InfraTec.

Thermal Rotate Check – IR-rotation Test System (TRC)

## High-speed Thermography for Automated Test Bench Solutions

System Description

The increasing demands for quality and lifetime of wearing parts in the automotive industry demand for profound investigations on the relevant assemblies and components. For tests of rotating parts such as brakes, clutches and tyres InfraTec has developed a thermography-based test bench solution named Thermal Rotate Check (TRC). The object to be measured is scanned at frame rates up to some kilohertz. The data acquisition starts automatically, triggered by the system. For display and archiving, the data is transformed.


System Features

- ■ Synchronized raw-data acquisition double-sided
- ■ Automatic hotspot detection
- ■ Recording of machine parameters (contact pressure, speed, etc.)
- ■ Statistical data preparation
- ■ Acquisition parameters can be adjusted and saved
- ■ Alarm release when surpassing critical temperature thresholds during
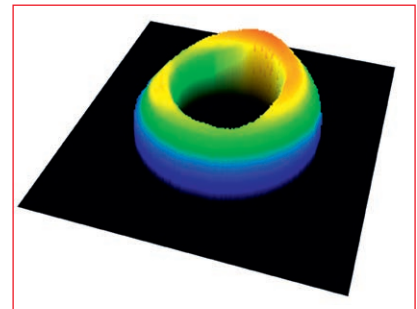
Presentation of temperature distribution in 3D
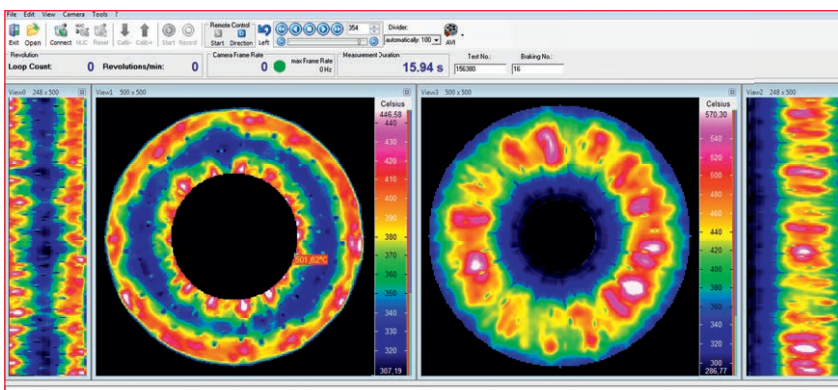
Software IRBIS® 3 rotate
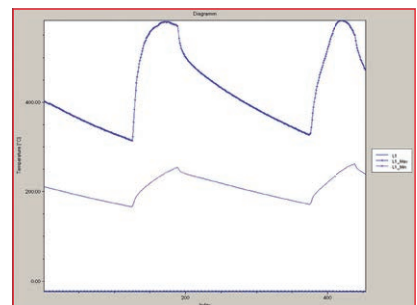
Temperature variation in time

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### Advantages of the Automated Test Bench for Rotating Objects

- Contactless online acquisition of thermal state
- Automatic detection of thermal abnormal behaviour on the test device
- All at once visualization of all thermal active areas
- Flexible system parametrization adjustable to different test scenarios
- Professional data processing and analysis by means of the software
- IRBIS® 3 professional software (3D presentation; video, image and data export; integrated WORD-based report generator; emission and transmission degree correction; temperature-time diagram; difference image analysis)
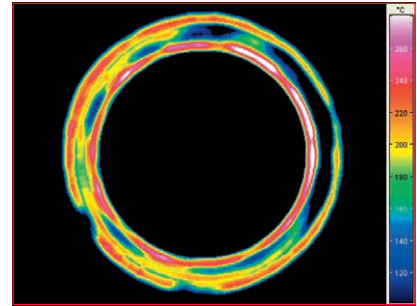
Presentation of a rotation test in a thermal image

System Structure

- Cooled high-speed thermographic camera in an industrial protective housing with application-specific calibration
- Parameter setting, administration, display, evaluation or playback on PC with the special software IRBIS® 3 rotate
- Interface for process signals (trigger input, alarm and measured value output)
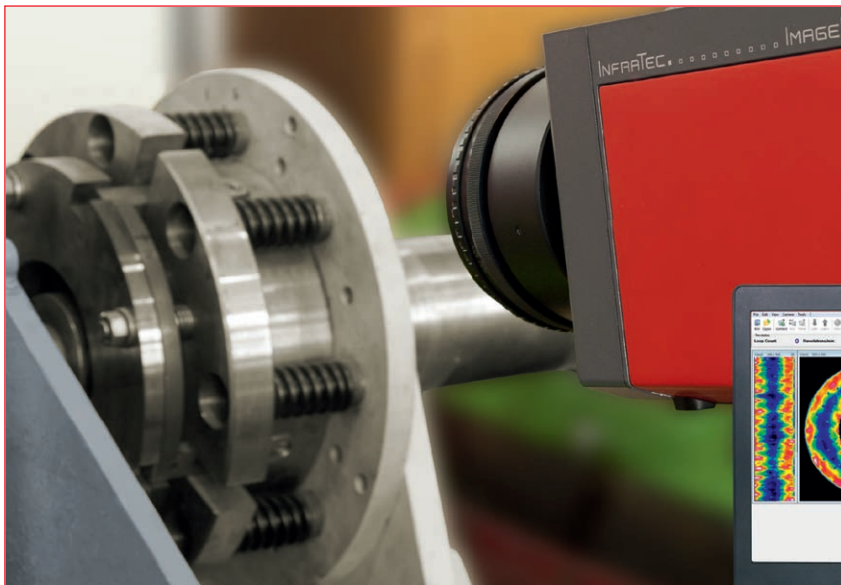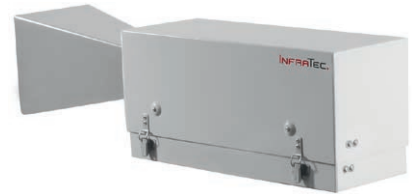
Position of thermal camera in front of the measurement object