

MITXSeries Multi-Tasking Machines



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Multi-Tasking Machine

OVERVIEW

This series of state-of-art designed machine from Jyoti, caters to special needs of those complex components, demanding 5-Axis complex precise milling + precise 4-Axis turnmill operations in single machine with very high accuracy output in 3D contour profile.

Multi-tasking with un-interrupted & un-manned machining of typical applications demanding in close tolerance machining for industries like Aerospace, Automotive, Mechanical, Power Generation, Oil & Gas, etc.



- Highly reliable and thermally stable graded CI structure delivering highest part accuracy in multi-axis machining with precision.
- Cost and time saving for hardened steel to aluminum material machining with more flexibility, reduced setup time and least clamping.
- Efficient chip disposal from complete machining area.
- TPM and operator friendly design.

PRECISION AXIS

- Widely spaced L.M. guideways with high rapid traverse rate upto 40 m/min
- · High precision positioning accuracy by linear glass scale
- Special algorithm and better acceleration for better dynamics in 5-Axis cutting
- 6-sided complete Milling & Turning of complex workpieces in single setup part clamping.
- Productivity with high accuracy for complex jobs requiring machining with interpolation of 4 or 5-Axis

AXIS TRAVELS

X1 / Y / Z1 Axis (Milling Spindle)	600 / <u>+</u> 150 / 2150 mm
X2 / Z2 Axis (Lower Turret)	230 / 2000 mm
Z3 Axis (Secondary Spindle)	2000 mm

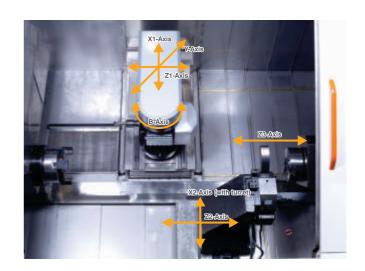
RAPID FEED

X1 / Y / Z1 Axis (Milling Spindle)	40 / 40 / 40 m/min
X2 / Z2 Axis (Lower Turret)	26 / 30 m/min
Z3-Axis (Sub Spindle)	30 m/min
B-Axis (Milling Spindle)	30 rpm

MACHINING CAPACITY

Applications: 5-Axis Milling, Drilling, Boring, Cam Profiling, B-Axis Turning, Camshaft Turning, Grinding, Gear Hobbing, Shaping, off Center Angular Machining

Swing Over Bed	520	mm
Max. Turning Diameter (with Milling Spindle)	520	mm
Max. Turning Diameter (with Lower Turret)	350	mm
Distance Between Center Length	2300	mm





MAIN & SUB-SPINDLE (MOTORIZED)

- Both turning spindles having C-Axis with hyd. breaking system for milling operations
- High Power & High Torque spindles with better provision of head dissipation
- Sub-spindle having independent travel (Z3-Axis) to collect job from main spindle for 2nd set-up machining
- For long jobs, both main and sub-spindle can work in synchronization for various typical turning and milling operations
- · Servo Controlled (Digital) Taistock available instead of sub-spindle
- · Hydraulic work holding



AUTOMATIC TOOL CHANGER

- 40 tool ATC provided to support variety of operations.
- Tool change in any Z-Axis position.
- Optional ATC available to hold 6 long boring tool up-to 1000mm long and 90 kg weight.
- Option available of 80, 120 tool changer

AUTOMATIC TOOL CHANGE	MAIN TOOL MAGAZINE	SUB TOOL MAGAZINE (OPT.)
Number of Tool Station	40	6 (20)
Max. Tool Dia. (All/Adj. Empty)	90 / 160 mm	100 mm
Max. Tool Length	500 mm	1000 mm
Max. Tool Weight	15 kg	90 kg

TURNING SPINDLE	MAIN SPINDLE	SUB SPINDLE
Spindle Nose	A ₂ 8	A ₂ 8
Spindle Bore Dia.	77 mm	77 mm
Spindle Power	35 kW	35 kW
Spindle Torque	585 Nm	585 Nm
Spindle Speed	4000 rpm	4000 rpm

MILLING SPINDLE (B-AXIS)

- 5-Axis capability for complex profile machining, working with C-Axis
- Off-center machining with bigger Y-Axis travel: ± 150 mm
- Hydraulic locking for milling spindle for turning operations
- Effectively can hold & can do boring upto 1200mm long boring bar
- Full Z-Axis stroke of spindle to work with main and sub-spindle

Spindle Taper	HSK 63A
Spindle Motor Power / Torque (Cont.)	26 kW / 125 Nm
Max. Spindle Speed	6000 (12000) rpm
Spindle Swivelling Range (B-Axis)	<u>+</u> 110°
() optional	

LOWER LIVE TOOL TURRET

- VDI 50 Live Tool Turret for better rigidity against cutting force and higher boring capacity
- · Live tool for milling operations with suitable power and speed
- Flexible lower slide with option of steady or turret

Number of Dirven Station	12
Max. Live Tool Speed	3000 rpm
Live Tool Motor Power	8.8 kW
Max. Boring Bar Dia.	50 mm

STANDARD FEATURES

- The CNC System Offered SIEMENS 840D with 15" Touch Screen
- Operator Friendly Movable Operator Panel
- Ergonomic Design
- Auto & Manual Coolant System
- · Electrical with Quality Device & Panel A.C.
- High Precision Roller Type L.M. Guideways
- Chip Conveyor for Easy Chip Evacution

PRODUCTIVITY IMPROVING OPTIONS

- Geared Milling Spindle for High Torque
- High Pressure Tool Through Coolant
- Secondary Spindle
- 80/120 Tool ATC
- Sub Tool Magazine for Heavy Weight Boring Bar
- Capto C6 Taper for Milling Spindle
- Servo Driven Steady Rest Instead of Lower Turret
- Oil Skimmer
- Linear Glass Scale
- Coolant Gun
- Tool Probe & Job Probe
- Fully Tooled up Solutions to Meet the Customer Needs.

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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.

