EMCO

GANTRY MILLING MACHINES

POWERMILL

MEGAMILL

/ THE PERFECT CONNECTION BETWEEN POWER AND ACCURACY

Its massive structure combined with its agility allows the utmost flexible use: from aerospace to general engineering, from aluminium and cast iron to steel alloys.

The box-in-box crossbeam design guarantees maximum rigidity, high thermal stability and excellent dynamics.

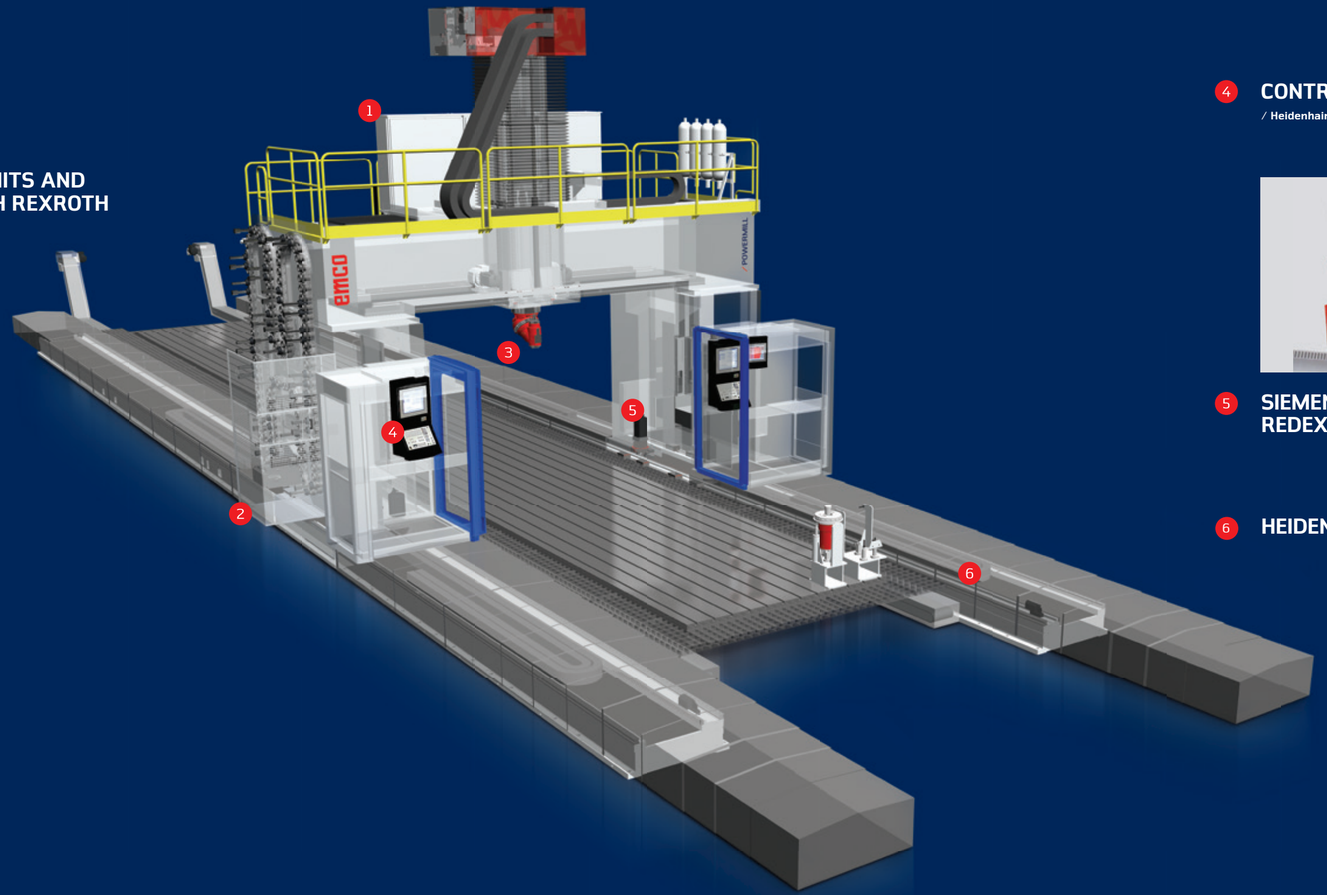
1 COMPACT DESIGN

/ Maximum precision with top dynamics thanks to extraordinarily stable gantry design

2 ROLLER RECIRCULATING UNITS AND AXES GUIDEWAYS – BOSCH REXROTH

3 MILLING HEAD WITH DIRECT DRIVE FOR 5-AXIS MACHINING

/ Milling
/ Drilling
/ Tapping
/ Turning, etc.



4 CONTROL

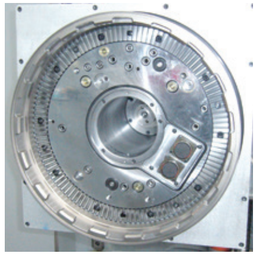
/ Heidenhain TNC 640 HSCI or Sinumerik ONE

5 SIEMENS AXES MOTORS REDEX SERVO-GEARBOXES

6 HEIDENHAIN ENCODERS

MAXIMUM PERFORMANCE DURING MOVEMENT AND CUTTING

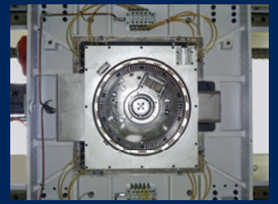
Thanks to a design, using the finite element method FEM, aimed at achieving high performance in dynamics and cutting, the MEGAMILL milling center is capable of high speed values (up to 30 m/min both in feed and rapid), with meaningful values of torque and power (up to 2 000 Nm and 42 kW).



The continuous positioning of the C-axis as well as the the ram guided by 4 sides ensures high precision, stability and long-term accuracy.

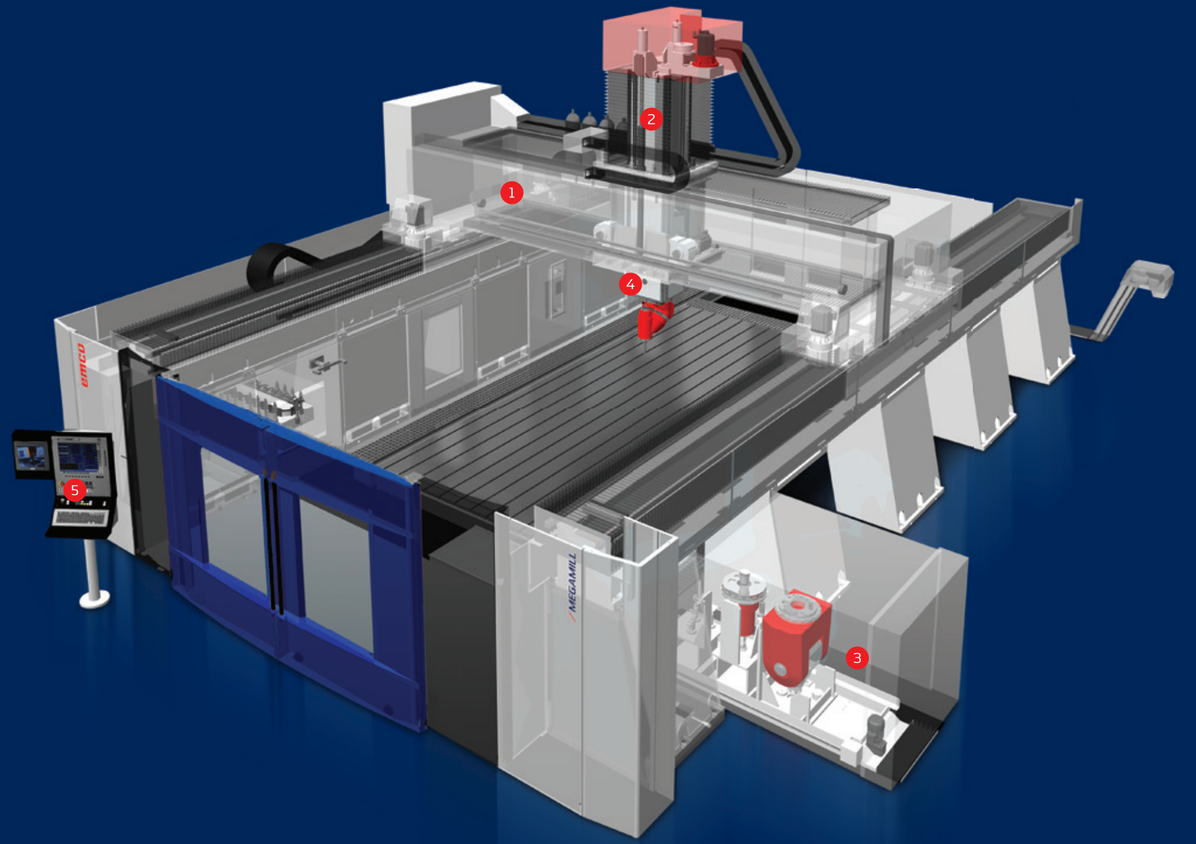
1 THERMO-SYMMETRICAL MOVING CROSSBEAM

/ The crossbeam is attached to the crossbeam saddle with the help of a proper MECOF system – this ensures the greatest possible rigidity in the connection.



2 RAM SADDLE

/ Box-in-box structure for maximum geometric and thermal stability.



3 AUTOMATIC HEAD-CHANGE SYSTEM

/ Automatic head magazine with 3 positions

4 MILLING HEAD ROTARY PLATFORM

/ Continuous positioning

5 CONTROL

/ Heidenhain TNC 640 HSCI or Sinumerik ONE

TECHNICAL HIGHLIGHTS

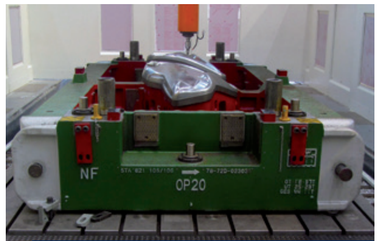
Milling operation on a machine tool structure component

Powermill in the RGM configuration, dedicated to the rails machining

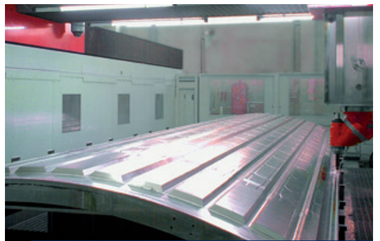
Boring operation on the frame of a CNC machining center for woodworking.

HIGHLIGHTS

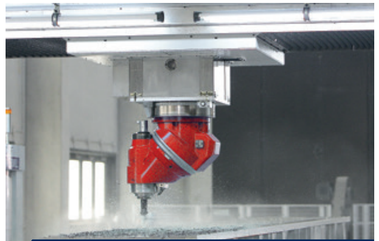
- / High dynamics and precision thanks to milling heads with direct drive
- / Large working area
- / Simple foundation design
- / Machine ready for Industry 4.0
- / 15° undercut on universal milling head with high-speed spindle
- / Direct drive technology on all milling heads with high-speed spindle
- / Automatic tool changer



Finishing process on a metal stamping die

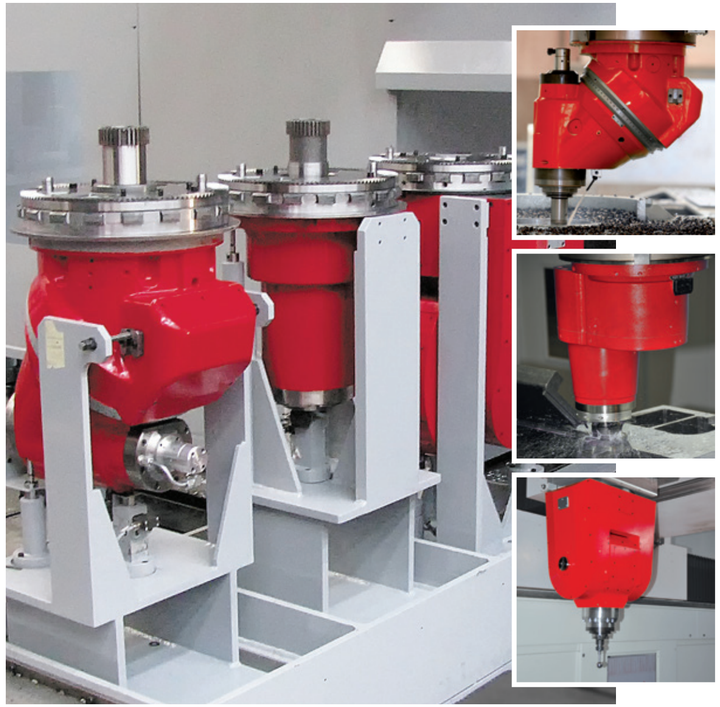


Finishing of an aluminium fuselage for Aerospace

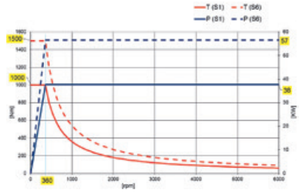


Drilling and tapping without compensation chuck on the machine component with the universal milling head with continuous positioning

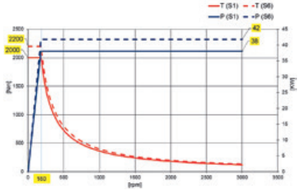
MEGAMILL / POWERMILL MILLING HEADS



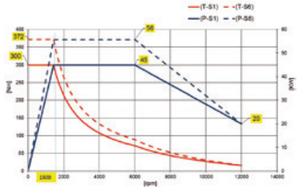
Automatic head changer on MEGAMILL



Continuous 5-axis universal milling head

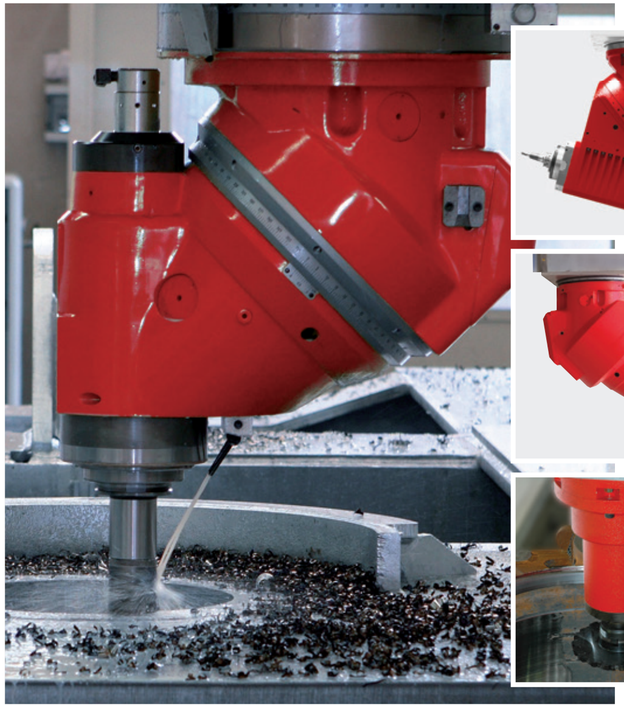


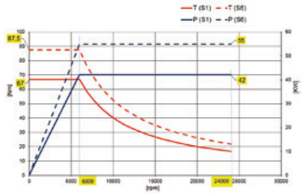
Milling head with offset spindle



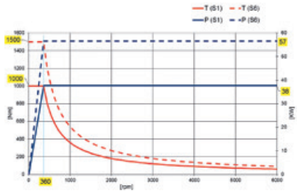
Full 5-axis fork type milling head with torque motor and high-speed spindle

MEGAMILL / POWERMILL MILLING HEADS

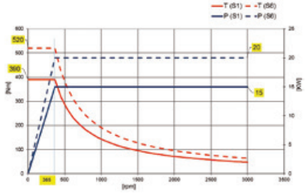




Universal head with torque motors and high-speed spindle

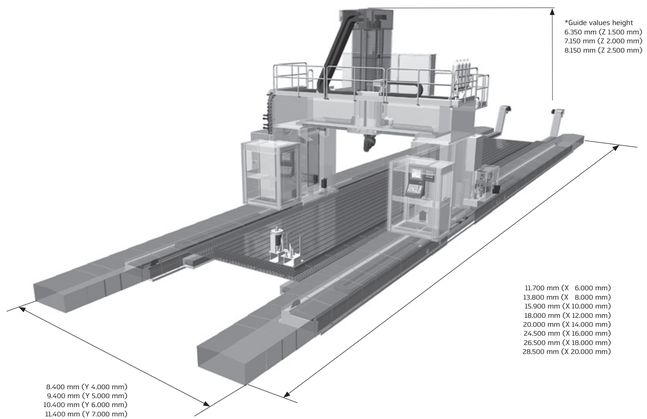


Universal milling head with torque motor

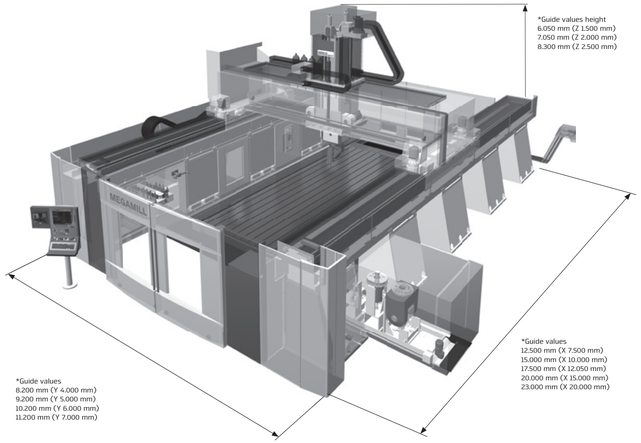


Milling head with extended spindle

POWERMILL MACHINE LAYOUT



MEGAMILL MACHINE LAYOUT



TECHNICAL DATA

Universal milling head with continuous positioning	POWERMILL	MEGAMILL
Power S1 / S6	38 / 57 kW	38 / 57 kW
Torque S1 / S6	1000 / 1550 Nm	1000 / 1550 Nm
Spindle rotation speed	15 + 6000 rpm	15 + 6000 rpm
Option	15 + 8000 rpm	15 + 8000 rpm
Standard tool taper	"ISO 50 DIN 69871	"ISO 50 DIN 69871
Option	BIG PLUS	BIG PLUS
Option	HSK 100-A DIN 69893"	HSK 100-A DIN 69893"
High-speed spindle 50 / 63 kW		
Power S1 / S6	50 / 63 kW	50 / 63 kW
Torque S1 / S6	100 / 125 Nm	100 / 125 Nm
Spindle rotation speed	12000 / 20000 rpm	12000 / 20000 rpm
Tool taper	HSK 100-A / HSK 63-A	HSK 100-A / HSK 63-A
High-speed spindle 42 / 55 kW		
Power S1 / S6	42 / 55 kW	42 / 55 kW
Torque S1 / S6	67 / 87.5 Nm	67 / 87.5 Nm
Spindle rotation speed	24000 rpm	24000 rpm
Tool taper	HSK 63-A	HSK 63-A
High-speed spindle 45 / 58 kW		
Power S1 / S6	45 / 58 kW	45 / 58 kW
Torque S1 / S6	300 / 372 Nm	300 / 372 Nm
Spindle rotation speed	12000 rpm	12000 rpm
Tool taper	HSK 100-A	HSK 100-A
High-speed spindle 70 / 86 kW		
Power S1 / S6	70 / 86 kW	70 / 86 kW
Torque S1 / S6	160 / 220 Nm	160 / 220 Nm
Spindle rotation speed	15000 rpm	15000 rpm
Tool taper	HSK 100-A	HSK 100-A

TECHNICAL DATA

Linear axes	POWERMILL	MEGAMILL
Longitudinal axis travel	6000 and more (in parts of 2000 mm)	7500 and more (in steps of 2500 mm)
Cross axis travel	4000 / 5000 / 6000 / 7000 mm	4000 / 5000 / 6000 / 7000 mm
Vertical axis travel	1500 / 2000 / 2500 mm	1500 / 2000 / 2500 mm
Feedrate	30 m/min	30 m/min
Vertical slide RAM		
Section	550 x 640 mm	550 x 640 mm
Spindle motor		
Standard	40 kW 1200 Nm	40 kW 1200 Nm
Option	50 kW 1500 Nm (S1) 61 kW 1800 Nm (S6)	50 kW 1500 Nm (S1) 61 kW 1800 Nm (S6)
Workpiece/ tool cooling system		
Low pressure	28 l/min, 6 bar	28 l/min, 6 bar
High pressure (through the spindle)	20 l/min; 20 / 40 / 60 bar	20 l/min; 20 / 40 / 60 bar
Standard options		
Full 5-axis universal milling head	6000 rpm	6000 rpm
Milling head with offset spindle	3000 rpm	3000 rpm
Universal milling head with torque motor and high-speed spindle	12000 / 20000 / 24000 rpm	12000 / 20000 / 24000 rpm
Full 5-axis fork-type milling head with torque motor and high-speed spindle	12000 / 15000 / 20000 / 24000 rpm	12000 / 15000 / 20000 / 24000 rpm
Automatic tool magazine	48 / 64 / 80 / 120 pockets	48 / 64 / 96 / 128 pockets
Automatic head magazine	2 / 3 pockets	2 / 3 pockets

EMCO

beyond standard

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