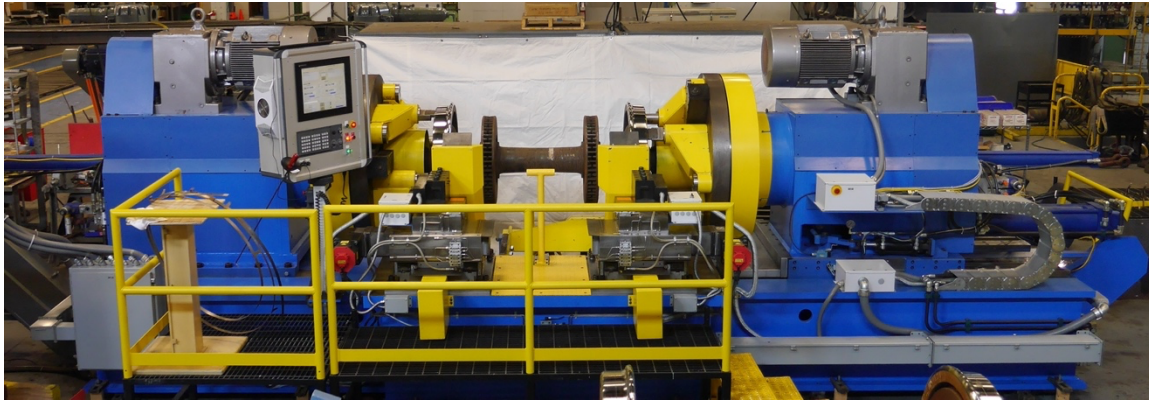
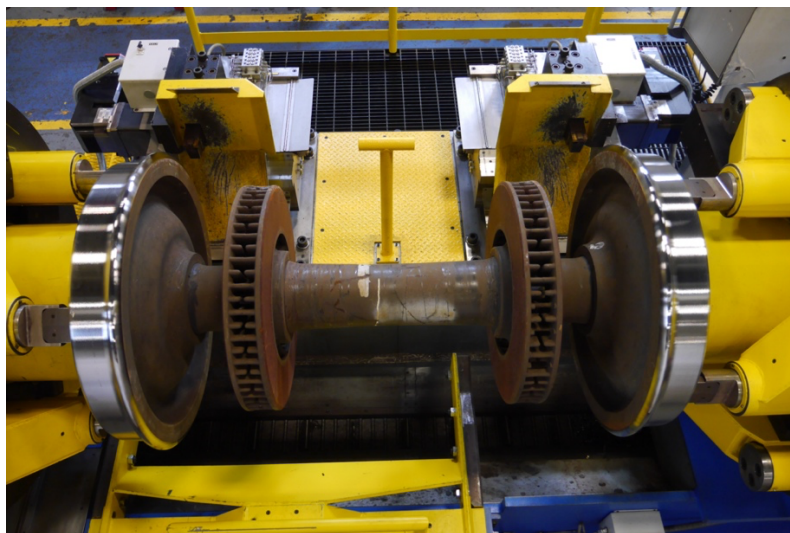


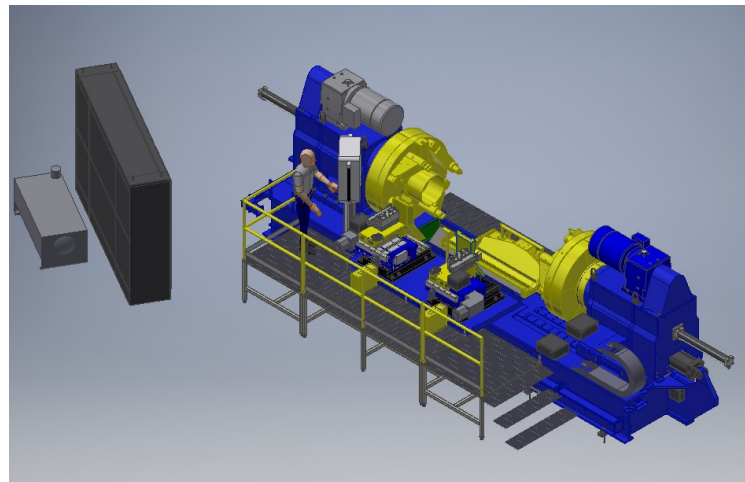
Simmons SWL-400 CNC Wheel Lathe Data Sheet



The **Simmons SWL-400 CNC Wheel Lathe** is a rugged and reliable wheel lathe for turning solid wheel or tired wheel treads of worn wheel sets of railway passenger and freight cars, diesel railcars, and locomotives. The lathe removes flat spots, shelling, and restores the wheel profile to pre-programmed specifications. Feeding-in, centering, chucking, wheel contour turning, and feeding-out are automatically controlled by the CNC controller. In addition, all operations can be initiated by pushbutton control from the operator's control pendant. An automatic probe system determines the wheel diameter, flange thickness, wheel width, and tread metal remaining with direct data input to the CNC control system.

Clamping and holding of the wheel set is accomplished hydraulically, while the profiling tools are controlled by ball screw drives and electric servo-motors. The lathe is a rear loading and unloading, in/out, dual drive design leaving the center bed open for options such as wheel set elevators and chip collection systems. The headstocks, tool carriages, and bed are heavily reinforced steel fabrications stress relieved and normalized after welding. The headstock and tailstock face plates are independently driven by belt drives and 75 HP gear motors to maintain the constant high torque required. The wheels are clamped between spring loaded driver dogs mounted to the face plates to ensure no slippage occurs during the machining process. The tailstock is guided by precision box ways.





Base Machine Dimensions

| | | |
|--------|------------|----------|
| Length | 378.6 in. | 9616 mm |
| Width | 96 in. | 2439 mm |
| Height | 105.4 in. | 2676 mm |
| Weight | 60000 lbs. | 27216 kg |

General Specifications

| | | |
|--------------------------------|-----------------------------------|--------------|
| Production | 24-28 wheel sets per 8-hour shift | |
| Wheel Diameter Parity | +/- 0.006 in. | +/- 0.15 mm |
| Deviation From Nominal Profile | +/- 0.008 in | +/- 0.2 mm |
| Radial Runout At Tapeline | +/- 0.008 in | +/- 0.2 mm |
| Maximum Depth of Cut | .5 in. | 13 mm |
| Feed Rate | 0 – .08 in/rev | 0 – 2 mm/rev |
| Spindle Speed | 0 – 25 RPM variable | |

Utility Requirements

| | | |
|---------------------------------------|-----------------------|------------|
| Electrical Power | 160 kW | |
| Max. Compressed Air (Intermittent) | 80 – 100 psi @ 5 scfm | |
| Hydraulic Reservoir | 100 US gallons | 378 liters |

Wheel Set Dimensions

| | | |
|------------------------|-----------|-----------|
| Maximum Wheel Diameter | 45 in. | 1143 mm |
| Minimum Wheel Diameter | 26 in. | 660 mm |
| Maximum Axle Length | 96 in. | 2438.4 mm |
| Minimum Axle Length | 65 in. | 1651 mm |
| Maximum Weight | 7275 lbs. | 3300 kg |

Updated November 15, 2021