

T 110 / T 130 / T 150

# Efficient multi-side machining



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MILLFORCE-SERIES

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Efficient complete machining of medium-sized, complex work-pieces. Used in the power, mining, railroad, shipbuilding, aerospace and machine tool industries, to name a few.

## T-Series – CNC table type horizontal boring and milling machines

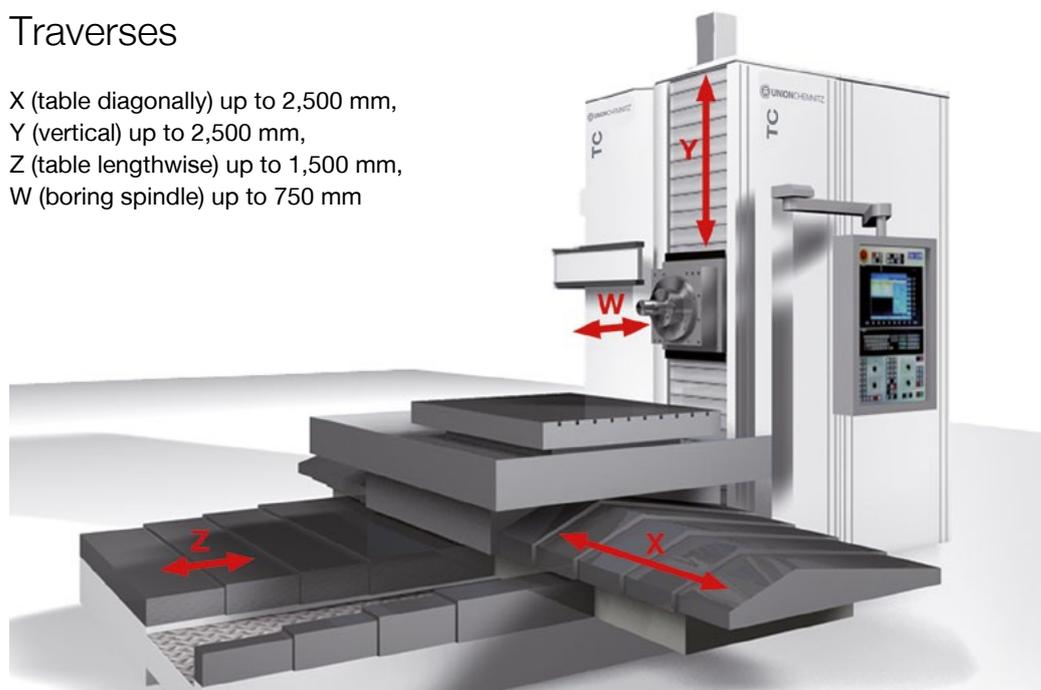
Compact boring mills for the efficient multi-side machining of medium-sized, complex workpieces with a working area of 2,500 x 2,500 x 1,500 mm. The machines can be individually tailored to meet the customer's requirements by choosing from comprehensive options and equipment.

Your advantages at a glance

- Wide machine bed with four guideways for longitudinal traverse of the table
- Heavily ribbed, extremely rigid column
- Compact precision roller guideways promoting highest accuracy
- Nitrated boring spindle
- Spindle speeds up to 6,000 rpm and power up to 73 kW
- High flexibility thanks to large selection of options

### Traverses

X (table diagonally) up to 2,500 mm,  
 Y (vertical) up to 2,500 mm,  
 Z (table lengthwise) up to 1,500 mm,  
 W (boring spindle) up to 750 mm



### Classifications

Table type	T
with automatic tool changer	C
with permanently integrated NC facing head	U
Boring spindle diameters available:	110, 130 and 150 mm

## Individually adaptable – modular machine technology

Robust design promoting the highest accuracy – machine bed and column: a four-way bed structure with a cast column and carriage allows for high precision machining of the workpieces. The wide, welded bed also contributes to the machine's high static rigidity. The ribbed cast column reduces vibrations and prevents torsions. Both the preloaded linear compact roller guideways and the generously dimensioned, preloaded ball screws guarantee highest precision when machining complex workpieces.

Quality made by UnionChemnitz – headstock and spindle: in order to ensure that the headstocks of the T-Series meet the highest quality standards, they are manufactured in-house. The front bearing of the headstock is sealed with pressurized air to protect it from the ingress of contaminants. The precision spindle bearing with long life grease lubrication, a two speed gearbox with circulation lubrication and an oil cooler for temperature stabilization contribute to low wear and high thermal stability, combined with excellent machining quality.

Precise and backlash-free bearing – the rotating clamping table: the workpiece is accurately positioned on the clamping table by the help of an axial-radial cylindrical roller bearing. The table rotation is facilitated by a special sliding coating. The hydraulic clamping system supports the high cutting performance of the boring mill. The table pans of the T-Series machines are easily accessible.



Robust design with precise guideways, compact guides and ball screws



User-friendly CNC machine controls

## Optionally available

### Automatic tool changing

- Tool magazine with up to 120 tools
- Tool gripper SK 50 or HSK 100, others on request
- Tool change to the NC facing head
- Changing cycles for heavy tools, tool taper cleaning

### Compact cooling units

- External cooling at the headstock with 80 l / 8 bar
- Internal cooling through the middle of the boring spindle / optionally through the milling head spindle with up to 70 bar
- Paper band filter and coolant circulation with timer switch

### NC-controlled facing head

- Permanent integration in the headstock
- Use of boring spindle without removing the facing head
- Unbalance compensation with synchronously extending counter slide
- Automatic tool changer with internal coolant supply

### Process optimization

Tool life monitoring, tool breakage monitoring and automatic identification of tools, torque monitoring, data recording, remote touch probe

### Work area protection / CE-approved operation

- Operator panel swivelling into working area, option: angled desk design
- Fully enclosed, optionally with exhaust
- Enclosed table

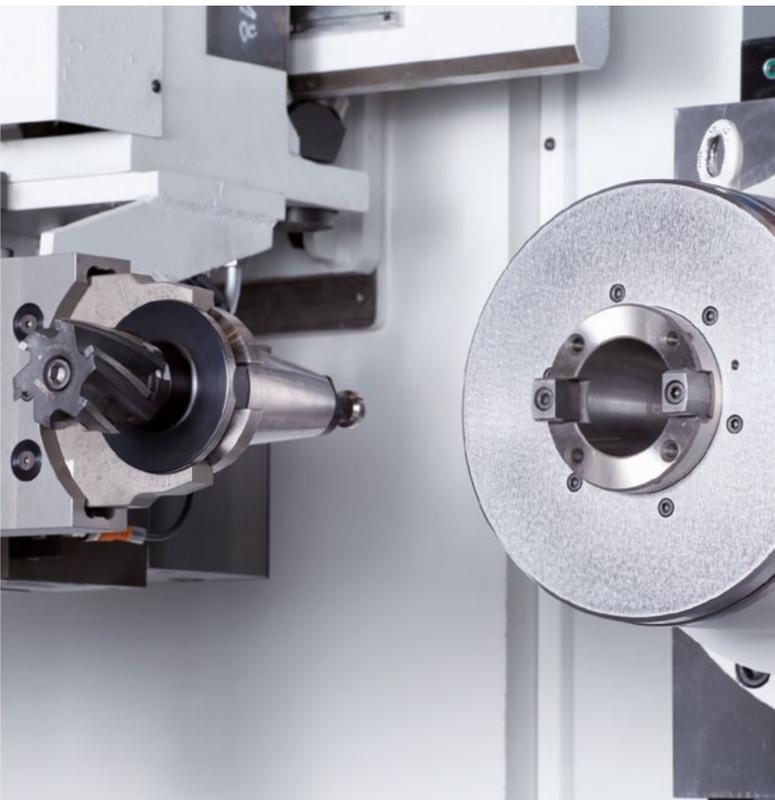
### Automatic workpiece changing

Standard pallet exchange with up to four stations

### CNC controls

Siemens 840 D sl, Heidenhain TNC 640, Heidenhain iTNC 530, Fanuc 31i

// Further options are available on request.



Automatic tool changing into the support bearing

## Equipment variants

Adapted to each application, UnionChemnitz offers a broad range of milling heads:

- Vertical or universal milling heads with speeds up to 5.000 rpm and power of 60 kW, adjusted manually or positioned automatically, allowing internal and external cooling. They are produced within our group of companies.
- Angle milling heads, loaded manually or automatically, adapted to specific tasks
- NC facing head D'Andrea, automatically attachable

Optimize your machining processes – a 3D measuring probe including measurement cycles for automatic measurement of workpieces or a 3D tool touch probe for tool breakage control and tool measurement can be installed.

We will integrate further solutions upon request.



## Technical data

\* for headstocks with integrated facing head only

T / TC 110

T / TC 130

T / TC 150

**Boring spindle**

Diameter	mm	110 / 125	130	150
Drive power, max. (S6)	kW	37	46	73
Torque, max. (S6)	Nm	2,012	2,179	3,170
Speed range, continuous, max.	min <sup>-1</sup>	5 ... 6,000	5 ... 4,000	5 ... 3,500
Diameter of the facing head*	mm			700
Speed range, facing head*	min <sup>-1</sup>			2,5 ... 330

**Clamping table**

Size of clamping table	mm	1,000 x 1,250	1,250 x 1,600	1,250 x 1,600
Optional	mm	1,250 x 1,600	up to 1.800x2,000	up to 1,800x2,000
Table load, max.	kg	7,000	10,000	10,000

**Traverses**

## Axes

Table cross	X	mm	1,500	2,000	2,000
Optional	X	mm	2,000	2,500	2,500
Headstock vertical	Y	mm	1,250	2,000	2,000
Optional	Y	mm	1,600	2,500	2,500
Table longitudinal	Z	mm	1,000	1,500	1,500
Optional	Z	mm	1,500		
Facing slide radial*	U*	mm			200
Boring spindle axial	W	mm	550	750	750

**Feed range / rapid traverses**

Feed range of all axes	mm / min	1... 6,000	1... 6,000	1... 6,000
Rapid traverse linear axes, max.	mm / min	18,000	15,000	15,000
Feed range of the facing slide*	U*	mm / min		1...1,000

**Automatic tool changer**

Number of tools in the magazine		40 (up to 120)	40 (up to 120)	40 (up to 120)
Tool diameter, max.	mm	250	250	250
Tool length, max.	mm	500	500	500
Tool weight, max.	kg	36	36	50

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Ident. No. T-2016/07-E | Subject to change