EMCO

EMCOMILL 1800 / 1200

3-axes CNC machining centres

EMCOMILL SERIE 1200 1800

PERFORMANCE AND FLEXIBILITY WRAPPED IN A COMPACT DESIGN

The flexible, vertical CNC milling machines for 3-axis milling operations have a compact machines layout, a travel of 1800 or 1200 mm in the X-axis, 610 mm in the Y-axis, the latest control technology, as well as a very attractive price-performance ratio. The solid fixed table and large work area enable the machining of heavy workpieces weighing up to 2000 kg.

Reverse mould
(Aluminium)

1 TOOL MAGAZINE

/ Tool drum with 30, 40 or 60 stations (chain magazine)
/ Quick release with double-gripper

2 WORK AREA

/ Large machine doors
/ Optimum view into the work area
/ Protected, elevated guide systems
/ Fixed table for high workpiece weights

3 MACHINE BASE

/ Machine bed made of a special ribbed welded steel construction

Machines with optional equipment

4 CONTROL

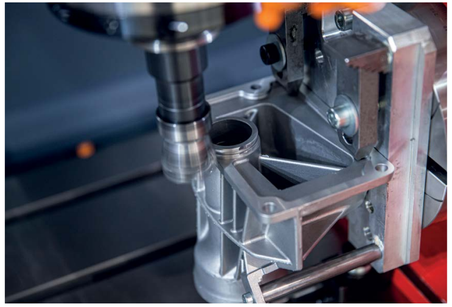
/ Cutting-edge digital control technology
/ SIEMENS 828D with ShopMill
/ Heidenhain TNC620
/ Colour monitor

5 SPINDLE

/ Mechanical spindle 12000 rpm
/ Water-cooled motor spindle 15000 rpm

TECHNICAL HIGHLIGHTS

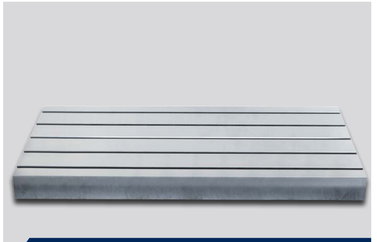
The EMCOMILL series is equipped with state-of-the-art control technology, either Siemens 828D with ShopMill or Heidenhain TNC 620 are available. The control panel includes a swivel function for an ergonomic working position.



APPLICATION AREAS

DESIGN

The new EMCOMILL series is designed as a moving column milling machine. The machine bed is made in welded steel, optimised by FEM analysis. The X-, Y- and Z-slides are made in cast iron.



MACHINING TABLE

Cast iron fixed table with T-grooves, on which clamping systems can be installed. Due to the rigid table, automation solutions with robot or pallet changer can be perfectly integrated. Large-dimensioned workpieces can be machined, achieving high accuracy thanks to the moving column technology.

HIGHLIGHTS

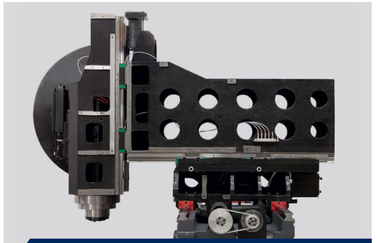
- / High-performance milling spindles
- / Flexible tool system
- / Large work area with wide machine doors
- / Solid fixed table for workpiece weights up to 2 000 kg
- / State-of-the-art control technology from Siemens or Heidenhain
- / Large number of options
- / Best price-performance ratio
- / Made in the Heart of Europe

BALL SCREWS

Grease-lubricated (central) ball screws and linear roller guides (45 mm in the X and Y axes; 35 mm in the Z-axis) offer high resistance against mechanical stress and a high, zero-vibration traverse speed. On the picture, machine equipped with glass scales (option).

TOOL MAGAZINE

The tool magazine has 30 stations (40/60 as option). The tool management with random tool selection uses a double-gripper that allows to make a pre-search of the tool during the machining cycle. Alternatively it is possible to utilise the tool magazine with a fixed place for big-dimensioned tools, leaving the two adjacent stations free.



SOLID STRUCTURE

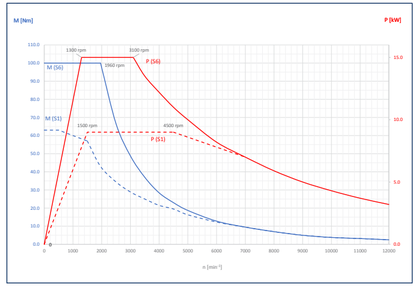
Optimised on the basis of FEM analyses and made of cast iron, the guide retainers, carriages and spindle carriers ensure maximum stability and perfectly finished workpieces.

TECHNICAL HIGHLIGHTS

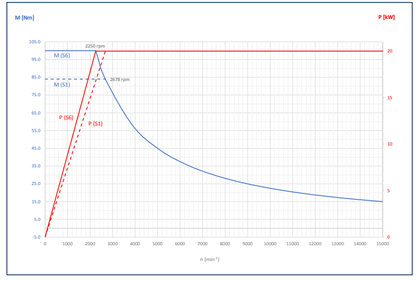
HIGH–PERFORMANCE SPINDLE

You can choose between two variants for different areas of application: 12 000 rpm (direct drive) or 15 000 rpm (motor spindle).

Power and Torque



Mechanical spindle

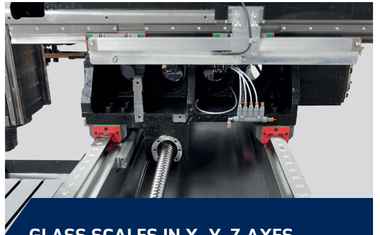


Motor spindle

OPTIONS

SIDE TOOL MAGAZINE DOOR

The side tool magazine door allows fast loading and unloading, as well as control and cleaning of the tools.



GLASS SCALES IN X, Y, Z AXES

Glass scales are used for measuring linear position, eliminating thermal deviations and increasing machine accuracy.
The pressurisation prevents the scales' contamination.

- / Tool magazine with 40 or 60 stations
- / Tool holder ISO 40 / BT 40 / HSK–A63
- / NC–rotary table
- / Glass scales in all axes
- / Handwheel
- / Alarm status lamp
- / Control cabinet cooling unit
- / Automatic tool measuring
- / Coolant and air through the spindle
- / Belt filter systems with high pressure pumps

ROTARY TABLE

As a 4th axis, a rotary table with a diameter of 200 mm is available, offering up to 0.001° precise resolution and NC–interpolation.
Other sizes on request.

HINGE–TYPE CHIP CONVEYOR

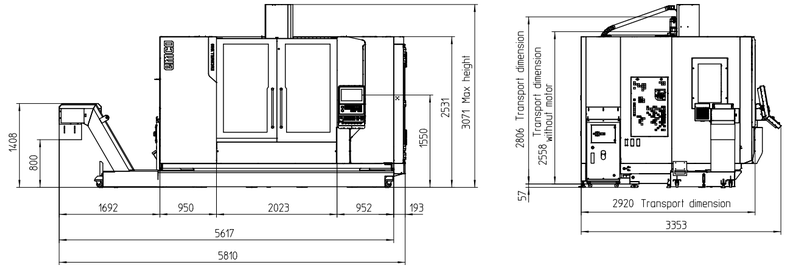
The chips created by the machining processes are transported to the hinge–type chip conveyor and automatically removed from the machine into a container provided by the customer.

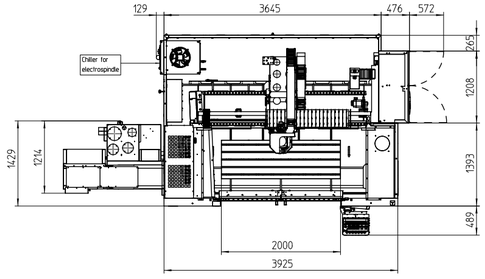
MEASURING SYSTEMS

Both the measurement of the tool to reduce the set–up time during tool change as well as the measurement of the workpiece in order to check dimensions or to determine zero points, is optionally possible within the machine by means of a radio or a laser bridge.

INSTALLATION PLAN

EMCOMILL 1800

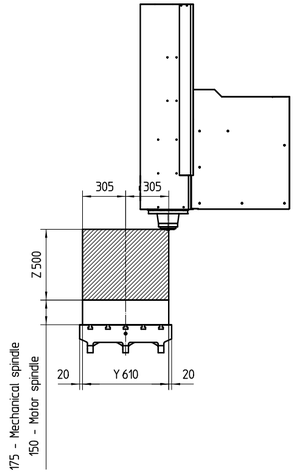


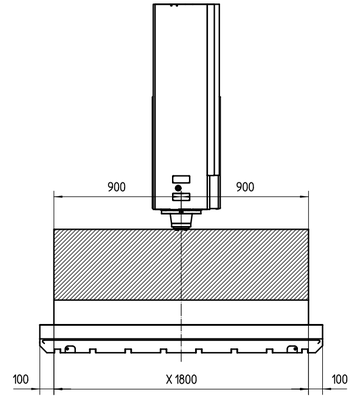


Details in millimeters

WORK AREA

EMCOMILL 1800

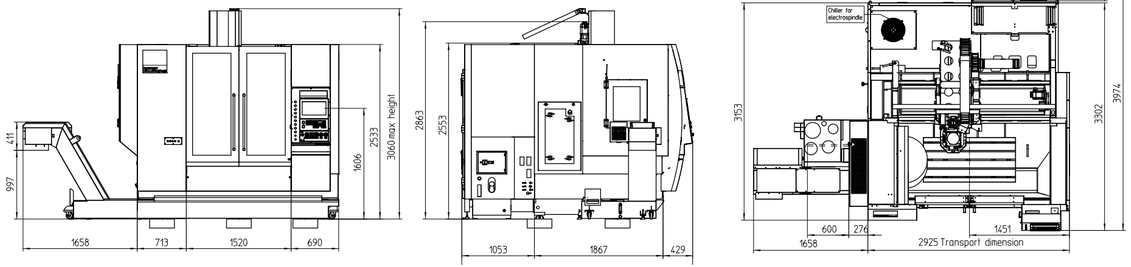




Details in millimeters

INSTALLATION PLAN

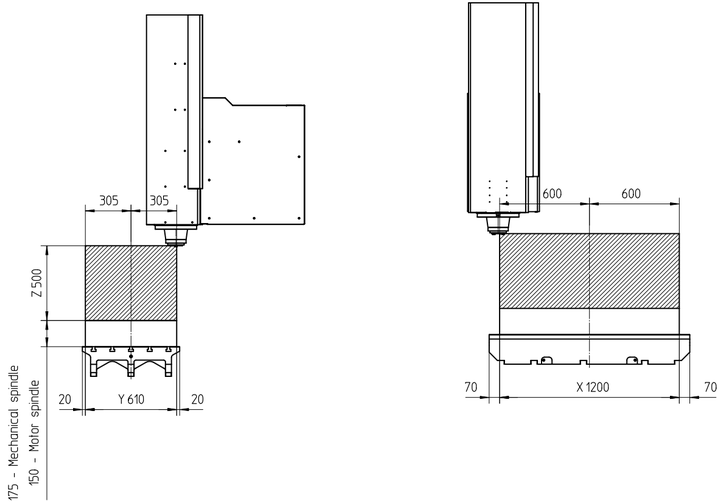
EMCOMILL 1200



Details in millimeters

WORK AREA

EMCOMILL 1200



Details in millimeters

TECHNICAL DATA

Work area	EMCOMILL 1800	EMCOMILL 1200
Travel in X-axis	1800 mm	1200 mm
Travel in Y-axis	610 mm	610 mm
Travel in Z-axis	500 mm	500 mm
Min./max. spindle nose-table distance (mechanical spindle)	175 / 675 mm	175 / 675 mm
Min./max. spindle nose-table distance (motor spindle)	150 / 650 mm	150 / 650 mm

Table		
Table dimensions length / width	2000 / 650 mm	1340 / 650 mm
T-grooves: number, width, spacing	5 x 18 x 125 mm	5 x 18 x 125 mm
Max. table load	2000 kg	1500 kg
Distance table surface / floor	800 mm	800 mm

Main spindle (direct drive)		
Speed range	50 – 12000 rpm	50 – 12000 rpm
Torque (S6)	100 Nm	100 Nm
Spindle motor power (S6)	15 kW	15 kW
Tool holder (DIN 69871)	ISO 40 (BT 40)	ISO 40 (BT 40)
Drive	Direct drive	Direct drive

Main spindle (motor spindle)		
Speed range	50 – 15000 rpm	50 – 15000 rpm
Torque (S6)	100 Nm	100 Nm
Spindle motor power (S6)	20 kW	20 kW
Tool holder (DIN 69871)	ISO40 (BT40, HSK-A63)	ISO40 (BT40, HSK-A63)

Tool magazine	EMCOMILL 1800	EMCOMILL 1200
Number of tool stations	30 (40/60)	30 (40/60)
Tool change time (tool / tool)	2 sec.	2 sec.
Max. tool diameter	75 mm	80 mm
Max. tool diameter (with empty station)	125 mm	125 mm
Max. tool length	250 mm	250 mm
Max. tool weight	8 kg	8 kg

Axes		
Rapid motion speed in X, Y, Z	30 m/min	30 m/min
Feed force in X, Y, Z	5000 N	5000 N
Axis acceleration in X, Y, Z	3 m/s²	3 m/s²

General data		
Power supply	20 kVA	20 kVA
Overall height	3070 mm	3060 mm
Installation area W × D (without chip conveyor, with tank)	4420 x 3360 mm	3200 x 3350 mm
Total weight of the machine	14000 kg	10000 kg
Compressed air required	6 bar	6 bar

EMCO

beyond standard

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