

„Wave Mill“ Series

# WEX Type 1000



- Efficient machining via high number of inserts
- Precise insert change tolerance provides high surface roughness quality
- High shoulder accuracy due to optimized cutting edge
- Stable cutting conditions when utilising low rigidity machines
- Economic advantages using small AXMT06 inserts

 **SUMITOMO**

CARBIDE - CBN - DIAMOND

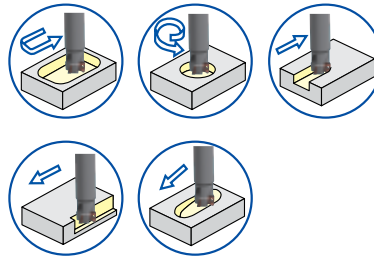
# Wave Mill Series

## WEX Type



### General Feature

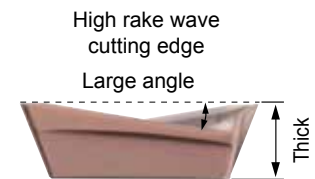
#### Large Application Range



Ø D	Ramping Angle
10	2° 30'
12	1° 45'
14	1° 20'
16	1°
18	45'
20	35'
25	30'

### Precision Insert for Economical Machining

This special designed insert (AXMT type) with unique geometry offers reduced cutting forces and reliable machining. High surface finish quality can be obtained even under instable cutting conditions.



### Large Variety of Inserts

Insert series includes a choice of 7 substrates combined with 3 chip breaker geometries.

High precision curved cutting edge



### Stable Cutter Design for Reliable Machining

Cutter development offers a high resistance against both abrasion and corrosion.

Chip evacuation is supported by inner coolant and air pressure.

### Grade Selection

ISO	Grade	Finishing to Light Cutting	Medium Cut	Rough to Heavy Cutting
P	Coated Carbide	ACP100	ACP200	ACP300

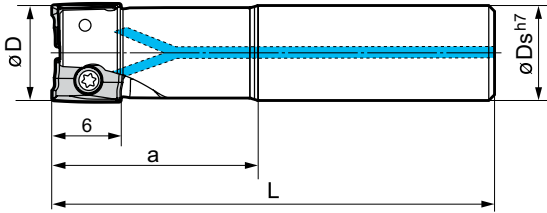
ISO	Grade	Finishing to Light Cutting	Medium Cut	Rough to Heavy Cutting
K	Coated Carbide	ACK200	ACK300	
M	Coated Carbide	ACM200	ACM300	

### Recommended Cutting Conditions

ISO	Material	Hardness	Cutting Speed $v_c$ (m/min)	Feed Rate $f_t$ (mm/t)	$a_p$ (mm)	Grade
P	Alloyed Steel	180~280HB	130 - 180 - 230	0,08 - 0,12 - 0,16	< 6	ACP100 ACP200 ACP300
	Unalloyed Steel	≤ 180HB	150 - 220 - 270	0,10 - 0,15 - 0,20	< 6	ACP200 ACP300
	Die Mold	200~220HB	80 - 130 - 180	0,08 - 0,12 - 0,16	< 4	ACP200 ACP300
M	Stainless Steel	-	130 - 180 - 230	0,10 - 0,12 - 0,16	< 6	ACM200 ACM300
K	Cast Iron	250HB	120 - 170 - 240	0,10 - 0,15 - 0,20	< 6	ACK200 ACK300

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Rake Angle	Radial	8°~15°
	Axial	16°~24°



## Body (Short Type "E")

	Design		Geometry			
	Cat. No.	Teeth	ØD	a	L	ØDs
WEX1000E	WEX1010E	2	10	17	50	10
	WEX1012E	3	12	20	80	12
	WEX1014E	3	14	22	80	16
	WEX1016E	4	16	20	90	16
	WEX1018E	4	18	20	100	20
	WEX1020E	5	20	22	100	20
	WEX1025E	7	25	25	115	20

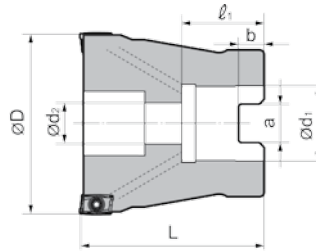
## Body (Short Type "EL")

	Design		Geometry			
	Cat. No.	Teeth	ØD	a	L	ØDs
WEX1000EL	WEX1010EL	2	10	17	100	8
	WEX1012EL	2	12	20	120	10
	WEX1014EL	3	14	20	145	12
	WEX1016EL	3	16	20	160	14
	WEX1016EL-15	3	16	20	160	15
	WEX1018EL	3	18	20	180	16
	WEX1020EL	4	20	25	200	18
	WEX1020EL-19	4	20	25	200	19

Inserts are not included.

## Spare Parts

Screw	Key	Recommended Tightening Torque (N·m)	Cutter
BFTX01804IP	TRX06IP	0,5 <sup>(Nm)</sup>	WEX1000 Series



## Body (Shell Type "F")

	Design		Geometry						
	Cat. No.	Teeth	ØD	Ød <sub>1</sub>	Ød <sub>2</sub>	a	b	L	ℓ <sub>1</sub>
WEX1000F	WEX1032F	8	32	16	9	8,4	5,6	40	18
	WEX1040F	10	40	16	9	8,4	5,6	40	18
	WEX1050F	12	50	22	11	10,4	6,3	40	18
	WEX1063F	14	63	22	11	10,4	6,3	40	18

## Inserts for WEX1000 Type

High Speed/Light Cut		P			K		M <sub>S</sub>	
General Purpose			P		K		M <sub>S</sub> M <sub>S</sub>	
Roughing			P	P		K	M <sub>S</sub>	
Cat. No.	R	ACP100	ACP200	ACP300	ACK200	ACK300	ACM200	ACM300
AXMT060204PDER-L	0,4	●	●	●	●	●	●	●
AXMT060208PDER-L	0,8	●	●	●	●	●	●	●
AXMT060212PDER-L	1,2	●	●	●	●	●	●	●
AXMT060204PDER-G	0,4	●	●	●	●	●	●	●
AXMT060208PDER-G	0,8	●	●	●	●	●	●	●
AXMT060212PDER-G	1,2	●	●	●	●	●	●	●
AXMT060204PDER-H	0,4	●	●	●	●	●	●	●
AXMT060208PDER-H	0,8	●	●	●	●	●	●	●
AXMT060212PDER-H	1,2	●	●	●	●	●	●	●

L - Light Cutting Type  
G - General Type  
H - Strong Cutting Edge

● Euro stock

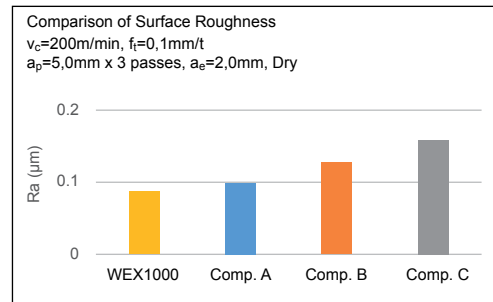
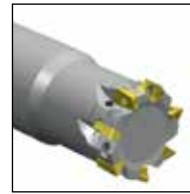
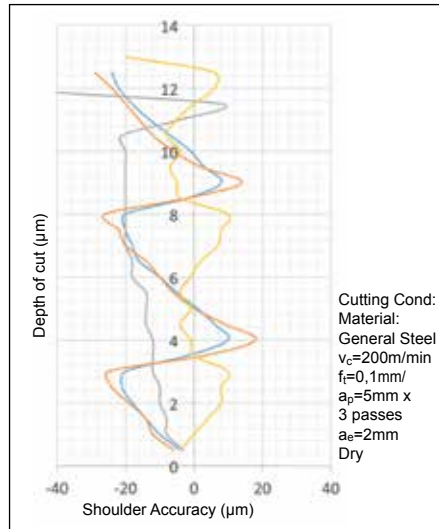
P Steel  
M Stainless Steel  
K Cast Iron  
S High tempered resist. alloys

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### ■ Cutting Performance

High shoulder accuracy achieved due to the high end combination of cutter body and precision insert design.



Die mold (injection molding)  
Material: 40CrMnNiMo 8-6-4  
Insert: AXMT060204PDER-H ACP200

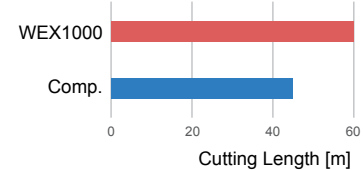
Better wall and bottom surface finish than competitor.



$v_c = 210\text{m/min}$   
 $v_f = 2500\text{mm/min}$   
 $f_t = 0,15\text{mm/t}$   
 $a_p = 0,3\text{mm}$   
 $a_e = 5\text{mm}$

Material: X12Cr13  
Machine: Vertical CNC Machine  
Insert: AXMT060204PDER-G ACM300

Tool life increase around 30%.



$v_c = 60\text{m/min}$   
 $v_f = 860\text{mm/min}$   
 $f_t = 0,18\text{mm/t}$   
 $a_p = 1,0\text{mm}$



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