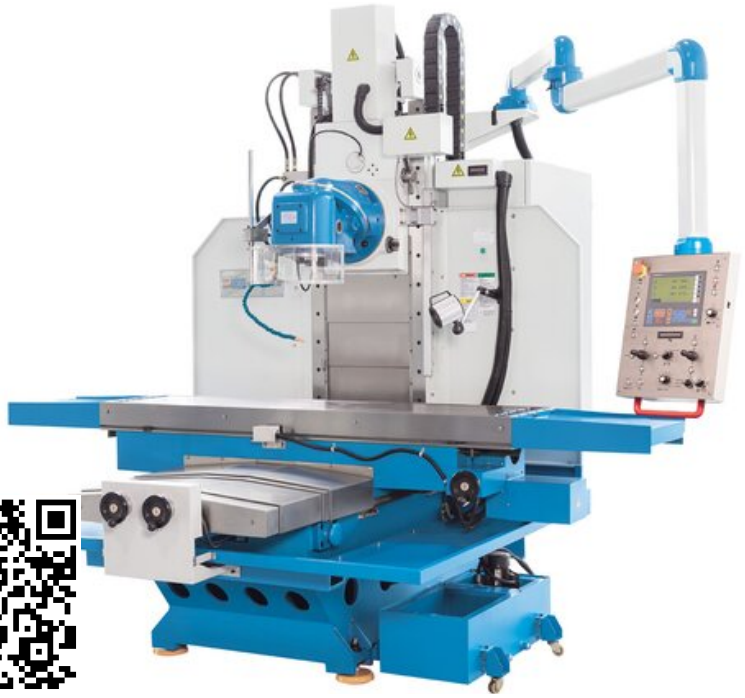
Vertical Milling Machines (Mills)

Servomill® KB 1500



SKU : 301300

The versatile Servomill® KB 1500 bed-type milling machine with servo-conventional feed technology combines a heavy-duty machine frame, wide guideways and high drive power for superior cutting performance. The universal milling head can be swivelled in two planes and positioned at almost any angle. Long milling arbors can also be used for horizontal machining. With electronic stops, electronic handwheels and additional milling functions, the Servomill® brings the benefits of CNC technology to large-scale production without the need for programming. The large work area and high maximum table load allow machining of large, complex workpieces. Together with the extensive range of accessories, this model is the ideal solution for plant and machine construction.

- Servo feed technology with electronic handwheels
- Ball screws in all axes
- 3 x 3 electronic stops
- Universal milling head with 2 swivel axes
- High maximum workpiece weight

TECHNICAL SPECS

WORKING AREA

Table dimensions	83 in x 20 in
Table load capacity (max.)	3300 lbs
Number of T-slots	4 positions
T-slot (width x spacing)	0.71 in x 3.94 in

TRAVELS

Travel X-axis	59.1 in
Travel Y-axis	26 in
Travel Z-axis	26 in

HEADSTOCK

Speed range, low	6 rpm - 300 rpm
Speed range, high	300 rpm - 1500 rpm
Spindle mount	SK 50
Swivel angle	360 deg
Spindle middle-to-table distance	0 in - 26 in
Spindle center-to-column distance	24 in - 24 in

RAPID FEED

Rapid feed X-axis	236.22 in/min
Rapid feed Y-axis	236.22 in/min
Rapid feed Z-axis	118.11 in/min
Handwheel division X/Z/Y axis	0.01 mm

FEED

Feed speed X-axis	118.11 in/min
Feed speed Y-axis	118 in/min
Feed speed Z-axis	98.425 in/min

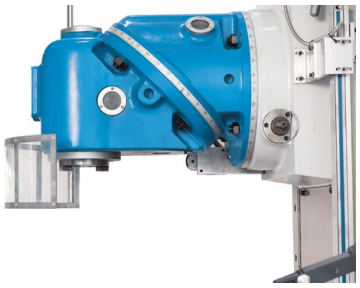
DRIVE CAPACITY

Motor rating main drive	20.1 Hp
Motor rating coolant pump	0.2 Hp
Feed X-axis	13 ft.lb.
Feed Y-axis	13 ft.lb.
Feed Z-axis	17 ft.lb.
Motor rating X-axis	4.8 Hp
Motor rating Z-axis	4.83 Hp
Motor rating Y-axis	6.2 Hp

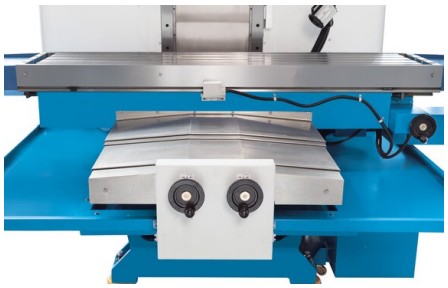
MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	127 in x 96 in x 111 in
Weight	15400 lbs

The centralised lubrication system reliably supplies all lubrication points with lubricant, making daily maintenance easier



The angle adjustment is infinitely variable manually in the 90° and 45° planes



Micro-control via electronic hand-wheels offering the same handling and postioning as with a conventional machine, just smoother and more precise

PRODUCT DETAILS

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

- The Servomill machines represent a new generation of conventional milling machines
- All Servomill series are characterised by ease of operation, significantly increased precision and enhanced cutting performance
- The high reliability of all components used and their long service life significantly reduce maintenance costs and thus ensure increased availability

Design and Construction

- The Servomill® KB 1500 is characterised by its solid machine bed, on which the large machining table moves in the X and Y axes
- The heavily ribbed fixed machine column, guides the compact universal milling head with drive unit in the Z axis
- The entire construction is characterised by its rigid and generous dimensions, high-quality casting and careful workmanship
- The very wide flat guides of the Y-axis guarantee stability under high table loads
- X-axis with large dimensioned dovetail guide ensures high rigidity, load capacity, and tilt resistance
- In addition, this design offers excellent damping properties and the option of finely adjustable wear compensation, making it particularly suitable for heavy-duty machining tasks with high stability requirements
- The large table travel and the large table clamping surface enable the machining of large individual workpieces or several workpieces in alternation
- The milling head unit runs on long flat guides and is additionally supported by a counterbalance
- A stable counter support is included in the scope of delivery for horizontal milling work with long milling arbours

Main spindle and drives

- For high torques, the spindle speeds can be regulated in two gear stages via an inverter
- The universal milling head is characterised in particular by its stability and smooth running
- The angle adjustment is infinitely variable manually in the 90° and 45° planes
- This enables precise adjustment of the main spindle in freely definable spatial angles and simple swivelling into the horizontal
- The counter-holder guide is mounted for the use of long milling arbors, enabling high removal rates or simultaneous machining with several tools

Feed

- Powerful servomotors enable infinitely variable feed speeds and rapid traverse in all axes
- Preloaded recirculating ball screws in all axes guarantee precise, smooth and low-wear positioning without backlash and a long service life
- In the Z-axis, weight compensation ensures smooth traverse

Equipment

- The machines are equipped with a comprehensive range of accessories as standard, such as LED work lighting and an extensive tool set with milling arbours and collets
- The coolant system is integrated in a large, separate and mobile tank and is easy to maintain
- The control panel is mounted on a long boom and can always be optimally positioned by the operator
- The centralised lubrication system reliably supplies all lubrication points with lubricant, making daily maintenance easier

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

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

Your Advantages

- Easy to use: intuitive operation - practical layout of control elements and streamlined function
- Automatic feed on all axes infinitely variable
- 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
- 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 drive technologie

- The axes are moved by high-quality servo drives that implement your handwheel movements with the precision and dynamics of modern CNC machines
- Reliable, maintenance-free high-volume technology
- High rapid traverse speed reduces non-productive times

Ballscrews in all Axis

- 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 Operation

- Maximum operator comfort for axis movements
- Easy handling during sequential processing

Electronic Bedstops

- 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 Display

- Assists the operator in the most efficient utilization of machine and tool capacities
- Reliable indicator helps avoid damages caused by overloads

STANDARD EQUIPMENT

control panel with X.Pos 3.2 and extended functions
preloaded ball screws and direct servo drives on all axes
automatic feed with electric limit switch on all axes
Electronic handwheels
Accessories for milling
automatic central lubrication
heat exchanger for electric control cabinet
Height adjustable spindle cover
coolant System
LED working light
Operator instructions