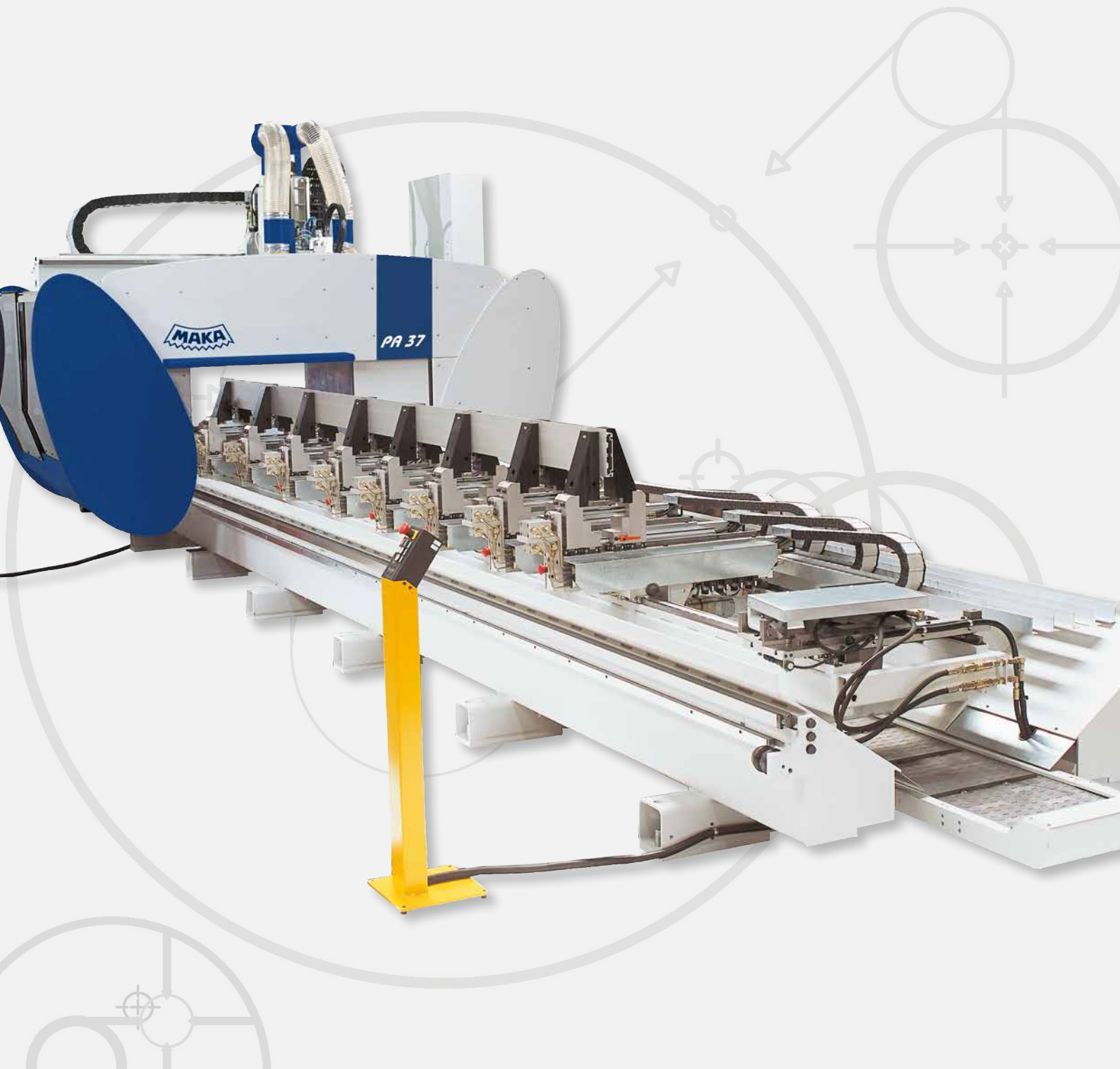


[PA37]

CNC machining centre
with 5-axis technology

by **MAKA**



Technical specifications



CNC machining centre with 5-axis technology PA 37

For high speed machining of aluminium profiles

Applications

The PA 37 universal machining centre with heavy-duty moving gantry design and gantry drive is particularly suitable for demanding precision machining of large profile cross-sections. Manufacturers of technical profiles in the automotive and rail vehicle industry, aluminium extrusion plants and manufacturers of window, door and façade profiles appreciate the machining centre's capability of machining 6 workpiece sides.

A key feature of the machine is its high flexibility: Milling, cutting, drilling, thread milling or thread cutting can be carried out at virtually any angle. Thick-walled profiles as well as solid parts with high metal removal rates can be processed economically at the same level of precision.

The table consoles are manually adjustable or CNC positioned upon request allowing a flexible layout. The table design can also be used as single-table or shuttle-table version. The 2-station mode with alternating operation minimises auxiliary process times for loading and unloading of the workpieces.

Latest technology

High-tech supporting higher efficiency and the environment

- Thanks to the particular rigidity, the 5-axis working unit guarantees high-end milling quality even for solid cutting
- Waste transport in large-sized chip collecting trays
- Variety of machining possibilities using chain-type tool magazines with 16 or 32 places and a saw blade pick-up place
- High-performance working units ensure high speeds and high operation feeds
- Sturdy clamping technology with rapid adjustment table cross bars with pneumatic or hydraulic clamping circuit
- High torque 26 kW milling spindle

Green technology:

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



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Technical data

	Travel	Working range*	Speed	Acceleration
X-axis	8,000 mm	7,000 mm	60 m/min	3 m/sec ²
Y-axis	1,300 mm	600 mm	60 m/min	3 m/sec ²
Z-axis	800 mm	420 mm	45 m/min	3 m/sec ²
A-axis	196 °	-	10.000 °/m	-
C-axis	540 °	-	10.000 °/m	-

* For a total tool length of 160 mm and a diameter of 160 mm. For alternating operation, the working range is reduced accordingly.

Voltage	Voltage deviation	Installed output	Ambient temperature	Pneum. working pressure
400 V	max. +/- 5%	approx. 25 kW	10 - 35°C	6-8 bar

Additional optional features

Table designs

- Steel cross bar table for secure fixation, switch-over capability from 1 to 2-station operation
- NC-adjustable steel cross bar table for secure fixation, adjustable steel cross bar with NC drive
Switch-over capability from 1 to 2-station operation
- Longitudinal workpiece stop with pneumatic lowering
- Hydraulic or pneumatic clamping circuit

Working units

- Universal units for 5-axis milling including 50° inclined milling head and high torque tool change milling spindle
- 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
 - MAK A Tool Blower System (MTB) for milling unit, coolant module for air or water cooling
 - MAK A Tool Blower System (MTB) for milling unit, coolant module for oil based spraying medium
 - Blow out nozzle at milling unit
 - 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
- 1 pick-up place for a saw blade up to a diameter of 450 mm

Occupational health and safety

- Accompanying safety enclosure with safety bumpers on the operator side

Control system

- Machine control system BWO with XCPU 32 bit or 64 bit
- Operating unit BWO CNC 920 (without PC)
- Operating unit BWO CNC 930 (with PC)
- Operating unit BWO RC 910 (without PC)
- Machine control system Siemens SINUMERIK 840 D sl
- Operating unit Siemens HT 8 (without PC), hand operating panel with 7.5" touch screen
- Operating unit Siemens OP 15 PCU (with PC), operating panel with 15" display
- Operating unit Siemens OP 15 TCU (without PC), operating panel with 15" display
- Operating unit Siemens OP 19 PCU (with PC), operating panel with 19" display
- Remote maintenance via internet portal
- Network capable

Extension

- Rotary vane vacuum pump
- Hydraulic unit

more than 35 years of CNC competence

experience and innovation

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CNC - Spezialmaschinen

Table designs



Hydraulic profile clamping units, opening on both sides



Cross bar table with vacuum pod package



Special solution for thick-walled aluminium profiles



Manual or NC adjustable machine table with steel supporting cross bars

Working units



Milling spindle, HSK F63, 16 or 26 kW



MTB System



Minimum quantity lubrication, cooling nozzle at working unit



Blow nozzle at the working unit

Tool magazine



Chain-type magazine with 16 or 32 tool places



Saw blade pick-up place

Control systems



Siemens HT8



Siemens OP 19 PCU



BWO RC 910



BWO CNC 920 /
BWO CNC 930

State-of-the-art Siemens or BWO control system technology. Machine can be interfaced with CAD via post-processors.

Waste and chip management



Large-sized chip collecting tray

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