

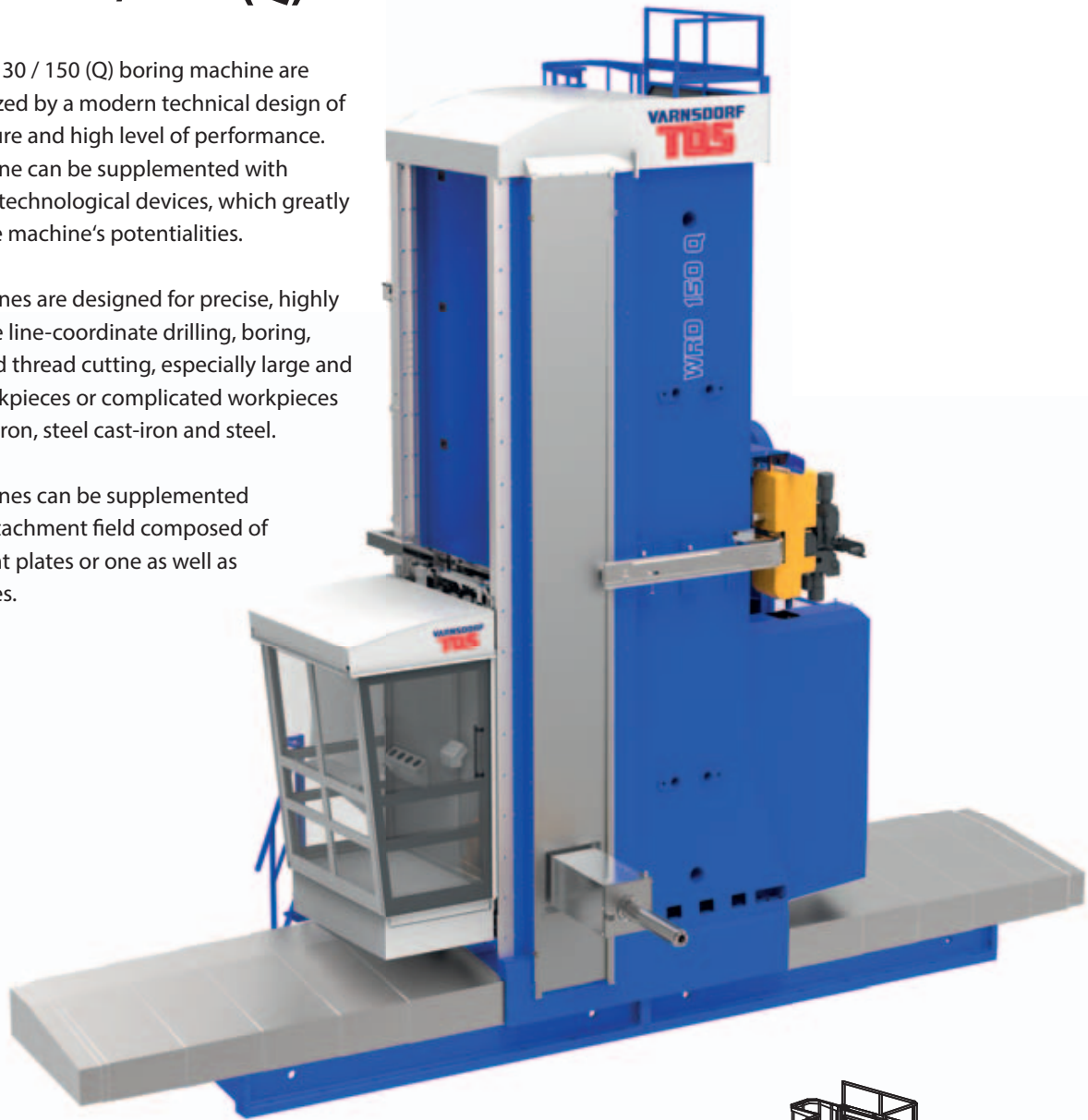
Floor-type machines

WRD 130 / 150 (Q)

The WRD 130 / 150 (Q) boring machine are characterized by a modern technical design of the structure and high level of performance. The machine can be supplemented with a series of technological devices, which greatly extend the machine's potentialities.

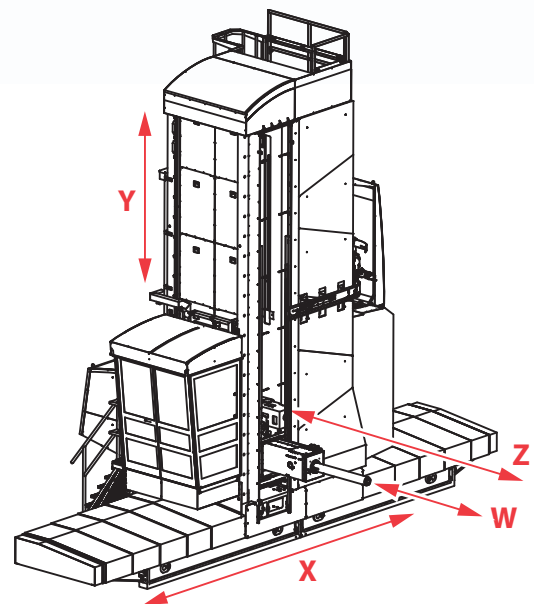
The machines are designed for precise, highly productive line-coordinate drilling, boring, milling and thread cutting, especially large and heavy workpieces or complicated workpieces from cast-iron, steel cast-iron and steel.

The machines can be supplemented with an attachment field composed of attachment plates or one as well as more tables.



Machine configuration

- basic version of the machine without automatic tool change
- version with an automatic tool change
- machine with spindle diameter 130 mm
- machine with spindle diameter 150 mm
- machine with spindle diameter 160 mm



TECHNICAL PARAMETERS

Headstock		WRD 130	WRD 150	
Work spindle diameter	mm	130	150	160
RAM size	mm	450 x 450		
Spindle taper		ISO 50 / ISO 50 BIG+		
Work spindle speed range	1/min	10 – 3 000	10 – 2 500 (2 800) (10 – 1 500*)	10 – 2 400
Main motor power (at permanent operation of S1)	kW	41	58	58
Max. output of main motor (at operation of S6-60% working hours)	kW	46	65	65
Torque on spindle (S1)	Nm	2 542	2 437 (2 465/4 870*)	2 437
Max. torque on spindle (S6 – 60%)	Nm	3 152	3 138	3 138
RAM stroke Z	mm	1 200		
Spindle stroke W	mm	700	800	800
Column				
Headstock vertical travel Y	mm	2 500 – 6 000 (in steps of 500 mm)		
Column longitudinal travel X	mm	5 000 – 27 000 (in steps of 2 000 mm)		
Feeds				
Range of feeds (working and rapid traverse) – X, Y, Z	mm/min	1 – 24 000		
– W	mm/min	1 – 12 000		

* an option suitable for drive of the facing head from the hollow spindle, Nmax=1 500 rpm, 2 465 Nm on the work spindle, 4 870 Nm on the hollow spindle



Example of an application at a Finnish customer, where the machine was also adapted for the application of turning operations (special milling heads, extensions and carousel table).

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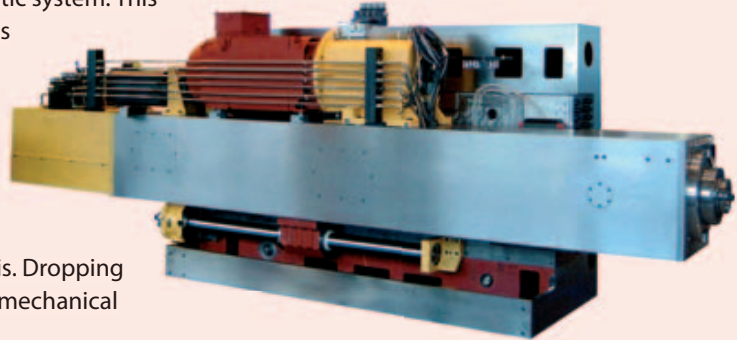
WRD 130 / 150 (Q)

Headstock

The basic body is a rigid casting from ductile iron; like other corresponding parts, they have an L shape, which creates a guiding rail for the RAM. The conception of this unit allows electro-magnetic compensation of the RAM drop during its extension in the Z axis (for more information see page 78 – Headstock).

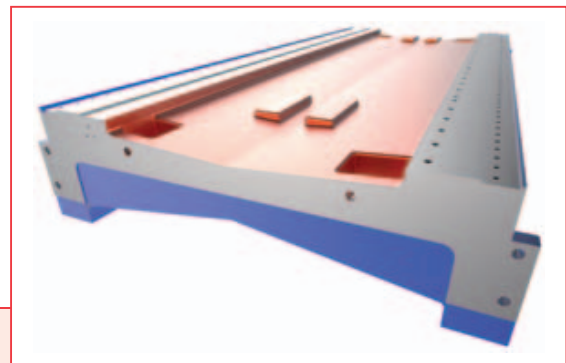
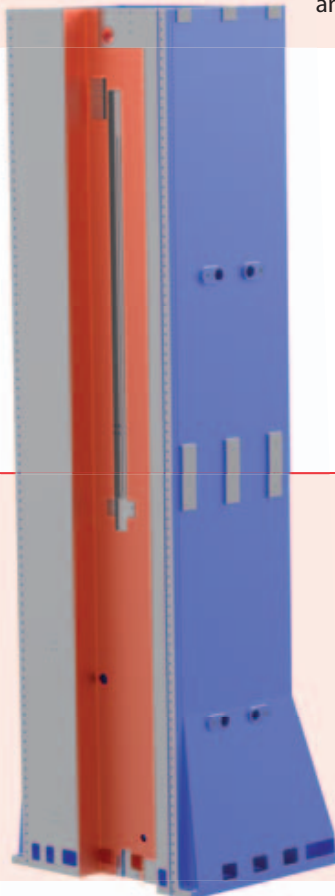
Balancing of the headstock weight: The weight of the headstock is balanced by a telescopic cylinder from the hydropneumatic system. This system of headstock weight balancing demands minimum traverse forces, thus reducing power consumption during the machining process.

Compensation of the RAM dropping: This concept of compensating the RAM dropping is unique and patented. The concept of the whole headstock allows compensation of the slide plate drop during its extension in the Z axis. Dropping of the RAM is compensated by a special electromechanical system.



Column

The column is designed as a rigid optimally dimensioned castings of gray iron. To column vertically moves the headstock with ram which is guided on two linear guide ways. On the column is fastened a ball screw, drive of Y-axis and hydraulic cylinder for weight balancing of the headstock.



Guides of adjustable groups

Guides of all linear adjustable groups are rolling with pretensioning (guide of the headstock, the column rail, the slide plate guide), based on compact linear rolling guides.

Guides of the beds are covered by steel telescopic guards.

The guide on the column is protected by steel guards of the whole headstock movement area; on the face towards the workpiece by steel plates; on the operator's platform side, the whole area is covered by a fixed guard; on the rear side by cover bellows.

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Drives of traverse units and fixation

All 4 axes (X, Y, Z, W) are equipped with separate electric control servo drives. Transfer to straight motion of the Y, Z, W axes is achieved by ball screws with pre-tensioned nuts, movement of the X axis is provided by two electric servo motors with reducers.

Prestress of pinions on outlets from reducers to the rack is achieved by engagement of drives in the „Master-Slave“ operation.

