WRD 130/150/170 (Q)

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New goals need new solutions

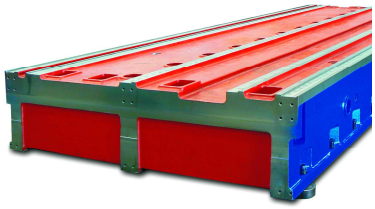
FLOOR TYPE HORIZONTAL BORING MILLS

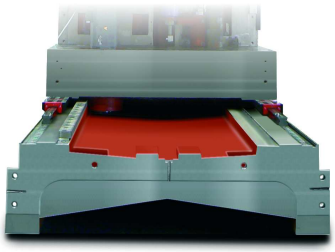
THE BEST TECHNICAL SOLUTION

WRD machines, ware sold over 90 paces

Skeleton of the machine

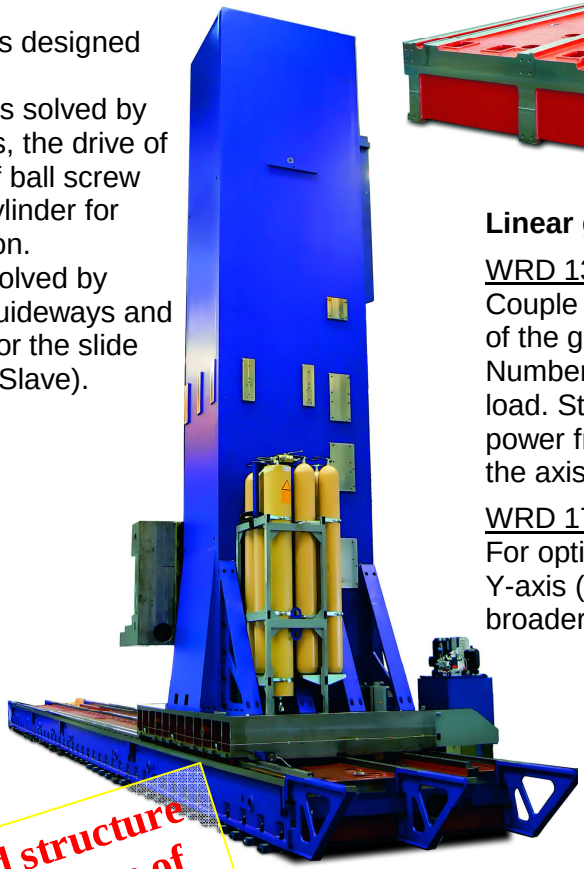
All parts are designed as rigid, optimally dimensioned and ribbed castings of gray iron or steel weldments.
The cross-bed consists from two or more parts. It is designed as a casting of gray iron and ensures maximal frame rigidity.
The column body is designed as rigid, optimally dimensioned and ribbed steel weldment.





Moveable parts guiding

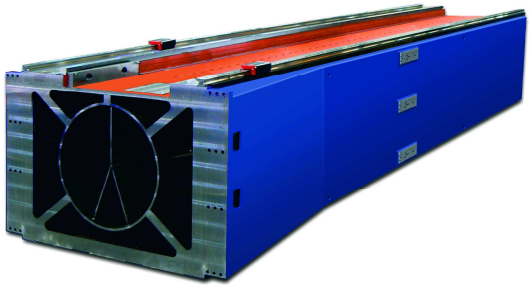
All moveable part of machine is designed as linear guide system.
The headstock travel (Y axis) is solved by means of two linear guideways, the drive of this axis is solved by means of ball screw and the telescopic hydraulic cylinder for headstock weight compensation.
The column travel (X axis) is solved by means of two or three linear guideways and toothed rack with two motors for the slide column travel (system Master-Slave).



Linear guides - Principle

WRD 130/150 (Q)
Couple of linear guideways is placed in the area of the greatest stress and power transmission. Number of carriages is the optimal distribution for load. Stiffness of the group is designed for max power from the cutting process (max feed force in the axis 40 kN).

WRD 170 (Q)
For optimum column rigidity at higher Y-axis (up to 6m) column is designed with broader base with three linear guideways.



The rigid structure for transmition of the high power

Positioning accuracy according to VDI/DGQ 3441

Axes X, Y, Z		guaranteed values	achieved values (average)
Positioning uncertainty	P	0,020 mm	0,007 mm
Positional scatter	Psmax	0,012 mm	0,005 mm
Reversal error	Umax	0,010 mm	0,002 mm
Positional deviation	Pa	0,015 mm	0,004 mm

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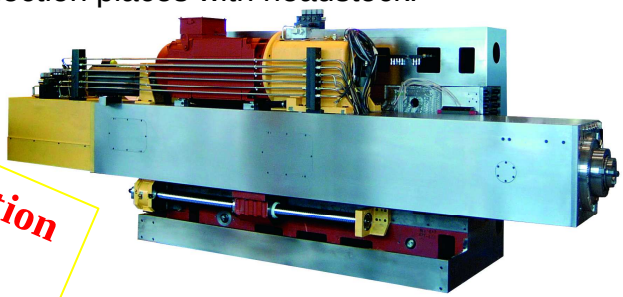
THE HEADSTOCK FEATURES

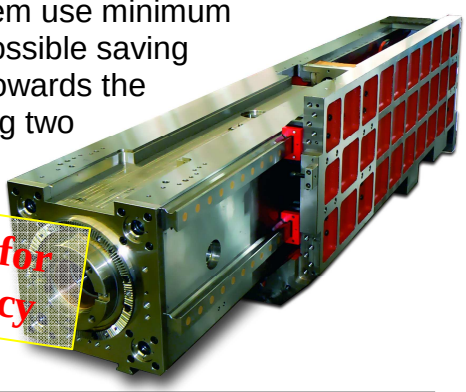
WRD 130/150 (Q)
RAM stroke 1,000 mm, spindle travel 700/800 mm
RAM size 450 x 450 mm
WRD 170 (Q)
RAM stroke 1,500 mm, spindle travel 1,000 mm
RAM size 550 x 550 mm

Rigidity and accuracy of guiding is provided by means of three linear guideways placed in stiffest connection places with headstock.

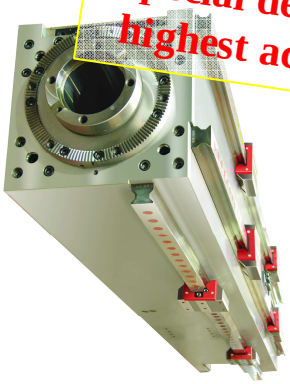


Low consumption of the energy

Compensation of the headstock weight
The headstock weight is balanced directly by the telescopic hydraulic cylinder from hydro-pneumatic system.
This weight balanced system use minimum move forces and makes possible saving energy during machining towards the compensation system using two ball screws.



Special design for highest accuracy



RAM drop and accessories weight compensation

Achieved values (average)
till **0,005** mm

RAM drop compensation
The RAM drop is compensating by means of the special electro-mechanic system. According to the RAM position it is tilted to achieve the high precision.
This unique system has a wide compensation rate: twice 0,4mm (without creation additional forces into RAM linear guideways). In a case of need this system makes possible simple and fast adjustment.

Compensation of the accessories weight
The compensation system also indicates the attached accessories and compensates its weight.

System with compensation of accessories weight

OPTIONAL ACCESSORIES

- additional rotary tables
- automatic PICK-UP station
- UD 4 floor plates
- clamping devices – the cube and angle plates
- tool cooling kit (conventional or through spindle)
- chip conveyor(s)
- measuring units
- milling and facing heads

Certifikovaný systém řízení SQS reg. č. 12392-01 TOS VARNSDORF SKQS reg. č. 12392-01 ISO 9001

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