



S TURN I



NEW GENERATION TURNING CENTER

S TURN I

BASIC
INFORMATION

SPECIFICATIONS

DIAGRAMS

APPLICATIONS



HIGHLIGHTS

- Turning diameter of 320mm and turning length of 300mm
- Box type bed structure with wider area for chip collection and coolant management
- Bed structure designed for maximum cutting force
- Belt driven Spindle with speed upto 4500 rpm
- LMW Hydraulic Turret
- Rear chip disposal arrangement
- Compact footprint

BASIC STRUCTURE

- Compact machine structure with highly rigid FG 300 cast iron bed optimized through computer analysis, to achieve extremely high vibration dampening characteristics.
- Box type structure for better chip disposal & coolant management.
- All major machine castings are stress relieved imparting long lasting accuracies.



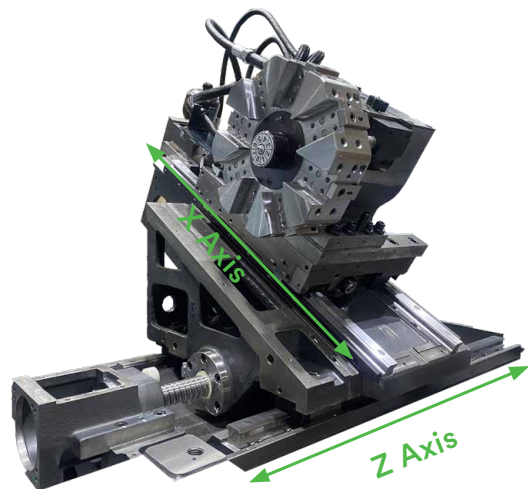
SPINDLE

- Spindle is manufactured in house using world class machinery and assembled in a dust free temperature controlled environment.
- Belt driven spindle can achieve high speeds, which makes suitable for applications that require high-speed machining.
- A2-5 Spindle nose



FEED MECHANISM

- The X and Z axis traverses employs low friction and stick-slip free movement Linear Motion (LM) guide ways, high rapid rates to reduce the non-cut time.
- High precision linear motion guideways & large diameter pre-tensioned ball screw for axis traverse.



Title	Description	Unit	S-Turn I
Feed system	Cross travel X-axis	mm	185
	Longitudinal travel Z-axis	mm	367
	Rapid traverse rate X/Z- axes	m/min	30/36

LM GUIDE WAYS

- Precision LM Guideways are racked for better accuracy and design is suitable for high speed movement with low noise
- Two axes are mounted with high precision linear guideways for stable and smooth movement, making the machine ideal for high speed and precision machining
- Guideways are completely protected from chips and dust by extremely flexible telescopic covers.



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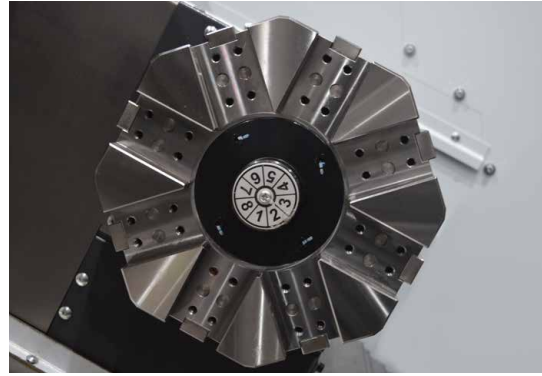
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TURRET

- High indexing accuracy with high clamping force
- It uses bidirectional shortest path indexing to reduce non-cutting time
- No of station: 8 | Turret indexing time: 1 Sec/st
- Tool shank size: 25 mm | Boring Bar dia: 40 mm



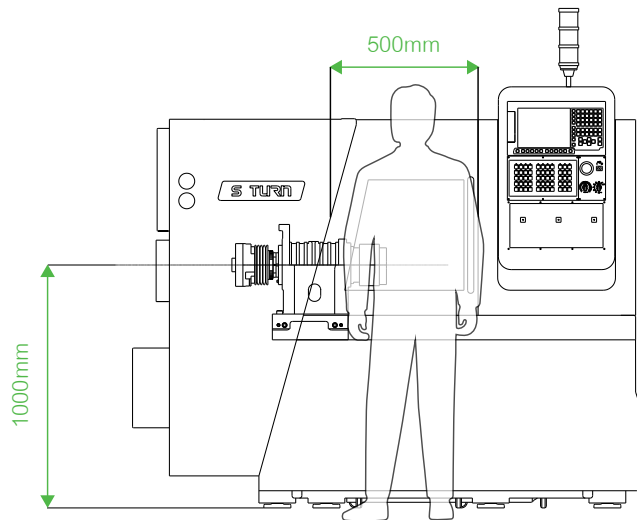
TAIL STOCK

- Tailstock is offered as standard in S Turn I for machining long bar which require end support opposite of the chuck.
- The heavy duty tailstock interpolates an MT-4 ADDON center & provides a maximum thrust of 515 kgf.
- Quill Dia: 65mm | Quill Stroke: 80mm



ERGONOMIC DESIGN

- Compact machine design considering reliability, human comfort & operator friendliness.
- Approach to spindle is less which makes component loading unloading easier.
- Door opening width 500mm
- Optimized job loading height 1000mm



MATERIAL REMOVAL RATE (MRR)

STEEL EN9

O.D TURNING TEST

Description	Unit	S TURN I
Major Diameter	mm	70
Minor Diameter	mm	65
DOC	mm	2.50
Spindle Speed	Rpm	1175
Feed	mm/rev	0.2
Spindle Load	%	104
MRR	cm ³ /min	120

O.D GROOVING TEST

Description	Unit	S TURN I
Major Diameter	mm	80
Minor Diameter	mm	74
Groove Width	mm	5
Feed	mm/rev	0.09
Spindle Load	%	101

DRILLING TEST

Description	Unit	S TURN I
Drill Diameter	mm	24
Spindle Speed	rpm	1000
Feed	mm/rev	0.08
Spindle Load	%	88

Note : Values shown are in test conditions, may vary depending on tools, materials and cutting parameters / conditions.

SPECIFICATIONS

Title	Description	Unit	S TURN I
Capacity	Swing over bed	mm	510
	Chuck size	mm	210(8")
	Max. turning diameter	mm	320
	Max. turning length*	mm	300
	Admit between centers	mm	495
Spindle	Spindle nose	type	A2-5
	Hole through spindle	mm	54
	Max. Spindle speed	rpm	4500
	Spindle motor power (Cont./Inter.)	kW	5.5/7.5
	Max. Spindle Torque	Nm	81.7
Feed system	Cross Travel X-axis	mm	185
	Longitudinal Travel Z-axis	mm	367
	Rapid traverse rate X/Z axes	m/min	30/36
Turret	No. of stations	nos.	8
	Tool shank size	mm	25x25
	Turret Indexing	Type	Hydraulic
	Maximum boring bar dia.	mm	40
	Indexing	-	Bi-directional
	Indexing Time (per station)	Sec	<1
Tailstock	Quill Dia	mm	Ø65
	Quill Stroke	mm	80
	Quill Taper	-	MT-4
CNC system	Controller	-	Fanuc
General	Front x Side x Height	mm	1950 x 1650 x 1670
	Machine Weight (Approx.)	kgs	3000
	Floor Space Required (Approx.)	m ²	3.2
	Coolant Tank Capacity	ltr	125
Power Supply	Power Requirement	kVA	15

Note: *May vary depending upon make / model of chuck.

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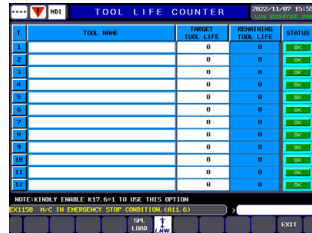
EASY OPERATING SCREEN

MAIN SCREEN



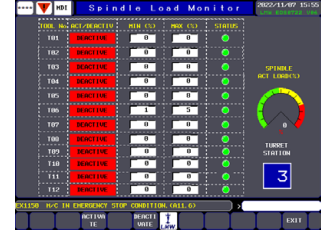
This screen helps the user to navigate to the required screen

TOOL LIFE COUNTER



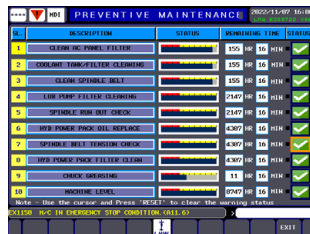
This screen is used to monitor and ensure tool life.

SPINDLE LOAD MONITOR



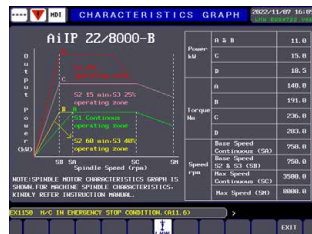
If the spindle current exceeds a preset load value, it raises an alarm to shut down the machine.

PREVENTIVE MAINTENANCE



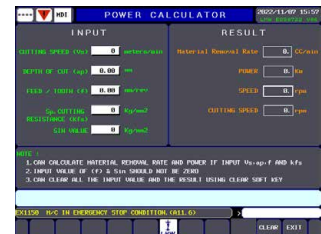
Maintenance scheduled can be fixed and also indicates the lubricants level

SPINDLE CHART



This spindle power and torque characteristics can be viewed in graphical representation

POWER CALCULATOR



The calculation of material removal rate and power can be done in this function.

SOLUTIONS



Axle Stub



Flange



Bearing Race



Bush



Fitting



Collet



Wear Ring



Shaft Sleeve

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