

TMX Series

Twin Spindle Twin Turret Turnmill Centers



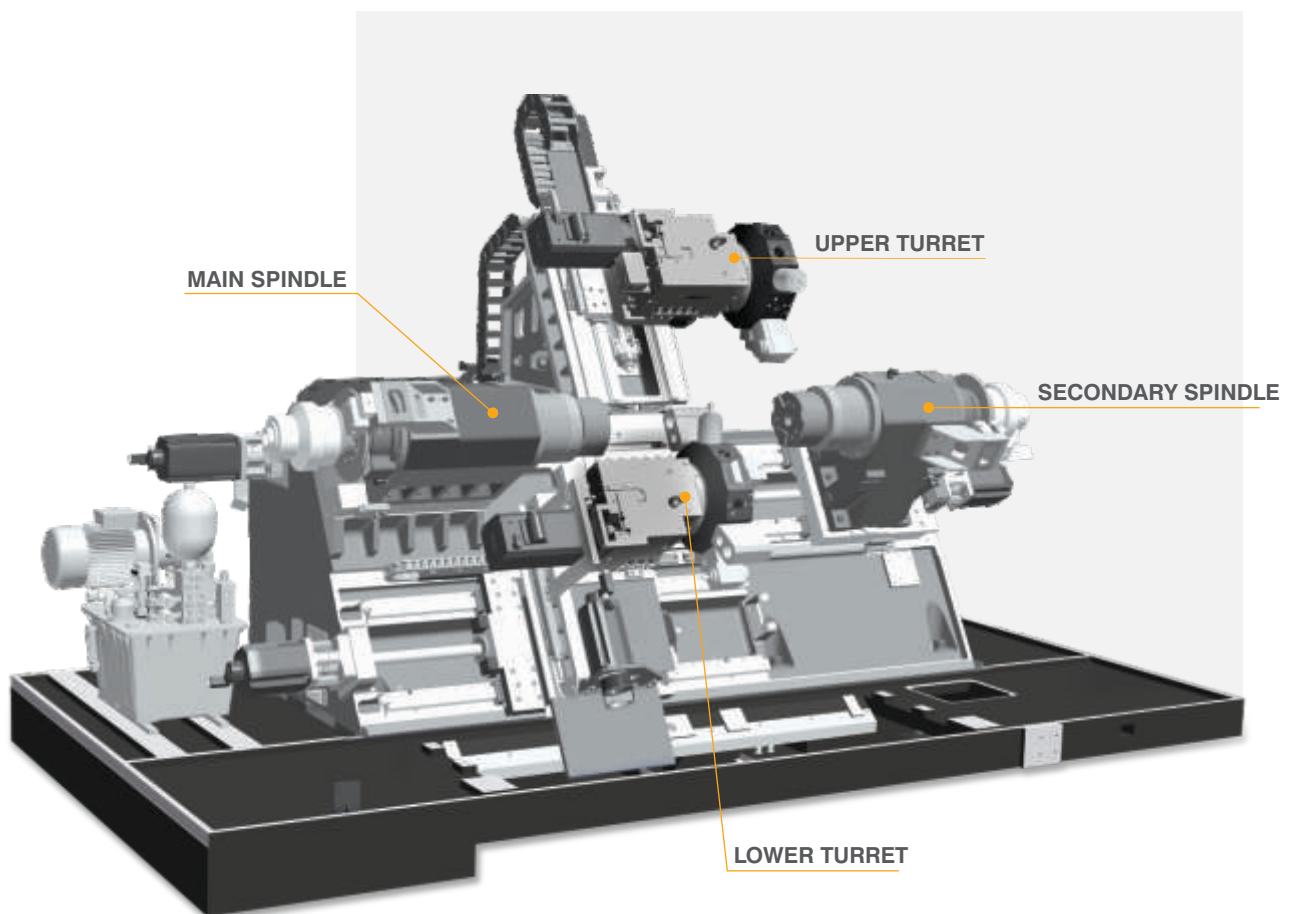
TMX Series

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OVERVIEW

TMX Series, turning/milling machines main advantage is to allow the simultaneous machining of several complex parts and various operations in order to obtain significant gains in productivity and profitability.

Carefully designed through the analysis of structure and an advanced design of all components, TMX Series allows perfect control of the machining process with providing optimal performances for various industry needs.



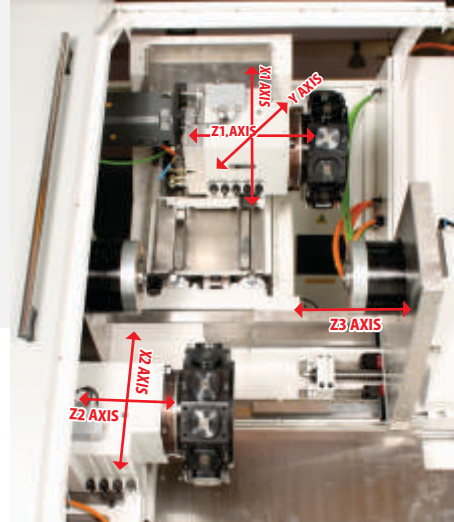
STRUCTURE

In order to meet the requirements of dynamic behavior of moving elements, TMX Series of machines are designed with single piece slant bed architecture made out of high grade cast iron for maximal rigidity even working at feed rates of 30 m/min. Such a design shows excellent vibration damping to deliver high level of machined surface quality and accuracy even for hard materials.



PRECISION LINEAR AXIS

There is a live-tool servo type Upper Turret with 3-Axis movement (X1/Y/Z1 Axis) showing flexibility for complex application requirements in turning and milling. Secondary Turret is also available with movements (X2/Z2 Axis). A combination of both turrets allow tool for complex machining, while simultaneous working allow an optimal distribution of use of each turret. Both the turrets have a stroke capacity which allows each to individually work in proximity and in combination of either secondary spindle (Z3 Axis) as per application demand thus creating a total flexible working environment.

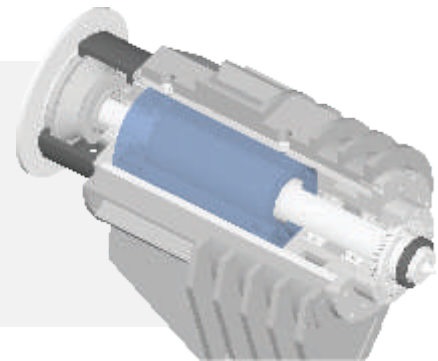


OPERATOR PANEL

The newly designed easy-to-operate operator panel of the machine is made considering operator friendliness and TPM Concept. Flexible swivel movement of the panel helps operator to manage tooling arrangements while the same can be moved out of working range when not required.

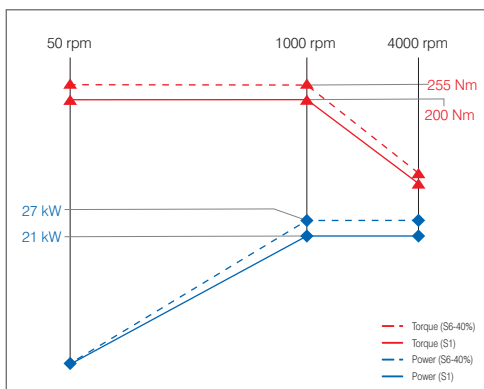
ELECTRO SPINDLE

Spindle is enclosed in headstock made out of closed grain casting and provided with fins for better heat dissipation and a chiller unit. Machine is equipped with powerful electrospindle which is stationary. Secondary electrospindle can slide on linear Z-axis in combination to main spindle for 2nd set-up workpiece pickup and perform machining. In case of different application demand, both spindles can also simultaneously and independently work in combination to either turrets.

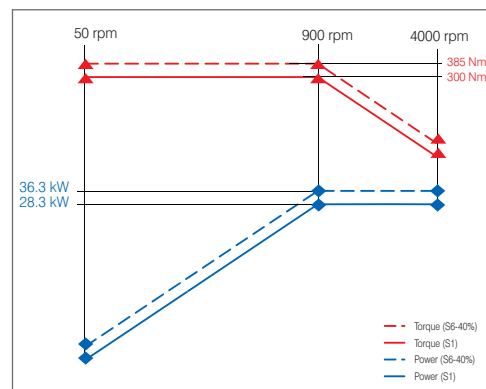


POWER TORQUE DIAGRAM

For Main & Secondary Spindle



Optional Spindle Motor

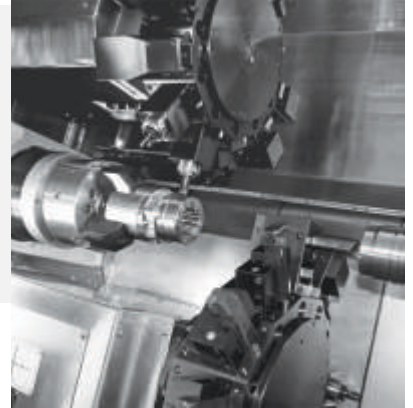


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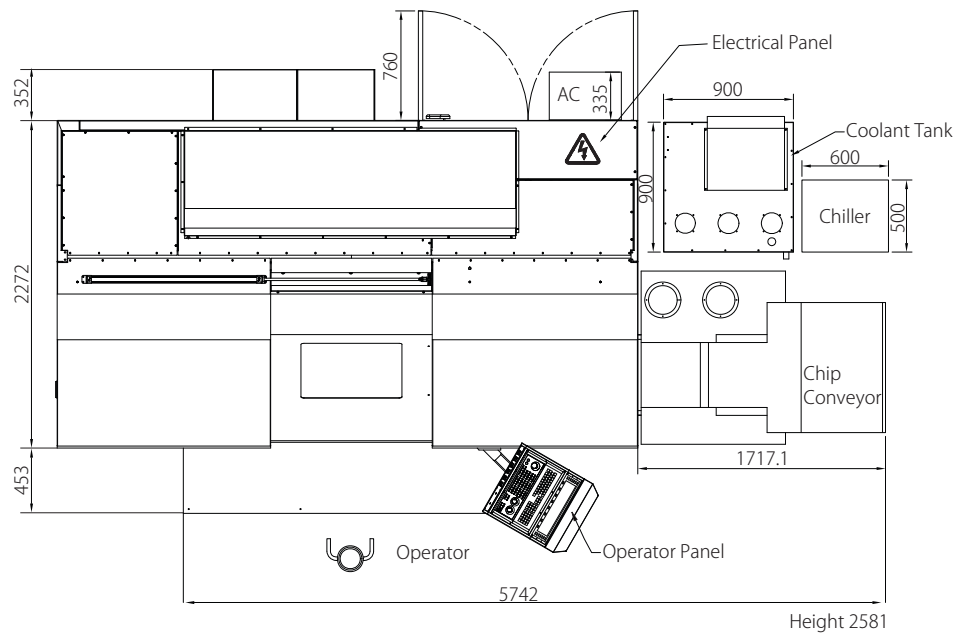
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MULTITASKING

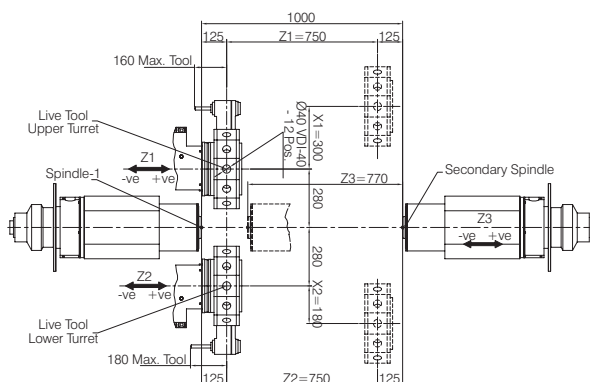
- Multitasking possible with combination of 2-Spindle and 2-Turrets with only single workpiece clamping thanks to live tool, C & Y axis
- Significant reduction in cycle time
- Increased tool life
- Ergonomy and easy accessibility for setting up of tools and inserts
- Very efficient removal of chips
- Possibility to add option equipments as bar feeder, finished workpiece conveyor to achieve maximum profitability



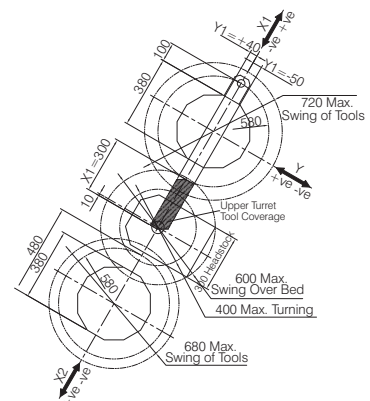
LAYOUT DIAGRAM



MACHINING RANGE



INTERFERENCE DIAGRAM





TECHNICAL SPECIFICATION

Machining Capacity

		TMX 200
Swing Over Bed Dia.	mm	600
Standard Turning Dia.	mm	250
Max. Turning Length	mm	725

Travels

X1 / Y / Z1 Axis	mm	300 / ±40 / 750
X2 / Z2 / Z3 Axis	mm	180 / 750 / 770

Rapid Feed

X1 / Y / Z1 Axis	m/min	25 / 15 / 30
X2 / Z2 / Z3 Axis	m/min	25 / 30 / 30

Electro Spindle

		Main	Secondary
Spindle Motor Speed	rpm	50-4000	50-4000
Spindle Nose		A ₂ 6	A ₂ 6
Spindle Bore	mm	65	--
Spindle Motor Power (S6-40% / S1)	kW	27 / 21	27 / 21
Spindle Motor Torque (S6-40% / S1)	Nm	255 / 200	255 / 200
Max. Bar Capacity	mm	52	--
C-Axis Angular Resolution	Deg.	0.0001°	0.0001°

Turrets

		Upper	Lower
No. of Driven Stations		12	12
Driven Tool-Holder		VDI 40	VDI 40
Max. Live Tool Speed	rpm	50-4000	50-4000
Max. Boring Bar Dia.	mm	Ø40	Ø40
Live Tool Motor Power	kW	5.5	5.5
Live Tool Torque	Nm	13	13

Accuracy (as per VDI/DGQ 3441)

Positioning (P) : X / Z / Y Axis	mm	0.008 / 0.012 / 0.008
Repeatability (Ps) : X / Z / Y Axis	mm	0.005 / 0.005 / 0.005

Other Data

Machine Weight (Approx.)	kg	10500
Machine Dimension (Approx.) :		
(With Chip Conveyor)		
Length	mm	5500
Width	mm	2500
Height	mm	2600

CONTROL SYSTEM

The CNC System SIEMENS 828D or SIEMENS 840D SL offered with the TMX Series machine.

STANDARD FEATURES

- Monoblock Structure with Slant Bed
- Linear Motion Guideways
- Main and Secondary Electrospindle Equipped with Hydraulic Clamping Chuck
- Upper & Lower Turret with 12 Driven Station
- Linear Scaling on all Axis
- Programmable and Centralized Lubrication
- Laser Calibration of Axis for Higher Positioning and Repeatability Accuracies
- Chip Conveyor

PRODUCTIVITY IMPROVING OPTIONS

- Bar Feeder
- Part Catcher
- Tool Probe
- High Torque Spindle Motor
- Coolant Through Tool Center
- Auto Door
- Job Probe
- Oil Skimmer
- Fully Toolled up Solution to Meet the Customer Needs

JYOTI CNC AUTOMATION LTD.

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Note: Specified information are subject to change arising out of continuous product improvement without notice. The description standard accessories/feature conforms to its list; not the photo of machine show in the catalogue. Other controller will have different configuration. Machine images are shown with option.



ISO 9001 : 2008