RailMeasurement

RAIL MEASURING TECHNOLOGY
WHEN ACCURATE MEASUREMENTS MATTER

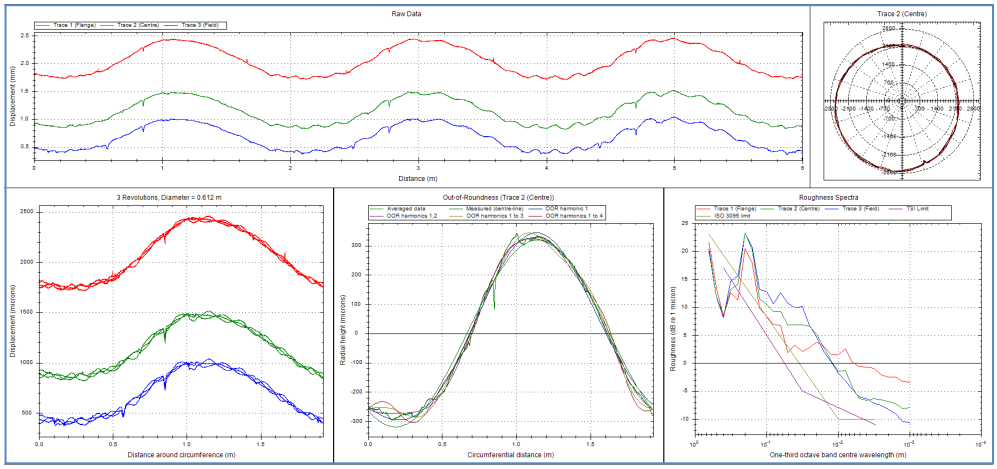
TriTops

TriTops Wheel Measuring System
High Accuracy Measuring instrument for measuring wheel irregularities, out-of-round, acoustic roughness, diameter and corrugation

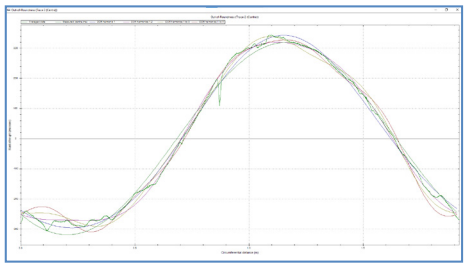
Product description:
Wheel surface irregularities, out-of-round and roughness of the order of microns (0.001mm) in amplitude are important in the generation of wheel/rail rolling noise and vibrations.
The TriTops is a compact and easy to use wheel measuring instrument which has been designed to fit into the constrained space available for measuring railway wheels. The wheelset is lifted slightly off the rails to allow the instrument to be placed on the rail and slid into position, the position across the tread is adjusted and the instrument is clamped in place with a magnetic base. With TriTops a measurement is taken during a few rotations of the wheel. The software automatically calculated the diameter and splits the record into a number of complete revolutions.

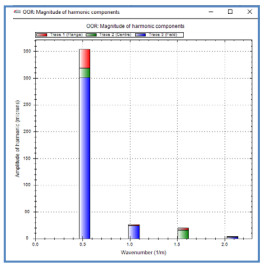
Applications:
- Monitoring wheel diameter
- Detection of wheel corrugation
- Detection of wheel roughness
- Detection of wheel out-of-round

Main characteristics:
- Measurements that are highly accurate and repeatable
- Relatively simple installation and setup
- User-friendly software for acquisition and review of measurement data
- Operation through notebook or tablet-pc
- Robust yet light weight design
- Extensive product support

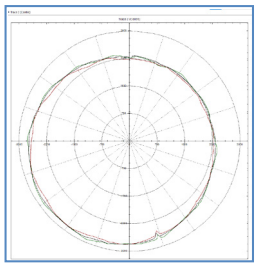


Screen graph from a TriTops measurement with details on out-of-round, and irregularities. One-third octave wheel flat spectra for the three traces are also displayed





Out-of-roundness illustrated in two different ways (image left and centre)



Polar plot

Repeatability and accuracy of the TriTops are better then 0.15 microns and 1.25 microns respectively. TriTops obtains measurements at an interval of 0.4mm around the periphery of the wheel.
The instrument weighs approximately 6kg. The TriTops is a result of a collaboration between RailMeasurement and the Railway noise group at the Institute of Sound and Vibration Research (ISVR), Universtity of Southampton UK