

TECHNICAL DATASHEET

Horizontal travelling column Boring Mill with RAM in hydrostatic Design

Manufacturer	UNION
Type	PCR150
Control	HEIDENHAIN iTNC530
Built	2010



Travels

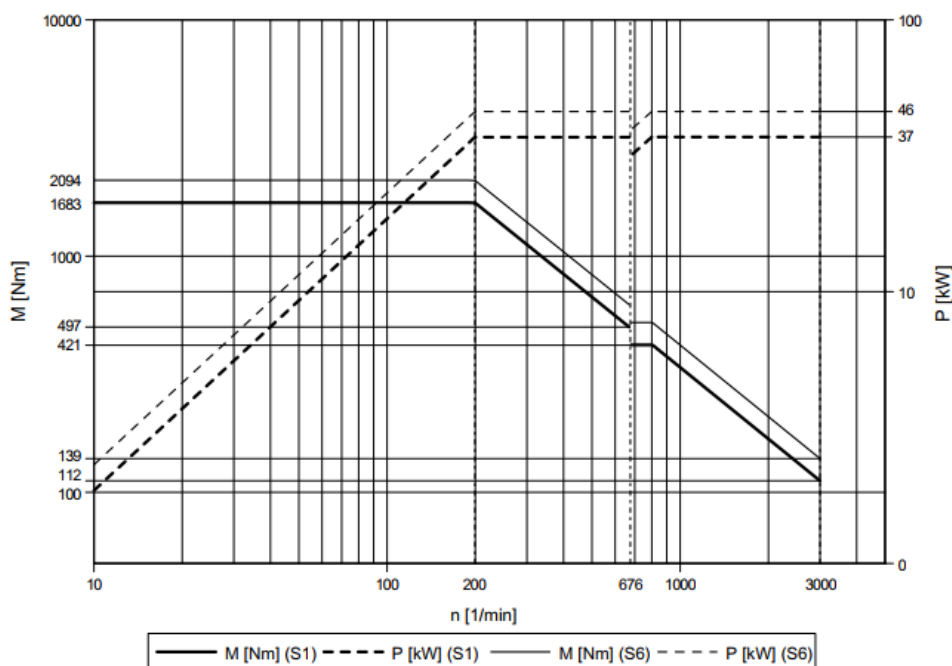
X-Axis	10.000	mm
Y- Axis	4.000	mm
Z- Axis	1.500	mm
W- Axis	700	mm

Feeds

Max. feed X-, Y-, Z- and W-Axis	0 - 6.000	mm/min.
Max. feed force	25.000	N up to Y = 3.000mm
Rapid traverse in X / Y / Z	15.000	mm/min

Spindle unit

Quill diameter	Ø150	mm
Cross section RAM	450 x550	mm
Main drive	with gearbox	
No of gear steps	2	
Gear step 1	5 – 676	U/min
Gear step 2	677 – 3.000	U/min
Max. power S1 / S6, 100%/60 % ED	37 / 46	kW
Max. torque S1 / S6	1.683 / 2.094	Nm
Tool taper	SK50	ISO 7388/1 Form AD
Tool clamping force	25	kN



Automatic toolchanger

Type	chain magazine	Mounted at column
No of pockets	80 pcs.	
Max. tool diameter	Ø125 / 250 mm	secondary occupied / free
Max. tool length	500 mm	
Max. single tool weight	30 kg	
Max. total weight of tools in magazine	1,120 kg	
Tool taper	SK50	

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Pickup-station for interchangeable heads

Type	Mounted on floor plate	
No of shelves	4	pcs.
<u>Equipped with:</u>		
Covering plate	1	pc.
UNION Fork milling head KFU NC4/90	1	pc.
<u>Prepared for:</u>		
Facing head d'Andrea U-Tronic 5-630-S		No scope of supply
UNION Angle milling head KFD4/90		No scope of supply

Continuous Fork Milling head KFU NC4/90

Power milling spindle (S1)	37	kW
Torque S1	800	Nm
Max. speed	3.000	U/min
Swiveling range C-Axis	+/- 185	°
Swiveling range A-Axis	+/- 95	°
Max tangential torque C-Axis	6.000	Nm
Max tangential torque A-Axis	5.000	Nm
Swivel axis drive	servomotor with planetary and worm gears	
Axis clamping	hydraulically	
Max. feed force in the direction of the spindle axis	8.400	N

Floor plate

Type	T-slot floor plate, two-part	
Dimensions	10.000 x 3.000	mm
Dimensions single plate	5.000 x 3.000	mm
Height of plate	300	mm
Slot size	36H12	mm
Slot distance	250	mm
Max. uniform load	15.000	kg/m ²

Movable operator platform

Vertical travel	2.800	mm
Horizontal travel	700	mm
Vertical drive	electromechanical	
Lifting speed	3,5	m/min
Horizontal drive	pneumatical	

Footprint and weight

Machine footprint	ca. 19.000 x 10.100	mm
Total height	ca. 6.200	mm
Machine weight	ca. 60.000	kg

Coolant and filtration unit

Tank capacity	980	l	
No of coolant circuits	2		PS1 + PS2
<u>PS1:</u>			
Max. volume external coolant supply	80	l/min	
Max. pressure external coolant supply	8	bar	
<u>PS2:</u>			
Max. volume internal coolant supply	38	l/min	
Max. pressure internal coolant supply	20	bar	
Filter fleece fineness	30 - 40	µm	

Technical design features

- Both heavy-duty roughing and high-precision fine machining possible
- Two big hydrostatic bearings that completely enclose the RAM
- Dynamically controlled hydrostatic systems
- Extremely rigid, heavily ribbed column

Connection data

Operating voltage	3 x 400	V
Operating frequency	50	Hz
Total electrical power	120	kVA
Nominal current	190	A
Prefuse	250	A
Cross section of cables	4 x 120	mm ²

Equipment and accessories

Robust and highly versatile PR series drilling and milling machine with large floor plate

- 3D CNC control HEIDENHAIN iTNC530
- Hydrostatically guided spindle system with Ø150mm quill and internal coolant supply
- Generously dimensioned hydrostatic bearings for optimum guidance of the support beam, cross-section of the support beam 450x550mm
- X-axis triple linear guide (size 65), drive via gear rack and preloaded double pinion
- Y-axis double linear guide (size 65), drive via two geared motors (master-slave) and two powerful ball screws
- Main spindle 46kW and 3,000 rpm, max. torque 2,094 Nm
- Heidenhain direct path measuring systems
- Moving tool chain magazine 80-fold with automatic changer
- Moving control panel for machine operator for best overview
- 2 chip conveyors, 1x along the X-axis, 1x sideways as lifting conveyor along the Z-axis
- Lifting pump for coolant delivery
- Coolant system with belt filter and large tank (approx. 980 l), equipped with two cooling circuits, 1x low-pressure pump 80 l/8 bar and 1x high-pressure pump 38 l/20 bar to provide the internal coolant supply
- Head changing station for automatic head change with 4 storage locations
- Hubitron HBG410-RF electronic radio handwheel
- Electronic 3D radio measuring probe Marposs with receiver unit WRI
- Very well-maintained condition with <10,000 operating hours

The UNION PCR150 is the ideal machine tool for the machining of large components. In addition to stable heavy-duty machining, high-precision 5-sided machining of voluminous and heavy workpieces is also possible on this machine. The boring mill can be supplemented with additional units (rotary sliding table, boring head, etc.) on request and tailor fitted to your production needs.



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