



Horizontal Machining Centers





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

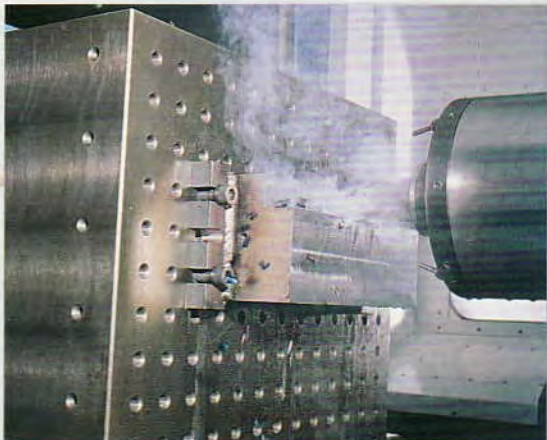
- Ceramic spindle bearings for high speed machining, features low thermal expansion coefficient and excellent rigidity performance.
- The ID's of spindle bearings, $\varnothing 80\text{mm}$ $\varnothing 3.15''$ (H500A)/ $\varnothing 100\text{mm}$ $\varnothing 3.94''$ (H500B), satisfy heavy cutting requirements.
- Standard isolated direct drive (IDD) spindle, for the #40 spindle of 8000rpm or the #50 spindle of 6000rpm, offers excellent power output.
- High-Low speed winding performs 36kg-m 260.39lb-ft and excellent cutting capability(H500B)

High Precision, High Rigidity, Powerful Gear-head Spindle

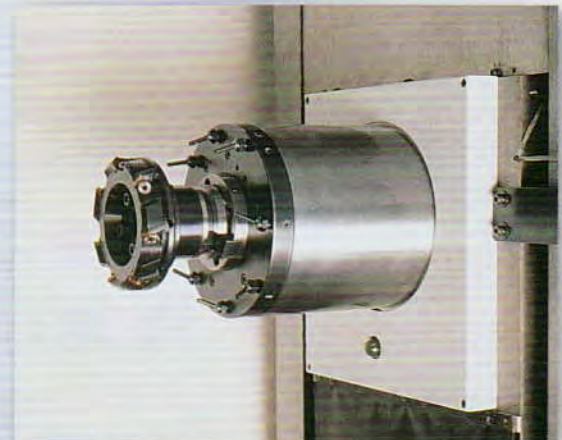
H800B · H2112B/H2612B

- The #50 spindle deploys high precision NN series bearings, at max. 4500rpm is suitable for high rigidity, heavy, and various machining operations.
- Deploys the spindle oil-thermal-cooling device of 1300Kcal/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 535.98lb-ft max. torque output easily conducts 650cc/min metal removal heavy cutting capacity.
- Quill of prolongation design allows deep-hole machining.

● H500A/B



● H800B, H2112B/H2612B



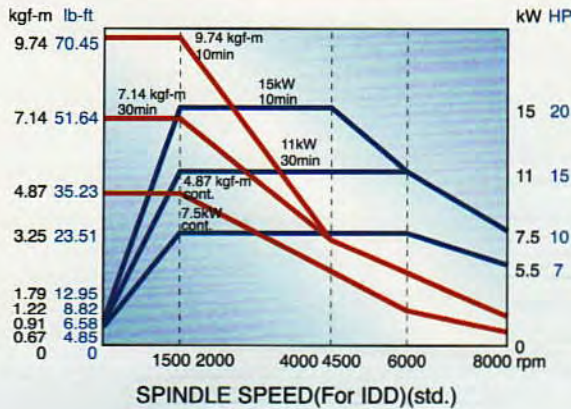
● H800B, H2112B/H2612B



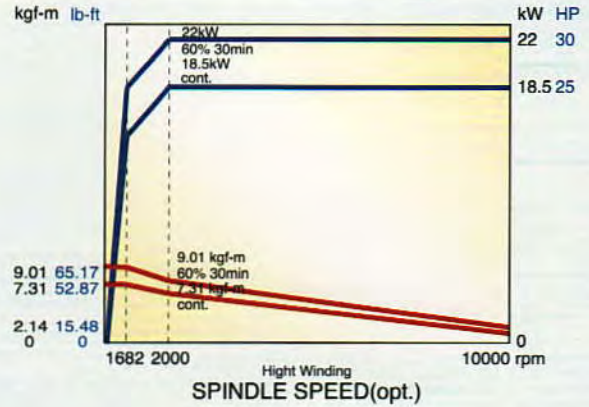
A great spindle module variety to meet various machining requirements.

— POWER — TORQUE

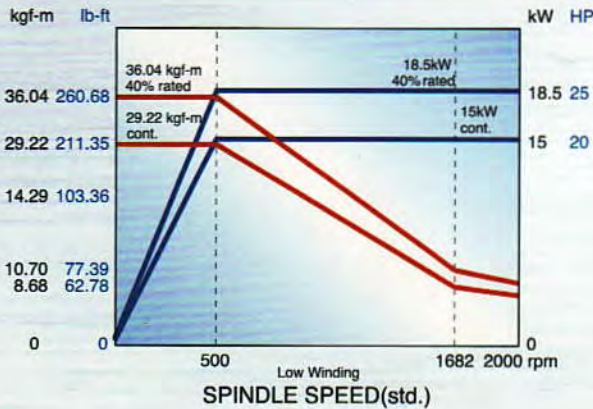
FOR H500A



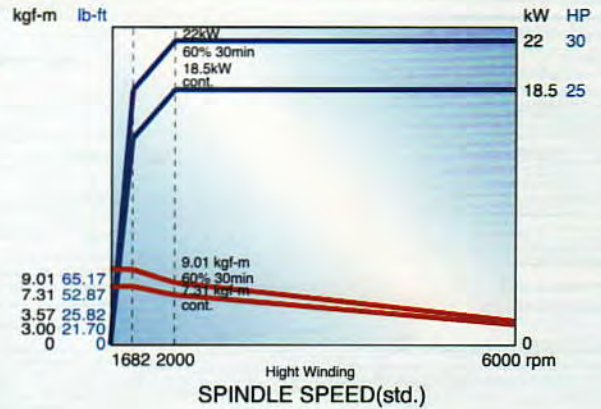
FOR H500B



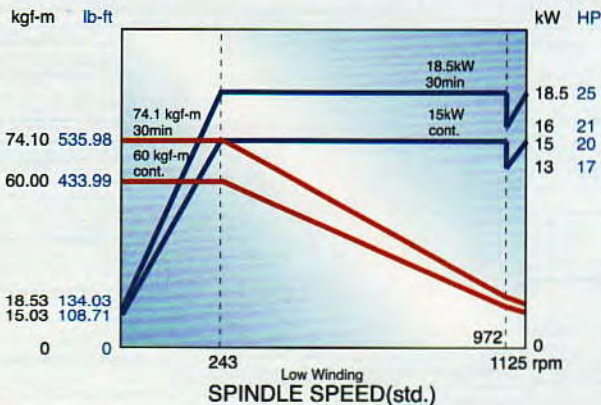
FOR H500B



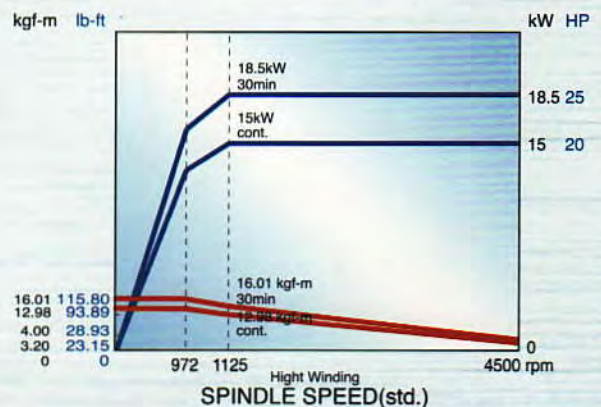
FOR H500B



FOR H800B,H2112B/H2612B



FOR H800B,H2112B/H2612B

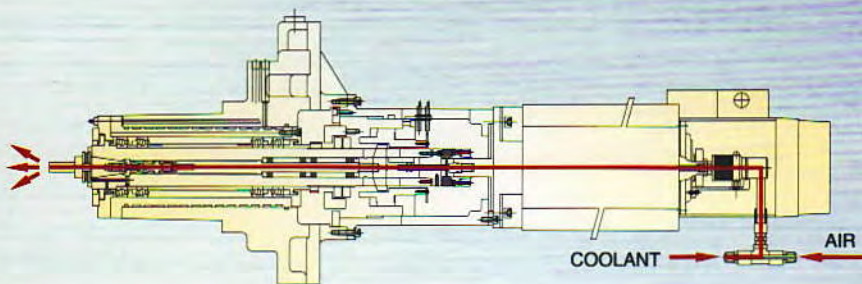




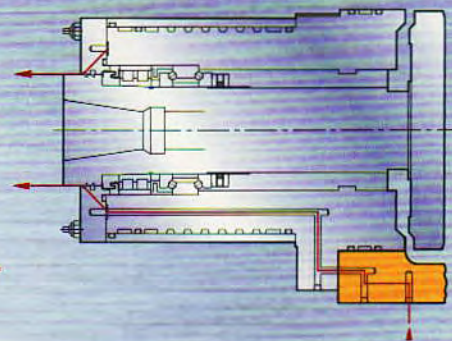
Spindle Bearing Protection

Spindle Air Curtain prevents the Bearings from being invaded by cutting chips, dust and water mist, and extends the spindle service life.

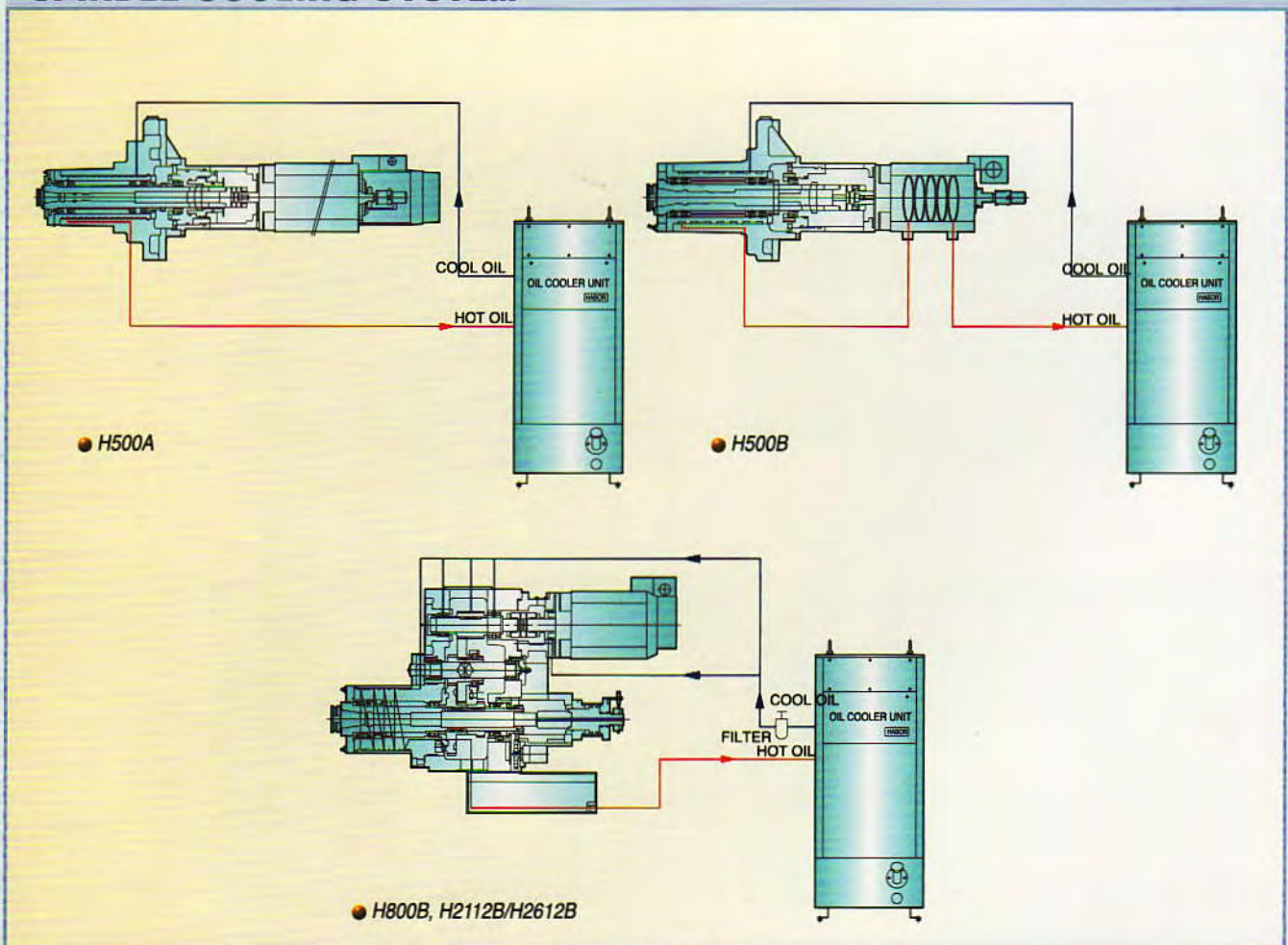
COOLANT THROUGH SPINDLE SYSTEM (option)
 DIN 69871 Form A
 Pressure: 10kg/cm² 142.2Psi or 20kg/cm² 284.5Psi



SPINDLE AIR CURTAIN
 Pressure: 2kg/cm² 28.4Psi



SPINDLE COOLING SYSTEM

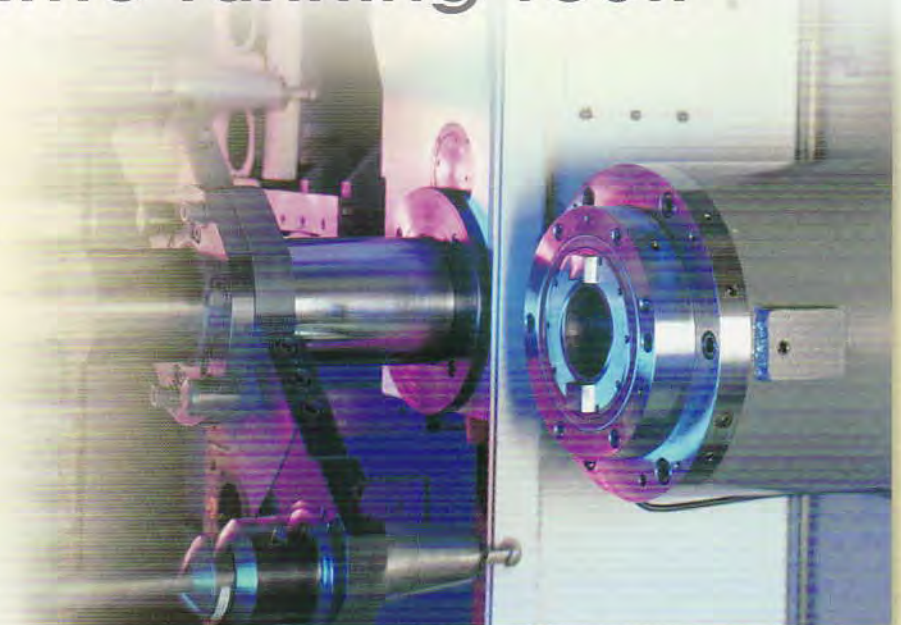


H Series

Quick and Reliable ATC mechanism Proved by a-million-time running test.

H500A/H500B

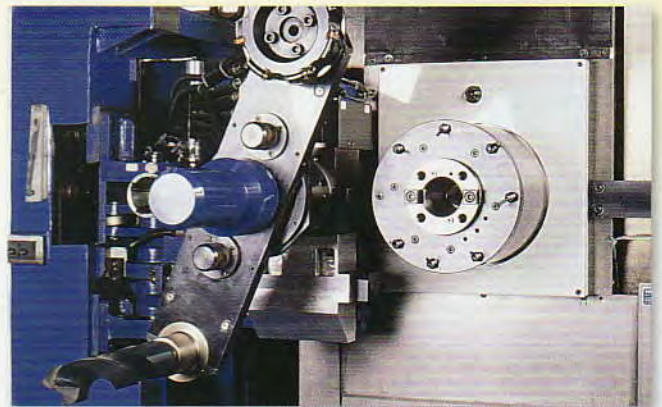
- The roller-gear-cam ATC arm, parallel to the spindle of the short-pitch design, makes the ATC prompt and reliable; it takes only 3.5 seconds for the H500A or 5 seconds for the H500B.(T-T)
- The magazine is precisely indexed and driven by servo motor for efficient operations.



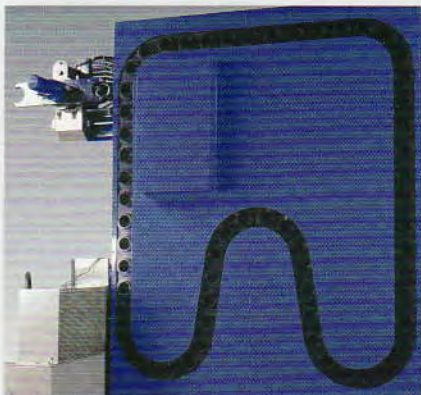
● Quick & Reliable Tool Change (H500A/B)

H800B · H2112B/H2612B

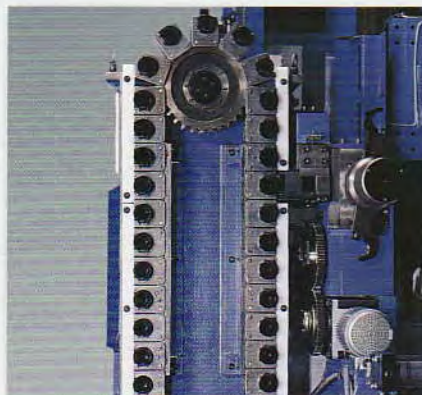
- The ARM type hydraulic ATC mechanism with backlash free roller-cam design performs stable and reliable ATC.
- The magazine is indexed by the shortest distance random tool selection to meet the high production requirements; 40T and 60T versions on demand.



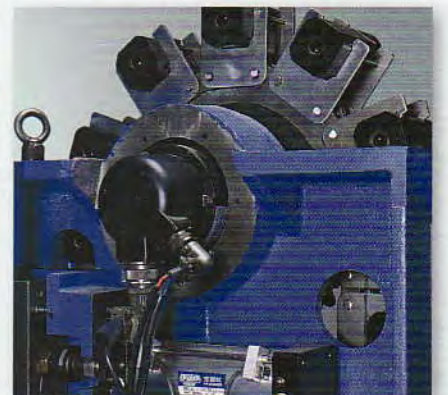
● ATC (H800B, H2112B/H2612B)



● ATC Magazine (H800B, H2112B/H2612B)



● ATC Magazine (H500A)



● ATC Magazine activated by Servo motor (H500A)



High Precision, Power Clamp APC Enhances Flexibility and Efficiency

H500A/B

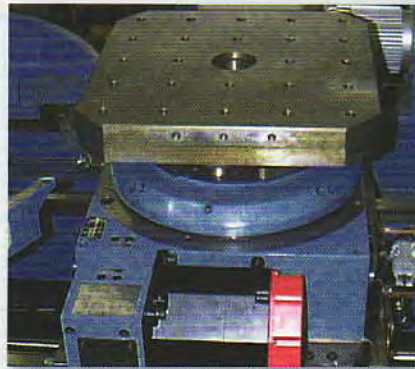
- Compact and smart rotary pallet change design with unique and strengthened rail way support ensures the accurate, fast, and reliable APC.
- Pallet is swift (on Z-axis) to make APC, the rotary door is quickly turned along with APC, which takes only 8 seconds.
- Large size $\varnothing 450\text{mm}$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



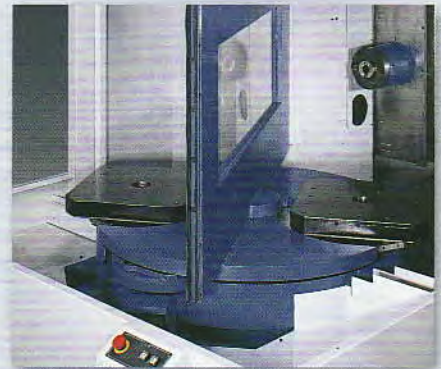
● Rotary APC (H500A/B)

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. 2000kg 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 $0.001''$ continuous feed 4th axis pallet offers multi-face and multi-axis machining capability for its paid value.

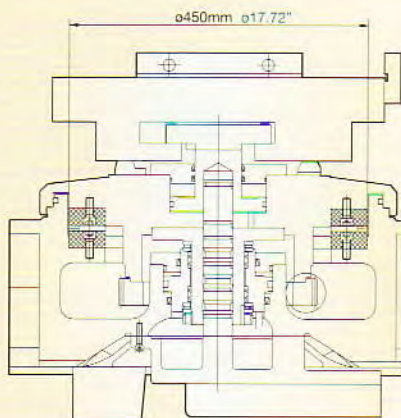


● Rotary Table ($0.001''$) (H500A/B)

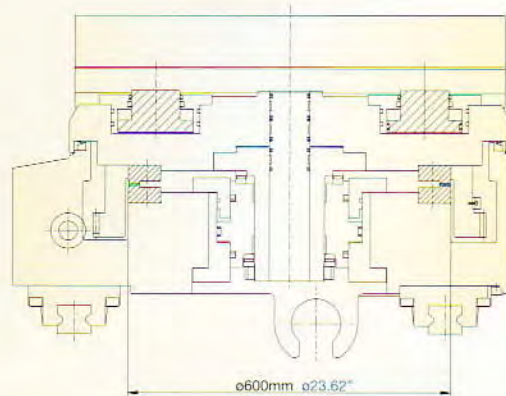


● APC + Safety Door (H500A/B)

ROTARY TABLE DIAGRAM



● H500A/H500B



● H800B



Series

500A/500B

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 pretensioned 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.

ACCURACY

Tolerances

Standard ISO 10791-4

YCM

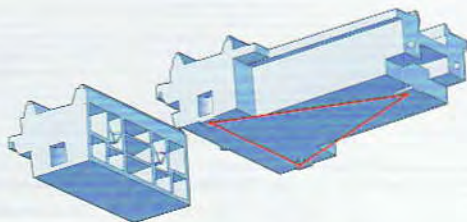
Bi-directional Positioning **A** : 0.025mm 0.0010" 0.010mm 0.0004"

Bi-directional Repeatability **R** : 0.015mm 0.0006" 0.007mm 0.0003"

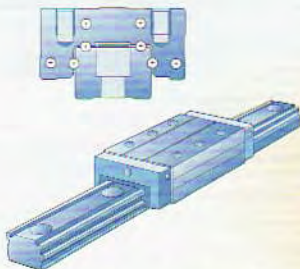
JIS B6336-4 shows the same value as ISO Standard ;

Let axial travel (L) at 500mm 19.69" < L ≤ 800mm 31.50". P value of VDI/DGQ3441 is equivalent to A of ISO10791-4, and PS is equivalent to R.

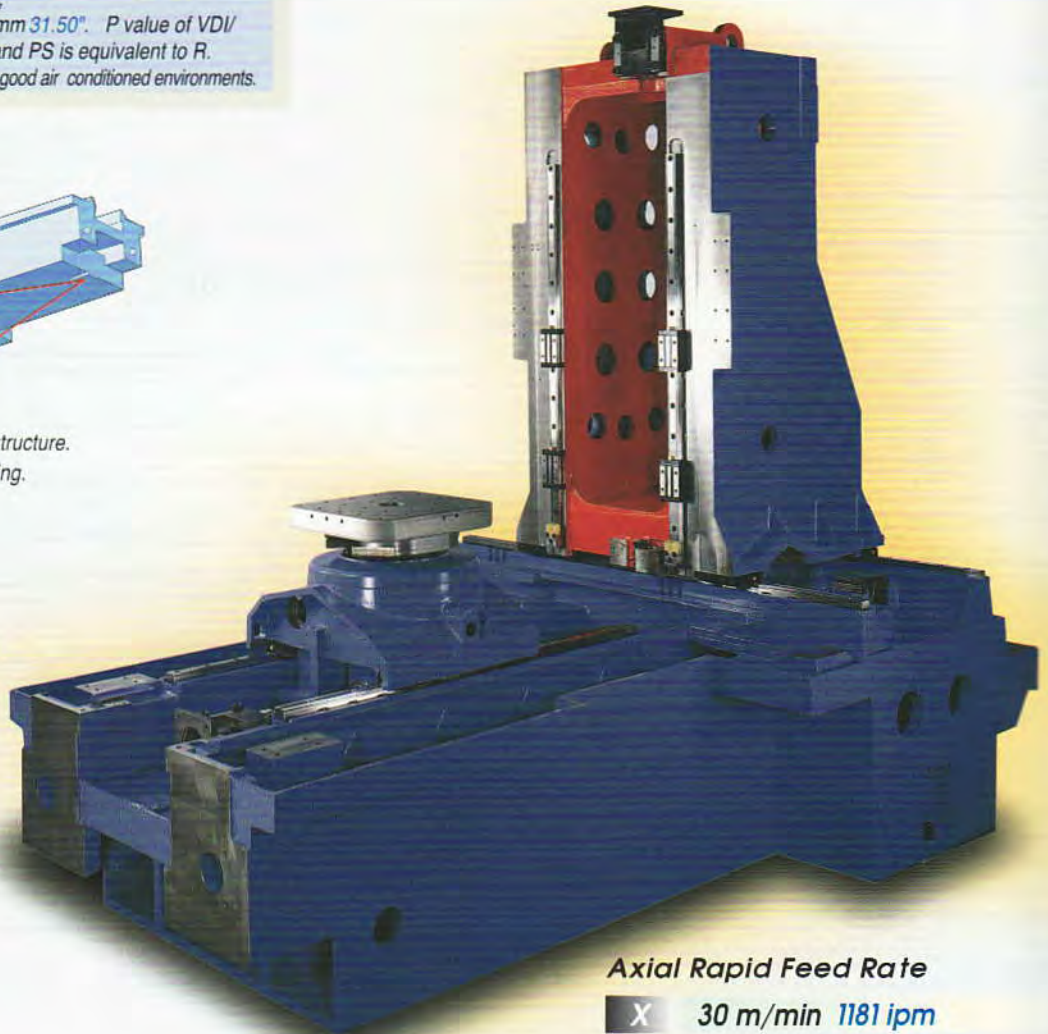
All values shown above are measured for machine in good air conditioned environments.



- Tripled Rib design for super rigid structure.
- 3-Point Support for easy commissioning.



- NR Linear Guide Way (H500A)



Axial Rapid Feed Rate

X	30 m/min	1181 ipm
Y	30 m/min	1181 ipm
Z	30 m/min	1181 ipm

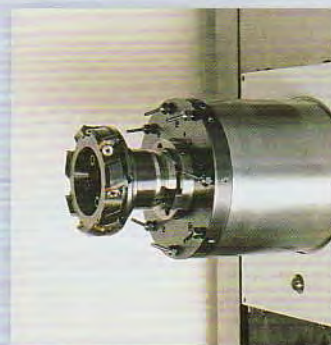


YEONG CHIN adopts high quality "MEEHANITE" casting to maintain the machine's long term accuracy.

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- and 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- and Z-axes.
- The 3-axis ballscrews are directly coupled with powerful servomotors, 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

ACCURACY

Tolerances **Standard ISO 10791-4** **YCM**

Bi-directional Positioning **A** : 0.042mm 0.0017" 0.010mm 0.0004"
 Bi-directional Repeatability **R** : 0.020mm 0.0008" 0.007mm 0.0003"

JIS B6336-4 shows the same value as ISO Standard ;
 Let axial travel (L) at 1250mm 49.21" < L ≤ 2000mm 78.74". P value of 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.



Axial 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.



Series

2112B/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 7000kg, and still in precise and smooth movements.
- The THK NR series linear motion guide ways 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)



● H2112B/H2612B



ACCURACY

Tolerances	Standard	ISO 10791-4	YCM
Bi-directional Positioning	A : 0.042mm	0.0017"	0.014mm 0.0006"
Bi-directional Repeatability	R : 0.020mm	0.0008"	0.010mm 0.0004"

JIS B6336-4 shows the same value as ISO Standard ;
 Let axial travel (L) at L > 2000mm 78.74". P value of 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.

Axial Rapid Feed Rate

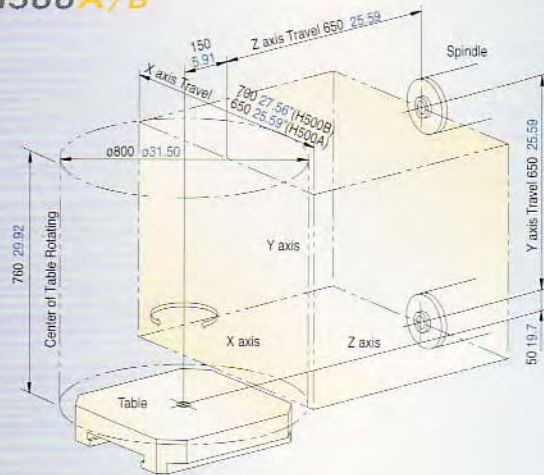
X	12 m/min	472 ipm
Y	16 m/min	630 ipm
Z	16 m/min	630 ipm



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

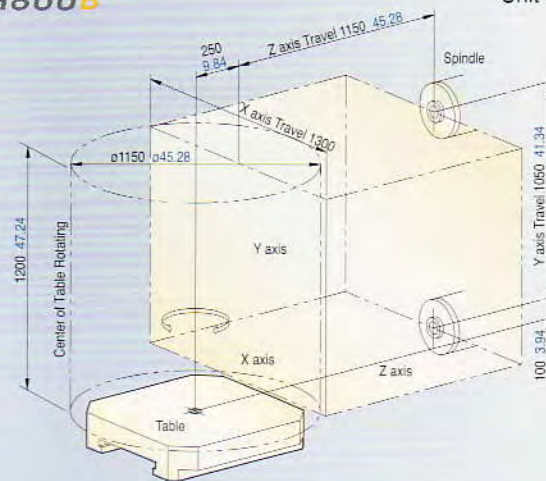
THE MACHINING DIMENSIONS

H500A/B



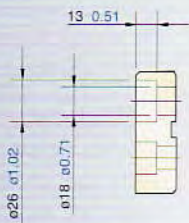
H800B

Unit : mm inch

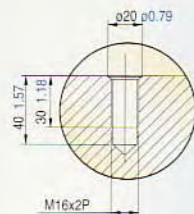


BOLT HOLE DETAIL

H500A/B

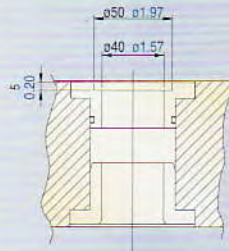


H800B



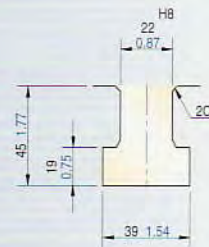
SECTION A-A

H800B



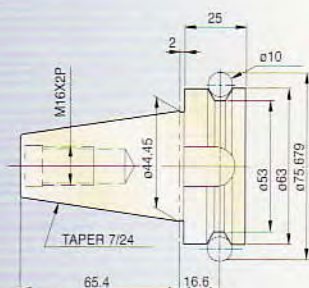
T-SLOTS

H2112B/H2612B

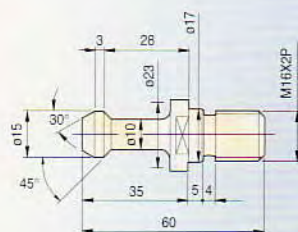


PULL STUD AND TOOL SHANK

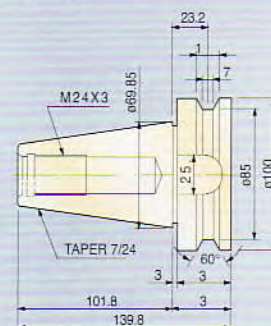
BT40



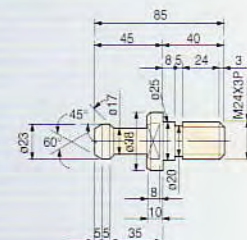
MAS-P40T-1



BT50



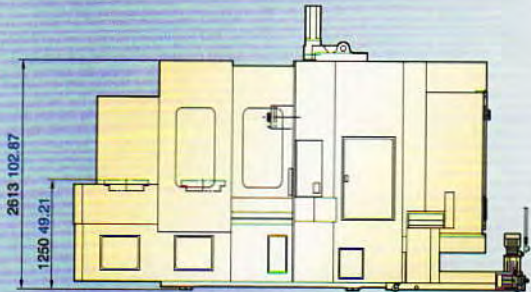
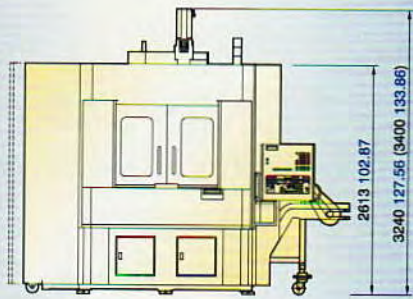
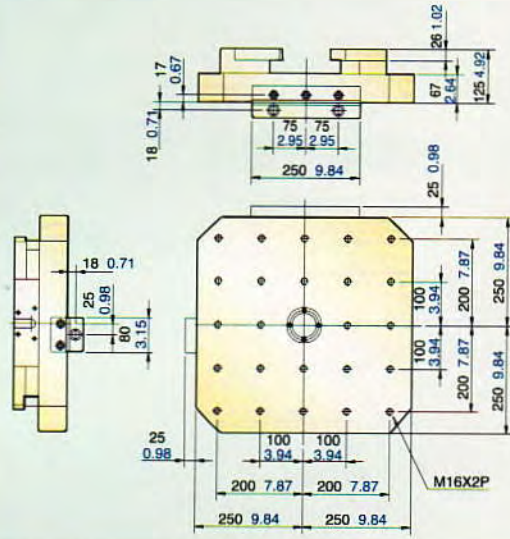
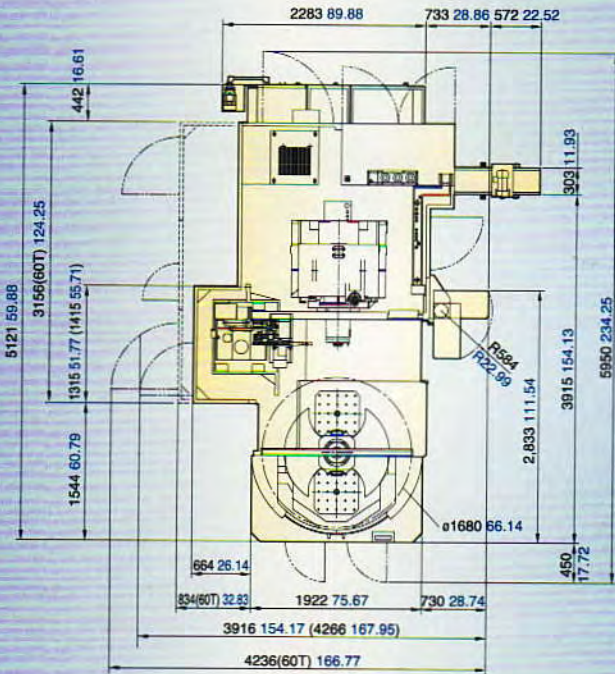
MAS-P50T-1





Series

H500A/H500B DIMENSIONS

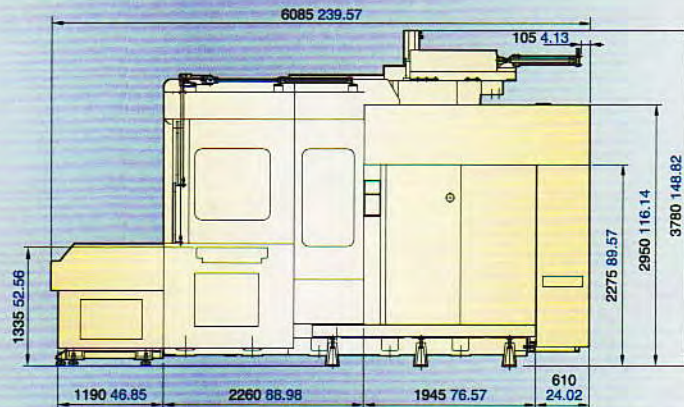
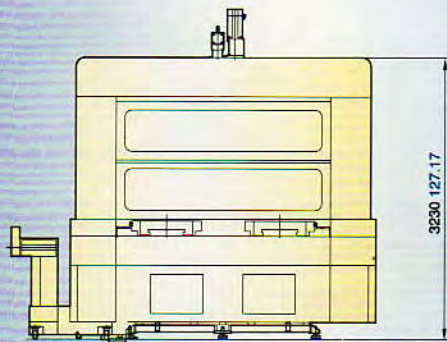
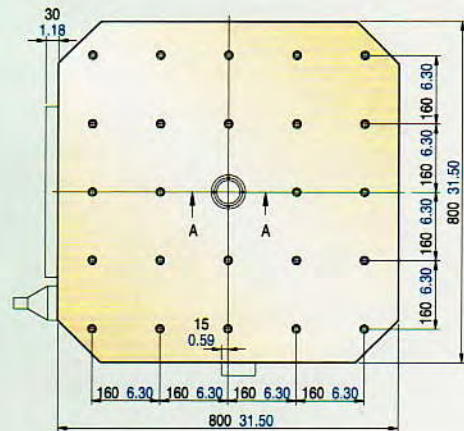
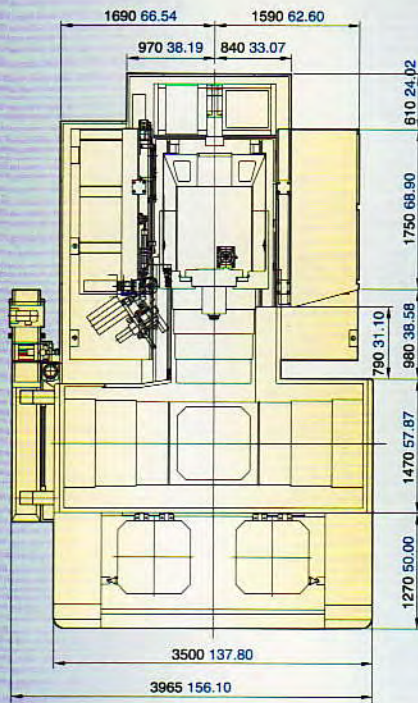


Unit : mm inch
() FOR H500B
---H500B 60T Dimensions

H Series

H800B

DIMENSIONS

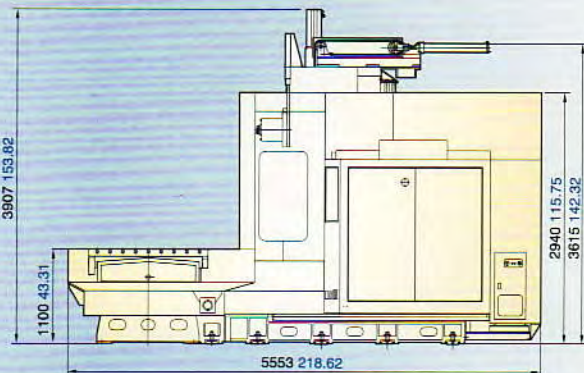
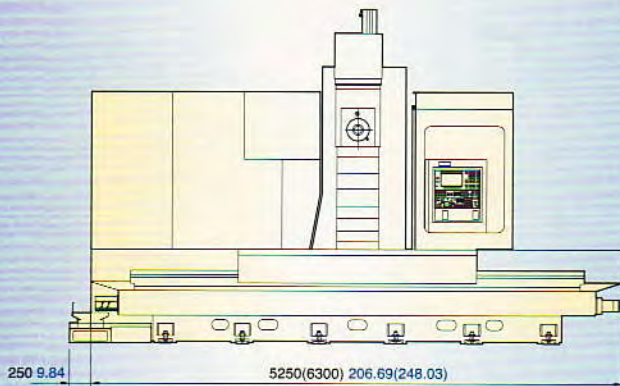
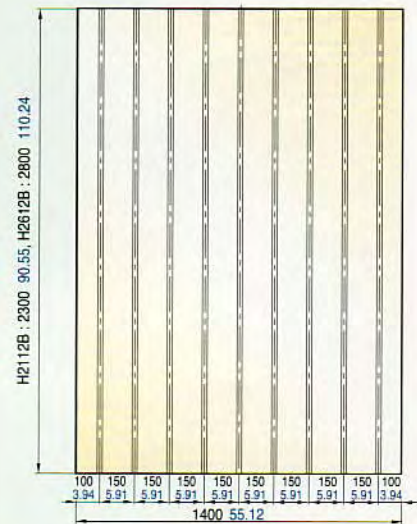
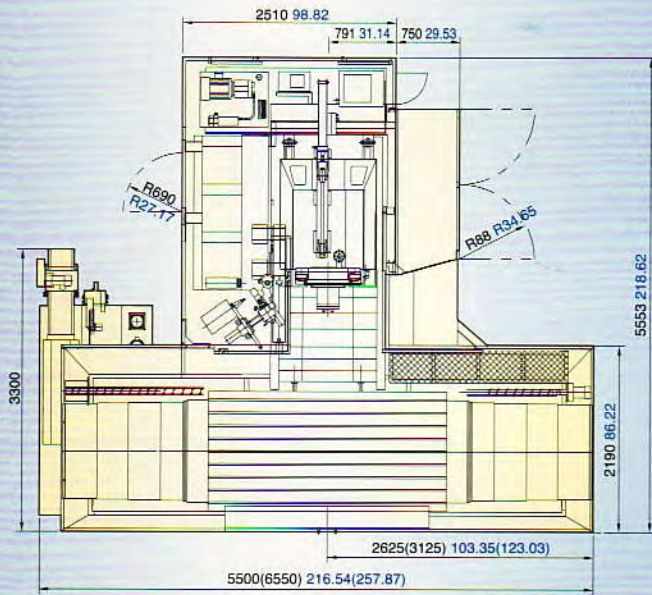
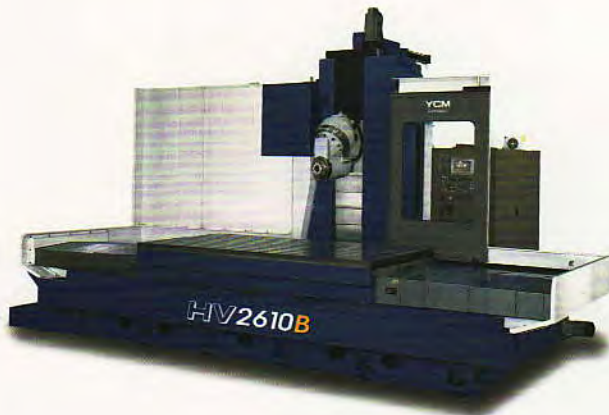




Series

H2112B/H2612B

DIMENSIONS



Unit : mm inch
() FOR H2612B

ACCESSORIES

●: Standard ○: Optional —: None

ITEMS	MODEL				
		H500 ^A	H500 ^B	H800 ^B	H2112 ^B / H2612 ^B
Work Lamp		●	●	●	●
Pilot Lamp		●	●	●	●
Tool Kit		●	●	●	●
Gear Box		—	—	●	●
Y-△ Electric 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		—	—	—	○
Complete Chip Enclosure (includes Top Cover)		●	●	●	—
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 (at 2 sides of Table)		—	—	●	●
Rotary Table (0.001° Index) & Magnetic Scale		○	○	○	—
Work-piece Measurement System (RENISHAW MP-10)		○	○	○	○
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



● Hypethral Coolant

* Referring to the table of Accessories

SPECIFICATIONS

ITEMS	MODEL	H500A	H500B	H800B	H2112B	H2612B
SPINDLE						
Spindle Speed (opt.)	rpm	45~8000 (10000)	60~6000 (10000)	45~4500		
Spindle Taper		BT40		BT50		
Front Bearing Diameter	mm inch	ø80 ø3.15"		ø100 ø3.94"		
TRAVEL						
X Axis Travel	mm inch	650 25.59"	700 27.56"	1300 51.18"	2100 82.68"	2600 102.36"
Y Axis Travel	mm inch	650 25.59"		1050 41.34"	1200 47.24"	
Z Axis Travel	mm inch	650 25.59"		1150 45.28"	1200 47.24"	
Distance Between Spindle Center and Table Top	mm inch	50~700 1.97"~27.56"		100~1150 3.94"~45.28"	200~1400 7.87"~55.12"	
Distance Between Spindle Nose and Table Center	mm inch	150~800 5.91"~31.5"		250~1400 9.84"~55.12"	-250~950	
TABLE						
Table Size	mm inch	500 x 500 19.69" x 19.69"		800x800 31.5"x31.5"	2300x1400 90.55"x55.12"	2800x1400 110.24"x55.12"
Max. Load on Table	kg lb	500 1102"	600 1323"	2000 4409"	7000 15432"	
Max. Work Dimensions	mm inch	ø800x760 H ø31.5"x29.92"H		ø1150x1200 H ø45.28"x47.24"H	-	
The Height From Table Top to Floor	mm inch	1250 49.21"		1335 52.56"	1100 43.31"	
Table Index (opt.)		1° (5°~0.001°)			-	
Number of T- slots x size x pitch		M16x2P			9x22mmx150mm 9x0.87"x5.91"	
A.P.C Time	sec	8		50	-	
FEED						
Rapid Feed Rate (X/Y/Z)	m/min ipm	30/30/30 1181/1181/1181		15/12/12 591/472/472	12/16/16 472/630/630	
Cutting Feed Rate	mm/min ipm	1~10000 0.04~394		1~5000 0.04~197		
A.T.C						
Tool Magazine Capacity (opt.)		40 (60) T		40 (60 / 80) T	40 (60) T	
Max. Tool Dimensions	mm inch	ø85x300 ø3.35"x11.81"	ø125x350 ø4.92"x13.78"	ø120x400 ø4.72"x15.75"		
Max. Tool Diameter (without adjacent tools)	mm inch	ø150 ø5.91"		ø240 ø9.45"		
Max. Tool Weight		8kg/pc 17.64lb/pc		20kg/pc 44.09lb/pc		
Tool Pocket Pitch	mm inch	95.25 3.75"	133.35 5.25"	130 5.12"		
Tool Changer Method		Double Arm Swing Method				
Tool Selection Method		Random				
MOTOR						
Spindle Motor	kW HP	7.5/11/15 10/15/20	15/18.5/22 20/25/30	15/18.5 20/25		
Index Motor (B Axis)	kW HP	2.1 3			-	
Feed Motor Rated Output (X/Y/Z)	kW HP	4/7/4 5/9/5	7/9/7 9/12/9	4/4/7 5/5/9	5.9/4.5/4.5 8/6/6	
Lubrication Pump Motor	W	4			75	
Oil Thermal Control Pump	W	400	750	250		
Oil Thermal Control Motor	W	750	1150	1270		
GENERAL						
Pneumatic Supply		5kg/cm ² 71.1Psi				
Power Consumption (Transformer)	kVA	36 (40)	62 (80)	57 (65)	62 (65)	
Machine Weight	kg lb	15700 34612	17650 38911	26560 58554	25000 55115	27000 59524

We reserve the right to modify and improve our products.



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