

SOLUTION OF WORLDWIDE SALES NETWORK



Company Profile



- 1976 Established the Metal processing department at MAR.01.
- 1992 Established the Machine Center R&D department.
- 1993 Continually 4th year of Knee-type Milling machine production reached 1800 sets monthly.
- 2003 Established the US branch office & warehouse at Feb.01.
- 2005 Established China branch as Twinhorn machinery co., Ltd.
- 2008 Started constructing China manufacture & production headquarters.
- 2009 Invested in the technical cooperation with Italian 5Ax maker on Movingcolumn and Gantry types 5Ax machining centers.
- 2010 Completed the construction of China manufacture & production
- 2012 Became the most biggest manufacturer of tapping center in greater China.
- 2014 Expanded the 4th assembly plant(factory area 4000m²) in Taiwan headquarters.

Twinhorn

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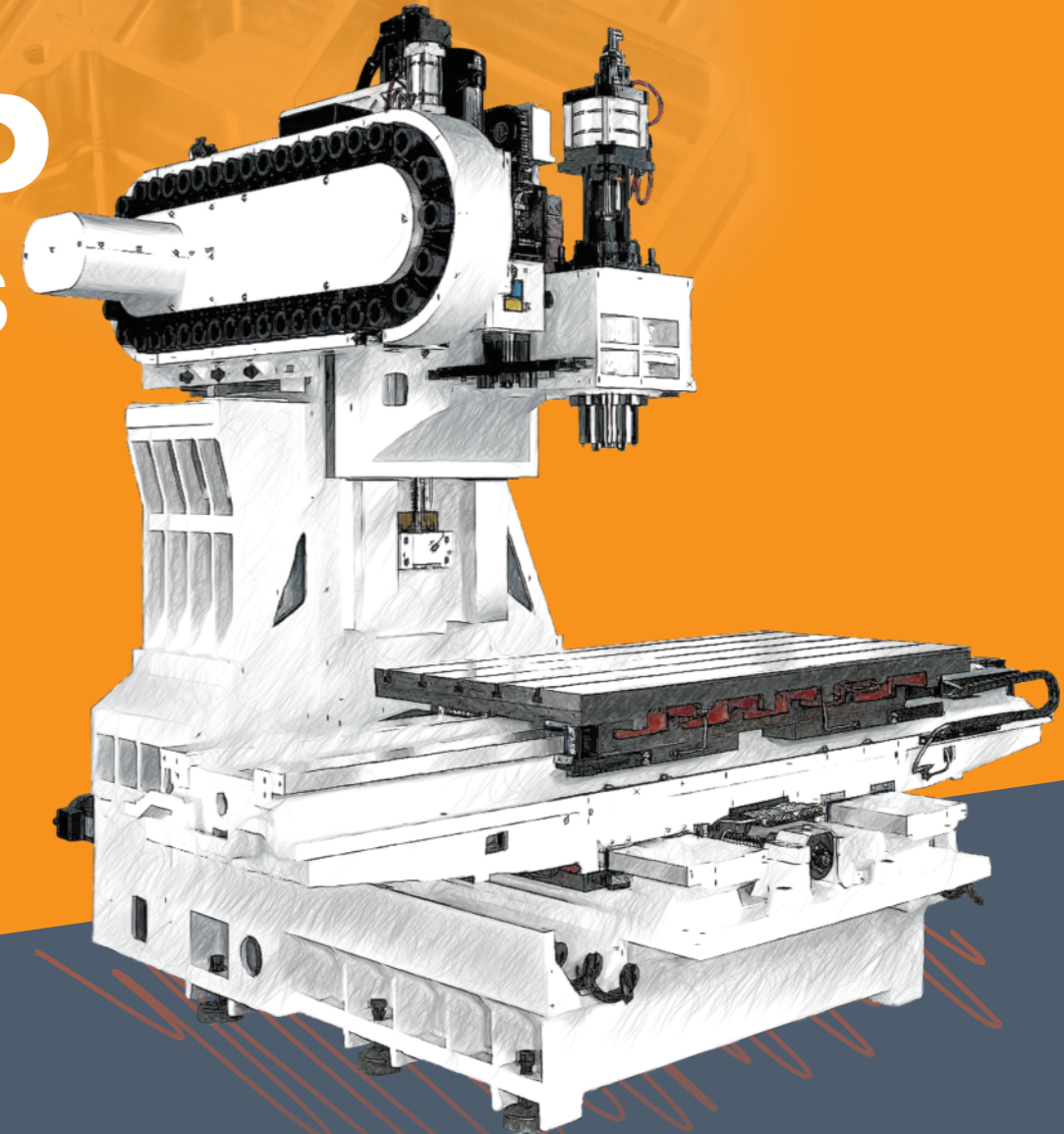
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ISO 9001 5965
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VTP SERIES



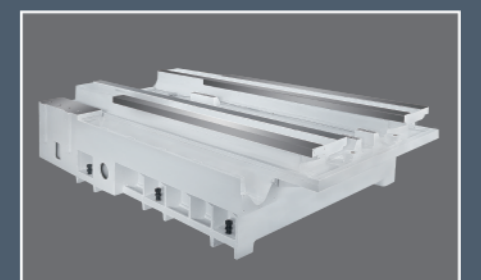
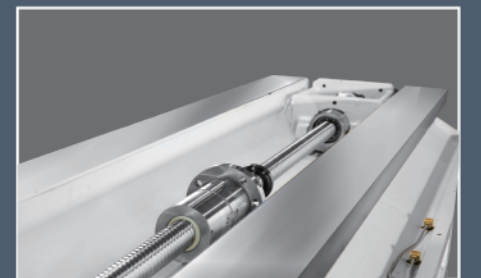
Box Way Vertical Machining Center

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Twinhorn

Special design

structure of VTP



VTP Structure



Box ways on X, Y, Z-axis provide ultra-high rigidity that effectively overcome backlash error and vibration problems. 610mm of y-axis travel meets most of molds and parts machining requirements, making the machines excellent for high precision mold machining.



Direct drive of Z-axis motor in combination with the use of extra long sliding blocks allow feeds to be more accurate and sensitive especially in heavy cutting. The contracted simplified headstock dramatically reduces the distance between the headstock and the column, that eliminates deformation caused by a force or deflection due to a gravity, increases rigidity to meet the requirement for high precision machining.

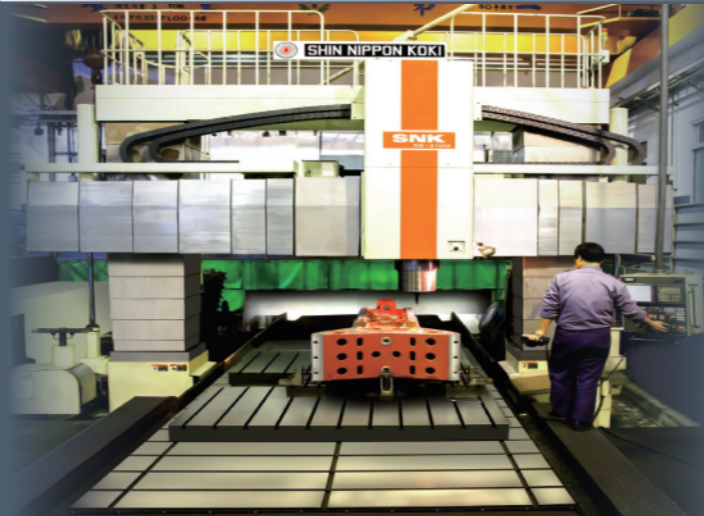


Three axes are transmitted through 40 x P10mm, class C3 ball screws, pretensioned to enhance the axial rigidity and reduce thermal elongation to a minimum.



Four box ways on base are one-piece fabricated. Y-axis slide ways design is based on the optimal supporting distance. Four box ways design combined with greater span provide a solid support in the machining range of X-axis. Manufactured from high quality Meehanite cast iron, the base features high rigidity and high dampening capacity to increase cutting stability.

VTP series is a one-piece fabricated with box ways design. The manufacturing of a machine with box ways construction require high manufacturing technology as well as experience. At Chi-Fa, we have an integrated manufacturing capability in combination with over 30 years in machine tools manufacturing experience. Unlike competitors procurement of parts from outside suppliers, Chi-Fa machines are designed, manufactured and quality controlled in-house for rigorous control throughout the entire manufacturing process.



Box Way

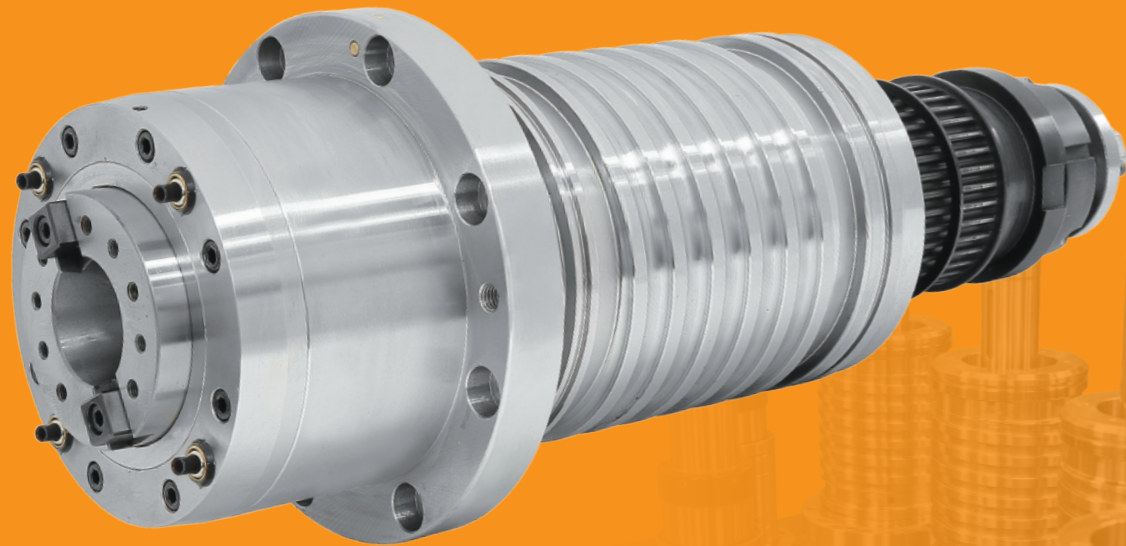
To achieve and ensure long term rigidity and accuracy on a box-way type machine, all casting parts need to be stress-relieved naturally for a long time. They are then precisely machined on our SNK 5-sided machining centers with only one setup, and a large type three-dimensional coordinate measuring machine is applied for precision inspection. All structural parts are made of high quality Meehanite cast-iron featuring excellent dampening capacity and maximum wear-resistance. Each structural part used for a box-way type machine has been subject to various manufacturing process.



- A . Casting parts are stress relieved naturally.
- B . 5-sided machining with only one setup.
- C . Inspection with large type three-dimensional coordinate measuring machine.

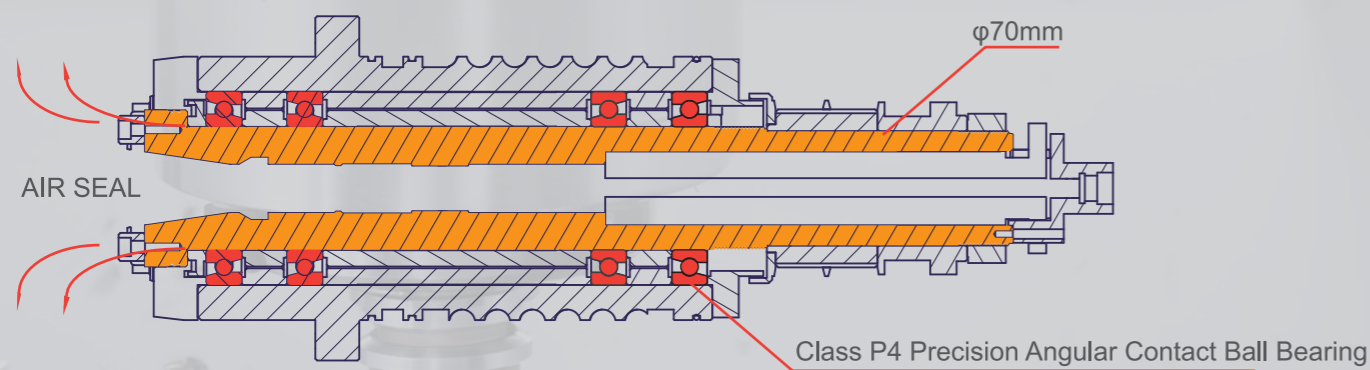
Powerful-Efficient

Great Torque Output High Efficiency



High Performance Belt-drive Spindle

- a. 70mm extra large spindle diameter runs in 4 pieces of class P4 angular contact ball bearings deployed with great span, allowing the spindle to resist axial and radial loads.
- b. The standard spindle features an air curtain to increase dust privation effect, which combined with spindle air blast device to ensure the spindle's cleanliness for extending its service life.



c. 4-nozzle coolant jets around the spindle thoroughly eliminates cutting contamination and two side holes are suitable for various tool lengths and diameters.

d. The belt-drive spindle is transmuted by HTD 8Y timing belts, allowing for effatively transmitting torque, reducing energy consumption, absorbing vibration resulting in high efficiency and high torque output. Standard spindle speed is 8,000 rpm(10,000 and 12,000 rpm are optional).

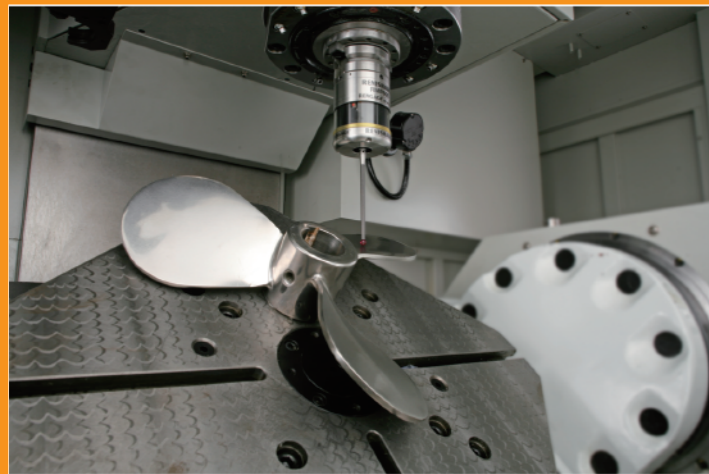


Spindle Motor Torque



VTP series solutions

Efficient Manufacturing Strategy



High Efficiency Complex Machining

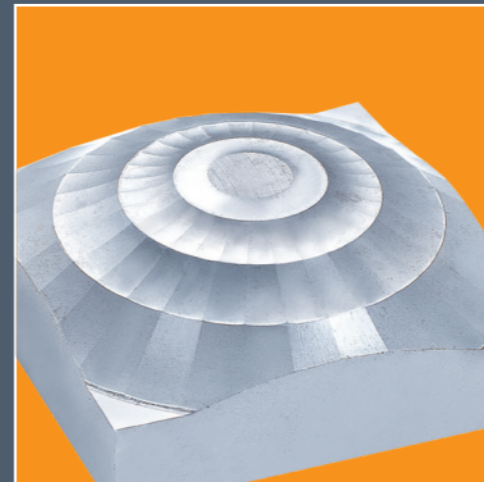
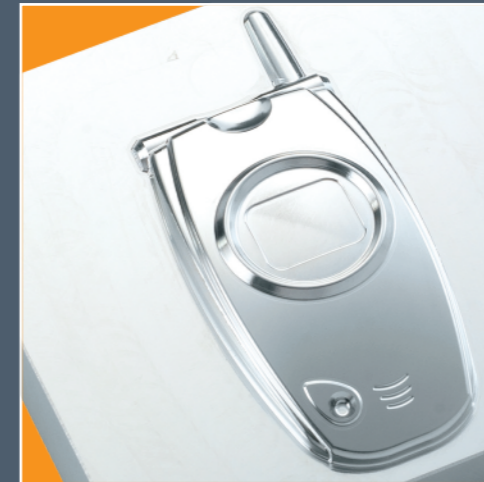
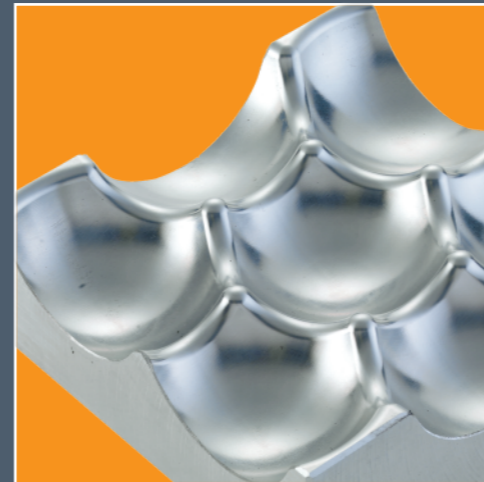
The use of the 4th axis and the tailstock make it possible to perform complex machining. It permits complicated machining to be performed efficiently and even a complicated geometry can be produced



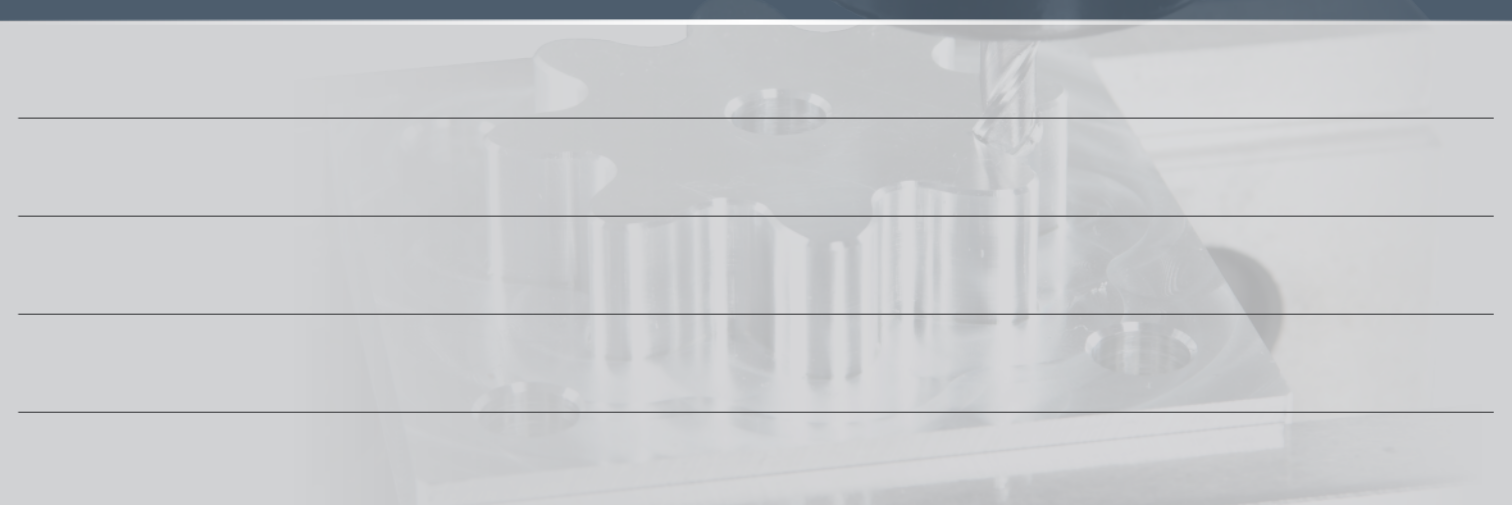
DD Direct Driven Rotary Table

High Speed, No Backlash, High Accuracy Direct drive rotary unites are incredibly quick, precise, and low-maintenance. There is no worm gear or mechanical gearing ,eliminating wear and backlash error.

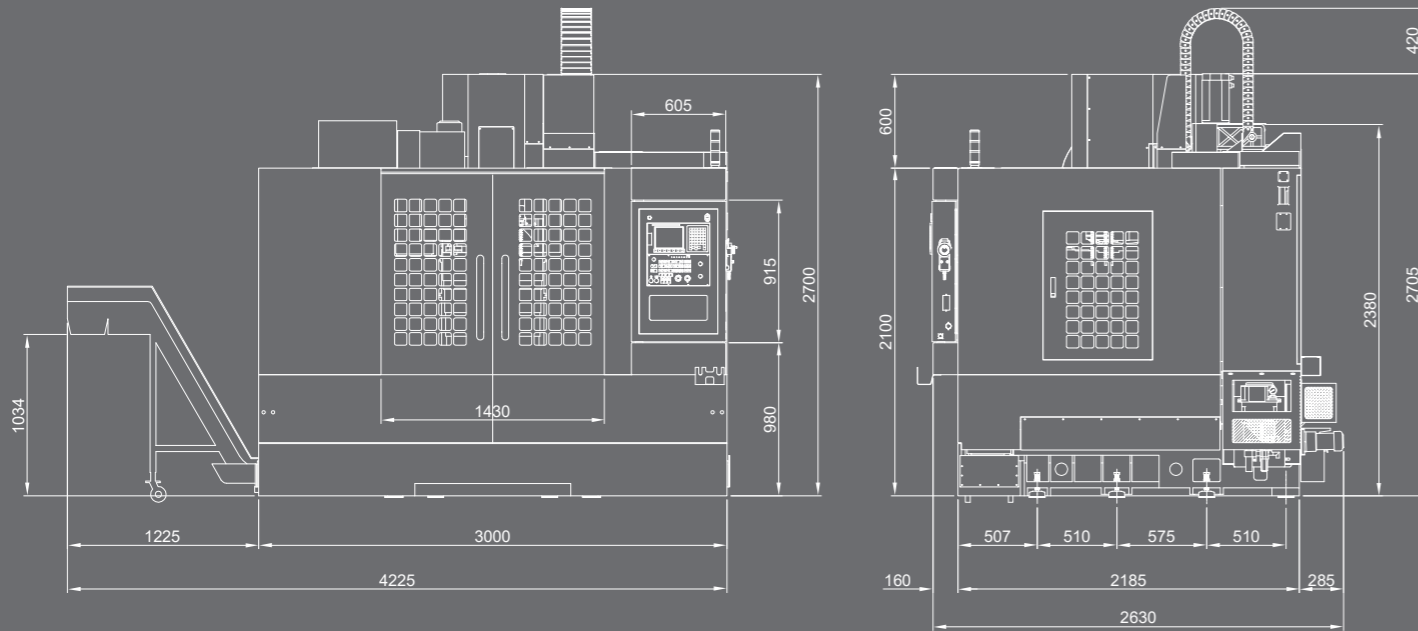
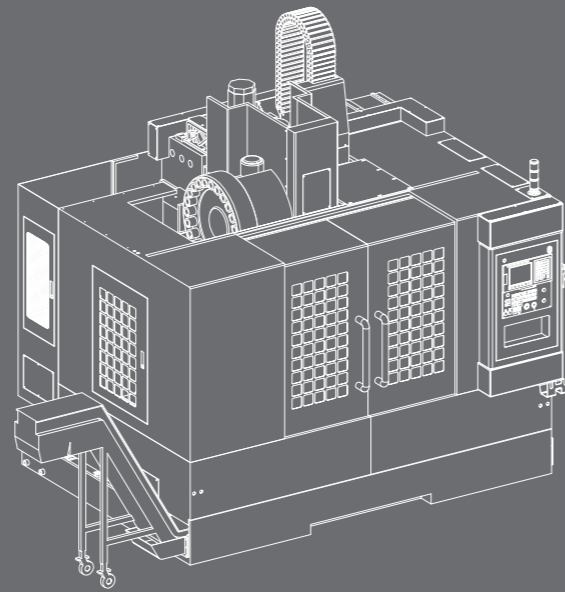
Machining Parts



VTP series is designed with box ways and features high speed and high torque output. The series of machines is especially ideal for complex machining such as molds.



Machine Dimension



(The machine specifications, accessories and appearance are subject to change without prior notice.)

Standard Equipment

- 8,000 rpm belt-drive spindle
- Dist type 24-tool ATC System
- Coolant system
- Fully enclosed splash guard
- Work light (fluorescent light)
- Automatic lubrication system
- Operation indication lamp
- Spindle air blast device
- Automatic flushing device
- Cutting air blast device
- Rigid tapping
- Heat exchanger for electrical cabinet
- Tools & tool box
- Leveling bolts & blocks
- Operation and maintenance manual
- Twin chip augers
- Link chain type chip conveyor
- Side flushing device
- Spindle cooling system

Optional Equipment

- BT40 pull stud
- 10,000/12,000 rpm spindle, belt drive
- Ready for 4th axis installation
- Full set of 4th axis rotary table
- Automatic tool length measurement device
- Coolant through spindle device
- Oil fluid separation device
- Air gun
- Coolant gun
- Linear optical scale

Specification

(The machine specifications, accessories and appearance are subject to change without prior notice.)

MODEL	VTP-1061	VTP-1261
TABLE		
Table sizes	1200 X 600mm (47.2" x23.6")	1400 X 680mm (55.12" x26.7")
T-slot(no. x size x pitch)	5 X 18mm X 125mm (5x0.71" x4.92")	
Max. table load	1000kg (2200lbs)	1200kg (2640lbs)
TRAVEL		
X-axis travel	1020mm (40.1")	1250mm (49.21")
Y-axis travel	610mm (24")	
Z-axis travel	610mm (24")	
SPINDLE		
Dist. from spindle nose to table	125~735mm (4.92" ~28.94")	
Dist. from spindle center to column	895mm (35.23")	
Spindle nose taper	7/24 No. 40	
Spindle speeds	Belt drive 8000rpm (opt. 10000.12000rpm)	
Spindle diameter	70mm (2.75")	
FEED		
Rapid traverse rates (X/Y/Z)	24/24/20m/min (945/787.4 ipm)	
Cutting feed rates	10 m/min (394 ipm)	
Z-axis counter-balance	with	
Ball screw diameter & pitch	40mm,P10	
Accuracy		
Positioning accuracy	P0.014mm (± 0.004/300mm)	
Repeatability	PS 0.010 (± 0.003mm)	
AUTO TOOL CHANGER		
Tool shank specif.	BT40	
Magazine loading capacity	Arm 24T	
Tool change time	Arm T-T 1.5 sec, C-C 5 sec	
Pull stud	MAS 403 P40T-1	
Max. tool diameter(with adj. tool)	80mm (3.15")	
Max. tool diameter(without adj. tool)	125mm (4.92")	
Max. tool length	300mm (11.8")	
Max. tool weight	7kg (15.4lbs)	
MOTOR		
Spindl motor	(F) : 11 (cont.) /15kW (30min)	
Feed motor (X/Y/Z)	X: 3kW (A12i), Y: 4kW (A22i) ,Z: 4kW (A22i With Brake)	
Cutting fluid pump motor	1 HP	
Side flushing pump motor	1.5 HP	
OTHER		
Power required	25kVA	
Air supply required	5 - 6 kg/cm2 , 300L/min	
Machine dimensions (WxDxH)	3000 X 2650 X 2750mm (118.1" x104.33" x108.3")	3500 X 2650 X 2750mm (137.8" x104.33" x108.3")
Machine weight	8000kg (17600 lbs)	8500kg (18700 lbs)