





Golden Triangular Frame Design

Ensure maximum bed width for superior kinematics. This design lowers the center of gravity thus improving the stability during cutting. This results in chatter free surface finish and increased tool life.



Wide A-Shaped Column

Extra wide base of column. This delivers enhanced stability and efficient cutting force absorption without deflection, resulting in better cutting dynamics.



Extended Headstock Guides

Extended A:B ratio ensures you can put bigger components on the machine table. It also improves the headstock rigidity during fast high feed cutting. Helps retain spindle accuracy by preventing headstock sag.



High Quality Spindle

Cartridge Type Spindle provides excellent performance with minimum run out and great cutting torque. All our spindles undergo dynamic balancing and thermal deformation testing.







What is Unity Construction?

We have integrated some key parts like ballscrew housing mounting brackets, motor mounting brackets and ballscrew nut housing into the main casting. By doing so, we minimize the number of subassemblies resulting in a superior UNITY design structure.









1 2 3 4 5 6 Integrated Motor and Bearing Mounts

RESULT IS

- · Improved alignment of axis drive motor and ballscrew.
- Excellent parallelism of ballscrew with LM guideways.
- These integrated mounts act as ribs to strengthen the casting.

BENEFITS

- Eliminating misalignment and bolt-on housing brackets.
- Fine control of cutting path possible due to reduced resistance.
- Higher cutting load/thrust can be applied due to strong construction.
- Bearing housing support which counter all the axial thrust loads have a rigid mount for stability.

Key Benefits of UNITY STRUCTURE

Enhanced Productivity

Longer Machine Life Enhanced Accuracy & Finishing

When Unity Structure Plays a Key Role

- During High Speed Machining, due to high acceleration and deceleration, the ballscrew support bearing encounter large amounts of physical and thermal stress.
- Frequent rapid movements during machining of production components results in a large amount of jerks.
- During cutter engagement, with interrupted cuts, casting deformities & improper material, the machine gets overloaded and higher impacts occur. The unity structure handles these conditions efficiently.



7 8 9 Integrated Ballnut Housing

All ballscrew-nut housings are integrated into the casting making the moving part and the housing a single rigid part. This enhances the dynamic stiffness of the Table, Headstock and Saddle, which are the main moving parts of the machine.

BENEFIT

- · Ensures smooth, jerk free cutting movement especially during direction change or reversals.
- Supports high acceleration and deceleration of the machine.
- · Ultimately increases the machine service life.

Saddle Casting

Machine Features





Renishaw Receiver

All machines are fitted with Renishaw receiver for quick future interfacing of Tool Presetter and Work Piece Probe.

Excellent Chip Disposal Steeply slanted telescopic sliding covers provide excellent chip disposal performance.





Illuminated Design

Even in low light, the machine will provide sufficient light for operator.

- Dual Worklamp White LED
- 3 Color Tower Lamp
- Ambient Light in Tool Cabinet
- Illuminated Machine Name

Easy Access Side Doors

Big access side doors ensure easy access into the machine. The level of these doors are kept lower than the table height of extended use.

360 Layout of Machine

All 4 faces of the machine are smooth and flushed design. This gives you freedom to place the machine in your factory in any orientation. Looks good all around.

Laser Calibration

100% Laser calibration of all machines. We use stateof-the-art equipment used by leading world manufacturers. We assure you repeatablility with accuracy.



Positioning Accuracy within 10 micron Repeatability within ±3 micron

Ballbar Calibration

100% Ballbar calibration of all machines. We ensure servo motors are perfectly tuned for perfect simultaneous movement, resulting in circularity of below 10 micron.



Circularity within 10 micron

Performance Boosting Features

Smart User Interface (Standard Feature)

- Machine Downtime for Record & Report
- Smart HOME-SCREEN
- Tool Load & Life Monitoring
- Maintenance Checklist with Alert
- OEE & Utilization Reports On-Machine
- Alarm Assistance

Machine Downtime Analytics

• Calculator and many more features!



Reports On Demand



Smart Diagnosis

Visual management of I/O List

Description UN8						
1. LUB LEVEL SWITCH		17. MACHINE OPERATOR DOOR CLOSE		E X2.8		
2. LUB PRESSURE SWITCH		18. SPINDLE AIR PRESSURE		X2.1		
3. AIR PRESSURE SWITCH		19. TBS OVERTRAVEL		X2. 2		
4. MAG POS PROXIMITY-2(POJU)		28. COOLANT LEVEL LOW	X2. 3			
5. CTS HIGH LEVEL De						
6. CTS LOW LEVEL	1 . CTS PU	CTS PUHP		17. TOOL UNCLAMP SOV	¥2. 0	
7. 4TH CLAMP 2.0		IS CLAMP/UNCLAMP Y8.1 18. TOOL UNCLAMP AIR BLAST !		18. TOOL UNCLAMP AIR BLAST SOV	Y2. 1	
8. 4TH UNCLAMP 3. 0		IMMER	Y0.2	19. TOWER LIGHT YELLOW LAMP	¥2.2	
9. CHIP CONVEYOR LS	4. AUTO PI	DWER OFF	Y8.3	20. TOWER LIGHT GREEN LAMP	Y2.3	
10. CTS FLOW SWITCH 5. F		AZINE BRAKE Y0.4 21. TOWER LIGHT RED		21. TOWER LIGHT RED LAMP	Y2.4	
11. BALANCE MOTOR TRIP 6. F		ATC ARM BRAKE		22. SPINDLE AIR BLOW		
12. 4TH HOME 7. 1		7. M88 OP		23. CUTTING AIR BLOW		
13. TOOL UNCLAMP PB 8. M		8. M81 OP		24. VERTICAL AXIS BRAKE		
14. TOOL UNCLAMP FEEDBACK 9. COOL		r_sov	¥1.0	25. LUBRICATION ON	¥3. 0	
15. TOOL CLAMP FEEDBACK	ACK 10. CTS HOTOR REV		¥1.1	26. COOLANT ON		
16.0IL SKIMMER TRIP	11. ATC ARH CCW		¥1.2	27. CHIP CLEAN ON		
A>	12. BALANCE HOTOR ON			28. ATC ARH CW Y3.		
	13. SPINDL	E OIL COOLER	¥1.4	29. MAGAZINE CW	¥3.4	
HOME METER LIST	14. CONVEY	JR CW	¥1.5	30. MAGAZINE CCW	¥3.5	
	15. CONVEY	DR CCW	¥1.6	31. POT DOWN/ARM IN RIGHT	Y3.6	
	16. WORK L	I GHT	¥1.7	32. POT UP/ARM IN LEFT	¥3.7	
	A>			MEM ++++ +++ +++	••• 16:48	
	HOME	CUT O INPUT METER LIST		PREV NEXT	BACK	

Easy Alarm Resolution

Alarm resolution made easy by providing guidance for alarm resolution.

۲L	СВ	1.1		DESCRI	PTTON STATS					
к	1.	0	off=not used on=not used		OFF					
к	1.	1	off=not used on=not used		OFF					
к	1.	2	OFF=NOT USED ON=NOT USED	CAUSE	EMERGENCY STOP STONAL OG. A ENNBLED IN PLC SEADENCE During first power on of the machine restored from Hengerency Condition occurred due to any of the en PB pressed or due mpcb trips or M/C is under idle condition					
к	1.	з	OFF=NOT USED ON=NOT USED	UNUUL						
к	1.	4	OFF=NOT USED ON=NOT USED		Clear any emergency stop occurred and press "reset button" to Clear this alarm. If the alarm isn't cleared, then take correctly					
к	1.	5	off=not used on=not used		ACTIONS AS PER THE BELOW CHECK POINTS 1. ENSURE THE EMERGENCY CIRCUIT AS PER THE ELECTRICAL CIRCUIT 2. CHECK FOR ANY OTHER ALARM ON THE ALARM SCREEN EDY					
к	1.	6	OFF=FEED HOLD WHE ON=FEED WILL NOT	REMEDY						
к	1.	7	off=not used on=not used							
A>										
			PREV							
				EFFECT	HACHINE UNDER EMERGENCY CONDITION & MACHINE OPERATIONS ARE NOT PERMITTED.					
				> 1001	MEM **** *** *** *** *** 28:8					
					HOME CUT D METER BACK					

Optional Features

Factory Productivity Monitoring solution, Industry 4.0 - digiFAC

Our digiFAC is an IIOT platform that connects multiple CNC Machines to collect machine operational data in realtime. With digiFAC, you get the real control data directly from the machine without human interference.



- 1. Improved manufacturing efficiency
- 2. Reduced production wastage
- 3. Real-time shop floor visibility
- 4. Automatic data collection and analytics
- 5. Increased overall equipment efficiency
- 6. Shop-floor alerts and notifications

Tool and Workpiece Measuring Solutions



All SV series machines are prepped for Tool and Work piece setter integration.

- Benefits
- · Minimize the mistakes in tool offset
- Speed up tool setting time
- Tool breakage detection
- Tool wear correction
- Minimize need for CMM

4th Axis Tables



Reliable solution for demanding application

- Table size 7.87" up to 12.60"
- · Worm gear / worm wheel solutions for high torque
- · Production system, cradle arrangment also available
- Torque motor and roller-cam solutions for higher speeds

Machine Layout



	W1	W2	H1	H2	H3	DEPTH
SV - 2	95.67	55.51	107.28	84.25	25.79	96.46
SV - 3	113.78	55.51	116.14	88.78	34.65	106.30
SV - 5	137.80	55.51	106.30	94.49	31.50	110.24

Torque Power Diagram





Our Partner for Key Machine Parts



Specifications

Description	Unit	SV - 2	SV - 3	SV - 5
X-Axis Travel	inch	31.50	43.31	51.18
Y-Axis Travel	inch	19.69	23.62	27.56
Z-Axis Travel	inch	19.69	23.62	27.56
Spindle Nose to Table Surface (Daylight)	inch	3.94-23.62	5.91-29.53	5.91-33.46
Spindle Center to Z-Axis Telescopic Cover	inch	20.47	25.59	28.15
Table Dimension	inch	39.37 x 19.69	49.21 x 23.62	57.09 x 25.59
Max. Safe Load on Table	lbs	1102	2205	3307
No/Width/CD of T-Slots	no./inch/inch	5/39.68/220.46	5/39.68/220.46	5/39.68/275.58
Spindle Speed	rpm	10000	10000	10000
Spindle Motor Power (Fanuc)	hp	15/20/25	15/20/25	15/20/25
Spindle Taper	-	Big Plus CAT 40	Big Plus CAT 40	Big Plus CAT 40
Rapid Traverse X/Y/Z Axes	ipm	1890/1890/1890	4 7/ 4 7/ 4 7	8 / 8 / 8
Cutting Feedrates	ipm	394	394	394
АТС Туре	-	Arm Type	Arm Type	Arm Type
No. of Tools	nos	30	30	30
Max. Tool Length	inch	9.84	9.84	9.84
Max. Tool Weight	lbs	15.4	15.4	15.4
Tool Diameter (with adjacent tool)	inch	2.95	2.95	2.95
Tool Diameter (without adjacent tool)	inch	5.91	5.91	5.91
Tool Changing Time (Tool to Tool)	sec.	2.5	2.5	2.5
Positioning Accuracy	inch	0.0004	0.0004	0.0004
Repeatability	inch	+/- 0.0001	+/- 0.0001	+/- 0.0001
Floor Space (including basic coolant system)	w x d (inch)	95.67 x 82.68	114.17 x 92.52	137.80 x 101.57
Floor Space (with Lift Up Conveyor)		134.65 x 82.68	156.69 x 92.52	196.46 x 101.57
Net Weight (with ATC)	lbs	10582	13448	18739
Power Supply Rated Capacity (Fanuc)	kVA	25	25	35
Air Supply Supply (Pressure Flowrate)	0	6 Bar 200LPM	6 Bar 200LPM	6 Bar 200LPM
Power Supply	-	220 V 60 Hz 3 Phase	220 V 60 Hz 3 Phase	220 V 60 Hz 3 Phase

Standard Features

- Fanuc 0iMF Plus
- Ethernet for Program Transfer
- 30 Tool Arm Type Tool Changer
- Belt Drive Spindle
- Z-Axis Servo Brake
- LM Guideways on All Axes
- Full Splash Guard
- Rigid Tapping
- Portable MPG
- Heat Exchanger for Electrical Panel
- Air and Coolant Gun
- Automatic Lubrication System
- Coolant System
- Chip Conveyor

- Chip Flushing
- 4th Axis Interface Preparation
- Oil Coolant Seperator
- Chip Tray
- Operation Lamp
- Work Lamp
- Leveling Pad
- Maintenance Kit
- Operation and Maintenance Manual

Optional Features

- 12000 rpm Spindle
- BBT 40 Spindle Taper
- 20 Bar Coolant through Spindle (CTS)
- Spindle Oil Chiller
- Air Conditioning for Electrical Panel
- 4th Axis Rotary Table

*The specifications and information above-mentioned may change without prior notice.





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