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[ E[M]CONOMY  
means: ]

NEW

emco COMPACT LOAD E45

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EMCOTURN E45

## More space, more options, more design. EMCOTURN E45

CNC turning center for bar stock work  
up to  $\varnothing$  45 (51) mm and chucking work

# EMCOTURN E45

Perfect European engineering, superbly equipped with a Y axis, 200 mm more machining length, C axis, driven tools with a 4 kW drive performance and a choice of a Siemens or Fanuc control unit. A cost-effective bar loader package or an integrated automation solution is available on request.

## [Y-axis]

- Travel +40 / -30 mm
- 90° implemented in the machine construction
- Large distance between guide rails
- Stable and compact construction, without restrictions

## [Work area]

- Plenty of open space
- Straight chip fall
- Top ergonomics

EMCO COMPACT LOAD E45

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EMCOTURN E45

## [Bar loader package]

- Short bar loader
- Max. bar length 1100 mm
- Incl. spindle extension
- Parts catcher
- Interface
- Warning light
- Adaptor sleeves

## [Spindle]

- High drive performance
- Thermoresistant construction
- Large speed range
- A2-5 spindle connection
- Bar capacity Ø 45 (51) mm

# [Workpieces]

## [Tool turret]

- 12 stations VDI 30 axial
- 6 stations driven
- Polygonal turning
- Synchronized tapping

## [Control unit]

- Cutting-edge digital control technology
- Siemens or Fanuc includes ShopTurn or ManualGuide i
- Color LCD monitor



Machine with optional equipment

## [Machine base]

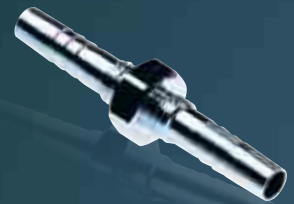
- Easy to transport
- Large coolant reservoir
- Easy to clean



Threaded bolt  
(Heat treatable steel)



Fitting  
(Steel)



Socket  
(Stainless steel)



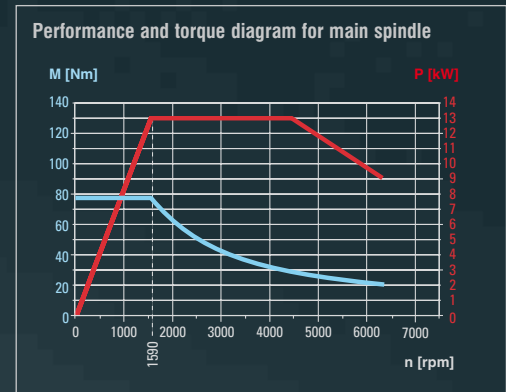
Pin guide  
(Heat treatable steel)

# [Engineering]

## Highlights

- New: with Y axis, 200 mm more machining length and automatic tailstock
- Top thermostability
- Extreme machining precision
- State-of-the-art control technology from Siemens or Fanuc including ShopTurn or ManualGuide i
- Made in the Heart of Europe

## Power



Long workpieces can be clamped between centres and machined along the entire length.



Six driven tool positions with 4 kW ensure a top cutting performance for drilling, tapping, and milling operations.



The parts catcher carefully removes finished parts from the work area and takes them to the finished parts container.

# [Validated quality]

## Roundness and surface quality

|                   |                                 |
|-------------------|---------------------------------|
| Material:         | Brass (Cu Zn 40 Pb 2)           |
| Cutting tool:     | Carbide insert CCGX 09 T3 04-AL |
| Turning diameter: | ø 45 mm                         |
| Cutting speed:    | 300 m/min                       |
| Feed rate:        | 0.025 mm/rev                    |
| Cutting depth:    | 0.03 mm                         |



## Repeat accuracy

|                   |                    |
|-------------------|--------------------|
| Material:         | Steel - 16 Mn Cr 5 |
| Turning diameter: | ø 45 h6            |
| Tolerance:        | 16 µm              |
| Spindle speed:    | 2000 rpm           |
| Feed rate:        | 0.08 mm/rev        |
| Cutting depth:    | 0.2 mm             |

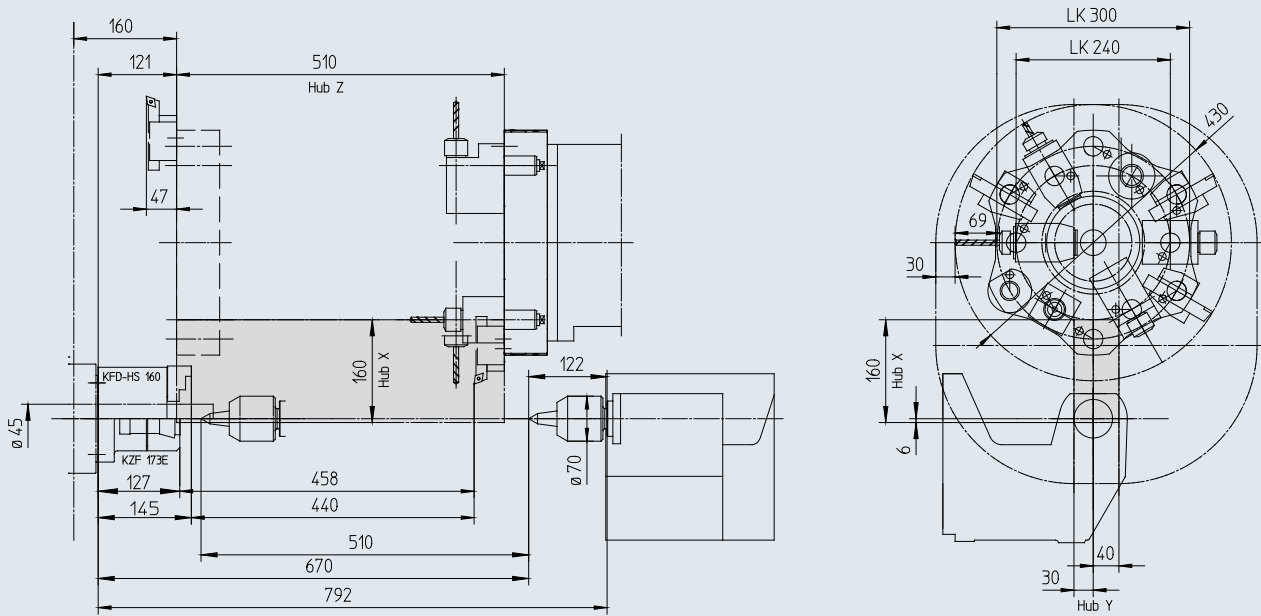
|              |      |
|--------------|------|
| As measured: |      |
| Range:       | 4 µm |
| Cm value:    | 2.57 |

Long term machining accuracy: 4 µm



# Work area

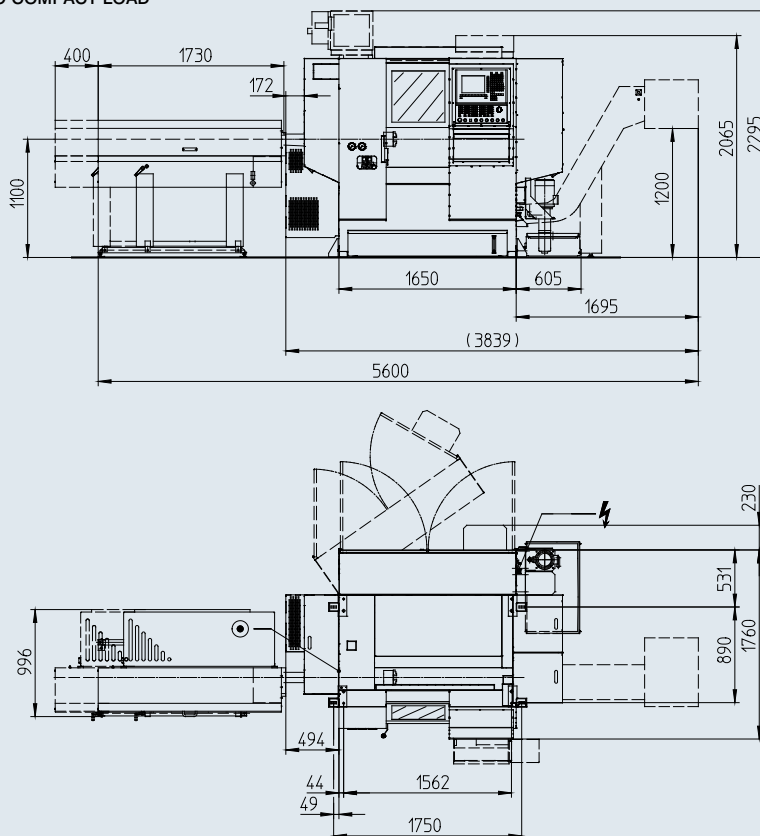
Work area and turret clearance EMCOTURN E45



Specifications in millimeters

# Installation plan

EMCOTURN E45 with EMCO COMPACT LOAD



Specifications in millimeters

# [ Individual automation with the EMCO swing loader ]

Tailor-made solutions. For preformed blanks and parts with a diameter larger than the spindle capacity, we offer an integrated swing loader for fully automated loading and part removal. This has been designed to form a harmonious single entity with the machine. The machine control system takes care of positioning. A short bar loader and a 3-meter bar loader are available from EMCO for workpieces from bar stock.





The integrated EMCO Swing LOADER can pick-up the raw part from the feeding system and transfer it through the little door at the side into the machine. There the part is loaded into the chuck against a stop. If needed, the part also can be handled pre-oriented.



The finished mostly are unloaded with the parts-catcher on to a finished parts are mostly conveyor.

### Blank feeding systems

Feed systems specific to particular blanks allow preformed workpieces to be loaded in the working spindle correctly oriented, which enables economical unmanned operation.



Large storage capacity chain feeding system for loading preformed blanks with the correct orientation.



Multiple infeed chutes for loading rotationally-symmetrical blanks. The length of the blanks determines the number of infeed chutes.



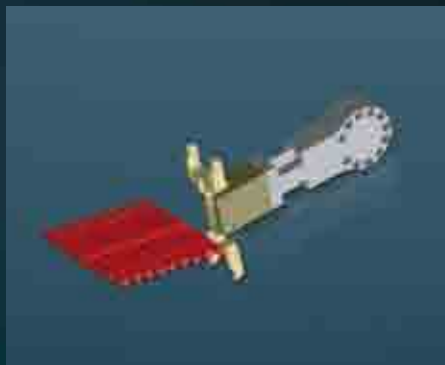
Chain feeding system with V-supports for preformed shaft parts of various shapes.

### Customization:

A wide range of gripper and handling systems are available.



2-finger gripper with 180° rotary module for loading blanks fed in vertically



2-finger toggle lever gripper for loading shaft parts



Parallel grippers with 180° rotary module for loading shaft parts (1st and 2nd chucking)

# [Technical data]



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## EMCOTURN E45

| Work area                                             |                           |
|-------------------------------------------------------|---------------------------|
| Swing over bed                                        | Ø 430 (500) mm (16.9")    |
| Swing over cross slide                                | Ø 300 mm (11.8")          |
| Distance between centers                              | 670 mm (26.4")            |
| Maximum turning diameter                              | Ø 220 (380) mm (8.7")     |
| Maximum part length                                   | 510 mm (20.1")            |
| Maximum bar-stock diameter                            | Ø 45 (51) mm (1.77")      |
| Travel                                                |                           |
| Travel in X                                           | 160 (240) mm (6.3")       |
| Travel in Z                                           | 510 mm (20.1")            |
| Travel in Y                                           | +40/-30 mm (+1.6"/-1.2")  |
| Spindle                                               |                           |
| Speed range                                           | 0 – 6300 (5000) rpm       |
| Drive performance                                     | 13 kW (17.4 hp)           |
| Spindle torque                                        | 78 (100) Nm (57.5 ft/lbs) |
| Spindle nose DIN 55026                                | A2-5                      |
| Spindle bearing (inner diameter at front)             | 80 mm (3.1")              |
| Spindle bore                                          | 53 mm (2.1")              |
| C axis                                                |                           |
| Resolution                                            | 0.001°                    |
| Rapid motion speed                                    | 1000 rpm                  |
| Spindle indexing                                      | 0.01°                     |
| Tool turret                                           |                           |
| Number of tool positions                              | 12                        |
| Tool holding shaft in accordance with VDI (DIN 69880) | 30                        |
| Tool cross-section for square tools                   | 20x20 mm (0.78x0.78")     |
| Shank diameter for boring bars                        | Ø 32 mm (1.3")            |
| Turret indexing time                                  | 0.14 sec                  |
| Driven tools DIN 5480                                 |                           |
| Number of stations                                    | 6                         |
| Drive performance                                     | 4 kW (5.4 hp)             |
| Maximum torque                                        | 16 Nm (11.8 ft/lbs)       |
| Speed range                                           | 0 – 5000 rpm              |

| Feed drives                                                |                                                      |
|------------------------------------------------------------|------------------------------------------------------|
| Rapid motion speed X / Y / Z                               | 24 / 10 / 30 m/min<br>(944.9 / 393.7 / 1181.1 ipm)   |
| Feed force in the X / Y / Z axes                           | 4000 / 4000 / 6000 N<br>(899.2 / 899.2 / 1348.8 lbs) |
| Position variation Ps<br>(according to VDI 3441) X / Y / Z | 3 / 3 / 3 µm                                         |
| Automatic tailstock                                        |                                                      |
| Travel                                                     | 510 mm (20.1")                                       |
| Quill thrust                                               | 6000 N (1348.8 lbs)                                  |
| Maximum travel speed                                       | ca. 20 m/min (787.4 ipm)                             |
| Quill bore taper                                           | MT 4                                                 |
| Coolant system                                             |                                                      |
| Tank volume                                                | 250 liters (66 Gal)                                  |
| Pump performance                                           | 0.57 kW (0.77hp)                                     |
| Dimensions                                                 |                                                      |
| Height of center above floor                               | 1100 mm (43.3")                                      |
| Machine height                                             | 1958 mm (77.1")                                      |
| Required space for machine (LxD)                           | 2575 x 1790 mm<br>(101.4 x 70.5")                    |
| Total weight                                               | 3300 kg (7275 lb)                                    |

## EMCO COMPACT LOAD

|                         |                             |
|-------------------------|-----------------------------|
| Bar length              | 150 – 1100 mm (5.9 – 43.3") |
| Bar diameter            | Ø 8 – 65 mm (0.31 – 2.55")  |
| Material storage        | approx. 550 mm (21.7")      |
| Length                  | 1700 mm (66.9")             |
| Width                   | 1100 mm (43.3")             |
| Height (spindle center) | 1097 mm (43.2")             |
| Weight                  | approx. 500 kg (1102.3 lb)  |



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