



# Mobile Wheelset Machining System Typ MOBITURN®2



**The first and only mobile wheelset machining system in the world:  
MOBITURN®2 - tried and tested technology based on a new concept**

## Field of application and use

Due to the essential maintenance of rail vehicles, wheelset profile repairs represent a high cost factor. Vehicle maintenance is subject to the permanent process of cost minimisation while ensuring the necessary maintenance quality. In order to improve competitiveness, new maintenance processes and corresponding technology concepts are needed and developed.

### MOBITURN®2 comes to the rail vehicle

MOBITURN®2 is the world's first and only wheelset machining system which comes to the rail vehicle.

MOBITURN®2 has been specifically designed for the machining of wheels, wheelsets and brake discs of rail vehicles in both the installed and dismantled state.

### MOBITURN® - for flexible use

MOBITURN®2 can be transported by rail or road to various deployment locations.

If required, it is moved from a standby position with a shifting vehicle on the track network to the respective assigned location.

## Benefits:

- Clear reduction of reprofiling costs
- Sustainable improvement in the maintenance cost structure
- Optimised use of existing (workshop) area
- Machine can be moved to the vehicle (wheelset machining where the trains are located)
- Reprofiling of all current wheelsets in installed and dismantled condition
- Small dimensions, low dead weight
- Low drive-through height (under the lowest wheelset)
- Easy to operate
- Single wheelset machining with axle bearing possible (dismantled single wheelsets)
- High throughput



### MOBITURN<sup>®</sup> 2 Technical Data

|   |                              |
|---|------------------------------|
| Radial runout on the wheelset   | ≤ 0.1 mm                     |
| Difference in diameter of the wheels on one bogie   | ≤ 0.3 mm                     |
| Max. measuring circle diameter difference of both wheels of a wheelset  | ≤ 0.1 mm                     |
| Shape deviation of the profile  | ≤ 0.2 mm                     |
| Axial runout on the wheelset  | ≤ 0.2 mm                     |
| Surface quality of the profile  | Rz < 63 µm                   |
| Surface quality of the profile side surface   | Rz < 100 µm                  |
| Running surface diameter  | 450-1450 mm                  |
| Requires the same measurements for both wheel sides, sharp tools as well as careful and rigid clamping of the wheel bearing housings. Cutting depth not more than 4 mm (two cuts).<br>Requires a measuring cut, preliminary cut or concentric wheel, as well as cutting tools in perfect condition, normal cutting conditions and correct radial centring of the wheelsets.<br>Requires axial run-out of the inner wheel face to be better than 0.5 mm.<br>A value increase of up to 0.3 mm has to be expected with rubber-sprung profiles.<br>depending on the wheelset design |                              |
| Profile width   | 85-145 mm                    |
| required working area under the wheelsets to be machined  | approx. 1630 mm              |
| Driving power   | 2x28 kW                      |
| Max. feed force X axes / Z axes   | 26kN/42kN                    |
| Max. chip section per tool post   | approx. 6 mm <sup>2</sup>    |
| max. cutting speed  | 305 m/min                    |
| Tool post feed in longitudinal and transverse direction   | 0 - 5 mm/min                 |
| noise emission of the machine   | 80 dB(A)                     |
| Machine dimensions incl. power supply   | approx. 2.55 x 1.65 x 8.45 m |
| required rail length  | approx. vehicle length       |
| (duration approx. 8 hours)  | approx. 8 - 10 wheelsets     |
| Connected load  | 50 KVA                       |
| weight - mechanical part  | 17 t                         |

MOBITURN<sup>®</sup>2 is equipped with its own traction drive to position itself under the wheelsets of the elevated vehicle.

An important part of the machine is an integrated power station and control unit, which is connected to the power supply system of the workshop through a plug connection. During the reprofiling of the wheelset, the vehicle is lifted and held in the contact points of the lifting blocks.

As a result, the MOBITURN<sup>®</sup>2 itself remains free of any weight forces of the vehicles.

The tried and tested friction roller principle of the underfloor wheelset lathes is used to drive the wheelset. The required friction force between the drive roller and the wheelset is produced by a closed pulling force between the wheelset and the machine.

### MOBITURN<sup>®</sup>2 for high levels of vehicle availability

Wheelset machining can be carried out simultaneously with other maintenance work.

### MOBITURN<sup>®</sup>2 reduces reprofiling costs

When planning new or additional wheelset machining capacities, the following should be taken into consideration:

- No additional power supply and/or vehicle moving device
- No structural investments necessary (pit, foundation, hall etc.)
- Only half the length of a hall compared to a stationary wheelset machine, such as an underfloor wheelset lathe
- Optimum utilisation of the investment