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MVT – Vertical Boring Machine



MVT Vertical Boring Machine

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.

Principal Operation:

The MVT is controlled by a CNC which automatically manages the entire boring cycle:

- Wheel loading
- Automatic wheel centering
- Dimensional measurements
- Machining
- Wheel unloading

Component of MVT

To ensure good ergonomics, the MVT comprises

- A control panel facing the working area
- An auto-diagnostic and tele-maintenance system
- An automatic wheel loading / unloading system
- A smoke extractor



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Technical Characteristics:

Length	9 200 mm
Width	3 660 mm
Height	3800 mm
Approximate weight	25 tonnes

Wheels external diameters	590 to 1 250 mm
Wheels internal diameters	150 to 250 mm
Rotation speed	0 to 625 m/min
Vertical stroke	800 mm
Feed speed range	0 to 6 mm/tr
Fast feed speed	8 m /min
Maximum chip section	3 mm ²
Finish cutting feed speed	0.15 to 0.35 mm/tr
Finish cutting depth	0.2 to 1 mm
Cutting speed	0 to 280 m/min
Radial stroke for tool	35 mm
Maxi speed	300 mm /min

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)

Spindle motor	19 Kw
Total installed power	50 Kw
Alimentation	AC 400V, 3 ph., 50 Hz

Average cycle time	20 minutes
Bore diameter	< 0.03 mm
Bore conicity	< 0.03 mm
Bore radial eccentricity	< 0.1 mm
Bore diameter	± 0.02 mm
Surface roughness	0.8 µm < Ra < 3.2 µm
Wheel strength	780 to 1 100 N/ mm ²



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