REAL TIME WHEELS GEOMETRY MEASUREMENT SYSTEM
3DWHEEL

The system is designed for contactless automatic measurement of geometrical parameters of railway wheels.

- Real-time measurement of moving train wheels
- Easy installing at any type of rail infrastructure
- Incorporating laser scanning technology with different laser wavelength
- Eliminates manual measurement error
- 24/7 hours operation
- Modular, user-configurable structure
- Double body with conditioning system for outdoor installation

OPERATION

The system uses a combination of 10 special 2D Laser Scanners RF627 Series mounted wayside of the track area (5 pcs for each track side) and calibrated into a common coordinate system.

Measurement cycle starts when an inductive sensor detects a wheel.
Wheel profile is taken at many sections while it is passing through the system of synchronized 2D Laser Scanners.
All measurement readings for all the wheels are sent via Ethernet to the Control Computer for profiles reconstruction and dimensions calculations.
Finally all the data are collected in the Host Depot Computer in Wheel Sets Wear Database.

BASIC TECHNICAL DATA

Train speed – up to 45 km/hour.

<table>
<thead>
<tr>
<th>Main measuring parameters</th>
<th>Accuracy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flange height</td>
<td>± 0,5 mm</td>
</tr>
<tr>
<td>Flange thickness</td>
<td>± 0,5 mm</td>
</tr>
<tr>
<td>Flange slope</td>
<td>± 0,5 mm</td>
</tr>
<tr>
<td>Wheel Rim thickness</td>
<td>± 1,0 mm</td>
</tr>
<tr>
<td>Wheel Diameter</td>
<td>± 1,0 mm</td>
</tr>
<tr>
<td>Back-to-back distance</td>
<td>± 1,0 mm</td>
</tr>
</tbody>
</table>

SCOPE OF DELIVERY

- Frames with laser scanners,
- Wheel sensors of wheel presence,
- Control, communication and power module,
- Conditioning system,
- Software,
- Calibration frame,
- Vehicle identification system (RFID).
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