

emco

UNIVERSALTURN 50

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More performance. More precision. More future.
The new benchmark in universal turning.

NEW



ALL-PURPOSE TURNING MACHINE FOR PRECISE AND HIGH- PERFORMANCE MACHINING

With the new **UNIVERSALTURN 50**, EMCO sets the next milestone in complete machining of bars and chuck parts. Developed for maximum precision, dynamics and process reliability, the compact high-performance turning centre offers everything that modern manufacturing centres require: powerful drive systems, an integrated Y-axis for extended milling and flexible automation concepts.

Whether complex turned and milled parts for mechanical engineering, the automotive industry, medical technology or defence – the **UNIVERSALTURN 50** impresses with its outstanding rigidity, intuitive operation and scalable equipment. Thanks to proven EMCO technologies combined with forward-looking developments, users benefit from maximum efficiency, high cost-effectiveness and the highest level of manufacturing quality.

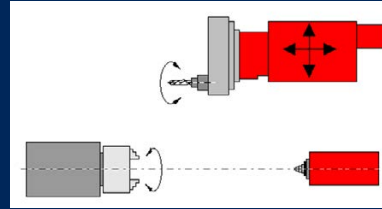
Experience a new dimension in precision and productivity – made by EMCO.

beyond standard

UNIVERSALTURN 50 M

The ideal solution for precise turning and simple drilling/milling operations.

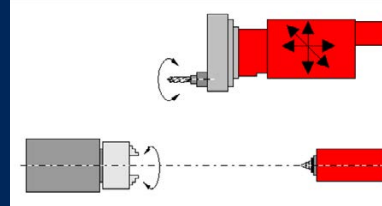
- / High-torque belt spindle ø51 mm (6200 rpm / 30 kW / 143 Nm)
- / 12x VDI30 axial turret incl. milling drive (5000 rpm / 4 kW / 16 Nm)
- / Programmable hydraulic tailstock
- / Sinumerik ONE 15' incl. Shopturn/Shopmill
- / Fanuc Oi plus 15' incl. ManualGuide i



UNIVERSALTURN 50 MY

Additionally equipped with integrated 60° Y-axis for even greater flexibility and extended milling applications.

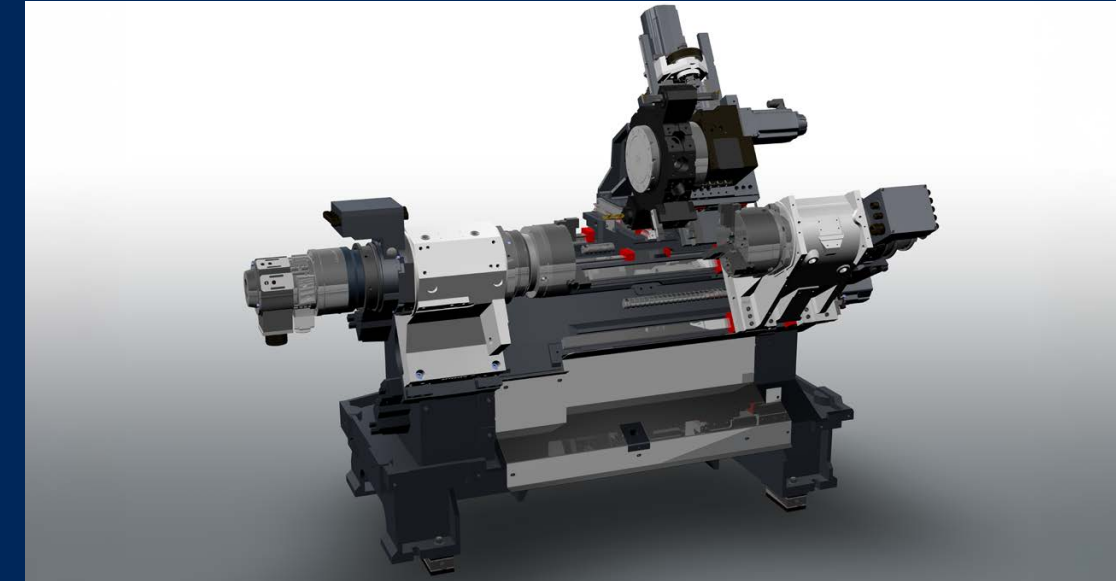
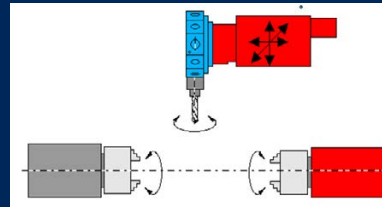
- / High-torque belt spindle ø51 mm (6200 rpm / 30 kW / 143 Nm)
- / 12x VDI30 axial turret incl. milling drive (5000 rpm / 4 kW / 16 Nm)
- / Y-axis with 80 mm travel (+/-40 mm)
- / Programmable hydraulic tailstock
- / Sinumerik ONE 15' incl. Shopturn/Shopmill
- / Fanuc Oi plus 15' incl. ManualGuide i



UNIVERSALTURN 50 SMY

The top-of-the-range model with direct drives on the main and counter spindles, BMT turret with direct drive and a Y-axis for demanding complete machining in a single operation.

- / Dynamic motor spindles for the main and counter spindles ø51 mm (6200 rpm / 21 kW / 147 Nm)
- / 12x BMT45P turret with direct drive (12,000 rpm / 8.8 kW / 21 Nm)
- / Y-axis with 80 mm travel (+/-40 mm)
- / Sinumerik ONE 22" incl. EMCONNECT
- / Fanuc Oi plus incl. EMCONNECT



ROBUST CONSTRUCTION MEETS MAXIMUM MANUFACTURING PRECISION

The rigid, vibration-damped machine bed in block design forms the stable foundation for maximum precision when machining complex workpieces from batch size 1. Large-dimensioned guides with generous spacing are mounted on this bed, ensuring particularly robust and precise movement. The high spindle torque, which remains constant even at high speeds, guarantees reliable and efficient machining of even the most demanding materials. The generously dimensioned working area provides excellent accessibility when setting up the machine. The main spindle and tool turret are easily accessible, enabling quick and flexible set-up and changeovers.

UNIVERSALTURN 50. ONE MACHINE. THREE VERSIONS. UNLIMITED POSSIBILITIES.

The new UNIVERSALTURN 50 is as versatile as your production requirements. Thanks to three precisely coordinated model variants, it offers the ideal basis for every task – from economical standard turning to highly complex complete machining.

Three models, one goal: to equip your production optimally – precisely, flexibly and economically.

HIGHLIGHTS

- / **High-precision turning centre**
for efficient complete machining of bars up to 51 mm bore
- / **Integrated Y-axis**
for extended milling and maximum machining versatility
- / **Highly dynamic drive systems**
for fast machining cycles and maximum accuracy
- / **Compact counter spindle**
for precise rear-side machining without additional re-clamping
- / **Powerful tool turret**
with up to 12 driven tool positions
- / **Scalable automation solutions** –
from integrated swivel loaders to gantry systems
- / **Stable cast machine bed**
for maximum rigidity, damping and process reliability
- / **Absolute measuring system**
for maximum repeat accuracy without reference point homing
- / **Intuitive operation with SINUMERIK ONE** –
optionally available with FANUC Oi plus control from 2026
- / **Perfectly coordinated machine concept**
for applications in mechanical engineering, automotive, medical technology, defence and more
- / **Made in the Heart of Europe**

TECHNICAL DATA

Working area

Swing diameter over bed	Ø 430 mm
Swing diameter over face slide	Ø 300 mm
Distance between main spindle and tailstock centre M + MY	670 mm
Max. turning diameter M + MY (axial turret)	Ø 220 mm
Distance between main spindle and counter spindle SMY	760 mm
Max. turning diameter SMY (radial turret)	Ø 300 mm
Max. recommended turning diameter	Ø 200 mm
Maximum turning length	510 mm
Maximum bar capacity	Ø 50 / 50,8 mm

Travel range

Carriage travel in X / Z	175 / 510 mm
Carriage travel in Y	+40 / -40 mm

Main spindle (belt spindle M + MY)

Max. speed	6200 rpm
Max. torque (100% / 40% duty cycle)	71 / 143 Nm
Spindle connection DIN 55026	KK 5
Spindle bearing (inner diameter)	Ø 80 mm
Spindle bore	Ø 59 mm

Main spindle (direct drive SMY)

Max. speed	6200 rpm
Max. torque (100% / 40% duty cycle)	105 / 147 Nm
Spindle connection DIN 55026	KK 5
Spindle bearing (inner diameter)	Ø 85 mm
Spindle bore	Ø 59 mm

Counter spindle (direct drive SMY)

Max. speed	6200 rpm
Max. torque (100% / 40% duty cycle)	105 / 147 Nm
Spindle connection DIN 55026	KK 5
Spindle bearing (inner diameter)	Ø 85 mm
Spindle bore	Ø 59 mm

C axes (main + counter spindle)

Rotary axis resolution	0,0001°
Rapid traverse speed	1000 rpm

Tool turret M + MY (VDI30 axial turret)

Number of tool positions	12
Mounting shank according to VDI (DIN 69880)	VDI 30
Tool cross-section for square tools	20 x 20 mm
Shank diameter for boring bars	Ø 32 mm
Turret switching time	0,2 sec
Number of driven tools (coupling: DIN5480)	6
Max. speed	5000 rpm
Max. torque	16 Nm
Max. drive power	4 kW

SMY tool turret (BMT45P radial turret)

Number of tool positions	12
Tool interface	BMT45P
Tool cross-section for square tools	20 x 20 / 25 x 25 mm
Shaft diameter for boring bars	Ø 32 / 40 mm
Turret switching time	0,2 sec
Number of driven tools	12
Speed range	0 - 12000 rpm
Torque (at 25% duty cycle)	21 Nm
Drive power (at 25% duty cycle)	8,8 kW

Feed drives

Rapid traverse speed X / Y / Z / Z2	24 / 10 / 30 / 30 m/min
Feed force in the X and Y axes	4000 N
Feed force in the Z axes	6000 N
Acceleration time from 0 to rapid traverse	6 m/s²
Positioning accuracy Ps (VDI 3441) X / Y / Z	3 / 3 / 3 µm

Coolant system

Tank capacity	160 litres
Coolant pressure Standard / Optional (frequency-controlled)	8 / 14 / 50 bar

Dimensions/weight

Height of the axis of rotation above floor level	1012 mm
Total height	2100 mm
Footprint WxD (without chip conveyor) M+MY	3320 x 2350 mm
Footprint WxD (without chip conveyor) SMY	3500 x 2600 mm
Total weight of the machine	4400 kg

Safety devices in accordance with CE