Conventional Milling Machines

WF M 500

SKU : 470686

TRIAL MACHINE

No right of return – no CE marking and with a 6-month parts warranty; for export outside the EU only

Toolroom milling machines are indispensable in the mechanical workshops of toolmaking and mould-making. Compact design, high flexibility and straightforward operation are qualities that have proved their worth many times over, and are here given a modern interpretation. Servo drives and preloaded ball screws make the machine more powerful and more precise. This machine is an excellent choice for toolmaking and mould-making, as well as repair workshops, training departments and production environments.

- Vertical and Horizontal Spindle
- Precise Preloaded Ball Screws on All Axes
- Large Vertical Column and Work Table

Weight	1550 kg

TECHNICAL SPECS

WORKING AREA

Table dimensions	400 mm x 800 mm
Number of T-slots	6 positions
T-slot (width x spacing)	14 mm x 63 mm
Vertical table	225 mm x 1020 mm
T-slots, vertical table (number)	3 positions
T-slots, vertical table (width x spacing)	14 mm x 63 mm

TRAVELS

Travel X-axis	500 mm
Travel Y-axis	400 mm
Travel Z-axis	400 mm

MILLING HEAD

Speed range, low	40 1/min - 260 1/min
Speed range, high	260 1/min - 2000 1/min
Spindle speed	40 1/min - 2000 1/min
Spindle mount	DIN 2080 SK 40
Swivel angle	90 deg
Travel pinole	60 mm
Spindle nose-to-table distance	50 mm - 450 mm
Spindle center-to-column distance	180 mm - 580 mm

RAPID FEED

Rapid feed X-axis	1200 mm/min
Rapid feed Y-axis	1200 mm/min
Rapid feed Z-axis	1200 mm/min

HORIZONTAL MILLING SPINDLE

Spindle mount	DIN 2080 SK 40
Spindle center-to-table distance	145 mm - 545 mm

FEED

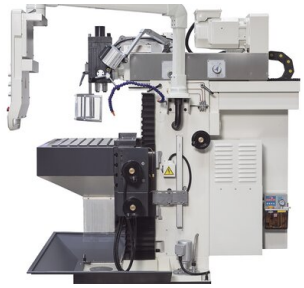
Work feed X / Y / Z axis	10 mm/min - 1000 mm/min

DRIVE CAPACITY

Motor rating main drive	3.7 kW
Feed X-axis	7.7 Nm
Feed Y-axis	7.7 Nm
Feed Z-axis	10 Nm
Motor rating coolant pump	0.09 kW

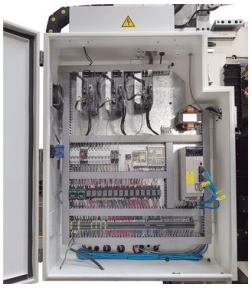
MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	1.5 m x 1.7 m x 1.8 m



The electronic hand-wheels are assigned to the axes and intuitively operated

Feed rate and spindle speed can be switched and continuously adjusted at the control panel



High-quality components and clean wiring minimise the risk of failures and downtime

PRODUCT DETAILS

Machine Design

- The machine column, cast from high-grade grey cast iron, provides dynamic rigidity and lasting precision.
- The extra-wide flat guideways on the Y and Z axes guarantee stability under high loads.
- A dovetail guideway on the X axis ensures high load capacity and tipping rigidity in this axis.
- This design also offers excellent damping characteristics and allows finely adjustable wear compensation, making it particularly well suited to machining tasks with demanding stability requirements.
- The large vertical and horizontal clamping surfaces, combined with a compact and universal design, provide solutions for complex machining requirements.

Vertical Spindle and Drive

- A swivelling vertical milling head with a slim, compact design delivers maximum flexibility with minimal space requirements.
- The ribbed housing ensures high rigidity and efficient heat dissipation.
- The ease of swivelling expands the machining options and increases the versatility of the toolroom milling machine.
- The traversable quill also enables angled drilling operations.
- For high torque at the tool, spindle speeds are adjustable via a modern inverter across two gear stages.

Horizontal spindle

- To use the horizontal spindle, the vertical milling head can be swung clear of the working area.
- The dedicated fixture and guideway make this process quick and straightforward.
- For the use of long arbours, a robust arbour support bracket is included as standard equipment.
- The sturdy construction allows high material removal rates and the use of multiple tools simultaneously.
- The long arbours included in the scope of delivery are fully equipped with spacers and bushes.

Feed

- Powerful servomotors enable infinitely variable feed speeds and rapid traverse in all axes
- High rapid traverse speed reduces non-productive times
- Preloaded recirculating ball screws in all axes guarantee precise, smooth and low-wear positioning without backlash and a long service life
- Micro-control via electronic hand-wheels offering the same handling and postioning as with a conventional machine, just smoother and more precise
- Reliable, maintenance-free high-volume technology

Equipment

- The machines are supplied as standard with a comprehensive accessories package.
- The scope of delivery includes a digital readout (DRO) with linear scales, an LED work lamp, high-quality anti-vibration mounts, a set of long arbours, and a collet chuck with collets.
- The coolant system is integrated into the base frame and is easy to maintain.
- The control panel is mounted on a long boom and can always be optimally positioned by the operator
- The automatic central lubrication reliably supplies all lubrication points and simplifies daily maintenance.

Position Indicator

- The high-resolution colour display and powerful CPU enable useful calculation and coordinate functions in multiple languages, ensuring clear and intuitive operation.
- Greater productivity and process reliability are achieved through improved working accuracy and a lower error rate.
- The robust construction of the readout and the proven linear scales enable virtually maintenance-free operation and high reliability.

Standard Equipment

- Control Panel with DRO
- Preloaded ball screws and direct servo drives on all axes
- Automatic Feed on All Axes
- Electronic hand-wheels
- Arbour Support Bracket for Long Arbours
- Milling accessories
- Automatic central lubrication system
- Height-adjustable protective cover
- Coolant system
- LED work lights
- Pivoted Mounts
- Operating tools
- Operation manual

The proven design with horizontal and vertical milling spindles, combined with large horizontal and vertical work tables, allows adaptation to virtually any production task.

This machine is therefore ideally suited to prototype and experimental work, toolmaking, and training applications.

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!