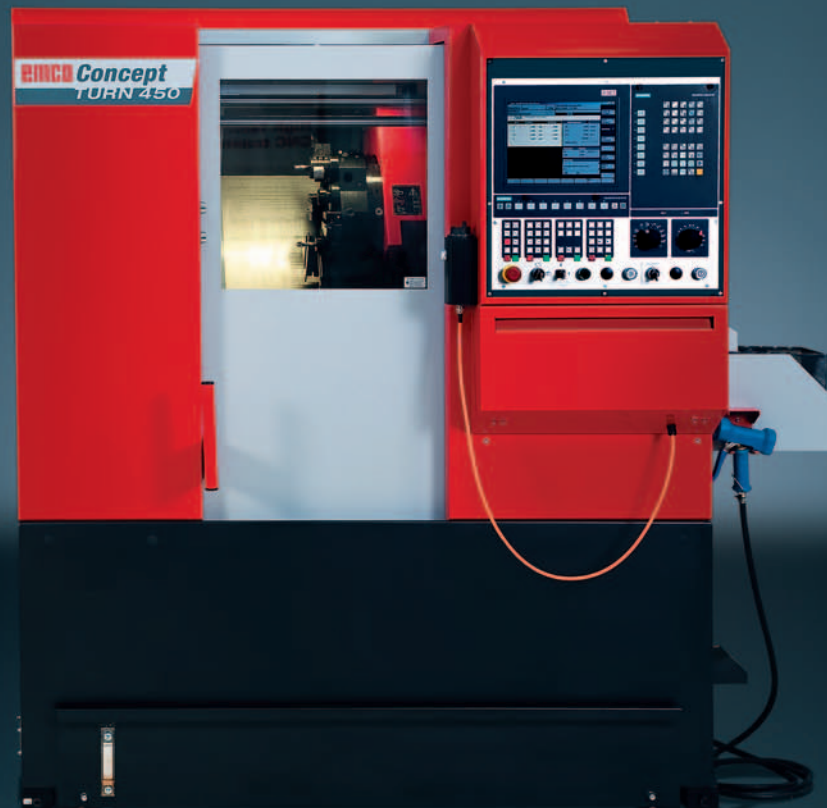


[That's
E[M]CONOMY:]

emco industrial
training

Designed for your profit



**Train while producing.
CONCEPT TURN 450**

**CNC training with
industrial performance**

Concept TURN 450

A new dimension of CNC training suitable for industrial purposes. Equipped with a C axis, driven tools and digital drive systems and components, the function and performance of the Concept TURN 450 is in accordance with state-of-the-art industrial machines. Furthermore, with its interchangeable control system WinNC, it is perfectly adapted to the requirements of training situations today.

[Working area]

- Best possible ergonomics
- Unobstructed chip fall
- Completely covered guideways

[Tool turret]

- 12 stations VDI 30 axial
- Six stations driven upon request
- Milling of polygons
- Synchronised thread cutting

[Control unit]

- Up-to-date digital AC controlling technology
- LCD colour monitor
- Integrated industrial PC and PLC
- WinNC: all common NC control units on one machine

[Shelf]

- Fold-out PC keyboard with PC mouse



[Short bar loader]

- Shorter feed times
- Individual part loading possible
- Central diameter adjustment
- Easy to operate
- Quick and simple refitting
- Small installation area

[Machine panelling]

- Comprehensive protection against flying chips
- 100 % cooling medium tight
- Optimal vision in the working area
- Large door safety glass

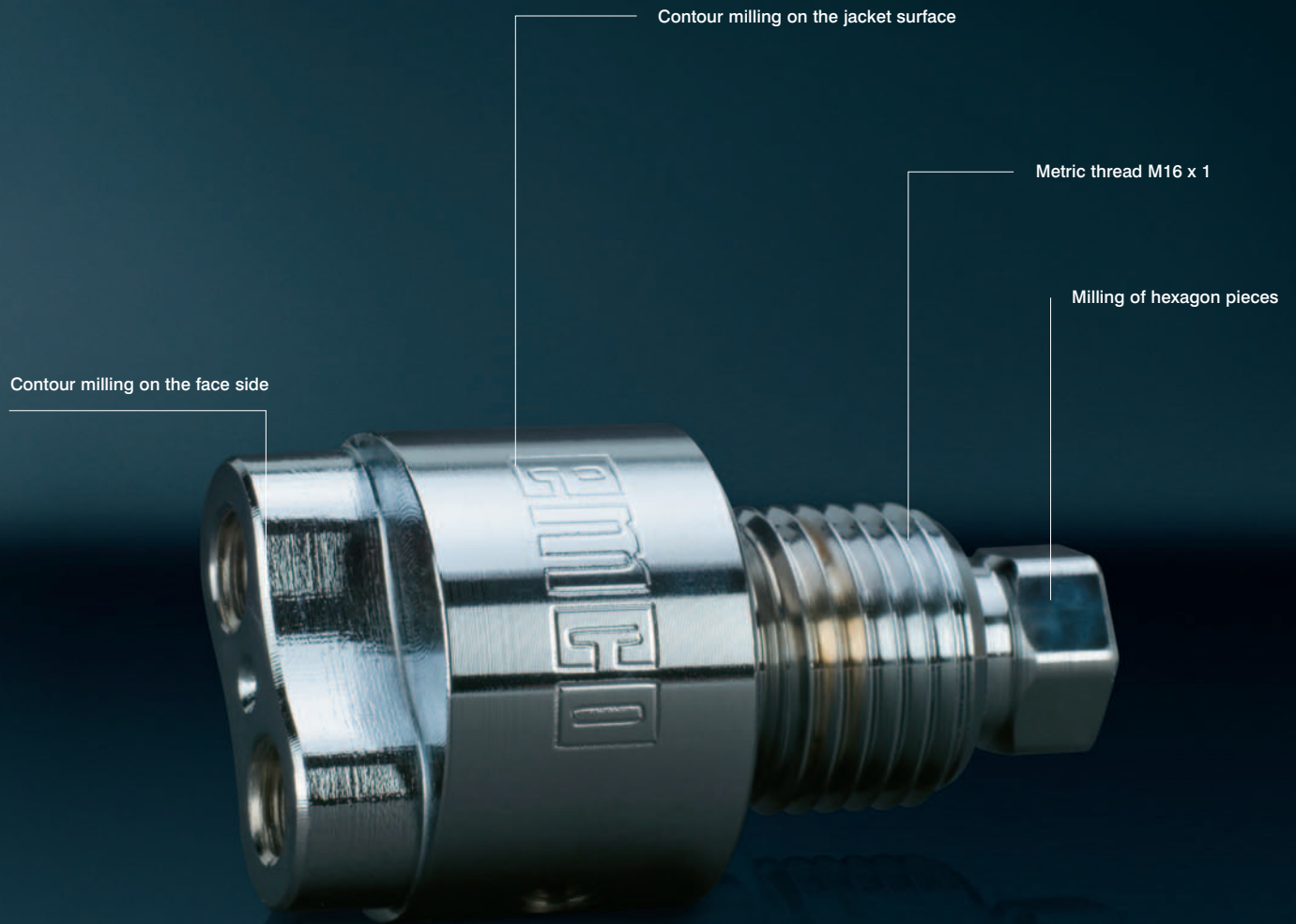
[Machine base]

- Easy to transport
- Large cooling reservoir
- Easy to clean

[Spindle]

- High drive power
- Thermo-stable assembly
- Large rotational speed range
- Spindle connection KK5
- Maximum bar Ø 45 mm

[Workpieces]



Hand wheel
(Stainless steel)



Eccentric bolts
(Stainless steel)



Geared wheel
(Stainless steel)

[Technology]

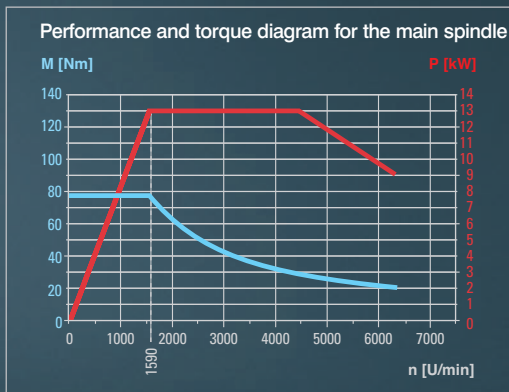
Highlights

- Universal applicability
- Digital drive engineering
- Extraordinary dynamics
- Optimal thermo-stability
- Highest possibility processing accuracy
- Compact machine assembly
- Made in the Heart of Europe

Options

- Bar loader
- Chip conveyer
- 3 jaw chuck - 170 mm
- Collet attachment 173 E
- Automatic door
- Integration into FMS or CIM systems
- Attractive tool package
- Part collecting device
- Driven tools

Performance



Versions

- Concept TURN 450 TC with tailstock
- Concept TURN 450 TCM with tailstock, C axis and driven tools

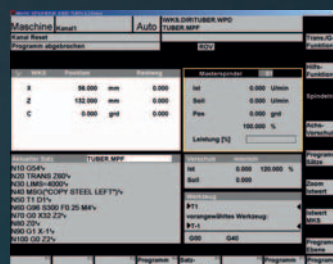
[The interchangeable control]

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. Up to eight different control units can be installed and taught on one single machine at present.

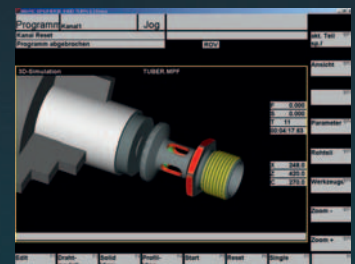
The result: All CNC technicians can be applied more flexibly. And this is a decisive plus: for the qualified employees as well as for the business.



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.

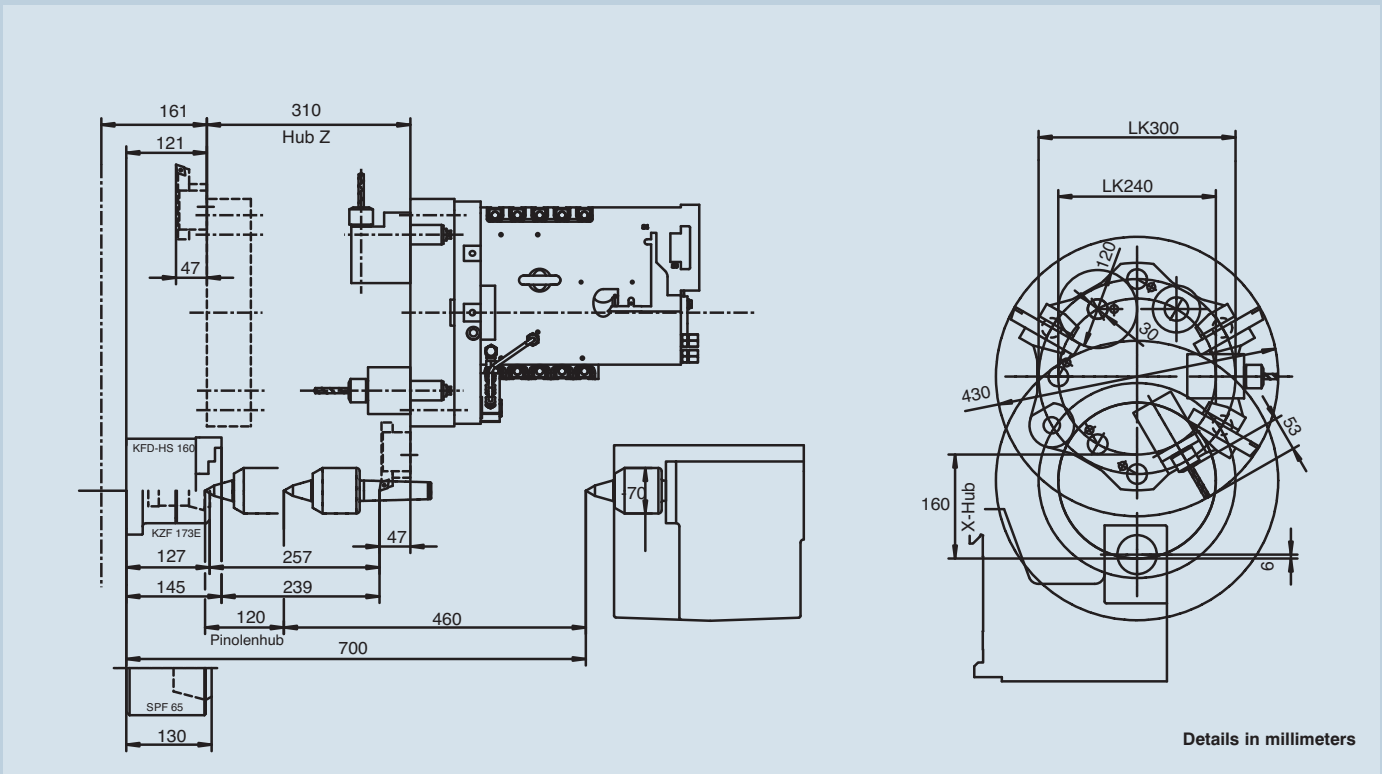


Simple to program using the EMCO WinNC control units

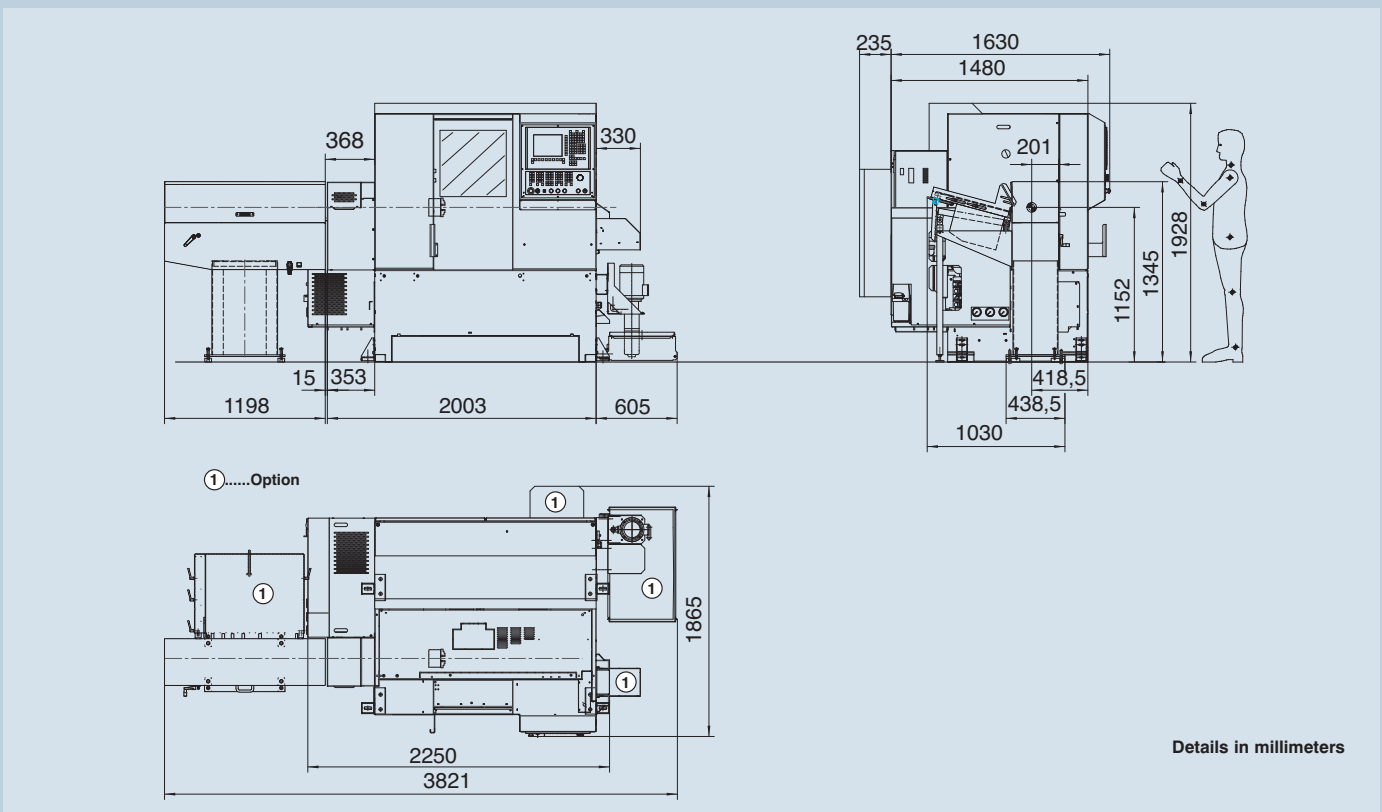


Simulation suitable for training using Win3D-View

Working area



Machine layout



[Technical Data]



Designed for your profit

CONCEPT TURN 450

Working area	
Swing over bed	Ø 430 mm (16.9")
Swing over cross slides	Ø 210 mm (8.3")
Distance between centres (Spindle nose – tailstock centre tip)	687 mm (27.0")
Maximum turning diameter	Ø 220 mm (8.7")
Maximum turning length	310 mm (20.1")
Maximum bar diameter	Ø 45 mm (1.77")
Travel	
Travel in X	160 mm (6.3")
Travel in Z	310 mm (12.2")
Main spindle	
Speed range	0 – 6300 rpm
Spindle torque	78 Nm (57.5 ft/lbs)
Spindle connection DIN 55026	KK 5 (A2-5)
Spindle bearing (inside diameter)	Ø 80 mm (3.1")
Spindle bore	Ø 45 / Ø 53 mm (1.77/2.1")
C axis	
Resolution of the round axis	0,01°
Rapid traverse speed	1000 rpm
Speed	78 Nm (57.5 ft/lbs)
Main motor	
Drive power (100% / 40% ED)	9 / 13 kW (12/17.4 hp)
Tool turret	
Number of tool positions	12
Tool holding shaft according the VDI (DIN 69880)	30
Tool cross-section for square tools	20 x 20 mm (0.78 x 0.78")
Shank diameter for boring bars	Ø 32 mm (1.3")
Turret indexing time	0.14 Secs
Driven tools DIN 5480	
Number of stations	6
Power	4.0 kW (5.4 hp)
Torque	16 Nm (11.8 ft/lbs)
Speed range	0 – 5000 rpm
Feed thrust	
Rapid speed X / Z	20 / 24 m/min (787.4 / 944.9 ipm)

Feed thrust	
Feed force in the X / Z axis	4000 / 6000 N (899.2 / 1348.8 lbs)
Acceleration time	0.1 Secs
Position variation Ps (according to VDI 3441) X / Z	0.003 / 0.005 mm (0.00014 / 0.00016")
Standard tailstock	
Quill stroke	120 mm (4.7")
Quill diameter	Ø 65 mm (2.4")
Quill thrust	5000 N (1124 lbs)
Cooling agent equipment	
Tank volume	230 liter (60.8 Gal)
Pump performance at 3.5 (optional 10 bar)	0.57 (2.2) kW (0.77 hp)
Dimensions	
Rotary axis height above the floor	1152 mm (45.4")
Machine height	1940 mm (76.3")
Machine setting up area (B X T)	2250 x 1650 mm (88.6 x 64.2")
Total weight	3300 kg (7260 lb)

EMCO WinNC control units

Siemens 810D/840D	Siemens 810
Siemens 820	GE FANUC Series 0
GE FANUC Series 21	EMCOTRONIC TM02
FAGOR 8055	

EMCO LM800

Bar length	100 – 800 mm (3.9-31.5")
Bar diameter	6 – 45 mm (0.24-1.77")
Material supply	e.g. 13 bars with Ø 45 mm (1.8")
Length	1200 mm (47.4")
Width	1150 mm (43.3")
Weight	approx. 330 kg (727.5 lb)



EN4545 - 08/08 - Subject to change due to technical progress. Errors and omissions excepted.

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