

# UDA 125 N

## ROLL-IN ROLL-OUT / RADIAL OR AXIAL CLAMPING



### BASIC SPECIFICATIONS

Range of wheel tread diameters (radial / axial wheelset clamping):	660 to 1,250 mm / 770 - 1,200 mm
Maximum weight of wheelset:	4.5 × 10 kN

### PURPOSE

The **UDA 125 N** Portal Wheel Lathe is a CNC double-saddle special-purpose lathe designed for reprofiling of wheels and brake discs used in rail vehicles. The machine tool ensures productive machining of solid (monoblock) wheels and wheels with tyres of both used and new wheelsets.

The machine tool is provided with either radial or axial wheelset clamping system.  
The wheelsets can be equipped with outboard axle boxes, gears installed between the wheels and brake discs.

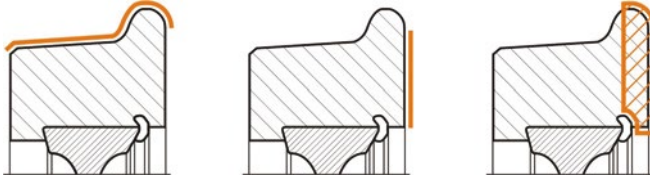
The wheelset is rolled onto the built-in wheelset elevator along rails, automatically centred and clamped between the centres and the driving dogs installed on spindle face plates.

The machine tool main structure is made in the form of a portal enabling wheelsets unloading to its rear side in roll-through flow. It is also possible to unload the wheelsets to the machine front side.

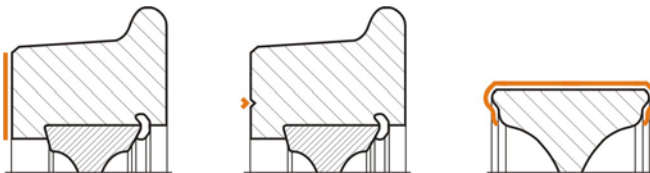
The main drive is powered by two AC motors of infinitely variable rotation rates and digitally controlled in master / slave system.

The UDA 125 N Portal Wheel Lathe is capable of performing the following operations:

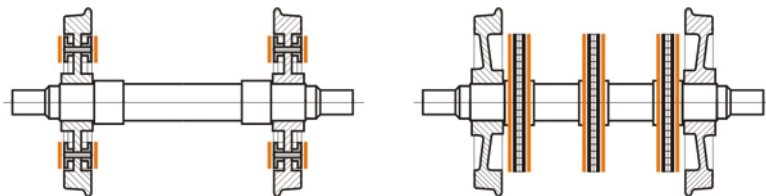
- Turning of wheel profile according to technological program
- Wheel rim inner facing
- Turning of tyre in order to remove retaining ring



- Wheel rim outer facing (available for radial clamping system only)
- Turning of limit machining groove (available for radial clamping system only)
- Turning of wheel centre (available for radial clamping system only)



- Wheel-mounted brake disc facing (available for radial clamping system only)
- Axle-mounted brake disc facing



## MAIN FEATURES

- The machine main structure made as a single-piece extremely rigid, heavily ribbed box-type high-grade iron casting in the form of portal guaranteeing the best dumping of vibrations produced during cutting process and excellent chip evacuation;
- Main drive powered by two AC motors of infinitely variable rotation rates and digitally controlled in master / slave system;
- Automatic and reliable profile wear measurement using touch-type measuring heads;
- Productive machining of narrowed (economical) wheel profiles;
- Operation in roll-through or roll-in roll-out system;
- Versatile equipment and wide programming capabilities facilitate easy machining of unusual wheel profiles;
- Available double-track gauge version.

## STANDARD EXECUTION

- Portal, two headstocks with spindles and face plates each with 60 / 90 deg. centre and three radial / axial driving dogs
- Saddles and compound cutter for wheel profile machining with cassettes and cutting plates
- Touch-type wheel wear measuring heads
- Wheelset elevator
- Two (2) AC motors of infinitely variable rotation rates with digital controllers for main drive
- Four (4) AC motors of infinitely variable rotation rates with digital controllers for feed drives
- Latest SIEMENS SINUMERIK 840D sl computer numerical control system with PLC
- Control panel
- Remote diagnostics system, fault diagnostics with text messages in user's language and Help function
- Program for machining of one type of basic or economical wheel profile
- Profile gauge and master gauge for one type of basic wheel profile
- HMI screen pages – operator guidance during machining process
- Electrical equipment and control cabinet
- Hydraulic power system
- Lubrication system
- Stack light and buzzer indicating machine tool working condition
- Chip covers, chip chute and chip conveyor
- Safety guards with sliding front doors
- Lighting of working zone
- Spanners for machine tool operation and installation
- Equipment for setting and fixing the machine tool on foundation
- Calibration wheelset for machine tool measuring system
- Operation and Maintenance Manuals
- CE mark and EC declaration of conformity

## ADDITIONAL EQUIPMENT

- Special centres
- Device holding outboard axle boxes
- Device and cutters for wheel rim outer facing
- Device and cutters for axle-mounted and wheel-mounted brake disc facing
- Device for wheel centre machining
- Touch screen for main control panel
- Additional programs for machining of basic and economical profiles
- Wheelset database
- Equipment for tool retraction in case of power failure
- Mechanical chip crusher and chip bin
- Dust and fume extraction system
- CCTV system for monitoring of machining process
- Wheelset turn table
- Other upon request


**TECHNICAL SPECIFICATIONS**

MODEL Code:		UDA 125 N E-3	
<b>Wheelset geometry</b>			
Track gauge		1,435 <sup>(1)</sup>	
Wheelset clamping system <sup>(2)</sup>		Radial	Axial
Min. wheel tread diameter (after machining)	mm	660	770
Max. wheel tread diameter (before machining)	mm	1,250	1,200
Max. width of wheel rim	mm	145	
Min. / Max. length of wheelset axle	mm	1,645 / 2,370 <sup>(3), (4)</sup>	
Max. weight of wheelset	× 10 kN	4.5	
<b>Machine tool parameters</b>			
Max. chip cross-section (for each saddle)	mm <sup>2</sup>	12 <sup>(5)</sup>	
Max. working feed rate	mm/min	1,000	
Max. travel rate of saddles	mm/min	3,000	
Max. rate of infinitely variable rotation of main drive:			
• Profile machining	rpm	45	
• Brake disc facing	rpm	70	
Number of main drive motors	pcs	2	
Power S1/S6-40% of each main drive motor	kW	40 / 50	
Total power installed (standard execution)	kW	140	
<b>Machine tool overall dimensions and weight</b>			
Machine tool overall dimensions:			
• Length	mm	3,825	
• Width	mm	8,400 <sup>(3)</sup>	
• Height	mm	2,840 <sup>(3)</sup>	
Workshop floor surface demand	mm	15,500 × 6,500	
Machine tool weight	× 10 kN	36 <sup>(6)</sup>	
<b>Machining accuracies</b>			
Difference in diameters between two wheels of the same wheelset	mm	≤ 0,15 <sup>(6)</sup>	
Radial run-out of wheel tread	mm	≤ 0,10 <sup>(6)</sup>	
Axial run-out of wheel inner faces	mm	≤ 0,10 <sup>(6)</sup>	
Accuracy of profile machining	mm	≤ 0,15 <sup>(6)</sup>	
Roughness of wheel profile surface after machining, Ra	µm	5 to 20	
Roughness of brake disc surface after machining, Ra	µm	2.5 to 3.2	
<small>           (1) Another track gauge - to be agreed upon. Available double-track gauge version.            (2) Wheelset clamping system: To be selected by Purchaser.            (3) For track gauge of 1,435 mm and standard execution.            (4) Other length of wheelset axles to be agreed upon.            (5) Wheel material - Steel: Hardness ≤ 270 HB, Tensile strength ≤ 950 N/mm<sup>2</sup>.            (6) Measured with machine tool measuring system or clearance between profile gauge and wheel profile surface.         </small>			

Some of the above data can be altered to meet the Customer requirements.

Above data are subject to change due to product development, without prior notice.