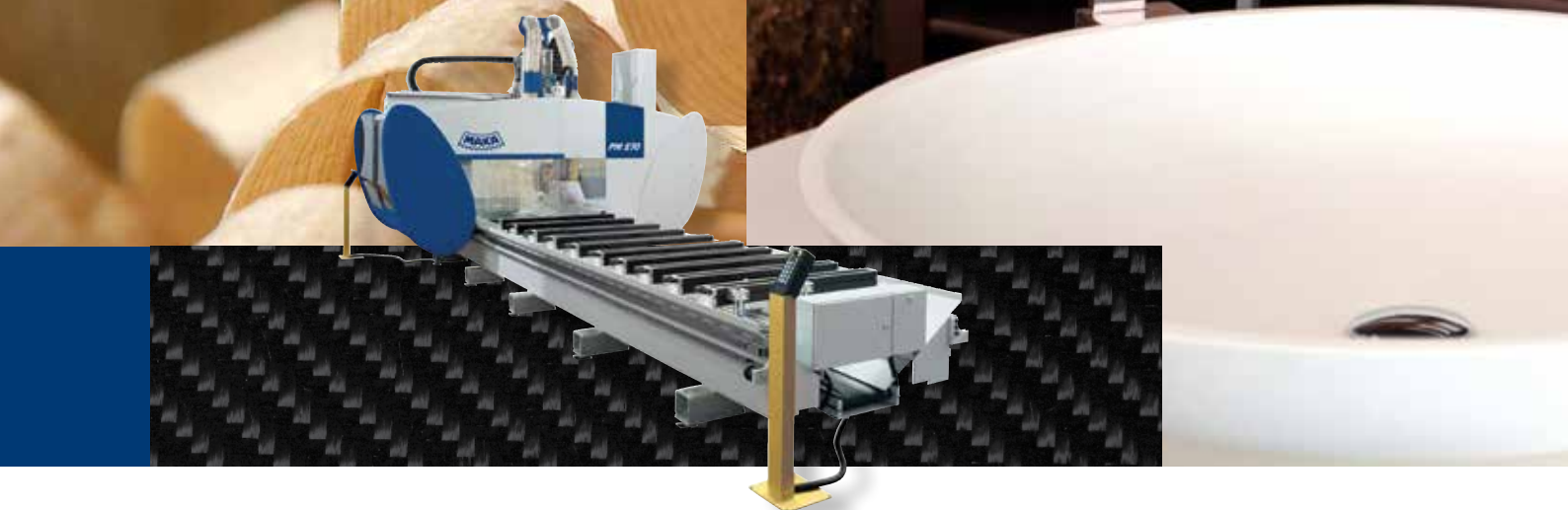


[PM270]

CNC machining centre
with 5-axis technology

by **MAKA**





CNC machining centre with 5-axis technology PM 270

For HSC machining of wood and wood-based materials, plastic and composite materials

Applications

The gantry-type PM 270 universal 5-axis machining centre is designed for the processing of wood and wood-based materials for single or small batch jobs, i.e. for interior fitters, shopfitters, designer furniture manufacturers as well as door and stair manufacturers.

The dynamic sliding gantry machine is designed for heavy machining processes demonstrating efficiency through process reliability, long service life and minimum auxiliary process times for loading.

The machining centre features a large Z-travel of 800 mm and allows for precision work in lengths of up to 8,000 mm and more.

Latest technology

High-tech supporting higher efficiency and the environment

- The high-performance sliding gantry-type 5-axis machining centre PM 270 offers a variety of machining possibilities and flexibility
- With its X-axis gantry drives and a Y-axis double guide system, the 5-axis working unit demonstrates high rigidity, high milling quality and full mobility of the working unit
- High-performance working units ensure high speeds and high operation feeds
- Variety of machining possibilities using tool magazines with up to 32 places and saw blade pick-up places next to the tool magazine
- Technically optimised components and excellent mechanics, electronics and low-maintenance units guarantee process safety and economic efficiency
- The use of the machine table in alternating operation minimises the auxiliary process times for loading and unloading of the workpieces

Green technology:

- Innovative electronic systems, such as a frequency-controlled vacuum pump and MAKKA's energy-saving concepts, contribute to low energy consumption
- MAKKA was granted the Environmental Award of the Federation of German Industries (BDI)



A 380 © Alrcabrin



Hanse 630 © Hanse Yachts



© Lieb Speed



© PP Möbler



© Hess Timber

Technical data

	Size	Working range*	Speed	Acceleration
X-axis	4,000/6,000/8,000 mm	3,600/5,600/7,600 mm	60/100 m/min	3 m/sec ²
Y-axis	1,300/1,600/2,700 mm	1,300/1,600/2,700 mm	60/100 m/min	3-4.5 m/sec ²
Z-axis	800 mm	420 mm	45/60 m/min	3-5 m/sec ²
A-axis	196°		10,000 °/min	
C-axis	540°		10,000 °/min	

* For a total tool length of 160 mm and a diameter of 160 mm.

Voltage	Voltage deviation	Installed power	Ambient temperature	Pneum. working pressure
400 V	+/- 5% max.	approx. 29 kW	10-35 °C	6-8 bar

Additional optional features

Table designs

- Through individual clamping of the workpiece, the aluminium flat surface table ensures highest flexibility even when clamping large and complex components
- Phenolic resin grid table with milled slots for the insertion of caulking strips in accordance with the workpiece size and shape to be machined
- Cross bar table (4,000 x 1,600 mm) for safe fixing of the workpiece and flexible adjustment depending on your requirements
- Cross bar table (8,000 x 2,700 mm) for safe fixing of the workpiece and flexible operation with switch-over from 1 to 2-station operation
- Supporting cross bars moving in linear guide for rapid manual adjustment
- Automatically adjustable supporting cross bars, each with own individually controlled positioning drive
- Hydraulic, pneumatic or vacuum clamping circuit

Working units

Universal units for 5-axis milling including 50°-inclined milling head and tool change milling spindle with high torque

- 16 kW or 26 kW MAKAL milling spindle HSK F63 with 2,000 to 24,000 1/min (infinitely variable speed), water-cooled, thread cutting capability, extended warranty up to 3,500 operating hours
- 16 kW or 26 kW milling spindle HSK F63 with 2,000 to 24,000 1/min (infinitely variable speed), water-cooled, thread cutting capability
- Blow-out nozzle at milling unit
- Suction hood with chip collecting system vertically adjustable by NC and with strip curtain
- Auxiliary suction system for 3-axis milling, controllable by M function
- Laser distance measurement system at milling spindle
- MAKAL Tool Blower System (MTB System) coolant module for air, air/water or oil/air cooling
- Minimum quantity lubrication, coolant spraying unit with minimum quantity atomisation

Tool changer

- Chain-type tool magazine with 16 or 32 places and rotary grippers for quick tool change
- Saw blade pick-up places next to the tool magazine

Occupational health and safety

- Accompanying safety cabin
- Accompanying closed safety enclosure
- Grid guarding for free-standing machine
- Front face grid guarding for machine placement against a solid wall

Control system

- Siemens Sinumerik 840 D sl machine control system, version NCU 720 or NCU 730
- Siemens HT 8 operating unit (without PC), hand operating panel with 7.5" touch screen
- Siemens OP 15A PCU operating unit (with PC), operating panel with 15" display
- Siemens OP 15A TCU operating unit (without PC), operating panel with 15" display
- Siemens OP 19 PCU operating unit (with PC), operating panel with 19" display
- BWO machine control system with XCPU 32 bit or 64 bit
- BWO CNC 920 operating unit (without PC), with 10" touch screen
- BWO operating unit CNC 930 (with PC), with 15" touch screen
- BWO RC 910 operating unit (without PC), with 6.5" touch screen
- Remote maintenance via internet portal
- Network ready

Peripheral equipment / extensions

- Drilling bush or threaded bush M12 in machine table
- Double suction vacuum clamping unit
- Longitudinal and crossfeed workpiece stop with pneumatic lowering
- SCHMALZ-Innospann vacuum clamping system
- Rotary plunger vacuum pump with vacuum chamber, suction power 140/165/250/500 m³/h
- Barcode scanner
- MAKAL contour laser projection system with laser class 2M
- Renishaw-NC4 automatic tool measurement and fracture control system with laser beam
- Chip conveyor belt underneath the machining area

35 years of CNC competence

experience and innovation

MAKA Systems GmbH
 Am Schwarzen Graben 8
 89278 Nersingen/Germany
 Phone +49 (0) 73 08/813-0
 Fax +49 (0) 73 08/813-170
 www.maka.com

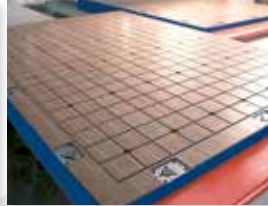


CNC - Spezialmaschinen

Table designs



Aluminium flat surface table



Phenolic resin grid table



Cross bar table with vacuum pod package



Automatically adjustable cross bar table

Working units



MAKA milling spindles HSK F63, 16 or 26 kW



Milling spindle HSK F63, 16 or 26 kW



NC-adjustable chip collecting system



MTB System



Minimum quantity lubrication, cooling nozzle at working unit

Tool magazine



Chain-type magazine with 16 or 32 tool places



Saw blade pick-up place

Control systems



Siemens HT8



Siemens OP 19A TCU / Siemens OP 19A PCU



BWO RC 910



BWO CNC 920 / BWO CNC 930

State-of-the-art control system technology by Siemens or BWO. Machines connection possible via post-processors to CAD.

Peripheral devices



Barcode scanner



SCHMALZ-Innospann vacuum clamping system



Chip conveyor belt

BLUECOMPETENCE
 Alliance Member

Partner of the Engineering Industry Sustainability Initiative