

TECHNICAL DATA
HORIZONTAL BORING- AND MILLING MACHINE

manufacturer	UNION
type	TC 110
built	2014
control	HEIDENHAIN iTNC 530 HSCI



Working hours

„Power ON“	ca. 4.500 h
„Program run“	ca. 1.250 h

Working area

X-Axis, lateral movement table	1.500	mm
Y-Axis, vertical movement spindle unit	1.250	mm
Z-Axis, longitudinal movement table	1.000	mm
W-Axis, movement quill	550	mm
B-Axis, rotary movement table	360	Grad
B-Axis, number of positions	360.000 x 0,001°	

Machining unit

Ø quill	110	mm
Fixed spindle nosing, length	300	mm
Fixed spindle nosing, diameter	260	mm
Shortest distance, spindle nose to mid of table	500	mm
Lowest position above table surface	0	mm
Spindle taper (short taper acc. to DIN 69871)	ISO 50	
Spindle power S1 (100%) / S6 (60%)	22/27	kW
Max. torque at spindle	2.012	Nm
Spindle speed, continuously variable	5-4.000	Min-1

NC – rotary table

Clamping surface	1.000 x 1.250	mm
Center hole in table	100 mm H6	
table load (max.150mm outside table center)	6.000	kg
T-slot width	22	mm
T-slot distance	125	mm
Number of positions	360.000 x 0,001°	

Max. travel speed

Feed range for X-, Y-, Z- and W-Axis	1-6.000	mm/min
Rapid traverse for all linear Axes	15.000	mm/min
B-Axis	3	min-1

Data for electrical installation

Operating voltage	3~ 400/230	V
Frequency	50	Hz
Power requirement	63	kVA
Preliminary fuse	125/ 16	A
Cross-section of supply cable	4 x 50	mm²

Tool magazine

Type	Chain magazine
Number of tools	40
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 for all tools	800 kg
Tilting torque	50 Nm

Design features

Machine

Backlash-free ball screws in all linear axes
Direct, absolute value linear scales in all axes

Machine bed

Broad, strong ribbed 4-way machine bed in steel construction
Backlash-free guidance of table slide through pretensioned compact linear guides
Rigid connection between bed and column
Column bed partially grouted with polymer concrete

Column

Massive ribbed casted column in box design
Compact linear guides for spindle unit
Full covering for vertical movement of spindle unit at column

Design features

Spindle unit

Rigid casting design

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

Automatic gearshift through separate gearbox with hardened gear 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 assembly

Table slide made from cast iron

Precise scraped sliding surface for table socket

Backlash-free round axis (B-axis) with pinion drive

Table bottom side with sliding surface, plastic-coated

Hydraulic clamping, high-precision table bearing

Accessories

Full enclosure guarding of working area, coolant proof

Operating mode 3

Chip conveyor (positioned in front of the machine table)

Coolant system for internal and external cooling 20 / 8 bars

Coolant circulation with weekend mode

Tool magazine, 40 pockets, automatic change

Torque monitoring

Teleservice via VPN enabled in CNC control

3D remote radio touch probe

Adapter for automatic workpiece measurement

**Installation and initial operation at the former owner took place in September 2014.
The condition of the machine is L I K E N E W.**