

### SKU : 301292

The versatile Servomill UWF with servo-conventional feed technology and on two levels swiveling cutter head is the top model of the Universal Milling Machine series. This series features an extra large work area and more powerful main spindle drives. 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.

- Large work area
- Servo-conventional feed technology
- Preloaded ball screws on all axes
- Electronic hand-wheels
- Universal cutter head with 2 swivel axes
- Infinitely variable spindle speed



## TECHNICAL SPECS

### WORKING AREA

Table dimensions	2000 mm x 500 mm
Table load capacity	1800 kg
Number of T-slots	5 positions
T-slots, width	18 mm
T-slots, spacing	80 mm

### TRAVELS

Travel X-axis	1400 mm
Travel Y-axis	700 mm
Travel Z-axis	500 mm

### MILLING HEAD

Speed range (2)	30-390 / 390-2050 1/min
Spindle mount	SK 50 DIN 2080
Swivel angle	360°
Spindle center-to-table distance	50 mm - 550 mm

### RAPID FEED

Rapid feed X-axis	2200 mm/min
Rapid feed Y-axis	2200 mm/min
Rapid feed Z-axis	1100 mm/min

### FEED

Feed speed X-axis	10 mm/min - 1000 mm/min
Feed speed Y-axis	10 mm/min - 1000 mm/min
Feed speed Z-axis	5 mm/min - 500 mm/min

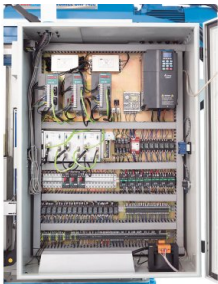
### DRIVE CAPACITY

Motor rating main drive	11 kW
Motor rating X axis feed	3.6 kW
Motor rating Y axis feed	3.6 kW
Motor rating Z axis feed	5.5 kW
Motor rating coolant pump	0.13 kW

### MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	3.25 m x 2.5 m x 2.2 m
Weight	4500 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
- 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

- Electronics 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
- Powerful servo motors allow infinitely variable feed speeds and rapid feeds on all axes

### 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
- With speeds up to 5000 mm/min
- 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 looseness (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 positioning 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 significantly 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

#### **Position indicator X.pos 3.2**

- The new generation of displays is more powerful, robust, and reliable
- For additional information, see manuals included with the standard equipment

## **STANDARD EQUIPMENT**

Control panel with X.Pos 3.2 and extended functions  
 Ball screw drives and servo direct drives in all axes  
 Automatic feed with electric limit switches in all axes  
 Electronic handwheels  
 Accessories for milling  
 Automatic central lubrication  
 Heat exchanger for electrical control cabinet  
 Protection shield  
 Coolant system  
 LED work light  
 Operating tool  
 Operator instructions



## **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!**