

TECHNICAL DATA
HORIZONTAL BORING- AND MILLING MACHINE

manufacturer	UNION
type	TC 150
built	2007
control	HEIDENHAIN iTNC 530



Working hours

„Power ON“	ca. 23.000 h
„Program run“	ca. 8.800 h

Working area

X-Axis, lateral movement table	2.500	mm
Y-Axis, vertical movement spindle unit	2.500	mm
Z-Axis, longitudinal movement table	1.500	mm
W-Axis, movement quill	750	mm
B-Axis, rotary movement table	360	Grad
B-Axis, number of positions	360.000 x 0,001°	

Machining unit

Ø quill	150	mm
Fixed spindle nosing, length	370	mm
Fixed spindle nosing, diameter	280	mm
Shortest distance, spindle nose to mid of table	850	mm
Lowest position above table surface	0	mm
Spindle taper (short taper acc. to DIN 69871)	ISO 50	
Spindle power S1 (100%) / S6 (60%)	37/46	kW
Max. torque at spindle	2.179	Nm
Spindle speed, continuously variable	5-3.000	Min-1

NC – rotary table

Clamping surface	1.600 x 2.000	mm
Center hole in table	100 mm H6	
table load (max.150mm outside table center)	10.000	kg
T-slot width	28	mm
T-slot distance	160	mm
Number of positions	360.000 x 0,001°	

Max. travel speed

Max. Feed range for X-, Y-, Z- and W-Axis	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	90	kVA

Tool magazine

Type	Chain magazine
Number of tools	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. tilting moment	50 Nm

Design features

Machine

Backlash-free ball screws in all linear axes

Direct, absolute linear scales in all axes manufacturer HEIDENHAIN

Machine bed

Broad, strongribbed steel construction, 4-lane bed

Pretensioned compact roller linear guides for backlash-free guidance of the slides

Column and machine bed are rigidly connected to each other

column

Massive ribbed cast-iron column in box design

Pretensioned compact roller linear guides for backlash-free guidance of the headstock

Full covering on column for the vertical movement of spindle

Spindle unit

Rigid casting design

Bearing of spindle unit with high-precision pre-tensioned angular contact ball bearings, lifetime lubricated mounted in the forward fixed spindle extension

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

Rigid casting design

Design features

Table group

Cross-slideable and rotatable clamping table in cast iron version with pre-tensioned compact roller linear guides with high rigidity for longitudinal and transverse adjustment, together with the headstock vertical adjustment, guarantee stick-slip-free circular interpolation.

B-Axis with low-friction, hydrodynamic sliding guide with plastic coating. Backlash-free table adjustment (B-axis) with optimized double pinion drive. Table bearing with a radial and axial precision roller bearing.

Table underside with plastic-coated sliding guide

Hydraulic segment clamping

Accessories

Partial enclosure of the work area, special enclosure at the table - movable all round

Operating mode 3

Chip conveyor

Coolant system for internal & outside cooling 30l/20 bar, 50l/3 bar

Coolant cleaning by band filtration unit, coolant tank content 990l

Tool magazine 60 places, automatic change

support bearing

Torque monitoring of the working spindle

minimum lubrication instead of emulsion coolant

3D remote radio touch probe