



### SKU : 181441

The X.mill T series is the newest generation of our vertical machining centers, with modern high-performance compact CNC controls. Whether equipped with Siemens or Fanuc controls, this series offers an excellent price-performance ratio. Wide range of accessories for easy adaptation to meet your specific requirements. Using state-of-the-art FEM Analysis Software, we were able to achieve the highest machine frame rigidity in this machine class

- Optimized frame design using FEM analysis
- Extra wide Y-shaped column for increased rigidity
- Ø32 mm C3 preloaded ball screws for high accuracy
- Available with Siemens or Fanuc control
- High customization and automation possibilities

## TECHNICAL SPECS

### WORKING AREA

Table dimensions	900 mm x 450 mm
Table load capacity	600 kg
Spindle nose-to-table surface distance	110 mm - 660 mm
Spindle center-to-stand distance	520 mm
Number of T-slots	5 positions
T-slot (width x spacing)	18 mm x 80 mm

### TRAVELS

Travel X-axis	700 mm
Travel Y-axis	450 mm
Travel Z-axis	550 mm

### HEADSTOCK

Spindle speed	10000 1/min
Spindle mount	SK 40 ISO 7388-1 (DIN 69871)
Spindle torque (max.)	52.5 Nm

### RAPID FEED

Rapid feed X-, Y-, Z- axis	36000 mm/min
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### FEED

Work feed	10000 mm/min
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### TOOLING

Number of tool stations	20 positions
Tool Ø	100 (130) mm
Tool weight max.	8 kg
Tool-change time tool/tool	10 sec

### ACCURACIES

Positioning accuracies	± 0,005 mm
Repeatabilities	± 0,003 mm

### DRIVE CAPACITY

Motor rating main drive	11 kW
Motor rating X-axis	1.8 kW
Motor rating Y-axis	1.8 kW
Motor rating Z-axis	3 kW
Total power consumption	15 kVA - 20 kVA

### CONTROL

Control	Fanuc
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### MEASURES AND WEIGHTS

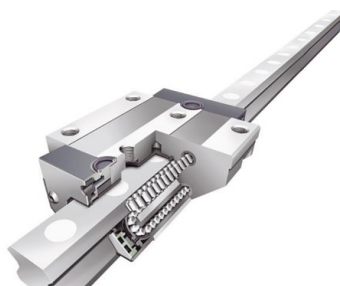
Overall dimensions (length x width x height)	2.47 m x 2.2 m x 2.52 m
Weight	4200 kg



*Solid machine table with 5 slots*



*Cast iron body with large span*



*High quality roller guides*



*Control Fanuc Oi-MF*



## PRODUCT DETAILS

- The new X.mill series is ideally suited for streamlined and cost-effective series production
- The entire series is optionally available with modern compact CNC controls from Siemens or Fanuc and thus offers the right control solution for many companies.

### Machine Design

- The X.mill series machine frame was developed using the most advanced FEM analysis software on the market
- The thorough analysis of the entire machine bed construction and wide column base resulted in a design that is optimized for all load conditions
- All axes move on premium, fully enclosed linear guideways and precision ball screws and are driven by dynamic servo-motors

### Spindle

- The main spindle is supported by multiple bearings to ensure excellent absorption and dissipation of forces during machining
- The advanced design of our spindles ensure low heat accumulation under load
- Large pre-loaded bearings ensure radial stability during heavy-duty machining operations
- High-temperature lubricants ensure optimum lubrication at any operating temperature and a long tool life

### Tool Changer

- The robust armless 20-station tool changer brings flexibility to everyday production operations
- An optional 30-station tool changer with dual-arm gripper is also available

### Handling

- The totally enclosed workspace features a large door and side doors for easy access, safety and cleanliness
- An electronic hand-wheel simplifies machine set-up
- Electrical equipment is divided into separate control cabinets for high and low voltage systems, which results in a significant reduction of heat accumulation and noise
- The automatic central lubrication system ensures proper lubrication of all lube points

## CONTROLS & SOFTWARE

### Fanuc Oi-MF (5) control

### Fanuc Oi MF control

- Easy programming and operation, short learning curve
- User-friendly graphics display for visual verification of parts programs
- Use of existing programs without reprogramming requirements
- High-speed machining and standard nano-interpolation
- Fixed cycles and custom macro B for simplified parts programming
- State-of-the-Art functionality, like jerk limitation, nano smoothing, and AI Contour Control II - compatible with previous version series O and series Oi models A, B, C and D
- Series Oi Model F are the successor models of the Series O and Series Oi, which are the most popular CNC controls worldwide with over 700,000 installations.
- With up to 4 simultaneously controlled axes, the CNC Series Oi provides the best controls for highly demanding machine tools.

## STANDARD EQUIPMENT

Fanuc Oi-MF (5) control  
Shield-type 20-station tool changer  
Screw-type chip conveyor with bucket  
Rigid tapping  
Autom. power off  
Manual coolant spray gun  
Coolant system  
Spindle air system  
Heat Exchanger for electric control cabinet  
Fully enclosed work space (without top cover)  
Electronic hand-wheel  
USB port  
Automatic central lubrication  
Work lamp  
3-color signal lamp  
Operating tools  
Leveling bolts and blocks  
Preparation for Renishaw TS 27 R

## OPTIONAL EQUIPMENT

- Top cover for X.Mill/Vector 650-1000, SKU : 252819
- Upg from Fanuc Oi-MF (package 5) to (package 1), SKU : 252888
- Manual guide Oi, SKU : 252889
- Connection for 4th axis (wiring only and axis chart), SKU : 253019
- CTS 30 bar system with dual filter system, SKU : 253369
- Disc Type Oil Skimmer, SKU : 253383
- Chip Wash System, SKU : 253384
- Arm Type BT-40/SK 40 24-Tool-Changer, SKU : 253436
- Spindle Oil Cooler, SKU : 253440
- Spindle speed upgrade 10.000 to 12.000 rpm (belt type), SKU : 253609
- Spindle speed upgrade to 12.000 rpm direct drive no CTS, SKU : 253610
- Arm type ATC upgrade from 24 to 30 tools (BT40), SKU : 253611
- Upgrade from screw type to chain type chip conveyor, SKU : 253612
- manual tailstock ST-125T for rotary table for X.mill, SKU : 253617
- manual tailstock ST-170T for rotary table for X.mill, SKU : 253618
- manual tailstock ST-255T for rotary table for X.mill, SKU : 253620
- manual 5" chuck for rotary table for X.mill, SKU : 253621
- manual 6" chuck for rotary table for X.mill, SKU : 253622
- manual 9" chuck for rotary table for X.mill, SKU : 253624
- Z axis travel upgrade from 550 to 800 mm for X.mill, SKU : 253626
- CTS 20 bar system with dual filter system, SKU : 253627
- Manual guide i (requires Fanuc Package 1), SKU : 253631
- 125 mm diam. 4th axis (4th axis, servo motor, driver, air brakes)(Fa), SKU : 253639
- 170 mm diam. 4th axis (4th axis, servo motor, driver, air brakes)(Fa), SKU : 253640
- 210 mm diam. 4th axis (4th axis, servo motor, driver, air brakes)(Fa), SKU : 253641
- 250 mm diam. 4th axis (4th axis, servo motor, driver, air brakes)(Fa), SKU : 253642
- Air through spindle, SKU : 253782
- Upgrade Spindle Taper from SK40 to BBT 40, SKU : 253951



## KNUTH on YouTube

### Information to the point

On our YouTube channel you can find videos for nearly all machines from our program. We show the machines from current deliveries and you get an impression of the handling, the processing quality and the machining performance.

**Are you interested in a machine for which you cannot find a current video?  
Please feel free to contact us!**