

Technical data

Deviation from radial tread roundness	≤ 0,1 mm ^{3) 5)}
Max. Diameter difference of four wheels on one bogie	≤ 0,3 mm
Max. Diameter difference of two wheels on one axle	≤ 0,1 mm ²⁾
Deviation from nominal profile geometry	≤ 0,2 mm ⁵⁾
Deviation from axial flange roundness	≤ 0,2 mm ^{4) 5)}
Surface finish profile machining	Rz < 60 μm
Surface finish profile face	Rz < 100 μm
Range of tread diameter	450-1400 mm ⁶⁾
²⁾ requiring identical stock material on both wheels, sharp cutting tools, precise and stiff clamping of the axle bearing box. Depth of cut ≤ 4 mm ³⁾ requires measuring cut, rough cut or round wheels as well as perfect cutting tools, regular cutting conditions and correct centring of wheels ⁴⁾ requires axial flange roundness ≤ 0,5 mm ⁵⁾ when turning resilient wheel sets an escalation of the given value up to 0,3 mm might happen ⁶⁾ depending on wheel set design	
Profile width	85-145 mm
Required space below wheelset to be machined	app. 1.630 mm
Main drive capacity	2x 22 kW
Feed force	12,5 kN
Max section of cut	app. 5 mm ²
Max cutting speed	305 m/min
Tool post feed in axial and radial direction	0 – 2,5 mm/min ⁻¹
Noise emission of the machine	80 dB(A)
Total dimension including energy pack (Approx. length X width X height)	2,55 x 1,67 x 8,7m
Required length of track	≥ vehicle length
Machine performance / shift (8,0 h shift)	app. 8-10 wheel sets
Required electrical capacity	60 KVA
Weight - mechanical part	13 t
Weight – electrical part	3,7 t

Advantages at a glance

- Certain reduction in wheelset reprofiling cost
- Considerable improvement of rolling stock maintenance cost structure
- Optimised utilisation of existing workshop area
- MOBITURN® approaches the vehicle (wheelset machining takes place at the location of vehicle)
- Reprofiling of all known wheel sets in situ as well as detached from vehicle
- Low machine dimensions, low machine weight
- Low height clearance (passing lowest wheel set)
- Simple machine operation
- Machining of single wheel sets possible (axle bearing box must be fit to axle)
- High efficiency



The first and only mobile wheelset reprofiling system

GP 077 EN HM-PC 7.04 - Subject to technical changes



...technology in motion

Hegenscheidt MFD



...technology in motion

Hegenscheidt MFD

MOBITURN® reliable technology in a new concept

Hegenscheidt-MFD a member of the NSH Machine Tool Group introduces approved technique with a new revolutionary concept for the mobile wheelset

maintenance as the answer to the escalating costs applicable for providing qualified maintenance.

Task

In the compulsory process of maintaining rail vehicles, the reconditioning of wheel profiles represents a high cost factor. So vehicle maintenance is subject to a permanent process of minimising cost, while still

ensuring the required maintenance quality. Improving Fleet operators competitiveness, therefore, requires new concepts for maintenance processes and technology.



MOBITURN® the mobile wheel set reprofiling facility

Solution

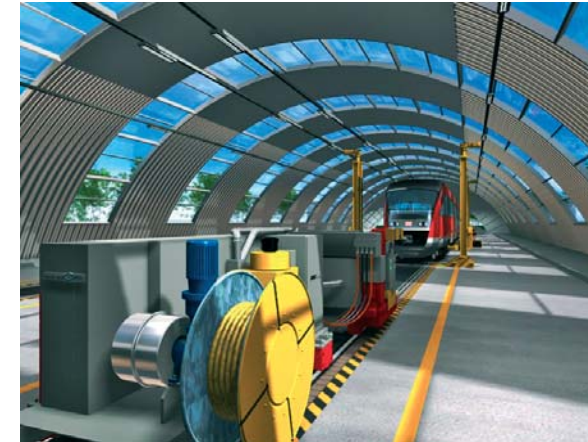
On the basis of proven underfloor wheel lathe technology, Hegenscheidt-MFD has developed the innovative concept of a mobile wheel lathe, comprehensively tested it and brought it to series production readiness.

The result contributes towards improved, demand-oriented vehicle maintenance with short rolling-stock downtimes and high rolling-stock availability, for

considerably higher economic efficiency in maintenance. In comparison to the development of the first Underfloor wheel lathe in 1959, the development of MOBITURN® represents a quantum leap in wheelset maintenance technology.

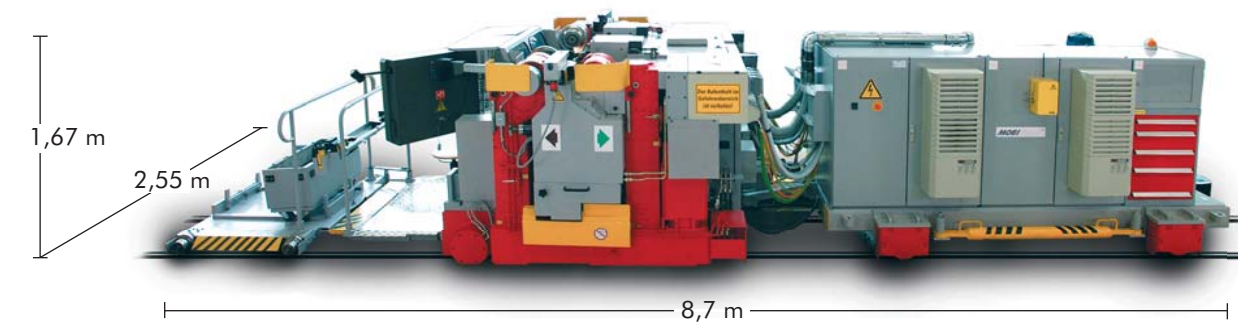


MOBITURN® comes to meet the rolling stock



MOBITURN® is world wide the first and only wheelset reconditioning system that comes to meet the rolling stock.

MOBITURN® has been especially designed for machining profiles of wheel set wheels and brake disc faces in situ or within a bogie detached from vehicle or on single wheel sets.



MOBITURN® flexible utilisation

MOBITURN® might be moved via rail or road transport to various locations of need. All that's necessary for loading and unloading the machine from its means of transport is a crane with a 14-tonne lifting capacity.

Once positioned within the track system of the maintenance facility, MOBITURN® can simply be moved, as needed, from a stand-by position to its required location by any kind of shunting vehicle.

MOBITURN® is equipped with its own shunting drive and thus independently approaches the wheel sets to be machined on a vehicle or vehicle unit.

MOBITURN® is highly flexible and considerably reduces setting times for machining individual wheelsets.

An important feature of the MOBITURN concept is the integrated power unit and control board, with its own cable reel and standard connection for plugging into the shop electrical system.

While machining wheelsets the vehicle is lifted up and is being held in the lifting jack anchor points.

Here through MOBITURN® itself remains free from any load generated by the vehicle. The proven friction roller principle of underfloor wheel lathes is used to drive the wheelset. The required friction force between wheel and drive roller is generated by a closed force train between wheelset and machine.

A coupling device connects the machine with the axle bearing box in such a way that optimum friction force is generated without any forces being transferred into the vehicle once the drive rollers have been applied to the wheel.



MOBITURN® in standby position

MOBITURN® enhances usability of rolling stock



MOBITURN® in operation

MOBITURN® has been designed for the in situ machining of all types of wheelset configurations for rail vehicles such as standard locomotives, passenger coaches, multiple units or set train units - up to a four-coach unit of 80 metres or more in length.

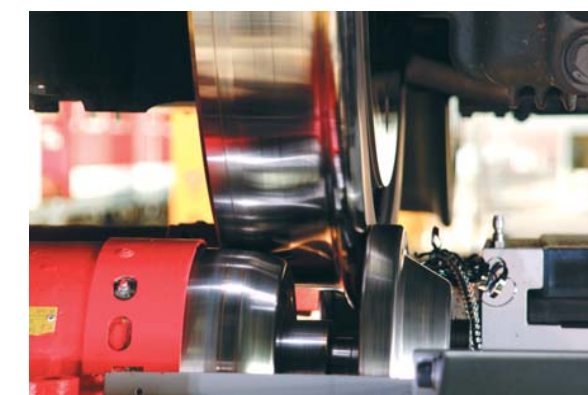
MOBITURN® is able to handle wheel sets in a bogie detached from a vehicle as well as wheelsets detached from a bogie.

MOBITURN® is also able to machine brake discs located between the two wheels of a wheelset either axle or wheel mounted in various configuration. With its integrated wheel tread diameter measuring and wheel profile wear measuring device in combi-

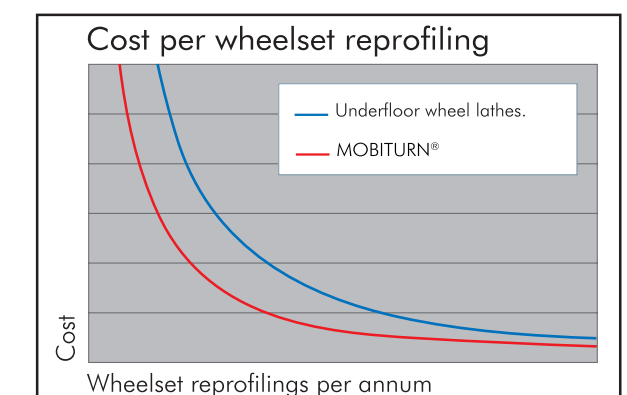
nation with a modern CNC control MOBITURN® can be connected to a site wheelset data management system.

In addition, via remote diagnostic devices for recognising any functional failures, it is possible to support the machine user under real-time conditions, thus ensuring high machine availability and the utmost flexibility.

MOBITURN® leads to retrenchments in wheelset reprofiling in comparison to conventional Underfloor wheel lathes.



Wheelset reprofiling



MOBITURN® reduces reprofiling costs

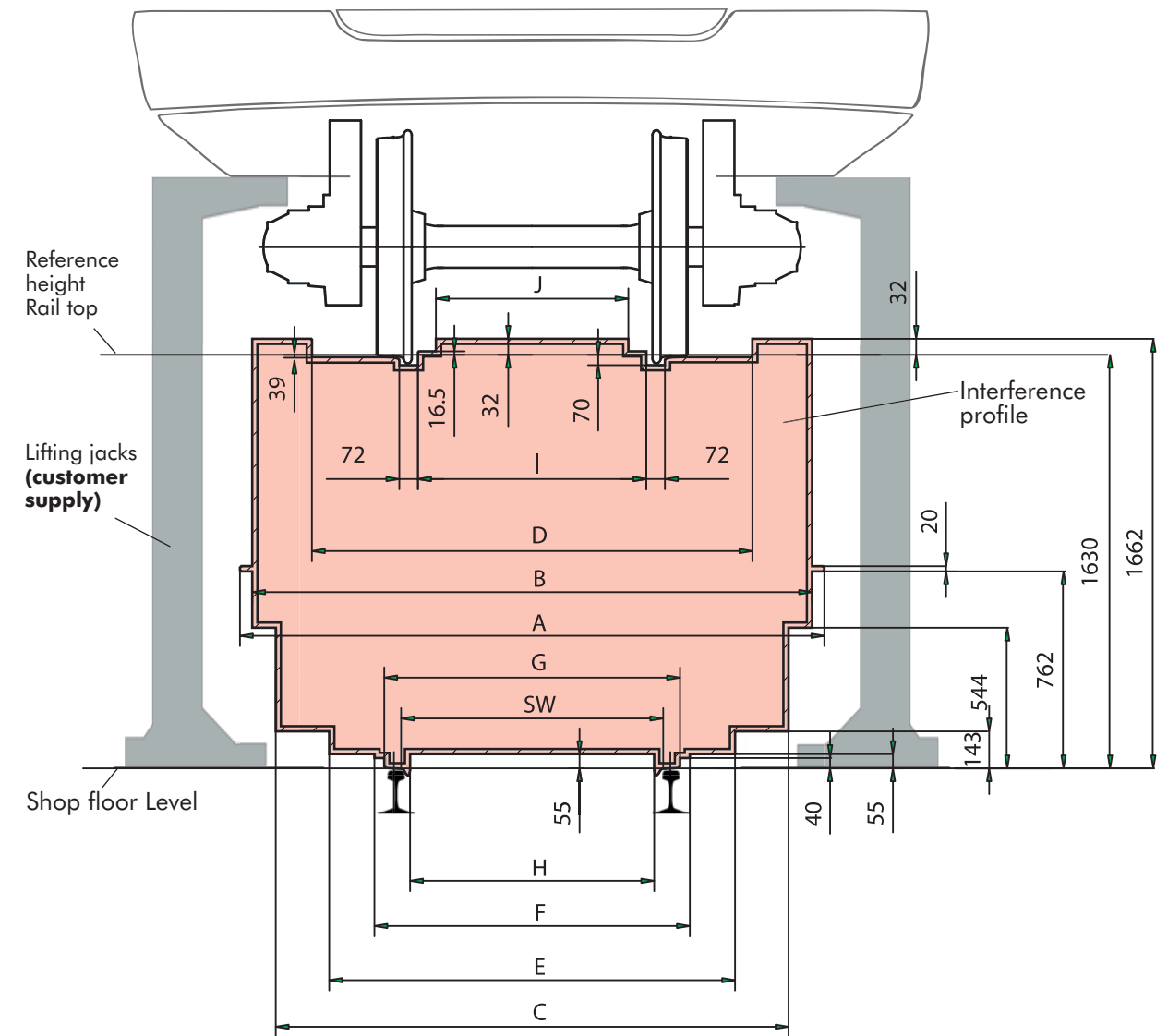
When planning new or additional capacity for wheel-set machining following aspects should be considered:

- No additional power supply and / or vehicle progressing system is needed when applying MOBITURN®
- No additional or new civil and track works are required (foundation, pit, building) when applying MOBITURN®
- Only half the required length of a building applicable for an Underfloor wheel lathe is needed when applying MOBITURN®
- Best utilisation of investments



MOBITURN® in use

MOBITURN® technical data



SW	SW= track gauge						
SW	1000	1067	1100	1435	1520	1600	1676
A	2262	2329	2362	2697	2782	2862	2938
B	2167	2234	2267	2602	2687	2767	2843
C	1985	2052	2085	2420	2505	2585	2661
D	1705	1772	1805	2140	2225	2305	2381
E	1571	1638	1671	2006	2091	2171	2247
F	1221	1288	1321	1656	1741	1821	1897
G	1145	1212	1245	1580	1665	1745	1821
H	945	1012	1045	1380	1465	1545	1621
I	884	951	984	1319	1404	1484	1560
J	745	812	845	1180	1265	1345	1421