



Vertical Traveling Column Machine Center TW-2260VTC / TW-3270VTC Series



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Vertical Traveling Column Machine Center Series :

- **Well-designed high rigidity construction :**

The maximum table load is 1,800kgs with the extra length fixed table construction.

- **Three axes moving column with high precision roller linear guide :**

Three axes are equipped with high precision roller linear guide, the rapid speed can up to 32 M / min, and high accuracy optical scales can make positioning accuracy higher, and improve the machining accuracy about 50%.

- **Order friendly table :**

The extra length table is 2,500 mm, the work piece can be vary, and increase the order possibility.

Specialized pallet change design : Improve the safety of loading / unloading work piece, increase the productivity about 50%, the table's accuracy can be maintained for longer life.

- **Fast and safe auto tool change system :**

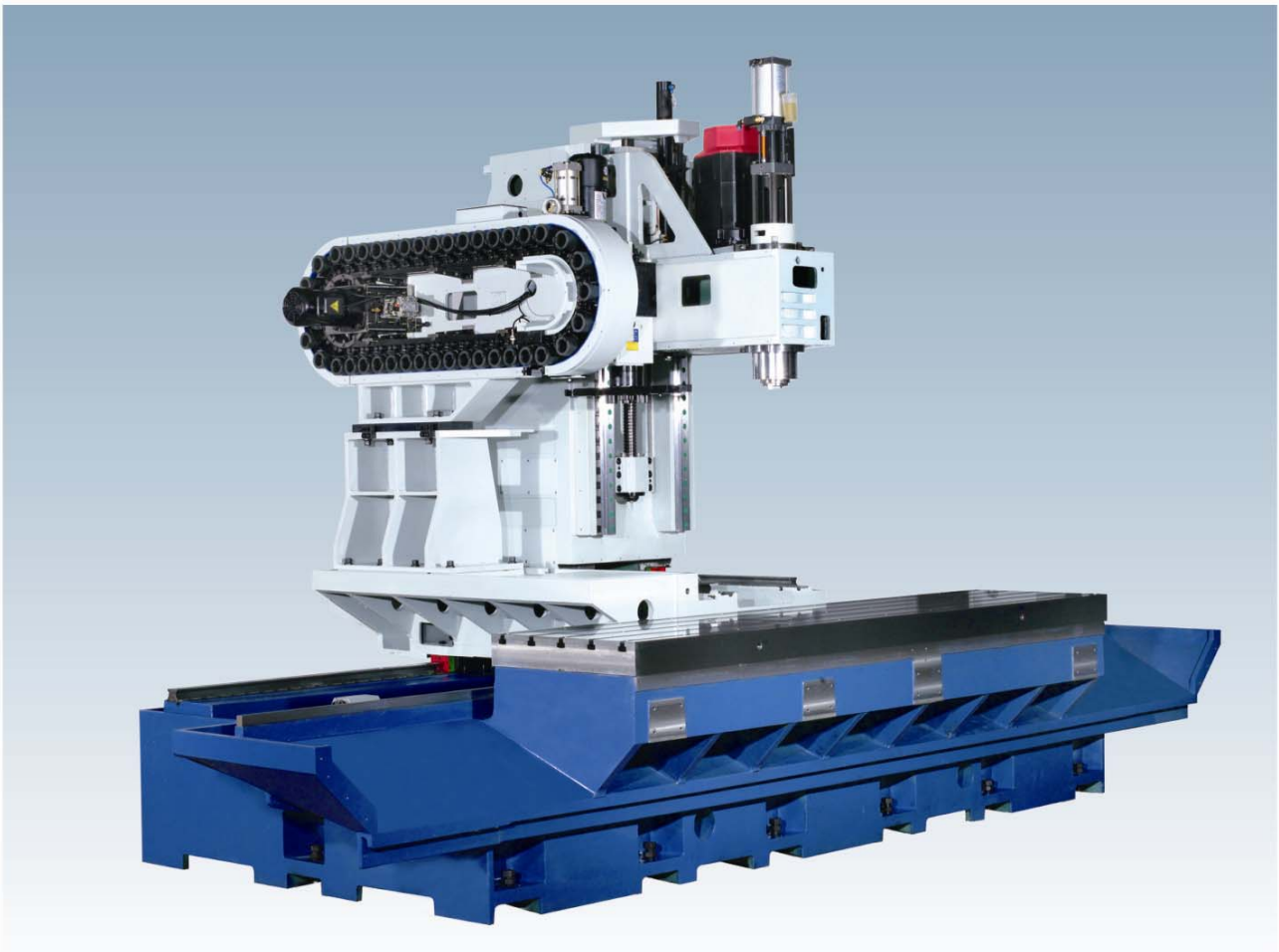
The tool magazine is moving with the X-axis, it can reduce the tool change position time. The tool changer is installed in an individual space, and keeping from the chips, and coolant; in which can extend the life of the tools, and spindle.

- **High precision / high speed spindle design :**

The standard spindle speed is 10,000 rpm, and up to 15,000 rpm. It is good for 3-D Die/Mold machining job.

- **High speed control system :**

It can equipped with Fanuc Oi-M series or 18iM series, it has the high speed, high precision function so that can execute the program for general parts machining, car mold, Die/mold, mock up, and 3C industry machining easily.



Machine Specification :

TW-2260VTC

- X / Y / Z Travel : 2200 x 620 x 620 mm
- Table dimension : 2500 x 600 mm
- Spindle taper : BT# 40 / CAT# 40 / DIN#40
- Spindle speed : BT# 40 / 20HP/10,000rpm
- Arm type A.T.C : 24 tools / 32 tools / 40 tools



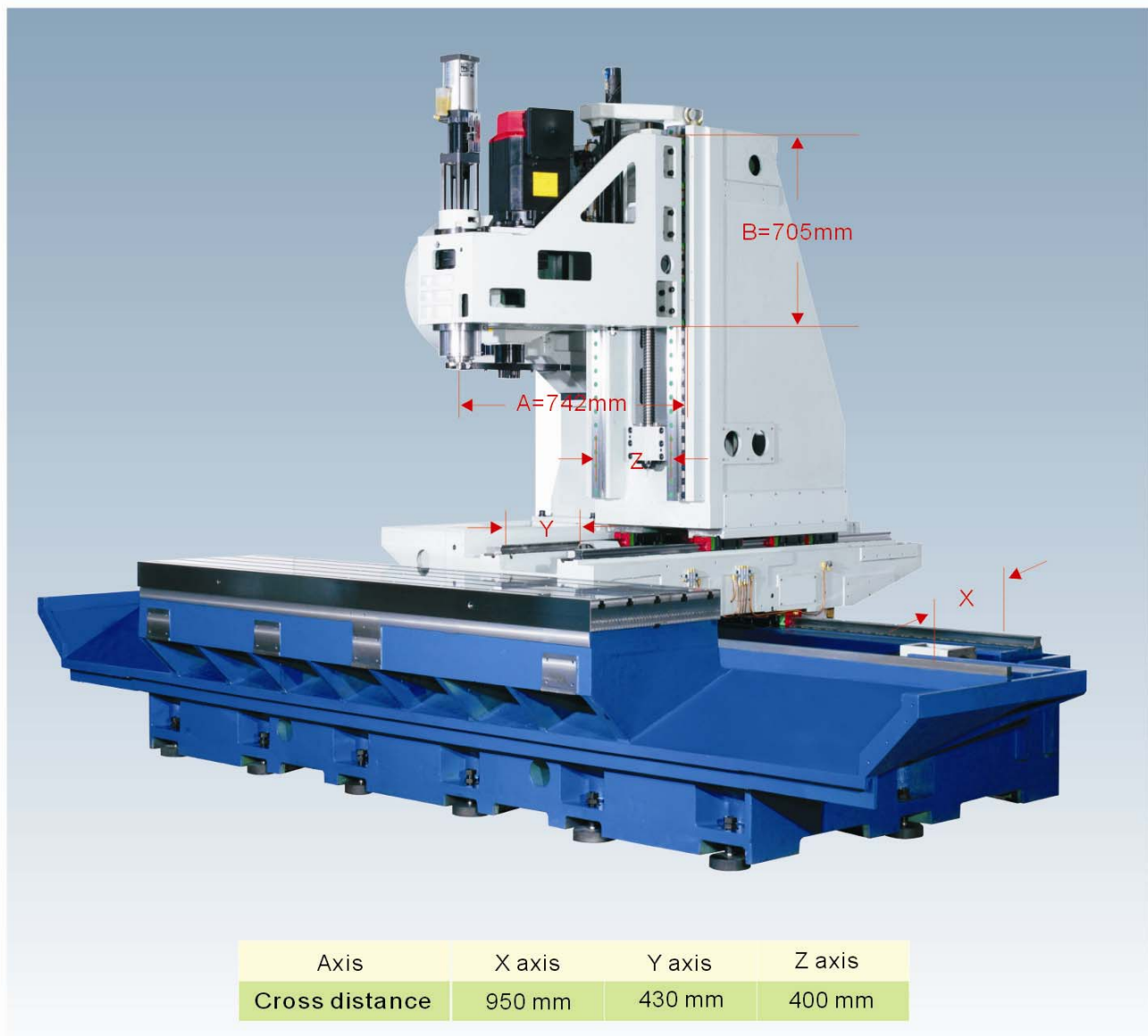
TW-3270VTC

- X / Y / Z Travel : 3200 x 720 x 620 mm
- Table dimension : 3500 x 700 mm
- Spindle taper : BT# 40 / CAT# 40 / DIN#40
- Spindle speed : BT# 40 / 20HP/10,000
- Arm type A.T.C : 24 tools / 32 tools / 40 tools



High rigidity high speed design

- **VTC Series** design is not only based on the years experiences of machine design, and customer demand, but also modified the disadvantage of present machine, enhance the column, and base's rigidity. This all moving column machine also design through the most advanced CAD program, and FEA (Finite Element Analysis) test to ensure the rigidity of the machine.
- **VTC Series** is using the high rigidity Meehanite GA-350 casting iron. After the heat treatment, the crystal structure is very stable, so it can ensure the long life, and high accuracy of the machine.
- **VTC Series** the best triangle design for head stock. The extended contact surface of Z-axis (B), and the throat length of Y-axis (A) is the best ratio for triangle construction. It can ensure the head stock will not twist during the heavy cutting.
- **VT C Series** wider cross distance between two linear guide on each axis, it can improve the rigidity of the machine when machining.



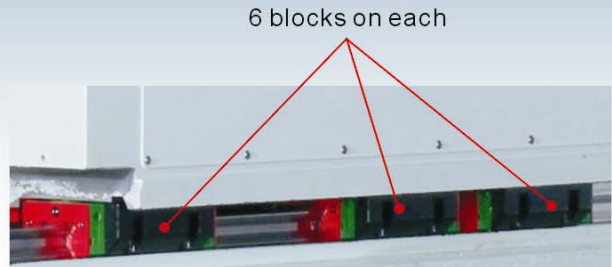
Three axes moving column roller linear guide designation

- **Three axes are using the high precision grade roller linear guide,**

The X-axis is equipped with 55 mm linear guide, and 45 mm on each Y, and Z axis. 6 precision slide blocks are installed on each axis with delicate calculation can reach 32 M / min. for rapid traverse, and machining time.

- **The installation surface of high rigidity linear guide**

are machined by high precision machine in order to ensure the installation accuracy.



High speed hi accuracy transmission mechanical

- X, Y, and Z axis are equipped with $\varnothing 50\text{mm}$ high precision C3 class double nuts ball screws.
- Two ends of each ball screw are using P4 grade specialized bearing, and applying calculated pre-load on bearings in order to maintain the cutting accuracy and rigidity for long time.
- The pre-tension is applied on each ball screw, and working with rigid coupling, and servo motor. It can keep the backlash smaller, high accuracy, and the heat expansion on ball screw.



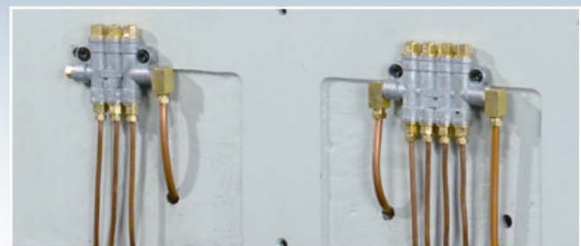
Three axes are equipped with high accuracy optical scale

- **The VTC Series** is equipped with high accuracy of optical scale in order to eliminate the error made by heat expansion under long time working. The positioning can keep within 0.005 mm, and reach the high speed high precision 3-D working



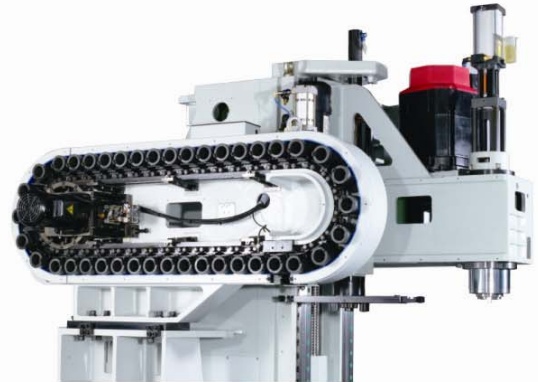
Auto Lubrication system

- **The VTC Series** is equipped with the accumulated type lubrication system, it can ensure each point can be well lubricated, and maintain the high accuracy of machine.
- **The VTC Series** has the lubrication tube fail alarm system. When the lubrication tube is broken, it will inform the system, and hold the machine without damaging the machine.



Automatic Tool Change system

- **The VTC Series** is equipped with the Automatic Tool Change system, and installed on the side of the column. It will move with the X-axis. During tool change, the magazine is out of the table, so the tool changing will not interface the work piece.
- **The VTC Series** magazine is stored at an individual space. Using a magazine door can keep away from chips, coolant, and dust. Meanwhile, it can extend the life of the tools, and the accuracy of the spindle.
- **The VTC Series** is equipped 24 tools automatic tool changer as standard. It is available for 32 tools or 40 tools also.



Fixed type long table can have varied work piece



• Long work piece :

The fixed table length is 2,500 mm with full support construction, the maximum table load is up to 1,800 kg, and the geographic accuracy still can be maintained within 0.002 mm. Furthermore, the maximum work piece length can reach 2,200 mm!



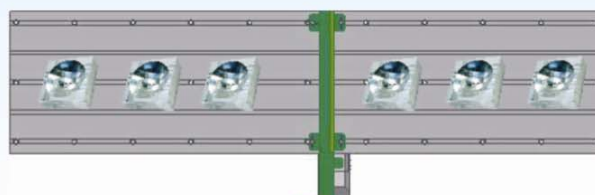
• Mass-production type

Based on the long table construction, the machine can do the same parts at the same working procedure. It can save time for loading / uploading, and doing many different works in one machine.



• Pallet change type :

Using the separate board, it can turn into pallet change mode. The table can be divided into two working envelope; one envelope can do the machining, and the other can do the parts loading / uploading.



Coolant Through Spindle system (CTS)

- **The VTC Series** can equipped with Coolant Through Spindle system (option). The pressure of the C.T.S. system is 15 bar (kgf/cm²). It is used for deep hole drilling, and boring machining. The coolant will come out from the tool nose. It can remove the chips from the work piece entirely to improve the working surface accuracy.
- **The VTC Series** C.T.S system has the 0.02 mm high density filter. It can stop the chips going to the C.T.S. system, and prevent the malfunction of the high pressure pumps, and the system.



Spindle round coolant system, and side coolant system

- **The VTC Series** has the 6 outlet round coolant system on the spindle with adjustable angel. It can also work with the side coolant system on the right side of the head stock in order to extend the tool life.



Water Gun, and Air Gun device

- **The VTC Series** is equipped with one water gun, and one air gun on both side of the safety door. It can make machine cleaning easier for the operator.



Link type chip conveyor device

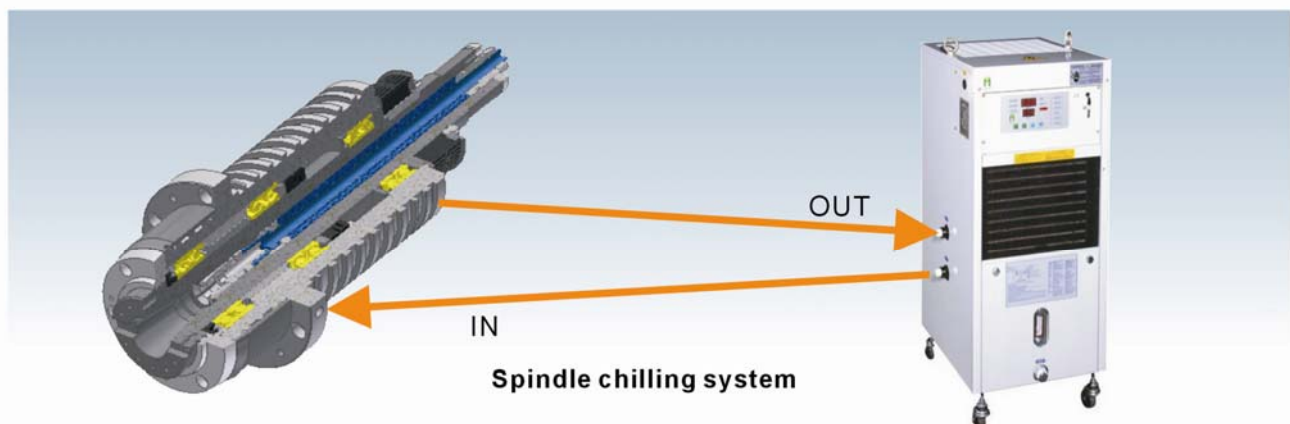
- **The VTC Series** on each side has big slope surface; 60° angel. It can make the chips falling into the chip conveyor easier working with the chip flushing system. And all chips can take out by link type chip conveyor, and makes the machine nice, and clean.



High precision spindle

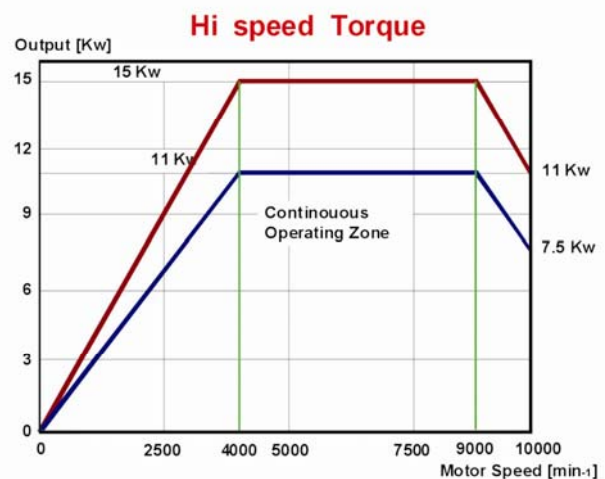
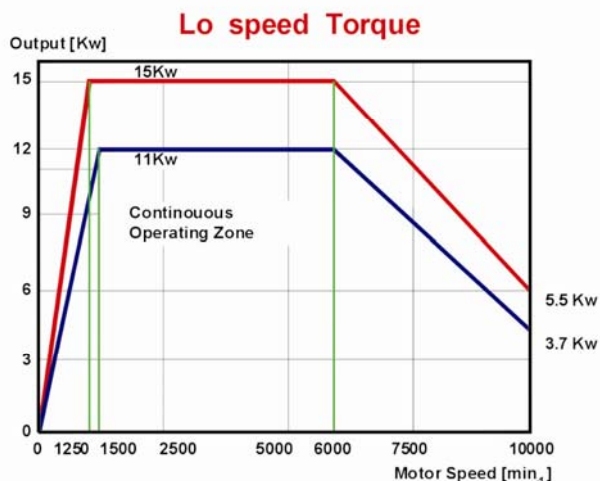


- **Using the advanced spindle design**, the spindle is installed with the P4 grade ceramic bearing, high rigidity arrangement of bearing, with delicate alignment. It can do the high speed cutting, and high precision machining.
- **The VTC Series** spindle is balanced by dynamic balance method, it can keep the heat increasment within 10°C, and low vibration, and noise. It can prevent the wear of the cutting tool.
- **Spindle chilling system** During the maximum speed, or heavy duty cutting, the heat may generated by bearing. The spindle catridge has the chilling channels to run the chilling coolant. After chilling by spindle chiller, the temperature can be controlled, and make sure the accuracy, and the life of spindle.



High speed / High power spindle motor

- **The VTC Series** is equipped with 20 HP / 10,000 RPM high power spindle motor. The motor has the High / Low winding function. It can provide higher torque at low speed area, and better vibration control at high speed area. It can reach the high efficiency cutting condition.



High speed controller system

• FANUC-0iM /18iM series controller

1. FANUC-0iM series

The up-to-date 0i-M series control has the high speed calculation capacity, and equipped with conversational program (Manual Guide i) etc.
For the hardware is the most reliable control at the present.
The PMC controlling program is developed by experienced engineer in order to meet the demand for general parts machining, car parts machining, simple die/mold machining, mock up job, and 3C product machining.



2. FANUC- 18iM series

The 18 iM series control can equipped with HPCC function (option) to improve the working time, and finish of the work piece. It can also do the complex 3D die / mold job. The better finish can be reached through the NURBUS function, and shorten the machining time, improve the working efficiency.

• Other Japanese control or European controls are available also.

We can install the Mitsubishi (Japan), Selca (Italy) Siemens (German), Anilam (USA), Heidenhain (German) control.



Mitsubishi 70M / 700M series



SLECA



HEIDENHAIN

CE standard electrical system, and thermal control air conditioner

- **The VTC Series** has high quality controlled electrical cabinet, and test run for 96 hours continuously. The electrical system is confirmed with up-to-date CE regulation.
- **The VTC Series is** installed with thermal controlled air conditioner. It can solve the thermal problem of the electrical box entirely. It also can prevent the dust or chips go into the cabinet so that can extend, and stabilize all electrical components life.
- The user friendly operation panel is easy for operator to handling this machine without any unpredictable accident.

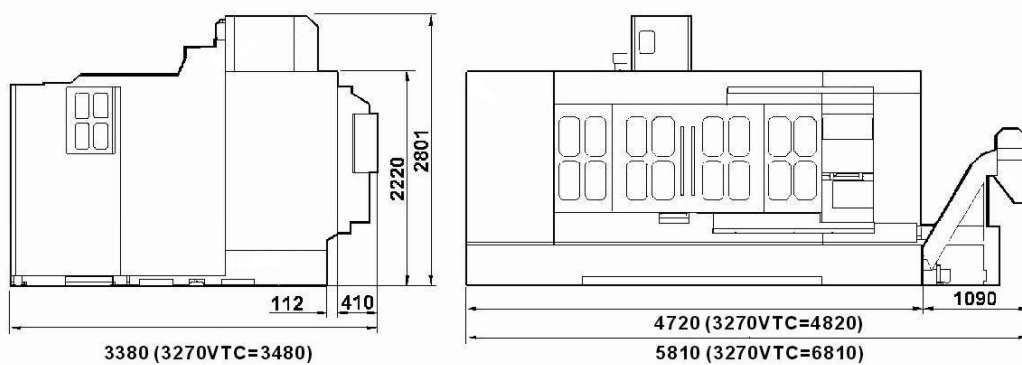
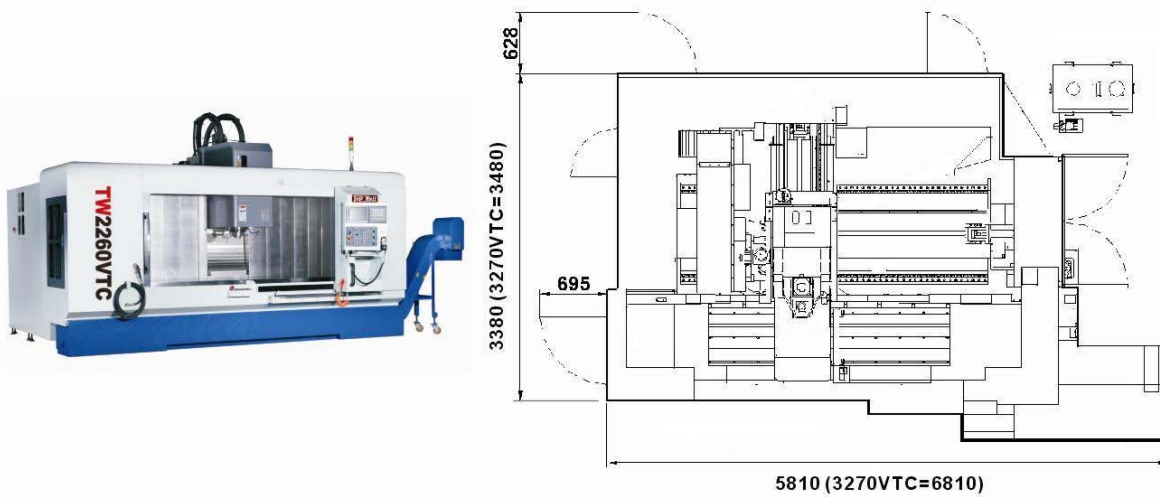


User friendly operation console

- **The VTC Series :** has the user friendly operation console. The operator can reach the console easily by sliding the console to the left or right, and turn the console 90° to face the operator

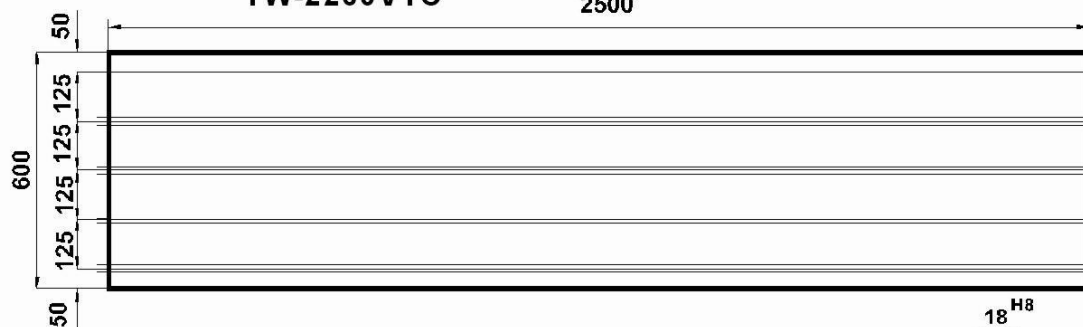


Machine Dimension & Table Dimension (mm)



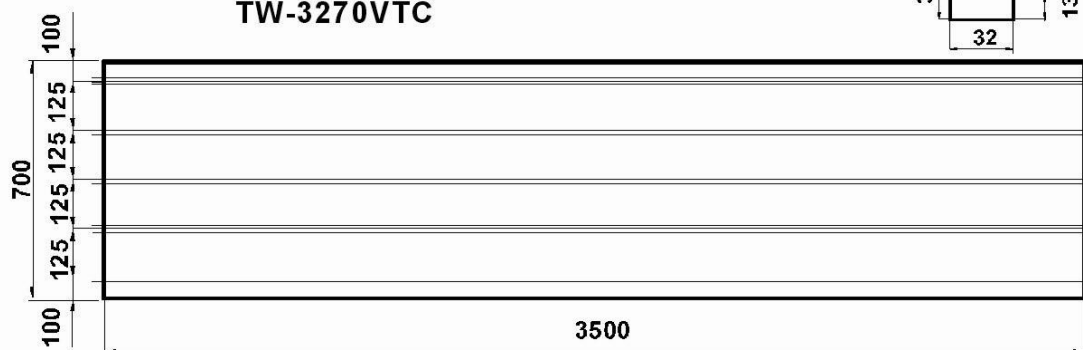
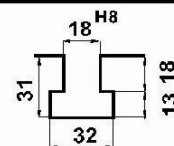
TW-2260VTC

2500



TW-3270VTC

T - Slots



Specifications :

Model	TW 2260VT C	TW 3270VTC
X Axis travel	2200 mm	3200 mm
Y Axis travel - Vertical	620 mm	720 mm
Z Axis travel - Vertical	620 mm	620 mm
Vertical Spindle center to column	690 mm	790 mm
Vertical Spindle nose to table top	120 -740 mm	120 -740 mm
Table dimension	2500X600 mm	3500X700 mm
T-slots (wide× no.× pitch)	18 x 5x 125 mm	18 x 5x 125 mm
Table height from the floor	830 mm	830 mm
Table load capacity	1,800kg	2,500kg
Spindle nose (BT / CAT)	BT40 / CAT40 / DIN40 (op. BT50 / CAT50 / DIN50)	
Spindle (rpm)	BT40 : 75~10,000rpm (op. BT50 : 75~6,000rpm)	
Main motor (cont./ 30min)	BT40 :11 / 15Kw (op. BT50: 15 / 18.5Kw)	
A.T.C. Magazine for arm type	24 / 32 / 40	
A.T.C. tool diameter	BT40 : 76 mm (op. BT50 :125 mm)	
A.T.C. tool length	BT40 : 300 mm (op. BT50 : 350 mm)	
A.T.C. tool weight	BT40 : 7 Kg (op. BT50 :15 Kg)	
Rapid traverse	36000 mm	36000 mm
Cutting feed	1 ~ 15,000 mm	1 ~ 15,000 mm
Positioning	± 0.003 mm	± 0.003 mm
Repeatability	±0.002 mm	±0.002 mm
Coolant system	580 W	580 W
Lubrication system	25 W	25 W
Air pressure	6Kg / cm ² over	6Kg / cm ² over
Machine weight	14,200kgs	17,500kgs
Floor space (L × W × H)	4068 x 5810 x 3000 mm	4168 x 6810 x 3000 mm
CNC controller	FANUC 0i-MD/18i-MC 、 MITSUBISHI 、 SELCA 、 ANILAM 、 SIEMENS 、 HEIDENHAIN	

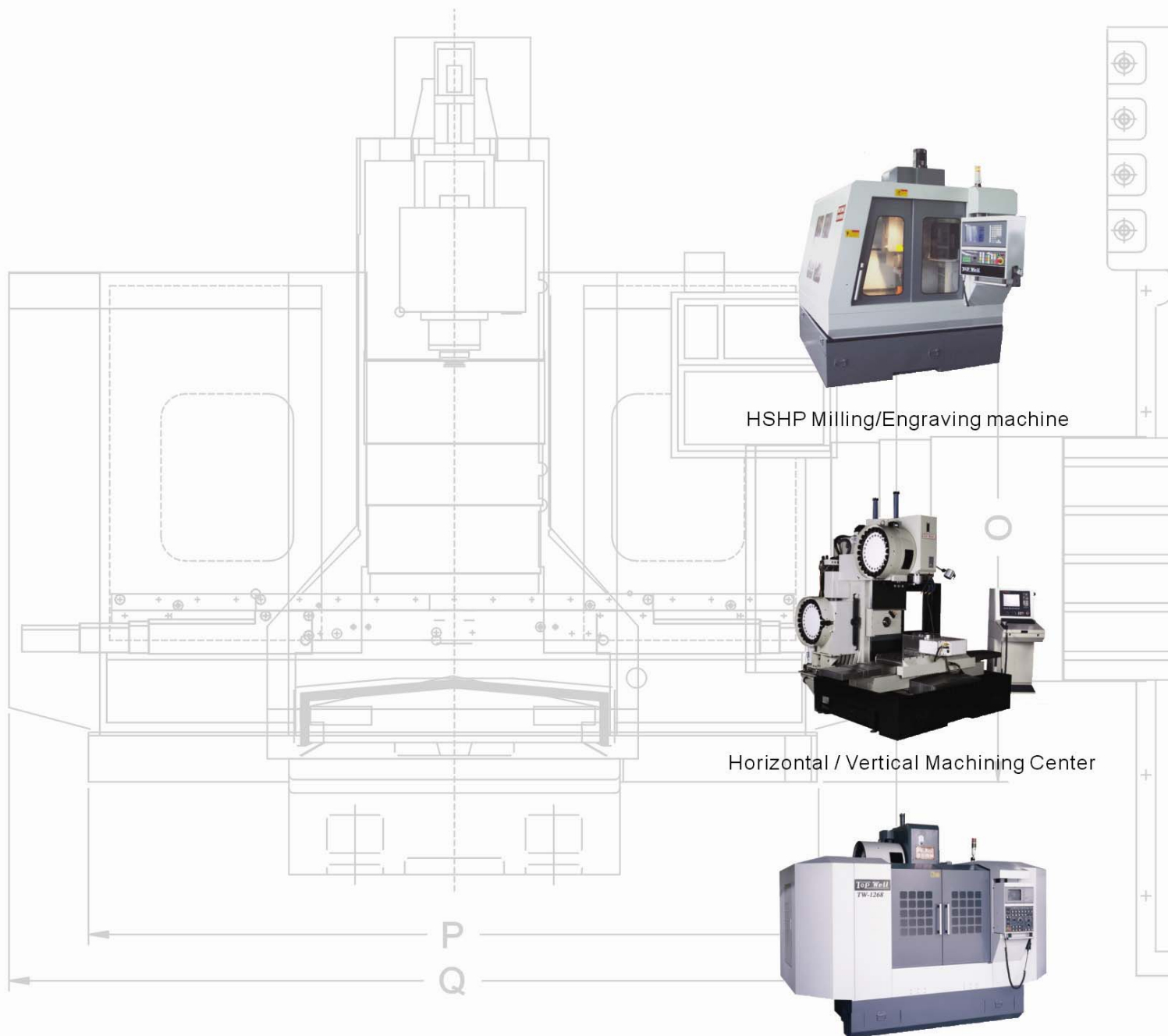
• Specifications are subjected to change without notice

Standard equipment :

- Alarm tower
- Rigid tapping
- Halogen lamp
- Spindle chiller
- Electrical / Machine operation manual
- External MPG
- Full enclosure cover
- Coolant system
- Tools & tool box
- M30 Auto-power OFF
- Water Gun / Air Gun
- Chip conveyor
- Leveling pads, & screw
- M-code Air blast
- Air con. for electrical box
- Auto Lubrication system
- Oil skimmer

Accessories :

- Optical scale
- Auto tool length
- Transformer/stabilizer
- 4th / 5th axis rotary table
- #40- 12,000 RPM spindle
- CE electrical box
- #50 - 8,000 RPM spindle
- Coolant Through Spindle



HSHP Milling/Engraving machine

Horizontal / Vertical Machining Center

Vertical Machining Center



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Heavy-duty Machining Center