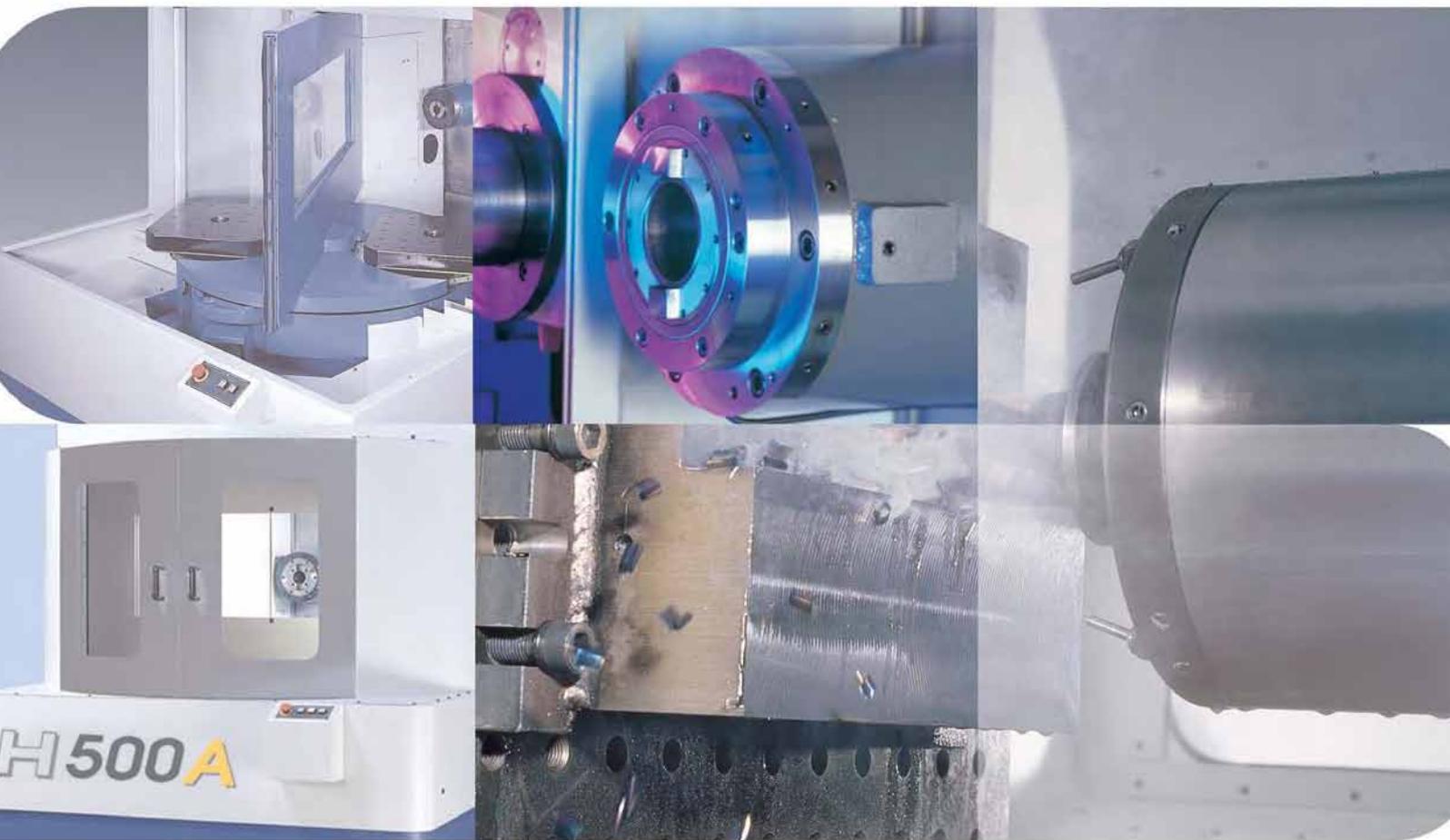


# H Series

**500A/B-800B-2612B**

*High Production Dual Drive Horizontal Machining Center*



# H Series

## High Production Dual Drive Horizontal Machining Center

- The Yeong Chin Horizontal machining centers are specially developed for high efficiency machining industries; automobile parts like transmission case, engine blocks, valves and vane pump, and medium or large precision molds.
- The high quality and strengthened MEEHANITE® castings are the accuracy foundation of its kind. Various spindle configuration and modular, and coolant through spindle feature suit different machining requirements. Directly driven axial structure of pretension ballscrews ensure the high accuracy level, and reliability. The ATC mechanism is of the highest reliability, and the widely adopted APC feature the flexibility and automation of machining solution.



## Hi-Speed, Hi-Precision Spindle Design

### H500A/B

- Ceramic spindle bearings for high speed machining, features low thermal expansion coefficient and excellent rigidity performance.
- The ID's of spindle bearings,  $\varnothing 80\text{mm } \varnothing 3.15''$  (H500A)/ $\varnothing 100\text{mm } \varnothing 3.94''$  (H500B), satisfy heavy cutting requirements.
- Standard isolated direct drive (IDD) spindle, for the #40 spindle of 8,000rpm or the #50 spindle of 6,000rpm, offers excellent power output.
- High-Low speed winding performs 36kg-m 260.39 lb-ft and excellent cutting capability. (H500B)



■ H500A/B

## High Precision, High Rigidity, Powerful Gear-Head Spindle

### H800B/H2612B

- The #50 spindle deploys high precision NN series bearings, at max. 4,500rpm is suitable for high rigidity, heavy, and various machining operations.
- Deploys the spindle oil-thermal-cooling device of 1,300Kcal/h capability to strictly control the spindle heat increment within 10°C efficiently, and to perform the high accuracy machining results.
- The spindle of motor power output at max.18.5kW 25HP, and the 2-step automatic transmission high-low gear head of 74.1kg-m 535.98 lb-ft max. Torque output easily conducts 650cc/min metal removal heavy cutting capacity.
- Quill of prolongation design allows deep-hole machining.



■ H800B/H2612B



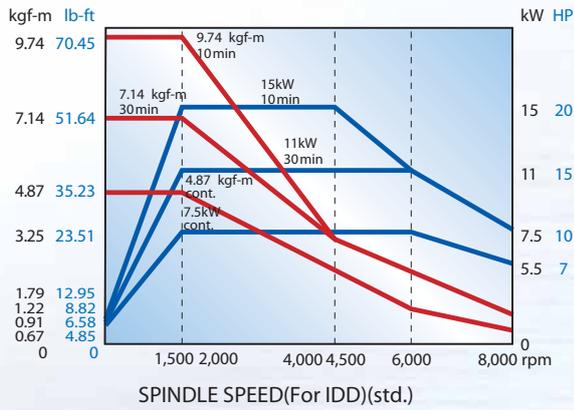
■ H800B/H2612B

# H Series

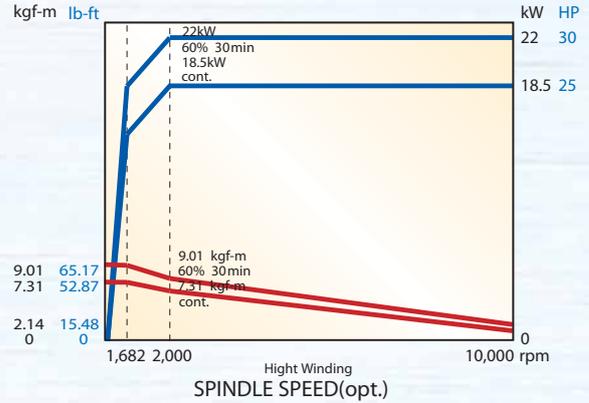
A great spindle module variety to meet various machining requirements.

POWER TORQUE

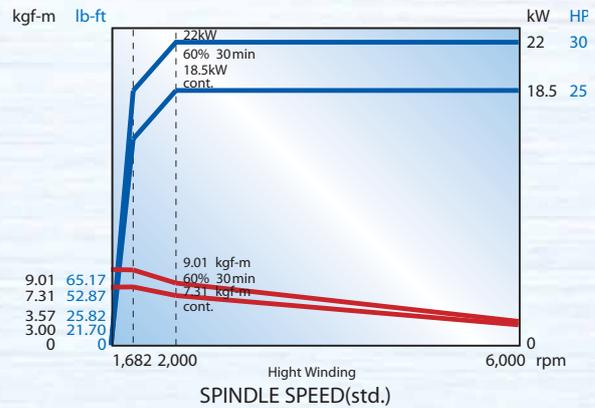
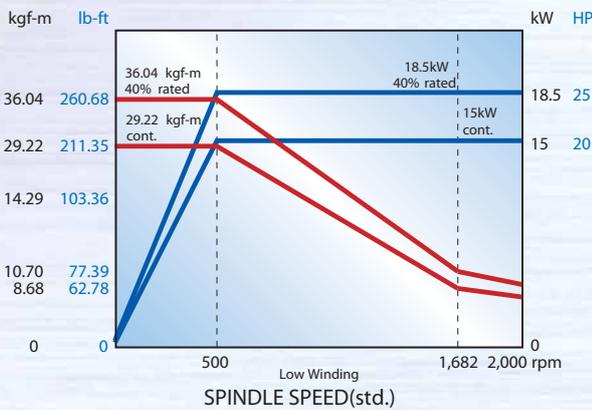
## H500A



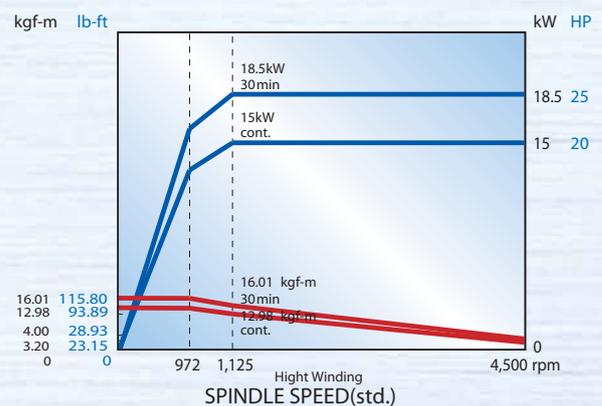
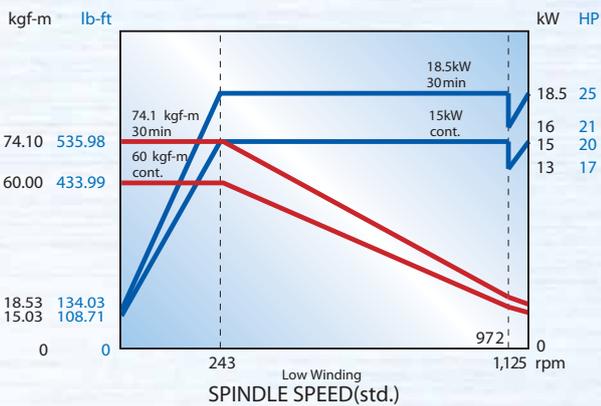
## H500B



## H500B



## H800B/H2612B



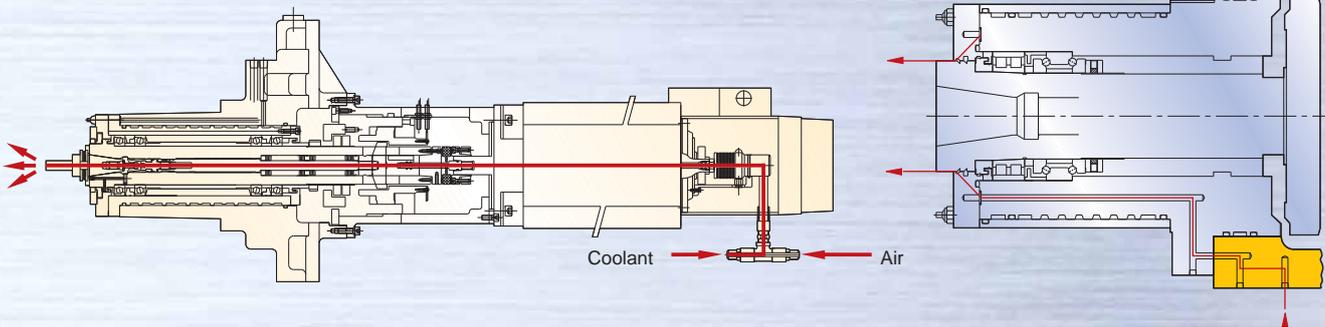
# H Series

## Spindle bearing protection

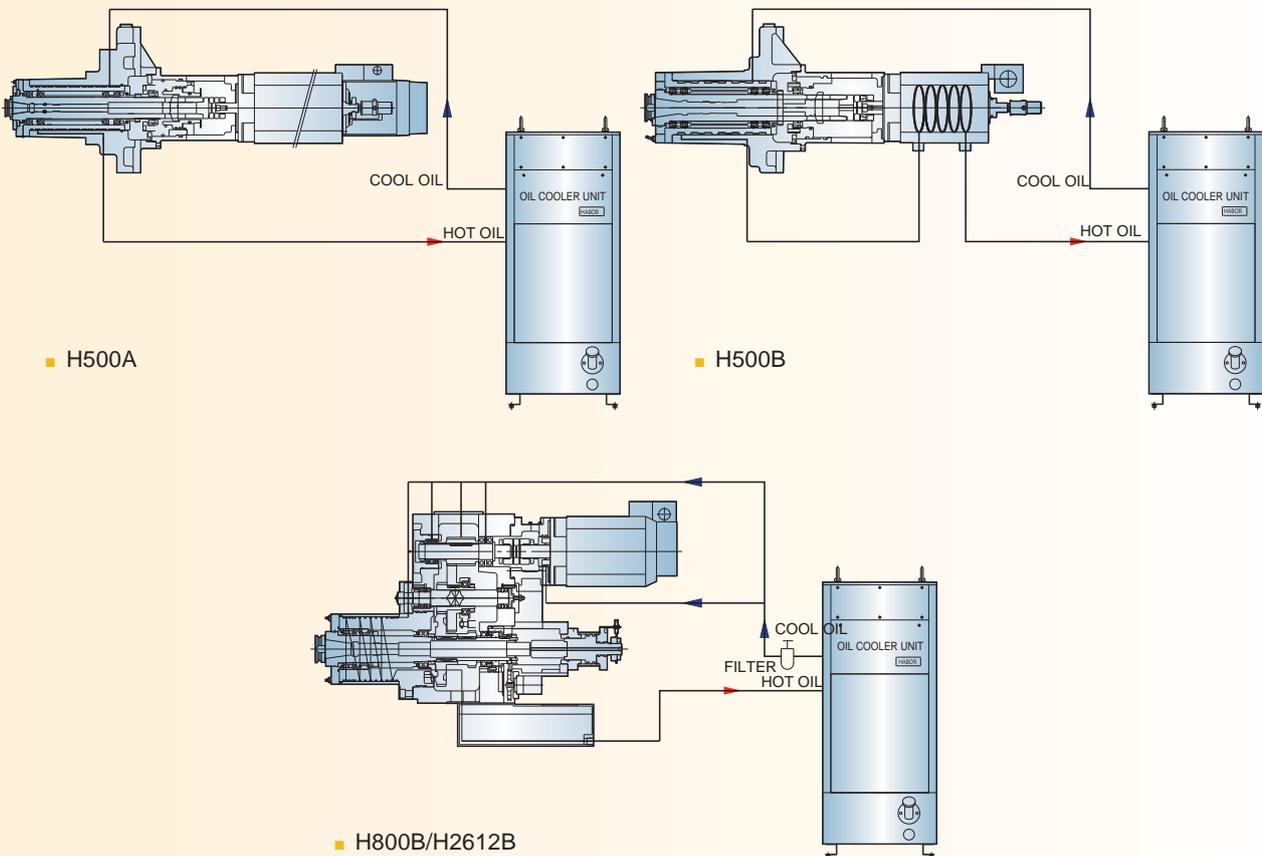
Spindle air curtain prevents the bearings from being invaded by cutting chips, dust and water mist, and extends the spindle service life.

Coolant through spindle system (opt.)  
DIN 69871 from A  
Pressure: 10kg/cm<sup>2</sup> 142.2psi or 20kg/cm<sup>2</sup> 284.5psi

Spindle air curtain  
Pressure: 2kg/cm<sup>2</sup> 28.4psi



## Spindle cooling system



# H Series

Quick and reliable ATC mechanism proved by a-million-time running test.

## H500A/H500B

- The roller-gear-cam ATC arm, parallel to the spindle of the short-pitch design, makes the ATC prompt and reliable; it takes only 3 seconds.
- The magazine is precisely indexed and driven by servo motor for efficient operations.



■ Quick & reliable tool change (H500A/B)

## H800B/H2612B

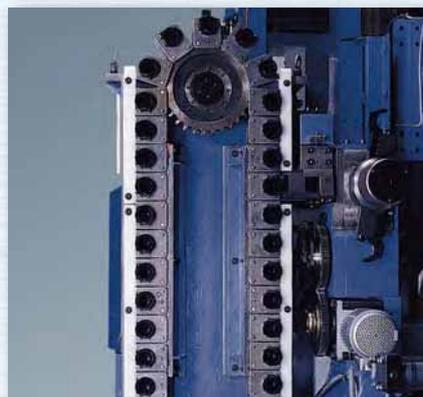
- The ARM type hydraulic ATC mechanism with backlash-free roller-cam design performs stable and reliable ATC.
- The magazine is indexed by the shortest distance random tool selection to meet the high production requirements; 40T and 60T versions on demand.



■ ATC (H800B/H2612B)



■ ATC magazine (H800B/H2612B)



■ ATC magazine (H500A)



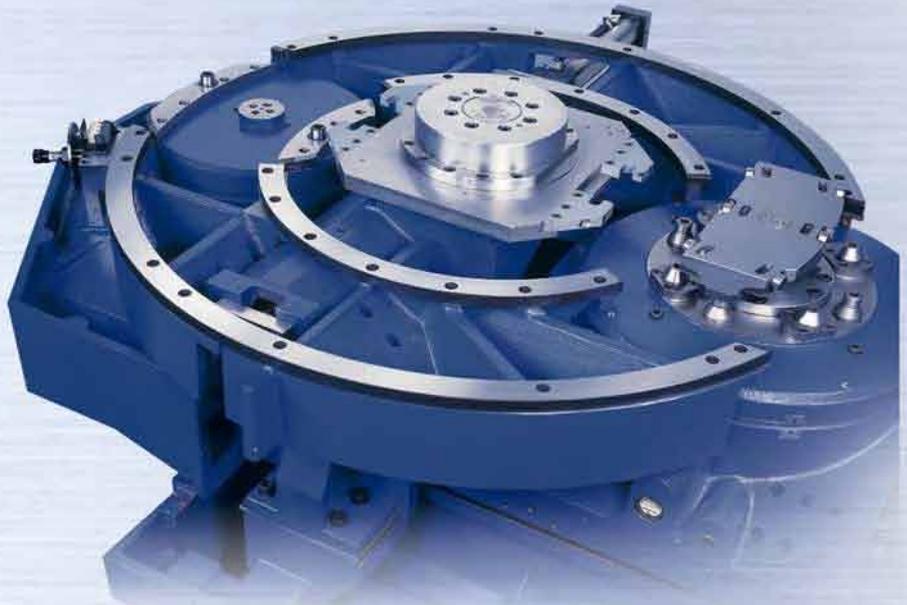
■ ATC magazine activated by servo motor (H500A)

# H Series

High precision, power clamp APC enhances flexibility and efficiency.

## H500A/B

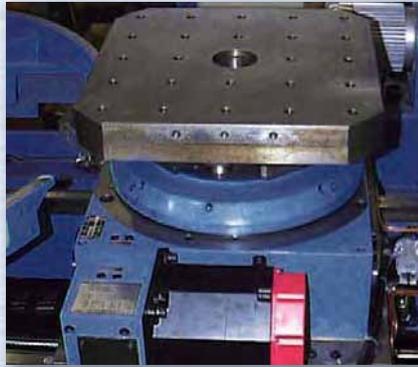
- Compact and smart rotary pallet change design with unique and strengthen rail way support ensures the accurate, fast, and reliable APC.
- Pallet is swift (on Z-axis) to make APC, the rotary door is quickly turned along with APC, which takes only 8 sec.
- Large size  $\varnothing 450\text{mm}$   $\varnothing 17.72''$  position clutch is deployed, together with taper pin in precise positioning, strongly supports the table and meets the rigid machining needs.
- Optional  $0.001^\circ$  continuous feed 4th axis pallet of dual warm gear design is backlash-free and easily maintained.



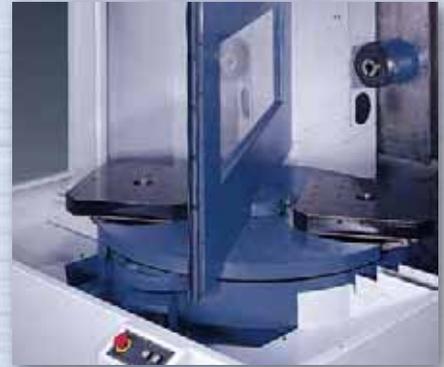
## H800B

- Shuttle type APC is driven by ballscrew for fast and reliable pallet exchange.
- Up to 12-ton pallet clamp force ensures the cutting rigidity, even for max. 2,000kg job load; the pallet index by large diameter ( $\varnothing 600\text{mm}$   $\varnothing 23.62''$ ) curvic coupling performs extreme accuracy and reliability.
- Alternative pallet division can be 72 or 360 positions.
- The 800mm x 800mm pallet is clamped by dual cylinder design that assures no dished strain; the pallet can be chosen with T-slot, or tap holes (M16x2P).
- Optional  $0.001^\circ$  continuous feed 4th axis pallet offers multi-face and multi-axis machining capability for its paid value.

- Rotary APC (H500A/B)

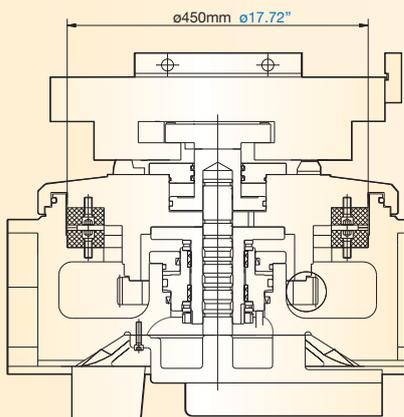


■ Rotary table ( $0.001^\circ$ ) (H500A/B)

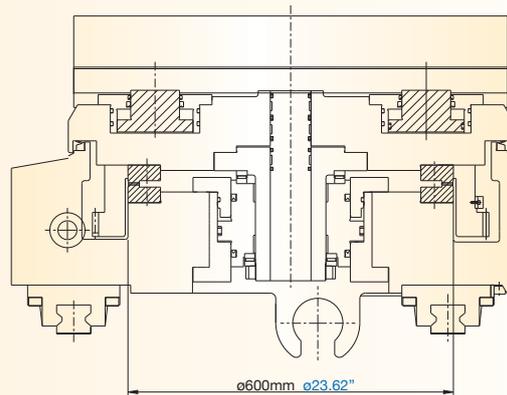


■ APC + safety door (H500A/B)

## Rotary Table Diagram



■ H500A/B



■ H800B

# H Series

# 500A/B

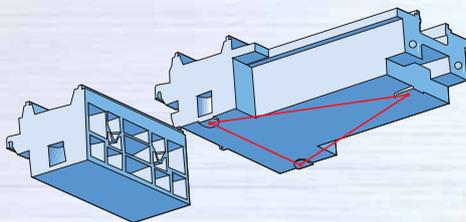
## High rigidity construction speedy machine of 30m/min. rapid feed

- The moving column design, the strengthened 3-point support base, and dual wall rib-structure designed column sustain the utmost rigidity, accuracy level, and machine durability.
- Direct transmission design on all 3 Axes and pre-tensioned ballscrews ensure motion rigidity, and machining accuracy.
- Deploy high precision linear motion guide ways, THK NR type on the H500A and NSK LA type on the H500B, all ensure excellent machining performance and service life with low friction, high rigidity, high speed and optimal damping force. The rapid feed is 30m/min. (X/Y/Z), and 10m/min. for max. cutting feed.

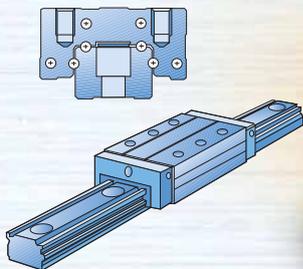
### H500A/B ACCURACY

Standard	ISO 10791-4	JIS B 6338
<b>Tolerances</b>		
<b>Axial Travel</b>	Full Length	300mm
<b>Positioning</b>	A 0.010mm (0.00039")	0.004mm (0.00015")
<b>Repeatability</b>	R 0.007mm (0.00028")	±0.003mm (±0.00012")

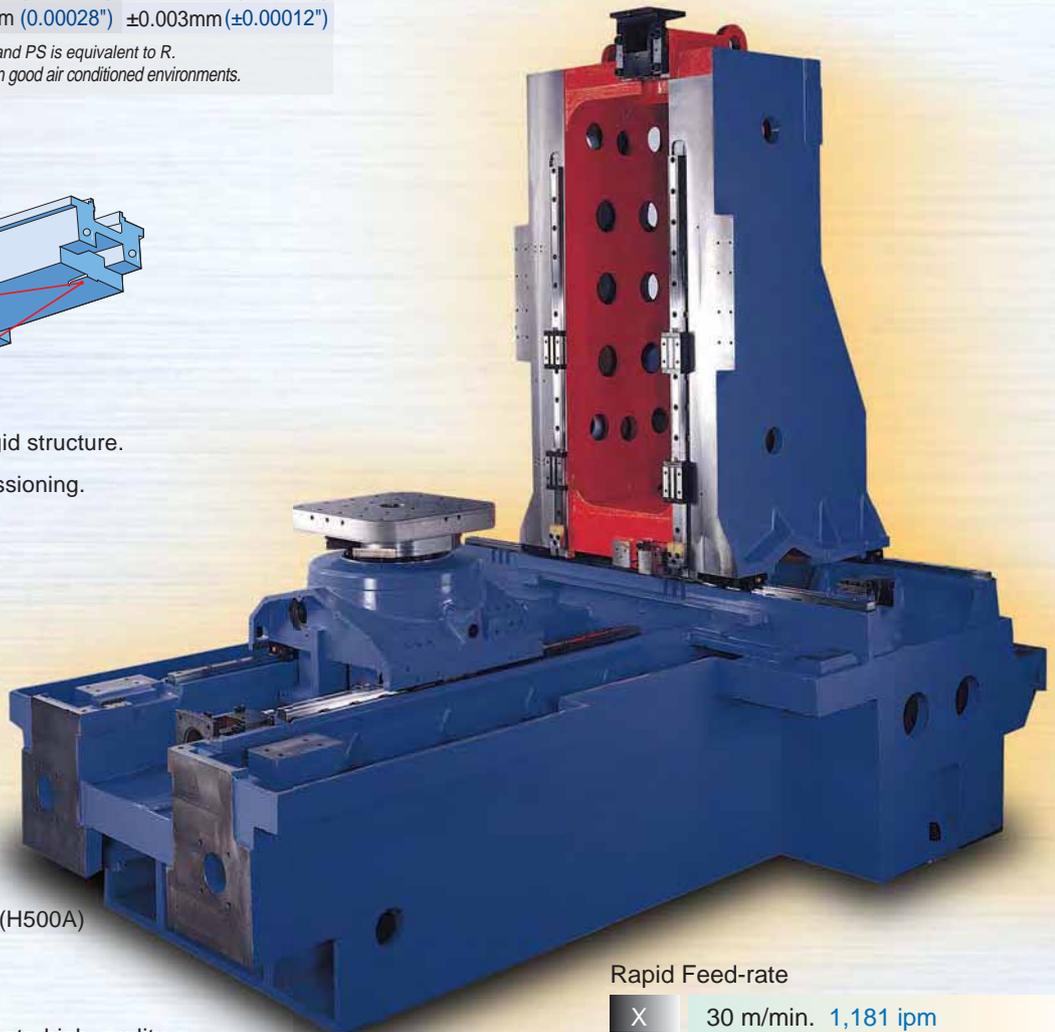
VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R.  
All values shown above are measured for machine in good air conditioned environments.



- Tripled rib design for super rigid structure.
- 3-point support for easy commissioning.



- NR type linear motion guides (H500A)



### Rapid Feed-rate

X	30 m/min. 1,181 ipm
Y	30 m/min. 1,181 ipm
Z	30 m/min. 1,181 ipm



YEONG CHIN adopts high quality 'MEEHANITE' casting to maintain the machine's long term accuracy.

# H Series

## 800B

Durable, precision, and speedy machine design with super rigid construction

- T-shape one piece base of strengthened triangle frame, dual wall design column, inner rail fully embraced Y-axis (up-down) and hydraulic balance, and integrated 3-axis ballscrew bracket make the super rigid machine constructed with utmost supports, and fluent movements.
- The X/Z axes deploy rigid linear motion guide ways of low friction, hardened and ground with TURCITE-B plated Y-axis assure the accuracy in high-speed movement.
- The rapid on X-axis is 15m/min., and 12m/min. on Y/Z axes.
- The 3-axis ballscrews are directly coupled with powerful servo motors, with fixed pretension design, so efficiently eliminate distortion of heat factor, and are backlash-free, thus to keep both the machining rigidity, and accuracy.



■ H800B

■ H800B ACCURACY			
Standard		ISO 10791-4	
Tolerances		Full Length	
<b>Axial Travel</b>		Full Length	
<b>Positioning</b>	A	0.042mm (0.00165")	0.010mm (0.00039")
<b>Repeatability</b>	R	0.020mm (0.00079")	0.007mm (0.00028")

VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R.  
All values shown above are measured for machine in good air conditioned environments.



### Rapid Feed-rate

X	15 m/min. 591 ipm
Y	12 m/min. 472 ipm
Z	12 m/min. 472 ipm



YEONG CHIN adopts high quality 'MEEHANITE' casting to maintain the machine's long term accuracy.

# H Series

## 2612B

### Durable, Precision and Heavy Duty Design with Super Rigid Construction

- Extra sized base fully supports the table movement of no overhang problem, secures the utmost dynamic accuracy; high precision and rigid ballscrews are deployed on all 3 axes, and supported with precision angular contact ball bearings in pretension, and in all provide the excellent machining rigidity and accuracy.
- The X-axis takes complex 4-slideway design; the IKO heavy load roller linear motion guides are in the inner rails, and hardened and ground integrated box way with TURCITE-B plated at the outer rails to allow for heavy job loading at 7,000kg, and still in precise and smooth movements.
- The THK NR series linear motion guides are installed at Z-axis, provides the enhanced rigidity and moves smoothly.
- The Y-axis takes inner rail embraced design of the best force flow to sustain the heavy machining engagement on the spindle head, and to extend its service life.



■ IKO linear roller way (Super X)



■ H2612B



### ■ H 2612B ACCURACY

	Standard	ISO 10791-4	
<b>Tolerances</b>			
<b>Axial Travel</b>		Full Length	
<b>Positioning</b>	A	0.042mm (0.00165")	0.014mm (0.00055")
<b>Repeatability</b>	R	0.020mm (0.00079")	0.010mm (0.00039")

*VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R.  
All values shown above are measured for machine in good air conditioned environments.*



YEONG CHIN adopts high quality 'MEEHANITE' casting to maintain the machine's long term accuracy.

### Rapid Feed-rate

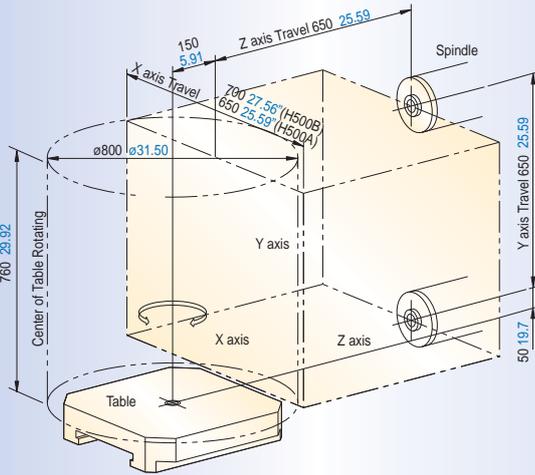
X	12 m/min. 472 ipm
Y	16 m/min. 630 ipm
Z	16 m/min. 630 ipm

# H Series

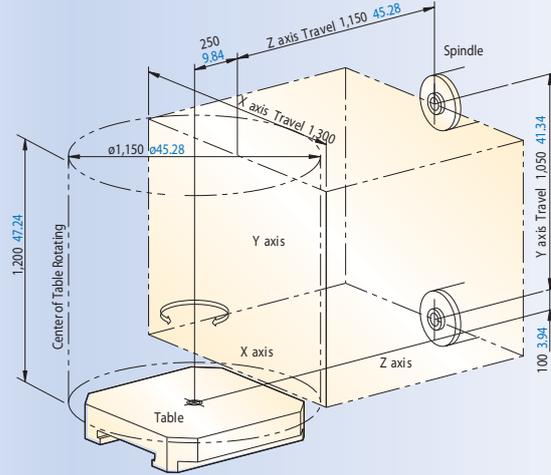
# DIMENSIONS

## THE MACHINING DIMENSIONS

**H500A/B**

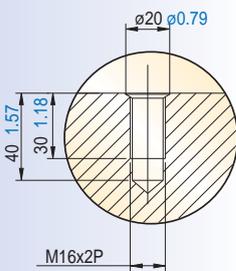


**H800B**



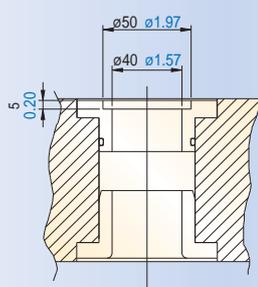
**TABLE BOLT HOLE DETAIL**

**H500A/B H800B**



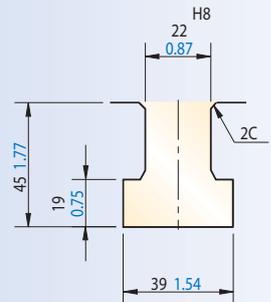
**TABLE CENTER HOLE SECTION A-A**

**H800B**



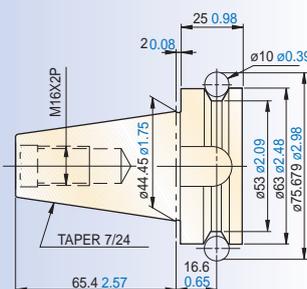
**TABLE T-SLOTS**

**H2612B**

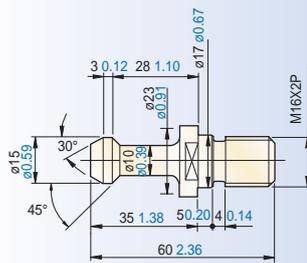


## PULL STUD AND TOOL SHANK

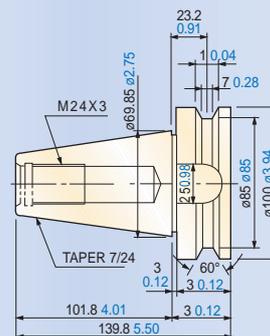
**BT40**



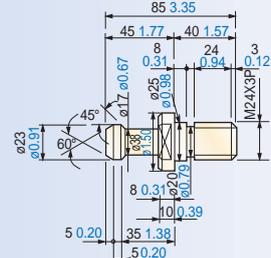
**MAS-P40T-1**



**BT50**



**MAS-P50T-1**



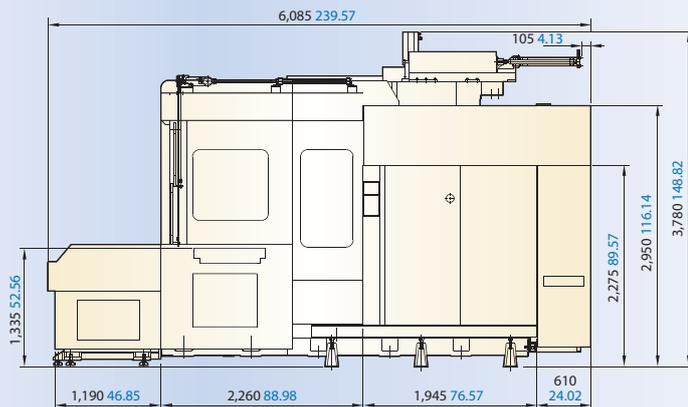
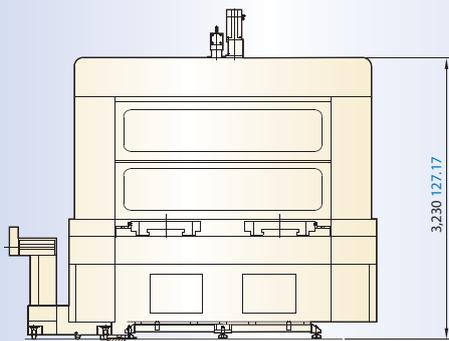
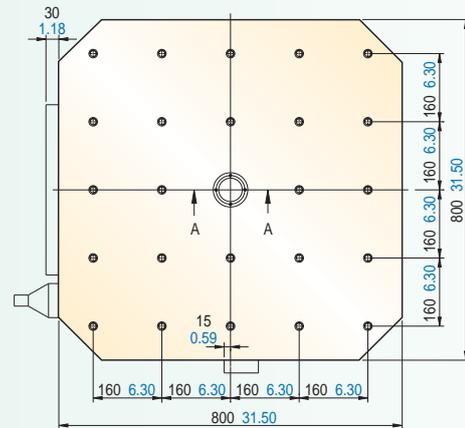
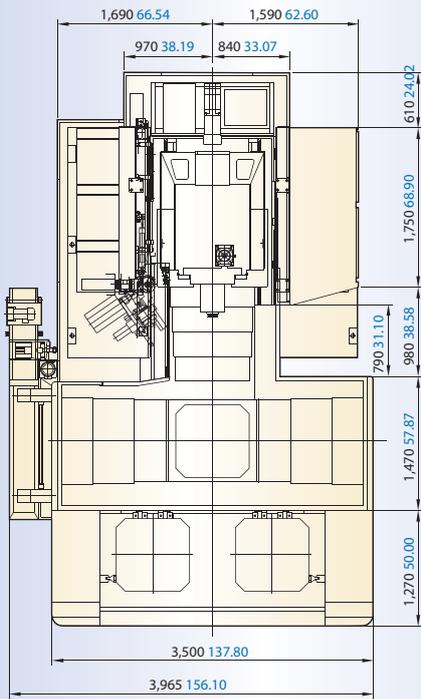
UNIT : mm inch



# H Series

# 800B

# DIMENSIONS

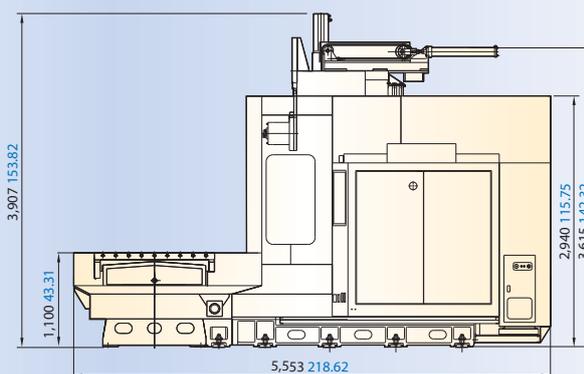
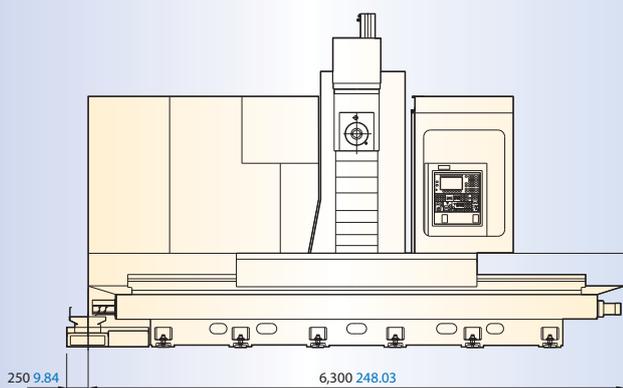
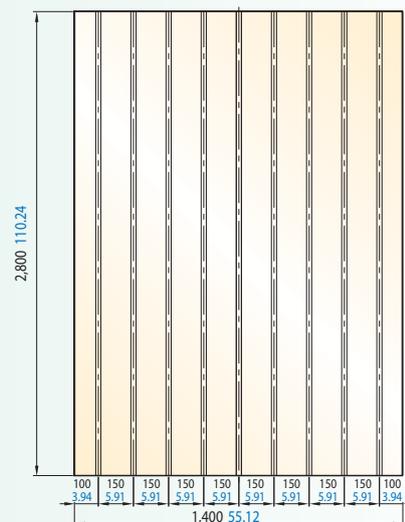
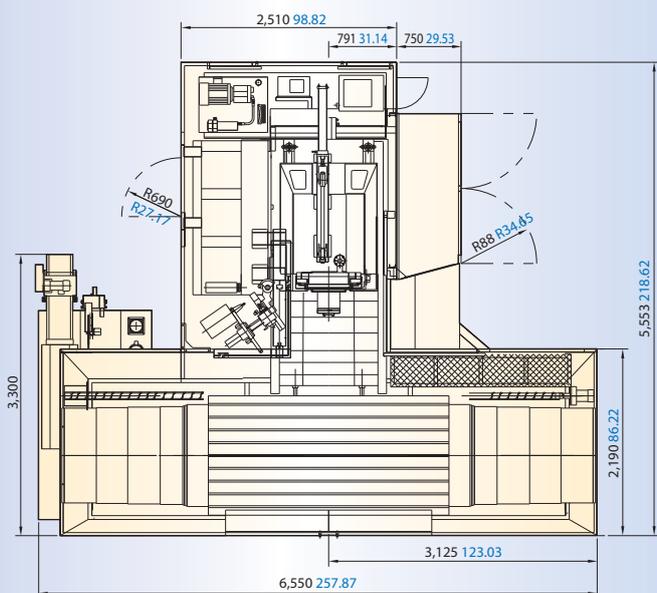


UNIT : mm inch

# H Series

# 2612B

# DIMENSIONS



UNIT : mm inch

# ACCESSORIES

●: Standard ○: Optional —: None

ITEMS	H500A	H500B	H800B	H2612B
Work Lamp	●	●	●	●
Pilot Lamp	●	●	●	●
Tool Kit	●	●	●	●
Gear Box	—	—	●	●
Y-ΔElectric Speed Shift	—	●	—	—
Optical Scale	○	○	○	○
Hydraulic System	●	●	●	●
Rigid Tapping	●	●	●	●
Coolant Equipment System	—	—	—	●
Coolant Equipment System (includes Top Cover)	●	●	●	—
4th Axis Rotary Table	—	—	—	○
Oil Skimmer	●	●	●	●
Splash Guard	—	—	—	●
Sub-table or Auxiliary Table	○	○	○	○
Coolant Gun	●	●	●	●
Cutting Air Blast	●	●	●	●
Spindle Air Blast	●	●	●	●
Guide way Cover (X, Y, Z)	●	●	●	●
Oil-mist Coolant System	○	○	○	○
Oil Hole Holder	○	○	○	○
Spindle Bearing Air Curtain	●	●	●	●
Central Lubrication System	●	●	●	●
Spindle Cooling System	●	●	●	●
Rotary Table (1°Index)	●	●	●	—
Rotary Table (5°Index)	○	○	○	—
Rotary Table (0.001°Index)	○	○	○	—
2 Pallets	●	●	●	—
Coolant through Spindle System	○	○	○	○
Leveling Blocks and Bolts	●	●	●	●
Leveling Blocks and Foundation Bolts	●	●	●	●
Chip Enclosure	—	—	—	○
Full Chip Enclosure	●	●	●	—
Mechanical Electrical & Operating Manuals	●	●	●	●
Heat Exchanger for Electrical Cabinet	●	●	●	●
A/C. Cooler for Electrical Cabinet	○	○	○	○
Chip Conveyor	○	○	○	○
A.F.C. Adaptive Feed-rate Control	○	○	○	○
Heavy Duty Coolant Pump	●	●	—	○
Screw Type Chip Conveyor (at 2 sides of Z-axis)	●	●	—	—
Screw Type Chip Conveyor	—	—	●	● (1 side)
Rotary Table (0.001°Index) & Magnetic Scale	○	○	○	—
Work-piece Measurement System (RENISHAW OMP-60)	○	○	○	○
Auto Tool Length Measurement System (METROL T24E-04-08)	○	○	○	○

## Peripheral Accessories\*



- Spindle Cooling System Ensures Constant Temperature of the Spindle Head



- Central lubrication equipment



- Heat exchanger for electrical cabinet.



- Screw type chip conveyor



- Shower coolant

\* Referring to the table of Accessories

# SPECIFICATIONS

ITEMS	H500A	H500B	H800B	H2612B
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## SPINDLE

Spindle Speed (opt.)	45~8,000 (10,000) rpm	60~6,000 (10,000) rpm	45~4,500rpm	
Spindle Taper	BT40		BT50	
Front Bearing Diameter	ø80mm ø3.15"		ø100mm ø3.94"	

## TRAVEL

X-axis Travel	650mm 25.59"	700mm 27.56"	1,300mm 51.18"	2,600mm 102.36"
Y-axis Travel	650mm 25.59"		1,050mm 41.34"	1,200mm 47.24"
Z-axis Travel	650mm 25.59"		1,150mm 45.28"	1,200mm 47.24"
Distance Between Spindle Center and Table Top	50~700mm 1.97"~27.56"		100~1,150mm 3.94"~45.28"	200~1,400mm 7.87"~55.12"
Distance Between Spindle Nose and Table Center	150~800mm 5.91"~31.5"		250~1,400mm 9.84"~55.12"	-250~950mm -9.84"~37.4"

## TABLE

Table Size	500 x 500mm 19.69" x 19.69"		800 x 800mm 31.5" x 31.5"	2,800 x 1,400mm 110.24" x 55.12"
Max. Load on Table	500kg 1,102 lb	600kg 1,323 lb	2,000kg 4,409 lb	7,000mm 15,432 lb
Max. Work Dimensions	ø800 x 760mm H ø31.5" x 29.92" H		ø1,150 x 1,200mm H ø45.28" x 47.24"H	—
The Height From Table Top to Floor	1,250mm 49.21"		1,335mm 52.56"	1,100mm 43.31"
Table Index (opt.)	1° (5°~0.001°)			—
Number of T- slots x Size x Pitch	M16 x 2P			9 x 22mm x 150mm 9 x 0.87" x 5.91"
A.P.C Time	8 sec.		120 sec.	—

## FEED

Rapid Feed-rate X/Y/Z	30/30/30m/min. 1,181/1,181/1,181ipm		15/12/12m/min. 591/472/472ipm	12/16/16m/min. 472/630/630ipm
Cutting Feed-rate	1~10,000mm/min. 0.04~394ipm		1~5,000mm/min. 0.04~197ipm	

## ATC

Tool Magazine Capacity (opt.)	40 (60) T		40 (60 / 80) T	40 (60) T
Max. Tool Dimensions	ø85 x 300mm ø3.35" x 11.81"	ø125 x 350mm ø4.92" x 13.78"	ø120 x 400mm ø4.72" x 15.75"	
Max. Tool Diameter (without adjacent tools)	ø150mm ø5.91"		ø240mm ø9.45"	
Max. Tool Weight (Per Piece)	8kg 17.64 lb		20kg 44.09 lb	
Tool Pocket Pitch	95.25mm 3.75"	133.35mm 5.25"	130mm 5.12"	
Tool Changer Method	Double Arm Swing Method			
Tool Selection Method	Random			

## MOTOR

Spindle Motor	7.5/11/15kW 10/15/20HP	15/18.5/22kW 20/25/30HP	15/18.5kW 20/25HP	
Index Motor (B Axis)	2.1kW 3HP			—
Feed Motor Rated Output (X/Y/Z)	4/7/4kW 5/9/5HP	7/9/7kW 9/12/9HP	4/4/7kW 5/5/9HP	5.9/4.5/4.5kW 8/8/6HP
Lubrication Pump Motor	4W		75W	
Oil Thermal Control Pump	400W	750W	400W	
Oil Thermal Control Motor	750W	1,150W	1,270W	

## GENERAL

Pneumatic Supply	5kg/cm <sup>2</sup> 71.1psi			
Power Consumption (Transformer)	36 (40) kVA	62 (80) kVA	57 (65) kVA	62 (65) kVA
Machine Weight	15,700kg 34,612 lb	17,650kg 38,911 lb	26,560kg 58,554 lb	27,000kg 59,524 lb

Note: The manufacturer reserves the right to modify the design, specifications, mechanisms...etc. to improve the performance of the machine without notice. All the specifications shown above are just for reference.



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