Vertical Machining Centers

Portalo C 4022 CNC

SKU : 170145

Machines of the Portalo C CNC series are specifically designed for precision machining of large and heavy workpieces. The machine frame features a fixed gantry and a movable table. The machines in this series are perfect solutions for heavy-duty machining and high-speed machining of complex dies and forms. An extensive assortment of standard equipment allows for easy adaptation for specific requirements.

- High workpiece weight
- Large work area
- Rigid fixed portal
- Quick-action tool changer
- Renishaw measuring systems for tool and workpiece

TECHNICAL SPECS

WORKING AREA

Table dimensions	4000 mm x 1800 mm
Table load capacity (max.)	10000 kg
Spindle nose-to-table surface distance	200 mm - 1200 mm
Column distance	2200 mm

TRAVELS

Travel X-axis	4200 mm
Travel Y-axis	2500 mm
Travel Z-axis	1000 mm

HEADSTOCK

Spindle speed	6000 1/min
Spindle mount	SK 50 ISO 7388-1 (DIN 69871)
Spindle diameter	155 mm

RAPID FEED

X-axis rapid feed	12 m/min
Y-axis rapid feed	12 m/min
Z-axis rapid feed	10 m/min

FEED

Work feed	8000 mm/min

TOOLING

Number of tool stations	24 positions

ACCURACIES

Positioning accuracy	0,005/300 mm
Repeatability	0,005/1000 mm

DRIVE CAPACITY

Motor rating main drive	26 kW
Main drive, continuous load	22 kW

MEASURES AND WEIGHTS

Overall dimensions (length x width x height)	10 m x 5.1 m x 4.9 m
Weight	34000 kg

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PRODUCT DETAILS

The movable set-up table and a fixed gantry allow machining of large and heavy workpieces

Gantry

- The large machining area and long travel distances require an extra rigid gantry and guide solutions for the most stringent requirements
- A combination of linear guides and box ways ensure a long service life plus higher machining speeds and steadfast rigidity
- High-quality preloaded ball screws and proven Siemens servo-motors provide dynamic feed and rapid feed on all axes

Main spindle

- High drive power and a wide speed range ensure availability of the necessary torque reserves during heavy-duty machining

Tool Changer

- The robust 24-station tool changer features a dual-arm gripper for maximum flexibility and quick tool changes during production

Control

- The Siemens 828 D Basic provides intuitive, easy to learn programming features and comes with excellent support and service
- Siemens Shopmill software is included in the standard equipment. With this software even the most complex contours and workpieces can be produced with ease.

Equipment

- The workspace features large sliding doors in the machine enclosure for great accessibility and easy tooling
- Renishaw measuring systems for tool and workpiece gauging and measuring significantly increase the machine's efficiency by providing more flexibility, shortening down-times, eliminating manual input errors and reducing waste
- A powerful coolant system combined with the included chip conveyor ensure chip disposal
- An automatic central lubrication system simplifies maintenance

CONTROLS & SOFTWARE

Siemens 828 D control

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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

Siemens 828 D control
Shopmill Softwareoption für Sinumerik 828D
20-station tool changer
Spindle oil cooler
Electronic hand-wheel
Spiral chip conveyor
LED work lamp
Air gun
Coolant system
Automatic central lubrication
Operating tools
Operator instructions

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Workpiece measuring system Renishaw OMP 60
Renishaw TS27R tool measuring system
Coolant gun

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