P M K N S H

## „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

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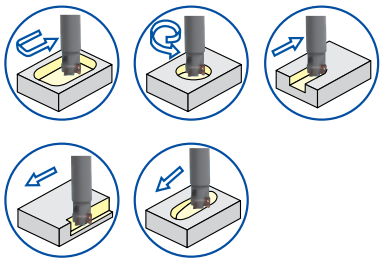
# Wave Mill Series
# WEX Type

## General Feature

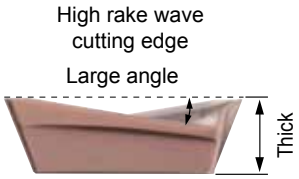
- Large Application Range



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

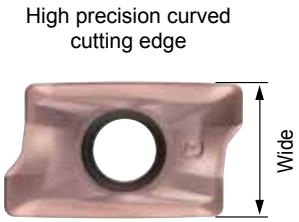
## Precision Insert for Economical Machining

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.




## 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

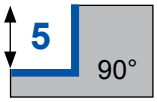
| ISO | Grade | Finishing to Light Cutting | Medium Cut | Rough to Heavy Cutting |
|---|---|---|---|---|
| P | Coated Carbide | ACP100 | ACP200 | ACP300 |

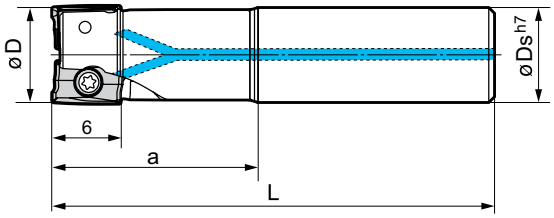
| ISO | Grade | Finishing to Light Cutting | Medium Cut | Rough to Heavy Cutting |
|---|---|---|---|---|
| K | Coated Carbide | ACK200 | ACK300 | |
| M | Coated Carbide | ACM200 | ACM300 | |

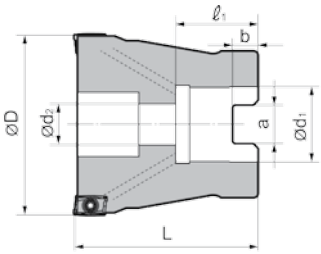
## Recommended Cutting Conditions

| 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 |

| 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 | TRXR06IP | 0,5 | WEX1000 Series |

## Body (Shell Type "F")

| | Design | | Geometry | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | Cat. No. | Teeth | ØD | $ød_1$ | $ød_2$ | a | b | L | $ℓ_1$ |
| 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 | | MS | |
|---|---|---|---|---|---|---|---|---|
| General Purpose | | | P | | K | | MS | MS |
| Roughing | | | P | P | | K | | MS |
| **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

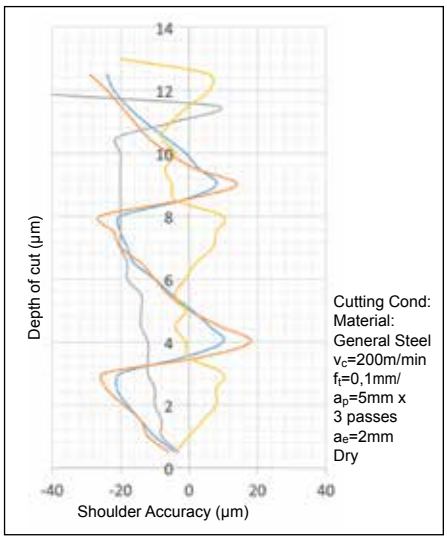
● Euro stock

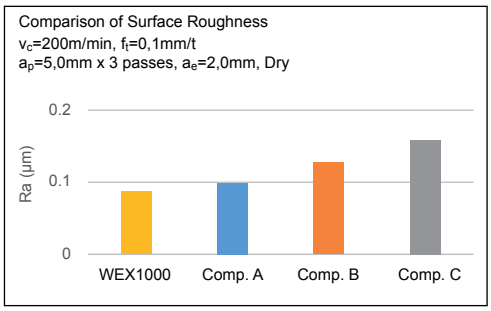
P Steel
M Stainless Steel
K Cast Iron
S High tempered resist. alloys

# Wave Mill Series
# WEX Type

## Cutting Performance

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



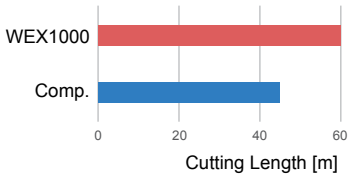

Die mold (injection molding)
Material: 40CrMnNiMo 8-6-4
Insert: AXMT060204PDER-H ACP200

Better wall and bottom surface finish than competitor.

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

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

Tool life increase around 30%.




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

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CARBIDE - CBN - DIAMOND

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