熱情領導 · 創新科技

# VC Series

600
800
1000
1200

Manufacturer


***Litz Hitech Corp.***
No.18, Yu 9 Road, Yu-Shih Industrial Park,
Tachia District, Taichung City, Taiwan
TEL: +886-4-26815711
FAX: +886-4-26815108
E-mail: sales@litzhitech.com
http://www.litzhitech.com

***Litz Machine Tools (JiaXing) Corp.***
No.1398 Hefeng Road, Jiaxing, Zhejiang
TEL: +86-573-82222735
FAX: +86-573-82222739
E-mail: sales.jl@litzhitech.com
http://www.litzchina.cn


Welcome to Litz website for more information

Dealer

2023.A

Vertical machining center

## High Performance Machining Center

# High rigidity, high-precision structure design

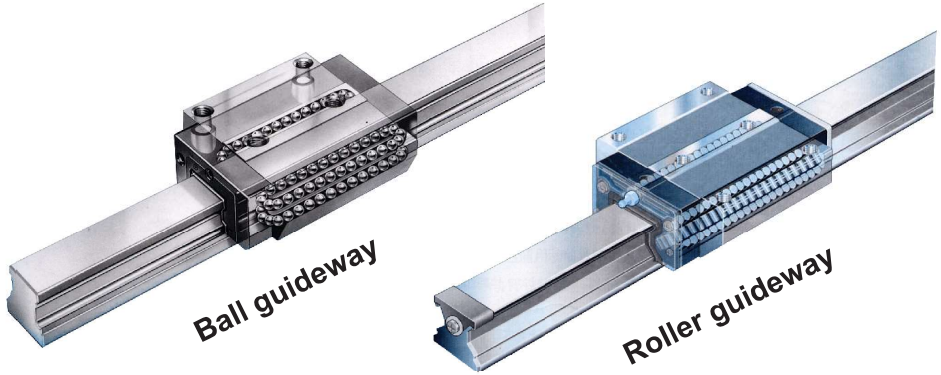
- The major construction parts are based on Meehanite cast iron, which is stable in structure and long-term quality is assured.
- Casting parts are calculated and analyzed by the finite element method. Proper structure strength combined with enhanced ribs provides high rigidity for the machine.
- A linear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

VC-1000A

- 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.

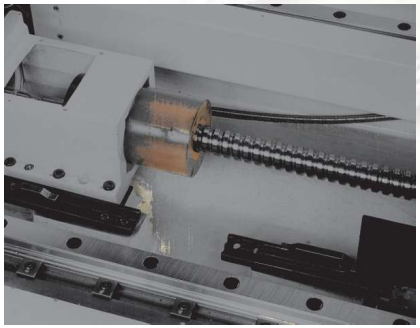
VC-1000A

# Linear Guideway with High Speed and High Precision



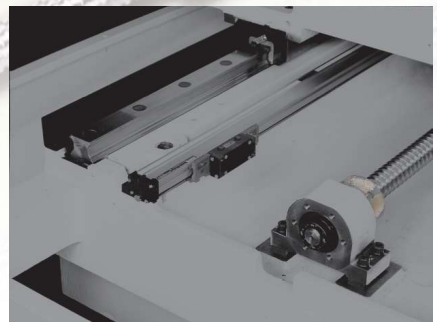

- A linear guideway with zero backlash ensures a consistent cutting surface on curved or tilted surfaces.
- Suitable for high speed operation and the horsepower requirement is minimized.
- By using rolling contact instead of sliding contact, the linear guide reduces the friction loss and increases the sensitivity and positioning precision.
- Capable of taking loads from all directions simultaneously. Multiple point contacts of the rail contact surface under loads, the cutting rigidity will not be compromised.
- Easy to assemble with interoperability. The lubrication mechanism is simple.
- Tiny wear and tear of linear guideways, long service time.

## Collision Protection Device



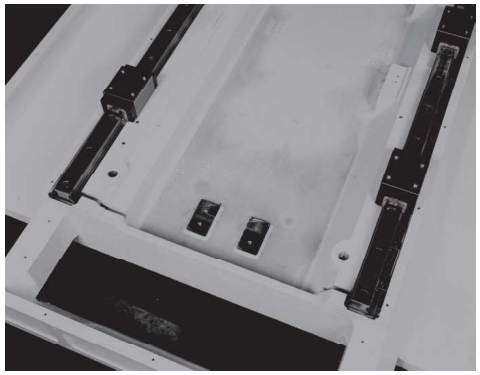
- The machine is equipped with a collision protection device which can absorb collisions due to machine malfunctions or mistakes made by operators. The damage caused by the collision can be minimized and still maintain the design precision.

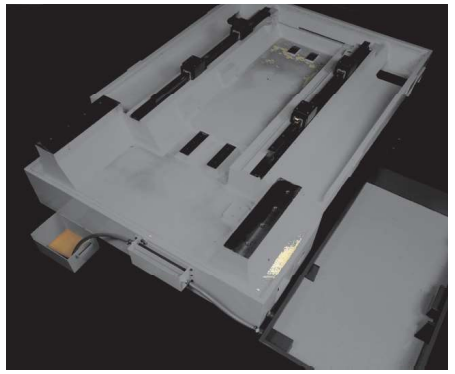
## High Precision Linear Scale OP



- 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.
- 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



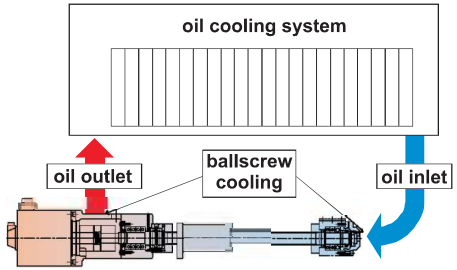


- The oil/coolant separating design can separate lubricating oil and coolant effectively. Coolant quality will not be reduced due to mixing and the machining quality can be assured.

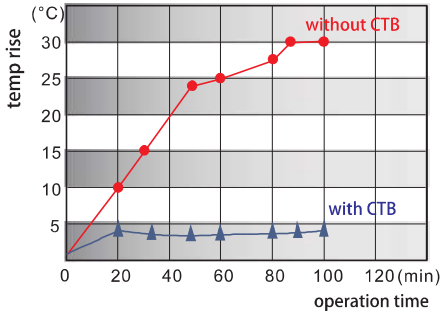
## 3-axis coolant through the ballscrew OP

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

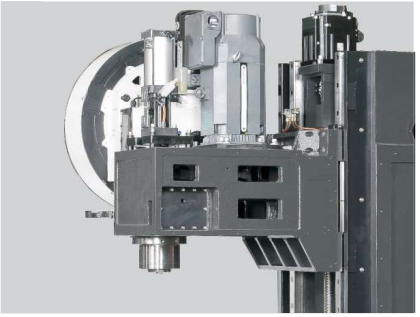



### Effectiveness Graph



# Spindle Transmission

## belt drive system



## Machine Specifications

**Machine :** VC-800A/1000A/1200A

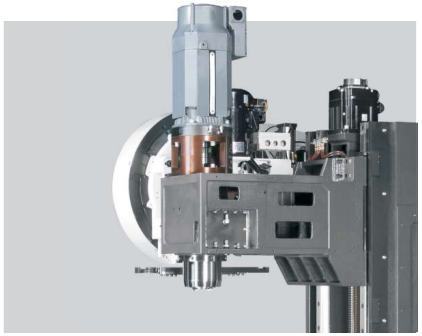
**Spindle Speed:**10000rpm

**Spindle Power:**11/15kw18.5kw

**Spindle Torque:**70/95.5/118 N-m

**Tool specification:**BT-40

## Direct-drive system OP



## Machine Specifications

**Machine :** VC-800A/1000A/1200A

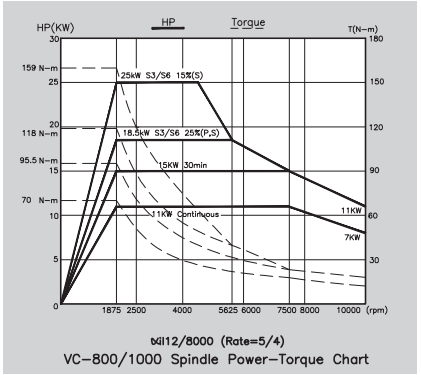
**Spindle Speed:**10000rpm

**Spindle Power:**11/15kw18.5kw

**Spindle Torque:**70/95.5/127 N-m

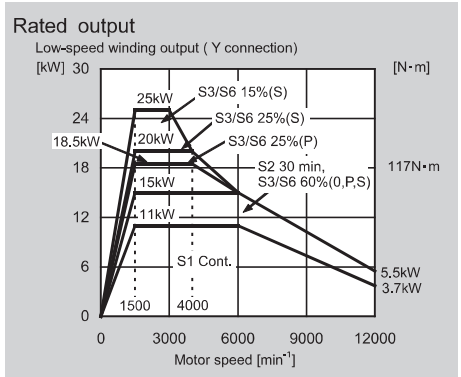
**Tool specification:**BT-40

## belt drive system Power graph




VC-800A/1000A/1200A

## Direct-drive system Power graph

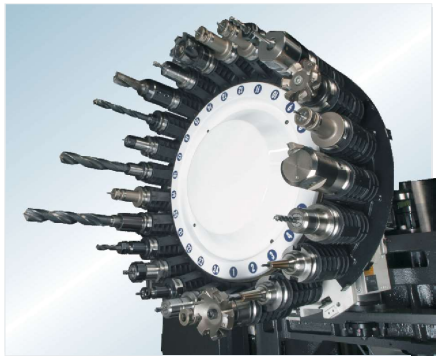



VC-800A/1000A/1200A

## 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 (With barrel)



| Max. tool length (mm) | Max. tool dia. (mm) |
|---|---|
| VC-600A=200 | 80/125 |
| VC-800A=300 | 80/125 |
| VC-1000A=300 | 80/125 |
| VC-1200A=300 | 80/125 |

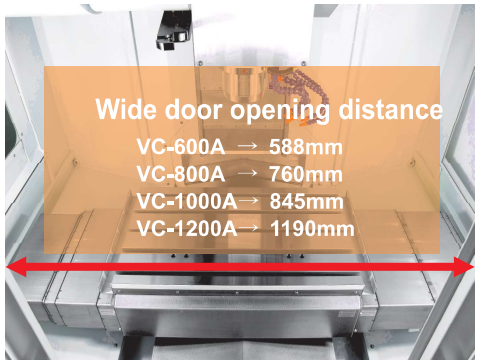
## 32 tools (With barrel) OP

| Max. tool length (mm) | Max. tool dia. (mm) |
|---|---|
| VC-800A=300 | 75/125 |
| VC-1000A=300 | 75/125 |
| VC-1200A=300 | 75/125 |

- The tool changer mechanism has been subject to a million times of operating tests to satisfy the requirements of high reliability.
- The rapid tool changer mechanism saves non-cutting time, and therefore increases production efficiency.
- The cam drive mechanism of the magazine ensures precise rotation and smooth operation of the magazine, even for heavy tools.
- Tool magazines with 24 stations and 32 stations are available for selection.

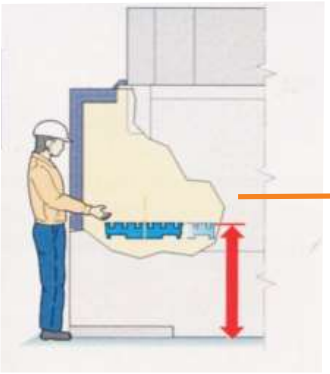
## Front and top door in one piece.

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 indesign.

## 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

## 1 Lighting System

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

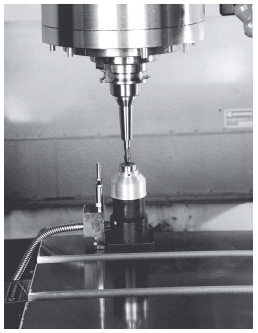
## 2 Portable MPG

Portable hand wheel beneficial to operation flexibility.

## 3 Full enclosed ATC

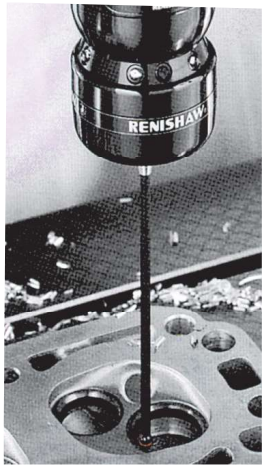
Full enclosed ATC design to prevent duct or oil mist go inside the ATC area.

## 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 o send CNC message and receive from M12 interface

System characteristics

- Signal transmission range: MP10 is used for 3degree or70 degree, minimum at 130 degree
- 360-dgree inspection is limited to a maximum length of6m.
- Battery lifetime allows continuosuse 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.

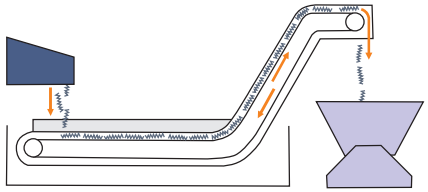
## 9 Spindle oil cooling system OP

- In order to reduce the footprint, we placed the oil chiller onto bracket.
- Oil chiller can efficaciously control the spindle at a consistent temperature

## 11 Oil MistCollector OP

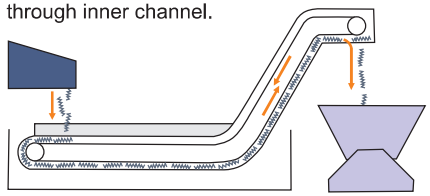
## 12 Chain type chip conveyor OP

Suitable for chip length from 30-150mm



## 13 Scraper type chip conveyor OP

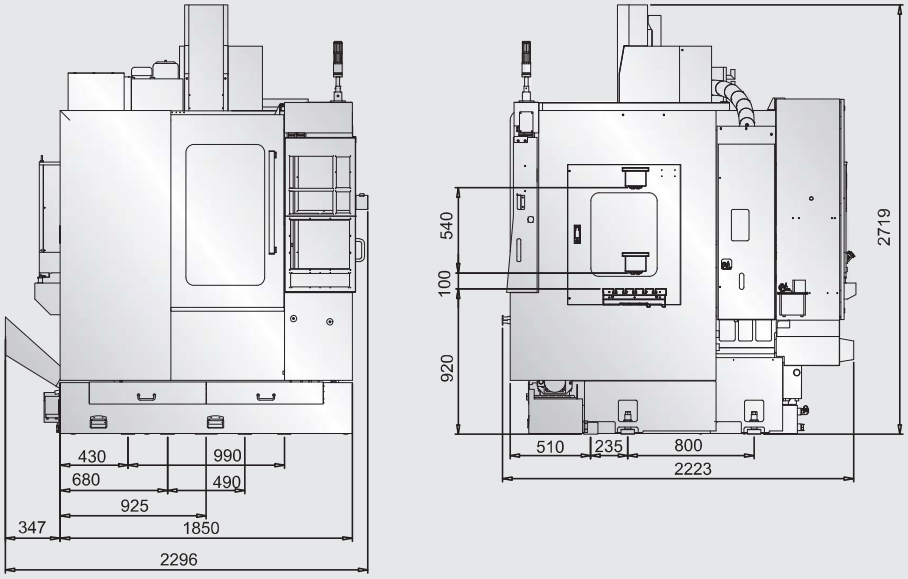
scraper tynechip conveyorcan remove the long and curl chips through outer channel; andremovethecoolant and small chips through inner channel.



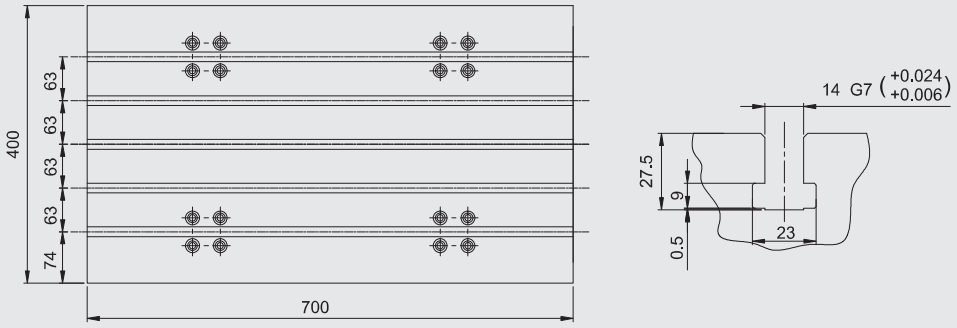
# Machine Layout

Unit:mm

## VC-600A



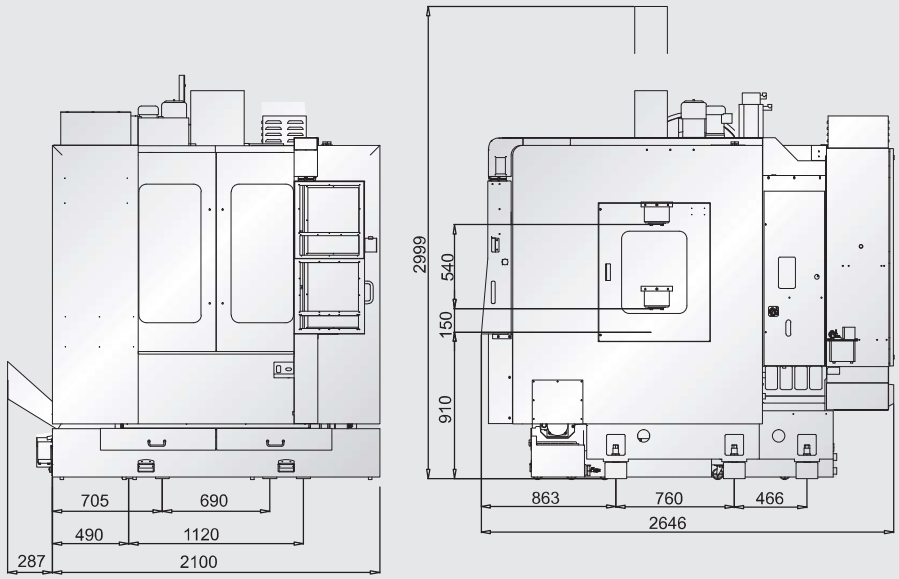

## Worktable Dimensions VC-600A



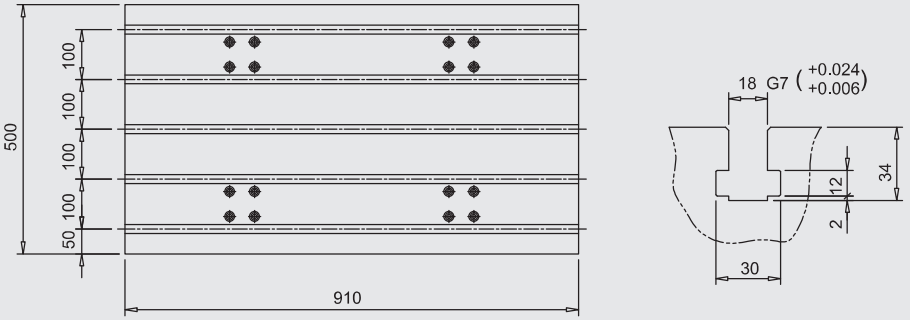



Unit:mm

## VC-800A



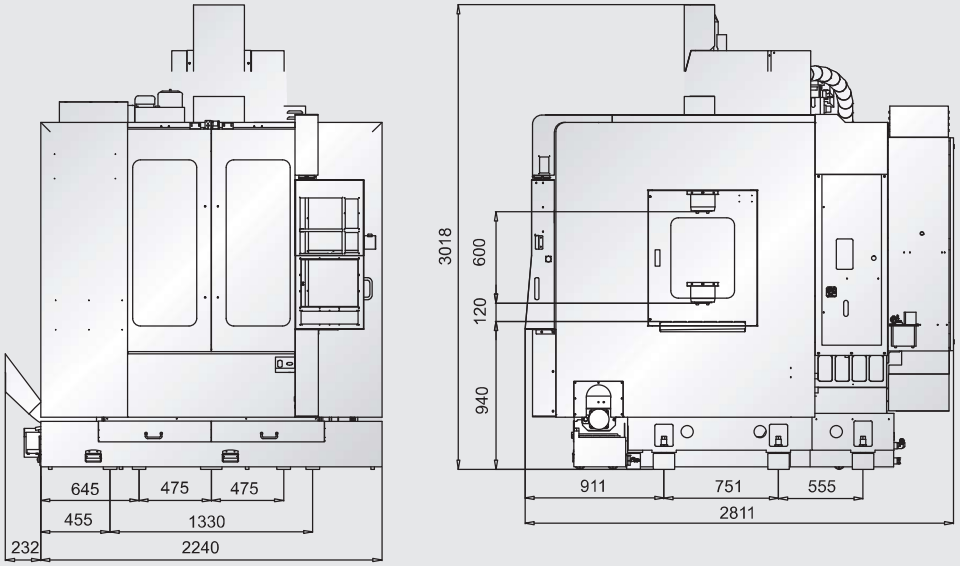

## Worktable Dimensions VC-800A



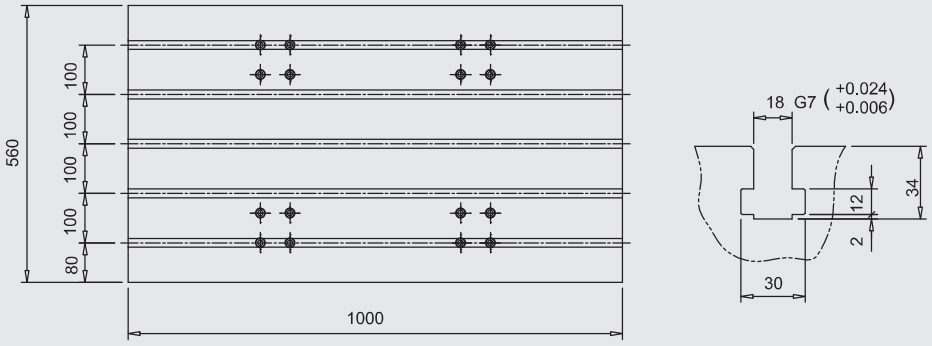
# Machine Layout

Unit:mm

## VC-1000A



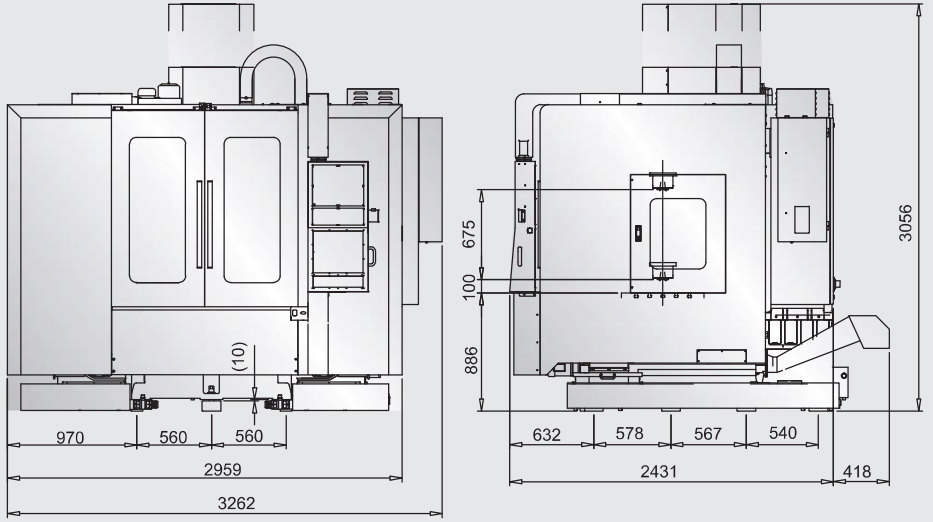

## Worktable Dimensions VC-1000A



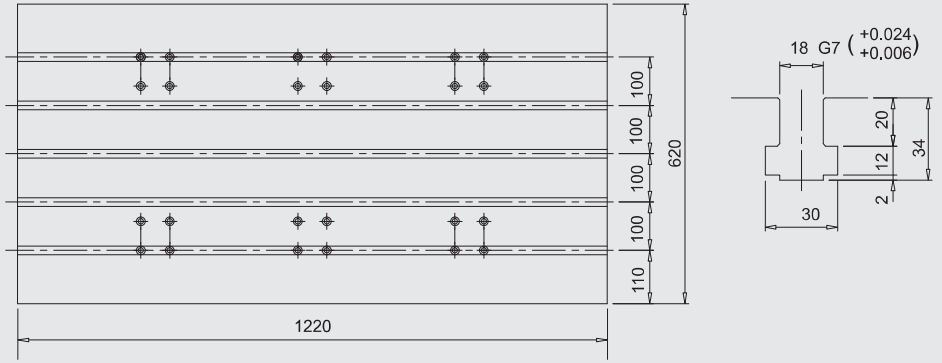



Unit:mm

## VC-1200A




## Worktable Dimensions VC-1200A



# Machine Specifications

Machine Specifications

| Model | | VC-600A | VC-800A | VC-1000A | VC-1200A(B) |
|---|---|---|---|---|---|
| **Travel** | | | | | |
| X Axis Travel | mm | 600 | 800 | 1020 | 1200 |
| Y Axis Travel | mm | 410 | 500 | 560 | 600 |
| Z Axis Travel | mm | 540 | 540 | 600 | 675 |
| Spindle Nose to Table Surface | mm | 100~640 | 150~690 | 120~720 | 100~775 |
| **Spindle** | | | | | |
| Spindle Speed | rpm | 10000 | 10000 | 10000 | 10000(6000) |
| **Automatic Tool Change (ATC) System** | | | | | |
| Magazine Capacity | | 24 | 24 | 24 | 24 |
| Maximum Tool Diameter | mm | 80/125 | 80/125 | 80/125 | 80/125 |
| Maximum Tool Length | mm | 200 | 300 | 300 | 300 |
| Maximum Tool Weight | kg | 7 | 7 | 7 | 7(15) |
| Tool Changing Type | | ARM | ARM | ARM | ARM |
| Tool Shank | | BT-40 | BT-40 | BT-40 | BT-40(BT-50) |
| **Motor** | | | | | |
| Spindle Motor | kw | 5.5/7.5 | 11/15 | 11/15 | 11/15(15/18.5) |
| X/Y/Z Axes Motor | kw | 1.6/1.6/3.0 | 3/3/4 | 3/3/4 | 3/3/4 (4/4/4) |
| **Work Table** | | | | | |
| Work Table size | mm | 700x400 | 910x500 | 1000x560 | 1220x620 |
| Work Table Maximum Loading | kg | 350 | 500 | 750 | 1000 |
| T Slot (Slot x Width x Center Distance) | mm | 5x14x63 | 5x18x100 | 5x18x100 | 5x18x100 |
| **Rapid Speed** | | | | | |
| X Axis Rapid Speed | M/min | 36 | 36 | 36 | 24 |
| Y Axis Rapid Speed | M/min | 36 | 36 | 36 | 24 |
| Z Axis Rapid Speed | M/min | 24 | 24 | 24 | 20(18) |
| Cutting Feedrate | mm/min | 1-20000 | 1-20000 | 1-20000 | 1-20000 |
| **Controller** | | | | | |
| FANUC | | OIMF PLUS | OIMF PLUS | OIMF PLUS | OIMF PLUS |
| **Miscellaneous** | | | | | |
| Machine Weight | kg | 4200 | 5300 | 7500 | 8500(9000) |
| Power Consumption | KVA | 15 | 25 | 25 | 35 |
| Coolant Tank Capacity | L | 200 | 250 | 290 | 360 |
| Pneumatic Supply | $kg/cm^2$ | 6 | 6 | 6 | 6 |

- All pictures of this catalog are for reference only, in case of inconsistent with the actual machine, the actual machine shall prevail.
- The Company reserves the rights of the product specifications, appearance, equipment change or suspension of use.

# List of Accessori

| | VC-600A | VC-800A | VC-1000A | VC-1200A | VC-1200B |
|---|---|---|---|---|---|
| **Spindle** | | | | | |
| Spindle Speed:6000RPM(belt) | --- | --- | --- | --- | ● |
| Spindle Speed:8000RPM(belt) | --- | --- | --- | --- | ○ |
| Spindle Speed:10000RPM(belt) | ● | ● | ● | ● | --- |
| Spindle Speed:12000RPM(belt) | ○ | ○ | ○ | ○ | --- |
| Spindle Speed:8000RPM(Direct-drive) | --- | --- | --- | --- | ○ |
| Spindle Speed:10000RPM(Direct-drive) | --- | --- | --- | --- | ○ |
| Spindle Speed:12000RPM(Direct-drive) | ○ | ○ | ○ | ○ | --- |
| Spindle Speed:15000RPM(Direct-drive) | ○ | ○ | ○ | ○ | --- |
| Spindle Speed:15000RPM(Build-in) | --- | ○ | ○ | ○ | --- |
| Spindle Speed:20000RPM(Build-in) | --- | ○ | ○ | ○ | --- |
| Spindle dust-proof air-sealing system | ● | ● | ● | ● | ● |
| **Cooling System** | | | | | |
| Spindle 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 | ● | ● | ● | ● | ● |
| Water debris in the same direction | ○ | ○ | ○ | --- | --- |
| 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 | ○ | ○ | ○ | ○ | ○ |

| | VC-600A | VC-800A | VC-1000A | VC-1200A | VC-1200B |
|---|---|---|---|---|---|
| **Oil Separator Oil/coolant separator** | | | | | |
| Disc type oil/coolant separator | ○ | ○ | ○ | ○ | ○ |
| Machine oil/coolant separation System | ● | ● | ● | ● | ● |
| **ATC Tool Change** | | | | | |
| Automatic Tool Change (ATC) System | ● | ● | ● | ● | ● |
| BT-40 tool specification | ● | ● | ● | ● | --- |
| BT-50 tool specification | --- | --- | --- | --- | ● |
| ATC Magazine Tool number 24T | ● | ● | ● | ● | ● |
| ATC Magazine Tool number 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** | | | | | |
| FANUC 0iMF-Plus | ● | ● | ● | ● | ● |
| Mitsubishi M80 | ○ | ○ | ○ | ○ | ○ |
| Siemens 828D | ○ | ○ | ○ | ○ | ○ |
| **Electrical** | | | | | |
| Working Light | ● | ● | ● | ● | ● |
| Alarm Light | ● | ● | ● | ● | ● |
| M30 automatic power off system | ● | ● | ● | ● | ● |
| Heat exchanger for electric cabinet | ● | ● | ● | ● | ● |
| Air-conditioner for electrical cabinet | ○ | ○ | ○ | ○ | ○ |
| **Others Miscellaneous** | | | | | |
| 4th Axis(Rotating Axis) | ○ | ○ | ○ | ○ | ○ |
| Oil Mist Collector | ○ | ○ | ○ | ○ | ○ |

● Standard Accessories ○ Optional Accessories