

CNC used, from year 2015

Make: Homag/Weeke Type: BMG 211

Machine number: 0-250-10-2362

PROFI BMG211/60/15/K

CNC-controlled machining center in mobile portal design, for milling and drilling workpieces made of wood or wood-like materials.

Designed for 1 main spindle, installed on the right of the portal crossbeam.

1. BASIC MACHINE

- Machine base frame in a stable mobile portal design
- Mobile gantry moveable in X-direction
- Cross support can be moved in Y and Z direction
- Gray paintwork RDS 240 80 05
- Direct extraction of the processing units and separate extraction connection for the extraction system (on site)

1.1 PROGRAM-CONTROLLED EXHAUST NOZZLE

The main connection piece is assigned to the processing unit in a program-controlled manner via cylinders. The main connecting piece is located

is therefore always directly above the processing unit and guarantees optimal suction behavior.

2. GUIDANCE SYSTEM AND DRIVE TECHNOLOGY

- dust-proof linear guide system
- X-direction: rack and pinion drive with servo drive
- Y-direction: rack and pinion drive with servo drive
- Z-direction: ball screw with servo drive

Traversing distances and speeds of the axes:

X = see assembly plan

Y = see assembly plan

Z1 = see assembly plan

Z2 = see assembly plan

vector speed

X/Y = 110 m/min

Z = 20 m/min

- Maintenance-free motors with high-resolution optical encoders guarantee high accuracy
- Digital drive controllers guarantee high reliability

2.1 AUTOMATIC CENTRAL LUBRICATION (X)

- The X linear guide shoes and the X rack are automatically lubricated at controlled intervals.
- The components of the Y and Z axes are lubricated manually. Central lubrication points and an automatic notification on Screen simplify maintenance.

3. CONSOLE TABLE WITH LASER PEN POSITIONING AID

- Hose-free vacuum clamping system for clamping panel materials
- The workpiece supports are positioned using dust-protected, high-quality guides.
- The pneumatic clamping of the workpiece supports is activated via a switch. The vacuum cups are clamped by vacuum.

- Two-part vacuum system (field A / field

B) Activation via two separate foot switches.

work table:

X = 6000mm (length)

Y = 1400 mm (approx. WS console length)

1600 mm (workpiece passage)

Z = 125mm (thickness)

225 mm (passage height without vacuum cup)

The maximum workpiece thickness to be machined depends on the tool length used.

10 workpiece supports (1400 mm) that can be positioned steplessly in the X direction, suitable for holding the tubeless positionable ones vacuum cup. There are scales on all supports that make it easier to position the consoles and vacuum cups. the

Positions can be displayed graphically in the woodWOP or in the MCC allocation.

10 pneumatically lowerable longitudinal stops including electr. End position query (rear stop row, see assembly plan)

10 longitudinal stops that can be lowered pneumatically including electr. End position query (front row of stops, see assembly plan)

1 side stop system that can be lowered pneumatically

'PURE STOP' for the right working field

including electr. end position query

1 side stop system that can be lowered pneumatically

'PURE STOP' for the left working field

including electr. end position query

4 folding stops to be mounted manually for workpieces with a cover layer overhang for the stop cylinder

4 folding stops for the left (2) and right (2) stop ruler

10 controllable positioning aids made of HPL for heavy workpieces.

20 vacuum cups, manual, tubeless free

positionable 114x160x100 mm (L/W/H)

10 vacuum cups, manual, tubeless free

positionable 125x75x100 mm (L/W/H)

1 vacuum port for stencils for the

right and left working field

2 vacuum generators with a nominal capacity of

140/168 m³/h, 50/60 Hz (2x 70/84 m³/h)

2 pneumatic center stop rulers included

Folding stops and electr. end position query.

The stop rulers are permanently mounted on the side of consoles no. 5 and no. 6 and can be set in a specified position be locked.

4-way separate vacuum clamping system including two additional foot switches

V1 (Console 1-3), V2 (Console 4-5),

V3 (Console 6-7), V4 (Console 8-10)

LASER PEN FOR VACUUM CUP POSITIONING

A separate NC program shows the machine operator the exact suction cup positions with a laser beam (cross hairs).

The laser is attached to the support of the machine.

4. CONFIGURATION

optionally available

4.1 TOOL CHANGING AUXILIARY DEVICE

Auxiliary device for the automatic loading of the tool changer.

5. powerControl

Modern control system

powerControl Hardware:

- PLC control according to international standard IEC 61131
- Operating system Windows XP (US) embedded
- IntelCore 2 Duo processor
- 17 inch TFT flat screen
- 1 SATA hard disk at least 160 GB
- Central USB port on the control panel
- EtherNet connection 10/100 MBIT RJ45 (without switch)
- Provision of TeleserviceNet Soft

Remote diagnosis possible via the Internet. A DSL connection must be provided by the customer for this purpose. After the guarantee period, a corresponding teleservice contract must be concluded for the use of the teleservice.

- UPS for the PC (uninterruptible power supply)
- Operating terminal with potentiometer and emergency stop switch.

powerControl Software:

- powerControl CNC core with:
- Path control in all axes and parallel processes through multi-channel technology
- Look-ahead function for optimal speeds at the transitions
- Dynamic pre-control for the most precise contour accuracy
- powerControl software package with graphic operating programs:

- woodWOP:

for graphical, dialog-oriented creation of CNC programs

- TOOL DATABASE:

with graphical operator guidance for managing tool data

- PRODUCTION LIST SOFTWARE:

for managing and creating production lists for individual production.

The production sequence,

Target quantities, processing instructions are stored.

- MACHINE DATA COLLECTION:

for recording the number of workpieces produced

and supervision of maintenance work

- SLIDING SOFTWARE FUNCTION:

Function to machine the right program on the left workpiece stop and left programs on the right workpiece stop.

- OPTIMIZATION OF SPACE OCCUPANCY

In this mode, the machining is optimized to save tool changing operations (if the respective

processing sequence of the individual programs allows this).

Workpiece programs can cover the entire table or each half of the table

be summarized.

Note: It is not possible to optimize the space allocation in production list mode and/or in programs with a programmed 'NC stop function'.

Copy protection of all software licenses via the HOMAG Group license server. The product must be activated after installation.

Activation at www.eparts.de

6. CE SAFETY AND PROTECTION DEVICE

- traveling partial encapsulation for the processing units, offers optimal operating safety and process control
- Rear safety barrier, left and right with safety door
- Three-part safety mat in the front area enables the assignment of workpieces in the inactive work area.
- Caution: The machine must not be operated without an all-round safety barrier
- EC conformity (CE) according to currently valid Machine directive for single machine operation.

7. WEEKE quality package

- Energy chains (cable drag) in the X, Y and Z direction in a closed design to avoid damage to the cable Remnants, chips etc.
- Linear guides in the X and Y directions are covered with a metal strip to prevent dirt from penetrating

8. ELECTRICAL EQUIPMENT:

- Operating voltage 400 volts, 50/60 Hz.
(Country-specific operating voltage adjustment via transformer is optionally available)
- Control cabinet free-standing for positioning on the right or left in front of the processing table (standard is on the right)
- Operating terminal integrated in the control cabinet
- Prescribed ambient temperature:
+ 10 to + 40 °C

9. ENERGY SAVING FUNCTION

- ecoPlus button to start stand-by mode, this can be activated during processing. After the end of the program it causes:
 - Drives are switched without power
 - Turn off the vacuum pumps
 - If the machine is not producing, the stand-by mode is activated using a preset time
 - When the ecoPlus is activated, a potential-free output is set, which can activate the slide (on site) of an external extraction system

10. DOCUMENTATION

- Documentation on DIN A4 paper and digital
Data medium including spare parts catalog and circuit diagram

G.0001 number : 0019 1 piece

CONFIG. P1=V21, H6X/4Y, N1 X-Y 90°,
P2=F1-HSK63-9KW, W8 (X-Y), W14 REAR,
W5 SIDE
P1=V21, H6X/4Y, N1 X-Y 90°:

V21 HIGH SPEED 7500

including quick-change system and spindle clamp
Vertical drilling unit (individually controllable with variable speed range). Spindle clamp for safely reaching the drilling depth.
pre-stroke

Z Direction: 60mm

Drilling depth: max. 38 mm (up to 55 mm, however, with a special drill)

Direction of rotation: right/left

Speed: 1,500 - 7,500 rpm frequency-controlled

Drive: 2.3 kW

Drill holder: d = 10 mm for quick-change system

Total drill length: 70 mm

Drill diameter: max. 35 mm

Spindle distance: 32 mm

Spindle type: individually controllable

H6X/4Y

Horizontal drilling unit with 10 drilling spindles that can be called up individually via the program.

6 drilling spindles: grid 32 mm, 3 each in X-direction

4 drilling spindles: 2 each in Y-direction

Drilling depth: max. 38 mm

drilling height

Z direction: 38 mm from the top edge of the workpiece

Direction of rotation: right/left

Speed: 1,500 - 7,500 rpm frequency-controlled

Drill holder: d = 10 mm
Total drill length: 70 mm
Drill diameter: max. 20 mm
Spindle type: individually controllable
N1 XY 90°
Grooving saw unit for processing in the X-Y direction can be swiveled by 90°.
Depth of cut: 30 mm
Machining cross-section: max. 70 mm²
Speed: 1,500 - 7,500 rpm frequency-controlled
WZ diameter: 125 mm
Saw blade thickness: max. 5mm
P2=F1-HSK63-9KW, W8 (X-Y), W14 REAR,
W5 SIDE:
F1-HSK63-9KW
Automatic tool change spindle in combination with tool change magazine.
recording: HSK63
Tool infeed: automatic
Direction of rotation: right/left
Speed: 1,250 - 24,000 rpm infinitely programmable
Drive: frequency-controlled three-phase motor
Max. power at the tool: up to 7.5 / 9 kW in continuous / intermittent operation (S1/S6-50%)
Spindle lubrication: grease lubricated for life
Cooling: air
Suction: central
W8 (X-Y traveling)
Automatic tool change magazine with 8 places.
Arrangement: moving along on the support in the X and Y direction
Tool holder: HSK63
Magazine places: 8 tool places
Tool weight: max. 4.5 kg total weight including HSK mount, but max. 25 kg for the entire plate changing magazine
Tool diameter: max. 135 mm with a tool diameter of 92 mm on the side seats. When fully occupied, all tool places up to max. d = 114 mm
Tool unclamping length: max. 110 mm (190 mm from tool holder contact surface to lower edge of tool)
Note: This tool change magazine is not for the use of Adapter units designed.
W14 REAR
Automatic tool change magazine with 14 places.
Arrangement: traveling along on the support in the X-direction
Tool holder: HSK63
Magazine places: 14 tool places
Tool weight: max. 6 kg total weight including HSK mount
Tool diameter: max. 130 mm when fully loaded (14 milling tools)
max. 260 mm with smaller tool diameters or free space on the side seats
Tool change time: approx. 12-18 sec.
W5 SIDE
Automatic tool change magazine with 5 places.
Arrangement: on the right side of the machine stand
Tool holder: HSK63
Magazine places: 5 tool places
Tool weight: max. 5 kg total weight including HSK mount
Tool diameter: max. 130 mm when fully loaded (5 milling tools)
Tool change time: approx. 10 to 18 seconds.
Note: The lateral pick-up changer is not suitable for HSK63 adapter aggregates.

G.0004 Number : 0134 1 piece
2 ADD. K TABLE CONSOLES FOR BMG 200 MACHINES
Workpiece console with two standard vacuum cups (114x160x100 mm) and one vacuum cup for narrow parts (125x75x100 mm), complete, incl. Workpiece stop at the front.

G.0007 Number : 0198 2 pieces
EST. WORKPIECE INSERTION AID, PER PIECE
The workpiece insertion aid is mounted on the side of the console.

G.0013 Number : 1701 1 piece
AUTOMATIC GREASE CENTRAL LUBRICATION UNIT
Automatic central lubrication unit.
Automatically lubricated:
Rack X axis, rack Y axis, ball screw Z axis.
X-axis linear guide, Y-axis linear guide,
Linear guide Z-axis.

G.0016 Number : 0869 1 piece
SUPPLY UNIT FOR PNEUM. CLAMPING ELEMENTS, 10 CONSOLES
Pneumatic supply unit for pneumatic clamping elements that are activated using an additional foot switch.
Consisting of:
2 A ports and 2 B ports per workpiece console.
The connections are mounted below each workpiece console.

G.0019 number : 1068 1 piece
AGGREGATE INTERFACE F. MAIN SPINDLE, C AXIS
- To accommodate the adapter units including interface
- Pneumatic and swivel drive C-axis with torque entrainment and 3-point support
- The C-axis can only be used in combination with a rear tool changer.

G.0022 Number : 1069 1 piece
EXTENSION C-AXIS FOR FLEX5+ UNIT
- Coupling element for C-axis
- pneumatic valves, pressure switches and pressure monitoring
- to the auto. Changing the Flex5/Flex5+ unit
- not in connection with main spindle with electronic interface or probe spindle
Note: - In connection with setting or interpolation axis
- Only in connection with a new machine (cannot be retrofitted)

G.0025 Number : 0723 1 piece
MULTIPLE PR. L/XXL VACUUM ORE. 300/360M3/H, 50/60HZ
Extension of the vacuum performance to 300/360m3/h, 50/60HZ.
Notice:
The vacuum generator from the basic machine is no longer required.

G.0031 Number : 1576 1 piece
HP FLEX5+ SAW, MILLING, DRILLING UNIT
High performance machining units from the HOMAG Group unit technology guarantees the highest standards of quality and service life.
High Performance stands for high-performance units with technically optimal lubrication of the transmission components.
The patented FLEX5+ unit from HOMAG Group was created for a high degree of flexibility in saw cuts as well as drilling and milling operations at a wide variety of angles developed. The angle to be set automatically adjusts itself via the C-axis when the unit is idle.

An integrated tool change interface enables the automatic exchange of machining tools from the tool changer.

Application example:

The HP FLEX5+ SAW, MILLING, DRILLING UNIT is always used where different saw cuts or drilling and drilling operations are to be carried out on a workpiece

Milling operations have to be carried out at different angles, such as with sloping ceiling cupboards and drill-in hinges.

Technical specifications:

The maximum tool lengths and tool diameters depend on the workpiece thickness to be machined and are the associated refer to the overview plan.

Milling:

- Spindle outlet: 1-sided

- Tool change interface:

WFC 40-25

- Pan range: 0 to +100 degrees

- Milling cutter holder: for tool holder WFC40-25 with collets up to 16 mm shaft diameter

- Tool overhang: see data sheet

- Tool diameter: max. 20 mm

- Cutting cross-section at a feed rate of 5 m/min:

max. 130 mm² for chipboard; max. 100 mm² for solid wood

Drill:

- Pan range: 0 to +100 degrees

- Drill holder: for tool holder WFC40-25 with collets up to 16 mm shank diameter

- Tool overhang: see data sheet

- Tool diameter: max. 10 mm

sawing:

- Pan range: 0 to +90 degrees

- Saw blade holder: for tool holder WFC40-25 with flange for saw blade, pitch circle 52mm

- Tool diameter: see data sheet

- Vertical cutting depth: see data sheet

- Cutting cross-section at a feed rate of 10 m/min: max. 120 mm²

Chipboard, max. 70 mm² for solid wood

- Speed: max. 15000 rpm

Notice:

Editing tools are not included!

Tool and machining parameters this

Aggregates according to the technical data sheet.

E.01 number: 6579 1 piece

ECO AIR CONDITIONING UNIT FOR CONTROL CABINET 1000 X 800 MM

Air conditioning unit for cooling the control cabinet at ambient temperatures above 35 degrees Celsius.

Note: Not suitable for larger control cabinets.

Note: Delivery of the machine does not include tools and tool holders!