

SV-110 series

| Item/Model | Unit | SV-85 | SV-85S | SV-110 | SV-110S | SV-130 | SV-130S |
|------------------------|--|-------------|--------|---|---------|--------------|---------|
| Travel | Max. travel range of X/Y/Z | 850x600x600 | | 1100x600x600 | | 1300x600x600 | |
| | Spindle nose to table surface | | | 100-700 | | | |
| Work Table | Table size | 1000X600 | | 1150x600 | | 1350x600 | |
| | T-Slot (WxNo.xP) | | | 18x5x100 | | | |
| Spindle | Max. loading capacity | 800 | | 900 | | 1000 | |
| | Spindle taper | | | BT-40 | | | |
| Spindle | Spindle speed | | | 10000 | | | |
| | Spindle motor | | | 7.5/11 | | | |
| Spindle | Spindle driven type | Belt | D.D.S. | Belt | D.D.S. | Belt | D.D.S. |
| | Rapid traverse speed of X/Y/Z | | | 36/36/30 | | | |
| Feed Rate | Max. cutting feed rate of X/Y/Z | | | 1-12 | | | |
| | Servo motor of X/Y/Z | | | Mitsubishi: 3.5/3.5/3.5B Fanuc: 3.0/3.0/4.0B | | | |
| Automatic Tool Changer | ATC type | | | Arm Type | | | |
| | Tool capacity | | | 24T | | | |
| | Max. tool diameter | | | Ø70 | | | |
| | Max. tool length | | | 250 | | | |
| | Max. tool weight | | | 7 | | | |
| | Max. tool diameter without adjacent tool | | | 150 | | | |
| Other | Tool change time (T to T) | | | 1.8 | | | |
| | Machine dimension (LxW) | 2700x2265 | | 2900x2265 | | 3350x2265 | |
| Other | Machine height | | | 2895 | | | |
| | Net weight | 6700 | 6800 | 6900 | 7000 | 7200 | 7300 |
| Other | Total required power | | | 25 | | | |

SV-1165 series

| Item/Model | Unit | SV-865 | SV-865S | SV-1165 | SV-1165S | SV-1365 | SV-1365S |
|------------------------|--|-------------|---------|---|----------|--------------|----------|
| Travel | Max. travel range of X/Y/Z | 850x650x600 | | 1100x650x600 | | 1300x650x600 | |
| | Spindle nose to table surface | | | 100-700 | | | |
| Work Table | Table size | 1000X650 | | 1250x650 | | 1400x650 | |
| | T-Slot (WxNo.xP) | | | 18x5x100 | | | |
| Spindle | Max. loading capacity | 800 | | 900 | | 1000 | |
| | Spindle taper | | | BT-40 | | | |
| Spindle | Spindle speed | | | 10000 | | | |
| | Spindle motor | | | 7.5/11 | | | |
| Spindle | Spindle driven type | Belt | D.D.S. | Belt | D.D.S. | Belt | D.D.S. |
| | Rapid traverse speed of X/Y/Z | | | 36/36/30 | | | |
| Feed Rate | Max. cutting feed rate of X/Y/Z | | | 1-12 | | | |
| | Servo motor of X/Y/Z | | | Mitsubishi: 3.5/3.5/3.5B Fanuc: 3.0/3.0/4.0B | | | |
| Automatic Tool Changer | ATC type | | | Arm Type | | | |
| | Tool capacity | | | 24T | | | |
| | Max. tool diameter | | | Ø70 | | | |
| | Max. tool length | | | 250 | | | |
| | Max. tool weight | | | 7 | | | |
| | Max. tool diameter without adjacent tool | | | 150 | | | |
| Other | Tool change time (T to T) | | | 1.8 | | | |
| | Machine dimension (LxW) | 2700x2570 | | 2900x2570 | | 3350x2570 | |
| Other | Machine height | | | 2895 | | | |
| | Net weight | 6800 | 6900 | 7000 | 7100 | 7300 | 7400 |
| Other | Total required power | | | 25 | | | |

*We reserve the right to modify the design and specifications without notice in advance.

Standard & Optional Accessories Chart

● Standard ○ Optional ☆Need to inquire

Spindle

| | |
|-----------------------------------|---|
| Spindle speed: 10000RPM | ● |
| Spindle speed: 12000RPM | ○ |
| Spindle speed: 15000RPM | ○ |
| Spindle speed: 20000RPM(Built-in) | ○ |
| Spindle oil cooler | ● |
| Spindle air sealing | ● |

Cooling system

| | |
|--|----|
| The flushing nozzles near the spindle (controlled by NC program) | ● |
| Spindle coolant ring (Arm type tool magazine only) | ○☆ |
| Coolant flush system | ○ |

Chip removal system

| | |
|-------------------------------|---|
| Screw type chip conveyor | ● |
| Link/chain type chip conveyor | ○ |
| Chip cart | ● |
| Water gun | ● |
| Air gun | ● |
| Chip flushing device | ○ |
| Fully enclosed splash guard | ● |

Measure System

| | |
|--|----|
| Infrared detector of tool breakage | ○ |
| Tool length measurement | ○ |
| Workpiece measurement | ○ |
| CCD(Charge Coupled Device) measurement | ○☆ |

Parts for shipping

| | |
|----------------------------------|---|
| Foundation bolts and blocks | ● |
| Tool box and tools | ● |
| Operation and maintenance manual | ● |

Oil skimmer

| | |
|-----------------------|---|
| Disk type oil skimmer | ○ |
| Oil mist collector | ○ |

ATC system

| | |
|--|---|
| Automatic tool changer(ATC) | ● |
| Spindle taper: BBT-40 | ○ |
| Armless/ geneva drive type tool magazine 20T | ○ |
| Arm type tool magazine 24T | ● |

Transmission system

| | |
|--|----|
| Coolant throught ballscrew(CTB) | ○☆ |
| Roller type linear guideways on 3 axes | ● |
| Linear scales on 3 axes | ○ |
| Z axis motor with brake | ● |
| Automatic lubrication system | ● |

Controller

| | |
|--------------------|---|
| Mitsubishi M80 | ● |
| Fanuc 0i-MF | ○ |
| Siemens 828D | ○ |
| Heidenhain TNC 620 | ○ |

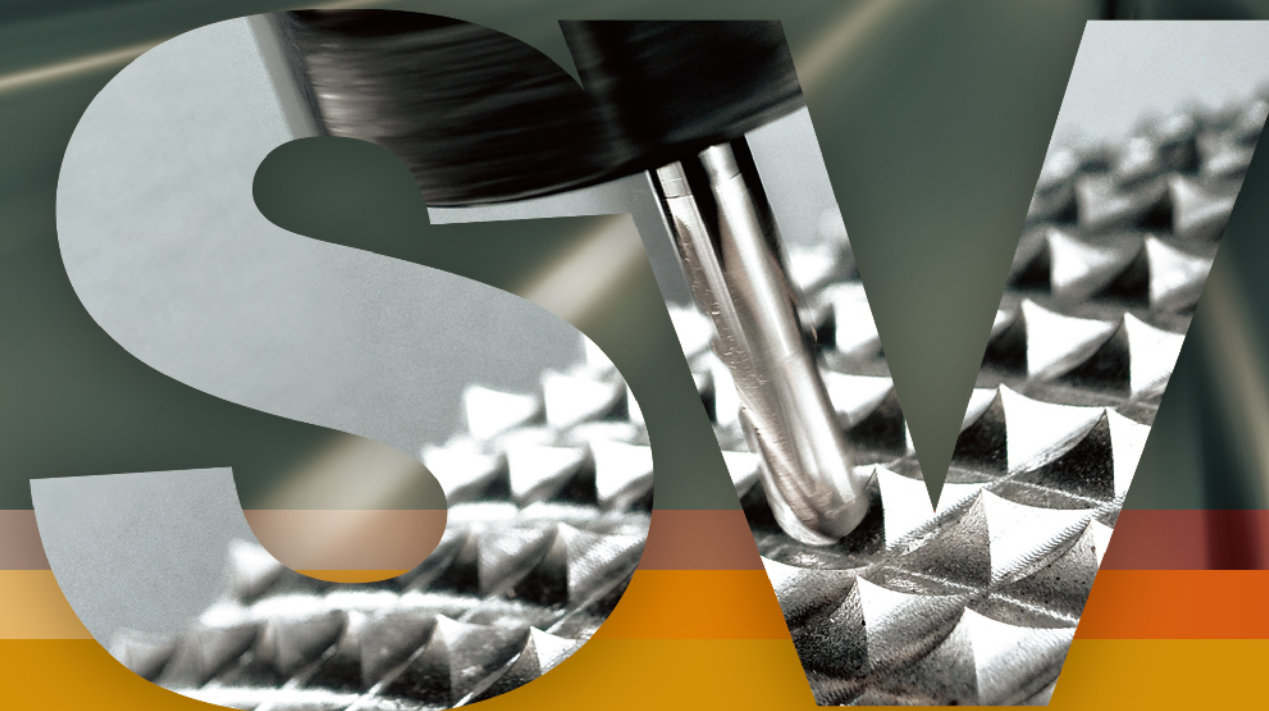
Electrical unit

| | |
|--|---|
| Work lamp | ● |
| 3-color alarm lamp | ● |
| M30 function-for cutting off the electricity automatically (No need to wait& switch off the power when NC program is completed.) | ● |
| Heat exchanger | ● |
| Air conditioner for electrical cabinet | ○ |
| Rigid tapping | ● |

Other

| | |
|---|---|
| 4 th axis rotary table (rotary axis) | ○ |
| CE conformity | ○ |
| Transformer | ○ |

SHINZAWA



SV-110/1165 series

Vertical Machining Center



Attentive in-process management, combined with rigorous quality inspection, equates to maximum operational dependability.

SHINZAWA

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Reinforced Structural Design Exhibits Exceptional Cutting Efficiency and Stability The Best Cost-Performance Choice

New Generation of Vertical Machining Center

Ergonomic Design & Compact Allocation



- The series employs high precision roller type linear guideway.
- The motor mounts on 3 axes are precisely scraped before mounting and carefully pre-tensioned after assembly, enabling the transmission system to achieve lifetime stability.
- The X-axis is equipped with 6 blocks.
- Saddle and table are a box-type construction with an increased height on structural parts, featuring light weight and high rigidity.
- A perfect combination for speed and structural stability.
- Over sized base and column, reinforced column bottom and solid Z-axis structure assure vibration-free cutting.
- Rigid ball screw with double nuts is driven with powerful servo motor.
- Extra wide span between linear guideways effectively upgrades dynamic accuracy.

HIGH SPEED HIGH PRECISION SPINDLE

- The SV series provides a choice of various belt-drive and direct-drive spindles, as well as various motors.
- Each spindle is carefully machined, inspected and precision scraped prior to being attached to the spindle head. This assures superior accuracy, stability and speed.



SERVO DRIVE

Increases overall performance to achieve outstanding result of high speed high precision cutting.

CUTTING PERFORMANCE BEST CHOICE

Extra wide, rugged, low gravity base combined with optimal ratio of spindle headstock results in excellent cutting capacity. The length-to-width ratio is (L/H) 1:1.

- The height of the control panel is ergonomically designed and the control panel could be swiveled from 0°-85°, which makes the operation more smoothly.

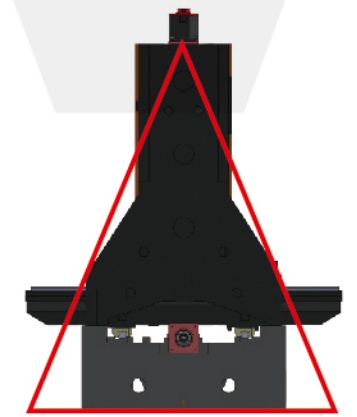


Pneumatic/hydraulic units and their cables are allocated on side panels and covered into modular shape, which is not only an aesthetic design but more convenient for visual management and maintenance.

- The water tank is multi-filter designed which could filter out chips more efficiently and easy for washing as well.



The **Delta**-shape structure design of the column with 1,200 mm wide column span and the enlarged angle slope of both lateral structures ensures the machine rigidity, which makes the axial/radial force from spindle, and the weight of ATC can be conducted adequately.

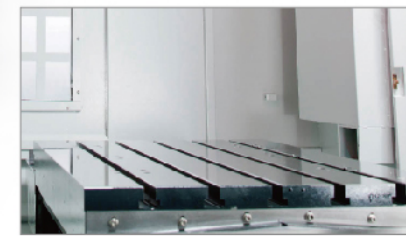


Optimized Operational Performance and Maintenance



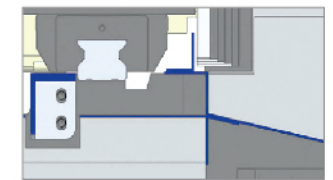
Arm Type ATC

- Fast, simple, dependable and durable ATC provides stable and dependable tool change motions.
- The automatic tool changer is subject to a running test of one million times to guarantee maximum dependability.
- The ATC saves non-cutting time for upgrading production efficiency.
- The absolute encoder is used on the cam box for detecting errors, which also makes the signal transmission more quickly and stable.
- Besides, the PLC is of our own logic design, when errors happened during the tool chaging, the PLC will command the ATC to re-try in order to reduce the possibility of shutdown.



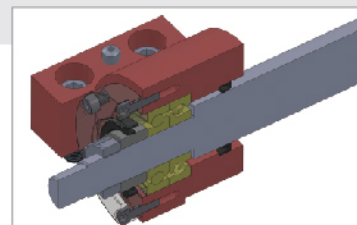
Efficient Chip Removal

The spacious working space combined with tilted guard design and powerful chip flushing system permits fast removal of chips to reduce thermal growth.



Specially Designed Dust Prevention on X/Y Axes

The X/Y axes are specially designed with a labyrinth structure for dust and leak prevention. This design effectively prevents dust and return flow for coolant.



Anchored Ball Screws

- Both ends of ball screws are anchored on the machine by angular contact ball bearings, that features higher rigidity and stability.
- Pretensioned ball screws remove backlash and increase positioning accuracy.



Linear Guide Equipment

The series employs high precision roller type linearways.

The machine is equipped with a Mitsubishi M80-A control (standard) for higher speed and accuracy. An internet interface (front mounted SD card slot & USB port device) is provided for increasing safety and convenience during machining.

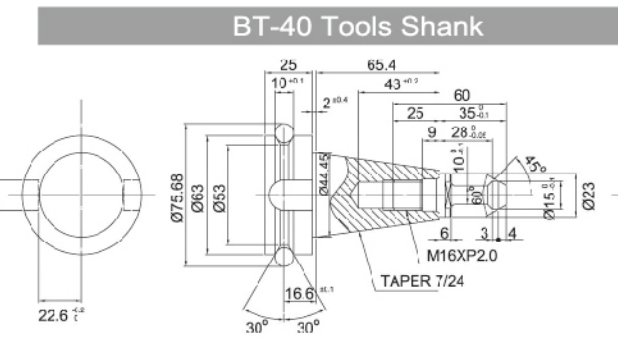
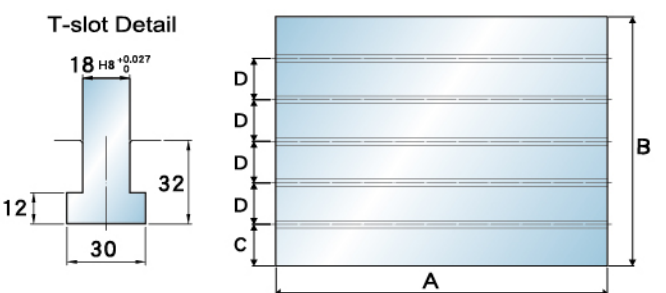


Table Dimensions



| part model | A | B | C | D | No. of T-Slot |
|------------|------|-----|-----|-----|---------------|
| SV-85 | 1000 | 600 | 100 | 100 | 5 |
| SV-865 | 1000 | 650 | 100 | 100 | 5 |
| SV-110 | 1150 | 600 | 100 | 100 | 5 |
| SV-1165 | 1250 | 650 | 100 | 100 | 5 |
| SV-130 | 1350 | 600 | 100 | 100 | 5 |
| SV-1365 | 1400 | 650 | 100 | 100 | 5 |