



AWEA MECHANTRONIC CO., LTD.

HEADQUARTERS

629, Suezhetou Section, Kwanpu Rd., Wenshan Li,
Hsinpu, Hsinchu 305, Taiwan
TEL : +886-3-588-5191
FAX : +886-3-588-5194
Website : www.awea.com

CENTRAL TAIWAN SCIENCE PARK BRANCH

15, Keyuan 2nd Rd., Central Taiwan Science Park,
Taichung 407, Taiwan
TEL : +886-4-2462-9698
FAX : +886-4-2462-8002
E-mail : sales@awea.com

ISO 9001



ISO 14001



AGENT

MVP Series

Moving Cross Beam Bridge Type 5-Face Machining Center



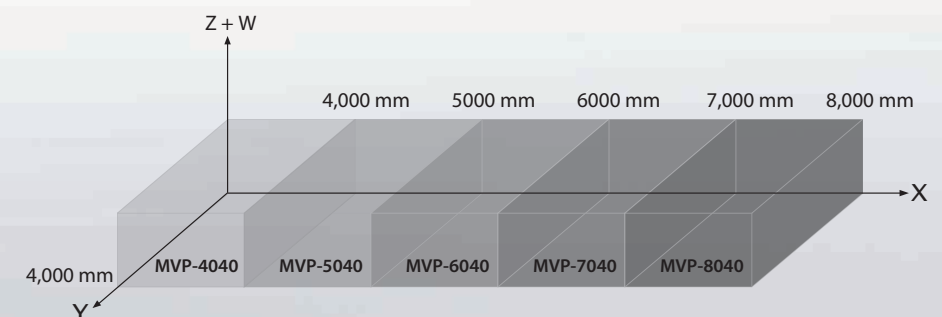
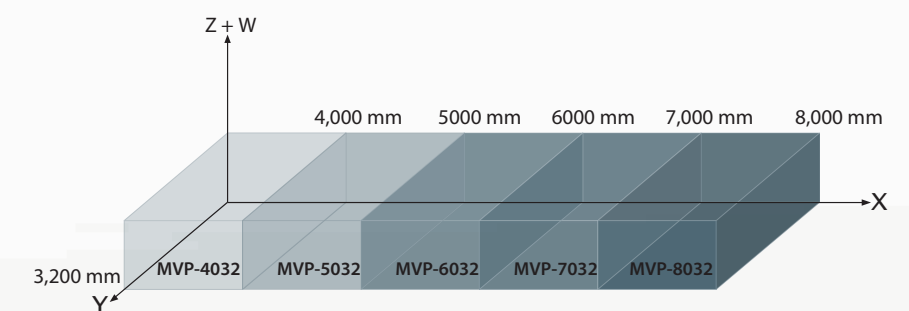


Moving Cross Beam Bridge Type 5-Face Machining Center

Based on AWEA's mature manufacturing ability and innovative technology, the MVP series moving cross beam type 5-face machining center provides extra-long vertical travel with W-axis travel at 1,250 mm, an automatic vertical / horizontal tool changing system, complete milling heads and an automatic head changing system.

The MVP series offers advanced bridge type 5-face machining centers that integrate heavy cutting capabilities with high efficiency and high reliability, to meet your various machining needs today and in the future.

Max. Travel Range



Model	MVP-4032	MVP-5032	MVP-6032	MVP-7032	MVP-8032	MVP-4040	MVP-5040	MVP-6040	MVP-7040	MVP-8040
X-axis mm	4,000	5,000	6,000	7,000	8,000	4,000	5,000	6,000	7,000	8,000
Y-axis mm	3,200					4,000				
Z-axis mm	1,000 (1,200 / 1,400 Opt.)									
W-axis mm	1,250									

MVP Series

4032 / 5032 / 6032 / 7032 / 8032
4040 / 5040 / 6040 / 7040 / 8040

Moving Cross Beam Bridge Type 5-Face Machining Center

The moving cross beam design (W-axis) increases the work range, while providing strong cutting rigidity in all kinds of machining operations. AWEA's MVP series advanced 5-face machining centers are specially designed for large precision parts in the die & mold, energy and aerospace industries.

- The combined travel of the W-axis (1,250 mm) and Z-axis (1,000 mm) provides more flexible machining modes and a much larger work envelope.
- The MVP series is equipped with a 4,000 rpm high torque 2-step gear drive spindle as standard. A variety of direct drive or built-in spindles are optionally available, as well as coolant through spindle option for vertical spindle and attachment heads.
- The 60T vertical / horizontal tool changing system and a modular automatic head changer provide high efficiency and fulfill various 5-face machining requirements.
- Screw type chip augers on both sides combined with a side-exit chip conveyor and 1,200 L coolant tank provide best cooling results and efficient chips removal capabilities.
- The standard Five Sided Coordinate Conversion System saves a great deal of programming time.



MVP

Series

4032 / 5032 / 6032 / 7032 / 8032
4040 / 5040 / 6040 / 7040 / 8040

Moving Cross Beam Bridge Type 5-Face Machining Center

High rigidity structure

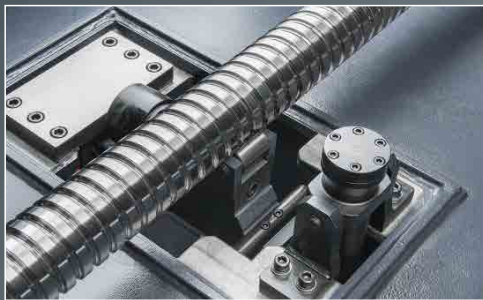
- Columns and cross beam are cast in a special box design with re-enforcement ribs and go through long-term annealing procedures to provide a solid structure for heavy-duty cutting.
- X and Y axes are equipped with roller type linear guide ways, which combine the characteristics of rigid heavy duty box guide ways and the high accuracy, fast movement of ball type linear guide ways.
- The roller type linear guide ways provide long-lasting service life and high speed, heavy load capabilities for the Z-axis.



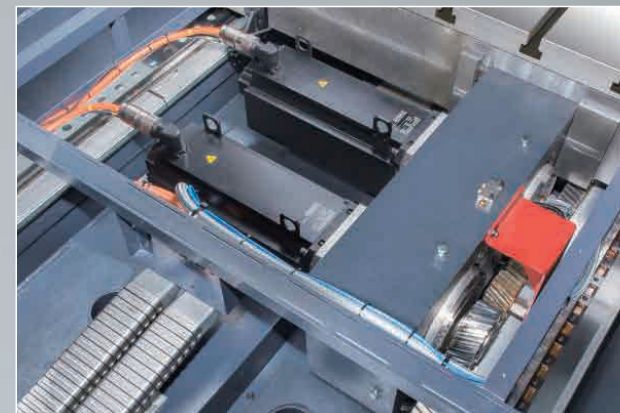
- The table is center driven and is supported by 4 compound guide ways along its full travel, which eliminates overhang problems and ensures optimal work piece support.



- All contact surfaces of the cross beam and columns are precision hand-scraped to achieve the best assemble accuracy and structural rigidity.



- The ball screws of models with an X-axis travel of 5 m or longer are supported by an anti-vibration mechanism, which effectively prevents deformation of long ball screws and improves full travel machining accuracy.



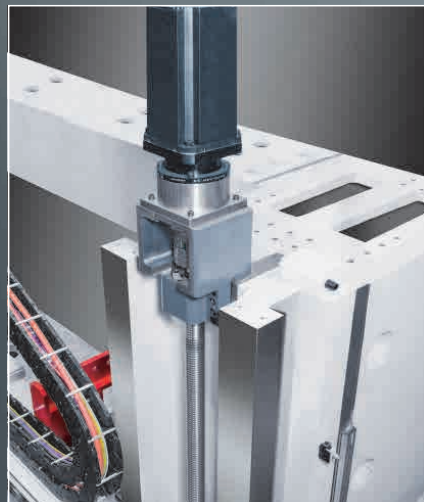
- The X-axis can be equipped with an optional rack and pinion drive system and high resolution linear scales. The electronic backlash reduction dual servo motor design eliminates backlash and provides excellent dynamic accuracy for large machines.

High Rigidity W-Axis Structure

- The ample W-axis travel provides flexibility for best 5-face machining results.
 - ▶ W = 0 mm: provides a larger work envelope than ordinary machines.
 - ▶ W = 1,250 mm: reduced overhang for increased cutting rigidity and accuracy.



- Enlarged columns and linear roller guide ways (or optional box guide ways) in combination with the twin hydraulic counter balance design provide solid structural rigidity for heavy cutting.

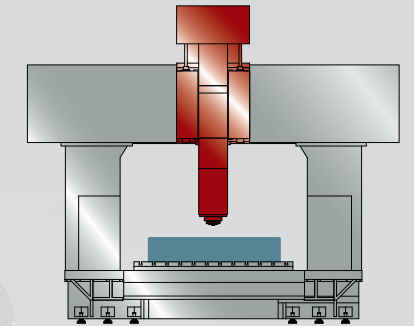


- The W-axis employs the "simultaneous control technology", which effectively eliminates following errors on both sides of the cross beam and ensures the optimal dynamic accuracy.



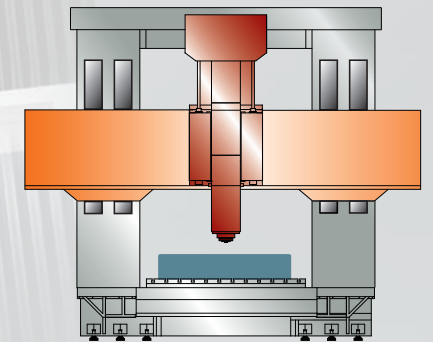
W-axis vs. without W-axis

without W-axis



- Reduced rigidity while the Z-axis is fully extended.

with W-axis



- The W-axis reduces the overhang of the Z-axis, which remains rigid and therefore more suitable for heavy cutting.

↑ **40 %**
Cutting Rigidity

↑ **30 %**
Structural Rigidity

Optimum Spindle System

977 Nm

Maximum Torque

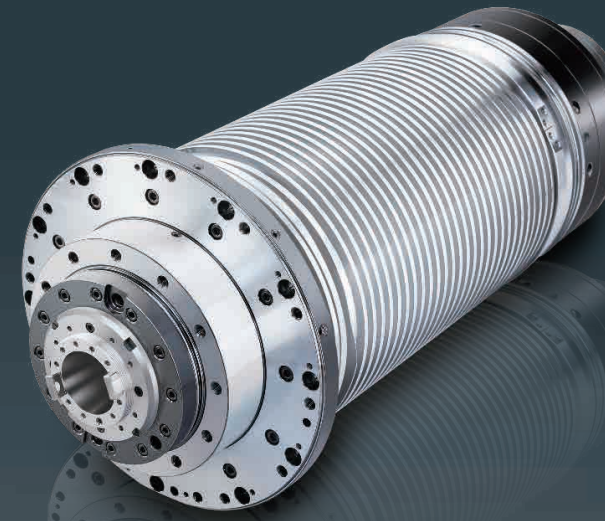


High Torque Gear Drive Spindle

- 2-step super heavy-duty gear box
- The floating type hydraulic tool release device eliminates pressure on the spindle bearings when releasing a tool.
- 4,000 rpm high torque spindle equipped with a powerful 26 kW motor, delivering a maximum torque output of 977 Nm at 254 rpm to meet various heavy-duty cutting conditions.
- 5,000 / 6,000 rpm gear box spindle (Opt.)

600 Nm

Maximum Torque

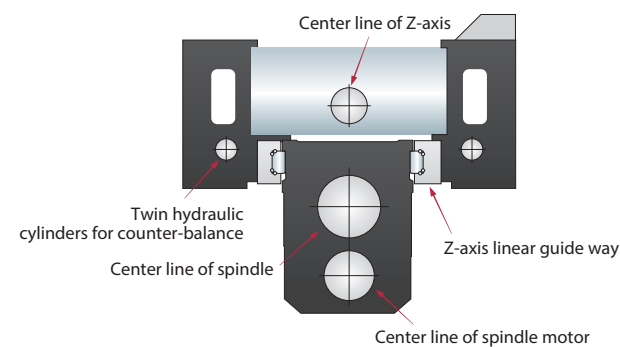


High Speed, High Torque

- The FANUC built-in motor reduces centrifugal force effect and reduces spindle vibration, which increases the spindle's life span and improves long-term machining accuracy.
- The floating type hydraulic tool release device eliminates pressure on the spindle bearings when releasing a tool.
- 6,000 / 8,000 / 12,000 rpm spindles are optionally available, both providing a maximum 600 Nm torque output at 350 rpm.

Centro-Symmetric Spindle System

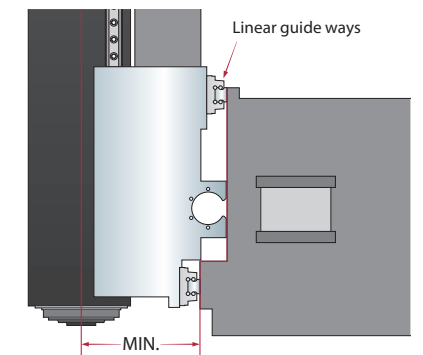
- Unique head design allows the spindle, spindle motor, ball screw and dual hydraulic counter weight cylinders to be symmetrically placed. Hereby preventing thermal distortion and minimizing deflection. Assuring accuracy and heavy-duty cutting capability.



■ Centro-symmetric Main Spindle System

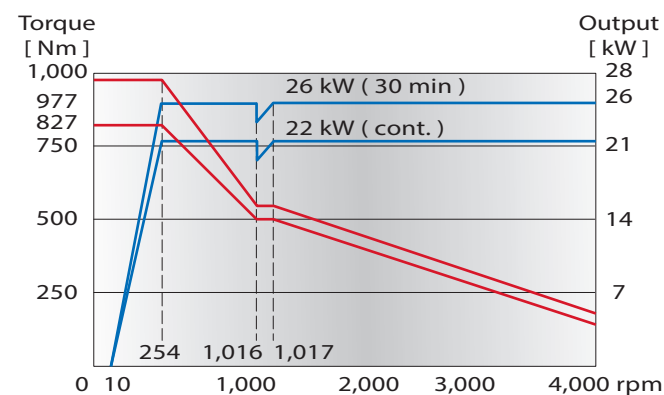
Powerful Cutting Capability

- The embraced guideway design provides super rigidity and optimal load distribution .
- The Y-axis roller type linear guide ways are offset from each other, increasing structural rigidity and reducing the distance between the spindle head and the cross beam, which enhances overall cutting performance.

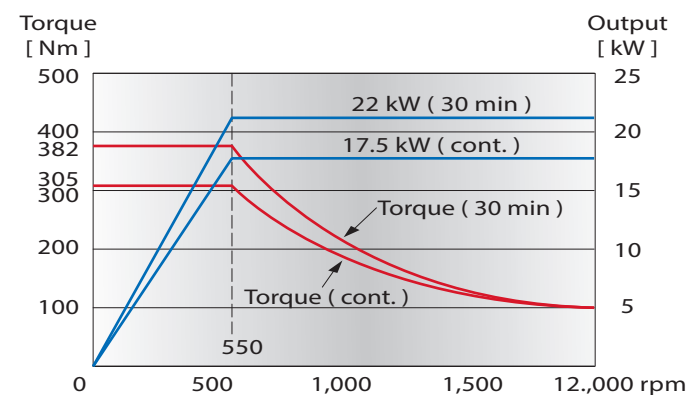


■ Y-axis sectional roller type guide ways design

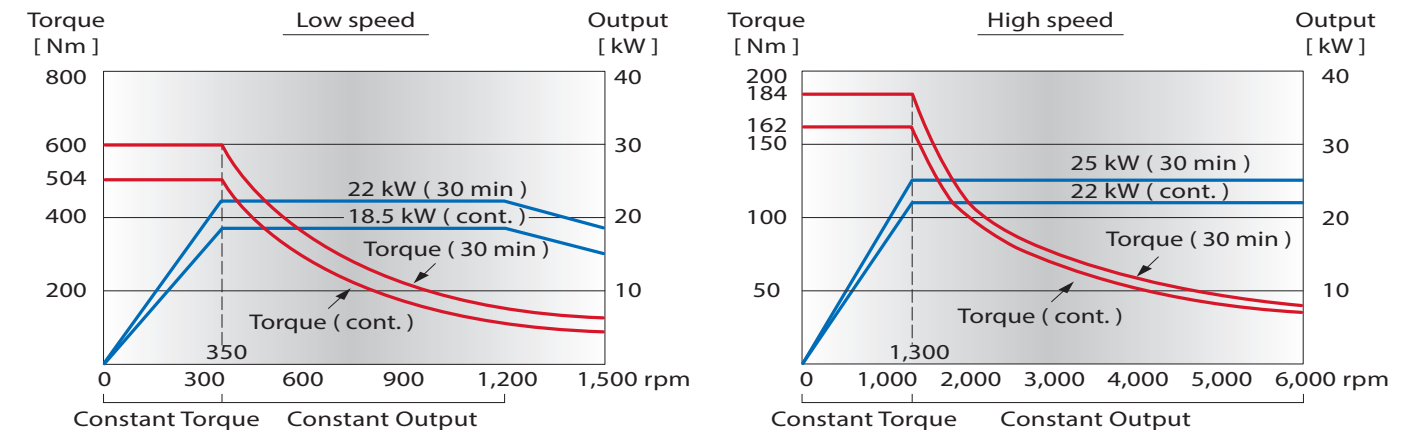
4,000 rpm Gear Drive Spindle

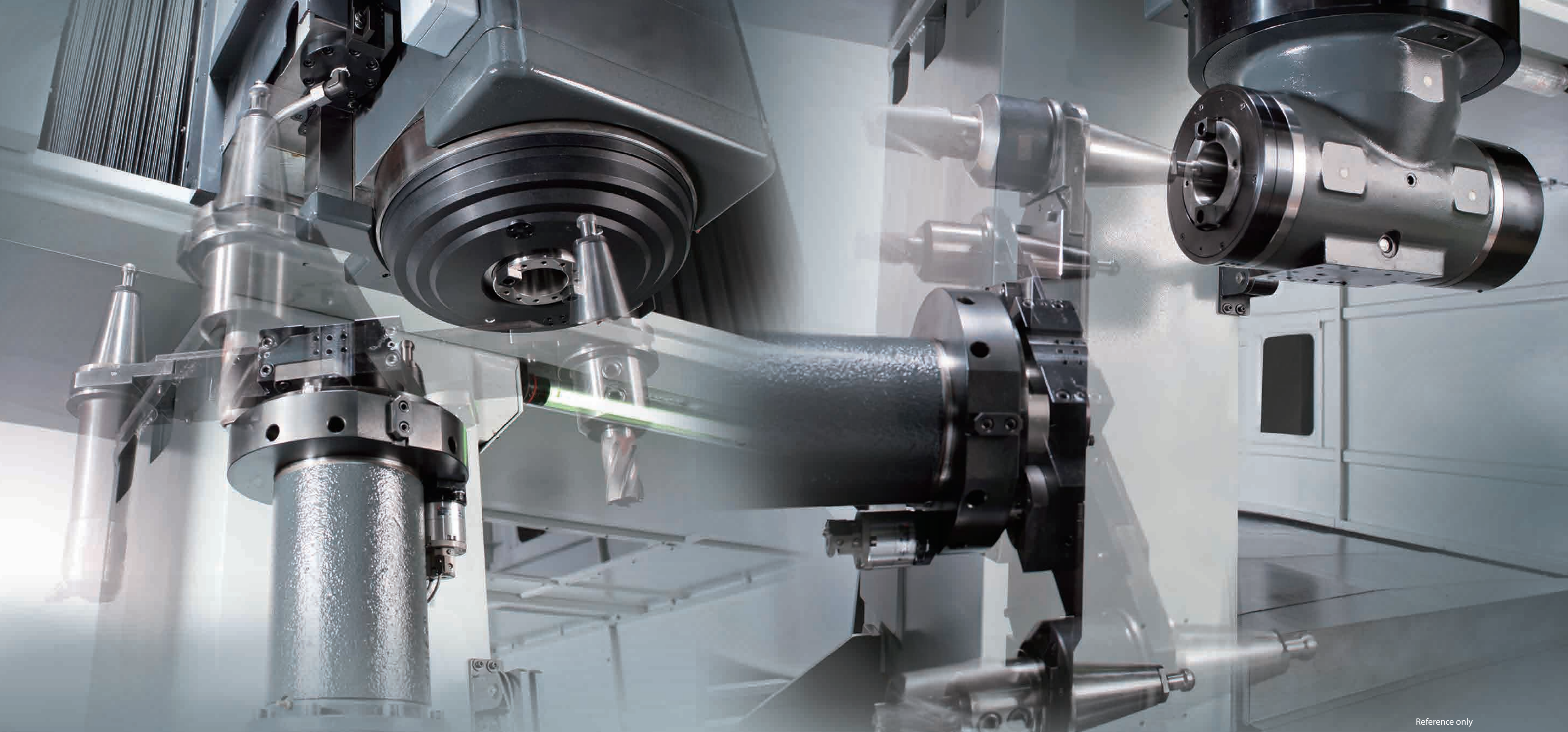


12,000 rpm Built-in Spindle



6,000 rpm Built-in Spindle





Reference only

Highly Reliable ATC System

Vertical / Horizontal ATC

- Standard tool magazine capacity 60 tools. Tool capacity 32 / 40 / 90 / 120 optional.
- The vertical / horizontal ATC system provides quick tool changes and is equipped with sensors and sequence scanning to ensure safety and reliability.
- Max. tool length 400 mm, max. tool weight 25 kg.
- The tool release mechanism uses a solenoid valve design, so even heavy tools can be clamped safely in, and released smoothly from the magazine.



NEW GENERATION

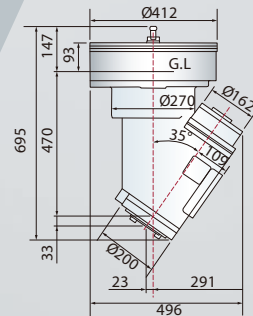
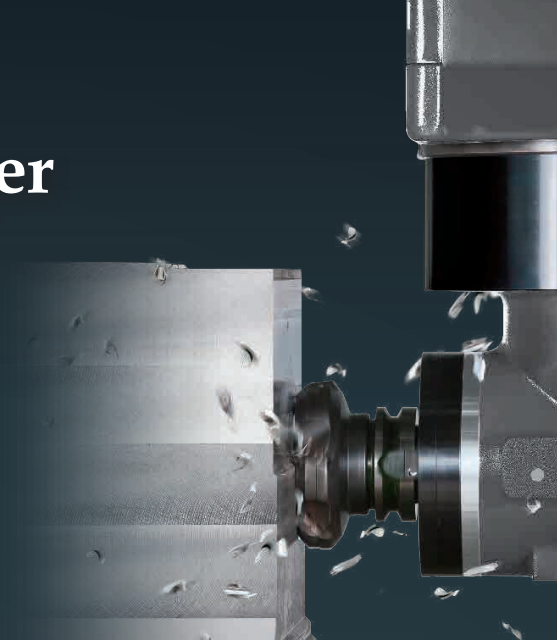
Automatic Milling Heads

The new generation milling heads designed and made by AWEA have comprehensive specifications and enhanced performance. Designed and built by AWEA for making seamless compatibility with the machines, enhancing reliability, performance, and accuracy all at the same time.



High Efficiency Head Changer

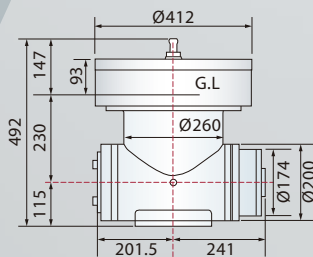
- The standard automatic head changer and vertical / horizontal ATC system provide high efficiency multi-function 5-face machining capability.
- The 90° head milling head is standard equipment, additional milling heads are optional.



■ 35° Head

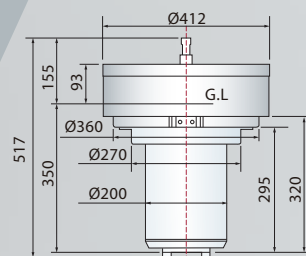
(Unit : mm)

Automatic head clamp / tool clamp
C-axis automatic 5° / 2.5° indexing
Max. speed : 3,000 rpm / 4,500 rpm
Max. output : 22 kW (30 HP)
Optional CTS



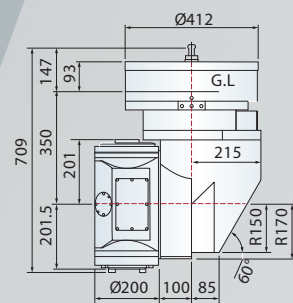
■ 90° Head

Automatic head clamp / tool clamp
C-axis automatic 5° / 2.5° indexing
Max. speed : 2,000 rpm / 3,000 rpm / 4,500 rpm
Max. output : 22 kW (30 HP)
Optional CTS



■ Extension Head

Automatic head clamp / tool clamp
Max. speed : 3,000 rpm / 6,000 rpm
Max. output : 22 kW (30 HP)
Optional CTS



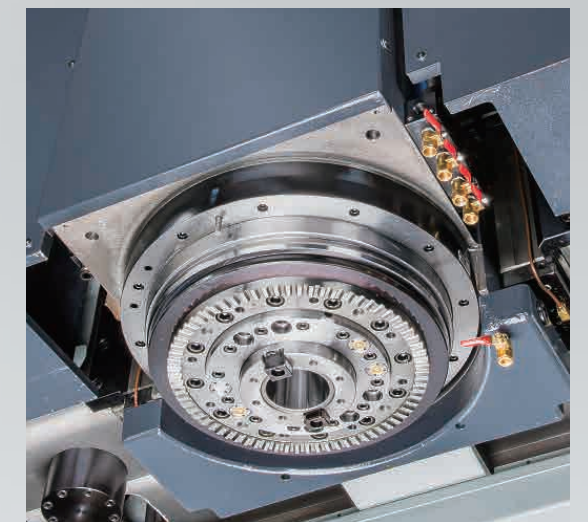
■ A / C Axes Automatic Universal Head

Automatic head clamp / tool clamp
A / C axes automatic 5° / 2.5° / 1° indexing
Max. speed : 3,000 rpm / 4,500 rpm*¹
Max. output : 22 kW (30 HP)
Optional CTS

*1 Semi-Auto Universal Head (2,000 rpm) is also available for order



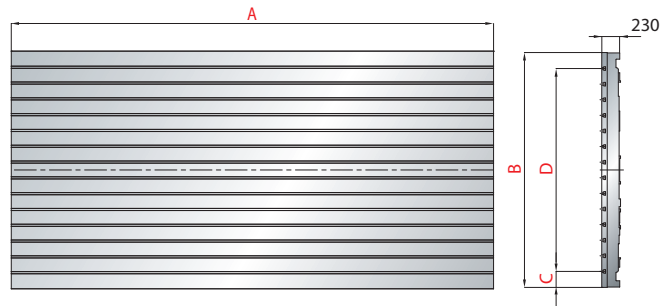
- Hand scraped spindle contact surface.



- Precise milling head positioning through curvic coupling.

Dimensions

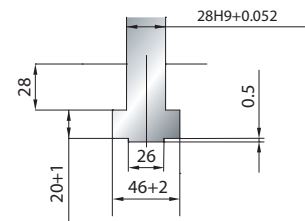
Table Dimensions



Model	A	B	C	D
MVP-4032	4,020	2,400	100	11x@200=2,200
MVP-5032	5,020			
MVP-6032	5,020			
MVP-7032	7,020	3,010	205	13x@200=2,600
MVP-4040	4,020			
MVP-5040	5,020			
MVP-6040	5,020			
MVP-7040	7,020			

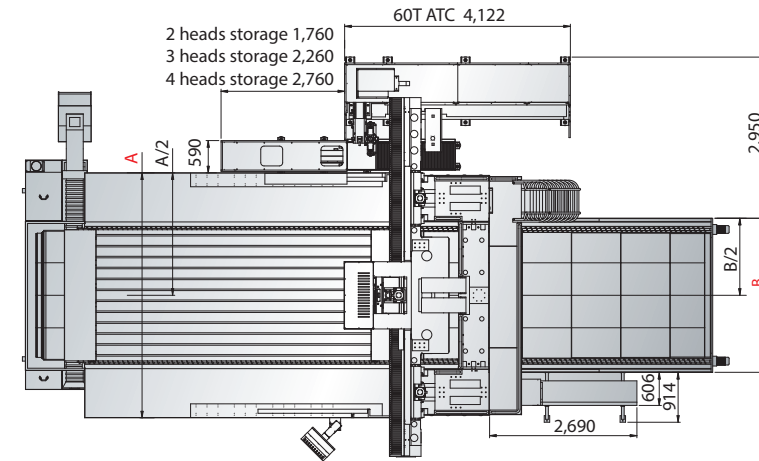
T-slot Dimensions

(Unit: mm)



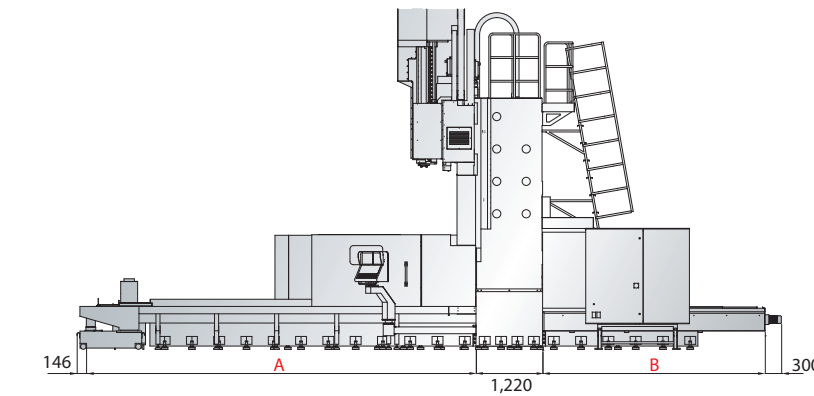
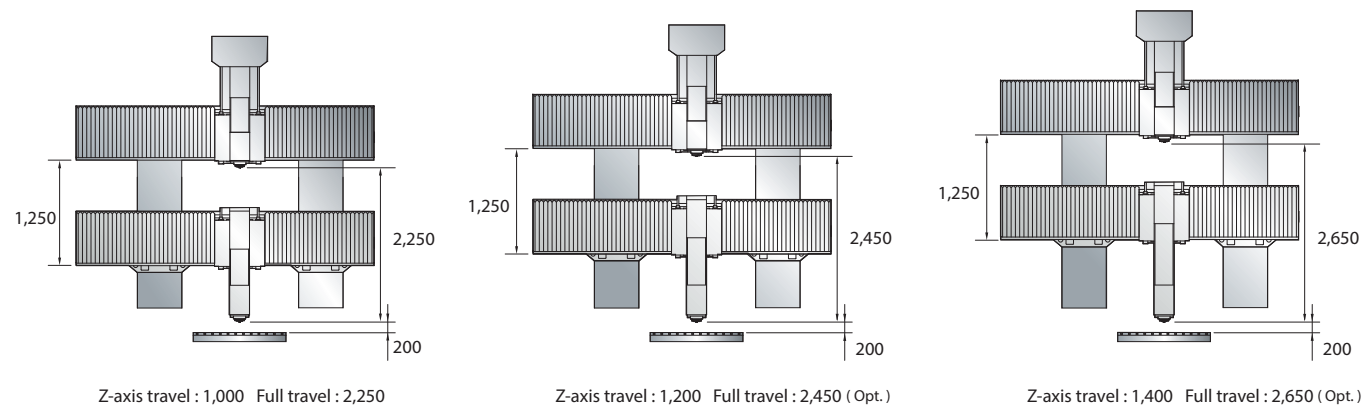
Machine Dimensions

(Unit: mm)



Model	A	B
MVP-XX32	4,500	2,850
MVP-XX40	5,300	3,650

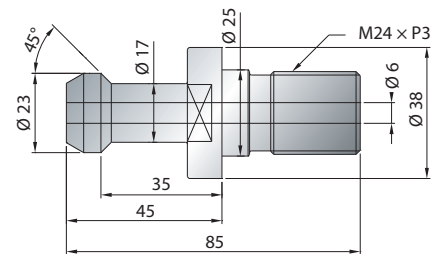
Z + W axes Travel



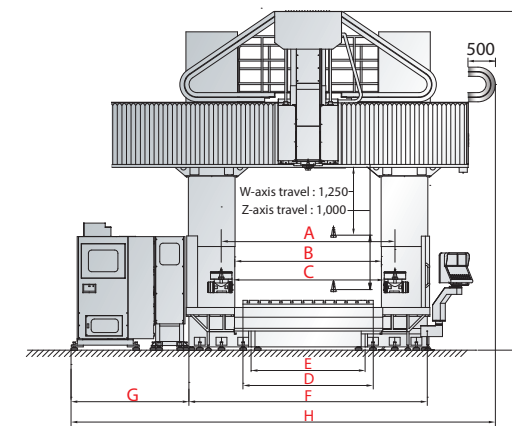
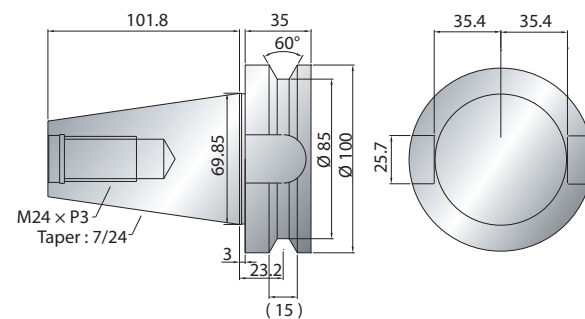
Model	A	B
MVP-40xx	6,260	3,075
MVP-50xx	7,260	4,075
MVP-60xx	8,260	5,075
MVP-70xx	9,260	6,075

Tool Shank and Pull Stud Dimensions

MAS403 P50T (45°)



BT50



Model	A	B	C	D	E	F	G	H	I
MVP-xx32	3,200	2,700	2,800	2,400	2,100	4,400	2,170	7,815	6,260
MVP-xx40	4,000	3,500	3,600	3,010	27,00	5,200	2,170	8,615	6,260

		MVP-4032	MVP-5032	MVP-6032	MVP-7032	MVP-8032	MVP-4040	MVP-5040	MVP-6040	MVP-7040	MVP-8040
SPECIFICATIONS											
X-axis travel	mm	4,000	5,000	6,000	7,000	8,000	4,000	5,000	6,000	7,000	8,000
Y-axis travel	mm	3,200					4,000				
Z-axis travel	mm	1,000 (1,200 / 1,400 Opt.)					1,000 (1,200 / 1,400 Opt.)				
W-axis travel	mm	1,250					1,250				
Dist. between columns	mm	2,700					3,500				
Dist. from spindle nose to table top	mm	200 ~ 2,450					200 ~ 2,450				
TABLE											
Table size (X direction)	mm	4,020	5,020	6,020	7,020	8,040	4,020	5,020	6,020	7,020	8,040
Table size (Y direction)	mm	2,400					3,010				
Table load capacity	kg	15,000	18,000	20,000			15,000	18,000	20,000		25,000
SPINDLE											
Spindle motor (cont. / 30 min.)	kW	22 / 26					22 / 26				
Spindle speed	rpm	10 ~ 4,000 rpm (vertical) / 20 ~ 2,000 rpm (horizontal)					10 ~ 4,000 rpm (vertical) / 20 ~ 2,000 rpm (horizontal)				
Spindle taper		BT50					BT50				
FEED RATE											
X-axis rapid feed rate	m/min	15	10	10	7.5	7.5	15	10	10	7.5	20
Y-axis rapid feed rate	m/min	12					10				
Z-axis rapid feed rate	m/min	10					10				
W-axis rapid feed rate	m/min	3					3				
Max. cutting feed rate	m/min	5					5				
TOOL MAGAZINE											
Tool magazine capacity	T	60					60				
Max. tool diameter / adj. pocket empty	mm	Ø 127 / Ø 215					Ø 127 / Ø 215				
Max. tool length	mm	400					400				
Max. tool weight	kg	20					20				
ACCURACY											
Positioning accuracy (JIS B 6338)	mm	± 0.010 / Full Travel					± 0.010 / Full Travel				
Positioning accuracy (VDI 3441)	mm	P = 0.025 / Full Travel	P = 0.030 / Full Travel	P = 0.035 / Full Travel	P = 0.040 / Full Travel	P = 0.040 / Full Travel	P = 0.025 / Full Travel	P = 0.030 / Full Travel	P = 0.035 / Full Travel	P = 0.040 / Full Travel	P = 0.040 / Full Travel
Repeatability (JIS B 6338)	mm	± 0.003					± 0.003				
Repeatability (VDI 3441)	mm	Ps = 0.018	Ps = 0.022	Ps = 0.026	Ps = 0.030	Ps = 0.030	Ps = 0.018	Ps = 0.022	Ps = 0.026	Ps = 0.030	Ps = 0.030
GENERAL											
Power requirement	kVA	AC 220 + 10% 3 phase / 80 kVA					AC 220 + 10% 3 phase / 80 kVA				
Pneumatic pressure requirement	kg/cm ²	5 ~ 8					5 ~ 8				
Hydraulic tank capacity	liter	290					290				
Lubrication oil tank capacity	liter	6					6				
Coolant tank capacity	liter	750					1,200				
Machine weight	kg	70,000	75,000	80,000	85,000	95,000	78,500	83,500	88,500	93,500	122,000

Specifications are subject to change without notice.

Standard Accessories

- Spindle 2-step gear box
- Spindle cooling system
- Centralized automatic lubricating system
- 4 pcs splash guard
- Twin hydraulic counter weight cylinders
- 60T ATC
- X,Y,Z,W axes optical linear scale
- Coolant system with pump and tank
- Twin screw type chip augers
- Lubricant/ oil collection and separation
- Caterpillar type chip conveyor and bucket
- Foundation bolt kit

- Foot switch for tool clamping
- Movable manual pulse wave generator
- RJ45/ RS232 interface
- Rigid tapping
- Tool box
- Alarm light

- Air gun
- Automatic power off system
- 90° Head automatic 5° index
- Automatic head changer and vertical / horizontal tool exchanger

Optional Accessories

- 5,000 / 6,000 rpm gear drive spindle
- 6,000 / 8,000 / 12,000 rpm built-in spindle
- Z-axis extension travel : 1,200 / 1,400 mm
- Milling head automatic index : 35° / universal / extension head
- X-axis gear / racks driven system
- Coolant through the spindle (Form A)
- Spindle thermal compensation
- Automatic tool length measurement
- Automatic work-piece measurement