Rohmann GmbH

Eddy Current Instruments and Systems

Wheel-Inspection System

EloWheel

- *Crack detection on tube wall and bead seat*
- *Crack detection of hidden flaws with low frequency probe*
- *Bolt hole scanning with SR1 or MR3 handheld rotors*
- *Network connectivity*

Technical Data

Rohmann GmbH

Generel

The new **EloWheel 1000** allows the inspection of wheels up to 1000mm diameter and a maximum weight of 250kg. The welded steel frame provides excellent stability thus allowing to inspect even the heaviest wheels without limitations. The user friendly GUI of the system in combination with the EloWheel visualization and evaluation software offer highest flexibility for sample inspection and repeated batch inspection. The EloWheel Software acquires, visualizes and stores eddy current signals and allows the operator to easily view and analyze the captured data. A search routine facilitates look up and comparison of historical and actual data.
Smaller wheels can be inspected with speeds up to 120 RPM. Larger wheels may be inspected at slower speeds, nevertheless cycle times below 1.5 minutes for large wheels are possible. The **EloWheel 1000** will fulfill the toughest Customer requirements in throughput and sensitivity.
Precise linear slides in combination with high end motor control electronics provide a low vibration probe movement. High frequency surface crack detection and low frequency back wall detection are combined in a dual coil probe. An optional semi-automatic bolt hole inspection can be done by the operator for each bolt hole. The scan data will automatically be integrated into a combined protocol. Operator comments and notes can be inserted into the protocol providing an extensive record for the inspected wheel.

Scope of the inspection

Surface inspection

- Sliding differential probe featuring approximately 10mm (0.39") active area (optional with ceramic wear protection)
- Area of inspection complete tube wall down to the end of the bead seat radius
- Reference defect depth 0.76mm (0.003") x length 1.52mm (0.059") x width 0.1mm (0.004"); EDM, tangentially and axially oriented.

Inspection for hidden cracks

- Sliding absolute probe (combined with the surface probe)
- Area of inspection up to the beginning of the bead seat radius
- Reference defect approx. 30% damage to the wall thickness from the inside - Depending on the structure

Option bolt hole inspection

- Handheld rotor with encoder for the manual bolt hole inspection
- Graphic online display of each bolt hole as a separate C-scan
- Reference defect 0.5mm (0.019") x 2mm (0.078") EDM

Wheel dimensions

Two basic systems featuring turntables with diameters of 600mm (23.62") and 1000mm (39") are offered.
Overall height: 45mm - approx. 500mm (1.77" – 19.68")
Diameter: 150mm - 600mm/ 250mm - 1000mm (9.8" - 39")
Weight: < 250 kg
Bore holes: ø 5mm - 20mm (0.19" – 0.78")

Duration of the inspection

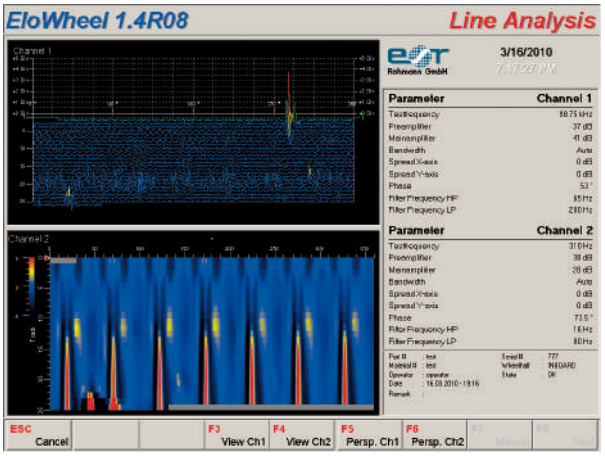
For the automatic inspection procedure: approx. 30sec to 1.5min

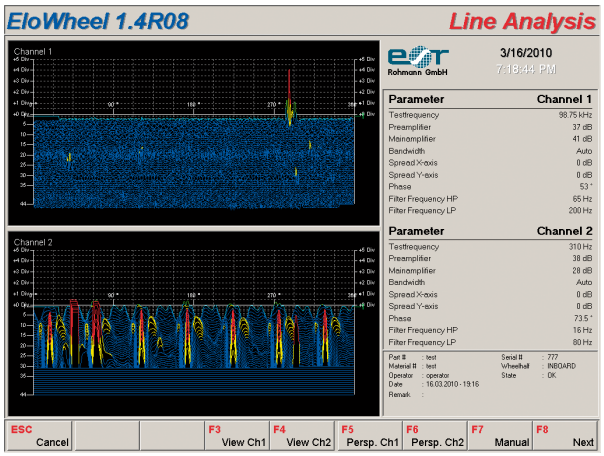
System components

- Test stand with turn table and pneumatic wheel centering device
- Combined HF/LF probe
- Optional rotor with interchangeable rotating probes
- ELOTEST PL320 eddy current test instrument
- System PC featuring Windows XP operating system
- Optional printer for the test logs
- Optional light protective grid

General technical data

Ambient temperature: 10 - 40°C (49.99° - 104° F)
Rel. humidity: 5 - 80%
Required space: ca. 1200 x 1900 x 2500mm (B x T x H)
resp. 1400 x 2300 x 2500mm
Electr. connection: 230 V/ 2 kVA, 110 V/ 2 KVA
Compressed air: min. 6 bar, 1/4", cleaned, dry





Rohmann GmbH • Carl-Benz-Str. 23 • 67227 Frankenthal • GERMANY • Tel. +49(0)62 33 - 3789-0 • Fax +49(0)62 33 - 3789-77
www.rohmann.de • E-Mail: info@rohmann.de