CNC Milling and Boring Machines
BO 90 CNC

KNUTH MACHINE TOOLS

SKU : 180027

The BO 90 CNC drilling and milling machine is designed for horizontal drilling and milling of workpiece weights of up to one ton. For multi-sided machining, the clamping table can be positioned manually in 5 degree steps. The BT 40 spindle holder has automatic tool clamping and the tried and tested Siemens 828 D control system meets all the requirements of a modern CNC solution in terms of programming and handling. Experienced users will quickly become familiar with the SINUMERIK Operate user interface, which Siemens uses throughout up to the SINUMERIK 840D.

- Compact machine design
- Powerful main motor
- Manual table with 5° indexing
- Siemens 828D controller for advanced machining
- Telescoping guideway covers made of stainless steel in the work area

TECHNICAL SPECS

WORKING AREA

Drilling capacity	30 mm
Finish bore	200 mm
Milling capacity	55 cm³/min
Table load capacity	1000 kg
Table dimensions	630 mm x 800 mm
Number of T-slots	6 positions
T-slots, width	18 mm
Spindle axis-to-table surface distance	570 mm
Table rotation range (5° units)	360

TRAVELS

Travel X-axis	840 mm
Travel Y-axis	580 mm
Travel Z-axis	880 mm

HEADSTOCK

Spindle speed	10 1/min - 6000 1/min
Spindle mount	BT 40 JIS (MAS 403)

FEED

Feed speed X-axis	1 mm/min - 2000 mm/min
Feed speed Y-axis	1 mm/min - 2000 mm/min
Feed speed Z-axis	1 mm/min - 2000 mm/min

ACCURACIES

Positioning accuracies	± 0,008 mm
Repeatabilities	± 0,005 mm
Angular accuracy	± 3"

DRIVE CAPACITY

Motor rating main drive	11 kW

MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	3.55 m x 2.35 m x 2.1 m
Weight	6000 kg

Multi-sided machining in one clamping

Milling spindle cover with safety switch

360° rotatable work table

PRODUCT DETAILS

Highlights

- A Siemens 828 D control with servo-driven axes meets all requirements of an advanced CNC concept in programming and handling
- Table load capacity 1.000 kg
- Multi-sided machining in one clamping by manually indexable rotary table, divisible in 5° steps
- Provides long travels on all axes and high table load capacity for machining of large parts

Machine Design

Spindle

- Heavy-duty cast-iron machine frame plus wide guideways for optimum drilling and milling work results
- Precision preloaded ball screws in all axes ensure high accuracy with low wear and maintenance
- BT 40 spindle mount with automatic tool clamping
- Max. Spindle speed 6.000 1/min

CONTROLS & SOFTWARE

Siemens 828 D control

SINUMERIK 828 D – The workhorse in the compact class of CNCs

Highlights

- Compact, robust, maintenance-free control panel-based CNC
- Comfortable program and parameter input via QWERTY keyboard
- Maximum machining precision
- Intelligent kinematic transformations for machining of cylindrical parts, and for angled workpiece levels
- SINUMERIK MDynamics with the new Advanced Surface feature: for perfect part surfaces and shortest machining times in mold making applications
- ProgramGUIDE: fastest machining time and maximum flexibility for large series productions
- Unique spectrum of technology cycles - from milling contours with residual material recognition to process measurements
- Animated Elements: unique operation and programming assistance with animated sequences
- Modern data transfer options via USB stick, CF card and network (Ethernet)

CNC hardware

- Control-panel based high-performance CNC Control
- Robust front control panel made of magnesium die-casting
- Integreated full-size QWERTY keyboard
- Maintenance-free design (no buffer battery required)

CNC performance data and functions

- Dynamic feed-forward control
- Linear, circular and helical interpolation
- Tapping without compensating chuck, plus thread cutting
- Toggle between inch and metric units
- FRAME concept for individual coordinate transformations, rotations, scaling and mirroring
- 100 adjustable zero offsets
- Synchronous actions and quick help function output

CNC technology cycles

- Large selection of drilling cycles
- Large selection of milling cycles for standard geometry
- Large selection of position patterns for drilling and milling operations
- High-speed settings for mold making applications
- Geometry calculator for free contour input
- Machining cycle for contour pockets / contour spigots with isolated contours

Graphic features

- Graphical online help system, similar to PC system
- Graphical CNC simulation with level display

CNC tool management

- Display of tool and magazine data on one screen
- Tool management with plain-text tool names
- Loading/unloading feature for easy magazine assignment
- Tool management with tool life monitoring
- 10.4" TFT color monitor

STANDARD EQUIPMENT

Machine guard screen system
Siemens 828 D control
Pneumatic rotary table
Electronic hand-wheel
Halogen lights
Central lubrication
Drill chuck 3-16 mm / B18
Tool-holder bits MT4 / B18
Reducing sleeves MT3, MT4, MT5
Foundation bolts
Operating manual and programming 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!