



MVT

For machining wheel hubs and faces together with the oil groove.

Rolling stock (TGV type, locomotives, cars) requires an extremely low vibration level. This is achieved by a low hub offsetting compared to the thread outside circle. This machine is designed specifically for railway maintenance with the two essential wheel references, inner face and tread.

MVT is made of SG cast iron which makes the structure solid.

► Operation principle:

MVT is CNC controlled and will master the machining cycle:

- Wheel loading
- Wheel automatic centering
- Dimensional measurements
- Machining
- Wheel unloading

► Information and services:

The machine is delivered completely assembled and inspected. As the electrical and hydraulic cabinets are mounted directly on the machine frame, civil works are easy to do and installation time is short.

The lathe is equipped with an Autodiagnostic and Telemaintenance system. At the end of the machining cycle, the CNC releases a profiling report that includes all useful information. This information can be exported to a Wheelset Management Database.

In the event of a failure, the CNC will display a message showing the faulty element. The telemaintenance system enables SCULFORT Service Department to connect to the lathe and help the operator to find the fault. This will avoid diagnostic mistakes and maximize lathe availability.

► Product:

In order to ensure the operator perfect ergonomics, the MVT comprises:

- A control panel facing the working area
- An Autodiagnostic and Telemaintenance system
- An automatic wheel loading/ unloading system
- A chip disposal device (accessory)

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VERTICAL BORING MACHINE CHARACTERISTICS

Type	Vertical Boring Machine	MVT
whells	Wheel diameters	590 to 1250 mm
	Type one boring bar	175 to 245 mm
Broche	Rotation speed	0 à 625 tr/min
Vertical carriage	Vertical stroke	800 mm
	Feed speed range	0 à 6 mm/tr
	Fast feed speed	8 m/min
	Maximum chip section	3 mm ²
	Finish cutting feed speed range	0.15 à 0.35 mm/tr
	Finish cutting depth	0.2 à 1 mm
	Cutting speed	0 à 280 m/min
Tool holder	Radial stroke for tool	35 mm
	Maxi speed	300 mm/min
Wheel centring	Number of jaws	2
	Clamping effort	4 000 daN
CNC	Model	SIEMENS 840D
	Measure increment	1 µm
	Software increment	1 µm, 10 µm, 100 µm,
	Measure display	1 µm
	Program language	SIEMENS Step7 (ladder)
Overall dimensions	Length	9 200 mm
	Width	3 660 mm
	Height	3 800 mm
Weights	Approximate weight	25 tonnes
Power	Spindle motor	19 kW
	Total installed power	50 kW
	Alimentation	AC 400V, 3 ph., 50 Hz
Operating performances	Average cycle time	20 minutes
Machining tolerances	Bore diameter	< 0.03 mm
	Bore conicity	< 0.03 mm
	Bore radail eccentricity	< 0.1 mm
	Bore diameter as per machine readout	± 0.02 mm
	Surface roughness	0.8 µm < Ra < 3.2 µm
	Wheel strength	780 a 1100 N/mm ²