

VH

Series

600
800
1000
1100
1300

Manufacturer

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Welcome to Litz website for more information

Dealer



Vertical machining center

High Performance Machining Center



2021.B

Litz Hitech Corp. | Litz Machine Tools (JiaXing) Corp.

VH-800



VH-1100



design for increasing your productivity

VH-1000



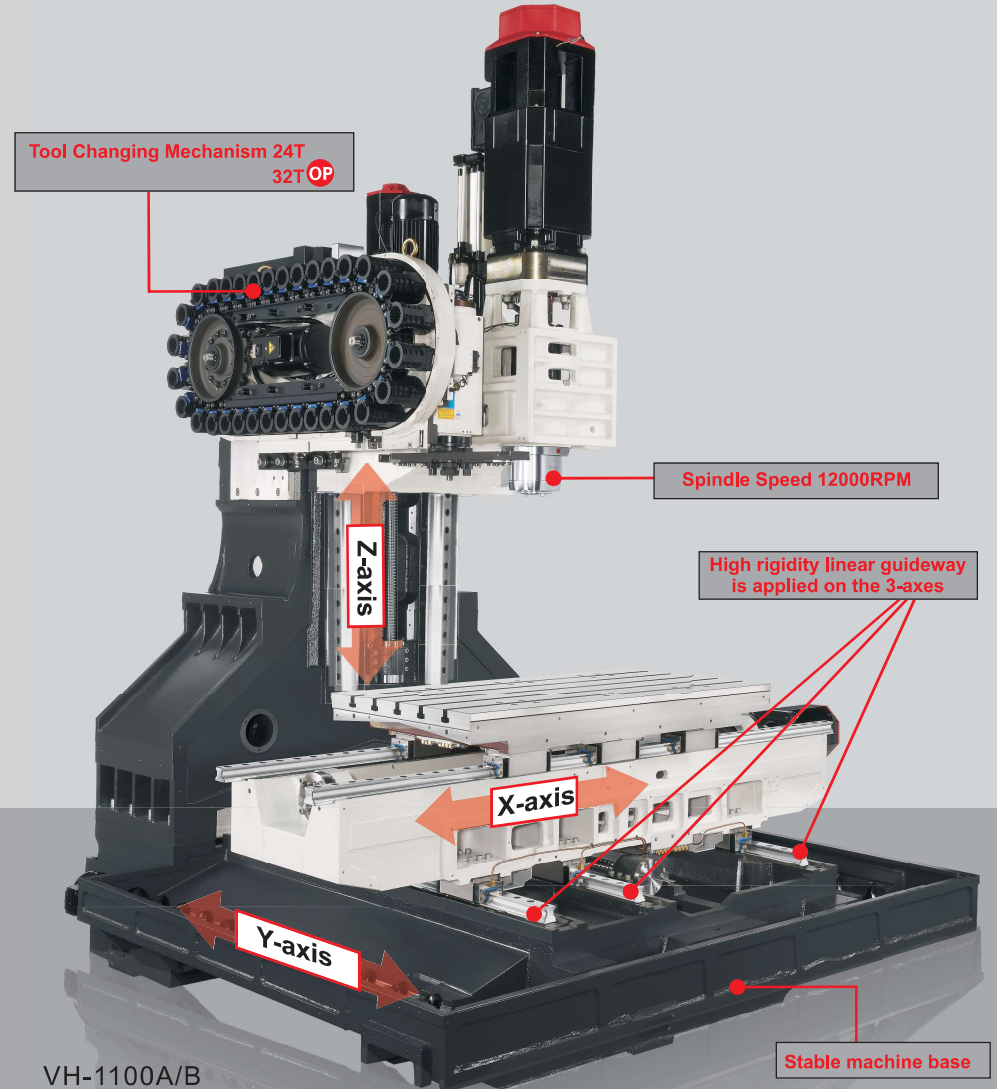
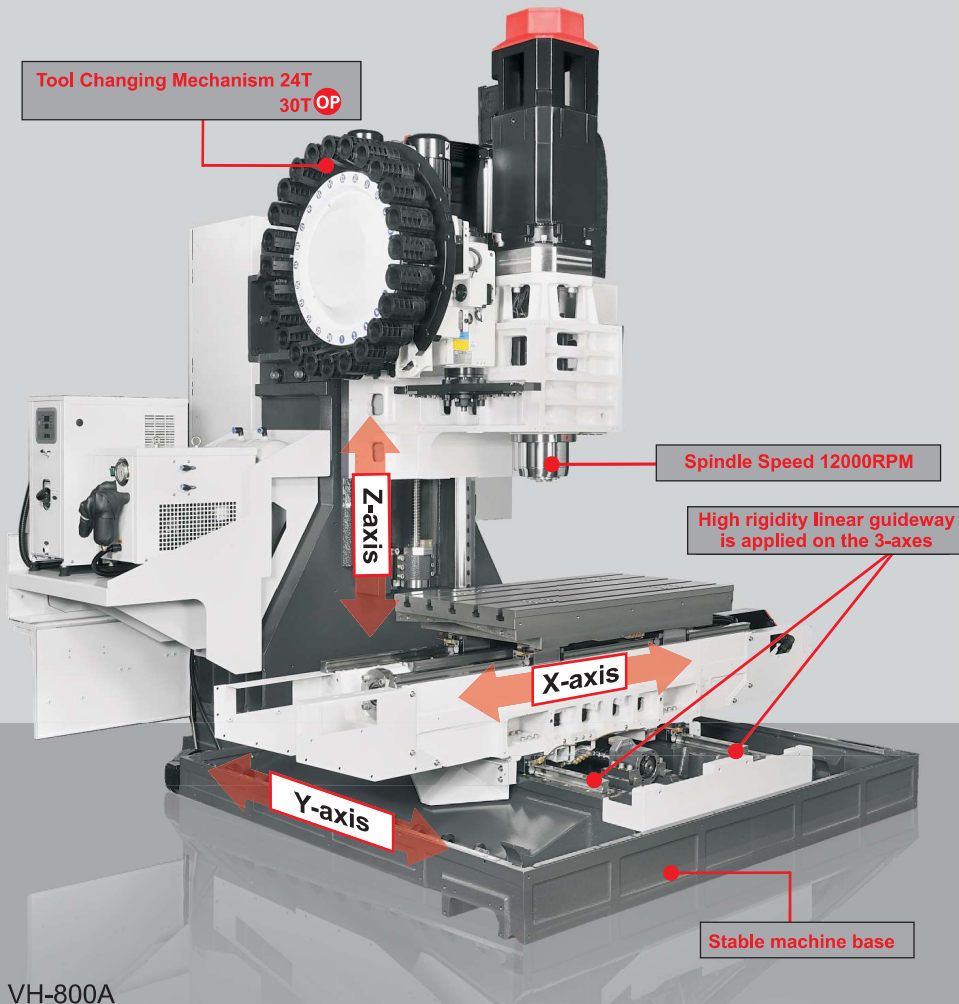
VH-1300



High rigidity, high-precision structure design

- The major construction parts are based on Meehanite cast iron, which is stable in structure and long-term quality is assured.
- Casting parts are calculated and analyzed by the finite element method. Proper structure strength combined with enhanced ribs provides high rigidity for the machine.
- A linear guideway is applied on the 3-axes, supporting heavy loads, rapid moving, and assuring precise positioning.

- A wide base, box-shaped column, enhanced saddle, full span supports for heavy loads, and robust structure all contribute to its ability for heavy duty machining.
- Enhanced ribs inside the spindle head and a proper contact length ratio between the spindle head and column provide solid support for the spindle.



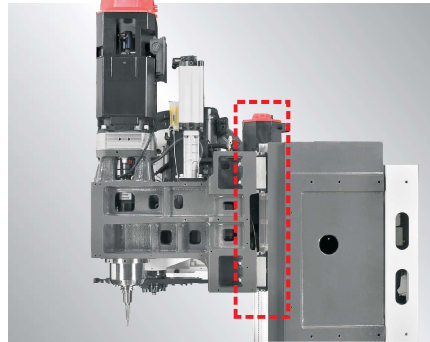
Linear Guideway with High Speed and High Precision

Linear guide way



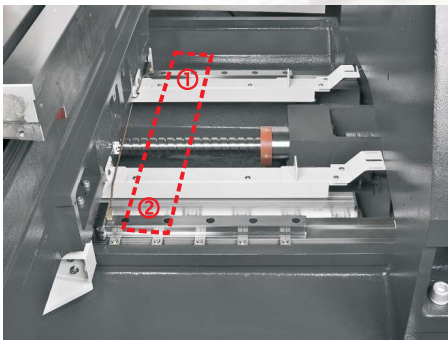
- A linear guideway with zero backlash ensures a consistent cutting surface on curved or tilted surfaces.
- Suitable for high speed operation and the horsepower requirement is minimized.
- By using rolling contact instead of sliding contact, the linear guide reduces the friction loss and increases the sensitivity and positioning precision.

Extended Z axis linear way blocks



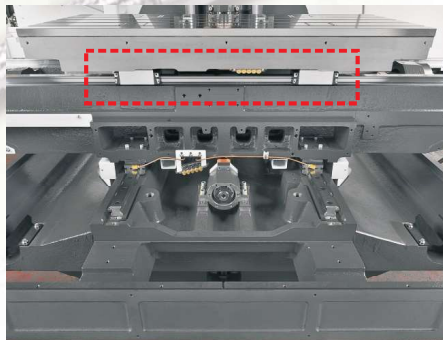
- Extended linear guide way blocks provide the better stability and rigidity.

Y axis with two linear guide ways and four linear guide way blocks



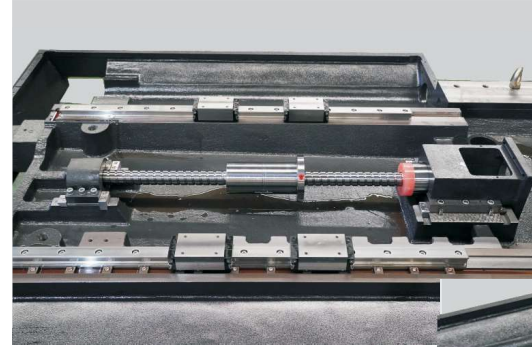
- The machine is equipped with a collision protection device which can absorb collisions due to machine malfunctions or mistakes made by operators. The damage caused by the collision can be minimized and still maintain the design precision.

X axis with two linear guide ways and four linear guide way blocks

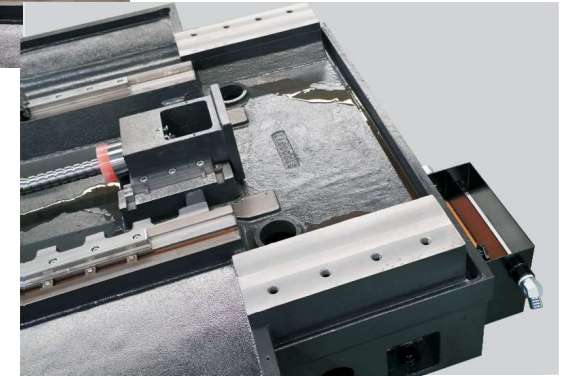


- The X/Y/Z-axis can be equipped with a linear scale system to detect thermal displacement due to rapid movement of the machine. The thermal displacement result will be sent to the controller for compensation, suitable for high precision parts machining.
- The linear scale system is designed with a gas protection device to prevent the linear scale from contamination by dust and oil vapor. The precision of the linear scale is assured and the service time can be extended.

Oil/Coolant Separating Design



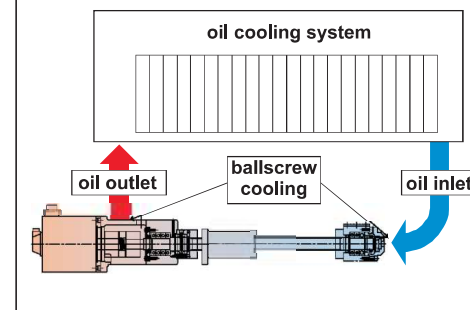
- The oil/coolant separating design can separate lubricating oil and coolant effectively. Coolant quality will not be reduced due to mixing and the machining quality can be assured.



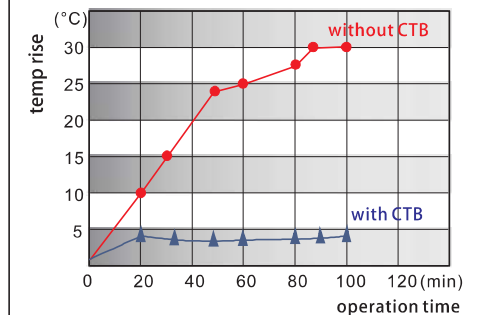
3-axis coolant through **OP**

The ballscrew transmission system employs hollow cooling design to minimize heat and thermal expansion of ball screw in high-speed operations with coolant oil to balance high speed and high precision at the same time.

coolant



Effectiveness Graph



Spindle Transmission

Direct-drive system

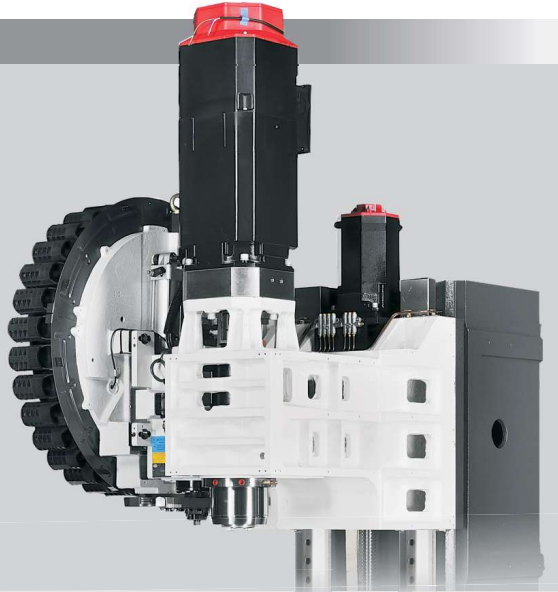
Machine Specifications

Spindle Speed: 12000rpm
15000rpm **OP**

Spindle Power: 11/15kw
15/18.5kw

Spindle Torque: 70/95.5 N-m
102/126 N-m

Tool specification: BBT-40



Arm-type Tool Changing Mechanism

- A fast, simple, reliable, and durable tool exchange device, providing stable and reliable exchange of tools.
- A unique tool exchange device design, an advanced cam-drive mechanism capable of random tool selection can be achieved using the PLC software control.



24 tools



32 tools **OP**



Build-in spindle **OP**

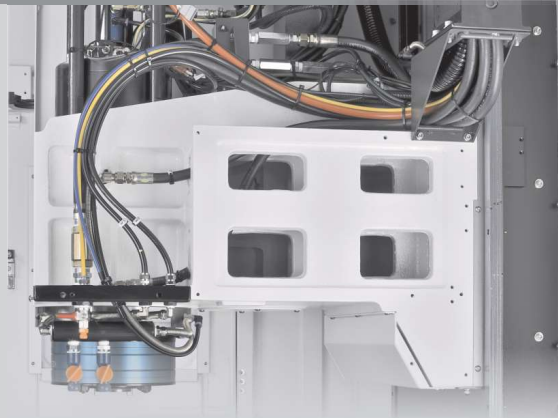
Machine Specifications

Spindle Speed: 15000rpm
20000rpm **OP**

Spindle Power: 11/15kw
15/18.5kw

Spindle Torque: 69.9/95.5 N-m
63.7/78.3 N-m

Tool specification: HSK-63A



Mode	Number of Tools	Tool specification	Max. tool length (mm)	Max. tool dia. (mm)
VH-600A	24T	BBT-40	200	80/150
VH-800A	24T	BBT-40	300	80/150
VH-1000A	24T	BBT-40	300	80/150
VH 1100A	24T	BBT-40	300	80/150
VH-1300A	24T	BBT-40	300	80/150

Standard Function - Optional Function

Machine



1 Lighting System

High brightness work light is standard for easy loading and unloading work from the table.

2 Portable MPG



Portable hand wheel beneficial to operation flexibility.

3 Full enclosed ATC

Full enclosed ATC design to prevent duct or oil mist go inside the ATC area.

4 Tool Length Measurement OP



The automatic tool measuring system will measure the tool length and input the result into the controller automatically for compensation.

5 Workpiece Measurement System OP



Select Renishaw Workpiece Measurement System for use

- MP10 is used for workpiece coordinate setting and processing machine workpiece inspection.
- 0MM module is able to send CNC message and receive from M12 interface

System characteristics

- Signal transmission range: MP10 is used for 3degree or 70 degree, minimum at 130 degree
- 360-degree inspection is limited to a maximum length of 6m.
- Battery lifetime allows continuous use for 140 hours.
- Repeatability 1µm, Measurement speed: 480 mm/min.
- Measurement can use M code or automatic measurement
- Waterproof at IP68 level.
- Equipped with over-stroke probe damage protection.

6 Auto power ON for machine warm-up Auto power Off

Operator can set power On timing and activate the warm-up program by timer, as well as power Off.

7 3 color signal light



8 Safety switch (standard)



The machining program starts only when the safety door is closed to ensure operator safety.

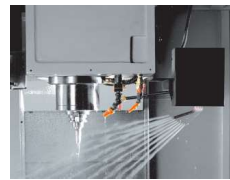
9 DDR Motor OP



The embedded rotating 4th axis has the features of high rotating speed, high precision, high maximum torque, high braking torque and zero backlash, suitable for precision parts machining with high performance.

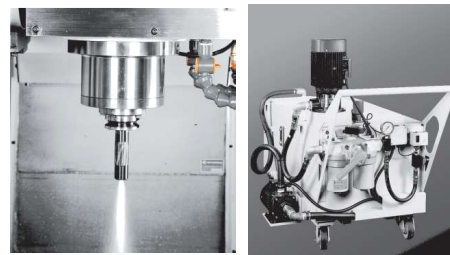
Coolant

10 Programmable nozzle adjustment device OP



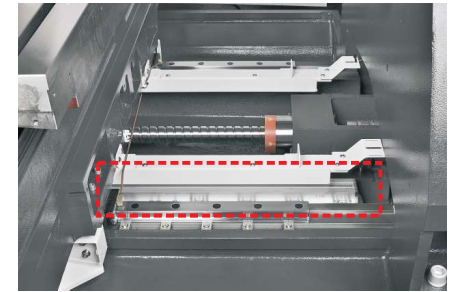
Programmable nozzle adjusting device: you may add M code in machining scripts to change nozzle angle according to tool length during machining.

11 Coolant through spindle device and filter OP



With the addition of the coolant through spindle system, the cutting coolant passes through the center of the spindle and is ejected at the tip of cutter to directly cool the workpiece and the cutting blade of the cutter by removing the heat generated from cutting in order to ensure excellent cutting quality, and it is suitable for component parts of deep hole processing.

12 High Precision Linear Scale OP

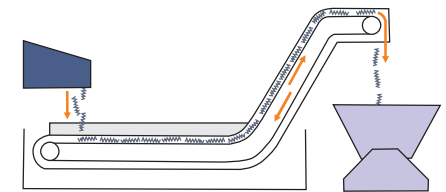


The X/Y/Z-axis can be equipped with a linear scale system to detect thermal displacement due to rapid movement of the machine. The thermal displacement result will be sent to the controller for compensation, suitable for high precision parts machining.

Chip Management

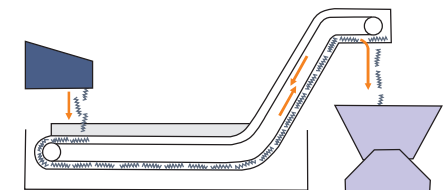
13 chain type chip conveyor OP

Suitable for chip length from 30-150mm



14 scraper type chip conveyor OP

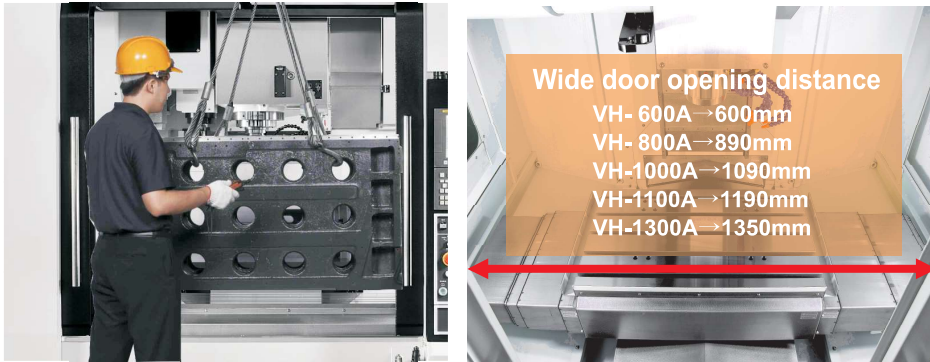
scraper type chip conveyor can remove the long and curl chips through outer channel; and remove the coolant and small chips through inner channel.



Standard Function - Optional Function

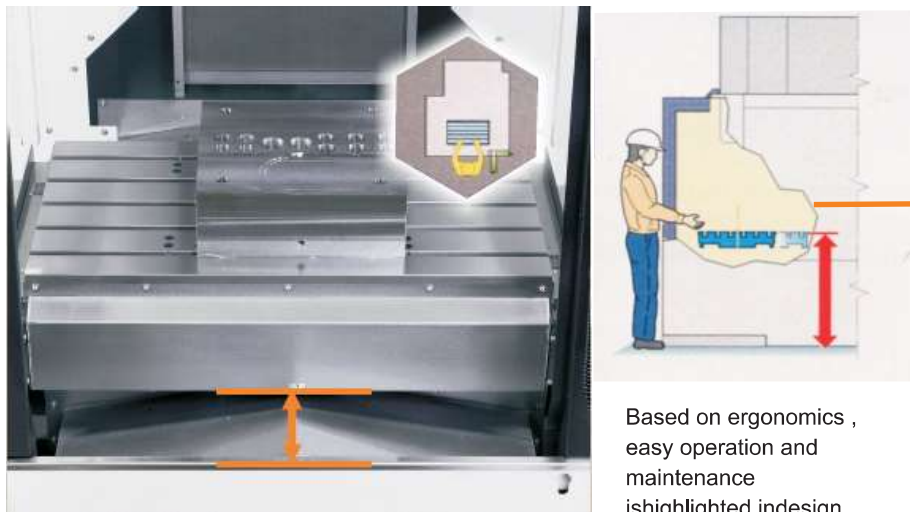
Front and top door in one piece.

Wide opened front for easier loading/unloading.



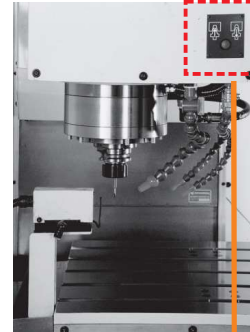
Operator close to table and spindle.

Operator can easily approach workpiece.



Based on ergonomics ,
easy operation and
maintenance
ishighlighted in design.

Tool clamp/unclamp button



Operator can easily
clamp or unclamp
the tool from the
front.

Rotatable operation panel



Ergonomic operation
panel design.

Full ATC guard

Full ATC guarding
can prevent dust or
chip go inside
the ATC.

Removable side doors.

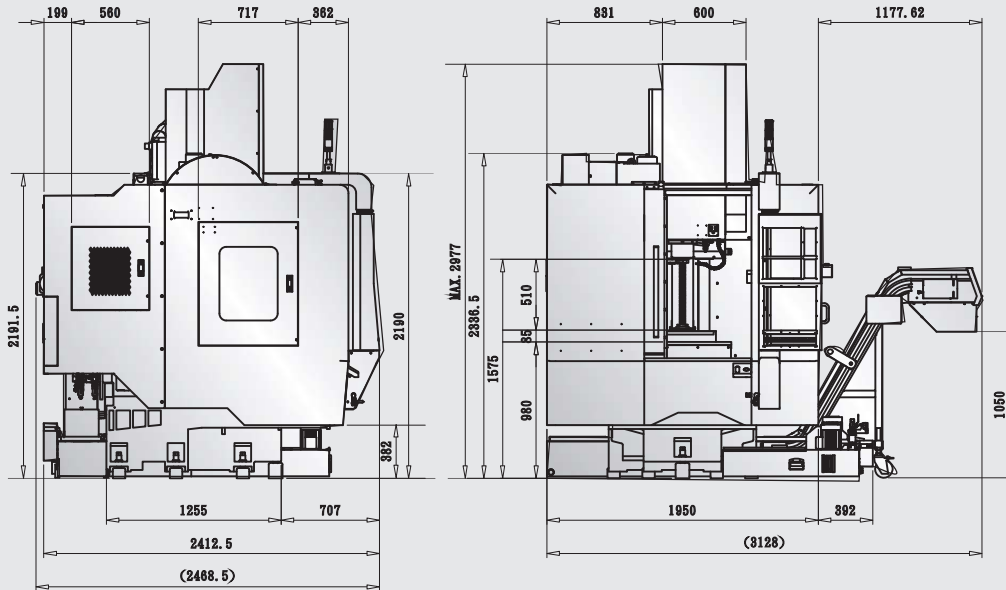
Removable side
doors help easier
maintenance
and clean.



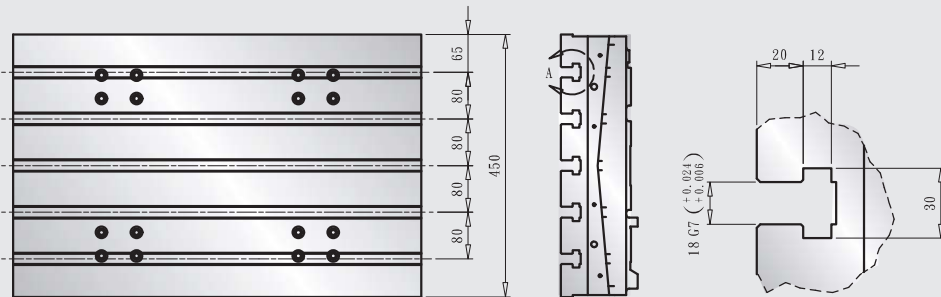
Machine Layout

Unit: mm

Outline Dimensions (VH-600A)



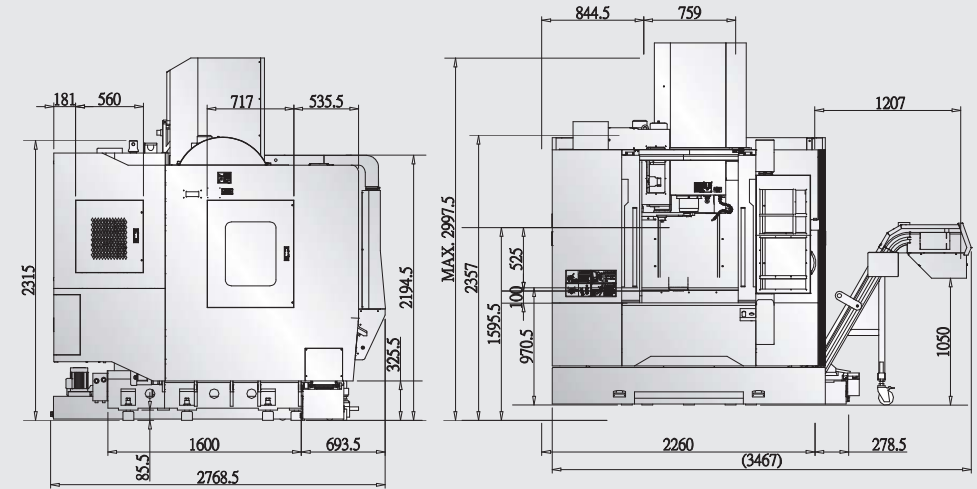
Worktable Dimensions



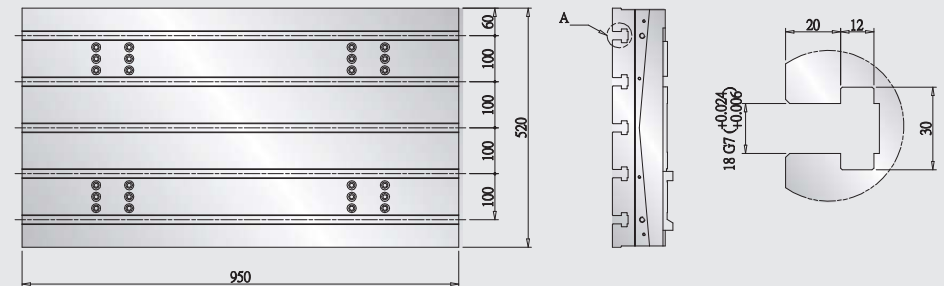
VERTICAL MACHINING CENTERS 14 LITZ HITECH CORP.

Outline Dimensions (VH-800A)

Unit: mm



Worktable Dimensions

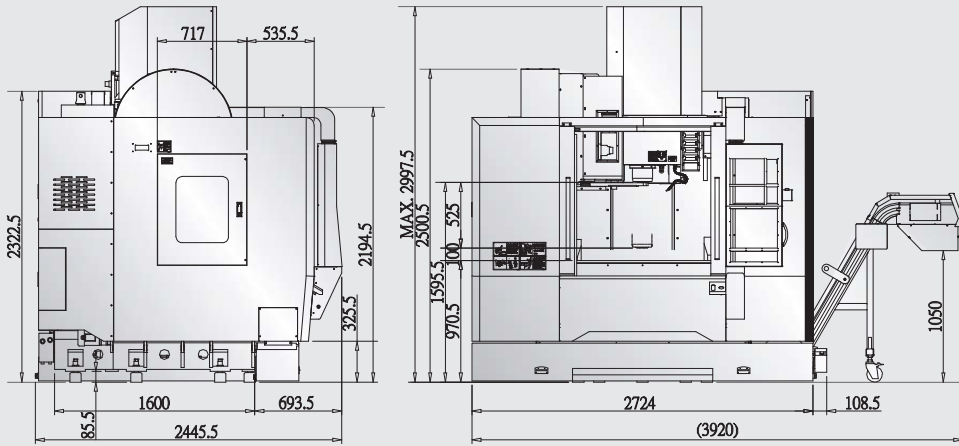


VERTICAL MACHINING CENTERS 15 LITZ HITECH CORP.

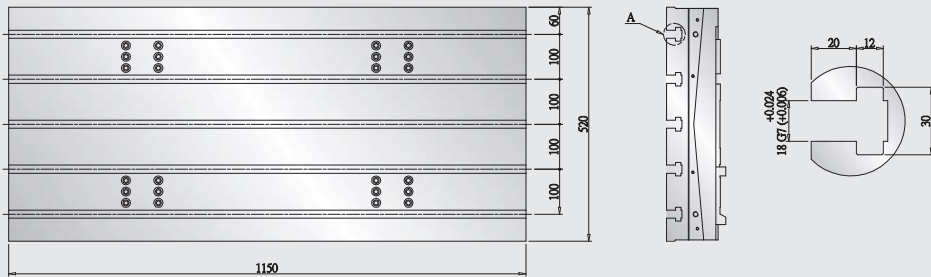
Machine Layout

Unit: mm

Outline Dimensions (VH-1000A)

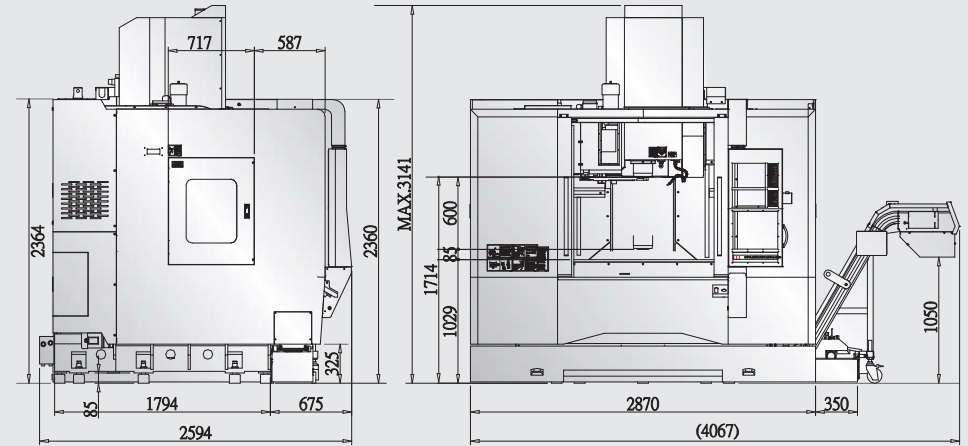


Worktable Dimensions

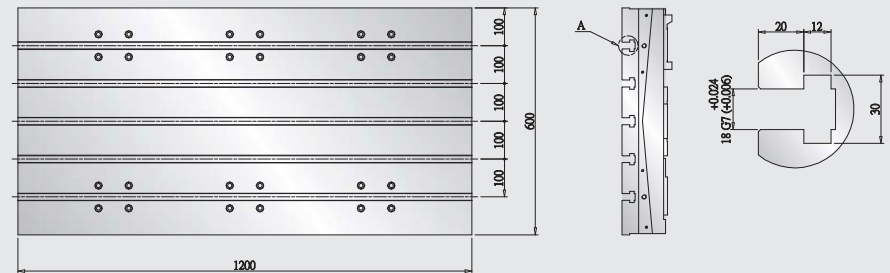


Outline Dimensions (VH-1100A)

Unit: mm



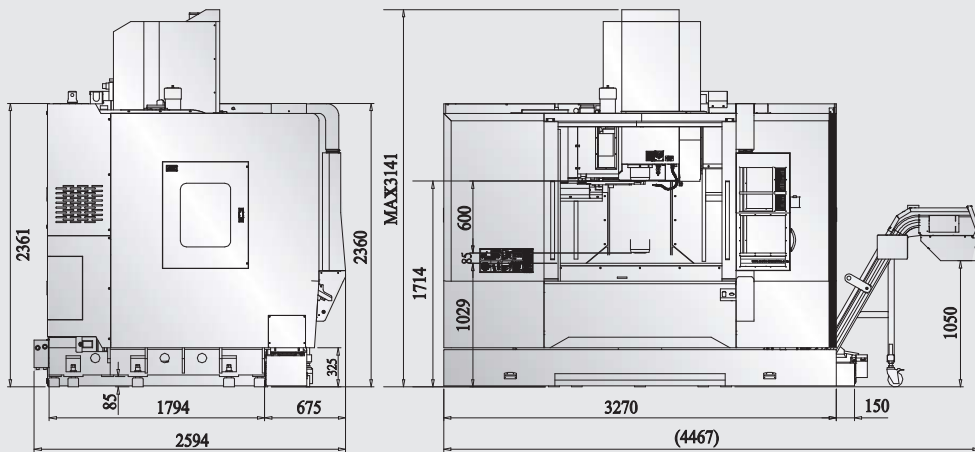
Worktable Dimensions



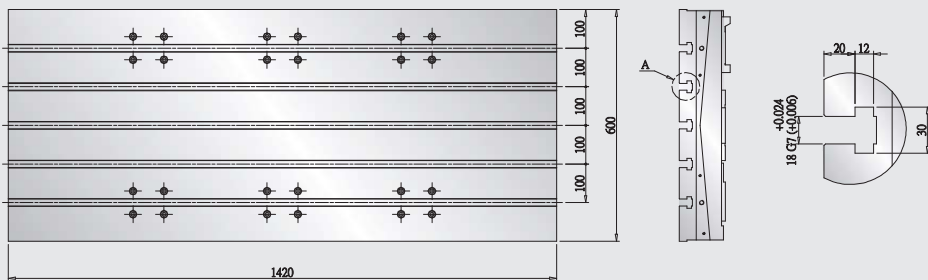
Machine Layout

Outline Dimensions (VH-1300A)

Unit: mm

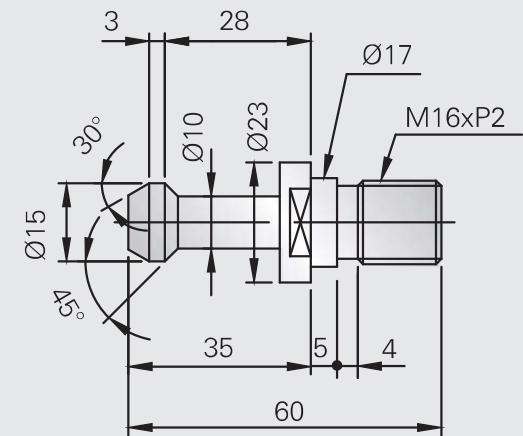
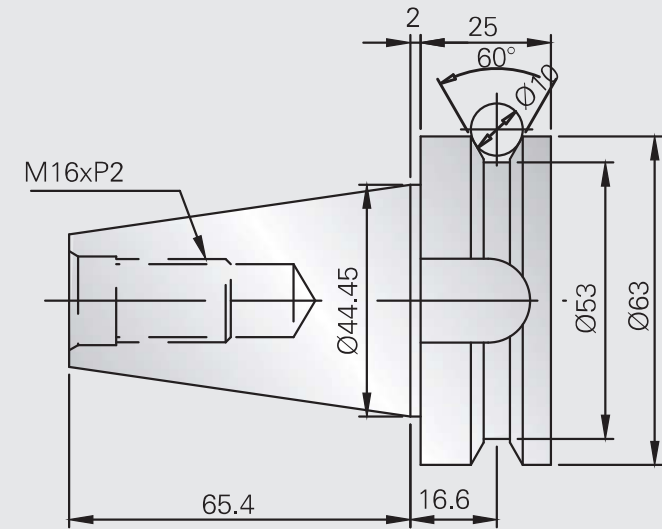


Worktable Dimensions



BBT-40

Unit: mm



Machine Specifications

			VH-600A	VH-800A	VH-1000A	VH-1100A	VH-1300A
Travels for 3-axes	X-axis Travel	mm	610	800	1000	1100	1300
	Y-axis Travel	mm	450	540	540	610	610
	Z-axis Travel	mm	510	525	525	600	600
	Spindle nose to worktable surface	mm	85~595	100~625	100~625	85~685	85~685
	Spindle center to Z rail surface	mm	490	570	570	655	655
	Table surface to floor	mm	940	970	970	1030	1030
Spindle	Spindle Speed	RPM	12000	12000	12000	12000	12000
Automatic Tool Changing System	Number of Tools	T	24	24	24	24	24
	Max. tool length	mm	200	300	300	300	300
	Max. tool weight	kg	7	7	7	7	7
	Tool changing method		ARM	ARM	ARM	ARM	ARM
	Tool specification		BBT-40	BBT-40	BBT-40	BBT-40	BBT-40
Motor	Spindle motor	kw	11/15	11/15	11/15	15/18.5	15/18.5
	Motors on X/Y/Z-axis	kw	3 / 3 / 4	3 / 3 / 4	3 / 3 / 4	4 / 4 / 4	4 / 4 / 4
Worktable	Worktable area	mm	700x450	950x520	1150x520	1200x600	1420x600
	Worktable max. load capacity	kg	350	500	500	1000	1000
	T-slot Width	mm	18	18	18	18	18
	T-slot	No.	5	5	5	5	5
	T-slot Distance from the center	mm	80	100	100	100	100
Rapid Speed	X-axis rapid speed	M/min	60	60	60	48	48
	Y-axis rapid speed	M/min	60	60	60	48	48
	Z-axis rapid speed	M/min	30	30	30	24	24
Controller	FANUC		0i-MF PLUS 3	0i-MF PLUS 3	0i-MF PLUS 3	0i-MF PLUS 3	0i-MF PLUS 3
Miscellaneous	Machine Weight	Kg	4620	6700	7000	7300	7600
	Coolant Tank Capacity	L	275	355	370	440	460
	Power Consumption	KVA	25	25	25	35	35
	Compressed air source	kg/cm ²	6	6	6	6	6

- All the photos contained herein are for reference only. In case of any discrepancy with the actual machine parts, the actual machine shall prevail.
- LITZ reserves the right to modify the product specifications, appearance, equipment or discontinue the products.

Equipment List

	VH-600A	VH-800A	VH-1000A	VH-1100A	VH-1300A
Spindle					
Spindle speed: 8000 RPM (Direct-drive)	—	—	—	—	—
Spindle speed: 1000 RPM (Direct-drive)	—	—	—	—	—
Spindle speed: 12000 RPM (Direct-drive)	●	●	●	●	●
Spindle speed: 15000 RPM (Direct-drive)	○	○	○	○	○
Spindle speed: 15000 RPM (Build-in)	○	○	○	○	○
Spindle speed: 20000 RPM (Build-in)	○	○	○	○	○
Spindle water chiller(a must for build-in spindle)	○	○	○	○	○
Spindle dust-proof air-sealing system	●	●	●	●	●
Cooling System					
Spindle external programmable air blow system	●	●	●	●	●
Stop block for oil feed tool holder	○	○	○	○	○
Splash ring(arm type only)	○	○	○	○	○
Coolant cooling system	○	○	○	○	○
Chip Removal System					
Chip auger inside the machine	●	●	●	●	●
Chip conveyor	○	○	○	○	○
Chip cart	●	●	●	●	●
Coolant gun for machine cleaning	●	●	●	●	●
Air gun for machine cleaning	●	●	●	●	●
Wash down device	○	○	○	○	○
Fully-covered sheet metal	●	●	●	●	●
Measurement System					
Tool length measurement system	○	○	○	○	○
Workpiece measurement system	○	○	○	○	○
Production and Workshop					
Production management and network service	☆	☆	☆	☆	☆
Human-Machine Interface -intelligent machine	☆	☆	☆	☆	☆
Oil Mist Collector	○	○	○	○	○

	VH-600A	VH-800A	VH-1000A	VH-1100A	VH-1300A
Oil/coolant separator					
Disc type oil/coolant separator	○	○	○	○	○
Machine oil/coolant separation system	●	●	●	●	●
ATC System					
Automatic Tool Changer Mechanism (ATC)	●	●	●	●	●
BBT-40 tool specification	●	●	●	●	●
BBT-50tool specification	—	—	—	—	—
Arm type tool magazine 24T	●	●	●	●	●
Arm type tool magazine 30T	—	○	○	—	—
Arm type tool magazine 32T	—	○	○	○	○
3-Axes Transmission System					
3-axes coolant thru ballscrew(CTB)	○	○	○	○	○
3-axes linear roller guideway	○	○	○	○	○
3-axes linear scale	○	○	○	○	○
Z-axis brake motor system	●	●	●	●	●
Controller					
Mitsubishi M80	●	●	●	●	●
FANUC 0iMF	○	○	○	○	○
Siemens 828D	☆	☆	☆	☆	☆
Electrical Parts					
Work light	●	●	●	●	●
Alarm indicator	●	●	●	●	●
M30 automatic power off system	●	●	●	●	●
Heater exchanger for electrical cabinet	●	●	●	●	●
Air-conditioner for electrical cabinet	○	○	○	○	○
Miscellaneous					
4th Axis (rotating table)	○	○	○	○	○

● Standard ○ Options ☆ Upon request