



### 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 cm <sup>3</sup> /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
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### 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
- Integrated 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**

Maschinenschutzgitter 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