

EMCO Industrial Training: from the industry, for the industry.



More than 35 years of EMCO Industrial Training



**Transfer of knowledge from the industry for the industry:
70 years of development and manufacturing experience at EMCO.**



Over the past 35 years, EMCO Industrial Training has trained both company employees and specialists from around the world in the use of state-of-the-art CNC machines using a training concept targeted directly at the specific production requirements of individual companies.

With almost 70 years experience in developing and manufacturing high-tech machines for the metal machining industry, the EMCO Group has first-hand knowledge of the key to successful professional training. For users, this means learning to use **industry-standard machine tools safely** and being able to incorporate this expertise seamlessly into their company's manufacturing processes.

[The future is for everyone.]

Regardless of individual industries, the concept of EMCO Industrial Training provides the best possible conditions for successful training. Our training is based on a **modular principle** which can easily be adapted to the needs and requirements of particular companies. The training concept includes **EMCO Concept machines** with different **software**, that simulates the industrial demands in the best manner, as well as **E[MC] Campus**, the new Online learning world. Unlimited **Consulting Services** are another key element in the **EMCO Industrial Training** concept.



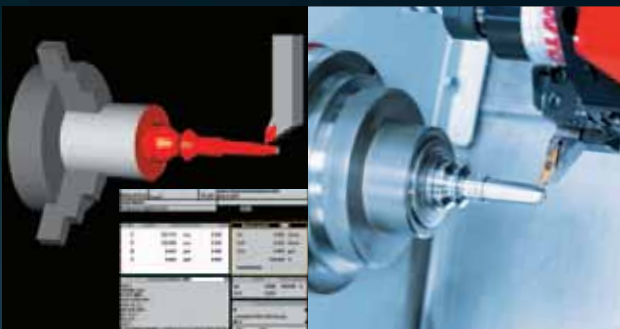
Customer support at every stage: From determining customer requirements, through project planning, to implementation and training the instructors.



Experiencing and learning metal machining. Practical CNC user-training on industry-standard Concept machines.



The unique concept of the interchangeable control can be fitted in all Concept machines. In doing so, the user is trained on all CNC industry control units that are common on the market.



Programming, simulation, and CAD/CAM software for CNC training. Safe programming for seamless industrial production.



E-Learning 2.0 for machining. Multimedia teaching and learning materials for CNC training.

[With its modular concept and comprehensive customer support,
EMCO is currently the leading provider of CNC training systems.]

Product Range Turning

EMCO HYPERTURN

Multitasking machine with high-performance milling spindle and tool magazine
for the flexible complete machining of highly complex workpieces



HYPERTURN 65 Powermill



HYPERTURN 95 Powermill



HYPERTURN 110 Powermill

CNC Turn-Mill centers with turrets including driven tools and Y-axis
for the highly productive complete machining of complex workpieces



HYPERTURN 45



HYPERTURN 65 Duoturn



HYPERTURN 65 Tripleturn

EMCO MAXXTURN

High performance CNC turning centers with driven tools and Y-axis

For the versatile machining of chuck, shaft and rod parts Part size up to Ø 680 mm (26.8"); bar capacity Ø 25 (1") to 110 mm (4.3")



MAXXTURN 25



MAXXTURN 45



MAXXTURN 65

EMCO VERTICAL

Vertical pick-up turning machines

For chuck parts up to Ø 400 mm (15.75")



EMCO VERTICAL VT 160



EMCO VERTICAL VT 260



EMCO VERTICAL VT 400

EMCOMAT

Universal manual lathes

Center height: 140 to 200 mm (5.51 to 7.87")

Center distance: 650 to 1000 mm (25.59 to 39.37")



EMCOMAT-14 D



EMCOMAT-17 D



EMCOMAT-20 D

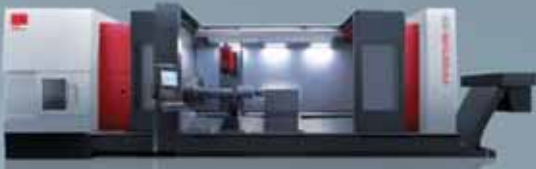
Precision cycle controlled lathes

Center height: 200 to 430 mm (6.30 to 16.92")

Center distance: 1000 to 6000 mm (39.37 to 236.22")



EMCOMAT E-200 MC with Siemens / E300 - 400 with Siemens or Fagor



HYPERTURN 200 Powermill



HYPERTURN 95



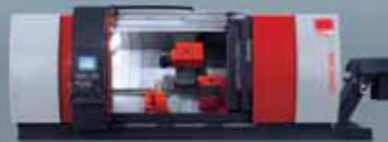
HYPERTURN 110



HYPERTURN 150



MAXXTURN 95



MAXXTURN 110

EMCOTURN

CNC turning centers with driven tools

CNC turning centers for the most economical machining of chuck, shaft and rod parts. Part size up to Ø 500 (19.7"); bar capacity: Ø 25 (1") to 65 mm (2.6")



EMCOTURN E25



EMCOTURN E45



EMCOTURN E65

EMCO CONCEPT TURN

CNC turning centers

With interchangeable control units Part size up to 220 mm (8.66") diameter; bar stock capacity up to 45 mm (1.77")



CONCEPT TURN 60



CONCEPT TURN 105



CONCEPT TURN 260



CONCEPT TURN 460

Product Range Milling

[EMCO]

EMCO MMV

Travelling column machining center

For manufacturing of large workpieces also available as 5-axis version. Travel in X-axis 2000 – 3200 mm (78,7 – 126")



MMV 2000



MMV 3200

EMCO MAXXMILL

5 axes machining center

For 5-side operation of workpieces with an edge length up to 500 x 500 x 475 mm (19,7 x 19,7 x 18,7")



MAXXMILL 400



MAXXMILL 500

EMCOMILL

Vertical milling machine designed as C-frame or as moving column centre

Vertical machining for small to medium number of pieces



EMCOMILL E350



EMCOMILL 750



EMCOMILL 1200

EMCOMAT

Universal manual and Precision cycle controlled milling machines

Travel in X from 300 (11.81") to 600 mm (23.62")



EMCOMAT FB-3 L



EMCOMAT FB-450 MC with Siemens or Heidenhain



EMCOMAT FB-600 MC with Siemens or Heidenhain

EMCO CONCEPT MILL

CNC milling centers

With interchangeable control units travel in X from 190 (7.5") to 350 mm (23.62")



CONCEPT MILL 55



CONCEPT MILL 105



CONCEPT MILL 260

MECOF Horizontal Spindle machines

X axis: from 6000 mm (236") and over



ECOMILL

X axis: from 6000 mm (236") and over



ECOMILL PLUS

X axis: from 6000 mm (236") and over



MECMILL

X axis: from 6000 mm (236") and over



MECMILL PLUS

MECOF Vertical Spindle machines

X axis: from 2500 mm (98") and over



LINEARMILL

X axis: from 4550 mm (179")
(in steps of 2500 mm (98"))



DYNAMILL

Portal milling machine for 5-axis machining

X axis: 1800 mm (71")



UMILL 1800

X axis: from 7500 mm (295") and over



MEGAMILL

X axis: 6000 mm (236") and over



POWERMILL

[Machines with added value]

The concept of the **interchangeable control**

EMCO Industrial Training provides individual requirements which allows the skills learned **to be applied quickly** to industrial CNC manufacturing process. The great advantage: various controls that are common on the market can be used and trained on one single machine. All Concept machines can be fitted with the interchangeable control allowing the user to be trained on different CNC controls commercially available in the industry on one single machine.

The process to change the control unit **is simple**. The user selects the appropriate software at start-up and changes the control-unit-specific keyboard module. Unless option Easy2control is being used.

This training concept provides flexibility for users making it possible to react quickly to market changes. Quick market change reaction provides a significant competitive advantage for both the company and employees. Further controls are being developed to update the concept on a continuous basis.

Users are taught the basics of metal machining on reliable conventional EMCO lathes and mills - with or without cycle control. Advanced training is offered on EMCO Concept machines for CNC turning and milling applications. The knowledge received using our training concept can now be transferred to the production environment using EMCO's industrial machines.

[The interchangeable control]

The unique concept of the interchangeable control can be fitted to all Concept machines. In doing so, the user is trained on all CNC industry controls that are common on the market.

The result: All CNC technicians can be applied more flexibly. And this is a decisive plus: for qualified employees as well as for the business.



The conversion to another control system is carried out within a minute by calling up the respective software and by simply replacing the controller specific module.



Simple to program using the EMCO WinNC control units



Simulation suitable for training using Win3D-View

[Easy2control: New operating concept]

Optional it is possible to equip the machine with the latest software of the interchangeable control, with which control specific and machine keyboards of the WinNC can be displayed on a 16:9 Full-HD screen – Easy2control.

The different panels for machine, control and quick access can be switched via tabs.

The buttons and rotary knobs can either be operated by using the mouse or in case a Full HD touchscreen is used directly on the keys and switches on the monitor.

To operate the software on the Concept machine a license dongle and a small machine control panel – „Easy2operate“ – is required.



Easy2control with Easy2operate

WinNC in detail

WinNC is control-unit specific software which is installed on a normal PC. It is operated and functions just like the respective original control. Users work at the PC just like they would on the original control and therefore become familiar with all in-depth aspects of control programming.



- Sinumerik 810D / 840D
- Sinumerik 810
- Sinumerik 820
- Sinumerik Operate 840D sl / 828D
- Fanuc Series 0
- Fanuc Series 21
- Fanuc Series 31i

- Heidenhain TNC 426 / 430
- Fagor 8055
- EMCOTRONIC TM02
- * Further controls under development

Highlights





- Submodes controlled via softkeys
- Graphic simulation, 3-D-simulation optional
- Detailed error messages in the event of drive problems and programming errors
- Operated via the PC keyboard and mouse, control system with changable keyboard or on-screen Easy2control keyboard
- Main programs, subroutines, tool data and zero shift are permanently stored

License options

- Machine license: Control software for all EMCO Concept machines
- Single-user license: External programming workstation for any CNC-control machine tools
- Multi-user license: A premises license within a training establishment; can be used with a PC network




[Industrial Training]

EMCO CONCEPT TURN

CONCEPT TURN 460 / 260	Highlights CT 460 / CT 260	Highlights CT 105 / CT 60	CT 105 / CT 60
 	<ul style="list-style-type: none"> ■ CNC training at industrial level ■ Interchangeable WinNC control ■ High machining accuracy ■ 12-station tool turret ■ Driven tools ■ C-axis ■ Profile rail guides ■ Digital drive technology ■ Industrial-level performance ■ Extremely high thermostability ■ Wide range of automation options ■ Speed range max. 6300 rpm 	<ul style="list-style-type: none"> ■ Compact CNC machine ■ Essential functions of an industrial machine ■ 8-station tool changing system ■ Slant-bed design ■ Fully enclosed work area ■ Wide range of automation options 	
			

Technical data		CT 460	CT 260	CT 105	CT 60
Swing Ø over bed	mm (inch)	430 (16.9")	250 (9.8")	180 (7.1")	130 (5.1")
Max. turning diameter	mm (inch)	220 (8.7")	85 (3.3")	75 (2.9")	60 (2.4")
Distance between centers	mm (inch)	670 (26.3")	405 (15.9")	236 (9.3")	335 (13.2")
Travel X / Z or X / Y / Z	mm (inch)	160 / 510 (6.3 / 20.1")	100 / 300 (3.9 / 11.8")	55 / 172 (2.2 / 6.7")	60 / 280 (2.4 / 11.0")
Rapid motion speed in X / Z	m/min (ipm)	24 / 30 (944.9 / 1181.1)	15 / 24 (590.5 / 944.9)	5 (196.85)	3 (118.1)
Main drive	kW (hp)	13 (17.4)	5.5 (7.4)	1.9 (2.55)	1.1 (1.5)
Speed range	rpm	0 – 6300	60 – 6300	150 – 4000	300 – 4200
Tools/driven		12 / 6	12 / 6	8 / 0	8 / 0

EMCO CONCEPT MILL

CONCEPT MILL 260	Highlights CM 260	Highlights CM 105 / CM 55	CM 105 / CM 55
	<ul style="list-style-type: none"> ■ CNC training at industrial level ■ Interchangeable WinNC control ■ 20-station tool changing system ■ Wide range of automation options ■ Optimal view despite fully enclosed work area ■ Dividing attachment as fourth axis ■ optional: nc tilting rotary table as 4th and 5th axis ■ Profile rail guides ■ Digital drive technology 	<ul style="list-style-type: none"> ■ Compact CNC machine ■ Essential functions of an industrial machine ■ Optimal view despite fully enclosed working area ■ CM 55 with 8-station tool changing system (optional) ■ CM 105 with 10-station tool turret ■ Engraving spindle attachment (optional) ■ Dividing attachment as 4th axis 	
			

Technical data		CM 260	CM 105	CM 55
Travel X / Y / Z	mm (inch)	350 / 250 / 300 (13.8 / 9.8 / 11.8")	200 / 150 / 250 (7.9 / 5.9 / 9.8")	190 / 140 / 260 (7.5 / 5.5 / 10.2")
Rapid motion speed X / Y / Z	m/min (ipm)	24 (944.9)	5 (196.8)	2 (78.7)
Main drive	kW (hp)	6.8 (9.25)	1.1 (1.47)	0.75 (1.0)
Speed range (option)*	rpm	150 - 10000	150 – 5000 (20000)*	150 – 3500 (14000)*
Number of tools		20	10	8

[Training unlimited]



Today, EMCO offers training systems for industrial manufacturing around the world. Schools, industrial training workshops, and businesses on every continent have been supplied with suitable machines and user expertise over the years.

Projects of this size usually consist of 4 phases. The more closely these are examined, the clearer it is to see how extensive, time-intensive, and complicated equipping a training center can be, and exactly **how much interdisciplinary knowledge is needed**.

[Phase 1]

Acquisition phase (time period: 2-4 years)

Development of project content and financing solutions. Undergoing the necessary approval process in Austria and in the country where the project will be implemented (ministries of finance, planning, budgeting, the Oesterreichische Kontrollbank, OECD, etc.), contract negotiation (technical, financial), and conclusion of the contract.

[Phase 2]

Planning, preparation, purchasing, and production
(time period: 3-10 months)

Technical planning for potential new buildings or renovation of buildings, and planning the installation of machines and facilities (laboratories, extractors, gas supply, high-capacity compressor units, machine bases, and so on). Recruitment and internal preparation of the technical assistance experts, all additional purchases made, and machines manufactured at EMCO.

[Phase 3]

Deliveries and installation (time period: 3-10 months)

Delivery of all equipment by ocean freight to the project country. The project manager co-ordinates all activities, customs clearance in the project country, local onward transport from the port to the various schools, universities, training

centers (often spread out across the country), unloading, inventories, installation, and final approval by the client.

[Phase 4]

Training and technical assistance
(time period: 6-36 months)

Personnel training (a central aim of the project) by EMCO technical assistance experts. Foreign personnel may also attend several months of training in Austria (at EMCO or in co-operation with Austrian training organizations).

EMCO technical assistance experts often stay several months (even years) in the country where the project was set up, in order to assist with the further development of training, and to help establish a maintenance system.

These are all tasks which require a particular level of commitment. And what is more: they require extraordinary people. Openness, the ability to deal with stress, a global way of thinking, a passion for the subject, and willingness to integrate are just a few of the qualities a person must possess in order to take part in and develop projects like these.

EMCO Training [Concept]

[Consulting Services]



- Development of project content and financing solutions
- Planning, preparation, purchasing, and production
- Delivery and installation
- Training and technical assistance

[Machines]



- Concept machines
- Conventional turning and milling machines
- Industrial machines

[Software]



- EMCO WinNC
- Win3D-View
- CAMConcept
- DNC und Robotic-Interface
- Easy2control

[Courseware]



- E[MCO] Campus