	Thickness - S (in)
04	.016	16	.063
08	.031	20	.079
12	.047	24	.094

8 - Corner Geometry



8-1	8-2	8-3	8-4
P	D	T	R
Cutting Edge Angle (KRINS)	Wiper Edge Clearance (AS)	Edge Condition	Feed Direction

*Refer to page. 75 for -AL, -ST, -TR... types

8-1 - Cutting Edge Angle (KRINS)

Symbol	Cutting Edge Angle (KRINS)
P	90°
A	45°
D	60°
E	75°
F	85°
Z	Special

8-3 - Edge Condition

Symbol	Edge Condition
F	Sharp
E	Rounded
T	Chamfered
S	Chamfered and Rounded

8-2 - Wiper Edge Clearance (AS)

Symbol	Wiper Edge Clearance (AS)
N	0°
P	11°
D	15°
E	20°
F	25°
Z	Special

8-4 - Feed Direction

Symbol	Feed Direction
R	Right-hand Insert
N	Neutral Insert
L	Left-hand Insert

Milling Grades and Chip breakers

Milling Grades

Milling Grades	P Steel					M Stainless steel				K Cast iron				N Non-ferrous				S Superalloys				H Hardened steel		
	P05	P15	P25	P35	P45	M05	M15	M25	M35	K05	K15	K25	K35	N05	N15	N25	N35	S05	S15	S25	S35	H15	H25	H35
PVD	YG602			602				602				602							602					
	YG622			622								622										622		
	YG712		712																					
	YG713		713																					
	YG613			613				613											613					
	YG501											501												
CVD	YG5020											5020												
Uncoated	YG50													50										

DRILLING	TECHNICAL INFORMATION	YG602 P20 - P35 M20 - M40 K20 - K40 S15 - S25	 PVD - TiAlN	Universal grade for General Milling Application - Ultra Dense PVD Coating with optimal thermal resistance & strength - Sub-Micron substrate designed for demanding application
		YG622 P20 - P40 K20 - K40 H10 - H20	 PVD - AlCrN	Optimized Grade for High Alloyed or Prehardened Steel - Excellent hot hardness and oxidation resistance at high speed - Smooth surface treatment technology provide to prevent thermal shock and chipping resistance
		YG712 P10 - P30	 PVD - TiAlCrN	Milling Grade for Medium of Steel Application - Superior wear resistance and excellent toughness in high speed machining - Coating layer with high hardness and oxidation resistance
		YG713 P15 - P25	 PVD - TiAlN	Milling Grade for General Steel Application - Multi-layer TiAlN structure realizes stronger crater and flank wear resistance - Fine-grained carbide and balanced substrate
		YG613 P30 - P50 M30 - M40 S25 - S35	 PVD - TiAlN	Milling Grade for Stainless Steel Application - New coating layer with high toughness and lubrication on ultra fine grain substrate with high toughness. - The toughest substrates provides excellent cutting performance in stainless steel - Prevents welding and chipping of heat-resistant alloy workpieces through a special coating layer

Milling Grades and Chip breakers

Milling Grades

YG501 K05- K25		Hard Milling grade for Cast Iron • High wear resistance substrate based on TiAlN PVD Coating • Very good for cast Iron
YG501G K05- K25		Hard Milling grade for Cast Iron • High wear resistance substrate based on TiAlN / TiN PVD Coating • Excellent performance for cast Iron at high cutting speed
YG5020 K01-K30		CVD Milling grade for Cast Iron • CVD coating for Excellent wear resistance • Improved Toughness for chipping resistance
YG50 N05 - N20		Uncoated Milling Grade for Aluminium • Submicron carbide substrate for high wear resistance • Preventing built up edge with shining surface

Milling Chip breakers

-AL		• For Aluminum • Very Sharp Geometry
-ST		• For Stainless Steel, Super Alloy • Sharp Geometry
General Inserts (No Description)		• First Choice for General Application
-TR		• For Hardened Steels • Reinforced Geometry
...W / ...N		• For Hardened Material and Cast Irons