

# REDEFINING HIGH COST-EFFECTIVENESS

Digital structural analysis and design.  
Outstanding operational performance with user-friendly and convenient maintenance design.



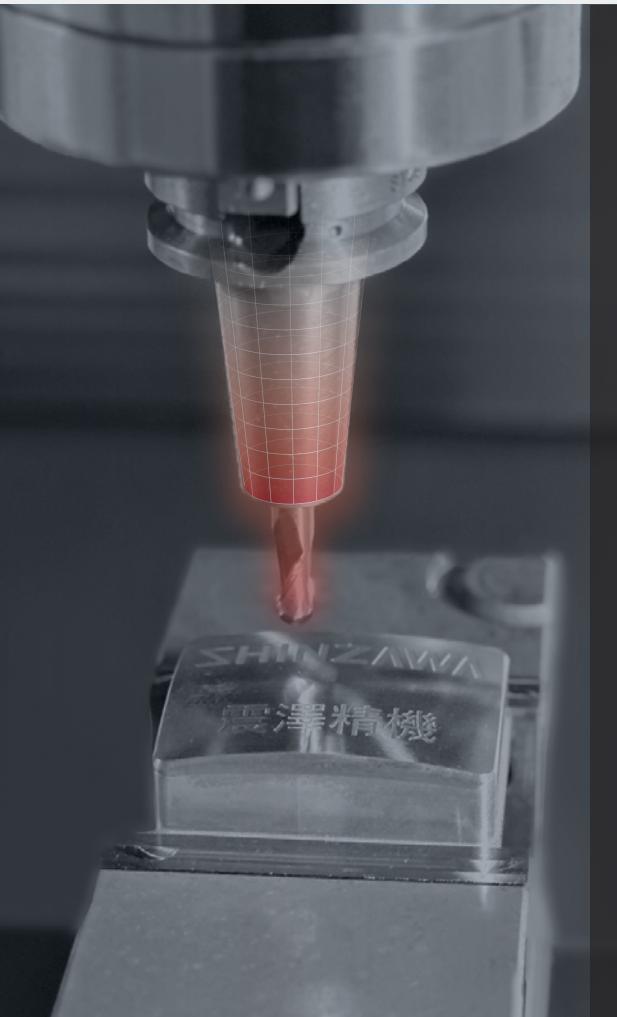
**SV-110S**

SV-85S , SV-130S



**SV-1365S**

SV-865S , SV-1165S



- 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.



ERGONOMICS

Thoughtful ergonomic design for easy use and maintenance



HIGH-RIGIDITY

High-rigidity structural design for stability beyond imagination



ECO-FRIENDLY

Environmentally friendly design energy-efficient

## SPECIFICATIONS

Item / Model	SV-85S	SV-110S	SV-130S
Travel	Max. Travel Range of X/Y/Z 850 x 600 x 600 mm	1100 x 600 x 600 mm	1300 x 600 x 600 mm
	Spindle Nose to Table Surface 100 ~ 700 mm		
Work Table	Table Size 1000 x 600 mm	1150 x 600 mm	1400 x 600 mm
	T-Slot ( W x No. x P ) 18 x 5 x 100 mm		
	Max. Loading Capacity 800 kg	900 kg	1000 kg
Spindle	Spindle Taper BT- 40		
	Spindle Speed 10,000 rpm		
	Spindle Motor 7.5 / 11 kw		
	Spindle Driven Type Direct Drive		
Feed Rated	Rapid Traverse Speed of X/Y/Z 36 / 36 / 30 m/min		
	Max. Cutting Feed Rate of X/Y/Z 1 ~ 12 m/min		
	Servo Motor of X/Y/Z (Mitsubishi) 3.5 / 3.5 / 3.5 B kW / (Fanuc) 4.0 / 4.0 / 4.0 B kW		
Automatic Tool Changer	ATC Type Arm Type		
	Tool Capacity 24T pcs		
	Max. Tool Diameter / Length / Weight Ø70 mm / 250 mm / 7 kg		
	Max. Tool Diameter without Adjacent Tool Ø150 mm		
	Tool Change Time ( T to T ) 1.8 sec		
Other	Machine Dimension ( L x W ) 2700 x 2195 mm	2900 x 2195 mm	3450 x 2195 mm
	Machine Height 2900 mm		
	Net Weight 6800 kg	7000kg	7300 kg
	Total Required Power 25 kva		

Item / Model	SV-865S	SV-1165S	SV-1365S
Travel	Max. Travel Range of X/Y/Z 850 x 650 x 600 mm	1100 x 650 x 600 mm	1300 x 600 x 600 mm
	Spindle Nose to Table Surface 100 ~ 700 mm		
Work Table	Table Size 1000 x 650 mm	1250 x 650 mm	1400 x 600 mm
	T-Slot ( W x No. x P ) 18 x 5 x 100 mm		
	Max. Loading Capacity 800 kg	900 kg	1000 kg
Spindle	Spindle Taper BT- 40		
	Spindle Speed 10,000 rpm		
	Spindle Motor 7.5 / 11 kw		
	Spindle Driven Type Direct Drive		
Feed Rated	Rapid Traverse Speed of X/Y/Z 36 / 36 / 30 m/min		
	Max. Cutting Feed Rate of X/Y/Z 1 ~ 12 m/min		
	Servo Motor of X/Y/Z (Mitsubishi) 3.5 / 3.5 / 3.5 B kW / (Fanuc) 4.0 / 4.0 / 4.0 B kW		
Automatic Tool Changer	ATC Type Arm Type		
	Tool Capacity 24T pcs		
	Max. Tool Diameter / Length / Weight Ø70 mm / 250 mm / 7 kg		
	Max. Tool Diameter without Adjacent Tool Ø150 mm		
	Tool Change Time ( T to T ) 1.8 sec		
Other	Machine Dimension ( L x W ) 2700 x 2595 mm	2900 x 2595 mm	3450 x 2195 mm
	Machine Height 2815 mm		
	Net Weight 6900 kg	7100kg	7300 kg
	Total Required Power 25 kva		



**SHINZAWA** 

## Vertical Machining Center

**SV Series +** 

**85S / 110S / 130S**

**865S / 1165S / 1365S**

SV  
SERIES

CE



MORE INFO

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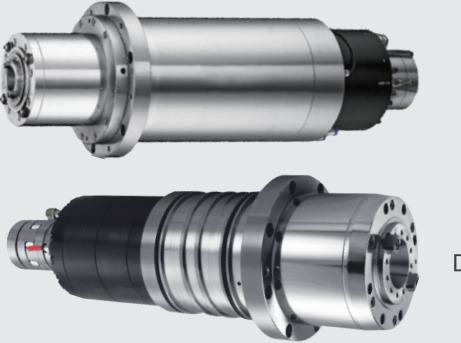
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## REINFORCED STRUCTURAL DESIGN

Exceptional Cutting Efficiency & Stability

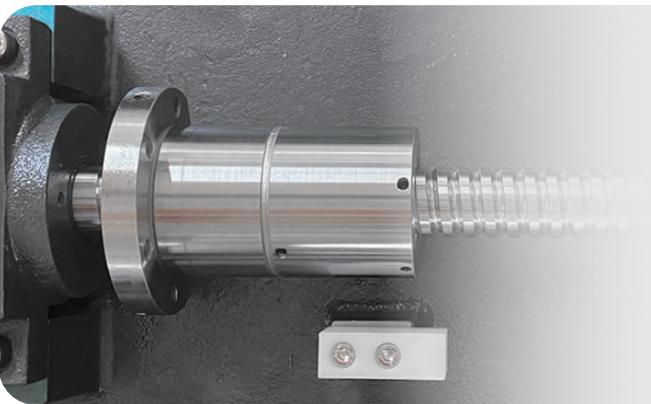
SV  
SERIES

### FEATURES



#### O1 High Speed High Precision Spindle

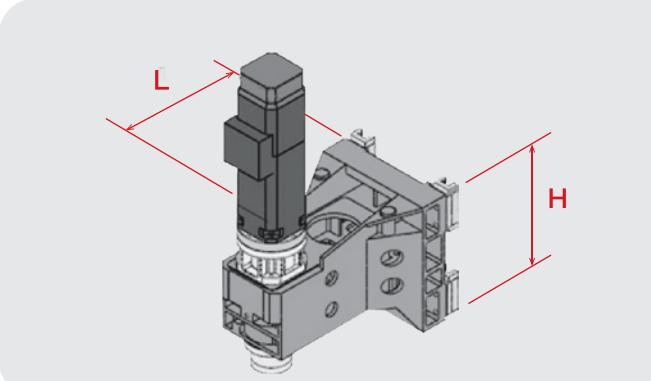
The SV series provides a choice of various built-in and direct-drive spindles, as well as various motors. Each spindle is carefully machined, inspected and precision scraped prior to being attached to the spindle headstock. This assures superior accuracy, stability and speed.



#### O2 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.



#### O3 Cutting Performance Best Choice

Extra wide, rugged, low gravity base combined with optimal ratio of spindle headstock results in excellent cutting capacity.

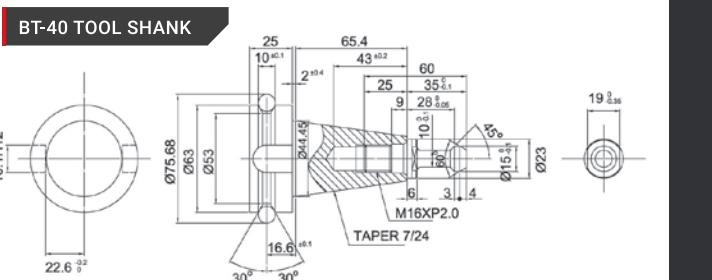
The length-to-height ratio is (L/H) 1:1.



#### 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 absolute encoder is used on the cam box for detecting errors, which also makes the signal transmission much quicker and more stable. The PLC's 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.



#### STANDARD & OPTIONAL ACCESSORIES CHART

Spindle	Spindle Speed: 10000 RPM	<input checked="" type="radio"/>	Measure System	Infrared Detector of Tool Breakage	<input type="radio"/>	Controller	Mitsubishi M80	<input checked="" type="radio"/>
	Spindle Speed: 12000 RPM	<input type="radio"/>		Tool length Measurement	<input type="radio"/>		Fanuc 0i-MF	<input type="radio"/>
	Spindle Speed: 15000 RPM	<input type="radio"/>		Workpiece Measurement	<input type="radio"/>		Siemens 828D	<input type="radio"/>
	Spindle Speed: 20000 RPM (Built-In)	<input type="radio"/>		Charge Coupled Device Measurement	<input checked="" type="radio"/>		Heidenhain TNC 620	<input type="radio"/>
Oil Skimmer	Spindle Oil Cooler	<input checked="" type="radio"/>		Disk Type Oil Skimmer	<input type="radio"/>	Electrical Unit	Work Lamp	<input checked="" type="radio"/>
	Spindle Air Sealing	<input checked="" type="radio"/>		Oil Mist Collector	<input type="radio"/>		3-Color Alarm Lamp	<input checked="" type="radio"/>
Cooling System	The Flushing Nozzles Near the Spindle (Controlled by NC Program)	<input checked="" type="radio"/>		M30 Function-for Cutting Off the Electricity Automatically (No need to wait & switch off the power when NC program is completed.)	<input type="radio"/>		Heat Exchanger	<input checked="" type="radio"/>
	Spindle Coolant Ring (Arm Type Tool Magazine Only)	<input type="radio"/>		Armless/Geneva Drive Type	<input type="radio"/>		Air Conditioner for Electrical Cabinet	<input type="radio"/>
	Coolant Flush System	<input type="radio"/>		Tool Magazine 20T	<input type="radio"/>		Rigid Tapping	<input checked="" type="radio"/>
Chip Removal System	Screw Type Chip Conveyor	<input checked="" type="radio"/>		Arm Type Tool Magazine 24T	<input type="radio"/>		Other	4th Axis Rotary Table (Rotary Axis)
	Link/Chain Type Chip Conveyor	<input type="radio"/>		Coolant Through Ballscrew (CTB)	<input checked="" type="radio"/>		CE Conformity	<input type="radio"/>
	Chip Cart	<input checked="" type="radio"/>		Roller Type Linear Guideways on 3-Axes	<input type="radio"/>		Transformer	<input type="radio"/>
	Water Gun	<input checked="" type="radio"/>		Linear Scales on 3-Axes	<input type="radio"/>			
	Air Gun	<input checked="" type="radio"/>		Z-Axis Motor with Brake	<input type="radio"/>			
	Chip Flushing Device	<input type="radio"/>		Fully Enclosed Splash Guard	<input checked="" type="radio"/>			

Standard  Optional  Need to Inquire

#### ERGONOMICS

##### ERGONOMIC DESIGN & COMPACT ALLOCATION

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.

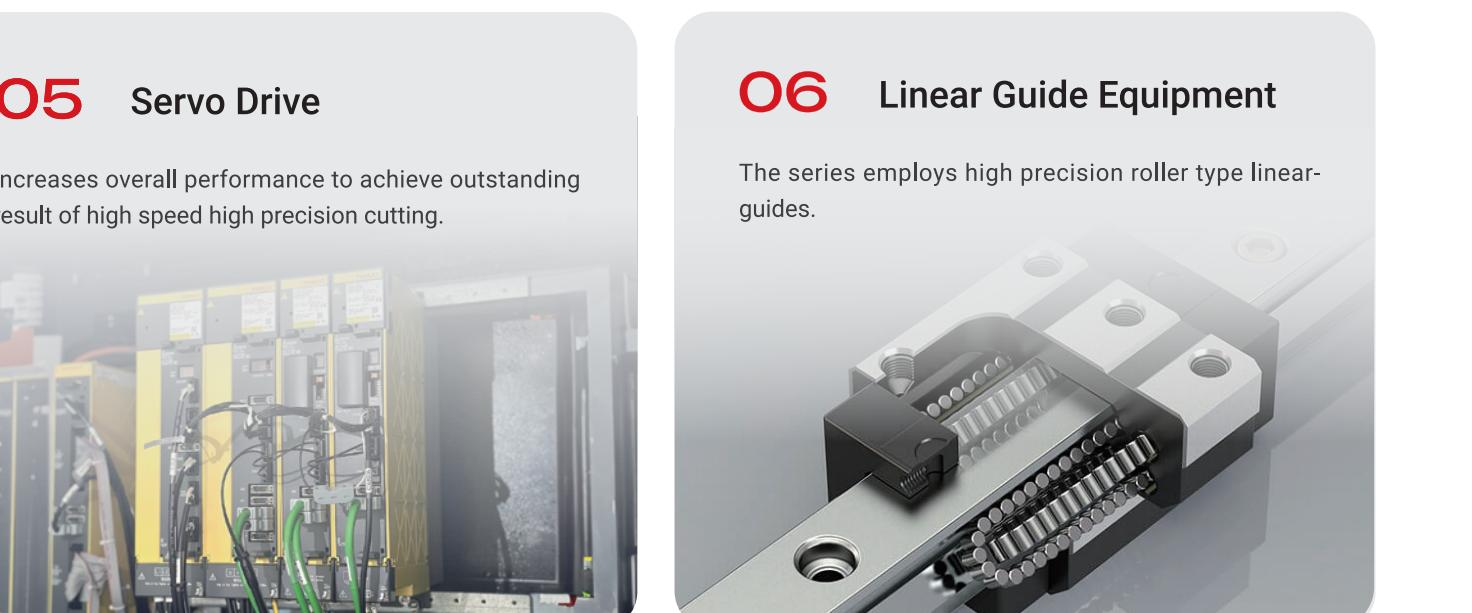
Pneumatic/hydraulic units and their cables are allocated on side panels and covered into modular shape, which is not only an aesthetic design but more convenient for visual management and maintenance.

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



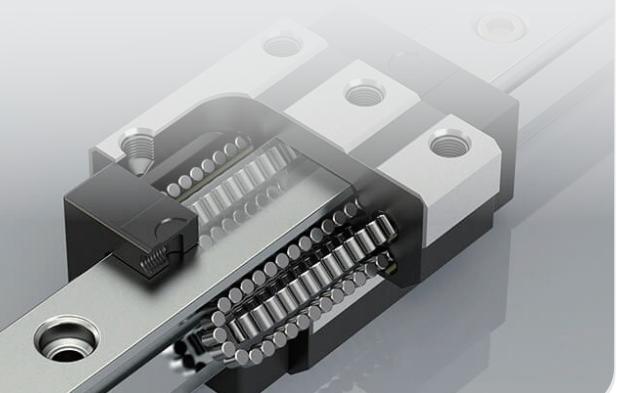
#### O4 High-Efficiency and High-Rigidity Structure Design

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.



#### O5 Servo Drive

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



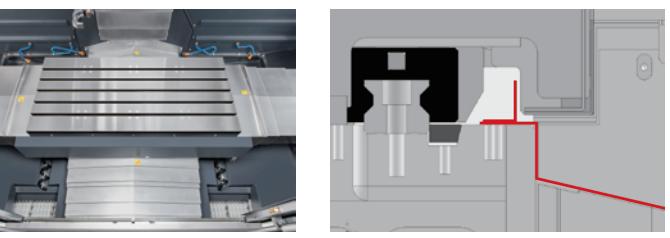
#### O6 Linear Guide Equipment

The series employs high precision roller type linear-guides.

##### TILTED GUARD DESIGN & LABYRINTH STRUCTURE

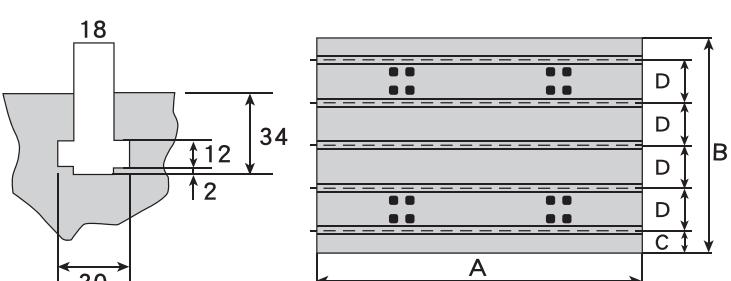
The X/Y axes are specially designed with a labyrinth structure for dust and leak prevention. This design effectively prevents dust and return flow for coolant.

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



Y-axis left and right chip conveyor (optional)  
X/Y-axis unique labyrinth design for chip

##### TABLE DIMENSIONS



Model	A	B	C	D	No.of T-Slot
SV-85S	1000	600	100	100	5
SV-865S	1000	650	125	100	5
SV-110S	1150	600	100	100	5
SV-1165S	1250	650	125	100	5
SV-130S	1400	600	100	100	5
SV-1365S	1400	650	125	100	5

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S E R I E S

