

For more information, contact Hillary Machinery at (877)902-3751 or <https://www.hillaryinc.com>



**VP** SERIES

Ultra Performance Bridge Type Vertical Machining Center

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ISO 9001



ISO 14001



## AGENT

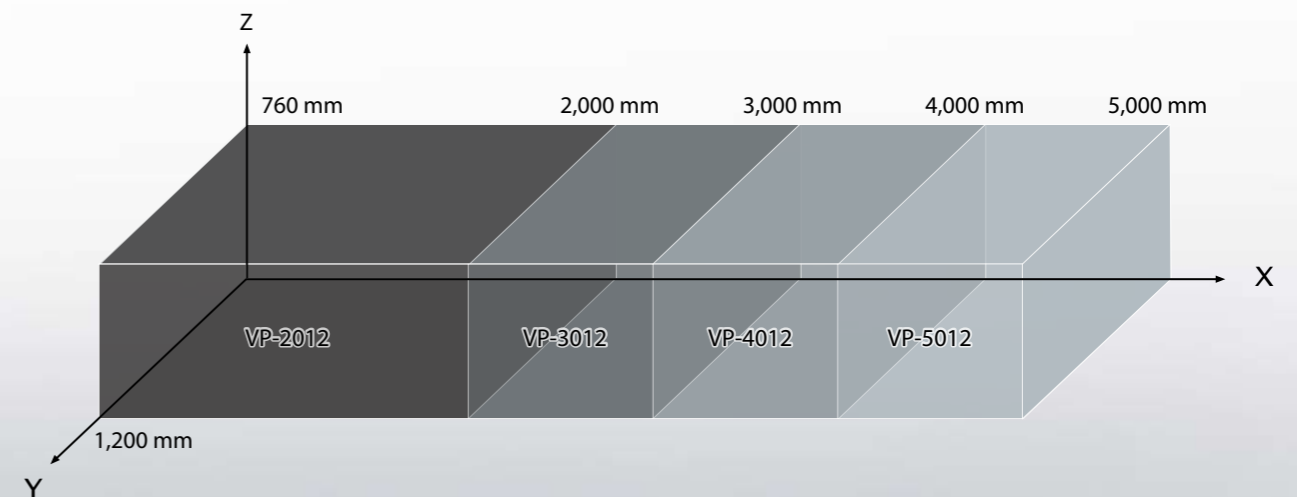
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## Ultra Performance Bridge Type Vertical Machining Center

Representing AWEA's 「 The royal family of bridge machines 」 of mature manufacturing abilities and advanced technology of innovation, the VP series bridge type vertical machining centers combine advanced concept of design and stable machine structure provide you the ultimate machining performance at the most compact floor space. It is one of the most cost-effective models. All series are adopted with modular design, the full product line provides you high performance, high productivity machining solutions to meet your demands of today and tomorrow. It can be broadly applied in the automotive, precision die & mold, aerospace, and energy industries., etc.

VP Series Product Map ( X / Y / Z axis travel )



# VP Series 2012 / 3012 / 4012 / 5012

## Ultra Performance Bridge Type Vertical Machining Center

Thanks to our advanced developing skills and strict assembly process, gives the VP series ultra performance bridge type vertical machining center optimum rigidity, accuracy and efficiency.

- The modular spindle design provides cutting flexibility for various working conditions.
- High rigidity linear guide ways on the X, Y axes.
- The Z-axis is adopted with high rigidity box way which is hardened and precisely ground suitable for heavy-duty cutting conditions. ( Opt. : The Z-axis can be adopted with roller type linear guide ways if equipped with high speed direct-driven spindle. )



Fully enclosed splash guard without roof

# VP Series 2012 / 3012 / 4012 / 5012

## Ultra Performance Bridge Type Vertical Machining Center

### High Rigidity Structure

- One-piece bridge and base casting structure with hand scraped contact surfaces ensure optimum assembly precision, structural rigidity and load balancing.\*1
- Rib reinforced working table restrains vibration while increasing machining stability.
- The Finite Element Method ( FEM ) analysis provides optimum machine design and light-weighted structure advantages while ensuring best machine rigidity.

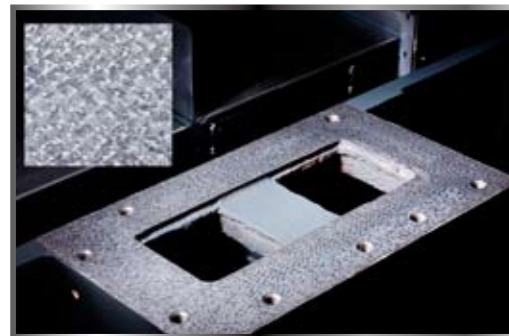


■ Precision Hand Scraping



■ Precision Feedback System

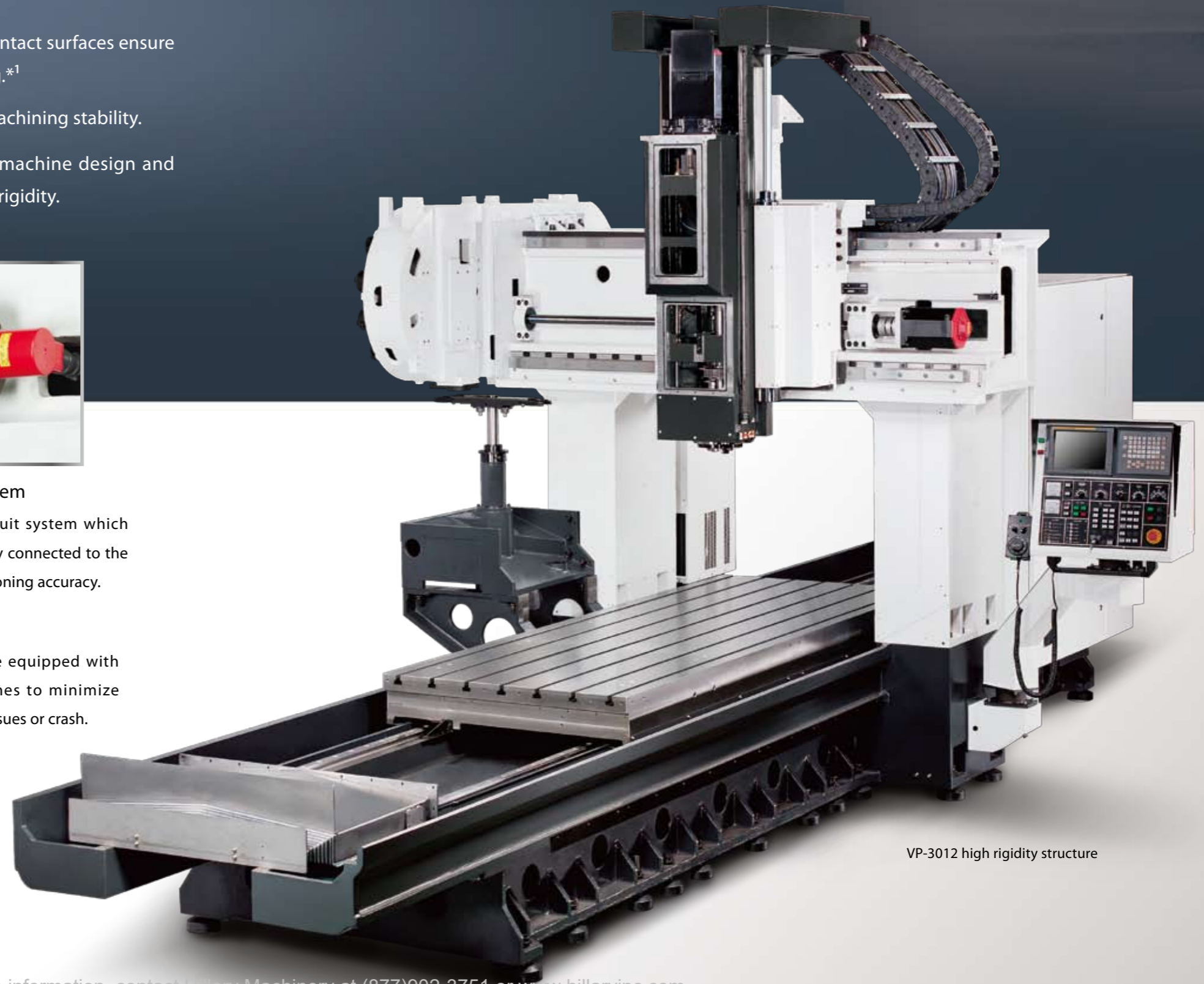
The semi-closed loop circuit system which the ball screw end is directly connected to the encoder ensures high positioning accuracy.



■ The connecting area between columns and bed are precisely hand scraped

■ Axial Torque Clutch

Three axes ball screws are equipped with mechanical torque clutches to minimize damages due to over load issues or crash.



VP-3012 high rigidity structure

\*1 : VP 4012 、 VP 5012 use optimum reinforced welded bed with full annealing process.

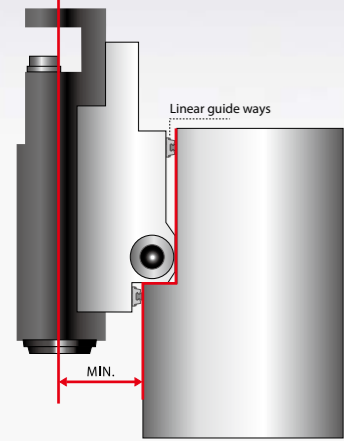
# Optimum Spindle System

## Powerful Cutting Capability

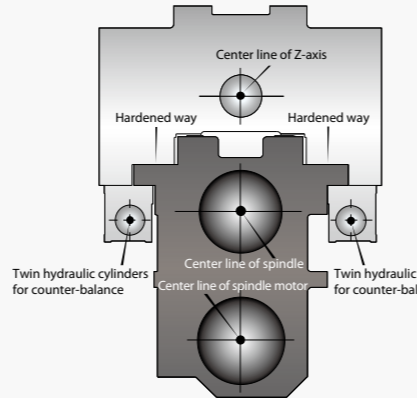
Inner-rail embraced structure provides high rigidity and gains good stress flow which minimizes overhang and vibration issues. The Y-axis linear guide ways offset from each other increases structural rigidity reduces distance between spindle to cross beam enhances overall cutting performance.

## Centro-symmetric Main Spindle System

Unique head design which the main spindle, spindle motor, ball screw and hydraulic counter balance cylinders are symmetrically placed. Hereby preventing thermal distortion and minimizing deflection. Assuring accuracy and heavy cutting capability.

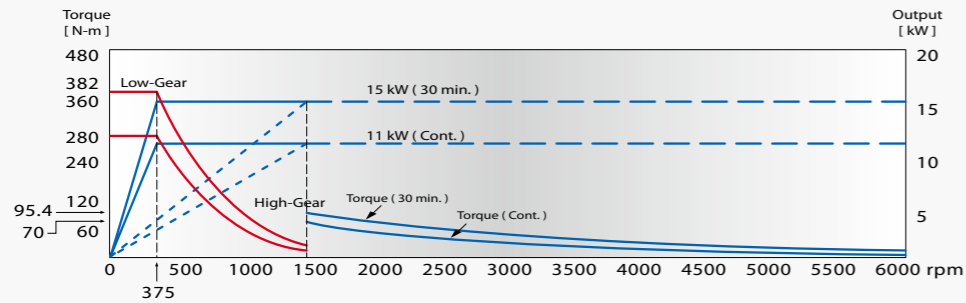


■ Y-axis sectional linear guide ways design

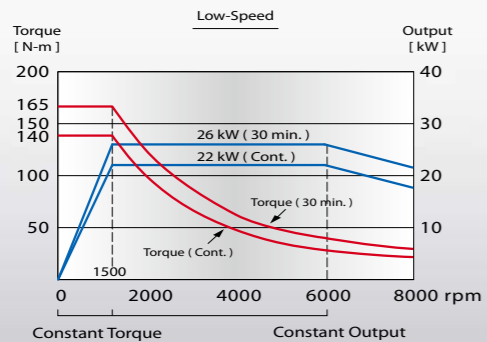


■ Centro-symmetric main spindle system design

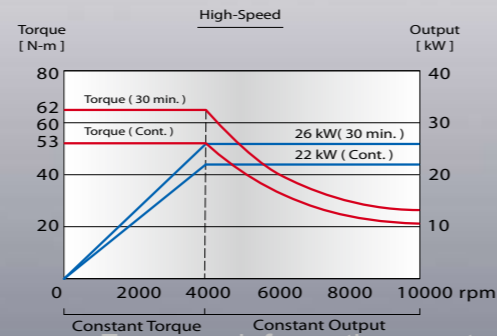
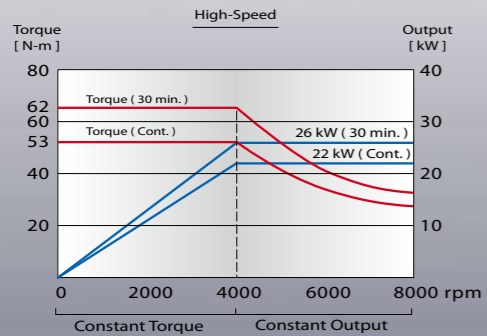
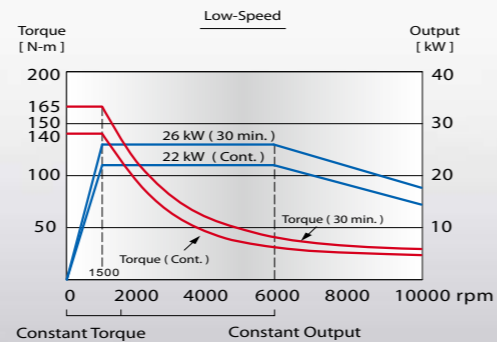
### 6,000 rpm Gear Spindle



### 8,000 rpm Direct-driven Spindle

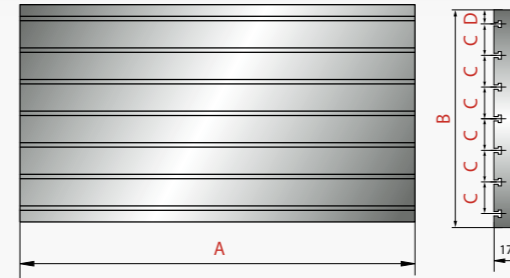


### 10,000 rpm Direct-driven Spindle



# Dimensions

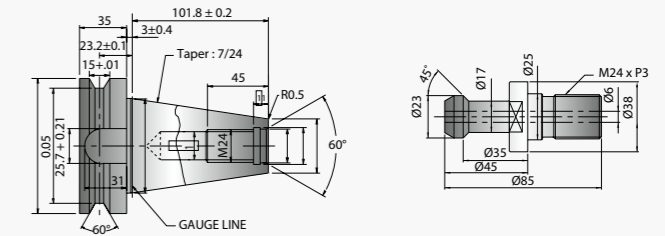
## Table Dimensions



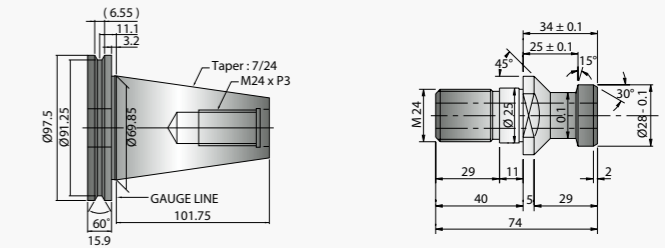
Model	A	B	C	D
VP-2012	2,000			
VP-3012	3,000	1,100	160	100
VP-4012	4,000			
VP-5012	5,000			

## Tool Shank and Pull Stud Dimensions

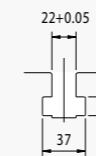
### BT50 (Std.)



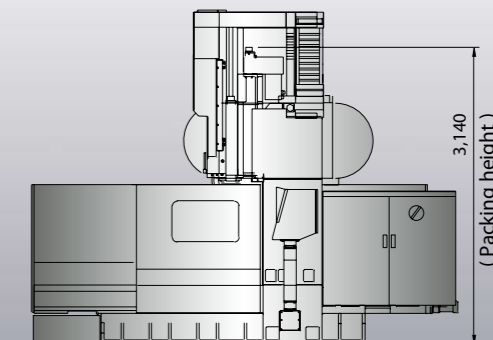
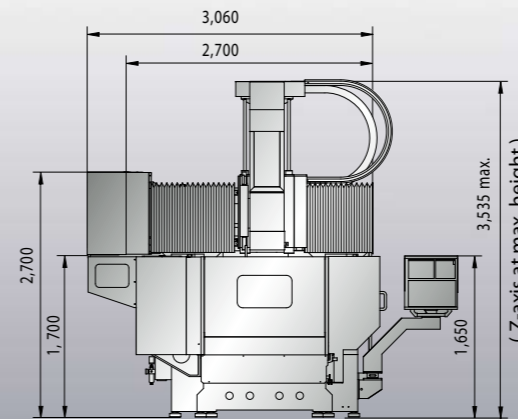
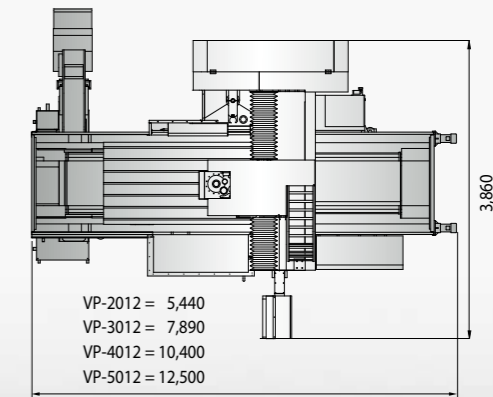
### DIN69871-A (#50) (Opt.)



## T-slot Dimensions



## Machine Dimensions



(Unit: mm)

# i Console

For more information, contact Hillary Machinery



### Multiple Functions Status Display

- Real time operation information
- Tool list
- Work piece measurement
- M code illustration
- PLC function
- Calculator
- CNC optimize parameter (Opt.)
- Spindle thermal compensation (Opt.)



### Trouble Shooting

When the alarm appears, the program will display the breakdown cause and a troubleshooting procedure. Users can easily troubleshoot minor problems to save machine shutdown time.



### Circular Work Piece Measurement

The circular work piece program can calculate the center coordinate of a work piece by measuring point A, B and C coordinates.



### CNC Optimized Parameter

From rough cutting to fine machining, users can select different working modes, determine the allowable tolerance and the weight of the work piece, based on your desired working condition.



### Rectangular Work Piece Measurement

The rectangular work piece program can calculate the center coordinate and the slant angle of a work piece by measuring point A, B, C, D and E coordinates; the calculated center coordinate can be inputted into the work piece coordinate program (G54 ~ G59).



### Manual Tool Length Measurement

After manually measuring the tool length, the controller will automatically calculate the tool tip position and input the data into the tool length offset table.

	VP-2012	VP-3012	VP-4012	VP-5012
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		VP-2012	VP-3012	VP-4012	VP-5012
<b>Specifications</b>					
X-axis travel	mm	2,000	3,000	4,000	5,000
Y-axis travel	mm	1,200			
Z-axis travel	mm	760			
Distance from spindle nose to table top	mm	200 ~ 960			
Distance between columns	mm	1,300			
<b>Working Table</b>					
Table size ( X direction )	mm	2,000	3,000	4,000	5,000
Table size ( Y direction )	mm	1,100			
Table load capacity	kg	3,500	4,500	6,000	8,000
<b>Spindle</b>					
Spindle power ( Cont. / 30 min. )	kW	11 / 15 ( Opt. 22 / 26 )			
Spindle speed	rpm	6,000 ( Opt. 8,000 / 10,000 )			
Spindle taper		BT50 ( ISO50 ) / DIN69871-A ( Opt. )			
<b>Feedrate</b>					
X-axis rapid feedrate	mm / min	20,000		10,000	8,000
Y-axis rapid feedrate	mm / min	20,000			
Z-axis rapid feedrate	mm / min	20,000			
Cutting feedrate	mm / min	10,000	10,000	10,000	8,000
<b>Tool Magazine</b>					
Tool magazine capacity	T	30 ( Opt. 40 )			
Max. tool diameter / adj. pocket empty	mm	Ø127 / Ø215			
Max. tool length ( from gauge line )	mm	350			
Max. tool weight	kg	15			
<b>Accuracy</b>					
Positioning accuracy ( JIS B 6338 )	mm	±0.010 / Full Travel			
Positioning accuracy ( VDI 3441 )	mm	P ≤ 0.02 / Full Travel	P ≤ 0.03 / Full Travel	P ≤ 0.04 / Full Travel	
Repeatability ( JIS B 6338 )	mm	± 0.003			
Repeatability ( VDI 3441 )	mm	Ps ≤ 0.015	Ps ≤ 0.02	Ps ≤ 0.03	
<b>General</b>					
Power requirement		AC 220 ± 10 % 3 , 60 / 50 Hz / 40 kVA			
Pneumatic pressure requirement ( min. )	kg / cm <sup>2</sup>	5 ~ 8 ( 5 )			
Hydraulic unit tank capacity ( pump )	liter ( HP )	120 ( 10 )			
Lubrication oil tank capacity	liter	6			
Coolant tank capacity ( pump )	liter ( HP )	370 ( 1 )			
Machine weight	kg	18,000	22,500	25,000	28,000

### Standard Accessories

- Spindle cooling system
- Centralized automatic lubricating system
- Fully enclosed splash guard w/o roof
- Coolant system with pump and tank
- Twin screw type chip conveyor
- Caterpillar type chip conveyor and bucket
- Foundation bolt kit
- Tool box
- Alarm light
- Air gun
- Automatic power off system

### Optional Accessories

- 8,000 / 10,000 rpm direct-driven spindle
- Spindle taper : DIN50 / CAT50 / ISO50
- Column extension 200 mm
- Tool magazine 40 T
- X / Y / Z axes optical linear scale ( HEIDENHAIN )
- Spindle thermal compensation
- Coolant through the tool adapter
- Coolant through the spindle ( Form A )
- Automatic tool length measurement
- Automatic work piece measurement
- CNC rotary table
- Oil skimmer
- Oil mist cooling system
- Fully enclosed splash guard with roof
- Extension door

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