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MILL TAP

High Speed, Mass Production Center



Your Partner in Progress...

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 , electronic 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 :
60m/min

Axial Acceleration:
1.2G

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

Tool Change Time:
2.2 Sec
(Chip to Chip)

High Speed



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

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

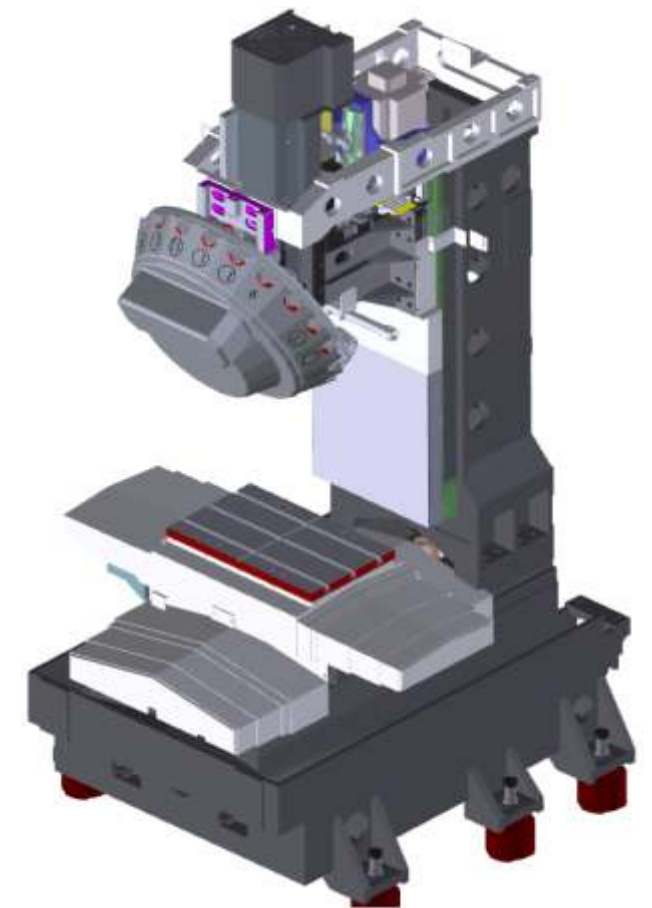
High rigidity of column is achieved through heavy ribbing of the casting and creating A-shape column base of extra stiffness.

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



Energy Efficient + Space Saving + High Speed = Increased Profits

MORE PRODUCTION CAPACITY WITH REDUCED OVERHEADS



Smallest Foot Print

ATC

Non cutting time has been minimized by using highly reliable drum type ATC

Spindle

Direct-coupled type spindle are adopted to reduce vibration and noise while enhancing productivity

Controller

Newly designed operating panel enhances operating convenience.

Structure

Designed as a highly stable, rigid structure, the Milltap series offers improved surface finish and chatter free machining.

Footprint

Minimized machine footprint and maximum speed are key to producing more value per square foot of your shop.

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 / Remote helix parts



Other Components

Medical Implant Plates / Watch Cases / Titanium Engraving

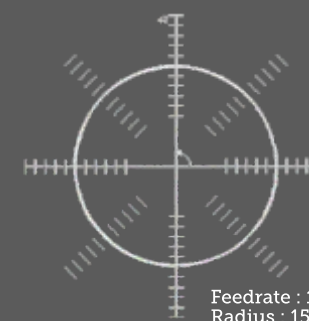


Quality Assurance

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



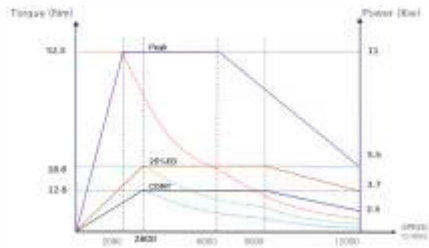
Accuracy

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

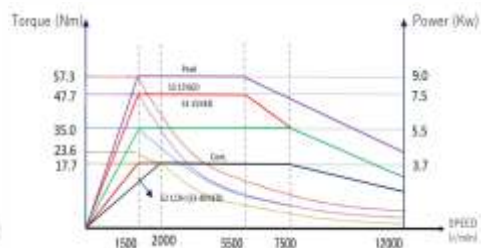
Torque Power Diagram

Mitsubishi Controller

Standard spindle motor

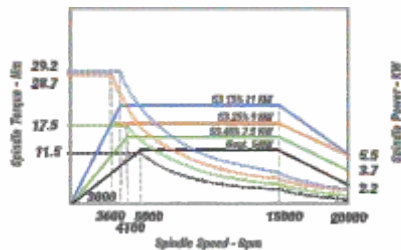


High torque spindle motor



FANUC Controller

Standard spindle motor



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

Hinge Type Scraper Type



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



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

- a) Worm & worm wheel type
- b) Roller cam type
- c) Direct drive top model type



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 | 3.7/6.6 | |
| 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 | 1.2 / 1.2 / 1.0 | |
| 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: 1.7 / C-C:2.2 | |
| 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 |

Standard Features

- Mitsubishi M80/ Fanuc OiMF Controller
- Direct Drive Spindle
- 14 Tool Drum type 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

Foundation

