

### TECHNICAL DATA SHEET

#### CNC – Boring mill T-Type

Manufacturer	<b>UNION</b>
Type	<b>KC 110</b>
Control	<b>HEIDENHAIN iTNC 530</b>
Built	<b>2008</b>
Refurbishment-Level	<b>„2“</b>



#### Working area

X-Axis, lateral movement table	4.000 mm
Y-Axis, vertical movement spindle unit	2.500 mm
Z-Axis, longitudinal movement column	1.500 mm
W-Axis, movement quill	550 mm
B-Axis, number of positions	360.000 x 0,001°

#### Machining unit

Spindle diameter	110 mm
Spindle speed, stepless	5 - 3.000 min-1
Lowest position above table surface	0 mm
Spindle taper (short tapere cc. to DIN 69871)	SK 50 Form AD
Spindle power S1 (100%) / S6 (60%)	22/27 kW
Max. torque at spindle	2.012 Nm

### NC – rotary table

Clamping surface	1.600 x 1.250	mm
Center hole in table	Ø100 H6	mm
table load (max.200mm outside table center)	6.000	kg
Tightening torque of the B-axis	20.000	Nm
Max. torque circular milling	5.000	Nm
T-slot width	22	mm
T-slot distance	125	mm
Number of positions	360.000 x 0,001°	

### Max. travel speed

Max. Feed range for X-, Y-, Z- and W-Axis	1-15.000	mm/min
Rapid traverse for all linear Axes	20.000	mm/min
B-Axis	4	min-1

### Tool magazine

Type	Chain magazine
Number of pockets	60
max. tool-Ø adjacent slots occupied	125 mm
max. tool-Ø adjacent slots free	250 mm
max. tool length	500 mm
max. tool weight	30 kg
max. weight of all tools	900 kg
max. tilting moment	50 Nm

### Design features

#### *Drive and guidance concept*

- Backlash-free ball screws in all linear axes
- Compact precision roller guides in all linear axes
- Direct, absolute linear scales in all axes

#### *Machine concept*

- Wide, T-style machine beds made of steel
- Vibration-resistant, solidly ribbed cast iron box-type column with high bending stiffness
- Rigid connection between the bed and the column base

Technical Datasheet

CNC-boring mill

UNION KC110

### Spindle unit

Rigid casting design

Bearing of spindle unit with high-precision pre-tensioned angular contact ball bearings, lifetime lubricated

Automatic shifting of the two-speed series via auxiliary gearbox with hardened gears and oil cooling

Power transmission to boring spindle via low-noise V-belt transmission

Nitrogen hardened high-precision balanced boring spindle, axially adjustable, can be positioned in any angle, guarded against coolant and chips through labyrinth seal

### Table group

Clamping table (1,600 x 1,250 mm) and cast iron table slide

Precision-scraped sliding surface for mounting the table. Circular table adjustment with pinion drive

Table underside with plastic-coated slide guide

Hydraulic segment clamping for high machining performance

Table supported by precision bearings

### Data for electrical installation

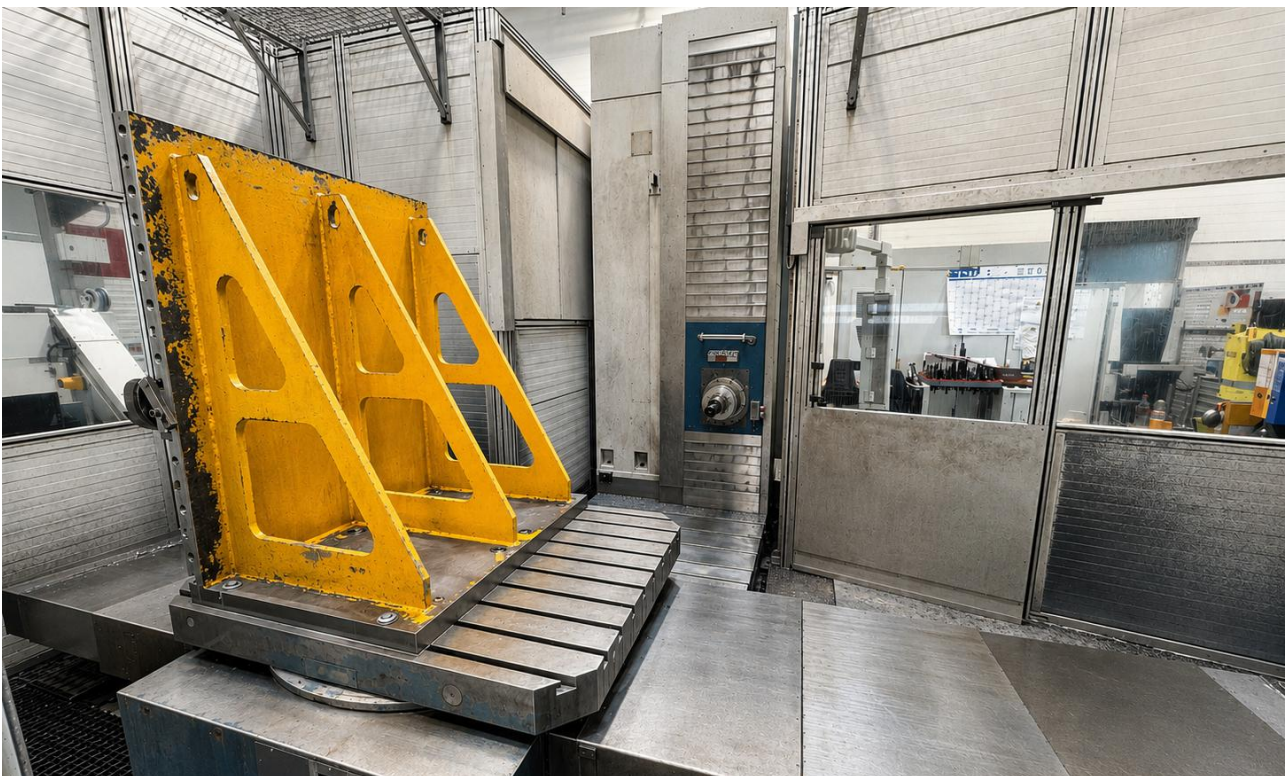
Operating voltage	3~ 400/230 V
Power requirement	63 kVA
Rated current	92 A
Backup fuse	125 A

### Equipment and Accessories

- UNION KC110 CNC t-style bed boring machine for the precise and efficient complete machining of prismatic workpieces
- HEIDENHAIN iTNC 530 CNC control with a 15" screen and swiveling housing
- nitrierte Bohrspindel Ø110mm, axial verfahrbar, Spindeldrehzahl max. 3.000 min<sup>-1</sup>, Leistung 27 kW, Max. Drehmoment 2.012 Nm
- Preloaded precision leadscrew drives and servo motors on all linear axes
- electronic handwheel HEIDENHAIN HR410
- Automatic tool changer with 60 magazine slots, max. tool length 500 mm
- Dual-circuit coolant system with fleece belt filter and tank with approx. 900-liter capacity, 20-bar high-pressure pump for internal, adjustable coolant supply through the spindle, oil belt skimmer
- Chip conveyor between machine table and column, discharge height approx. 1,000 mm
- Telescopic steel covers on the X-axis to the left and right of the worktable
- Telescopic steel cover on the Z-axis between the worktable and the column
- Vertical guides at the top and bottom covered by bellows with stainless steel lamellas
- Full enclosure of the work area, including fixed side panels with windows and two large loading doors on the front, separate and monitored operator door to the right of the machine stand
- Work area lighting
- Paint finish: RAL 7035 light gray / RAL 5007 brilliant blue
- Scope of delivery does not include yellow clamping bracket

### Scope of overhaul

- Machine completely disassembled and cleaned
- New guide rails and roller shoes on the X, Y, Z, and W axes
- Table assembly inspected and reconditioned (clamping, lubrication, and guidance)
- New ball screws on the X, Y, Z, and W axes
- New spindle and quill bearings
- Tool clamping unit factory-overhauled
- Measuring systems cleaned, inspected, and replaced with new components as needed
- New high-pressure units for table clamping and tool clamping
- Inspection and replacement of hose connections as needed
- Inspection and replacement of cables as needed
- New unit for optimized spindle gearbox oil cooling, manufactured by HYDAC
- Telescopic covers overhauled
- New bellows in the vertical axis
- New machine paint finish in a two-coat system using oil-resistant and abrasion-resistant two-component paints



Your address for  
high quality machine tools

# FLECKENSTEIN

## Werkzeugmaschinen

Technical Datasheet

CNC-boring mill

UNION KC110



Tel. +49 (0) 6096 / 97060 | [fleckenstein@fleckenstein-machine.com](mailto:fleckenstein@fleckenstein-machine.com) | [www.fleckenstein-machine.com](http://www.fleckenstein-machine.com)



Subject to errors and prior sale

Seite 5 von 6

Your address for  
high quality machine tools

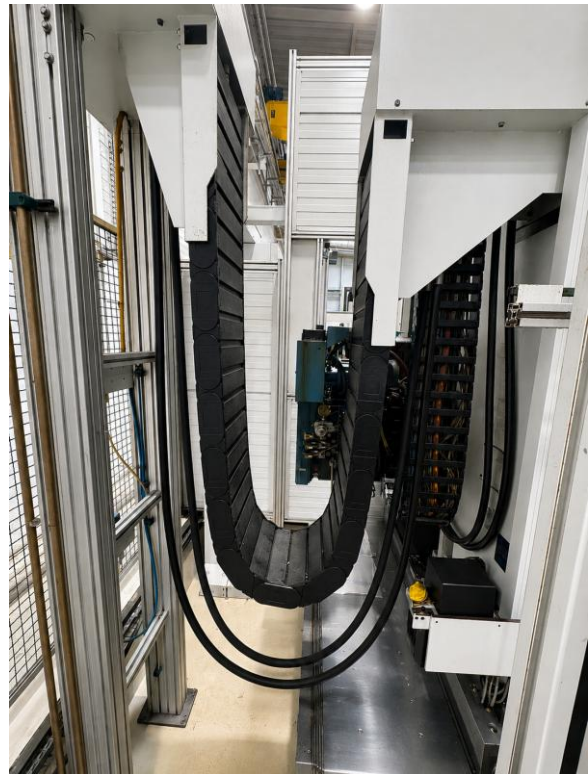
# FLECKENSTEIN

## Werkzeugmaschinen

Technical Datasheet

CNC-boring mill

UNION KC110



Tel. +49 (0) 6096 / 97060 | [fleckenstein@fleckenstein-machine.com](mailto:fleckenstein@fleckenstein-machine.com) | [www.fleckenstein-machine.com](http://www.fleckenstein-machine.com)



Subject to errors and prior sale

Seite 6 von 6