

Milling Cutter for General Face Milling

WGX Type



- Top performance parameters
- Highest quality
- Stable and long tool life



 **SUMITOMO**

CARBIDE - CBN - DIAMOND

Wavemill Series WGX Type



General Features

The Wavemill WGX Type employs unique chipbreaker design to provide lower cutting resistance and higher quality surface finishes than conventional tools.

Series

Type	Cat. No.	Cutter	No. of Teeth
Standard Pitch	WGX 13000RS	Ø40 ~ Ø250	3 ~ 10
Medium Pitch	WGXM 13000RS	Ø50 ~ Ø250	4 ~ 14
Fine Pitch	WGXF 13000RS	Ø50 ~ Ø250	5 ~ 24
Endmill Type	WGX 13000EW	Ø32 ~ Ø63	3 ~ 5

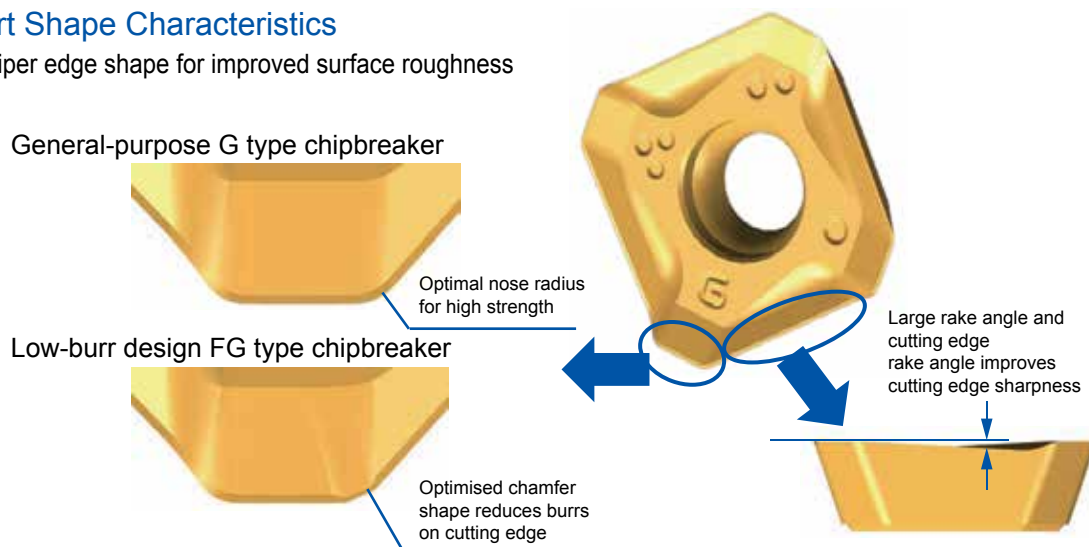
Inner coolant available for $D_c \leq \text{Ø}125\text{mm}$

Characteristics

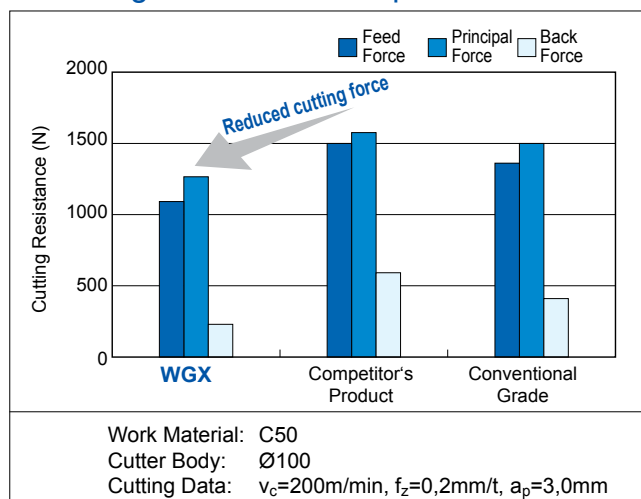
- Stable Cutting**
 Special chipbreaker designed for WGX enables lower cutting forces.
- High Quality**
 Improved run-out precision and unique wiper edge shape ensure excellent surface finish quality. Optimised chamfer edge reduces burr and edge chipping.
- Long Tool Life**
 Features high precision technology that reduces insert run-out variation and a new coating to provide stable and long tool life.

Insert Shape Characteristics

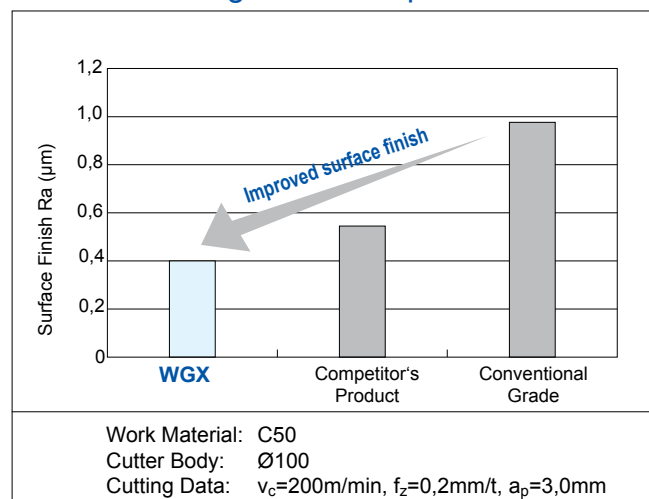
Unique wiper edge shape for improved surface roughness



Cutting Resistance Comparison



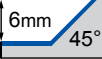
Surface Roughness Comparison

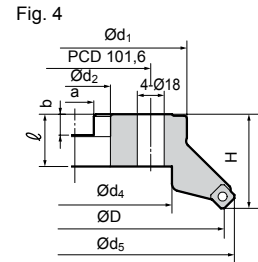
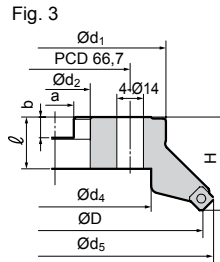
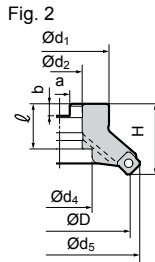
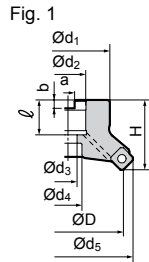


Wavemill Series WGX(M/F) 13000RS Type

General Milling of Steel and Cast Iron

Body – Shell Type

Rake Angle	Radial	-20° ~ -24°	
	Axial	20° ~ 22°	



Inner coolant available for $D_c \leq \varnothing 125\text{mm}$

Body – Dimensions

● Type: WGX, Standard Pitch

Cat. No.	Stock	Dimension (mm)				Mounting						No. of Teeth	Weight (kg)	Fig.
		$\varnothing D$	$\varnothing d_5$	$\varnothing d_1$	H	$\varnothing d_2$	$\varnothing d_4$	$\varnothing d_3$	a	b	ℓ			
WGX 13040 RS	●	40	52	32	40	16	14,0	9,0	8,4	5,6	18	3	0,3	1
WGX 13050 RS	●	50	62	40	40	22	18,0	11,0	10,4	6,3	20	3	0,4	1
WGX 13063 RS	●	63	76	50	40	22	18,0	11,0	10,4	6,3	20	4	0,6	1
WGX 13080 RS	●	80	93	55	50	27	20,0	13,5	12,4	7,0	25	4	1,2	1
WGX 13100 RS	●	100	113	70	50	32	46,0	-	14,4	8,5	32	5	1,6	2
WGX 13125 RS	●	125	138	80	63	40	52,0	29,0	16,4	9,5	29	6	2,8	1
WGX 13160 RS	●	160	173	130	63	40	88,0	-	16,4	9,5	29	7	4,5	3
WGX 13200 RS	●	200	213	150	63	60	130,0	-	25,7	14,0	35	8	7,1	4
WGX 13250 RS	□	250	263	190	63	60	160,0	-	25,7	14,0	35	10	11,2	4

● Type: WGXM, Medium Pitch

Cat. No.	Stock	Dimension (mm)				Mounting						No. of Teeth	Weight (kg)	Fig.
		$\varnothing D$	$\varnothing d_5$	$\varnothing d_1$	H	$\varnothing d_2$	$\varnothing d_4$	$\varnothing d_3$	a	b	ℓ			
WGXM 13050 RS	●	50	62	40	40	22	18,0	11,0	10,4	6,3	20	4	0,4	1
WGXM 13063 RS	●	63	77	50	40	22	18,0	11,0	10,4	6,3	20	5	0,6	1
WGXM 13080 RS	●	80	94	55	50	27	20,0	13,5	12,4	7,0	25	6	1,1	1
WGXM 13100 RS	●	100	114	70	50	32	46,0	-	14,4	8,5	32	7	1,6	2
WGXM 13125 RS	●	125	139	80	63	40	52,0	29,0	16,4	9,5	29	8	2,8	1
WGXM 13160 RS	●	160	174	130	63	40	88,0	-	16,4	9,5	29	10	4,5	3
WGXM 13200 RS	●	200	214	150	63	60	130,0	-	25,7	14,0	35	12	7,0	4
WGXM 13250 RS	□	250	264	190	63	60	160,0	-	25,7	14,0	35	14	11,1	4

● Type: WGXF, Fine Pitch

Cat. No.	Stock	Dimension (mm)				Mounting						No. of Teeth	Weight (kg)	Fig.
		$\varnothing D$	$\varnothing d_5$	$\varnothing d_1$	H	$\varnothing d_2$	$\varnothing d_4$	$\varnothing d_3$	a	b	ℓ			
WGXF 13050 RS	●	50	62	40	40	22	18,0	11,0	10,4	6,3	20	5	0,4	1
WGXF 13063 RS	●	63	77	50	40	22	18,0	11,0	10,4	6,3	20	6	0,6	1
WGXF 13080 RS	●	80	94	55	50	27	20,0	13,5	12,4	7,0	25	8	1,1	1
WGXF 13100 RS	●	100	114	70	50	32	46,0	-	14,4	8,5	32	10	1,5	2
WGXF 13125 RS	●	125	139	80	63	40	52,0	29,0	16,4	9,5	29	12	2,7	1
WGXF 13160 RS	●	160	174	130	63	40	88,0	-	16,4	9,5	29	16	4,5	3
WGXF 13200 RS	●	200	214	150	63	60	130,0	-	25,7	14,0	35	20	6,9	4
WGXF 13250 RS	□	250	264	190	63	60	160,0	-	25,7	14,0	35	24	11,0	4

□ Delivery on request

● Euro stock

Inserts are not included.

Note: Please use screw according to JIS B1176 for securing $\varnothing 80/\varnothing 100$ cutter to the arbor ($\varnothing 80 \Rightarrow M12 \times 30$ to 35mm, $\varnothing 100 \Rightarrow M16 \times 40$ to 45mm)

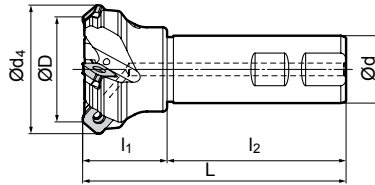
Identification Details

WGX	M	13	050	R	S
Cutter Series	M: Medium F: Fine	Insert Size	Cutter Diameter	Direction	Metric

Wavemill Series WGX 13000EW Type

General Milling of Steel and Cast Iron

■ Body – Shank Type



Rake Angle	Radial	-20° ~ 24°	
	Axial	20° ~ 22°	

■ Body – Dimensions

Cat. No.	Stock	Dimension (mm)						No. of Teeth
		ØD	Ød ₄	Ød	l ₁	l ₂	L	
WGX 13032 EW	○	32	44	32	40	85	125	3
WGX 13040 EW	○	40	52	32	40	85	125	3
WGX 13050 EW	○	50	62	32	40	85	125	4
WGX 13063 EW	○	63	76	32	40	85	125	5

○ Japan stock Inserts are not included. Ø32mm size does not have seats.

■ Identification Details

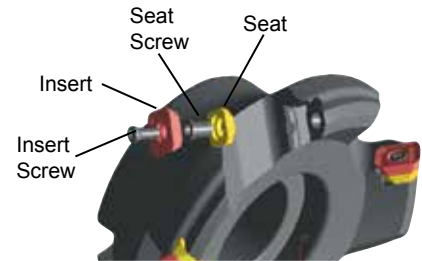
WGX	13	032	EW
Cutter Series	Insert Size	Cutter Diameter	Endmill Type Weldon

■ Inserts + Grades

P Steel **K** Cast Iron **M** Stainless Steel **S** Exotic Alloy

Application	Coated Carbide						Fig.
	P	M	M	K	M	S	
High Speed/Light cut	P			K		M	Fig.1
General Purpose	P	M	M	K	M	S	
Roughing	P	M	M	K	M	S	Fig.2
Cat. No.	ACP100	ACP200	ACP300	ACK200	ACK300	ACM200	
SEMT 13T3AGSR L	●	●	●	●	●	●	1
SEMT 13T3AGSR G	●	●	●	●	●	●	1
SEMT 13T3AGSR H	●	●	●	●	●	●	1
SEMT 13T3AGSR FG	●	●	●	●	●	●	2

● Euro stock



■ Spare Parts

Applicable Cutters	Seat	Seat Screw	Insert Screw	Spanner (for Insert)	Torque (N·m)	Spanner (for Seat)
WGX(M/F)13000	WGCS13R	BW0507F	BFTX03512IP	TRDR15IP	3,0	LH035
WGX13032EW	-	-	BFTX03512IP	TRDR15IP	3,0	-

■ Recommended Cutting Conditions

ISO	Work Material	Hardness	Cutting Speed v _c (m/min)	Feed Rate f _z (mm/t)	Grade
P	General Steel	180~280HB	150- 200 -250	0,10- 0,20 -0,30	ACP200
	Soft Steel	≤180HB	180- 265 -350	0,10- 0,25 -0,40	ACP200
	Die Steel	200~220HB	100- 150 -200	0,15- 0,20 -0,25	ACP200
M	Stainless Steel	-	160- 205 -250	0,15- 0,23 -0,30	ACM300
K	Cast Iron	250HB	100- 175 -250	0,15- 0,23 -0,30	ACK200
S	Super Alloy	-	30- 50 - 80	0,10- 0,20 -0,30	AC300M

Minimum-Optimum-Maximum



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