

UBF 112 N

UBF 112 N – ROLL-IN ROLL-OUT / CHUCK-TYPE



i BASIC SPECIFICATIONS

Range of wheel tread diameters:	700 to 1,120 mm / 850 to 1,250 mm
Maximum weight of wheelset:	3,000 kg
Available multi track gauge version	

→ PURPOSE

The **UBF 112 N** Abovefloor Wheel Lathe is a CNC double-saddle special-purpose lathe designed for reprofiling of wheels used in rail vehicles. The machine tool ensures productive machining of solid (monoblock) wheels and wheels with tyres of both used and new wheelsets.

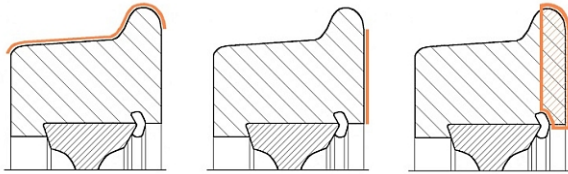
The wheelsets can be provided with outboard axle boxes, gears installed between the wheels, or brake discs.

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

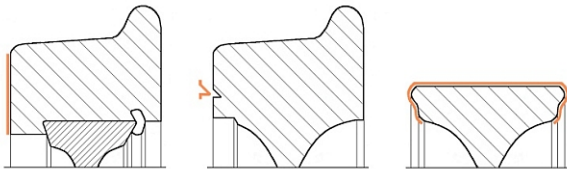
The main drive is powered by two AC motors of continuously variable rotation rates and digitally controlled in master / slave system

The UBF 112 N Abovefloor Wheel Lathe is capable of performing the following operations:-

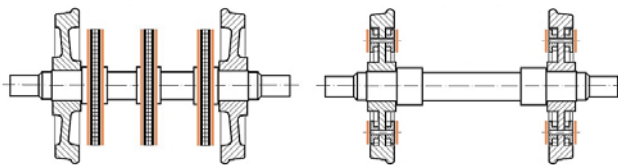
- Turning of wheel profile according to technological program.
- Wheel rim inner facing.
- Turning of tyre in order to remove retaining ring.



- Wheel rim outer facing.
- Turning of limit machining groove.
- Turning of wheel centre.



- Axle-mounted brake disc facing.
- Wheel-mounted brake disc facing.



MAIN FEATURES

- Major body elements made as extremely rigid, heavily ribbed box-type high-grade iron castings guaranteeing the best dumping of vibrations produced during cutting process.
- Main drive powered by two AC motors of continuously variable rotation rates and digitally controlled in master / slave system.
- Automatic and reliable profile wear measurement using touch-type measuring heads (laser measurement optional).
- Productive machining of narrowed (economical) wheel profiles.
- Operation in roll-in roll-out system.
- Versatile equipment and wide programming capabilities provide easy machining of unusual wheel profiles.
- Available multi track gauge version.

STANDARD EXECUTION

- Base, two headstocks with spindles and face plates each with 60 / 90 deg. centre and three radial driving dogs.
- Saddles and compound cutter for wheel profile machining with cassettes and cutting plates.
- Touch-type wheel wear measuring heads.
- Wheelset elevator and centring device.
- Two (2) AC motors of continuously variable rotation rates with digital controllers for main drive.
- Four (4) AC motors of continuously variable rotation rates with digital controllers for feed drives.
- Latest SIEMENS SINUMERIK 840D sl computer numerical control system with PLC.
- Control panel.
- 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.
- Chip covers, chip chute and chip conveyor.
- 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.
- Stack light and buzzer indicating machine tool working condition.
- 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.
- Laser measuring heads for scanning of wheel profile.
- Equipment for tool retraction in case of power failure.
- Equipment for monitoring of profile cutters wear condition.
- Equipment for calibration of cutting tools.
- Mechanical chip crusher and chip bin.
- Dust and fume extraction system.
- Full enclosure of machine tool.
- CCTV system for monitoring of machining process.
- Wheelset turn table.
- Other upon request.


TECHNICAL SPECIFICATIONS

MODEL		UBF 112 N	
Wheelset geometry			
Track gauge ⁽¹⁾		To be agreed upon	
Version ⁽²⁾		A	B
Max. wheel tread diameter before machining	mm	1,120	1,250
Min. wheel tread diameter after machining	mm	700	850
Max. width of wheel rim before / after machining	mm	145 / 140	
Min. / max length of wheelset axle ^{(3), (4)}	mm	1,910 / 2,360	
Max. weight of wheelset	× 10 kN	3	
Machine tool parameters			
Max. chip cross-section ⁽⁵⁾	mm ²	2 × 10	
Max. feed rate	mm/rev.	4,000	
Max. rate of continuously variable rotation of main drive:			
Profile machining	rpm	45	
Brake disc facing	rpm	72	
Power of main drive motors (S1)	kW	2 × 28	
Total power installed (standard execution)	kW	80	
Machine tool overall dimensions and weight			
Machine tool overall dimensions:			
Length ⁽³⁾	mm	7,220	
Width ⁽³⁾	mm	3,000	
Height	mm	2,620	
Workshop floor surface demand	mm	15,500 × 6,500	
Machine tool weight ⁽³⁾	× 10 kN	36	
Machining accuracies			
Difference in diameters between two wheels of the same wheelset	mm	≤0.15	
Radial run-out of wheel tread	mm	≤0.10	
Axial run-out of wheel inner faces	mm	≤0.10	
Accuracy of profile machining	mm	≤0.15	
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) Multi track gauge version available. (2) 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 of hardness ≤270 HB and tensile strength Rm ≤950 N/mm².</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.