

TECHNICAL DATA
HORIZONTAL BORING- AND MILLING MACHINE

manufacturer	UNION
type	KC 150
built	2006
control	HEIDENHAIN iTNC 530



Working hours

„Power ON“	ca. 22.500 h
„Program run“	ca. 8.250 h

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	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	2.000 x 2.500	mm
Center hole in table	100 mm H6	
table load (max.150mm outside table center)	20.000	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	15.000	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

Column – machine bed

Broad, strongribbed steel construction
Pretensioned compact roller linear guides for backlash-free guidance of the slides
Column and machine bed can be set up separately from 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

Design features

Table group

Cast iron table, slides with pre-tensioned compact roller linear guides with high rigidity, 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 between table group and Z-bed

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