



GIGATURN I



■ HORIZONTAL TURNING CENTERS

LARGE DIAMETER TURNING CENTER

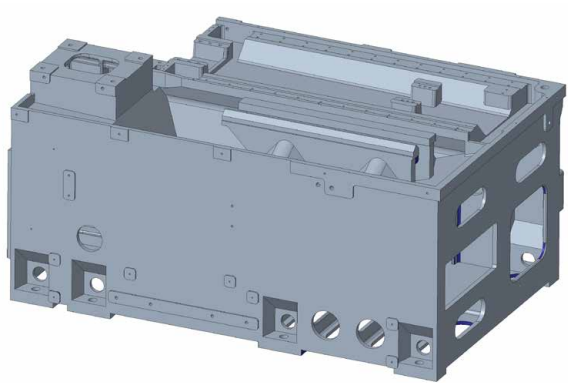


KEY FEATURES

- Maximum Turning diameter of 510 mm
- Powerful spindle motor for higher torque
- 12 stations hydraulic turret for stable cutting
- Roller LM Guideways on all axes
- High productive customized EOS screen
- Improved chip and coolant management
- Wide area chip disposal for easy maintenance

BASIC STRUCTURE

- Reinforced machine structure made up with FG 300 cast iron for stable material removal and free of vibrations
- The entire structure passes through FEA analysis for an elaborate check to avoid possible distortions during heavy machining.



SPINDLE

- 15 kW (continuous) power at the spindle provides enormous capacity for highly efficient metal cutting.
- Spindle is manufactured inhouse using world class machinery and assembled in dust free temperature controlled environment.

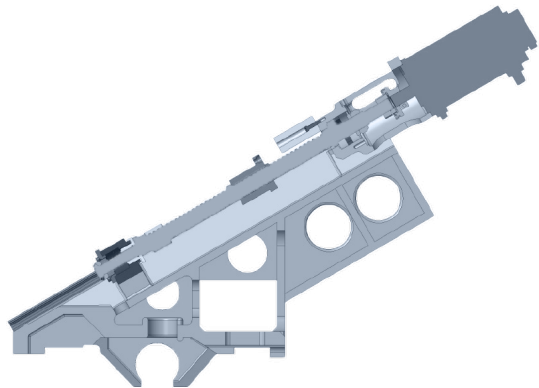


Description	Unit	GIGATURN I
Max Spindle Speed	Rpm	3000
Spindle Power(cont/15min)	kW	15/18.5
Spindle Torque (cont/15min)	Nm	286/471
Spindle Nose	Type	A2-11

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 roller LM guideways & large diameter, pre-tensioned ball screw for axis traverse.

Title	Description	Unit	GIGATURN I
Feed system	Cross travel X-axis	mm	295
	Longitudinal travel Z-axis	mm	750
	Rapid traverse rate X/Z- axes	m/min	30/36



LM GUIDEWAYS

- Heavy-duty linear motion roller guideways are employed within the X and Z axes to minimize non-cutting time, enhance rigidity, and ensure smooth, stick-slip-free movement.
- Guideways are completely protected from chips and dust by extremely flexible telescopic covers.



TURRET

- High Indexing accuracy with high clamping force.
- It uses bidirectional shortest path indexing to reduce non-cut time.

Title	Description	Unit	GIGATURN I
Turret	Indexing Time (per station)	sec	1.2
	Tool shank size	mm	25x25
	Boring bar dia	mm	50



TAIL STOCK

Manually Movable Tailstock with hydraulically actuated quill is offered as a standard.

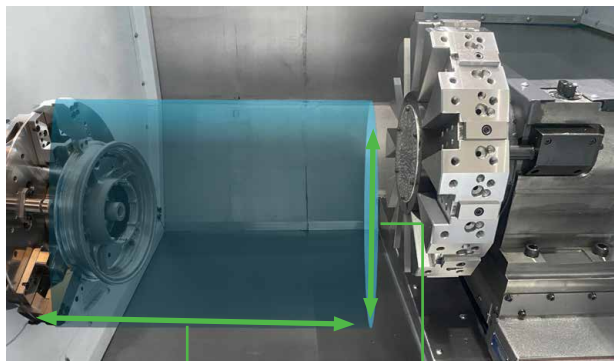
Title	Description	Unit	GIGATURN I
Tail stock	Quill diameter	mm	85
	Quill stroke	mm	120
	Quill taper	-	MT-5



MACHINING AREA

Wide machining area to accomodate large diameter workpiece.

Description	Unit	GIGATURN I
Max. Turning Diameter	mm	510
Standard turning Diameter (Between Center)	mm	410
Max. Turning length	mm	590



Turning length

Turning Diameter

ERGONOMIC DESIGN

- Door opening width is 700 mm, Thus it makes loading and unloading component easier
- Machine features a compact design tailored for operator ease and optimized floor-space utilization.



Width 700mm

GIGATURN I

BASIC INFORMATION

SPECIFICATIONS

DIAGRAMS

APPLICATIONS

SPECIFICATIONS

Title	Description	Unit	GIGATURN I
Capacity	Swing over bed	mm	680
	Chuck Size	mm	450 (18")
	Max. turning diameter	mm	510
	Max. turning length*	mm	590
	Admit between centers	mm	770
Spindle	Spindle nose	ASA	A2-11
	Hole through spindle	mm	Ø 86
	Spindle Speed	rpm	2000
	Spindle motor power (Cont./15 min)	kW	15/18.5
	Spindle Max Torque(Cont./15 min)	Nm	286/471
Feed system	Cross Travel X axis	mm	295
	Longitudinal Travel Z axis	mm	750
	Rapid transverse (X/Z) Axis	m/min	30 / 36
Turret	No. of stations	nos.	12
	Turret Indexing	Type	Hydraulic
	Tool shank size	mm	25x25
	Maximum Boring Bar Size	mm	Ø 50
	Turret Indexing time	sec	1.2
Tailstock	Quill dia	mm	85
	Quill stroke	mm	120
	Quill Taper	-	MT-5
CNC system	Controller	-	Fanuc
Power Supply	Voltage	V	AC 415± 5%,3Phase
	Power consumption	kVA	30
Machine size	Front x Side x Height	mm	2915x1875x2085
	Machine Weight (Approx.)	kg	5000

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

MATERIAL REMOVAL RATE (MRR) - EN9

OUTER DIA TURN TEST

Description	Unit	GIGATURN I
Major Diameter	mm	140
Minor Diameter	mm	131
Spindle Speed	rpm	500
Feed	mm/rev	0.4
Capacity	cc/min	370
Depth of Cut	mm	4.50
Spindle Load	%	82

TAPPING

Description	Unit	GIGATURN I
Cutter Size	mm	M24x3
Spindle Speed	rpm	200
Feed	mm/rev	3.00
Spindle Load	%	12

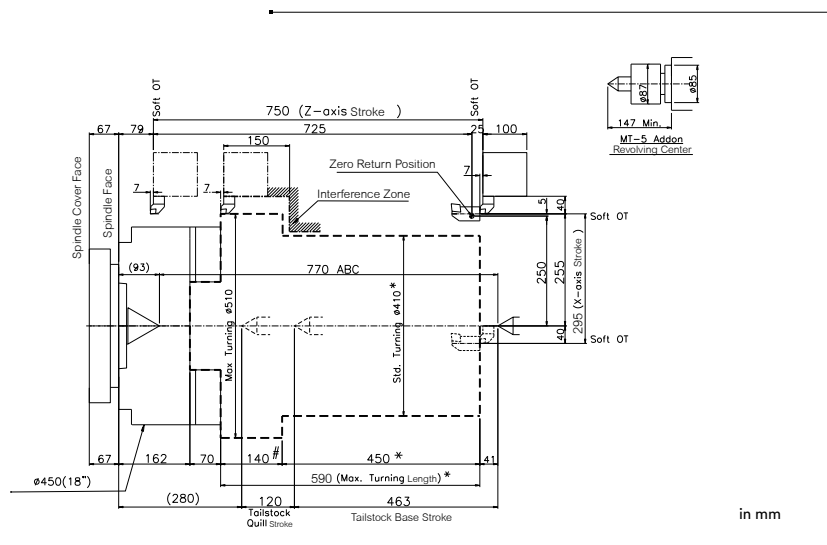
DRILLING TEST

Description	Unit	GIGATURN I
Drill Diameter	mm	50
Spindle Speed	rpm	1000
Feed	mm/rev	0.10
Cutting speed	m/min	157
Spindle Load	%	55

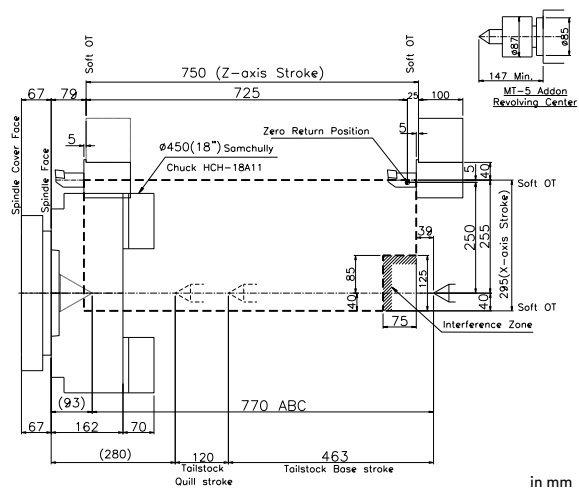
Note : Values shown are in test conditions, may vary depending on tools, materials and cutting parameters / conditions.

MOVING RANGE

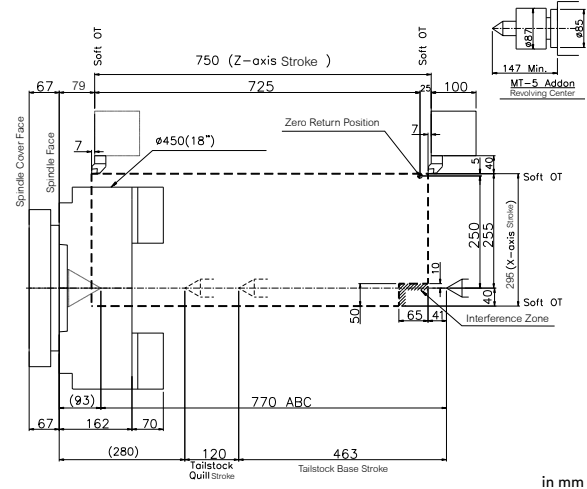
FACE TOOL



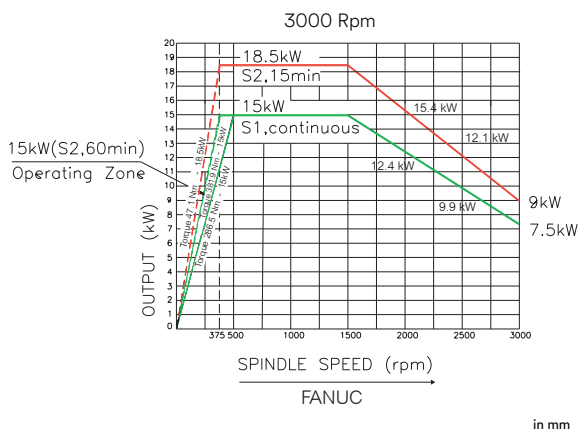
ID TOOL



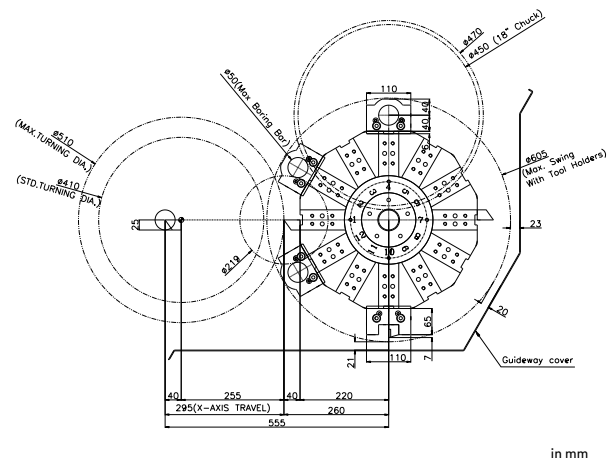
OD TOOL



SPEED POWER CURVE



INTERFERENCE DIAGRAM



LMW EOS

EASE OPERATING SCREEN



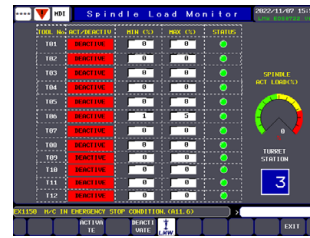
This interface provides a user-friendly way to access all the essential information effortlessly.

TOOL LIFE COUNTER



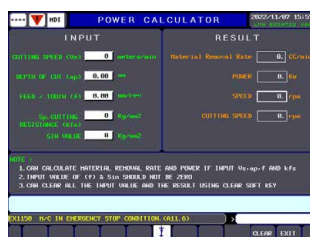
To track the usage of cutting tools, Thus optimizing maintenance and replacement schedules.

SPINDLE LOAD MONITOR



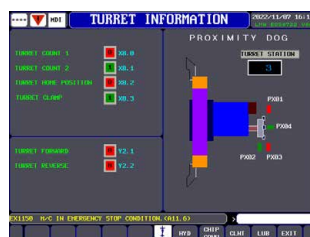
To measure the load on the spindle motor during machining operations, ensuring optimal performance and preventing damage.

POWER CALCULATOR



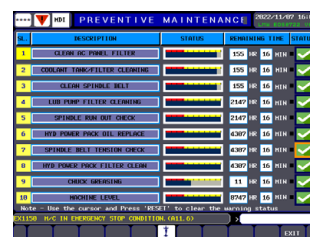
To calculate material removal rate and required power for machining operations

TURRET STATUS



To know the current position and status of tool holders in the turret

PREVENTIVE MAINTENANCE



To schedule and track routine maintenance tasks to ensure optimal machine performance and longevity.

SOLUTIONS



Alloy Wheel



Pump Housing



Flange



Brake Disc



Flywheel



Pulley



Wheel Drum



Pump Impeller

www.lmwcnc.com



INDIA'S FINEST
RANGE OF CNC MACHINES

FOLLOW US ON:



LMW CNC



INTEGRATED SOLUTIONS



LAKSHMI MACHINE WORKS LIMITED

MACHINE TOOL DIVISION

Arasur, COIMBATORE - 641 407, Tamil Nadu, India.

Tel: +91 422 719 1393 / 1394 / 1395 / 1396 / 1397