emco

THE NEW LOOK OF PERFORMANCE

BEST PROSPECTS FOR NEW PERSPECTIVES

The world of Emco is made up of many worlds. What do these worlds have in common? High standards, openness to innovation and the willingness to go the extra mile for exceptional solutions. The combination of these values makes it possible to get better and to continuously improve.

EXTREMELY WELL-ROUNDED AND HIGHLY AMBITIOUS

"I can offer the best combination from a large portfolio of possibilities. When I see the level of commitment and detail we put into finding individual customer solutions, it motivates me even more. Because I know how much care and thought has gone into each of these technical solutions".

/ Christian Brötzner
Area Sales Manager

"As a medium-sized company, we are always in close contact with our customers and trading partners, which allows us to quickly identify new market trends and challenges. It goes without saying that, when it comes to our future, we focus on increasing our market shares. We will start off with the direct markets, where EMCO is represented with its own organisations and technology centres or, more specifically, productions. At the same time, we have to expand the dealer markets and make even better use of their potentials."

/ Jörg Weinkogl
CSO EMCO

"The solid experience of EMCO's employees is reflected in a powerful range of products. What we would like to expand further are our complete solutions with automation features and digital services. We want them to meet our customers' requirements for increased efficiency, virtually unmanned production, and sustainability. Our machines will undergo the most exciting developments".

/ Dr. Markus Nolte
CEO EMCO

"Stability is a good basis for progress. Combining the continuity of a family business and the ambition of a global player, Emco is the perfect partner in the sometimes choppy waters of the market. In the medium and long term, it's worth being independent of the capital market and retaining that human touch".

/ Mag. Horst Rettenbacher
CFO EMCO

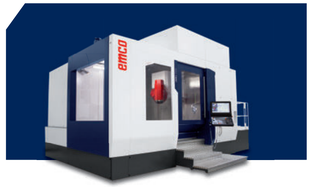
beyond standard /

"I believe that, as CFO of EMCO Germany, it is my primary responsibility to participate in and promote the business development and process optimisation in one of EMCO's key markets. The EMCO team spirit shared by our committed employees and my commercial experience will substantially support this process. I am looking forward to contributing to this development".

/ Elke Daniel
CFO Emco Deutschland

"Anyone who strives to be an international player in today's machining market must excel in all areas and offer a maximum degree of flexibility when it comes to identifying and implementing their customers' requirements. This is where EMCO's wide range of machines comes into play: it allows us to meet our customer's turning and milling specifications in every single detail."

/ Walter Voit
Director Global Key Account



FORM THAT WORKS

Functionality and aesthetics are optimally combined with a new design concept.

/ p. 7 – 10

DIGITAL AND INDIVIDUAL

With EMCONNECT, you have the key to networked intelligent digitisation in your hands.

/ p. 18

AMBITIOUS VISIONS CALL FOR COOPERATION

Miba develops and produces components which are critical for the functioning of wind energy. EMCO can provide assistance with powerful turn-mill centres.

/ p. 26

READY FOR EVERY APPLICATION

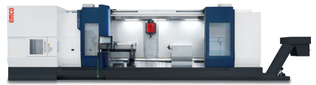
Hyperturn meets all the requirements for flexibility and precision. Even in large dimensions.

/ p. 30

TURN-MILL

CNC TURNING-MILLING CENTRES WITH POWERFUL MILLING SPINDLE AND TOOL MAGAZINE

HYPERTURN POWERMILL


HYPERTURN 200 PM


HYPERTURN 320 PM


HYPERTURN 65 PM HP


HYPERTURN 65 PM G2


HYPERTURN 65 PM

CNC HIGH-PERFORMANCE TURNING CENTRES WITH TURRETS INCLUDING MILLING DRIVE AND Y-AXIS

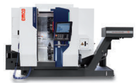
HYPERTURN


HYPERTURN 110


HYPERTURN 95


HYPERTURN 65 TT


HYPERTURN 65 DT


HYPERTURN 50


HYPERTURN 45

TURNING

CNC UNIVERSAL TURNING CENTRES WITH MILLING DRIVE AND Y-AXIS

MAXXTURN


MAXXTURN 200


MAXXTURN 110


MAXXTURN 95


MAXXTURN 65-1000


MAXXTURN 65 G2


MAXXTURN 45 G2


MAXXTURN 25

CNC VERTICAL TURNING CENTRES

EMCO VERTICAL


EMCO VERTICAL VT 400


EMCO VERTICAL VT 250


EMCO VERTICAL VT 160

CNC TURNING MACHINES

EMCOTURN


EMCOTURN E65


EMCOTURN E45


EMCOTURN E25

S-SERIE

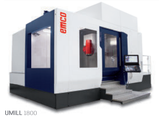

S 65


S 45

MILLING

UNIVERSAL MACHINING CENTRES FOR 5-AXIS SIMULTANEOUS MACHINING

UMILL


UMILL 1800

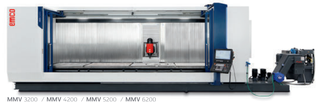

UMILL 1500


UMILL 750


UMILL 630

TRAVELLING-COLUMN MACHINING CENTERS

EMCO MMV


MMV 5200 / MMV 4200 / MMV 5200 / MMV 6200


MMV 2000

GANTRY MILLING MACHINES FOR LARGE-VOLUME PARTS

GANTRY MILLING MACHINES


DYNAMILL


DYNAMILL GS

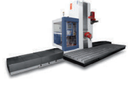

MEGAMILL


POWERMILL

UNIVERSAL TRAVELLING-COLUMN MACHINES FOR LARGE-VOLUME PARTS

TRAVELLING-COLUMN MACHINES


ECOMILL PLUS


ECOMILL


ECOMILL S


MECMILL PLUS


MECMILL

MILLING

VERTICAL MACHINING CENTRES FOR 4+1 AXES

MAXXMILL


MAXXMILL 750


MAXXMILL 630

AND 3-AXIS MACHINING

EMCOMILL


EMCOMILL 1800


EMCOMILL 1200


EMCOMILL 750


EMCOMILL E350

CONVENTIONAL AND CYCLE-CONTROLLED UNIVERSAL TURNING-MILLING MACHINES

EMCOMAT


EMCOMAT E-200 MC


EMCOMAT 20 D


EMCOMAT 17 D


EMCOMAT 14 D


EMCOMAT FB-600 MC


EMCOMAT FB-450 MC


EMCOMAT FB-600


EMCOMAT FB-450


EMCOMAT FB-3 L

TRAINING MACHINES

CONCEPT TURN

CONCEPT MILL


CONCEPT TURN 460


CONCEPT TURN 250


CONCEPT TURN 105


CONCEPT TURN 60


CONCEPT MILL 260


CONCEPT MILL 105


CONCEPT MILL 55

BRINGING STRENGTHS INTO THE FUTURE

The mix of experience and innovative spirit brings new turning solutions for digital times.

/ p. 38

THE WAY TO AUTOMATIC EFFICIENCY

The EMCO project for TYROLIT shows how robots, precision measurements and resource conservation can be combined into an automated whole.

/ p. 64

STRIKING OUT IN NEW DIRECTIONS

KOMATSU's single-line production called for new production concepts. Only the ECOMILL 5 was able to provide a compelling solution.

/ p.. 48

HANDING ON KNOWLEDGE

Good machines are important. Training employees to use them properly is even more important.

/ p. 70

/ THE BEST SOLUTIONS CONSIST OF HIGH-QUALITY COMPONENTS AND PERFECT SUPPORT

It is a good feeling to have someone who takes care of solutions, and alongside whom you can get closer to what is called perfection.
We want to convey this feeling to our customers from the very first discussion.
Because quality is not just the functioning of machines. It also manifests itself in a willingness to invest more time, passion and knowledge.
We show this every day and with every order.

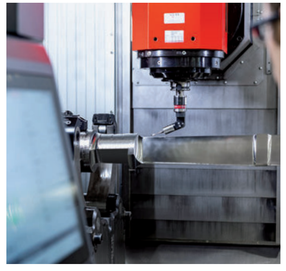
With every new project, we abide by our guiding principle – that all our knowledge and commitment must be condensed into the best solution for this one customer.

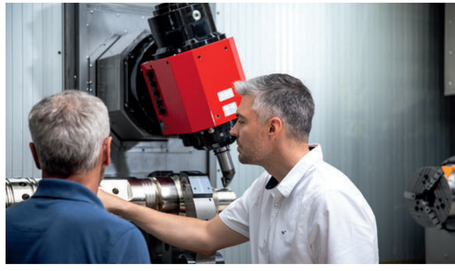
The possibilities for and the routes to the optimal machine solution are manifold and challenging. Luckily, alongside 75 years of experience in turning and milling, we always have the drive to go beyond expectations.

Our portfolio of innovations and opportunities, in combination with the expertise and dedication of our employees, are important elements here.

What quality means to us can be defined quite concretely: Planning has to impress with surprising ideas. Training on new machines must be efficient and clear. Individual needs of customers are always at the heart of all our actions and considerations. And the level of personal support should far exceed the level that is common in the industry.

All of our departments and partner companies are always in lively exchange. Supporting one another and seeing tasks from other perspectives is not an optional extra, it is part of our everyday corporate culture. This approach helps us discover new methods and inspire each other. This, in turn, benefits our customers.





/ THINGS THAT LAST A LONG TIME MAKE THE WORLD BETTER

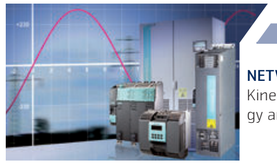
The fact that long-term investments are common in our industry is the very reason we also think in larger time horizons. Therefore, we pay attention to maximum durability and the sustainable use of resources in production and raw materials.

When it comes to energy consumption, our machines are very efficient thanks to their economical drives, intelligent standby solutions and lightweight construction methods. All of these features are further optimised by our developers to find continuously better solutions.
In this way, economic operation and ecological awareness can be combined sustainably.

/ Dr. Christian Klapf
Head of R&D

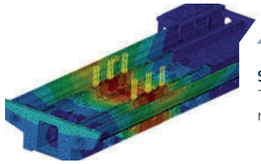
''At EMCO, responsibility starts with the selection of components and materials. The fact that a machine lasts a long time is not only a question of quality, but also of sustainability. This also applies to energy consumption and the use of resources. Anyone who saves resources intelligently also takes their environmental impact into account''.

SUSTAINABLE PRODUCTION



Saving of up to 10%

NETWORK FEEDBACK DRIVE SYSTEM
Kinetic energy is converted into electrical energy and fed back into the grid.



Saving of up to 10%

STRUCTURE-OPTIMISED MECHANICS
The FEM analysis makes relevant components stiffer and lighter.

Saving of up to 10%

HIGHLY EFFICIENT ENGINES
In the field of coolant preparation, highly efficient motors (IE2/IE3) are used.

Saving of up to 50%

LOW-FRICTION ROLLER GUIDES
Reduced rolling friction increases dynamics and minimises lubricant consumption.

Saving of up to 50%

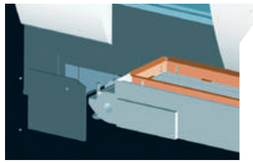
INTELLIGENT STANDBY CONCEPTS
On the control panel, you can program breaks for non-required lights and auxiliary equipment.

Saving of up to 70%

INTELLIGENT ENERGY SAVINGS MANAGEMENT
Energy-saving functions can be activated easily and conveniently in an input mask.

Saving of up to 85%

VIRTUAL MACHINE SIMULATION
The simulation software helps to shorten set-up and entry times and to improve process planning.



Saving of up to 95%

CLOCKED CHIP CONVEYOR
Depending on the status of the cutting process, the chip conveyor can be programmed to go into Pause mode when it is not needed.

QUALITY DEMANDS THE PERFECT INTERACTION OF ALL PARTS

Our solutions must always meet the highest standards.

At the beginning is the planning and the question of what works and what is suitable. Then follow the design and production of the perfect machine. Parts from Europe guarantee reliability, durability and precision. After delivery to our customers, we provide thought-through, customised training and services to ensure that the strengths of our machines are fully utilised and new production standards are made possible. For us, quality is something that must be reflected in every part, every step and every action. If everything works together perfectly, we have achieved our goal.

OUR MACHINES HAVE THE BEST OF EVERYTHING

When it comes to our suppliers, we are strict and picky. They too must be prepared to deliver innovation and quality beyond the usual standards. That's what we and our customers expect.

"Quality does not come for free. At EMCO, we are not satisfied with standard, which is why we work every day to further develop the quality edge of our machines in order to be able to guarantee you quality, stability and cost-effectiveness and thus give you a head start on the market. EMCO, beyond standard!"

We keep looking until we find the perfect components.
Then we implement what our customers have been looking for.

1 **MACHINE BEDS/CARRIAGES**
Highly stable, high shock absorbency and thermo-neutral

3 **TOOL TURRETS**
Fast switching, adjustable swivel speed and milling drive

5 **HYDRAULIC SYSTEMS**
Compact, quiet and highly energy efficient

2 **HEADSTOCKS**
In-house precision, robustness and rigidity

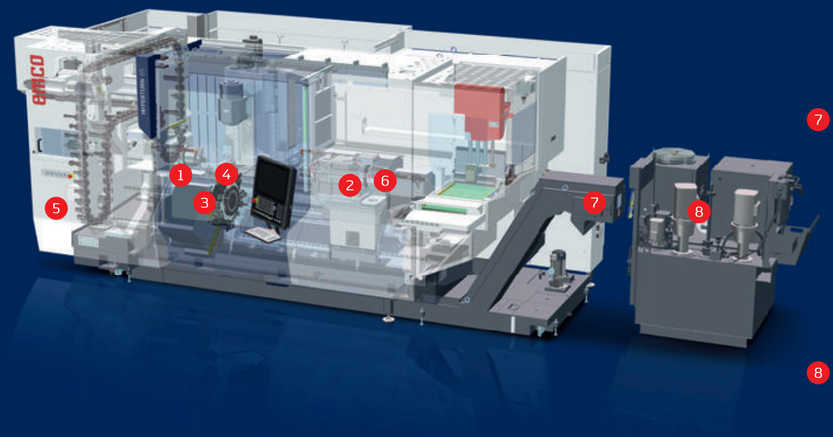
4 **TOOL HOLDERS**
Quick and accurate tool changes for increased efficiency

6 **CLAMPING CYLINDER/ CHUCK**
Accurate and easy clamping thanks to hydraulics and sensors

/ Thomas Katz
Head of Purchasing and Logistics EMCO

"Our suppliers must meet our high standards. Because a machine is only reliable if the parts used are too."

COMPONENTS

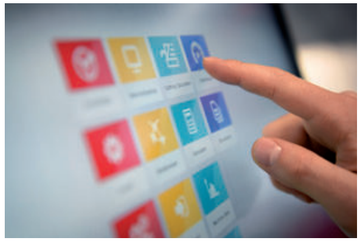


7 **Chip conveyors**
Flexible and safe delivery with overload protection

8 **Coolant pumps**
Low-maintenance immersion pumps for high pressure and fast chip transport

EVERY NETWORK IS ONE OF A KIND. SO ARE OUR SOLUTIONS.

EMCONNECT



Staying connected is not just important to people. Humans and machines also need to be networked efficiently and securely in the production process. With EMCONNECT, you have the key to optimised connectivity on your control panel and a direct line to us. Individually configured and always up-to-date, you can create optimal work processes, prevent downtimes and increase your productivity.

Reach machines better

With EMCONNECT, machines can be seamlessly integrated into the operating environment. You can have access to all computers in a network, for example to use CAD/CAM programs or emails. A web browser for access to IT systems such as ERP is also available, as is an integrated option for remote diagnostics and maintenance of the system.

Everything in view at all times

With a multitude of apps and additional functions, the functionality of EMCONNECT can be adapted to machines and requirements. This gives you a clear overview of the machine status and the relevant production data. The Documents-On-Board function makes paperless work on the machine possible.

Monitoring against downtime

Because our service does not end with delivery and we always focus on quality, machine data can be analysed via sensors and downtimes avoided. We then know when repairs are needed. Before the machine has a defect.

Simple and clear

The EMCONNECT user interface has been designed to be as simple and intuitive as a smartphone. The arrangement of functions and apps can be adapted to the requirements. Updates and upgrades are quick and keep applications up-to-date.

Individually configured

Solutions are always individual. That's why EMCONNECT is designed as an open platform. Functionality and networking are configured to optimally connect your individual production environment. And because requirements also change, the system is modularly expandable and can be adapted quickly.

"Umati helps us support the development of a universal networking standard that reveals opportunities and facilitates the machines' integration".

/ Günter Pumberger
Product Owner Digitalisation EMCO

Mobile Interface

EMCONNECT HIGHLIGHTS AND FEATURES

/ Fully networked
The operating panel offers direct access to all information and applications

/ Structured
Clear monitoring of machine status and production data

/ Customised
Open platform for the modular integration of customer-specific applications

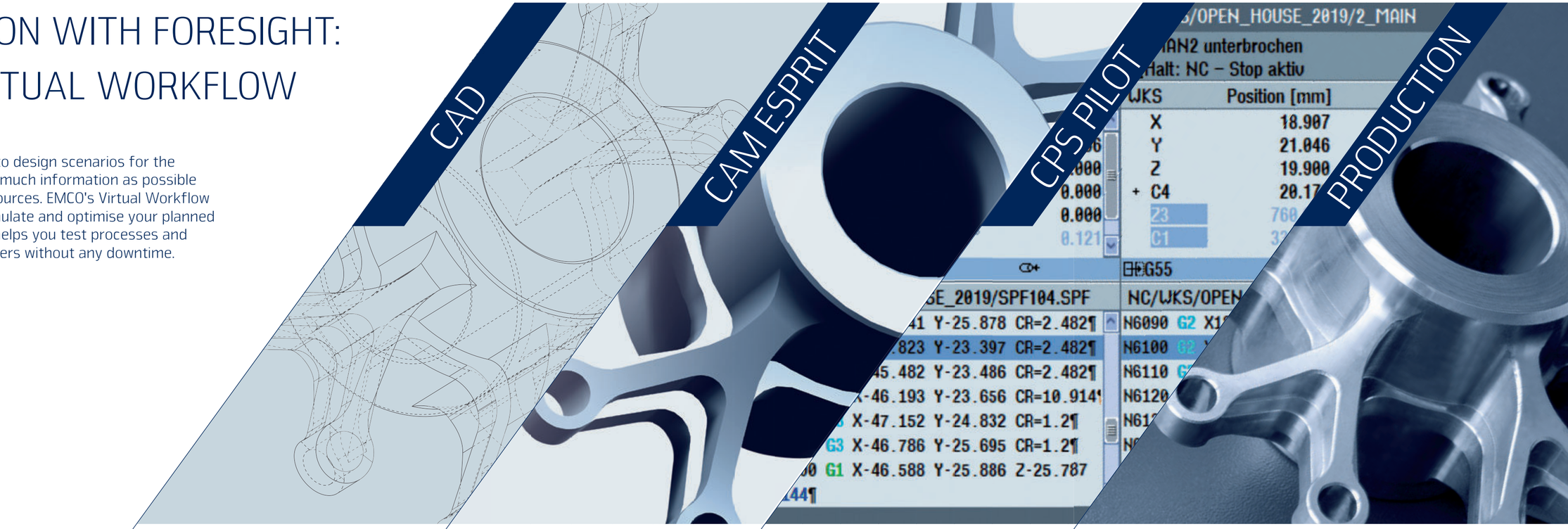
/ Compatible
Interface for seamless integration into the operating environment

/ Easy to use
Intuitive and production-optimised touch operation

/ Future-proof
Regular extensions as well as the simplest updates and upgrades

PRODUCTION WITH FORESIGHT: THE VIRTUAL WORKFLOW

Whoever wants to design scenarios for the future, needs as much information as possible from different sources. EMCO's Virtual Workflow allows you to simulate and optimise your planned processes. This helps you test processes and train skilled workers without any downtime.



Really virtual

With direct data importing, CAD programs of different origins can be used and integrated. From AutoCAD (DWG), Parasolid, Solid Edge, Solid Works and ACIS, to optional interfaces such as CATIA, Pro/ENGINEER, STEP, STL and more.

See what is coming

By integrating CAM ESPRIT into the Virtual Workflow, scrap and load can be optimised. You can display turning processes from 2 to 22 axes; for milling, you can display 2 to 5 axes. A 3D engine room simulation makes things realistic.

Draw from all sources

With the EMCO CPS Pilot, machines and processes can be portrayed as if they were real. Collision detection identifies risks and avoids unexpected interruptions.

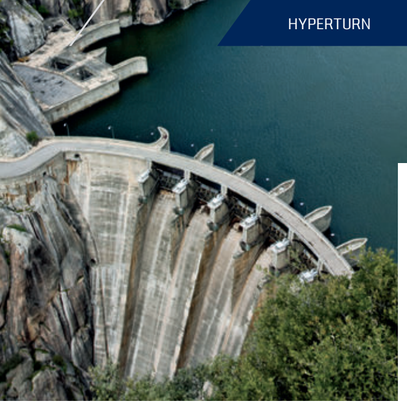
Efficiency in focus

Virtual process planning has many real benefits: Set-up costs, downtimes and repair costs can be considerably reduced in production. In addition, through a simulated manufacturing chain, machine utilisation can be adjusted to improve and increase output.

THE ALL-ROUNDER FOR DEMANDING TASKS

Requirements and demands are different in every production process. Compact all-rounders, which can do many tasks in one, increase flexibility. With the Hyperturn series, complex turning and milling operations are possible in one single operation. This facilitates planning and helps you to use people and machines efficiently.

HYPERTURN 65 PM HP



Energy technology

Energy technology

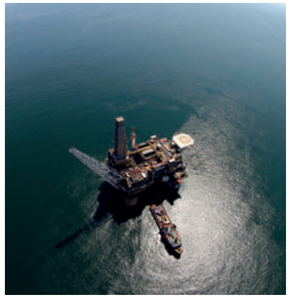
Transport technology

VERSATILE AND RELIABLE: THE HYPERTURN MAKES THE WORLD GO ROUND

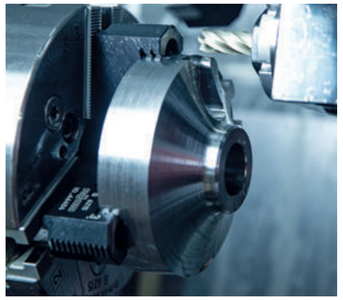
The world is on the move, and the Hyperturn often plays an important role. In energy production, for example, when power plants require extra-large and durable components. Or in the broad field of agriculture and forestry, where economy and reliability must go hand in hand with every machine. Medical technology benefits from the precision and innovative spirit inherent in the Hyperturn. Mobility and transport, on the other hand, require flexible solutions that can be produced quickly and efficiently. Across all these areas of application, the Hyperturn proves that more perfection is possible in every dimension and with every material.

Medical technology

Transport technology

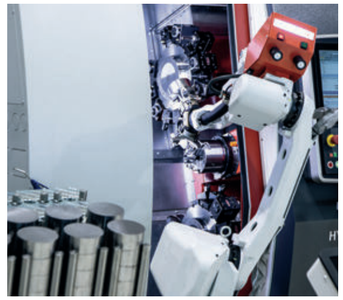


Conveyor technology



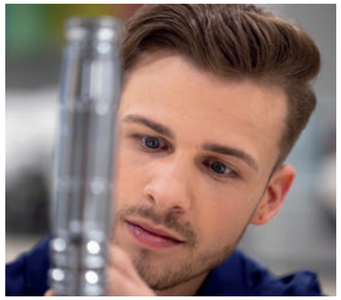
Perfectly equipped

With their state-of-the-art Y-axis and B-axis control and drive technology, Hyperturn machines set the highest standards on the market.



Can be put into various combinations

Each Hyperturn is configured to fit your precise needs. Thanks to innovative automation solutions, the possibilities are almost endless.



Reliably productive

Productivity is really important, especially when it comes to machining complex workpieces. With the Hyperturn, combined turning and milling processes, large workspaces and rapid service complement each other to create maximum efficiency.

"We developed the Hyperturn to combine our extensive experience in turning with the latest developments in milling. The high acceptance of the machines among customers has convinced us that we are on the right track!"

/ Gerhard Meisl
Head of Product Management

PROCESS-RELIABLE COMPLETE MACHINING AND REDUCED MACHINING TIMES

Ambitious visions require special types of cooperation. A beacon of hope and source of clean energy, wind power has kept Miba's engineers busy for several years. They design bearing solutions for wind turbine gearboxes and are – thanks to their comprehensive know-how in applications engineering and materials for wind turbines – able to offer customised and cost-efficient plain bearing solutions. Having provided a great number of Hyperturn 100 Powermill turn-mill centres, Emco has qualified as a partner when it comes to the machining of these plain bearing bushes.

The Miba Group develops and produces mission critical components for applications along the entire energy value chain. This makes an important contribution to the efficient and sustainable generation, transmission, storage, and use of energy. The products – sintered components, engine and industrial bearings, friction materials, power electronic components and coatings – are in vehicles, trains, ships, aircraft globally, power plants, refineries, compressors, industrial pumps, and wind turbines. Founded in 1927, the technology group now employs around 7,400 people at 30 production sites worldwide and generates sales of around 971 million euros (financial year 2021/22).

Miba bearings for wind energy

Wind turbines are also affected by the market economy (keyword: megawatt hour) and must therefore operate as efficiently as possible. This also increases the technological demands on wind turbines. And that is precisely what plays into Miba's hands: ''Upcoming turbines will be designed for twice the production output. However, there's no longer any need to increase installation space. Traditionally, used rolling bearings can hardly cope with these requirements, if at all,'' says Stadlmayr, explaining why more and more gear manufacturers worldwide rely on the specialist knowledge of the Upper Austrians. Several Hyperturn 100 Powermill turning-milling centres from Emco are in operation in Laakirchen to produce plain bearing bushes reliably and economically, as well as one in the production plant in China. ''More are already on order so that we can cover the enormous demand on site, especially in Asia,'' Stadlmayr reveals.

Emco as a long-standing partner

The Upper Austrians have a longstanding partnership with Emco, as they invested in the first Hyperturn series from Emco 20 years ago. ''In total, Miba Laakirchen has already ordered 14 turning-milling centres from Emco, many of them partially or fully automated. And almost all of them are still in use,'' says Rupert Lehenauer, the responsible area sales manager at Emco GmbH. Miba deliberately does not award any turnkey projects but leaves the know-how in-house. ''In this way, we always remain independent and can implement every project exactly according to our ideas,'' explains Stadlmayr.

The design of the HYPERTURN 100 Powermill with a powerful main and counter spindle, a B-axis with direct drive for **complex 5-axis simultaneous machining** and an additional lower turret system offers the possibility of complete machining of complex components.

Successful cooperation: Miba has a long-standing partnership with Emco, having invested in the first HYPERTURN series from Emco 20 years ago. The picture shows Rupert Lehenauer (Emco, left) and Wolfgang Stadlmayr (Miba).

/ Rupert Lehenauer
Area Sales Manager at Emco GmbH

''Miba is a very important customer for Emco in terms of technology development. We are pleased to be able to contribute to sustainability in the field of energy generation.''

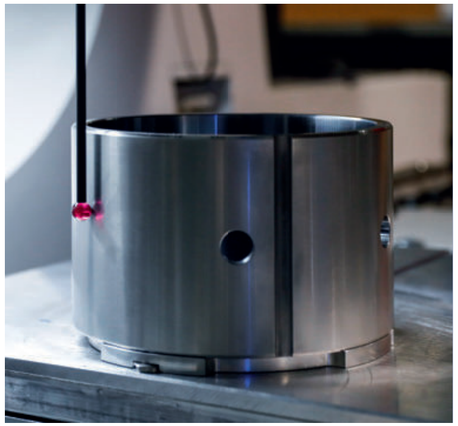
Flexibility required

This was also the case with the production design of the plain bearing bushes for the wind industry: ''Basically, the project involved a certain risk for us, because we didn't know for sure whether we would be able to manufacture the bushes with the necessary tolerances and surface qualities in a process-safe manner,'' the project manager continues. That's why Miba was looking for a partner who, in addition to the technical requirements, was as flexible as possible. Naturally, several potential machine manufacturers were contacted – in the end, Emco turned out to be the optimal partner for Miba once again: ''On the one hand, we knew about the quality and reliability of the HYPERTURN series from many years of experience, and on the other hand, Emco agreed to implement the concept we had planned one-to-one and thus also to share the risk to a certain extent,'' says Stadlmayr, explaining the decision in favour of the machine tool manufacturer from Hallein.
Miba designed the clamping device concept, which consists of standard and special clamping devices, internally. For the bushings to be machined as accurately as possible, the internal clamping is essential, among other things, so that the component is not deformed. ''We had to take the specially designed clamping situation into account when planning of our Hyperturn 100 Powermill and install it accordingly,'' continues Lehenauer, who has been supporting Miba for more than 20 years, and who has also served as an interface to development and application technology in this special project.

HIGHLY PRODUCTIVE, STABLE AND PRECISE: ALL REQUIREMENTS MET.

Turn-mill centre HYPERTURN 100 Powermill for complete machining of complex workpieces.

The plain bearing bushes are made of a composite material and are used in **applications with diameters from 125 to 500 mm.**



After complete machining, the **quality is documented externally on a coordinate measuring machine.**

Sophisticated complete machining

For machining, the unmachined part is inserted into the HYPERTURN by the machine operator. Both the outer and inner diameters are machined completely automatically on the main and counter spindles with the milling spindle and a lower tool turret. After complete machining, the finished components are measured externally on a coordinate measuring machine. ''In this way, we can keep the specified tolerances in the micrometre range for the required diameters. For the wall thickness, we make a compromise between the necessary process reliability and the lowest possible weight,'' Stadlmayr goes into detail. ''The first machining operations in Italy were satisfactory right from the start – all checks were positive, the process worked, and the specificities were given,'' recalls Stadlmayr.

Optimum machine concept

Today, the manufacturing process runs around the clock – as already mentioned – on several identical HYPERTURN 100 Powermills. ''The modular design with powerful main and counter spindle at a maximum spindle distance of 3,300 mm, a B-axis with direct drive for complex 5-axis simultaneous machining as well as an additional lower turret system offers the possibility of complete machining of complex components – like here at Miba – with a turning diameter of up to 500 mm,'' Lehenauer points out the possibilities of the turn-mill centre from Emco. The machine bed is of monobloc construction. This stable and compact construction as a travelling column principle is filled with polymer concrete, absorbs vibrations that can occur during machining correspondingly well and thus supports precision work on the workpiece. ,,All guideways are implemented with large-dimension, preloaded linear guides with glass scales. Rollers instead of balls further increase stability and damping while being more robust,'' Lehenauer elaborates on other design features. Wolfgang Stadlmayr can only confirm this: ''The HYPERTURN 100 Powermill provides us with the optimal prerequisite for the highest precision in the complete machining of our plain bearings.''

Productivity significantly increased

By further developing the manufacturing process for wind bearings to include complete machining, Miba was able to significantly increase productivity. The tooling technology was designed by Miba together with a long-standing partner, and the processes were successively optimised and fully developed. ''Currently, our machining time is already below what we'd expect. This all the more shows that the HYPERTURN is very powerful, but also stable and highly accurate,'' concludes Wolfgang Stadlmayr, full of praise.

/ Ing. Wolfgang Stadlmayr
Project Manager at Miba Gleitlager Austria GmbH

''Together with Emco, we were able to convert the manufacturing process for our Miba wind bearing bushes to process-reliable complete machining and thus significantly optimise it.''

FLEXIBLE POWER IS THE POWERMILL FORTÉ: HYPERTURN POWERMILL

The Powermill family combines maximum flexibility with power and precision. As a turning and milling centre for small to medium-sized production series, the Powermill meets all the requirements for the production of highly complex high-precision workpieces.

HYPERTURN 200 PM

MORE POWER

Because power and productivity go hand in hand, the Powermill has power in its very name. The powerful and precise milling spindle proves its strength in every situation.

The EMCO main spindle and counter spindle concept achieves impressive performance thanks to two synchronous servomotors, which also act as a C-axis.

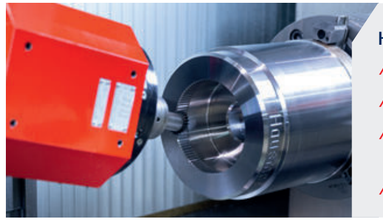
MORE POSSIBILITIES

Turning operations with the milling spindle and an infinitely pivotable B-axis for main spindle and counter spindle machining ensure a variety of application variations. The tool magazine, which can be used with a variety of tools, also helps: up to 200 different positions can be filled. There is also a wide range of automation concepts for loading and unloading.

HYPERTURN 100 PM

MORE SPACE

The Powermill offers comfortably dimensioned working spaces that enable 5-axis simultaneous machining, even for large workpieces. The easier access facilitates efficient processes. In addition, all maintenance units can be accessed separately.



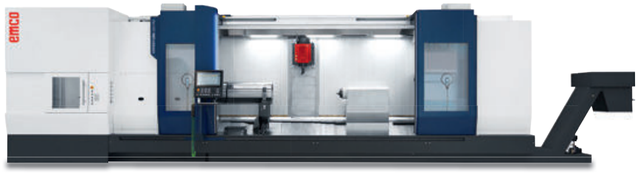
HIGHLIGHTS AT A GLANCE

- Powerful main spindle and counter spindle
- Milling spindle with direct drive
- 40/80/120-station or 50/100/200-station tool magazine (depending on model)
- NC steady rest
- 12-station tool revolver with 12 driven tool positions
- Linear guides in all axes
- EMCO automation

SOLVE COMPLEX TASKS WITH EASE

Impressive performance and flexibility: The Hyperturn Powermill range offers powerful multi-tasking machines for all-round machining of complex components.

HYPERTURN 200 PM



Max. turning diameter	1000 mm
Swing Ø over bed	1050 mm
Chuck size	500 / 630 / 800 mm
Travel in X / Y / Z	915 / 600 / 3100 – 6100 mm
Rapid motion speed in X / Y / Z	30 / 30 / 30 m/min
Speed range	10 – 1800 rpm
Max. drive power	84 kW
Max. torque	6410 Nm
Tool magazine stations	50 / 100 / 200

HYPERTURN 100 PM (A2-8'' // A2-11'')

Max. turning diameter	720 mm
Swing Ø over bed	800 mm
Chuck size	315 / 400 // 500 / 630 mm
Travel in X / Y / Z	780 / 420 / 1500 – 2200 – 3100 mm
Rapid motion speed in X / Y / Z	30 / 20 / 40 m/min
Speed range	10 – 3500 / 10 – 2500 rpm
Max. drive power	33 – 53 kW
Max. torque	800 – 4400 Nm
Tool magazine stations	40 / 100

HYPERTURN 65 PM HP

Bar capacity	65 (76,2/95) mm
Swing Ø over bed	500 mm
Chuck size	250 mm
Travel in X / Y / Z	405 / 220 / 1040 (210 / 100 / 850 und 210 / 100 / 800) mm
Rapid motion speed in X / Y / Z	30 / 12 / 30 m/min
Speed range	0 – 5000 (4000/3500) rpm
Max. drive power	29 (37) kW
Max. torque	250 (360) Nm
Tool magazine stations	40 / 80

HYPERTURN 65 PM G2

Bar capacity	65 (102) mm
Swing Ø over bed	500 mm
Chuck size	315 (400) mm
Travel in X / Y / Z	530 / 240 / 1215 (210 / – / 1205) mm
Rapid motion speed in X / Y / Z	40 / 30 / 40 m/min
Speed range	0 – 5000 (4000) rpm
Max. drive power	29 (38) kW
Max. torque	250 (800) Nm
Tool magazine stations	40 / 80 / 120

HYPERTURN 65 PM

Bar capacity	65 (76,2 / 95) mm
Swing Ø over bed	500 mm
Chuck size	250 (315) mm
Travel in X / Y / Z	405 / 220 / 1040 (210 / 100 / 1050) mm
Rapid motion speed in X / Y / Z	30 / 12 / 30 m/min
Speed range	0 – 5000 (4000/3500) rpm
Max. drive power	29 (37) kW
Max. torque	250 (360) Nm
Tool magazine stations	20 / 40 / 80

HIGH OUTPUT. EXTREMELY PRECISE.

Bars today, shafts tomorrow and cubic parts the day after tomorrow? This range of tasks poses no problem for Hyperturn high-performance turning centres, because they are made for multi-tasking. Medium and large production series are manufactured precisely and quickly. Automated loading and unloading is quick too, helping you save time and use resources optimally.

HYPERTURN 50

HYPER-FLEXIBLE

Flexibility and productivity are perfectly combined in the Hyperturn high-performance turning centres. The high-performance milling spindle impresses with its maximum flexibility and the tool magazine's size gives you the flexibility you need to make variable production economically viable.

HYPER-PRODUCTIVE

The concept of Hyperturn has one goal: To further increase productivity. With its many possible layouts, it can cover an impressive range of machining tasks, optimising costs and benefits at all times.

HIGHLIGHTS AT A GLANCE

- Powerful main and counter spindles
- 2(3) x 12-station tool turrets
- 2(3) x 12 driven tool positions
- BMT-tool turret with direct drive motor (optional)
- Linear guides in all axes
- EMCO Automation

/ HYPERTURN 110

Bar capacity	110 mm
Swing Ø over bed	720 mm
Chuck size	400 (630) mm
Travel in X / Y / Z	340 and 300 / 240 / 1340 – 1940 mm
Rapid motion speed in X / Y / Z	30 / 15 / 30 m/min
Speed range	0 – 2500 rpm
Max. drive power	52 kW
Max. torque	2480 Nm
Driven tools	2 x 12

/ HYPERTURN 95

Bar capacity	95 mm
Swing Ø over bed	720 mm
Chuck size	315 (400) mm
Travel in X / Y / Z	340 and 300 / 240 / 1340 – 1940 mm
Rapid motion speed in X / Y / Z	30 / 15 / 30 m/min
Speed range	0 – 3500 rpm
Max. drive power	33 kW
Max. torque	800 Nm
Driven tools	2 x 12

/ HYPERTURN 65 TT

Bar capacity	65 (76,2 / 95) mm
Swing Ø over bed	660 mm
Chuck size	200 (250) mm
Travel in X / Y / Z	260 / 100 / 800 – 1050 mm
Rapid motion speed in X / Y / Z	30 / 12 / 30 m/min
Speed range	0 – 5000 (4000/3500) rpm
Max. drive power	29 (37) kW
Max. torque	250 (360) Nm
Driven tools	3 x 12

/ HYPERTURN 65 DT

Bar capacity	65 (76,2 / 95) mm
Swing Ø over bed	660 mm
Chuck size	200 (250) mm
Travel in X / Y / Z	260 / 100 / 800 – 1050 mm
Rapid motion speed in X / Y / Z	30 / 12 / 30 m/min
Speed range	0 – 5000 (4000/3500) rpm
Max. drive power	29 (37) kW
Max. torque	250 (360) Nm
Driven tools	2 x 12

/ HYPERTURN 45

Bar capacity	45 (51) mm
Swing Ø over bed	430 mm
Chuck size	160 mm
Travel in X / Y / Z	160/150 / 70 / 510 mm
Rapid motion speed in X / Y / Z	30 / 15 / 45 m/min
Speed range	0 – 7000 rpm
Max. drive power	15 kW
Max. torque	100 Nm
Driven tools	2 x 12

/ HYPERTURN 50

Bar capacity	45 (51 / 65) mm
Swing Ø over bed	430 mm
Chuck size	175 (200) mm
Travel in X / Y / Z	175 / 80 / 510 mm
Rapid motion speed in X / Y / Z	30 / 15 / 45 m/min
Speed range	0 – 7000 (5000) rpm
Max. drive power	15 (18) kW
Max. torque	100 (150) Nm
Driven tools	2 x 12 / 2 x 16

TURNING

ANYTHING THAT LASTS A LONG TIME GETS BETTER ALL THE TIME

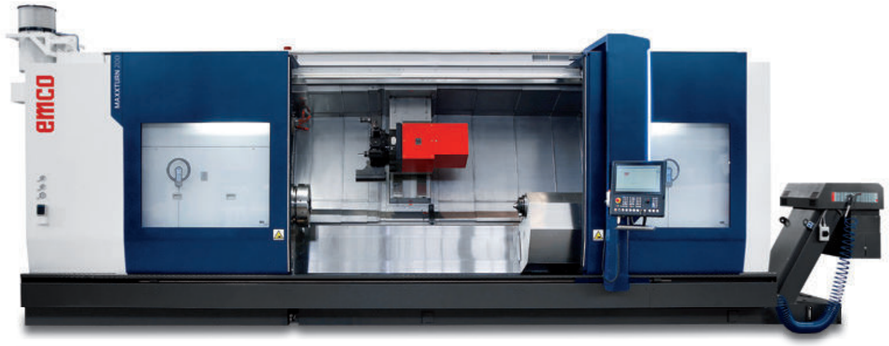
When it comes to turning, EMCO has a long and successful history. It is guided by its permanent drive to develop innovations from existing knowledge.

"The core competence of turning is an important cornerstone for innovation. Because it can access such a large pool of knowledge and experience, EMCO and its customers can open up additional paths to the best solution that others cannot."

A lot has changed since the first conventional EMCO lathe was brought onto the market in 1950. The range of developments that enabled EMCO to set milestones in the field of turning was and still is fascinating: After cycle control in the 60s came CNC in the mid-70s. Then came integrated milling functions, revolvers, more and more axes, a counter spindle and completely new possibilities in terms of the size and complexity of the components to be machined.

Today, intelligent and automated turning solutions have replaced the laborious manual working steps of old. The requirements for precision and productivity have increased immensely in the digital age and are perfectly fulfilled with Emconnect.

The challenges continue: All possibilities in the field of turning must be further optimised. Tradition obligates, but only innovation brings progress.



/ MAXXTURN 200
(A2-11'' // A2-15'')

Spindle bore	185 mm
Swing Ø over bed	1050 mm
Chuck Ø	500-1000 mm
Travel in X / Y / Z	550 / 250 / 2050– 6050 mm
Rapid motion speed in X / Y / Z	30 / 15 / 30 m/min
Speed range	10 – 1800 (2500) rpm
Max. drive power	84 / 53 kW
Max. torque	6410 / 4400 Nm
Driven tools	12 (2 x 12 opt.)

/ MAXXTURN 110
(A2-8'' // A2-11'')

Bar capacity	95 / 110 mm
Swing Ø over bed	820 mm
Chuck Ø	315 – 400 mm
Travel in X / Y / Z	420 / 180 / 1560 – 3560 mm
Rapid motion speed in X / Y / Z	24 / 12 / 30 m/min
Speed range	10 – 3500 / 2500 rpm
Max. drive power	33 / 52 kW
Max. torque	800 / 2480 Nm
Driven tools	12

/ MAXXTURN 95

Bar capacity	95 mm
Swing Ø over bed	700 mm
Chuck Ø	315 (400) mm
Travel in X / Y / Z	318 / 140 / 1360 mm
Rapid motion speed in X / Y / Z	24 / 12 / 30 m/min
Speed range	0 – 3500 (2500) rpm
Max. drive power	28 / 42 kW
Max. torque	690 / 1040 Nm
Driven tools	12

/ MAXXTURN 65-1000

Bar capacity	65 / 76,2 / 95 mm
Swing Ø over bed	660 mm
Chuck Ø	250 (315) mm
Travel in X / Y / Z	260 / 100 / 800 mm
Rapid motion speed in X / Y / Z	30 / 12 / 30 m/min
Speed range	0-5000 (4000 / 3500) rpm
Max. drive power	29 / 37 kW
Max. torque	250 / 360 Nm
Driven tools	12

/ MAXXTURN 65 G2

Bar capacity	65 / 76,2 / 95 mm
Swing Ø over bed	725 mm
Chuck Ø	250 (315) mm
Travel in X / Y / Z	260 / 80 / 610 mm
Rapid motion speed in X / Y / Z	30 / 15 / 30 m/min
Speed range	0-5000 (4000 / 3500) rpm
Max. drive power	29 / 37 kW
Max. torque	250 / 360 Nm
Driven tools	12 (16)

/ MAXXTURN 45 G2

Bar capacity	45 / 51 mm
Swing Ø over bed	430 mm
Chuck Ø	160 (200) mm
Travel in X / Y / Z	160 / 70 / 510 mm
Rapid motion speed in X / Y / Z	24 / 10 / 30 m/min
Speed range	0 – 7000 rpm
Max. drive power	15 kW
Max. torque	78 (100) Nm
Driven tools	12

/ MAXXTURN 25

Bar capacity	25.4 mm
Swing Ø over bed	325 mm
Chuck Ø	95 mm
Travel in X / Y / Z	100 / 350 / 320 mm
Rapid motion speed in X / Y / Z	20 / 10 / 30 m/min
Speed range	0 – 8000 rpm
Max. drive power	6.5 kW
Max. torque	30 Nm
Driven tools	6

/ VERTICAL VT 400

Max. work piece length	200 mm
Max. work piece diameter	400 mm
Chuck size	400 mm
Travel in X / Y / Z	960 / +– 90 / 400 mm
Rapid motion speed in X / Y / Z	45 / 15 / 30 m/min
Speed range	0 – 4000 rpm
Max. drive power	36 kW
Max. torque	600 Nm
Driven tools	12

/ VERTICAL VT 260

Max. work piece length	180 mm
Max. work piece diameter	260 mm
Chuck size	260 mm
Travel in X / Y / Z	660 / +70 -90 / 310 mm
Rapid motion speed in X / Y / Z	60 / 15 / 30 m/min
Speed range	0 – 5000 rpm
Max. drive power	29 kW
Max. torque	280 Nm
Driven tools	12

/ VERTICAL VT 160

Max. work piece length	150 mm
Max. work piece diameter	160 mm
Chuck size	160 mm
Travel in X / Y / Z	620 / +– 65 / 310 mm
Rapid motion speed in X / Y / Z	60 / 15 / 30 m/min
Speed range	0 – 7000 rpm
Max. drive power	21 kW
Max. torque	150 Nm
Driven tools	12

/ EMCOTURN E65

Bar capacity	65 / 95 mm
Swing Ø over bed	610 mm
Chuck size	200 / 250 mm
Travel in X / Y / Z	260 / 80 / 610 mm
Rapid motion speed in X / Y / Z	30 / 15 / 30 m/min
Speed range	0 – 5000 (3500) min^{-1}
Max. drive power	22 kW
Max. torque	305 Nm
Driven tools	12

/ EMCOTURN E45

Bar capacity	45 / 51 mm
Swing Ø over bed	430 mm
Chuck size	160 / 200 mm
Travel in X / Y / Z	160 / 70 / 30 / 510 mm
Rapid motion speed in X / Y / Z	24 / 10 / 30 m/min
Speed range	0 – 6300 (5000) min^{-1}
Max. drive power	13 kW
Max. torque	78 / 100 Nm
Driven tools	12

/ EMCOTURN E25

Bar capacity	25,5 mm
Swing Ø over bed	250 mm
Chuck size	95 mm
Travel in X / Y / Z	100 / – / 300 mm
Rapid motion speed in X / Y / Z	15 / – / 24 m/min
Speed range	60 – 6300 min^{-1}
Max. drive power	5,5 kW
Max. torque	35 Nm
Driven tools	6

/ S 65

Bar capacity	65 mm
Swing Ø over bed	540 mm
Chuck size	200 (250) mm
Travel in X / Y / Z	210 / 610 mm
Rapid motion speed in X / Y / Z	24 / – / 24 m/min
Speed range	0 – 4200 U/min
Max. drive power	18 kW
Max. torque	192 Nm
Driven tools	12

/ S 45

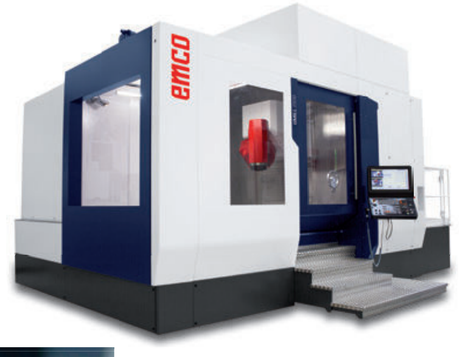
Bar capacity	45 mm
Swing Ø over bed	430 mm
Chuck size	160 (175) mm
Travel in X / Y / Z	160 / 310 mm
Rapid motion speed in X / Y / Z	20 / – / 24 m/min
Speed range	0 – 6300 U/min
Max. drive power	11 kW
Max. torque	70 Nm
Driven tools	6

FRESH POWER THROUGH MORE KNOWLEDGE

Planning and putting together the perfect solution for every individual need works best if you have a lot of components that you can use. By integrating Mecof under the EMCO umbrella, we have succeeded in completing the milling and turning portfolio in a way that provides the best options for maximum flexibility.

The expansion of the machine range was the first step in this direction. The Hyperturn 200 proved that the combination of EMCO and Mecof modules in one machine would create a powerful new generation that brings together the knowledge and expertise of two agile players.

All customers are already benefiting from this; they can find something that meets their precise needs and requirements from a comprehensive range of machining centres and turning-milling centres. They can often find something which exceeds their expectations.



Selim Özgün
Product Sales Manager Milling

"Being able to meet customer requirements with a high degree of flexibility has become a true driver of competitive advantage. Emco's range of milling machines creates ideal conditions for achieving just that: from straightforward 3-axis machining to complex 5-axis simultaneous machining including mill-turning, we cover both different degrees of complexity and a wide range of dimensions."

GAINING NEW STRENGTHS, QUICKLY AND WITH PRECISION

Milling is precision and speed. So it's a good thing that all the machine parts involved in this are manufactured at our own production sites, meaning that consistent quality is guaranteed.
This is another reason why customers with specific requirements from different industries make use of the individual strengths of EMCO's various milling solutions.

The breadth of applications is impressive, ranging from composite mould making in the automotive industry, titanium structures in the aerospace industry, to propulsion units for wind turbines. In any case, the high-speed milling centres combine state-of-the-art technology with tailor-made solutions and perfect EMCO service.

Milling heads

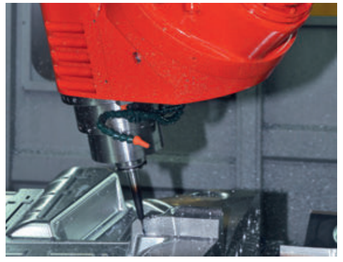
Due to the large selection of milling heads, EMCO machines are able to fulfil a wide variety of production requirements. This means that both heavy roughing and precise superfinishing processes can be performed with just one machine.

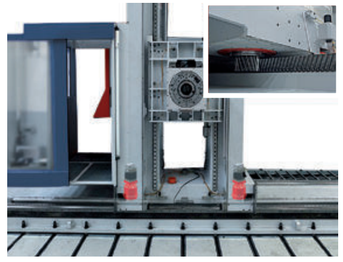
Dual Drive transmission

Higher speeds, backlash-free, high-precision drive and dynamic drive: this is ensured by the dual-drive transmission. It also creates a longer service life and more reliability of the components.

Torque motors

The powerful and reliabe torque motors of the 5-axis milling heads allow performances at the highest level.





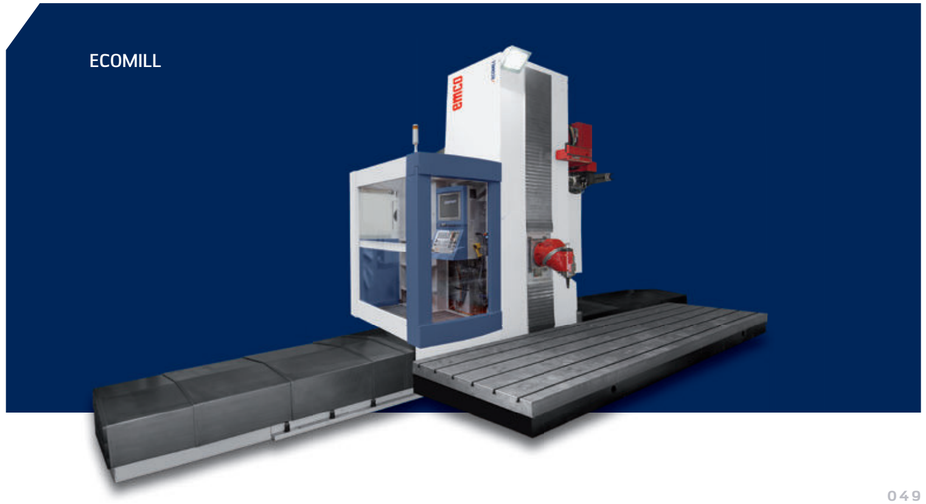
NEW PATHS TO MORE FLEXIBILITY

Those who have decided to walk new paths need open-mindedness as well as patience, for it may take some time for the perfect solution to finally pop up. This was also the case with the consultation process at Komatsu, where two machining centres were to be replaced by one "single-line production unit". More specifically, this means that, once they have been welded, several of Komatu's construction vehicles' main components, such as shovels, excavator arms or front and rear frames, will be conveyed into one central machining centre. This centre must be able to mill different assembly bolt fits into all of these components, regardless of the final product and the size. The Ecomill by Emco Mecof is able to meet these requirements.

TWO BECOME ONE: AN ECOMILL TRAVELLING COLUMN MILLING MACHINE REPLACES TWO MACHINING CENTRES AND REDUCES THE MACHINING TIMES.

For the final solution several adjustments to the machine concept were necessary in advance, f.e. the full digital integration into the production management. What is more, there was only one clearly defined area available for the setup of the machining centre, which implied the exact calculation and implementation of the installation site's statistics. Compared to the modifications referred to above, only a few changes had to be made to the highlight of the Ecomill, a flexible and infinitely variable universal milling head with A- and B-axes able to perform highly precise horizontal and vertical tasks. The milling heads are developed and built at Emco Mecof and the machine's centrepiece. ‚The mechanical design of our compact milling head makes it possible to use relatively short tools, which in turn results in ideal power transmission and high stability.' What is more, the universal milling head comes with pneumatic oil lubrication, a water cooling system and automatic positioning to the nearest thousandth of a degree. ‚These innovations allow us to achieve increased precision and productivity with regard to the workpieces,' explains Urban, Emco Sales Manager for largescale machines.

This group picture shows the persons involved in the Ecomill Germany project (from left to right): production manager Sascha Thiese, production engineer Nicole Köhne, managing director Ingo Buscher, production engineer Nico Paasche (all of whom belong to Komatsu Germany), Uwe Urban, Emco sales manager for largescale machinery, and Matthias Henning, overall production manager at Komatsu Germany.



Ecomill travelling column machine for pendulum machining of components with weights of up to 20 tons

/ ''CLEVER HEAD'': HIGH PRECISION AND PRODUCTIVITY

This is confirmed by Matthias Henning, production manager of Komatsu Germany, who proves the productivity gain on the basis of H8 fits with a diameter of more than 100 mm which have to be milled into different types of shovels on a regular basis. ‚It took the old machine a total of 45 minutes to complete the milling process. The Ecomill, however, can do that in only 17 minutes.' Apart from that, the travelling column machine reduces the downtime. While a component is being machined on one side of the machine, the machine operator prepares the next component on the other side. All the operator needs to do then is select the matching programme on the CNC and press the start button. After that, he will keep an eye on the machining process while at the same time setting up a new component. Today, it takes only one employee to carry out all of these work steps. ‚In the past, we would need three skilled workers on two machines to complete these tasks,' tells Matthias Henning. Today, he is glad that he has two more employees at his disposal who can work in other departments of the company to reliably and flexibly respond to Komatsu Germany's increasing number of customer enquiries.

/ Matthias Henning
Overall Production Manager at Komatsu Germany

,,It took the old machine a total of 45 minutes to complete the milling process. The Ecomill, however, can do that in only 17 minutes.''

Many providers, but only one perfect solution

According to managing director Büscher, several international machine tool manufacturers participated in the bidding for the horizontal travelling column machine. At the end of the design customisation phase, however, Emco was the only participant that could convince Komatsu. ‚We have got to know Uwe Urban and all Emco employees as very competent and helpful persons. They are always available for open conversations,' Buscher explains and adds, ‚Thanks to that and to Emco's solution-oriented approach, we have successfully mastered the challenges posed by this project.' It was also possible to install the machine in the desired place. Since all accesses to the halls were too small for the moving column to pass, the 30-ton colossus was finally brought in through the hall roof. With regard to that, Uwe Urban, Emco sales manager for large-scale machinery, explains, ‚This is a problem we encounter from time to time, but we are more than happy to support our customers with know-how and competent partners to master such challenges as well.'

Good cooperation as a basis for smooth implementation

The good cooperation did not come as a surprise, neither to production manager Henning nor to managing director Büscher. After all, it was in 2017 when the two companies successfully completed their first joint project. Back then, Komatsu Germany purchased an MMV 3200 travelling column centre which is used to machine thousands of components for gears and axes every year. Japan is the Group's only other production location when it comes to these centrepieces of the construction vehicles.

Komatsu Germany GmbH – Construction Division, still known as ''Hanomag'' by many a Hanover citizen, has been one of Hanover's major employers since 1835. In 1989, Komatsu, the world's second largest construction machinery manufacturer, took over shares from Hanomag AG. Since 2002, Komatsu Germany GmbH is a wholly-owned subsidiary of the internationally successful company. On a surface of 200,000 m², the Hanover-based company develops, produces and sells wheel bearings from 55 to 531 PS and mobile excavators with weights between 14 and 22 tons.

/ DYNAMILL

X-axis	from 4500 mm and over (in steps of 2500 mm)
Y-axis	3000 / 4000 mm
Z-axis	1500 / 2000 / 2500* mm
Spindle motor	60 kW / 600 Nm or 40 kW / 1200 Nm
Axes feed rate	40 m/min
Power milling heads	3+2 axes and/or 5 axes up to 38 kW / 600-1000 Nm 6000 rpm
Milling head with high-speed spindle	5 axes heads up to 70 kW 300 Nm / 24000 rpm

*Only for „S" version

/ DYNAMILL G5

X-axis	2500 / 4000 / 6000 / 8000 mm
Y-axis	2200 / 3500 mm
Z-axis	1300 / 1500 mm
Spindle motor	51 kW, 330 Nm or 60 kW / 600 Nm
Axes feed rate	40 m/min
Power milling heads	3+2 axes a up to 38 kW / 300 - 600 Nm / 6000 rpm
Milling head with high-speed spindle	5 axes heads up to 70 kW 300 Nm / 24000 rpm

/ MEGAMILL

X-axis	from 7500 mm and over
Y-axis	4000 / 5000 / 6000 / 7000 mm
Z-axis	1500 / 2000 / 2500 mm
Spindle motor	40 kW / 1200 Nm
Axes feed rate	30 m/min
Power milling heads	3+2 axes and/or 5 axes up to 38 kW / 1000 Nm / 6000 / 8000 rpm
Milling head with high-speed spindle	5 axes heads up to 70 kW 300 Nm / 24000 rpm

/ POWERMILL

X axis	from 6000 mm and over
Y axis	4000 / 5000 / 6000 / 7000 mm
Z axis	1500 / 2000 / 2500 mm
Spindle motor	40 kW / 1200 Nm
Axes feed rate	30 m/min
Power milling heads	3+2 axes and/or 5 axes up to 38 kW / 1000 Nm / 6000 / 8000 rpm
Milling head with high-speed spindle	5 axes heads up to 70 kW 300 Nm / 24000 rpm

/ ECOMILL PLUS

X-axis	from 4000 mm and over
Y-axis	1600 mm
Z-axis	3000 mm
Spindle motor	Standard 60 kW / 600 Nm Option 40 kW / 1200 Nm
Axes feed rate	30 m/min
Power milling heads	3+2 axes up to 38 kW / 1000 Nm / 6000 rpm
Milling head with high-speed spindle	5 axes heads up to 50 kW 125 Nm / 24000 rpm

/ ECOMILL

X-axis	from 4000 mm and over
Y-axis	1300 mm
Z-axis	2000 / 2500 mm
Spindle motor	60 kW / 600 Nm
Axes feed rate	30 m/min
Power milling heads	3+2 axes up to 38 kW / 600 Nm / 6000 rpm
High speed spindle with special support	40,5 kW / 35,4 Nm / 18000 rpm
Interface for additional spindle	Support for electrospindle housing

/ ECOMILL S

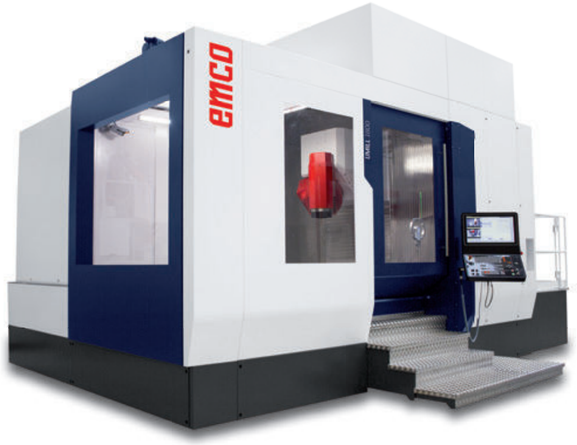
X-axis	from 3000 mm and over
Y-axis	1300 mm
Z-axis	2000 mm
Spindle motor	60 kW / 330 Nm
Axes feed rate	30 m/min
Power milling heads	to 38 kW / 615 Nm / 6000 rpm

/ MECMILL PLUS

X-axis	from 6000 mm and over
Y-axis	1850 mm
Z-axis	4000 / 5000 mm
Spindle motor	40 kW / 1200 Nm
Axes feed rate	25 m/min
Power milling heads	3+2 axes and/or 5 axes up to 38 kW / 1000 Nm / 6000 rpm
Milling head with high-speed spindle	5 axes head with 45 kW / 300 Nm / 12000 rpm

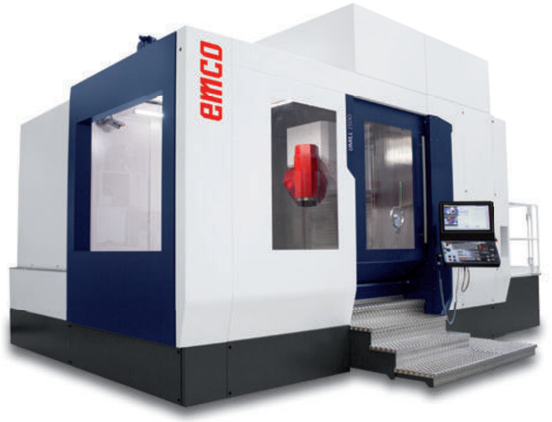
/ MECMILL

X-axis	from 6000 mm and over
Y-axis	1600 mm
Z-axis	3500 / 4000 mm
Spindle motor	40 kW / 1200 Nm
Axes feed rate	30 m/min
Power milling heads	3+2 axes and/or 5 axes up to 38 kW / 1000 Nm / 6000 rpm
Milling head with high-speed spindle	5 axes heads up to 50 kW 300 Nm / 24000 rpm



/ UMILL 1800

Travel X-axis	1800 mm
Travel Y-axis	2150 mm
Travel Z-axis	1250 mm
Rapid motion speed X / Y / Z	60 m/min
Milling head with high-speed spindle	45 kW 300 Nm 12000 rpm 50 kW 100 Nm 20000 rpm 46 kW 600 Nm 8000 rpm
Undercut	15°
Rotary table for milling and turning	ø 1800 mm, load capacity 6 t, 260 rpm
Rotary table for milling	ø 1700 x 1400 mm, load capacity 10 t, 10 rpm



/ UMILL 1500

Travel X-axis	1500 mm
Travel Y-axis	1500 mm
Travel Z-axis	1100 mm
Rapid motion speed X / Y / Z	60 m/min
Milling head with high-speed spindle	45 KW / 300 Nm / 12000 rpm or 50 kW / 100 Nm / 20000 rpm
Undercut	15°
Rotary table for milling and turning	ø 1400 mm, load capacity 3.5 t, 400 rpm
Rotary table for milling	ø 1400 x 1200 mm, load capacity 6 t, 20 rpm

/ UMILL 750

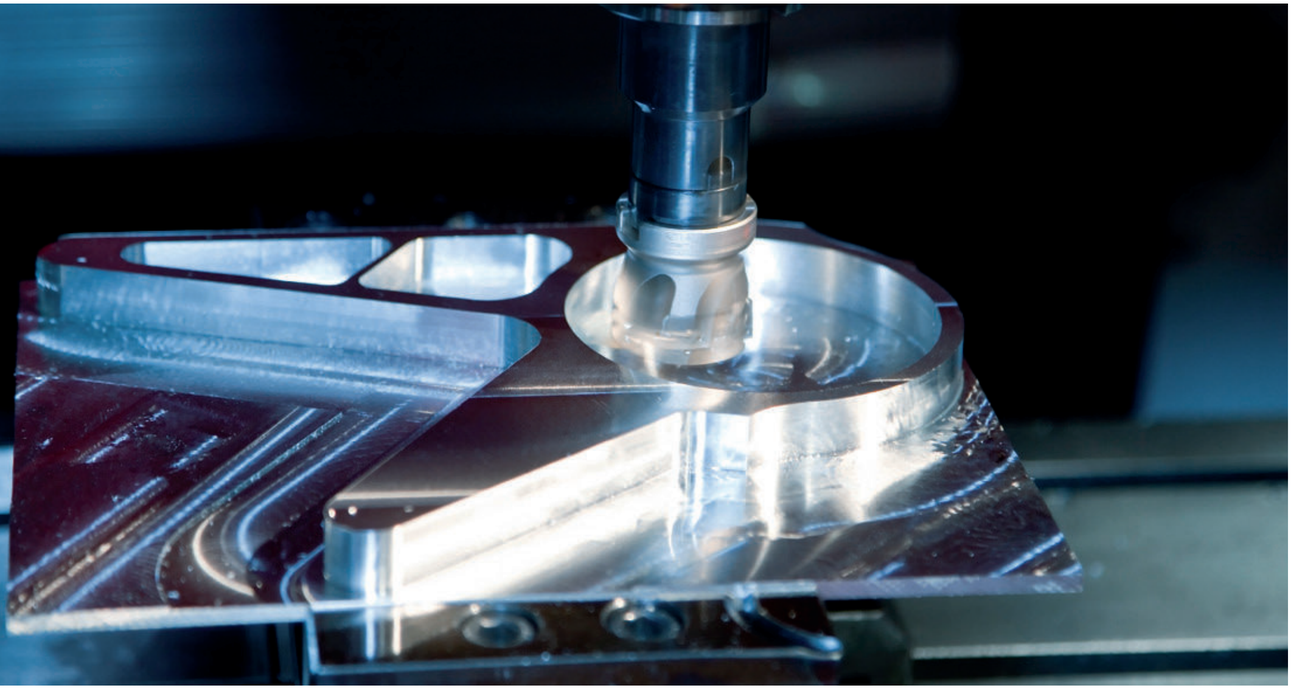
Travel X / Y / Z	750 / 610 / 500 mm
Rapid motion speed X / Y / Z	50 m/min
Tool magazine	40 / 60 / 90 stations
Table diameter	750 x 600 mm
Table load	400 kg
Speed range	50 – 15000 rpm 50 – 24000 rpm
Drive power	26 kW
Swivel range B-axis	+/- 100°

/ UMILL 630

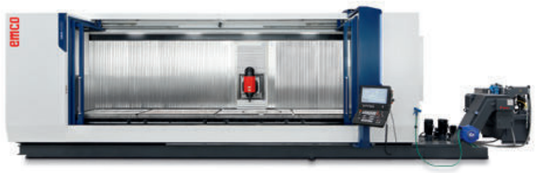
Travel X / Y / Z	500 / 460 / 450 mm
Rapid motion speed X / Y / Z	50 m/min
Tool magazine	30 / 60 / 90 stations
Table diameter	630 x 500 mm
Table load	200 kg
Speed range	50 – 15000 rpm 50 – 24000 rpm
Drive power	26 kW
Swivel range B-axis	+/- 100°

POWERFUL AND VERSATILE IN USE

In the MMV series models, a platform with a range of options forms the basis for the definition of customer-specific machine concept solutions for heavy and precision machining. The user can define the appropriate machine concept according to the machining requirements. These variable machine solutions for 3-, 4- or 5-axis machining not only stand out due to their technical advantages but also with their economic ones too.



/ MMV 3200 / 4200 / 5200 / 6200



Travel X / Y / Z	3200 / 1000 / 950 mm	4200 / 1000 / 980 mm	5200 / 1000 / 980 mm	6200 / 1000 / 980 mm
Rapid motion speed X / Y / Z	50 / 40 / 40 m/min	60 / 50 / 50 m/min	60 / 50 / 50 m/min	60 / 50 / 50 m/min
Clamping area	3500 x 1050 mm	4500 x 1050 mm	5420 x 1050 mm	6470 x 1050 mm
Table load	5000 kg	6000 kg	7000 kg	8000 kg
Speed range	10000 / 18000 rpm[1]	10000 / 18000 rpm[1]	10000 / 18000 rpm	10000 / 18000 rpm
Drive power	46 / 79 kW	46 / 79 kW	46 / 79 kW	46 / 79 kW
Tool magazine	40 / 60 - 120 stations	40 / 60 - 120 stations	40 / 60 - 120 stations	40 / 60 - 120 stations
Tool holder	ISO40 (BT40 / HSK-A100)	ISO40 (BT40 / HSK-A100)	ISO40 (BT40 / HSK-A100)	ISO40 (BT40 / HSK-A100)
Swivel range B-axis	+/- 120°	+/- 120°	+/- 120°	+/- 120°

/ MMV 2000

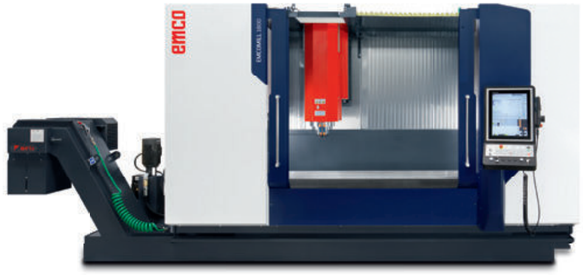
Travel X / Y / Z	2000 / 800 / 750 mm
Rapid motion speed X / Y / Z	50 / 50 / 50 m/min
Clamping area	2400 x 950 mm
Table load	2200 kg
Speed range	50 – 15000 / 18000 rpm
Drive power	46 kW
Tool magazine	40 / 60 / 80 stations
Tool holder	ISO40 (BT40 / HSK-A63)
Swivel range B-axis	+/- 120°

/ MAXXMILL 750

Travel X / Y / Z	750 / 610 / 500 mm
Rapid motion speed X / Y / Z	30 / 30 / 30 m/min
Tool magazine	30 / 40 / 60 / 90 stations
Table diameter	750 x 600 mm
Table load	300 / 500 kg
Speed range	50 – 12000 / 15000 – 24000 rpm
Drive power	15 / 20 kW
Tool holders	ISO40 (BT40, HSK-A63)
Swivel range B-axis	+/- 100°

/ MAXXMILL 630

Travel X / Y / Z	500 / 460 / 450 mm
Rapid motion speed X / Y / Z	30 / 30 / 30 m/min
Tool magazine	30 / 60 / 90 stations
Table diameter	630 x 500 mm
Table load	200 kg
Speed range	50 – 12000 / 15000 – 24000 rpm
Drive power	15 / 20 kW
Tool holders	ISO40 (BT40, HSK-A63)
Swivel range B-axis	+/- 100°



/ EMCOMILL 1800

Travel X / Y / Z	1800 / 610 / 500 mm
Rapid motion speed X / Y / Z	30 / 30 / 30 m/min
Clamping area	2000 x 650 mm
Table load	2000 kg
Speed range	50 – 12000 / 15000 rpm
Drive power	15 / 20 kW
Tool magazine	30 (40/60) stations
Tool holders	ISO40 (BT40, HSK-A63)

/ EMCOMILL 1200

Travel X / Y / Z	1200 / 610 / 500 mm
Rapid motion speed X / Y / Z	30 / 30 / 30 m/min
Clamping area	1340 x 650 mm
Table load	1500 kg
Speed range	50 – 12000 / 15000 rpm
Drive power	15 / 20 kW
Tool magazine	30 (40/60) stations
Tool holders	ISO40 (BT40, HSK-A63)

/ EMCOMILL 750

Travel X / Y / Z	750 / 610 / 500 mm
Rapid motion speed X / Y / Z	30 / 30 / 30 m/min
Clamping area	900 x 650 mm
Table load	800 kg
Speed range	50 – 12000 / 15000 rpm
Drive power	15 / 20 kW
Tool magazine	30 (40/60) stations
Tool holders	ISO40 (BT40, HSK-A63)

/ EMCOMILL 350

Travel X / Y / Z	350 / 250 / 300 mm
Rapid motion speed X / Y / Z	24 / 24 / 24 m/min
Clamping area	520 x 300 mm
Table load	100 kg
Speed range	50 – 10000 rpm
Drive power	6,8 kW
Tool magazine	20 stations
Tool holders	ISO30

AUTOMATICALLY GET BETTER

The subject of automation has many dimensions. With a combination of functional standard solutions and highly flexible elements from innovative cooperation partners, EMCO offers the right concept for all requirements, for greater efficiency and reliability.

Analysis comes first

The process starts with very basic questions: Which jobs do machines do better, faster and safer? And how many automated processes is it practical to integrate in the respective environment? After all, automation is also a question of space and the well thought-out set-up of devices that are necessary and helpful in achieving production goals.

Efficiency in the focus of our planning

All these aspects – and a few more – are incorporated in the individual planning for our customers. Because automation only makes sense if productivity is increased and personnel costs are optimised. In addition to the efficient deployment of employees, fluctuating demand cycles, storage facilities and production services are parameters that play a very important role in design. When the status quo is defined, the goal and the means and equipment needed to achieve it are defined thereafter.

Cooperation partners guarantee flexibility

EMCO has a wealth of options to help seek and implement the best solution. In addition to standard solutions, which can be adapted to the requirements at hand, there are also a large number of cooperation partners whose know-how perfectly complements the portfolio.
Robotics, camera technology or parts recognition are examples of areas in which EMCO collaborates with renowned and experienced partners to enable flexible automation at all levels.

/ Dr. Thorsten Blaschun
Team Leader Automation

„No matter how challenging the requirements: from automated large-scale production to highly complex single-unit production, EMCO works with a high degree of flexibility when putting customer-specific specifications into practice.“

THE OPPORTUNITIES AND POSSIBILITIES PRESENTED BY AUTOMATION ARE ENDLESS. THE KEY IS TO COMBINE THE APPROPRIATE MEANS FOR THE DEFINED GOAL.

WHERE THE WORLD AUTOMATICALLY ROTATES AROUND A DISK

Modern production companies rely on machines that work with a small number of manual work steps and with a minimum of human monitoring. Automation is a term for the optimal combination of high tech and efficiency. Thanks to an innovative solution from EMCO, the automation of grinding wheel production at TYROLIT has been expanded to a level which is technically remarkable.

TYROLIT has relied on Emco as a production partner for many years. The high level of cooperation and mutual trust was also crucial in taking another big step towards the modernisation of production.

TYROLIT is one of the world's leading manufacturers of grinding and dressing tools as well as a system provider for the construction industry. The family-run company based in Schwaz (Austria) merges the strengths of the dynamic Swarovski Group with more than 100 years of entrepreneurial and technological experience.

The task: Fully automate an established EMCO machine concept. The result: New possibilities and more output than calculated.

Efficiency meets resource conservation

The task at hand: the dressing or over-turning of ceramic bonded grinding wheels. This was a challenge on a whole range of levels. The focus was not just on a smooth and efficient production process. Innovative automation solutions and a highly sophisticated dust protection system were also required. In addition, all devices had to be able to communicate with each other to ensure that the complex chain of operations could function without errors.

Machine networking as a success factor

After a thorough and detailed planning process, a Hyperturn 45 with robot support, integrated measuring process and special dust protection concept was built for production. The goal of low-staff or unstaffed production was not only achieved, but even exceeded. Where loading, surveying, correction, labelling and unloading were previously done by hand, now interconnected machines are in place, which do their job thanks to optimal coordination, to the great pleasure of TYROLIT's managers.

A great deal of knowledge and pleasant experiences

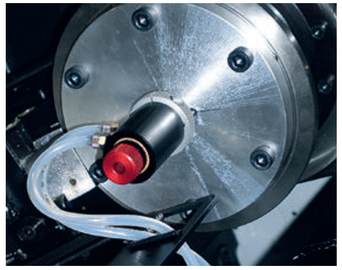
The extensive know-how of EMCO in the project-relevant areas was evident right from the off. This encouraged the customer to put the responsibility for an important step forward in the production process in reliable hands. Fast communication channels, quick and pragmatic solutions and good all-round customer service were additional advantages that played an important role in TYROLIT choosing EMCO.

"Again, this was a very challenging task because the optimal coordination of various automation components was new territory. But with close cooperation and with a lot of know-how, the end result was once again successful. In the end, it was even better than first planned".

/ Johannes Jäger
Maintenance, TYROLIT

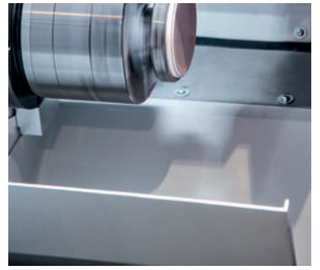
MACHINES THAT HAVE SOMETHING TO SAY TO EACH OTHER

When people and machines communicate constructively with each other, good things happen. For example, an automation solution in which all parties involved in the planning have an eye on all the details and possibilities. Dust protection, robots and innovative connections between machines result in an all-round package that guarantees more quality with a lower use of resources. This is also due to the great experience of EMCO, a history of good cooperation and the well-organised coordination process.



Robots as reliable processors

At the beginning of production, the robot scans the barcode of the blank to be processed and the appropriate programs are loaded. Then the parts are automatically fed and processed. The finished parts are measured and adjusted. The robot also performs the shelving at the end of the process. The robot hardware is supplied by ABB and integrated into the overall concept with EMCO expertise.



Dust cover as a resource saver

The dust cover installed in the Hyperturn 45 was jointly developed by EMCO and TYROLIT. It is highly innovative and designed and built in such a way that the defined production processes are optimally supported by the machine sealing. The goal is to conserve resources by extracting potentially abrasive dust particles. The guides are protected, maintenance work is reduced and the overall lifetime is increased. In addition, a dust conveyor belt, a highly efficient extraction and air purge on the turret and spindle prevent particles from wearing on the machine.

Automation as a guarantor of quality

In order to comply with the specified cycle time, the various components work in perfect tandem with each other. Thanks to M2M communication, the production chain is always optimally adapted and inefficient breaks can be prevented.

SMOOTH WORK

Effective suction systems

/ Dust formation in the work area is reduced

Dust conveyor instead of chip conveyor

/ Part abrasion is avoided

GENTLE PRODUCTION

Air purge system

/ Machine components, control and control cabinet are spared

Encapsulated X-guides

/ Longer service life for linear guides and ball screws

AUTOMATED PRECISION

Optical measurements

/ High tech for high precision

ABB robot

/ Optimum use during loading and unloading

FULL CHARGE EFFICIENCY

The possibilities of automation technology are varied. These EMCO solutions make low-staff or unstaffed operation possible as required.

Gantry Loader

65 / 45 (Hyperturn, Maxxturn, Emcoturn)

	65	45
Traverse speed horizontal	120 m/min	120 m/min
Traverse speed vertical	60 m/min	60 m/min
Example		
Workpiece dimensions flanged parts (internal clamping) max.	220 mm	140 mm
Workpiece dimensions flanged parts (external clamping) max.	175 mm	110 mm
Workpiece dimensions flanged parts length max.	100 mm	100 mm
Workpiece dimensions flanged parts weight max.	10 kg	5 kg
Workpiece dimensions shaft parts (internal clamping) max.	80 mm	60 mm
Workpiece dimensions shaft parts (external clamping) max.	200 (700) mm	200 (400) mm
Workpiece dimensions shaft parts weight max.	10 (20) kg	10 kg

Swing Loader

Traverse speed horizontal	60 m/min
Swing movement	180°/sec
Parallel gripper with rotary module	
Diameter max.	approx. 60 mm
Length max.	approx. 100 mm
Weight max.	2 kg
2-finger toggle gripper	
Diameter max.	approx. 30 mm
Length max.	approx. 200 mm
Weight max.	2 kg
2-finger toggle gripper with rotary module	
Diameter max.	approx. 60 mm
Length max.	approx. 100 mm
Weight max.	2 kg

TURN / MILL ASSIST

	TURN-ASSIST TA200	TURN-ASSIST TA270
Length	1632 mm	1902 mm
Width	740 mm	740 mm
Height	2202 mm	2202 mm
Weight	850 kg	1025 kg
Robot model	Fanuc	Fanuc
Robot payload	12 / 25 kg	25 / 35 kg
Workpiece diameter	25 – 200mm	25 – 270mm
Maximum stack height	2 x 350 mm	2 x 350 mm
Maximum stack weight	2 x 300 kg	2 x 450 kg
Machine tool interface	Profinet	Profinet

FLEXLOADER SC 3000

	IRB 1600-10/1.45	IRB 2600-12/1.65	IRB 2600-12/1.85
Length	3947 mm	3947 mm	3947 mm
Width	1010 mm	1010 mm	1010 mm
Height	2217 mm	2217 mm	2217 mm
Weight	2610 kg	2644 kg	2644 kg
Robot model	IRB 1600	IRB 2600	IRB 2600
Robot payload	10 kg	12 kg	20 kg
Robot reach	1450 mm	1650 mm	1850 mm
In-conveyor width and length	430 x 2000 mm	430 x 2000 mm	430 x 2000 mm
Out-conveyor width and length	430 x 2500 mm	430 x 2500 mm	430 x 2500 mm
Max object/ workpiece height	200 mm	200 mm	200 mm
Max belt load	100 kg	100 kg	100 kg
Machine tool interface	Profinet	Profinet	Profinet

BAR LOADER

	SL 1200
Bar diameter Ø	8 – 95 mm
Max. bar length	1200 mm
Min. bar length	150 mm
Material support	550 mm
Feed rate	0 – 60 m/min
Bar changing time	15 sec.
Dimensions (L x D)	1700 x 1250 mm
Weight	500 kg

TRAINING IS WHAT MAKES THE FUTURE POSSIBLE

For many, the gateway to the world of machining is an EMCO. But the demands on training concepts are becoming ever more varied and are changing with digitisation. That is why we also provide our customers with individual solutions in this area, which start as early as the planning phase and are designed precisely for the corresponding needs and possibilities. Our goal is to set new standards in consulting, training and education.

Thanks to its modular structure, the concept of EMCO Industrial Training is suitable for customer-specific consulting and optimally adapted CNC training.

Customised planning for training

The determination of the specific customer requirements for machines and CNC software are an important part of every order. With optimal training of the individual instructors at the machines in the programming, EMCO Industrial Training supports customers in every phase of the project. In addition, there is guaranteed comprehensive support during the training process.

Extensive hardware and software package

EMCO Industrial Training can be optimally adapted to the various needs of individual companies and partners and includes concept machines and software. Special CAD/CAM programs and 3-D CNC simulators make it really easy to learn fundamentals and procedures.

''EMCO training tools are varied and make it easy to keep up with what you've learned. Whether it's theory or practice: people like to be there and look forward to the sessions.''

/ Christian Schnaitmann
Apprentice Trainer, EMCO

''Our good reputation in education and training is also a mission of ours. Only by finding modern and contemporary ways to pass on our knowledge can we meet the high standards that we and our customers expect.''

/ Christian Brötzner
Area Sales Manager

TURNING

/ CONCEPT TURN 460

Swing Ø over bed	430 mm
Max. turning diameter	220 mm
Distance between centres	670 mm
Travel X / Z	160 / 510 mm
Rapid motion speed in X / Z	24 / 30 m/min
Main drive	13 kW
Speed range	0 – 6300 rpm
Tools/driven	12 / 6

/ CONCEPT TURN 260

Swing Ø over bed	250 mm
Max. turning diameter	85 mm
Distance between centres	405 mm
Travel X / Z	100 / 300 mm
Rapid motion speed in X / Z	15 / 24 m/min
Main drive	5.5 kW
Speed range	60 – 6300 rpm
Tools/driven	12 / 6

/ CONCEPT TURN 105

Swing Ø over bed	180 mm
Max. turning diameter	75 mm
Distance between centres	236 mm
Travel X / Z	55 / 172 mm
Rapid motion speed in X / Z	5 m/min
Main drive	1.9 kW
Speed range	150 – 4000 rpm
Tools/driven	8 / 0

/ CONCEPT TURN 60

Swing Ø over bed	130 mm
Max. turning diameter	60 mm
Distance between centres	335 mm
Travel X / Z	60 / 280 mm
Rapid motion speed in X / Z	3 m/min
Main drive	1.1 kW
Speed range	300 – 4200 rpm
Tools/driven	8 / 0

MILLING

/ CONCEPT MILL 260

Travel X / Y / Z	350 / 250 / 300 mm
Rapid motion speed X / Y / Z	24 m/min
Main drive	6.8 kW
Speed range (option)*	150 – 10000 rpm
Number of tools	20

/ CONCEPT MILL 105

Travel X / Y / Z	200 / 150 / 250 mm
Rapid motion speed X / Y / Z	5 m/min
Main drive	1.1 kW
Speed range (option)*	150 – 5000 (20000) rpm
Number of tools	10

/ CONCEPT MILL 55

Travel X / Y / Z	190 / 140 / 260 mm
Rapid motion speed X / Y / Z	2 m/min
Main drive	0.75 kW
Speed range (option)*	150 – 3500 (14000) rpm
Number of tools	8

THE COMPACT MODELS FOR PROFESSIONALS

The best and most economical choice for one-off and small series production: With the EMCOMAT turning machines and the FB milling machines, companies are perfectly positioned in terms of production and training. Conventional or cycle-controlled, they provide an easy entry into the world of precision machining. The user-friendly variety in a compact form can be individually planned and adapted and is the perfect introduction to the world of EMCO.

EMCOMAT E-200 MC

TURNING

/ EMCOMAT E-200 MC

Centre height	200 mm
Distance between centres	1000 mm
Spindle bore	53 / 50 mm
Chuck Ø	200 mm
Gear steps	1
Speed range	50 – 4000 rpm
Drive power	7.5 kW
Digital Readout	
Control	Sinumerik 828D

/ EMCOMAT 20 D

Centre height	200 mm
Distance between centres	1000 mm
Spindle bore	50 mm
Chuck Ø	200 mm
Gear steps	4
Speed range	40 – 3000 rpm
Drive power	5.3 kW
Digital Readout	EMCO

/ EMCOMAT 17 D

Centre height	170 mm
Distance between centres	700 mm
Spindle bore	50 mm
Chuck Ø	200 mm
Gear steps	4
Speed range	40 – 3000 rpm
Drive power	5.3 kW
Digital Readout	EMCO

/ EMCOMAT 14 D

Centre height	140 mm
Distance between centres	650 mm
Spindle bore	40 mm
Chuck Ø	140 mm
Gear steps	2
Speed range	60 – 4000 rpm
Drive power	7.5 kW
Digital Readout	EMCO

MILLING

/ EMCOMAT FB-3 L

Travel X	300 mm
Travel Y	200 mm
Travel Z	350 mm
Clamping area	600 x 180 mm
Gear steps/control	8
Speed range	80 – 2200 rpm
Drive power	1.4 kW
Position display	Heidenhain

/ EMCOMAT FB-600 with POSITION DISPLAY UNIT

Travel X	600 mm
Travel Y	400 mm
Travel Z	400 mm
Clamping area	800 x 400 mm
Gear steps/control	1
Speed range	10 – 5000 rpm
Drive power	13 kW
Position display	Basic Sinumerik 828D

/ EMCOMAT FB-450 with POSITION DISPLAY UNIT

Travel X	450 mm
Travel Y	350 mm
Travel Z	400 mm
Clamping area	800 x 400 mm
Gear steps/control	1
Speed range	10 – 5000 rpm
Drive power	10 kW
Position display	Basic Sinumerik 828D

/ EMCOMAT FB-600 MC

Travel X	600 mm
Travel Y	400 mm
Travel Z	400 mm
Clamping area	800 x 400 mm
Gear steps/control	1
Speed range	10 – 5000 rpm
Drive power	10 kW
Control	Heidenhain TNC620, Sinumerik 828D

/ EMCOMAT FB-450 MC

Travel X	450 mm
Travel Y	350 mm
Travel Z	400 mm
Clamping area	800 x 400 mm
Gear steps/control	1
Speed range	10 – 5000 rpm
Drive power	13 kW
Control	Heidenhain TNC620, Sinumerik 828D

SEE THE FUTURE, BE THE FUTURE.

The quest for innovation and the development of innovative technologies has always been part of EMCO's philosophy.
The chain of evidence is long and begins in 1947. Since then EMCO has shown time and again that it is possible to use impressive knowledge to make groundbreaking machines. And that is not going to change in the future. .

from left to right: Stefan Kuhn, Gunter Kuhn, Andreas Kuhn

Since 2011, EMCO has been part of the Kuhn Group. As a family entrepreneur, Günter Kuhn has been active in the field of construction machinery and charging technology since 1973. EMCO expanded the Group's extensive portfolio into the mechanical engineering segment and is now an important mainstay for a solid footing in a dynamic and globalised environment. The family-owned Kuhn Holding comprises 5 production sites and 53 branch offices with around 1735 employees, generating a total annual turnover of 683 million euros.

1947 Founding as tool and clamp manufacturer by Karl Maier

1950 Development of hardness testers

1953 Market launch of the EMCO UNIMAT multifunctional machine for metal and wood processing

1967 Presentation of the innovative EMCOMAT 7 multipurpose machine tool

1976 Entry into CNC technology

1977 Foundation of EMCO USA

1982 Development of independent products for the training sector

1984 Foundation of EMCO Germany

1987 Development of laser cutting systems

1992 German Innovation Award for the EMCOTURN 425 four-spindle system

1999 Acquisition of Padovani and foundation of EMCO Italia

2001 Market launch of HYPERTURN complete machining systems

2003 Integration into A-TEC INDUSTRIES AG

2004 Market launch of MAXXTURN CNC universal turning centres
Takeover of FAMUP

2005 Market launch of EMCOTURN Design Prize for HYPERTURN

2006 Opening of the Hallein Technology Centre (HQ)

2007 1st place in the "Big Player" category at "Austria's Leading Companies"

2008 Presentation of the new EMCOMILL series (vertical machining centres)

2009 Introduction of the MAXXMILL 500 (vertical machining centre)

2010 Market launch of the vertical turning machines

2011 Integration into the Family-run KUHN Holding

2014 Market launch of the MAXXMILL 350
HYPERTURN 200 POWERMILL

2015 Opening of the Taicang branch

2016 Market launch of UMILL 1800, MMV 3200, Universal Machining Centre

2017 Market launch UMILL 1500, Universal Machining Centre
Market launch of HYPERTURN 100
Powermill

2018 Branches opened in India, Switzerland and Poland

2018 Market launch of UMILL 750, redesign of the DYNAMILL G5, HYPERTURN 45 G3

2018/19 The new look of performance

2022 Markteinführung der HYPERTURN 65 PM HP

2023 Markteinführung der ECOMILL S

EMCO Hallein near Salzburg

VMC-300

PCM 55

EMCOTURN 325

EMCOTURN 45

HYPERTURN 200 PM

HYPERTURN 65 PM HP

1947

10 EMPLOYEES

2023

140 LOCATIONS

800 EMPLOYEES

UNIMAT

EMCOTURN 425

HYPERTURN

UMILL 1800

UMILL 1500

UMILL 750

ECOMILL S

1947

1947 First radial drilling machine

1960 First horizontal milling machine

1969 First CNC milling machine

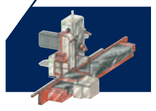
1974 First machining centre

1985 First machine with an automatic 5-axis head

1990 Introduction of linear guide technology WORK AREA

1993 Installation of the first DYNAMILL

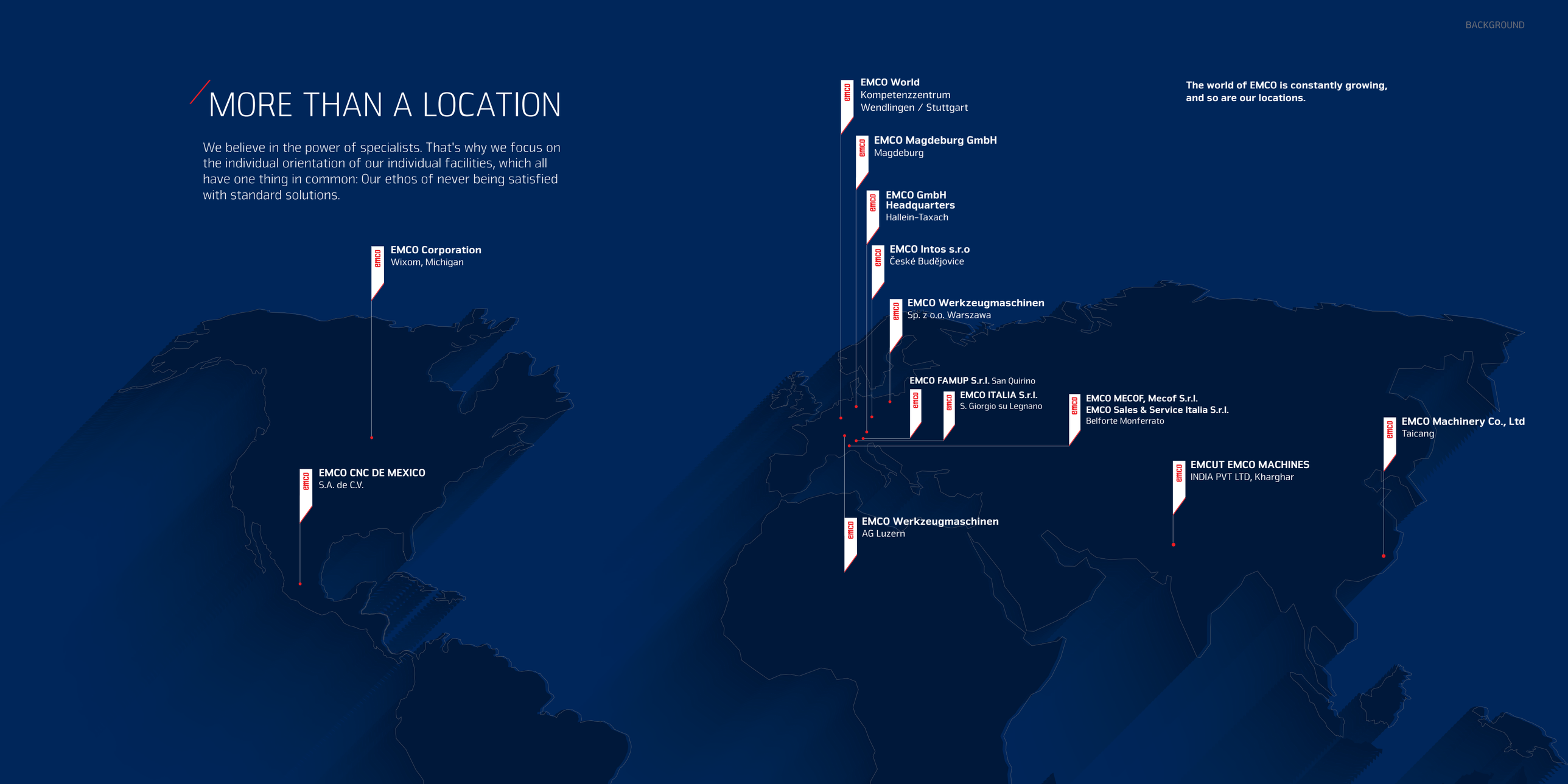
1995 Introduction of the C5-500



MORE THAN A LOCATION

We believe in the power of specialists. That's why we focus on the individual orientation of our individual facilities, which all have one thing in common: Our ethos of never being satisfied with standard solutions.

The world of EMCO is constantly growing, and so are our locations.



beyond standard

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