

UGE 180 N

2 UGE 180 N



The UGE 180 N Underfloor Wheel Lathe is CNC double-saddle special-purpose lathe designed to machine wheelsets, used in light rail transit system vehicles (trams, metro, suburban trains), with or without dismantling them from the vehicle. The machine tool is also available in the tandem configuration – 2 UGE 180 N – capable of machining two wheelsets of the same bogie at the same time.

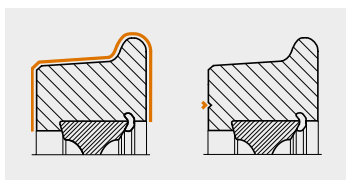
Roll-Through / Underfloor Wheel Lathes



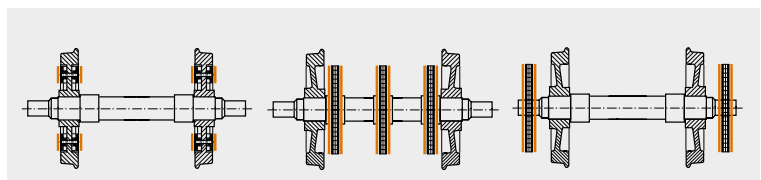
- Installed in a pit-type foundation (below the traffic rails) and operating in roll-through system
- Reconditioning of wheel profiles and brake discs mounted on vehicles significantly shortens the shutdown time of the rolling stock and thus increases efficiency of its exploitation
- Unique system of wheelset lifting and driving realized by four independent drives ensures flexible pressure of rollers and constant contact between driving rollers and wheels
- Automatic and reliable profile wear measurement using touch-type or laser-based system
- Versatile equipment and wide programming options guarantee precise machining of even unusual wheel profiles

Available Machining Operations

Wheels



Brake discs



TECHNICAL SPECIFICATIONS		UGE 180 N	2 UGE 180 N Tandem
Wheelset geometry			
Version		D-2	D-2T
Track gauge	mm	1435 ⁽¹⁾	
Max. wheel tread diameter (before machining)			
• Wheelset centered on axle boxes	mm	1270	
• Wheelset centered in rotary centres	mm	900	
Min. wheel tread diameter (after machining)			
• Wheelset centered on axle boxes	mm	350 ⁽²⁾	
• Wheelset centered in rotary centres	mm	400	
Max. width of wheel rim	mm	145	
Max. axle load	×10 kN	18 / 30	
Machine tool parameters			
Min. wheel base	mm	-	1600
Max. chip cross-section (for each saddle)	mm ²	6 ⁽³⁾	
Continuously variable cutting speed of main drive for wheel profile machining	m / min	20 to 90	
Max. peripheral speed of drive rollers:			
• Profile machining	m / min	165	
• Brake discs facing	m / min	265	
Number of main drive motors	pcs	4	2 × 4
Power of each main drive motor	kW	12	
Total power installed (standard execution)	kW	97	194
Machine tool overall dimensions and weight			
Machine tool overall dimensions:			
• Length	mm	2300 ⁽⁴⁾	3200 ^{(4) (5)}
• Width	mm	4530 ⁽⁴⁾	
• Height	mm	2005	2005
Approximate weight of machine tool	×10 kN	18 ⁽⁴⁾	36 ^{(4) (5)}
Machine tool accuracies			
Difference in diameters between two wheels of the same wheelset	mm	≤ 0.10 ⁽⁶⁾	
Difference in diameters of four wheels in the same wheelset	mm	≤ 0.30 ⁽⁶⁾	
Radial run-out of wheel tread	mm	≤ 0.10 ⁽⁶⁾	
Axial run-out of wheel inner faces	mm	≤ 0.10 ⁽⁶⁾	
Accuracy of profile machining	mm	≤ 0.15 ^{(6) (7)}	
Roughness of wheel profile surface after machining, Ra	µm	≤ 12	
Roughness of brake disc surface after machining, Ra	µm	≤ 4.5	
⁽¹⁾ – Another track gauge to be agreed upon. ⁽²⁾ – Additional equipment as rail brakes, sanders, etc. not considered. ⁽³⁾ – At axle load ≥ 80 kN and wheelset holding down; Wheel material – Steel: Hardness ≤ 270 HB, Tensile strength ≤ 950 N/mm ² . ⁽⁴⁾ – For track gauge of 1435 mm and standard execution. ⁽⁵⁾ – For wheel base 1600 mm. ⁽⁶⁾ – The tolerances concern the following conditions: machining process of steel solid wheels in two cutting passes and with intermediate measurement of wheel tread diameter; The cutting tools in good condition; the wheelsets equipped with outboard axle boxes of bearing slackness within tolerances by manufacturer. ⁽⁷⁾ – Measured with machine tool measuring system or clearance between profile gauge and wheel profile surface.			

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.