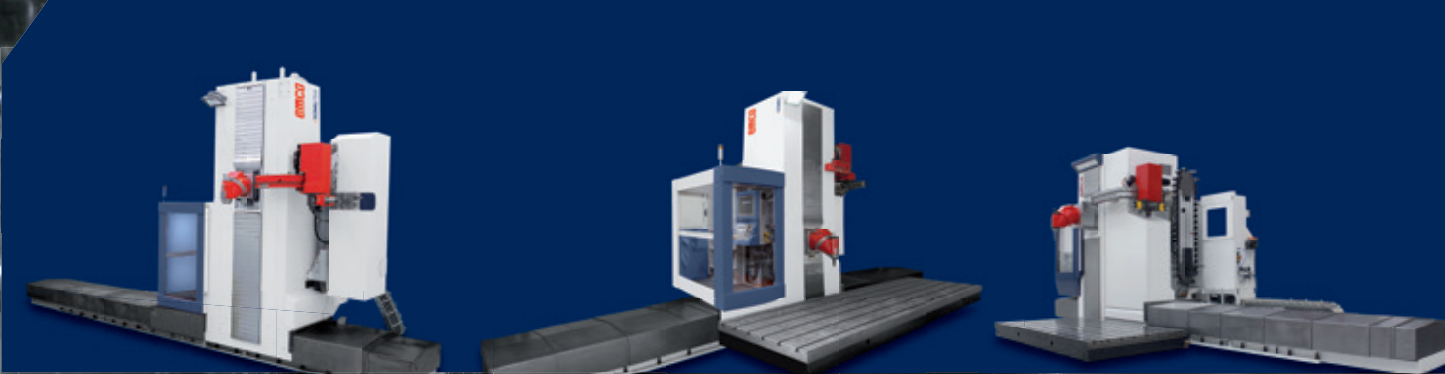


EMCO

UNIVERSAL MILLING MACHINES



ECOMILL PLUS

ECOMILL

ECOMILL S

MULTITASKING FOR GREATER FLEXIBILITY

The ECOMILL PLUS has been designed with FEM software for structural analysis. It offers excellent weight distribution that enables a high degree of rigidity and dynamic performance. Multi-purpose equipment: different interchangeable milling heads, from mechanical to high-speed spindles, meet the most demanding customer requirements. The configuration is rounded off by a large selection of options such as an automatic tool changer with up to 120 pockets, an automatic milling head changer, rotary tables in various sizes and turning capabilities.



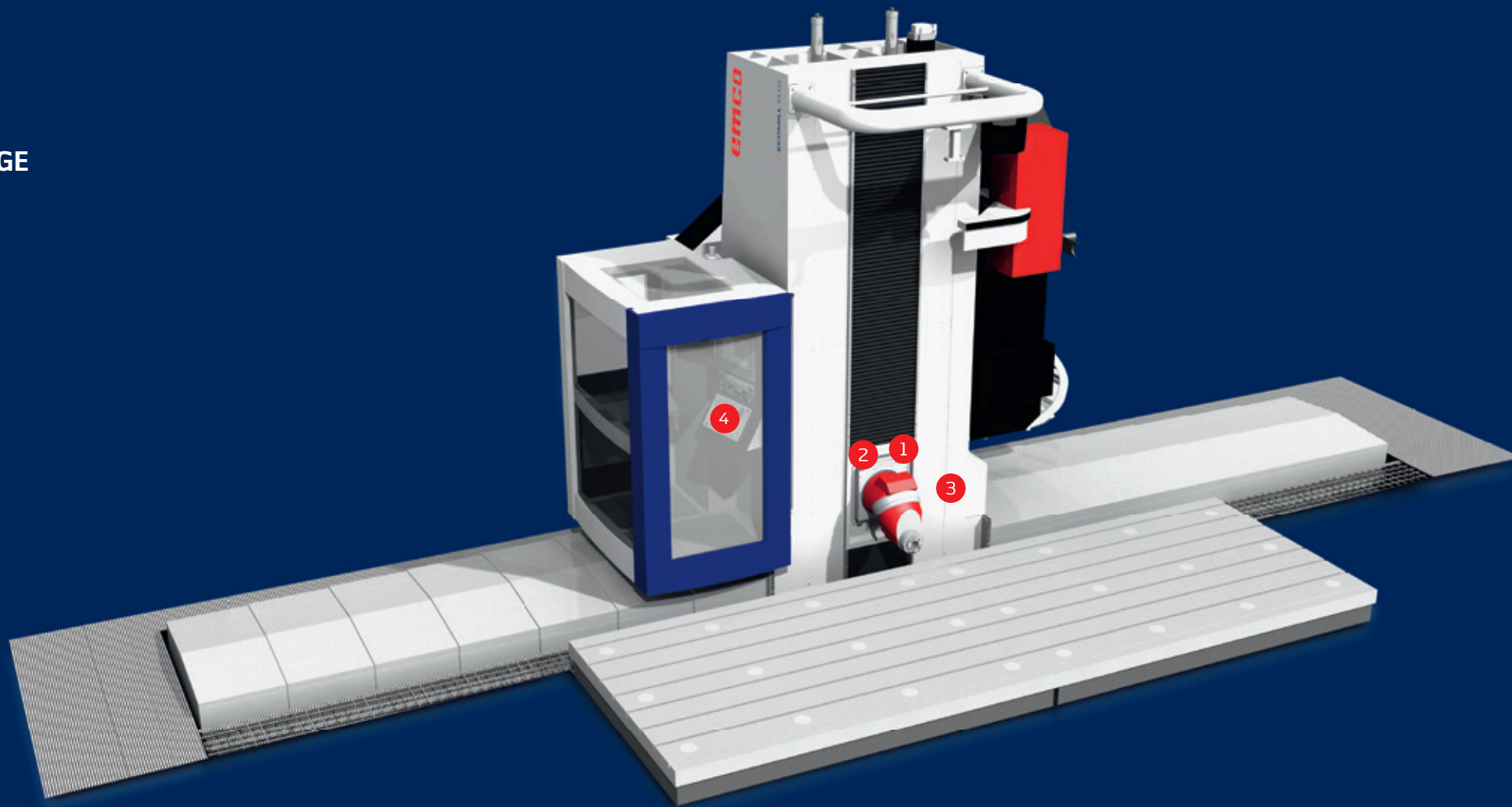
1 INTERFACE FOR HEAD CHANGE

/ Thanks to the flexibility of the head change interface, which is installed on the ram, the machine can be equipped with all the interchangeable heads that Mecof produces: from those with continuous positioning to those with 5 simultaneous axes.



2 RAM SADDLE

/ Box-in-box structure for the highest geometric and thermal stability



3 MACHINE COLUMN

/ Box-in-box structure in electro-welded steel with heavily ribbed structure, resistant to deflection and torsion as well as vibration insensitive.

4 NUMERICAL CONTROL

/ Heidenhain TNC7
/ Sinumerik ONE

MAXIMUM PERFORMANCE AND EFFICIENCY FOR YOUR PRODUCTION

With the ECOMILL series, EMCO Mecof has developed a machine concept for maximum flexibility in production, taking into account the most responsible use of energy. As a universal milling machine with a fixed milling head, the ECOMILL can perform all the necessary machining operations in one clamping.



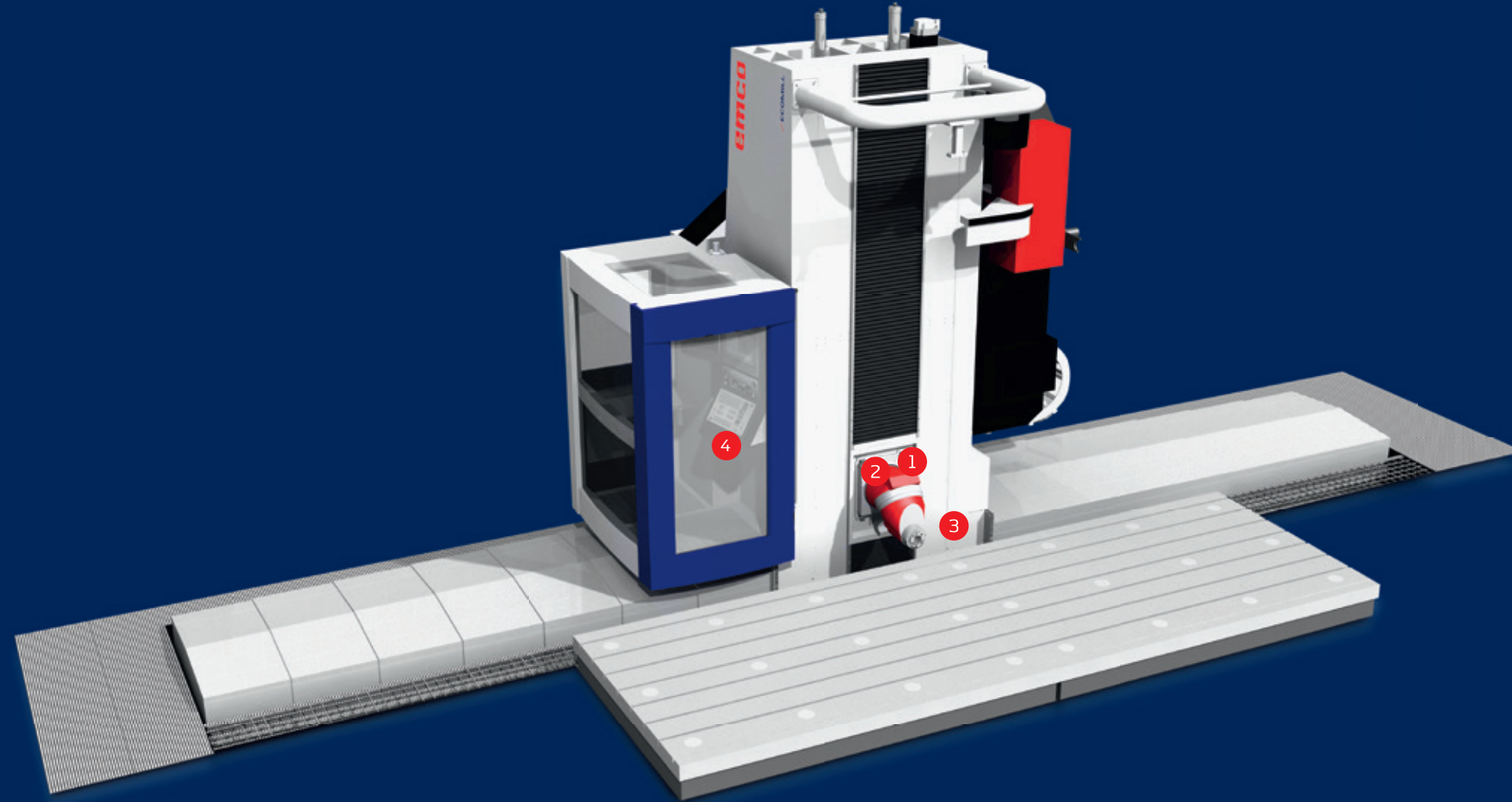
1 ROTARY PLATFORM

/ With the rotary platform the milling heads can be positioned up to 0,01°.



2 RAM SADDLE

/ Box-in-box structure for the highest geometric and thermal stability



3 MACHINE COLUMN

/ Box-in-box structure in electro-welded steel with heavily ribbed structure, resistant to deflection and torsion as well as vibration insensitive.

4 NUMERICAL CONTROL

/ Heidenhain TNC7
/ Sinumerik ONE

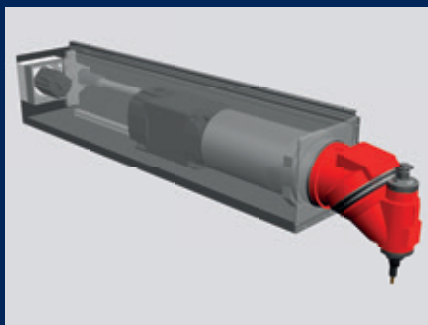
ECOMILL S FOR YOUR PRODUCTION – COMPACT, EFFICIENT AND POWERFUL

The new ECOMILL S, as the optimal solution for the general mechanical engineering sector, is characterised by high performance, production flexibility and energy efficiency in a small footprint.

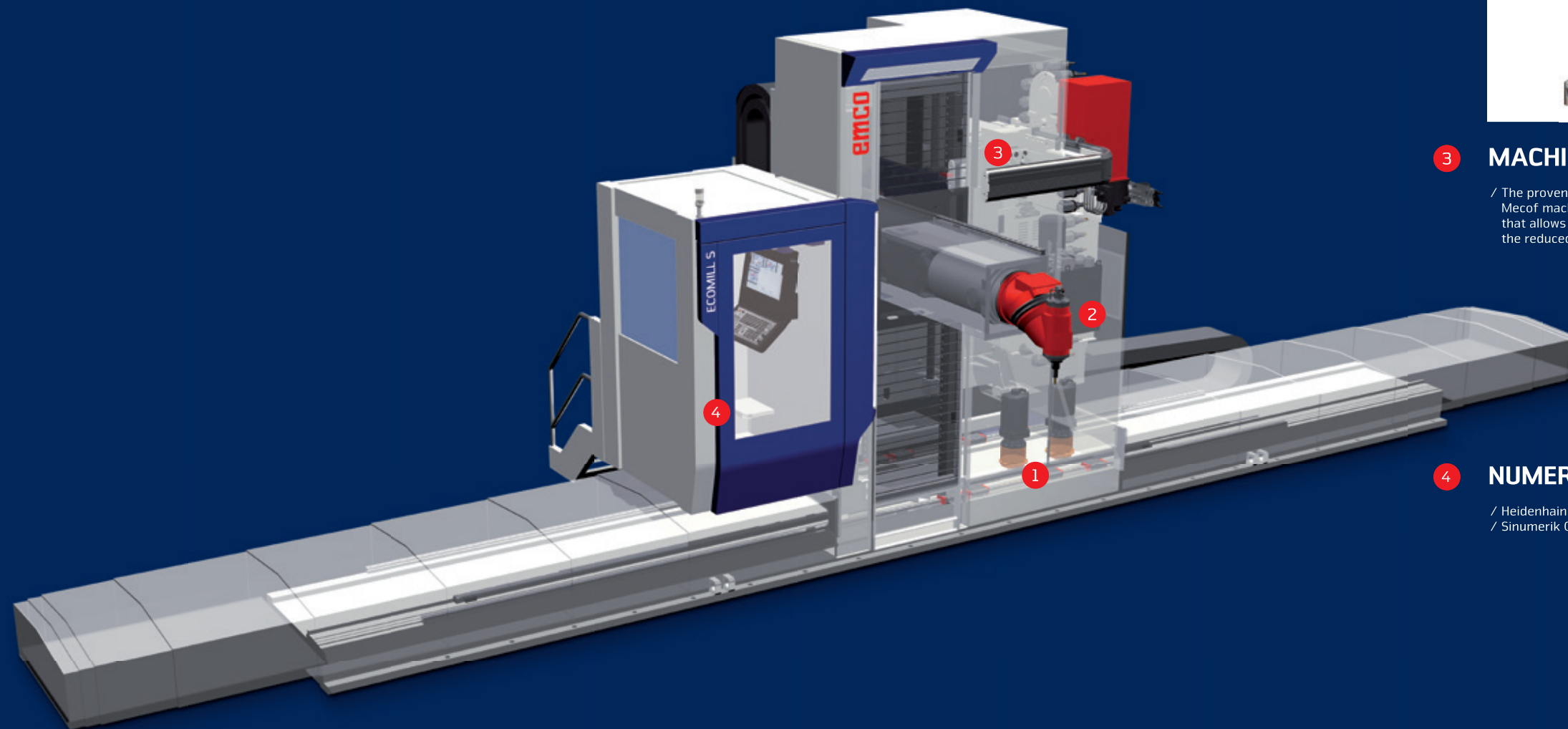
All this is made possible by the installation of the accessories directly on the machine and the motor attached to the platform. This also allowed the structure to be redesigned, resulting in an innovative and attractive design.



1 X-AXIS KINEMATICS
/ Dual drive transmission to minimize back-lash and improve accuracy



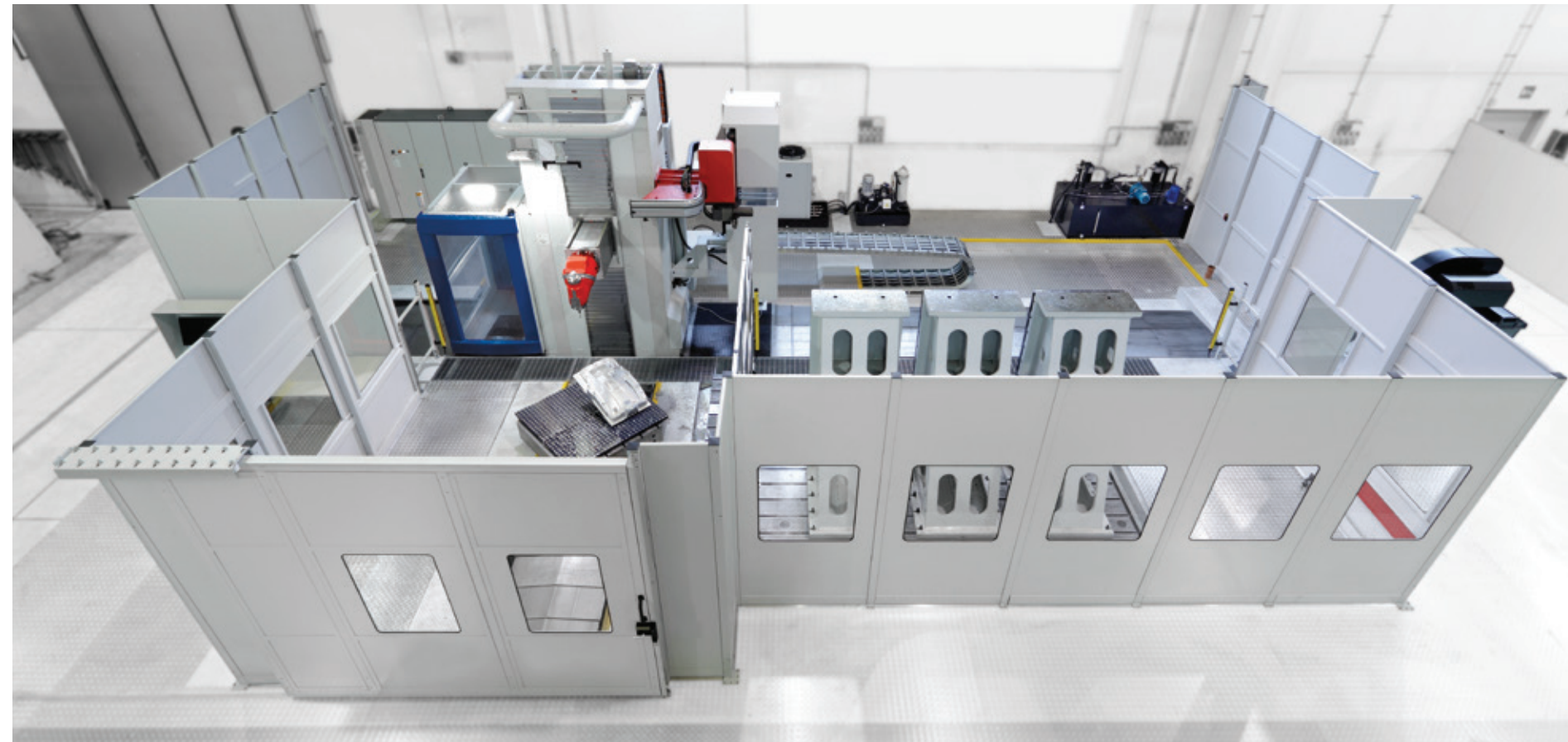
2 DIRECT DRIVE SYSTEM TORQUE MOTOR
/ The state-of-the-art direct-drive system to ensure max. performance



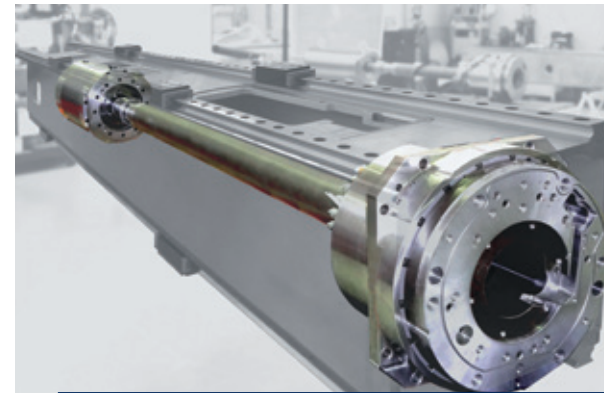
3 MACHINE COLUMN
/ The proven high stiffness and reliability of EMCO Mecof machine tools is still granted in the new design, that allows the installation in any workshop thanks to the reduced overall dimensions.

4 NUMERICAL CONTROL
/ Heidenhain TNC7
/ Sinumerik ONE

TECHNICAL HIGHLIGHTS

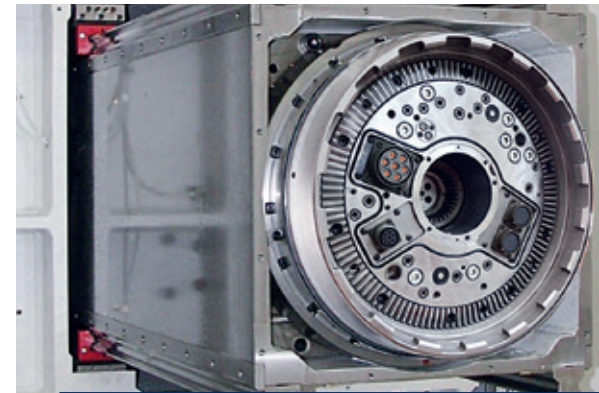


Example of installation in compliance with CE regulations



DIRECT DRIVE SPINDLE

Direct drive transmission ensures high reliability and long-life of the machine spindle line.
Ecomill - Ecomill Plus



RAM

The generous ram cross-sections of 520 mm x 450 mm for the ECOMILL and 585 mm x 500 mm for the ECOMILL PLUS mean high moments of resistance against deflection, which in combination with the four guides of the box-in-box system guarantee maximum rigidity and precision.
Ecomill - Ecomill Plus

HIGHLIGHTS

- / High dynamics and precision thanks to milling heads with torque motors
- / Machine ready for Industry 4.0
- / 15 ° undercut on the universal milling head with high-speed spindle
- / Direct drive technology on all milling heads and a wide range of applicable heads with high-speed spindle
- / Machine configuration according to customer's requirement
- / The ECOMILL S design grants the best monitoring of the cutting process



Mechanical machining for general engineering



Mechanical machining of an injection mold for car bumper

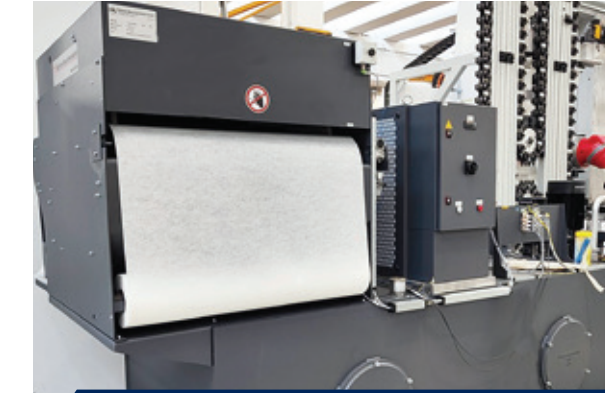


Mechanical machining of a mold by an automatic milling head 6000 rpm



LASER

Laser tool setting system positioned on the top of the machine column, in a safe position against debris and possible crashes.



PAPER FILTER SYSTEM

Best filtering results with easy maintenance.



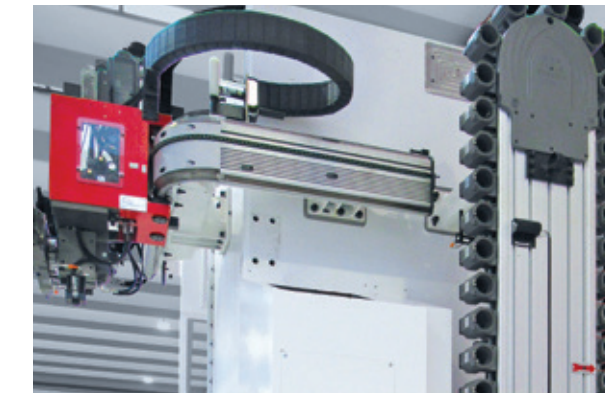
ROTARY TABLES

Rotary or turning tables can be installed in any plate size and load capacity, even in combination with pendular mode.



HEAD CHANGE

Automatic head changing system for ECOMILL PLUS



TOOL CHANGER

Chain type magazine from 40 to 120 tools, tower type available up to 203 tools.



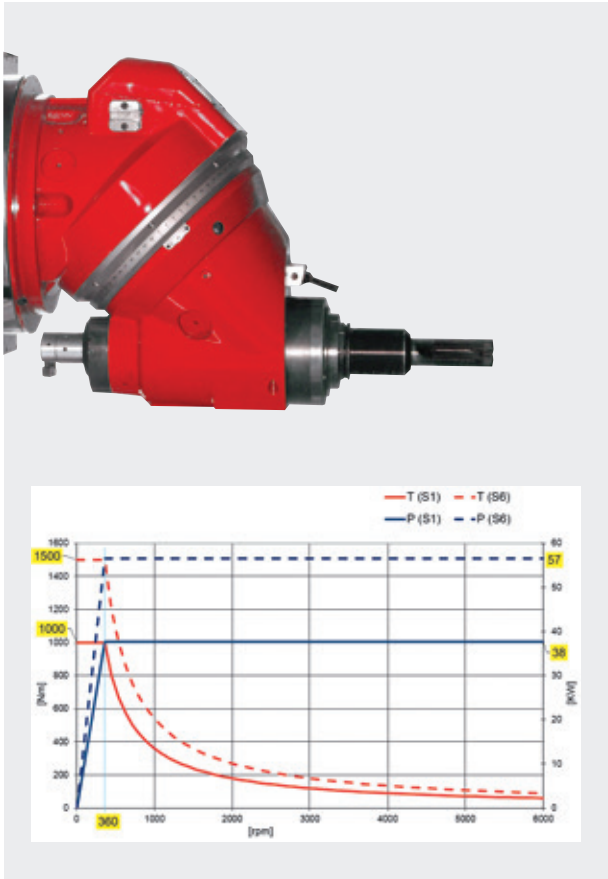
ENCLOSURE

Full enclosure available.

ECOMILL PLUS MILLING HEADS

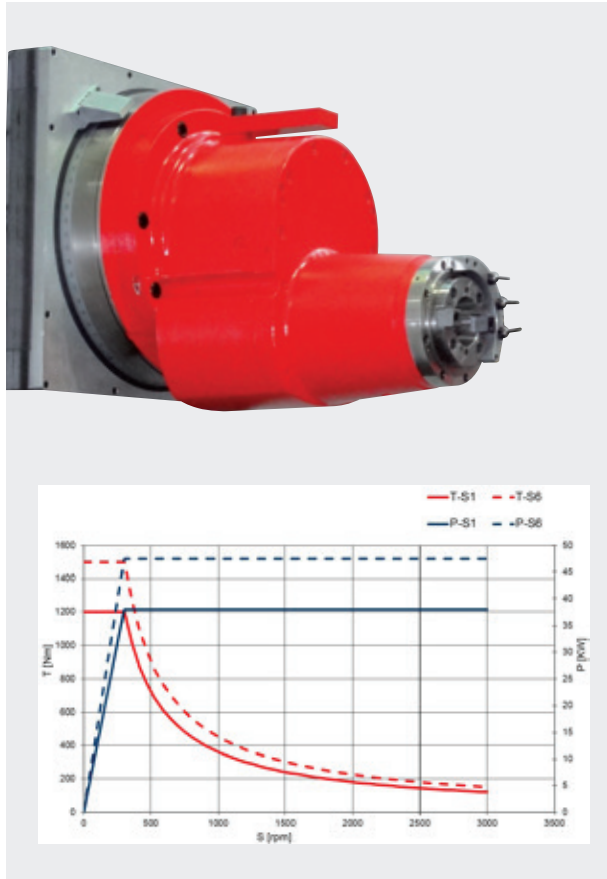
Universal milling head with automatic millesimal positioning

General engineering - energy - automotive - aerospace - railway
- earthmoving - naval - agriculture



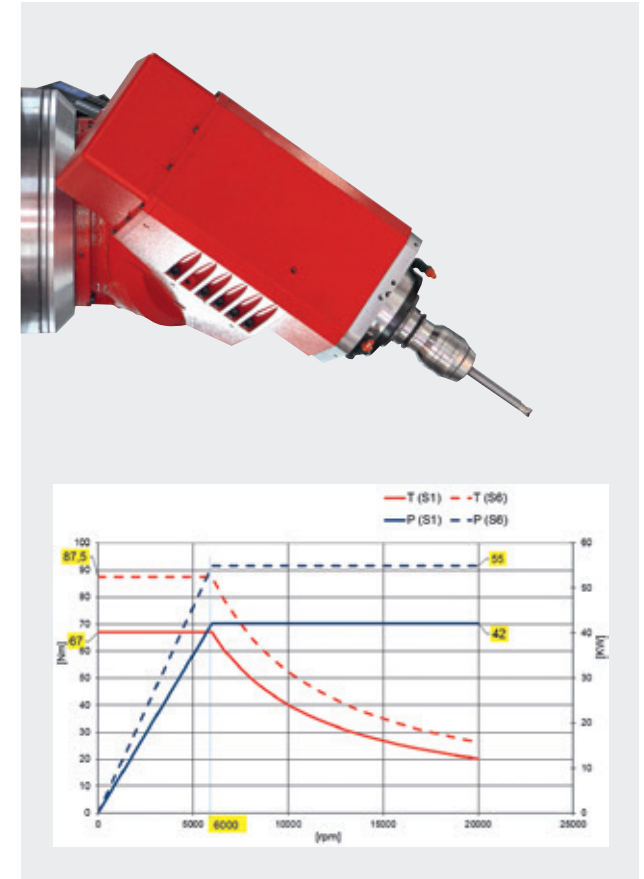
Milling head with offset spindle up to 2000 Nm

General engineering - energy - automotive - aerospace - railway
- earthmoving - naval - agriculture



Universal milling head with high-speed spindle

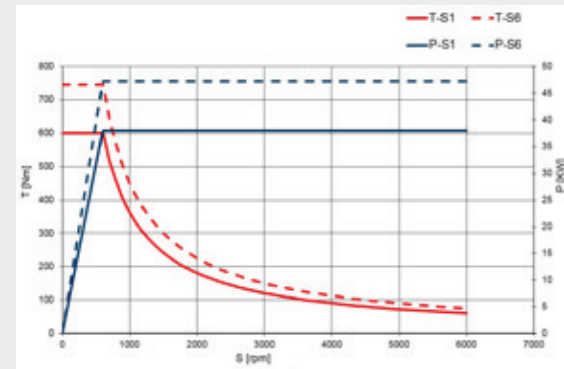
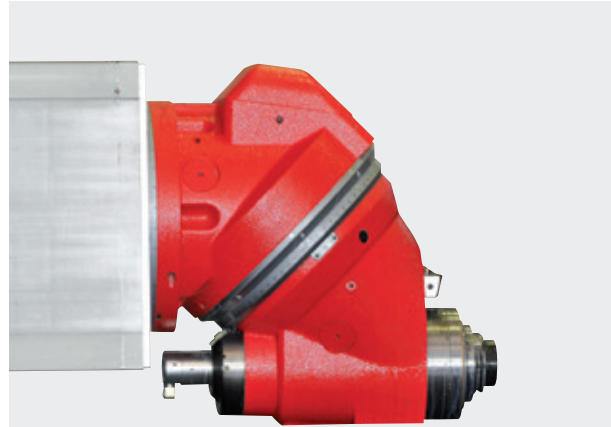
Mold & die - automotive - aerospace



ECOMILL MILLING HEADS

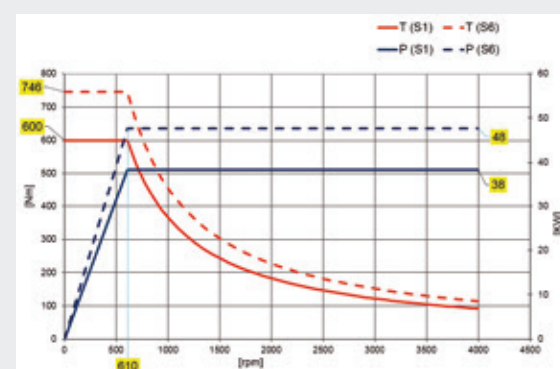
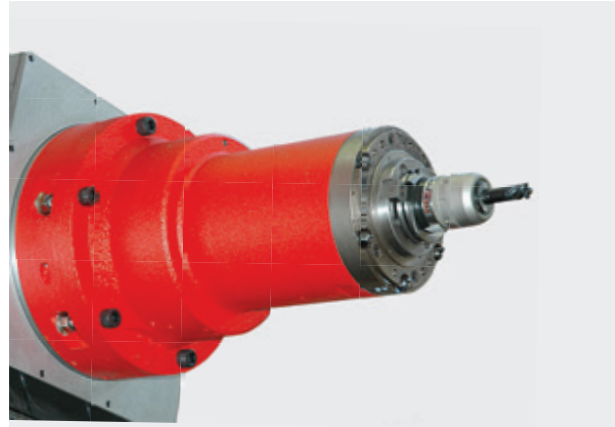
Universal milling head with automatic millesimal positioning

General engineering - energy - automotive - aerospace - railway - earthmoving - naval - agriculture



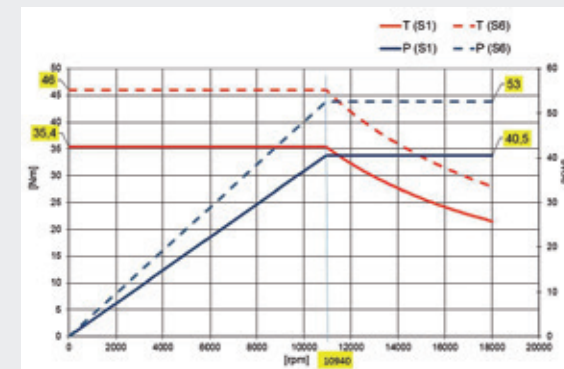
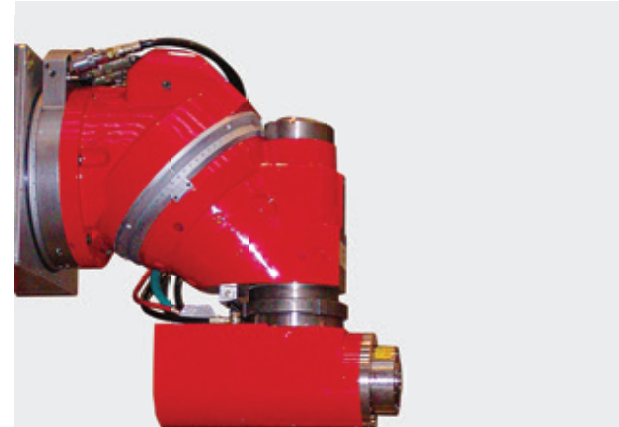
Milling head with horizontal spindle

Mold & die - automotive - aerospace



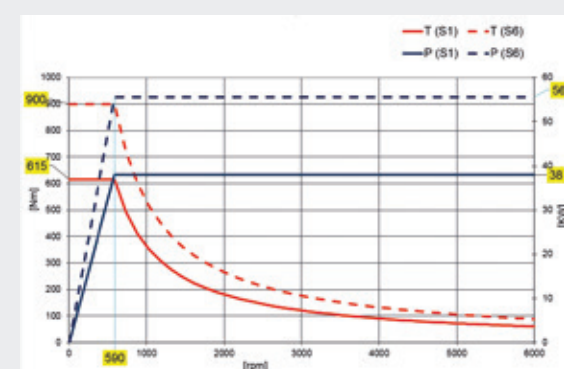
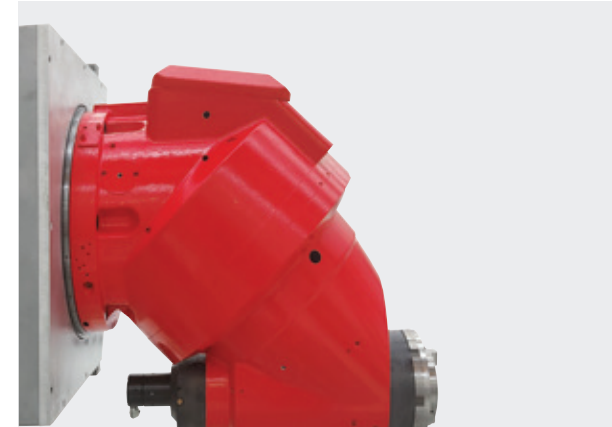
High speed spindle with special support

Mold & die - automotive - aerospace



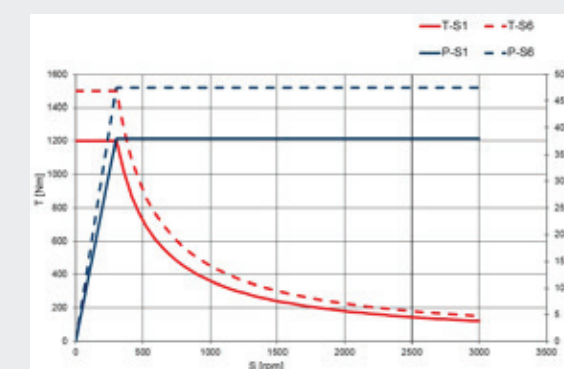
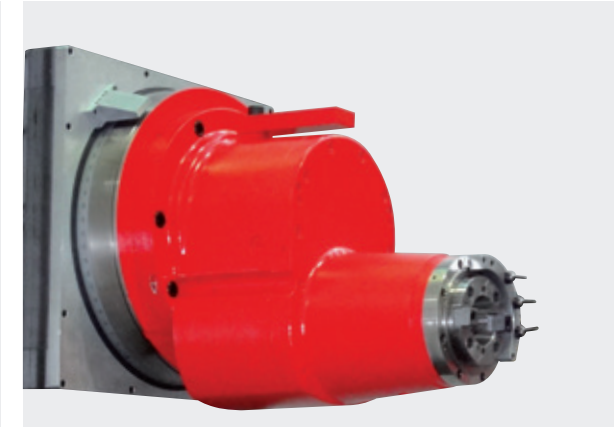
Universal milling head with automatic millesimal positioning and torque motor

General engineering - energy - automotive - aerospace - railway - earthmoving - naval - agriculture



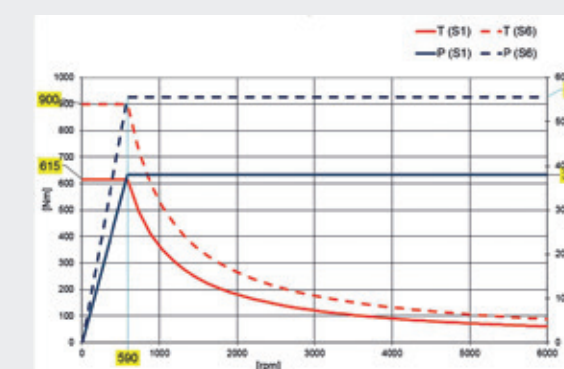
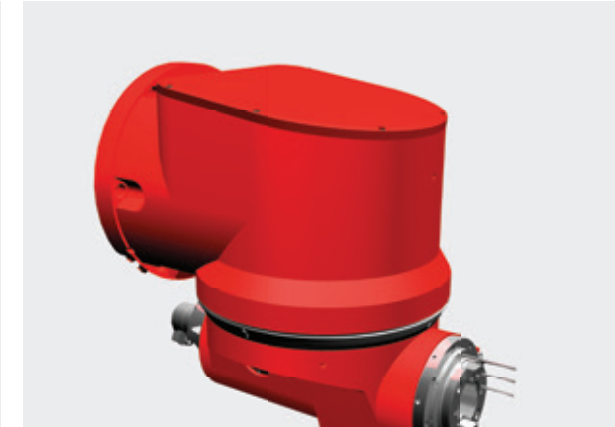
Milling head with offset spindle up to 1200 Nm

Mold & die - automotive - aerospace



Orthogonal milling head

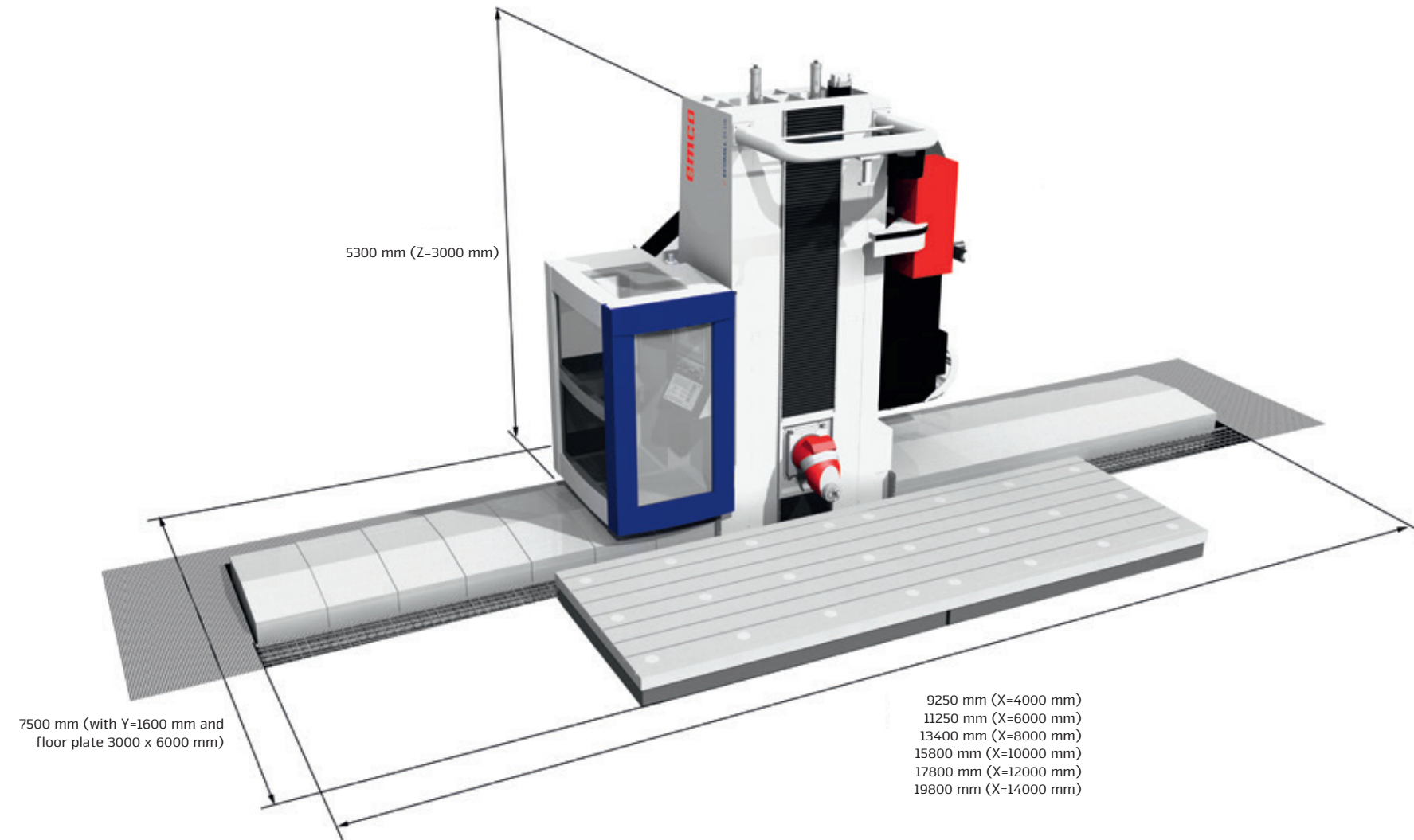
General engineering - energy - automotive - aerospace - railway - earthmoving - naval - agriculture



All milling heads are air/oil lubricated and liquid cooled.

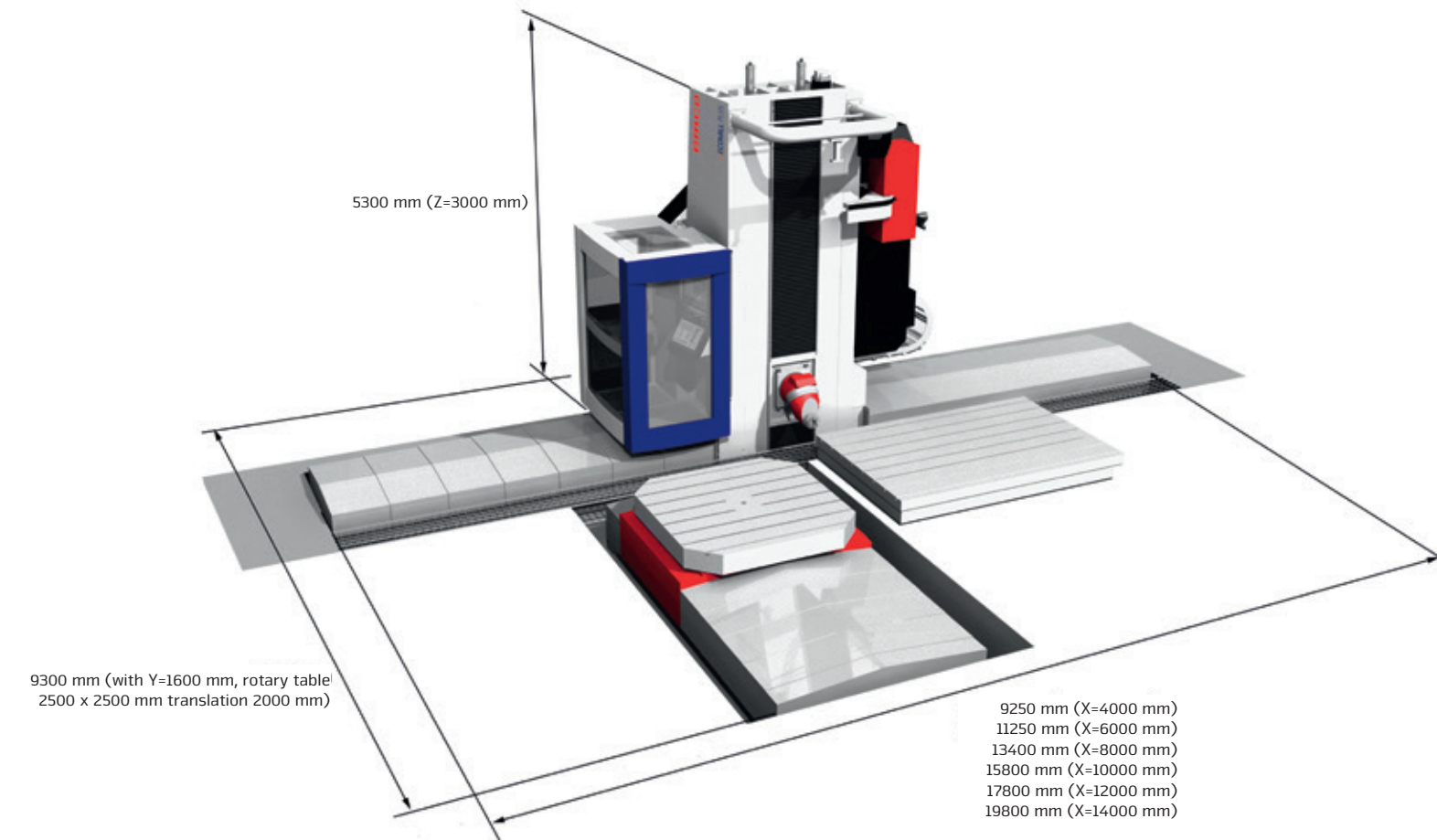
MACHINE OVERALL DIMENSIONS

ECOMILL PLUS with floor plate



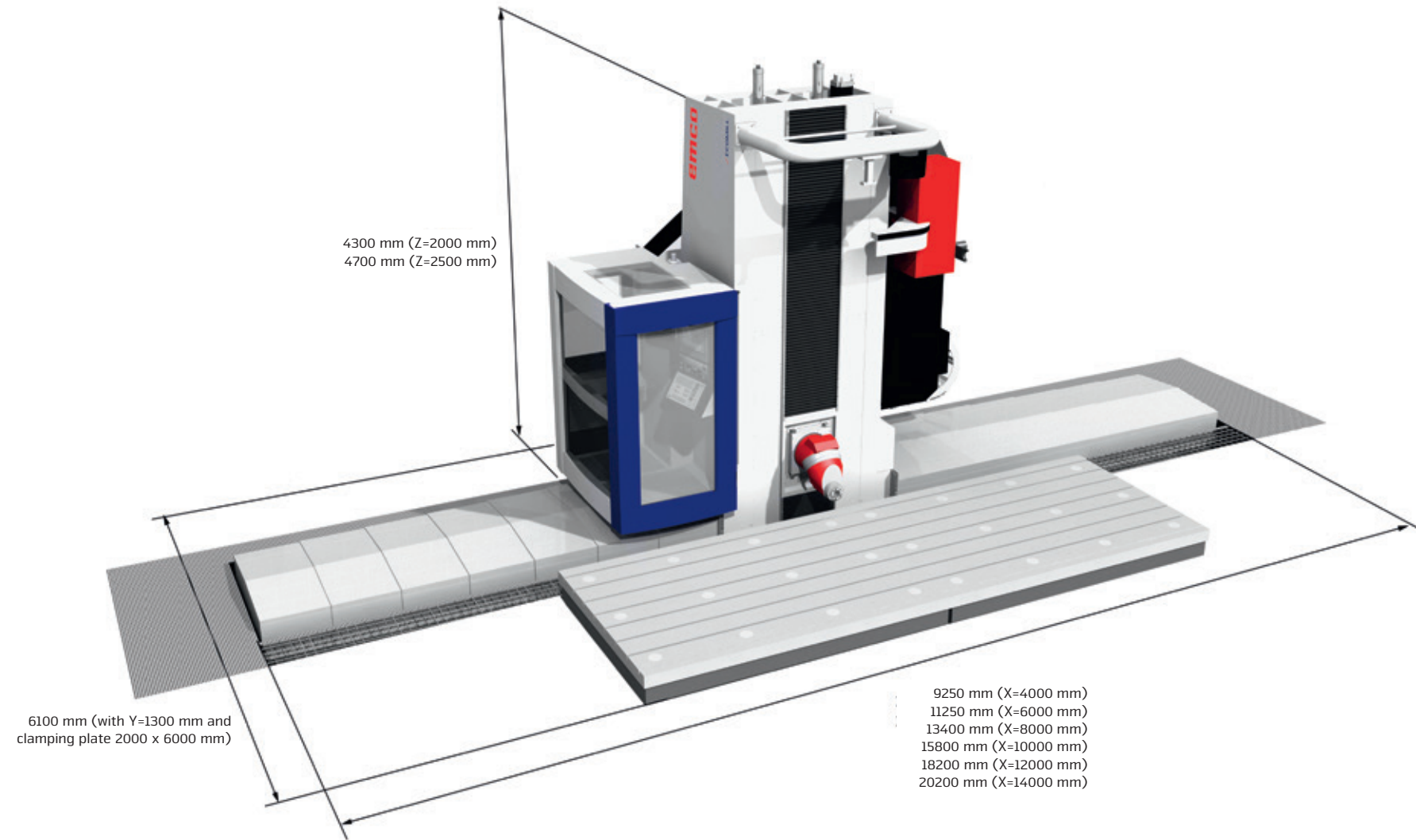
MACHINE OVERALL DIMENSIONS

ECOMILL PLUS with floor plate and rotary table



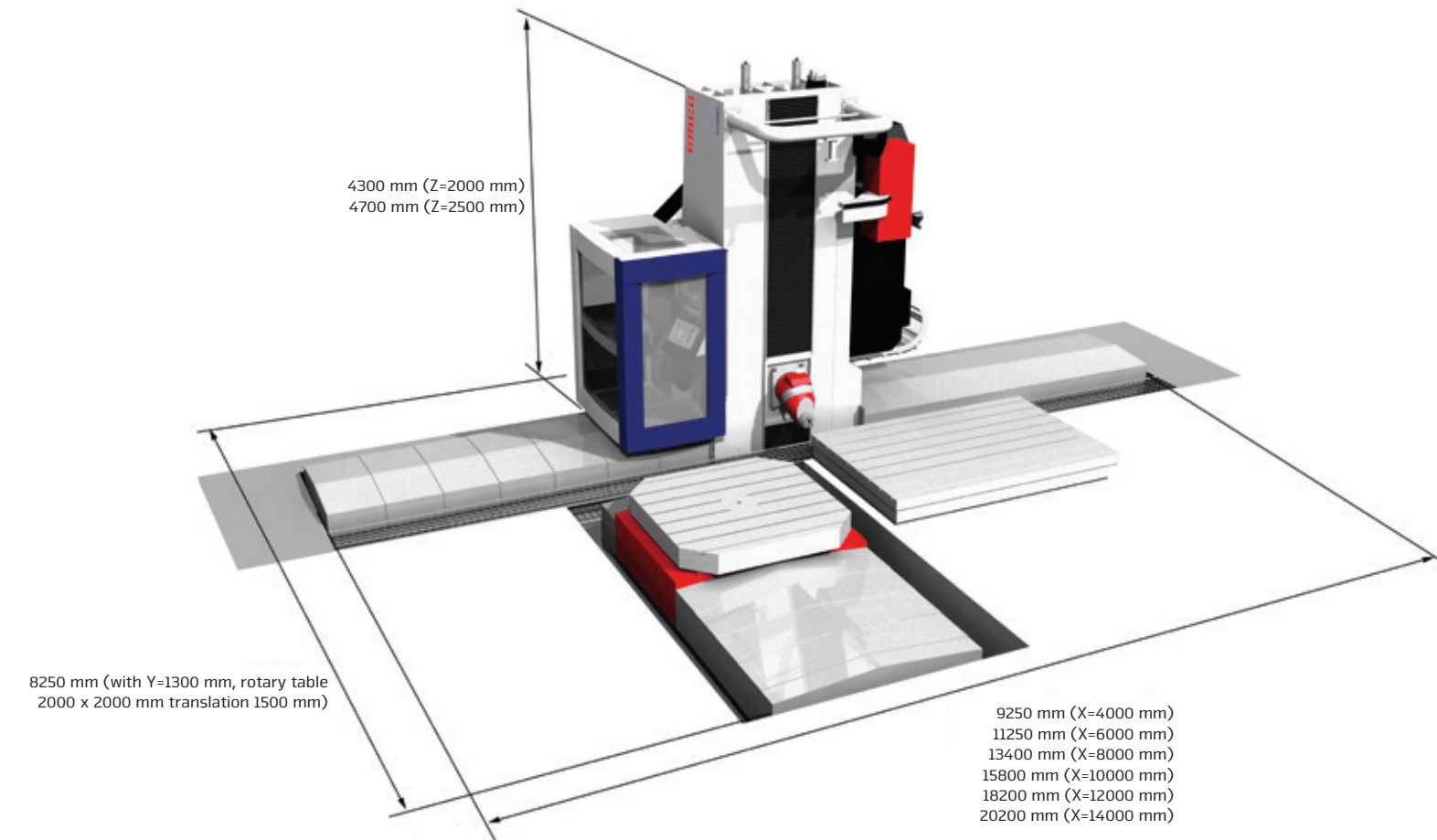
MACHINE OVERALL DIMENSIONS

ECOMILL with floor plate



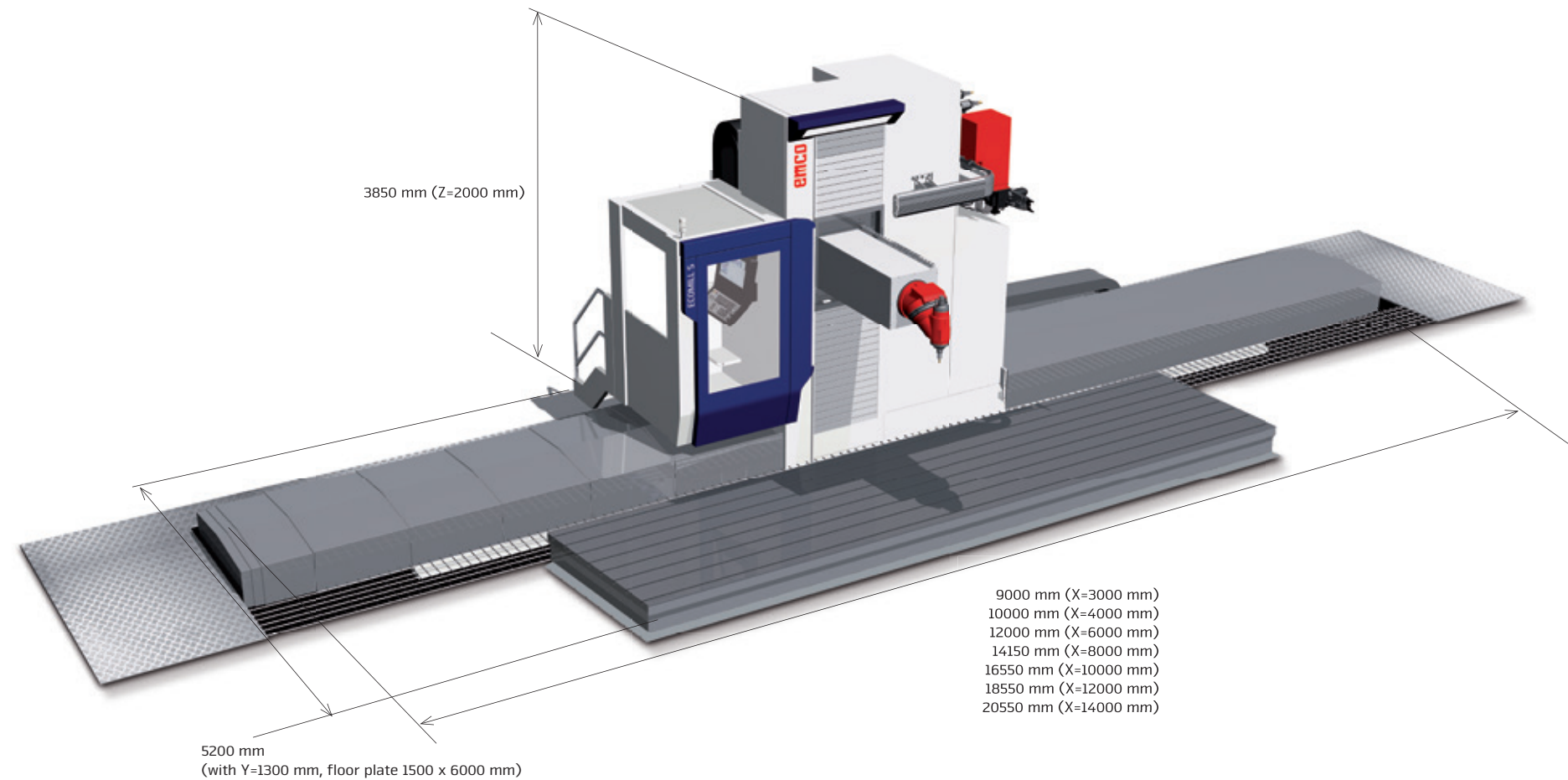
MACHINE OVERALL DIMENSIONS

ECOMILL with floor plate and rotary table



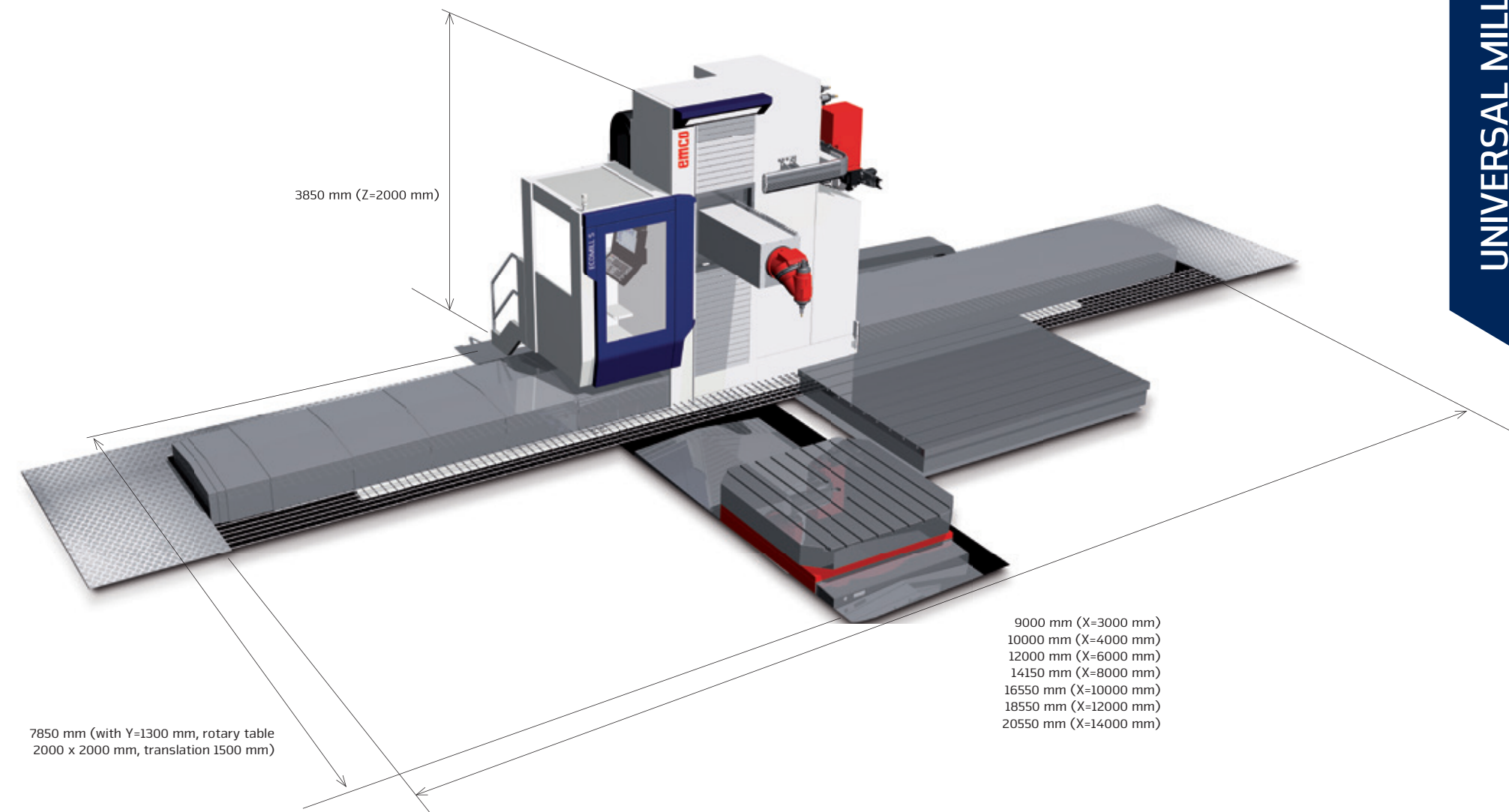
MACHINE OVERALL DIMENSIONS

ECOMILL S with floor plate



MACHINE OVERALL DIMENSIONS

ECOMILL S with floor plate and rotary table



TECHNICAL DATA

Linear axes	ECOMILL PLUS	ECOMILL	ECOMILL S
Longitudinal axis travel	4000 - 14000 mm	4000 - 14000 mm	3000 - 14000 mm
Cross axis travel	1600 mm	1300 mm	1300 mm
Vertical axis travel	3000 mm	2000 / 2500 mm	2000 mm
Feedrate	30 m/min	30 m/min	30 m/min

Spindle motor

Standard	60 kW, 600 Nm	60 kW, 600 Nm	60 kW 330 Nm
Option	40 kW, 1200 Nm		60 kW 615 Nm

Tool/workpiece cooling system

Low pressure	28 l/min, 6 bar	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	20 l/min; 20 / 40 bar

Options

Universal milling head with automatic millesimal positioning	6000 + 8000 rpm	6000 + 8000 rpm	6000 rpm
Milling head with offset spindle	3000 rpm	3000 rpm	3000 rpm
Universal milling head with torque motors and high speed spindle	24000 rpm	-	-
Orthogonal milling head	6000 rpm	6000 rpm	6000 rpm
High speed spindle in special support for universal milling head	-	18000 rpm	-
Automatic tool magazine	40 / 60 / 80 / 100 / 120 pockets	40 / 60 / 80 pockets	40 / 60 pockets
Automatic head magazine	2 / 3 pockets	-	-

Universal milling head with automatic millesimal positioning

	ECOMILL PLUS	ECOMILL	ECOMILL S
Power S1/S6	38 / 48 kW - 38 / 57 kW	38 / 48 kW	38 / 48 kW
Torque S1/S6	600 / 750 Nm - 1000 / 1500 Nm	600 / 750 Nm	615 / 900 Nm
Rotation speed	15 + 8000 rpm	15 + 8000 rpm	15 + 6000 rpm
Tool taper standard	ISO 50 DIN 69871	ISO 50 DIN 69871	ISO 50 DIN 69871
Option	BIG PLUS	BIG PLUS	BIG PLUS
Option	HSK-A100 DIN 69893	HSK-A100 DIN 69893	HSK-A100 DIN 69893

High-speed spindle 50 / 63 kW

Power S1 / S6	50 / 63 kW	-	-
Torque S1 / S6	100 / 125 Nm	-	-
Rotation speed	12000 / 20000 rpm	-	-
Tool taper	HSK-A100 / HSK-A63	-	-

High-speed spindle 42 / 55 kW

Power S1 / S6	42 / 55 kW	-	-
Torque S1 / S6	67 / 87.5 Nm	-	-
Rotation speed	24000 rpm	-	-
Tool taper	HSK-A63	-	-

High-speed spindle 40,5 / 53 kW

Power S1 / S6	-	40,5 / 53 kW	-
Torque S1 / S6	-	35,4 / 46 Nm	-
Rotation speed	-	18000 rpm	-
Tool taper	-	HSK-A63	-

beyond standard /

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