

[DC7]

CNC machining centre
with 5-axis technology

by **MAKA**





CNC machining centre DC 7 with two 5-axis working units

For universal use in the aluminium machining industry

Applications

Equipped with one or two independent 5-axis working units, the CNC machining centre DC 7 is the system of choice offering flexible fields of application at minimum space requirements.

High precision is achieved through the robust construction of the frame and the working unit carriers, by providing parallel machining capabilities for vertically mounted workpieces and by using the special clamping system for heavy machining devices. The rapid rotary table and the efficient chip management are further features ensuring flexible use and simple handling.

The turning table allows for independent in-parallel machining of vertically mounted workpieces and for rapid alternating loading with 3 seconds changeover time. The special clamping system is also suitable for heavy machining devices.

Latest technology

High-tech supporting higher efficiency and the environment

- Rigid table design with 500 kg loading capacity per table side and individually configurable vacuum, pneumatic and hydraulic clamping circuits
- Optimum zero-point clamping system for rapid and precise clamping of heavy machining devices
- With their particularly rigid design, the two independent 5-axis working units guarantee a high-end milling quality even for solid cutting
- Variety of machining possibilities using a tool magazine with 32 places and capability for saw blades up to a diameter of 300 mm
- Simple chip management by chip conveyor belt

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	1,200 / 1,600 / 2,000 / 2,400 mm	1,200 / 1,600 / 2,000 / 2,400 mm	60 m/min	3 m/sec ²
Y-axis	1,000 / 1,300 mm	700 / 1,000 mm	60 m/min	3 m/sec ²
Z-axis	575 mm	225 mm	60 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.

Voltage	Voltage deviation	Installed output	Ambient temperature	Pneum. working pressure
400 V	max. +/- 5%	approx. 40 kW	10 - 35°C	6-8 bar

Additional optional features

Table designs

- ↪ Steel frame rotary table with central partition wall in sizes 1,200 / 1,600 / 2,000 / 2,400 x 1,000 mm, max. table rotation time of 3 seconds
- ↪ M12 drilling bushes and threaded bushes in machine table
- ↪ Longitudinal workpiece stop with pneumatic lowering, also positioned towards the operator
- ↪ Hydraulic or pneumatic clamping circuit
- ↪ Vacuum clamping circuit with vacuum distribution unit and CNC/manual push button operation

Working units

- Universal working unit for 5-axis milling including 50° or 90° inclined milling head and high torque tool change milling spindle
- ↪ 1 or 2 milling spindles each, HSK F63, with 10 kW or 15 kW, 2,000 to 24,000 1/min, infinitely variable speed, water-cooled
 - ↪ 1 or 2 high-speed milling spindles each, HSK E40, with 6.5 kW and 90° inclined milling head, 2,000 to 36,000 1/min, infinitely variable speed, water-cooled
 - ↪ MAKA Tool Blower System (MTB), coolant module for air or water cooling
 - ↪ MAKA Tool Blower System (MTB), 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

- ↪ Rake tool magazine with 6 tool places for automatic tool change, one of which is a place for saw blades up to a diameter of 300 mm
- ↪ Rotary disk tool magazine with 20 places for automatic tool change. One saw blade up to a diameter of 300 mm can be stored and changed automatically (occupies 5 places)
- ↪ Vertical chain-type tool magazine, up to 32 places for automatic tool change

Occupational health and safety

- ↪ Sheet metal housing featuring maintenance doors and sealed windows with laminated safety glass panes
- ↪ Enclosure featuring maintenance doors and sealed windows with laminated safety glass panes
- ↪ Sound-protection acoustic enclosure, with sound insulation value of 20 dB(A) max., incl. maintenance doors and sealed windows with laminated safety glass panes
- ↪ Automatic rapid rolling sheet gate, protected by light curtain, opening and closing in 2 seconds max.

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
- ↪ Chip deflectors within protective enclosure

more than 35 years of CNC competence

experience and innovation

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CNC - Spezialmaschinen

Table designs



Turning table with alternating loading

Working units



Two 5-axis working units



Milling spindle, HSK F63
 10 or 15 kW



High-speed milling spindle,
 HSK E40, 6.5 kW



MTB System



Minimum quantity lubrication,
 cooling nozzle at working unit

Tool magazine



Rake tool magazine with
 6 places



Rotary disk tool magazine
 with 20 places



Chain-type tool magazine
 with 32 places

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.

Safety



Automatic impact-protected rolling sheet gate

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