Conventional Vertical Milling Machines

# Servomill® UWF 5

**SKU : 470601**

## TRIAL MACHINE

The versatile Servomill UWF with servo-conventional feed technology and on two levels swiveling cutter head is the top model of our Universal Milling Machine series. This series features a very large work area and a vertical and horizontal spindle with a powerful drive. Electronic stops, electronic hand wheels and additional milling functions give the Servomill many of the advantages of the CNC series production technology even without programming. These machines are mainly used in tool making, manufacturing and training.

- Servo-conventional feed technology
- Preloaded ball screws on all axes
- Electronic hand-wheels
- Universal cutter head with 2 swivel axes
- Horizontal spindle with its own drive
- Infinitely variable spindle speed

## TECHNICAL SPECS

### WORKING AREA

| | |
|---|---|
| Table dimensions | 1600 mm x 360 mm |
| Number of T-slots | 3 positions |
| T-slots, width | 18 mm |
| T-slots, spacing | 80 mm |

### TRAVELS

| | |
|---|---|
| Travel X-axis | 1300 mm |
| Travel Y-axis | 290 mm |
| Travel Z-axis | 450 mm |

### MILLING HEAD

| | |
|---|---|
| Speed range (2) | 60-360 / 360-1800 1/min |
| Spindle mount | SK 50 DIN 2080 |
| Swivel angle | 360° |
| Spindle nose-to-table surface distance | 186 mm - 636 mm |
| attributes.MEG-000034.MER-002733 | 390 mm - 960 mm |

### RAPID FEED

| | |
|---|---|
| Rapid feed X-axis | 3000 mm/min |
| Rapid feed Y-axis | 3000 mm/min |
| Rapid feed Z-axis | 1500 mm/min |

### HORIZONTAL MILLING SPINDLE

| | |
|---|---|
| Spindle center-to-table distance | 10 mm - 460 mm |
| attributes.MEG-000011.MER-002734 | 200 mm |

### FEED

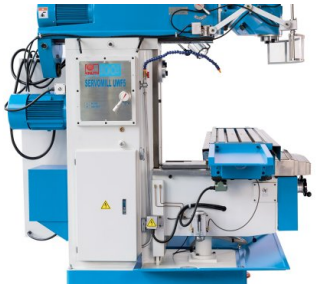
| | |
|---|---|
| Feed speed X-axis | 30 mm/min - 1000 mm/min |
| Feed speed Y-axis | 30 mm/min - 1000 mm/min |
| Feed speed Z-axis | 15 mm/min - 500 mm/min |

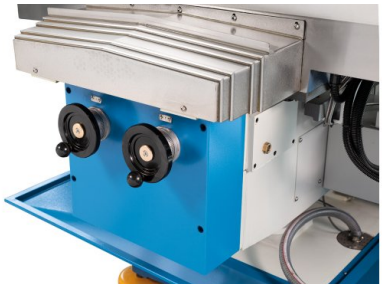
### DRIVE CAPACITY

| | |
|---|---|
| Motor rating vertical spindle | 5.5 kW |
| Motor rating horizontal spindle | 7.5 kW |
| Motor rating feed | 10 Nm |
| Motor rating coolant pump | 0.09 kW |

### MEASURES AND WEIGHTS

| | |
|---|---|
| Overall dimensions (length x width x height) | 2 m x 2.8 m x 2.3 m |
| Weight | 2800 kg |





## PRODUCT DETAILS

**Integrated electronics allow for easier, more precise and more efficient conventional milling**

- Servomill machines represent a new generation of conventional milling machines
- All Servomill models feature a user-friendly design, significantly higher precision and increased productivity
- Very high reliability and long service life of all components ensure drastically reduced maintenance and increased availability
- The Servomill UWF series machine frame features a very sturdy and torsionally rigid construction with knee-and-column design
- A large setup area and long travels result in a large work area despite the compact overall dimensions
- The console is supported by an additional guide system for increased table load capacity
- The work table moves on the X axis in a large dimensioned dovetail guide, which features excellent damping properties and can be adjusted with very high precision
- The box ways have wide support bases for increased load capacity and maximum dimensional stability while guiding console and top beam
- All guides are hardened and ground, and lubricated via a central lubrication system
- The complete drive is integrated in the heavy top beam that positions the cutter head
- This design ensures efficient power transmission with quiet, low vibration operation and features a very long Y axis travel
- Another highlight of this series is the universal cutter head that swivels on 2 axes
- Cutter spindle can be moved to virtually any spatial angle and quickly moved to the horizontal plane
- Powerful 7.5 kW horizontal spindle and heavy-duty top beam with outer arbor ensure excellent machining results when working with long cutter arbors
- The robust 2-step gears are hardened and ground and feature an infinitely variable wide speed range, high load capacity, and quiet operation
- Powerful servo motors allow infinitely variable feed speeds and rapid feeds on all axes
- Preloaded ball screws on all axes ensure precise, jolt- and backlash-free positioning with minimal wear for a long tool life
- The machines' standard equipment includes extensive accessories, including a powerful coolant system, LED work lamps, and a wide selection of operating tools

**Servomill - Highlights**

- Control developed and built in Germany
- Positioning control for traveling pre-selected paths on all axes
- Zero backlash preloaded ball screws
- Servo-motors on all axes, infinitely variable feed, rapid feed, and speed control
- Electronic spindle load indicator
- Electronic hand-wheels on all axes
- X, Y and Z axis movement via joystick technology
- Integrated position indicator with precision glass scale
- Feed can be synchronized with the spindle speed

**Your Advantages:**

- Easy to use: intuitive operation - practical layout of control elements and streamlined function
- Automatic feed on all axes and infinitely variable rapid feed
- Set limit stops on any axis with the push of a button - 3 stop positions per axis can be stored
- More precise: operated via electronic hand-wheels - axes are powered by high-quality servo drives that translate your hand movements with the precision and dynamics of modern CNC machines
- More reliable: drives, spindles, and measuring systems are totally enclosed or mounted in protective enclosures and virtually maintenance-free
- Electronics - made in Germany
- More capacity: this machine only uses premium drive components that are designed for continuous operation
- Maintenance-free: no regular maintenance needed for the entire feed drive
- Advanced Feed Technology:
- Axes are powered by high-quality servo drives that translate your hand movements with the precision and dynamics of modern CNC machines
- Reliable, maintenance-free mass production technology
- High rapid feed rate for reduced machine down-times
- Ball screw drive on all axes:
- Considerably less errors due to loseness (backlash), resulting in significantly higher precision
- Significantly reduced friction, no stick-slip effect, reduced heat buildup, minimal wear

- Electronic hand-wheels:
- Micro-control via electronic hand-wheels offering the same handling and postioning as with a conventional machine, just smoother and more precise
- Joystick control:
- Maximum operator comfort for axis movements
- Easy handling during sequential processing
- Electronically controlled fixed stops:
- Set 2 limit stops at 3 positions on each axis by the push of a button - these buttons are grouped around the feed switch for intuitive control
- This ensures high repeatability during coordinate drilling or pocket cutting, and siginificantly more positions can be set up than on conventional machines
- Electronic spindle load indicator:
- Assists the operator in the most efficient utilization of machine and tool capacities
- Reliable indicator helps avoid damages caused by overloads

**Standard Equipment**

- 3-axis position indicator, X.pos 3.2
- Electronic hand-wheels
- Reducing sleeve (ISO 50 / MT14)
- Milling arbors (27, 32 mm)
- Collet chuck ISO 50 incl. collets up to 16 mm (8 pieces)
- Coolant system
- Work lamp
- Chip tray
- Draw bar
- Operating tools
- Operation manual