



Proudly Made in India



High Speed, Mass Production Machining Center

MILL TAP



CNC MACHINE TOOLS

COSMOS IMPEX INDIA PVT. LTD. / www.cosmos.in

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COSMOS MillTap Series is a combination of **High Speed & High Precision** in a high performance milling & tapping center. It is designed to meet today's diverse requirement of **Automobile, Electronics and Medical industry**.

The Mill Tap machines come with a Japanese Heart capable of delivering Rapids of 60m/min effortlessly with 1.2G Acceleration.

High Accuracy

Max Spindle Speed:
12,000 rpm

Rapid traverse:
60 m/min

Axial Acceleration:
1.5G

Max. Tapping Speed:
6000 rpm
(For M2 Tap, 6mm depth)

Tool Change Time:
2.0 Sec
(Chip to Chip)

High Speed

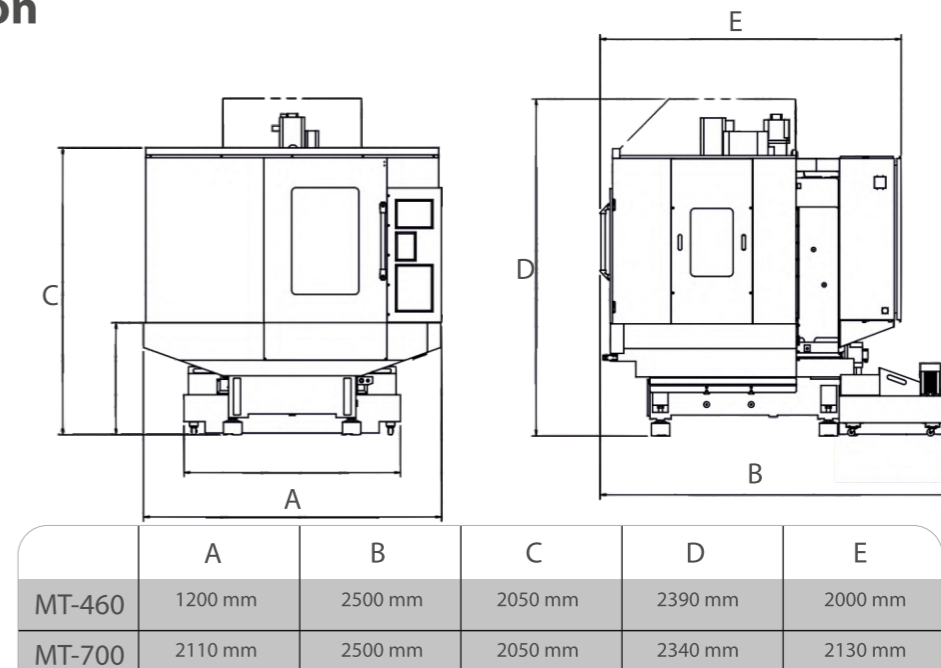


MACHINE SPECIFICATIONS

CONTROL SYSTEM	UNIT	MT-460	MT-700
TRAVEL			
X axis travel	mm	460	700
Y axis travel	mm	320	320
Z axis travel	mm	300	
Spindle nose to table surface	mm	180-480	
TABLE / PALLET			
Table dimension	mm	520 x 320	760 x 320
Maximum load	kg	250	350
SPINDLE			
Spindle Motor Output (Peak)	kW	3.7/5.5/11	
Spindle Speed	rpm	12,000	
Spindle Taper		BT 30	
FEED			
Rapid Rate of X/Y/Z	m/min	60 / 60 / 60	
Acceleration X/Y/Z	G	1.5/1.5/1.5	
ACCURACY			
Positioning	mm	0.010	
Repeatability (+/-)	mm	0.003	
ATC			
Tool storage capacity		21T	
Max. Tool Diameter	mm	50	
Maximum tool length	mm	160	
Maximum tool weight	kg	3	
Tool changing time	sec	T-T:1.5 / C-C:2.0	
GENERAL			
Coolant tank capacity	Liters	100	100
Power Requirement	KVA	10	
Air Pressure Requirement	kgs / CM ²	6	
Floor Space (W x L)	mm	1200x2500	2110x2500
Weight	kgs	2000	2400

*Above Specification reflect Mitsubishi Controller

Foundation



Standard Features

- Mitsubishi M80 Controller
- Direct Drive Spindle
- 21 Tool Servo ATC
- Ac Servo Motors in all Axes
- BT-30 Spindle Taper
- LM Guide in all Axes
- Auto Lubrication System
- Portable MPG
- Air Gun
- Coolant Gun
- Chip Flushing
- Full Enclosure
- Coolant System
- 3 Tier Operation Lamp
- Levelling Pad & Maintenance Kit
- Operation & Maintenance Manual

Optional Accessories

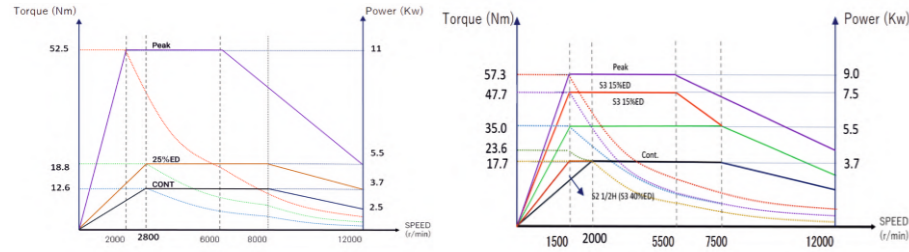
- Rotary Table
- Chip Conveyor
- Air Conditioning for Electrical Panel
- Coolant through Spindle
- 4th Axis Enable
- 4th Axis Interface with Drive
- Auto Door
- Auto Tool Length Measurement System
- Work Piece Probe
- Spindle Oil Cooler

Torque Power Diagram

Mitsubishi Controller

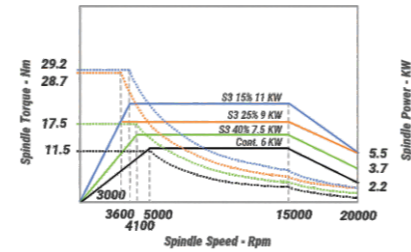
Standard spindle motor

High torque spindle motor



FANUC Controller

Standard spindle motor



Powered by AKIRA SEIKI (Since 1985), and now manufactured by COSMOS India. AKIRA SEIKI is well established with over 6000+ global installations.

Efficient Chip Management

Efficient swarf removal system can be configured according to type of materials used and chip type

- with scraper type chip conveyor
- with hinge type chip conveyor

Automatic measuring solutions

Range of tool and workpiece probes are available for:

- Touch probe for tool setting (without cable)
- Automatic workpiece probes
- Laser tool probes
- Separate measuring station

Coolant through spindle (CTS)

- 20 bar CTS is available for deep drilling and high speed machining

Hinge Type Scraper Type



High Rigidity Body

Key machine elements such as bed, column and table are specially designed to minimise deformation caused by rapid movements and jerks.

Column

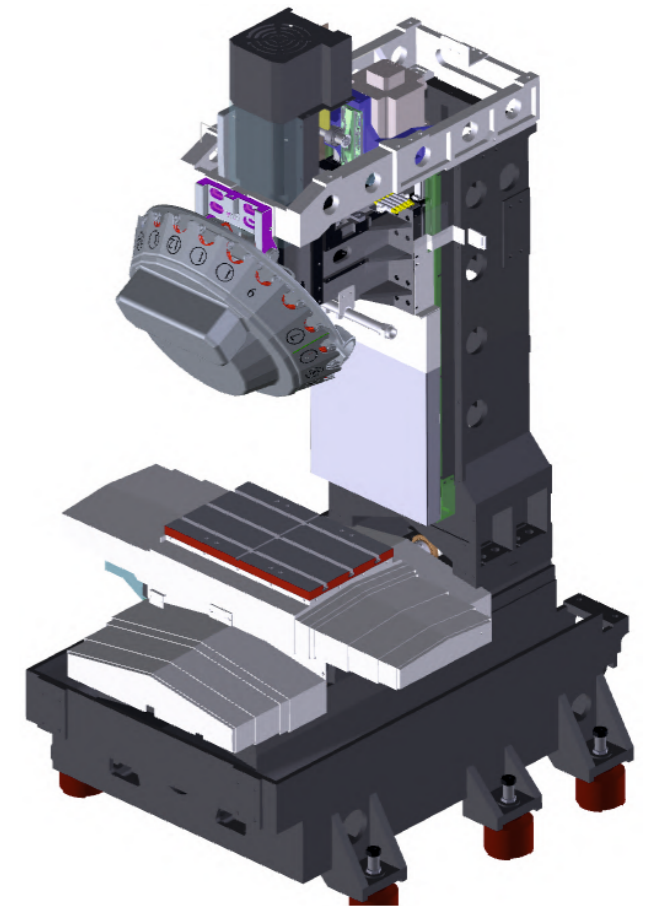
High rigidity of column is achieved through heavy ribbing of the casting and creating A-shape column base of extra stiffness.

Table

Is specially designed for superior cutting performance with minimum inertia and maximum rigidity. The internal ribbing make it suitable for large fixtures .

Base

Finite element analysis of the base ensures optimised structural rigidity and torsional stiffness for ultimate performance characteristic and consistent result



4th & 5th Axis Rotary Table

For more versatile applications, you can choose from our wide range of 4th & 5th Axis Rotary Tables available in different configurations

- Worm & worm wheel type
- Roller cam type
- Direct drive top model type



Energy Efficient + **Space Saving** + **High Speed** = **Increased Profits**

MORE PRODUCTION CAPACITY WITH REDUCED OVERHEADS



As a result of their high productivity our MillTap centers are ideally suited for quick processing of various Automotive parts along with a wide array of electronic and medical components .

Automotive Parts

Cylinder Case / Cam Case / Engine Body / Engine Housing / Brake Master Cylinder / Motor Cap



Electronic Components

Mobile phone case / Hard disk seats / Heat Sink / HD Read write heads / Camera telescopic mechanism



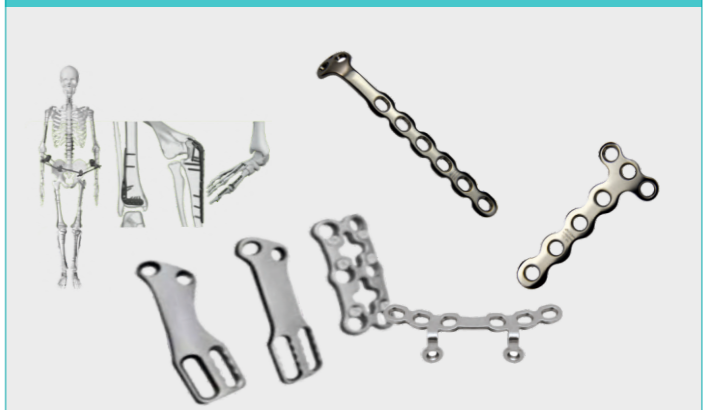
Light alloy formed parts

Pneumatic valve / Hydraulic throttle / Bicycle parts / Pneumatic tool housing / Sewing machines parts



Other Components

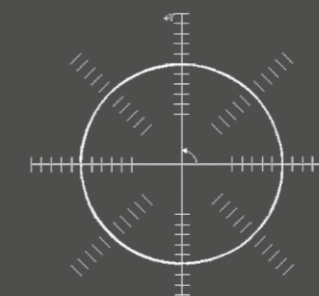
Medical Implant Plates / Watch Cases / Titanium Engraving



Quality Assurance

100% Ball bar and laser calibration are carried out on all machines to guarantee committed accuracies. The ball bar test inspects the circularity for servo axis movement. This test will ensure the axis synchronization and stiffness in the movement. The laser calibration is done to set machine positioning accuracy, ensuring precise axis movement and high repeatability.

Circularity 10 µm



Feedrate : 1000. mm/min
Radius : 150 mm

Accuracy

Positioning Accuracy = 0.010mm
Repeatability = 0.006mm
(Accuracies as per VDI 3441)