[CR27]

CNC machining centre
with 5-axis technology

by MAKA

[CR27s]

Technical specifications

CNC machining centre with 5-axis technology CR 27

For high speed machining of wood-based materials, aluminium, plastic and composite materials

Applications

The stationary gantry CR 27 machining centre is based on a well-proven design ensuring high dynamics of movement and top grade milling results. This machine range satisfies the high demands of multi-face and free-form machining and guarantees solid cutting at optimum machining quality.

The 5-axis high-performance milling centre CR 27 is designed for precision work and complex machining processes. This machine is ideal for the automotive and automotive supply industry as well as in furniture building and by manufacturers of parts for technical products.

Single or tandem table designs are available. Use of the tandem table version with alternating operation minimises the auxiliary process times for loading and unloading of the workpieces.
The two tables can be coupled for large workpieces or a centre aisle can be installed between them to permit table loading from 3 sides.

Latest technology

High-tech supporting higher efficiency and the environment

¬ The dynamic-rigid construction, high-performance milling units and tool magazines in combination with a fully developed 5-axis technology enable complete machining in one clamping process
¬ High-performance working units ensure high speeds and high operation feeds
¬ For sawing operations, a special tool place for 450 mm diameter tools is available in the chain-type tool magazine
¬ Tool magazines with up to 51 tool places offer a variety of machining possibilities
¬ Tool shuttle for take-over and hand-over of tools
¬ Technically optimised components and excellent mechanics, electronics and low-maintenance units guarantee process safety and economic efficiency
¬ Suction hood with chip collecting system vertically adjustable by NC and with strip curtain
¬ Equipped with an automatic central lubrication unit and a switchgear cabinet with air conditioning unit

Green technology:

¬ Innovative electronic systems, such as a frequency-controlled vacuum pump and MAKA's energy-saving concepts, contribute to low energy consumption

¬ MAKA was granted the Environmental Award of the Federation of German Industries (BDI)


© Lieb Speed


A 380 © Aircabin


Hanse 630 © HanseYachts


© Artis Zee, biplanes Angiographie System von Siemens Healthcare


© PP Mobler

Technical data

	Size*	Working range*/**	Speed	Acceleration
X-axis	1,500/2,000/2,500/3,000 mm	1,500/2,000/2,500/3,000 mm	60/100*** m/min	3/5*** m/sec²
Y-axis	1,500/2,000/2,500/3,000 mm	1,500/2,000/2,500/3,000 mm	60/100*** m/min	3/5*** m/sec²
Z-axis	500/800/1,050/1,400 mm	300/500/800/1,000 mm	45/60*** m/min	3/5*** m/sec²
A-axis	196°		10,000 °/min	
C-axis	540°		10,000 °/min	

*For tandem version two X-axes each. ** For a total tool length of 160 mm and with a diameter of 160 mm. *** For high-speed version.

Voltage	Voltage deviation	Installed power	Ambient temperature	Pneum. working pressure
400 V	+/- 5% max.	approx. 23 kW	10-35 °C	6-8 bar

Additional optional features

Table designs

- ¬ **One aluminium flat surface table for Single version**
- ¬ **One cross bar table for Single version**
- ¬ **Two aluminium flat surface tables for Tandem version,** either for coupled operation or with centre aisle inserted between the two tables for table loading from 3 sides
- ¬ **Two cross bar tables,** either for coupled operation or for table loading from 3 sides with centre aisle between the tables
- ¬ **Supporting cross bars,** automatic or manual rapid traverse
- ¬ **Rotary plunger vacuum pump,** dry-running or oil-lubricated, air-cooled
- ¬ **Hydraulic unit**

Working units

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

- ¬ **16 kW or 26 kW MAKA 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,** chip collection system vertically adjustable by NC with strip curtain
- ¬ **MAKA 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, 32, 33 or 51 places and rotary grippers for quick tool change
- ¬ **Pick-up place for a saw blade** up to a diameter of 450 mm, attached next to tool magazine
- ¬ **Tool shuttle with independent X-axis** with 150 m/min travel speed

Occupational health and safety

- ¬ **Sheet metal housing**
- ¬ **Standard or acoustic enclosure**
- ¬ **Sliding doors** (manual or automatic)

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), operating panel with 10“ touch screen
- ¬ **BWO CNC 930 operating unit** (with PC), operating panel with 15“ touch screen
- ¬ **BWO RC 910 operating unit** (without PC), hand operating panel with 6.5“ touch screen
- ¬ **Remote maintenance via internet portal**
- ¬ **Network ready**

Peripheral devices

- ¬ **Longitudinal and crossfeed workpiece stop with pneumatic lowering**
- ¬ **SCHMALZ-Innospann vacuum clamping system**

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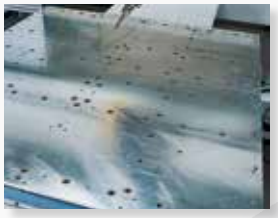
CNC - Spezialmaschinen

Table designs



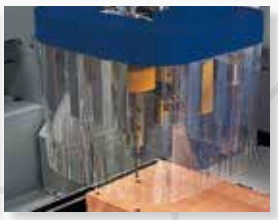
Aluminium flat surface table

Cross bar table with vacuum pod package

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 tool magazine with 16 or 32 places

Saw blade pick-up place

Tool shuttle for quick tool change

Control systems

Siemens HT8

Siemens OP 19 A TCU / Siemens OP 19 A 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

SCHMALZ-Innospann vacuum clamping system

BLUeCOMPETENCE
Alliance Member
Partner of the Engineering Industry Sustainability Initiative

Subject to technical alterations. 03/2014/1.500