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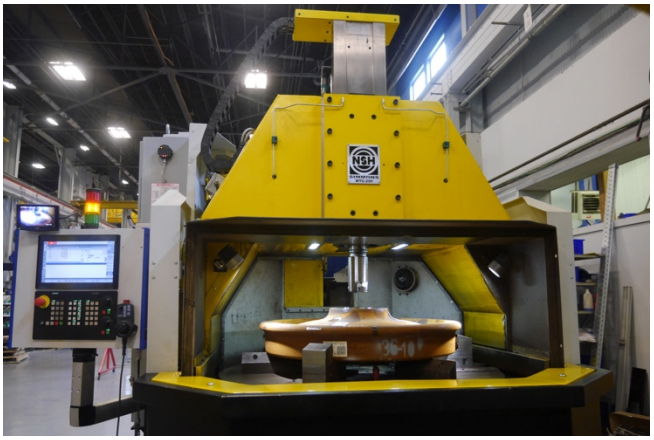
Simmons WTC-250 Wheel Turning Center Data Sheet

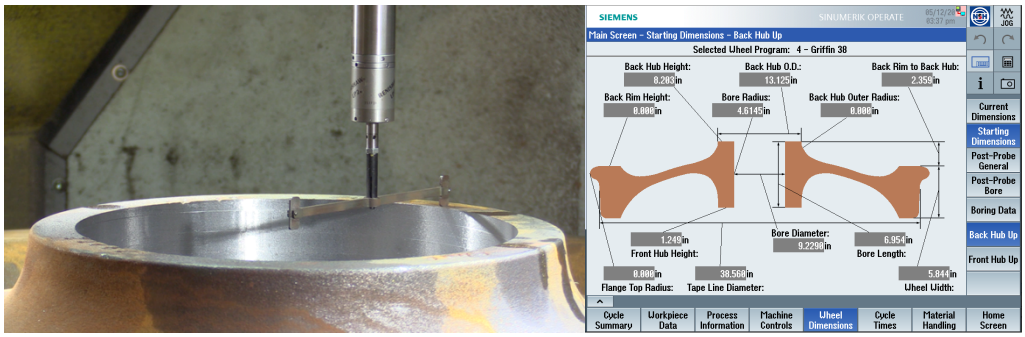


The **Simmons WTC-250 Wheel Turning Center** is a robust vertical turning center for boring and machining railways wheels in high production wheel shops. The machine structure consists of mineral polymer composite castings for maximum rigidity and vibration absorbing properties. The bridge straddles the wheel while cutting for optimal stiffness. Front-to-back motion is achieved by dual ball screws and dual absolute linear encoders. The ram is carried in box ways and fitted with a heavy-duty quick change tool interface. An automatic tool changer provides for redundancy and increased productivity. Single point tooling supplies considerable versatility. The integrated measurement system allows for pre-machining workpiece measuring and user-selectable degrees of post-machining part verification.

The WTC-250 is also available as an "mc" version that additionally provides live tooling for drill and tap and/or oil hole drilling, bringing those functionalities into one versatile machine.

The Siemens CNC control is provided with a Simmons HMI utilizing railway wheel shop terminology, eliminating the need for operators to learn typical machine tool programming language. The system easily interfaces with other systems to receive wheel and axle information; it additionally stores production and dimensional results as desired.

- High torque, shaft driven, geared table with constant surface speed capability
- A wide range of wheel diameters automatically chucked without manually adjusting jaw tops
- Full metal guarding and maximized internal slopes for optimal chip management and safety
- Flexible configuration: the chip conveyor can exit front, back, left, or right - the HMI and power/control cabinet can additionally be located on either side



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Machine Dimensions (including HMI, excluding chip conveyor)

Length	143 in.	3630 mm
Width	101 in.	2560 mm
Height	114 in.	2900 mm
Weight	40000 lbs.	18000 kg
X Axis Travel	55 in.	1400 mm
Z Axis Travel	16 in.	406 mm
Table Range, Fully Automatic (Diameter)	12 in.	305 mm
Maximum Cutting Diameter	53 in.	1350 mm
Maximum Cutting Height	12 in.	300 mm

General Specifications

Positioning Accuracy - X Axis	+/- 0.0005 in. / 8 in.	+/- 0.012 mm / 200 mm
Positioning Repeatability - X Axis	+/- 0.0002 in.	+/- 0.005 mm
Positioning Accuracy - Z Axis	+/- 0.0005 in. / 8 in.	+/- 0.012 mm / 200 mm
Positioning Repeatability - Z Axis	+/- 0.0002 in.	+/- 0.005 mm
Number of Tool Stations	8	
Maximum Spindle Speed	500 RPM	
Spindle Motor HP (Continuous Duty)	100 HP	
Rapid Traverse Speed X	27 in./sec	0.7 m/sec
Rapid Traverse Speed Z	8 in./sec	0.2 m/sec
Maximum Depth of Cut	0.25 in. (0.5 in. diameter)	6.3 mm (12.7 mm diam.)

Utility Requirements

Electrical Power	138 kW	
Air	90 psi @ 18.5 SCFM	6.2 bar @ 525 SLPM

Wheel Dimensions

Maximum Wheel Weight	5500 lbs.	2500 kg
Maximum Wheel Diameter (Standard Jaws)*	44 in.	1120 mm
Minimum Wheel Diameter (Standard Jaws)*	28 in.	710 mm

* Other sizes possible with custom jaws

Updated October 15, 2021

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