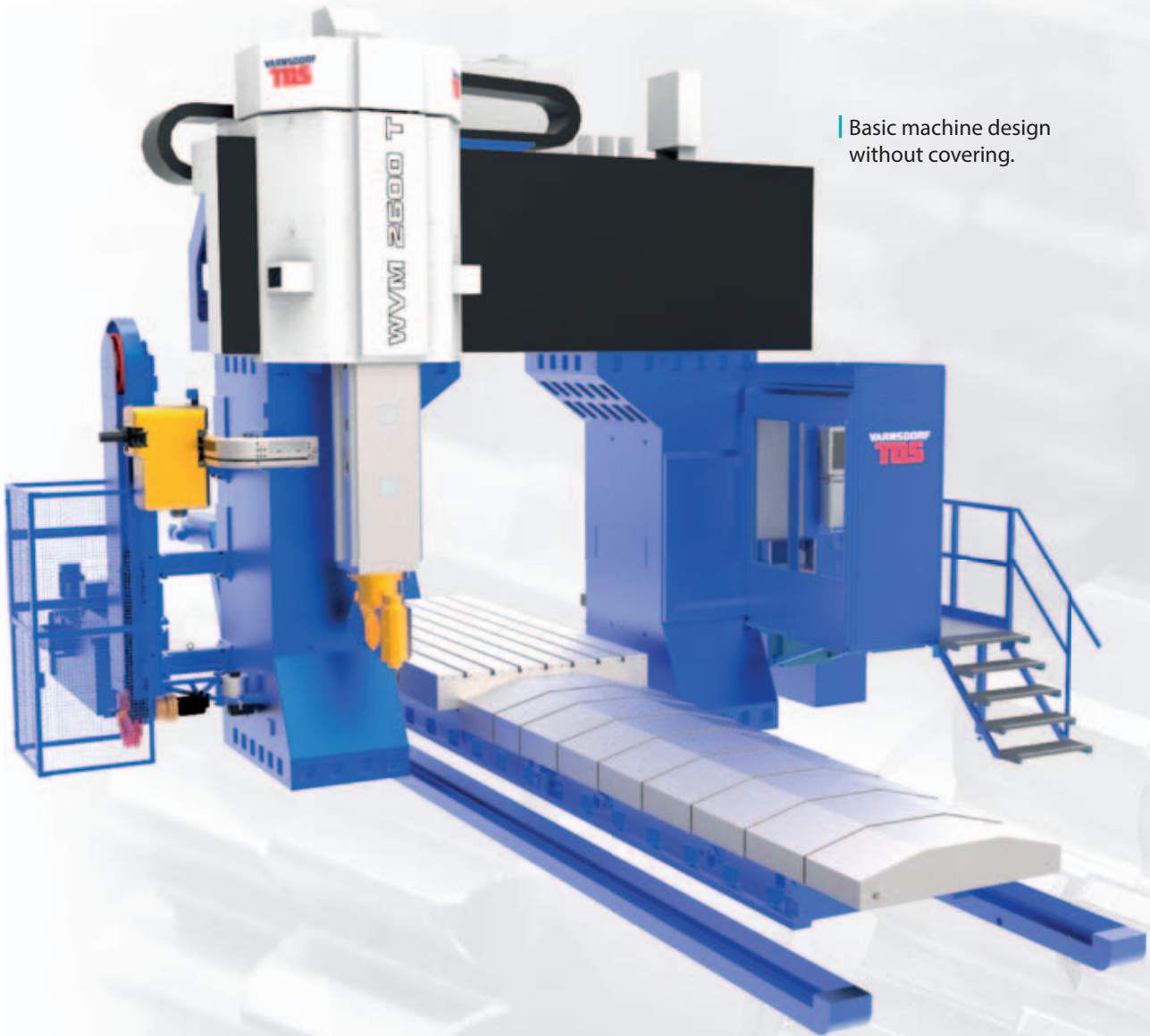


Portal milling machines

Portal milling machine WVM 2600 / 3600 T



Basic machine design without covering.

Vertical machining centers of the WVM 2600 / 3600 T series are designed as a unified series of machines for universal machining of steel and cast iron parts especially in the general engineering segment.

Thanks to its unique construction of a solid portal with a mobile headstock (Y), a vertically extendible RAM (Z) and a sliding table (X), the machines stand out with high precision and stiffness.

The high installed power of the machine (46 kW) is designed especially for power and productive machining.

Machines can be equipped with various types of milling heads, which are automatically installed and allow to further extend the technological possibilities of the machine. Machines can be supplemented by other types of accessories to increase machine efficiency, such as cooling system, machine monitoring, or tool change system.

Machine control is provided from the operator platform installed on the side of one of the columns, and the machines can be equipped with a cover around the table axis (X) to minimize flying of chips and splashing of cutting fluid into the environment.

Portal milling machines

Table-type machines

Floor-type milling machines

Machining centres

Portal milling machines

Accessories

Components

References

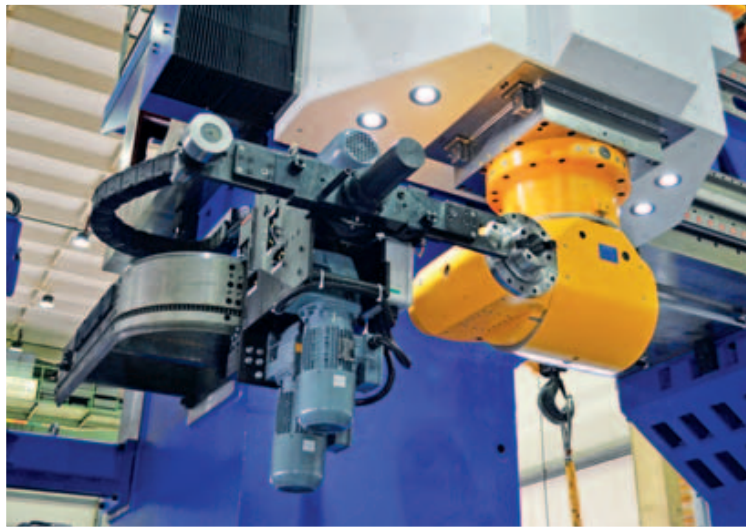
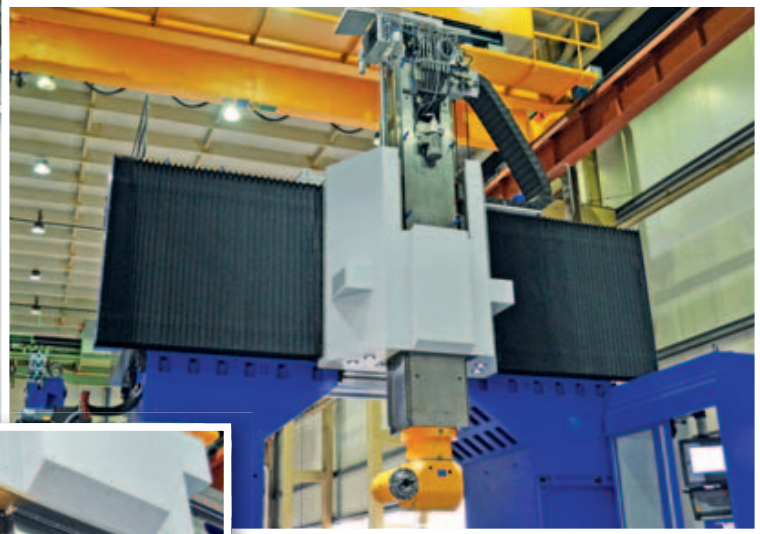
TOS Olomouc



WVM 2600 / 3600 T

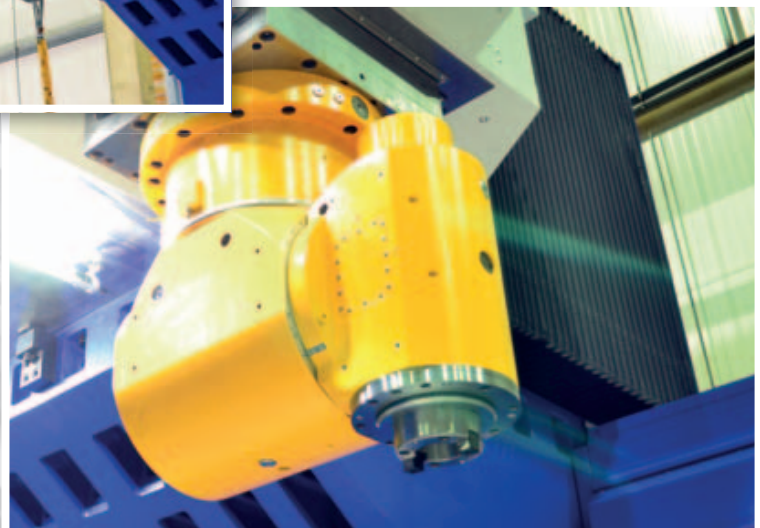
View from the operator's cabin to working space.

Complete view of the machine. There is horizontally moveable headstock with extendible RAM.



Detail of integrated orthogonal milling head SEMPUCO.

Detail of automatic tool change system, which changes tools to the horizontally positioned milling head.



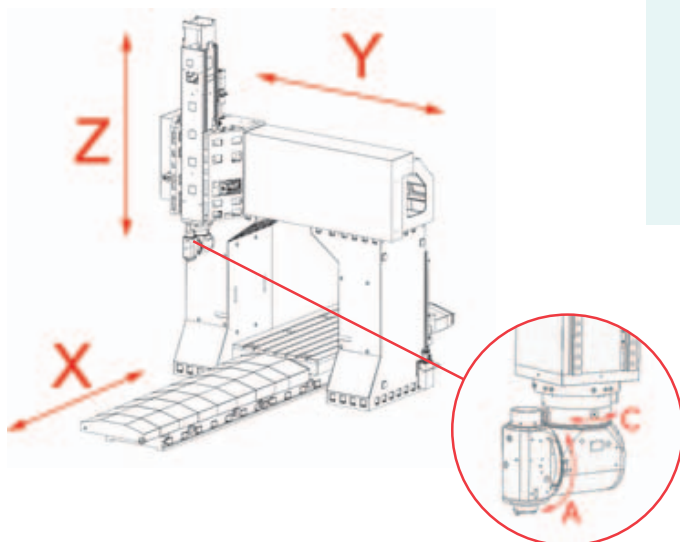
Portal milling machines

WVM 2600 / 3600 T

Basic machine design with covering.



Controlled axes schema



Machine configuration

- Machine with integrated orthogonal milling head
- Machine equipped with an automatic tool change
- Machine equipped with an automatic special accessory change
- The WVM 2600 / 3600 T machines are equipped with 5 continuously controlled axes (X, Y, Z, C, A)



TECHNICAL PARAMETERS

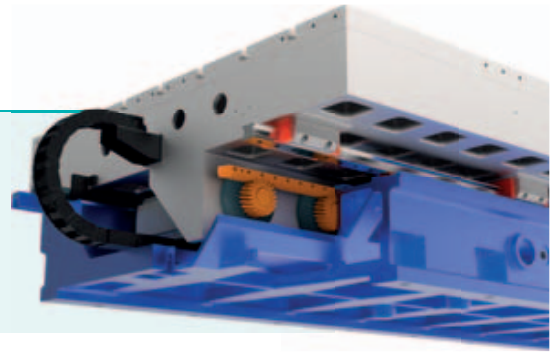
Headstock		WVM 2600 T				WVM 3600 T	
Termination of RAM by an interface for application of technological accessories							
RAM size	mm	500 x 500					
Main motor speed range	1/min.	10 – 5 000					
Max. output of main motor	kW	46					
Max. torque on the driving shaft	Nm	1 375					
Ram stroke Z	mm	1500					
Headstock horizontal transverse traverse Y	mm	3200		4200			
– when AVTP system is applied	mm	4 300		5 300			
Headstock with the integrated milling head							
Spindle tool hollow		ISO 50					
Max. spindle speed	1/min.	5 000					
Max. transmitted power	kW	40					
Max. spindle torque	Nm	1 200					
Basic increment for positioning both dividing planes	°	1					
Range of rotation in the A axis	°	±180					
Range of rotation in the C axis	°	±180					
Work bench for WVM 2600 T							
Table longitudinal traverse X	mm	3 500, 4 500, 5 500, 6 500, 8 500, 10 500					
Distance between the columns	mm	2 600					
Width of table clamping area	mm	1500, 2000					
Length of the table clamping area	mm	3000	4000	5000	6000	8000	10 000
Maximum work-piece weight	t	16	20	24	28	36	40
Size of the clamping T-grooves	mm	28H8					
Spacing of the clamping T-grooves	mm	250					
Work bench for WVM 3600 T							
Table longitudinal traverse X	mm	3 500, 4 500, 5 500, 6 500, 8 500, 10 500					
Distance between the columns	mm	3 600					
Width of table clamping area	mm	2 500, 3 000					
Length of the table clamping area	mm	3000	4000	5000	6000	8000	10 000
Maximum work-piece weight	t	20	24	28	32	40	40
Size of the clamping T-grooves	mm	28H8					
Spacing of the clamping T-grooves	mm	250					
Travels							
Range of traverse (working and rapid travel) – X, Y, Z	mm/min.	1 – 25 000					
Max. traverse forces in the X, Y, Z, W axes	kN	20					
Automatic tool change							
Number of pockets – chain type magazine	pcs	40, 60					
Number of pockets – meander type magazine	pcs	80, 100, 120					
Tool change time	s	16					

Portal milling machines

WVM 2600 / 3600 T

X, Y, Z axis drives

Drives of all the linear axes are fitted with separate electric regulating actuators. The Z axis is driven via a ball screw with pre-loaded nuts. The X and Y axes are driven via a rack and two pre-loaded pinion gears controlled by a "Master-Slave" system.



Machine frame

The frame consists of a bed with a traversing table, above which a transversely housed headstock moves on the crossbeam that is attached to two vertical stands. All the frame parts are designed as rigid and optimally sized castings.

Guiding of movable groups

Linearly traversing groups of the X, Y, and Z machine axes are guided using linear roller guides. Bed guideways are covered with telescopic steel guards. A crossbeam guideway is protected by folded fabric bellows.



WVM 2600 / 3600 T

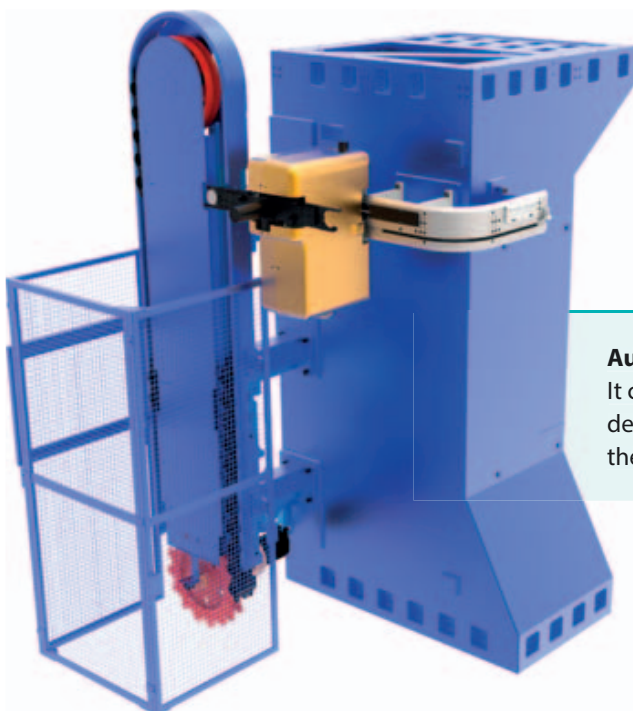


Headstock

The basic body is a rigid casting of ductile cast iron, in which a horizontally traversing RAM made of cast steel is mounted. The main spindle rotation drive is transmitted from a powerful electric drive via a robust two-speed gearbox with automatic shifting.

Balancing

Ram weight is compensated hydro-mechanically (with a hydraulic cylinder) using a standalone hydraulic unit.



Automatic Tool Exchange

It consists of a chain tool magazine, a manipulator guide-way on the stand, and a custom manipulator that allows the tool to be exchanged in the milling head.