

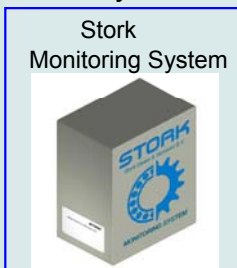
S **tork Gears & Services**, with a high degree of expertise in the field of gearboxes and gear technology, is a specialist in the manufacture, repair and modification of gearboxes, gears and all related components for all brand names. The **Machine Diagnostics** department is a service-oriented part of this company that is active in the market with the following activities:

Vibration measurements

The measurements are executed using a **single-channel spectrum** and a real-time **'multi-channel' analyser**, with which deviating dynamic tendencies of gearboxes, as well as other equipment such as pumps, turbines, compressors, fans, etc., can be specified. For more detailed information regarding these measurements, please refer to the extensive folder **'Vibration measurement'**.

Online condition monitoring

Recently, the activities have been expanded with a system that allows the gearboxes to be monitored 'online', wherever in the world they may be located.

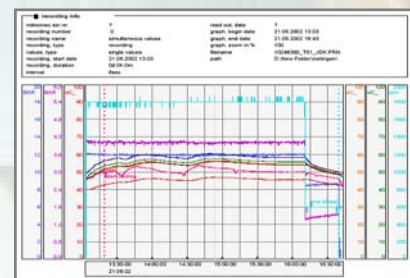


This **'Stork Monitoring System'** consists of several sensors that are fitted to the gearbox and which are able to measure various parameters such as vibrations (spectra/ranges, waveform), temperatures, pressures and suchlike. This system monitors your gearbox 24 hours a day, 7 days a week, 12 months a year. For more detailed information regarding this system, please refer to the extensive folder **'Online Condition Monitoring'**

Data logger

This equipment enables the recording of various parameters over a certain period of time, during a test-drive for instance.

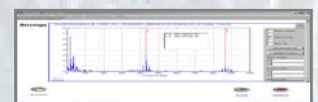
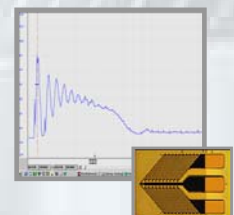
Temperature, pressure, vibration ('Overall levels'), number of revolutions and such can, depending on the settings, be stored for a longer period of time. Using a modem, this data can be 'remotely' collected for result analysis from the Stork Gears & Services base in Rotterdam.



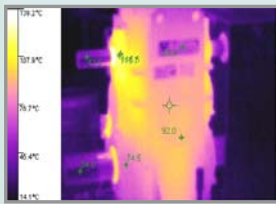
Torque measurements

'Continuous' torque measurements can be performed with the strain gages telemetry system. The data can be stored on an additional datalogger and real-time analyzer.

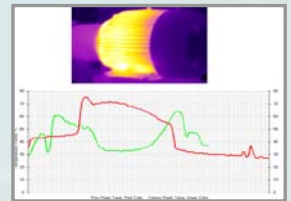
The strain gages telemetry system can be used to evaluate actual transmitted 'static' and 'dynamic' torque (torque vibrations) on shafts of propellers and gearboxes. Torque vibrations can be visualised in spectra and waterfall plots.



Infrared thermal view imager



With this state-of-the-art, gun grip style thermal imaging unit we can obtain instant and accurate thermal images from mechanical and electrical equipment. The thermal measurement range is from 0 op to 250⁰ C (32 to 482⁰ F) and we can measure temperatures on both Ferro and non-Ferro metals. With the additional software we can



create structured databases to store the thermal images and monitor thermal trends over long periods.

Geometric measurements

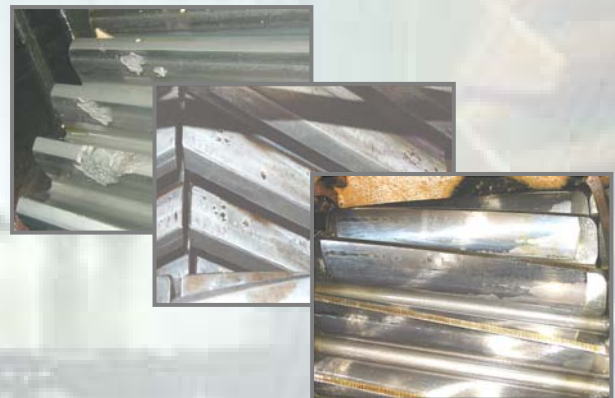
Using the newest laser equipment, the precise measurements accurate to within 0.01 mm are executed, such as:

- * Shaft alignments
- * Flatness
- * Straightness
- * Perpendicular measurements
- * 'Line" boring
- * Parallel measurements

	Vlakheid Meting van vlakheid van machinebed. Resultaten van vlakheidsmeting digitaal gepresenteerd met 2 nulpunten.
	Rechtheid Rechtheids meting Van H-profiel. Resultaat van rechtheidsmeting met 2 nulpunten.
	Flens Vlakheidsmeting op een flens. Resultaat van flensmeting grafisch weergegeven.
	Parallelliteit Parallelliteit van rollen. Parallel uitlooptout van rol 2 weergegeven in mm/m.
	Haaksheid Haaksheid op X-Y-Z as. Afwijking in haaksheid getoond in mm/m voor het gemeten object.

Visual inspections

In addition, visual inspections of gearboxes are executed to ascertain and record the condition of the gearing and bearings. These activities are often executed in combination with vibration measurements in order to obtain as complete a picture as possible of the gearbox and/or installation. The visual inspections can also be executed using an industrial endoscope, with which any images of damage can be recorded using a suitably compatible digital camera.



Stork Gears & Services

Pannerdenstraat 5
3087 CH Rotterdam
The Netherlands

Tel: +31 (0) 10 487 3500
Fax: +31 (0) 10 429 1129
E-mail: info.gears@stork.com
Website: www.stork.com/gears

