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GLOBAL NDT SCANNING PARTNER

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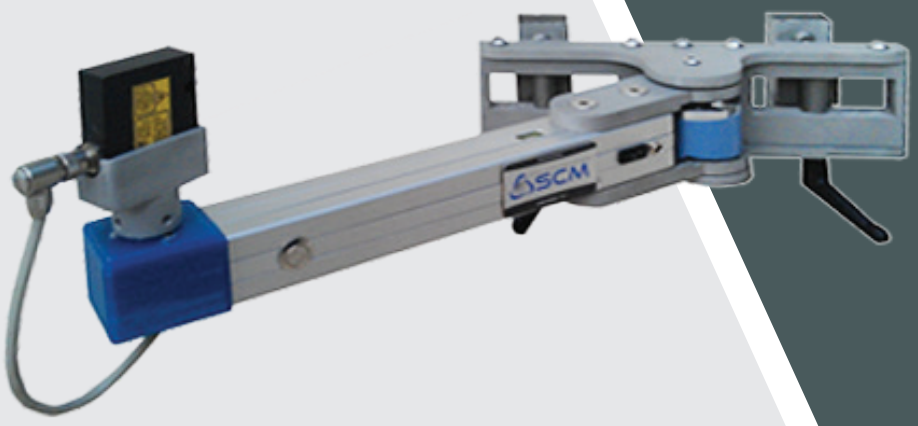

SHEAVE WHEEL PROFILER SCANNER

MANUFACTURER'S WARRANTY 12 MONTHS

Designed for mining operations that make use of sheave wheels such as for hoisting machinery or draglines. Inspection (NDT) companies that routinely inspect sheave wheels for the life extension of wire ropes and sheaves.

EXISTING SYSTEMS

Previous solutions to inspecting sheave wheels make use of contact techniques. This includes the use of pantographs, sheave gauges, and even the use of plaster casts. None of these methods allow the user to effectively quantify readings or easily record or transmit readings.

ACCURACY OF SCAN

The speed of use and accuracy of the sheave wheel profiler can be attributed to its non-contact method of measurement. Even a novice user can perform a scan within two minutes and achieve accuracies of better than 1mm.

SOFTWARE PACKAGE

The included software allows the user to scan a sheave wheel with a single sweep of the laser. The software allows for an easy comparison with previous scans and trending of profiles for determining wear rates. It also provides a set of measuring cursors and manufacturer's specifications for automated report writing.

KEY BENEFITS

- One-man operation.
- Quick Setup with magnetic feet.
- Can be used to scan nearly any size sheave wheel from 100mm to 450mm groove depth.
- Long battery life for over 3 hours of scanning.
- Accuracy of better then 1mm, even at full range.
- Bluetooth, Wi-Fi or USB cable connection to acquisition tablet (usable next to mobile phone masts)
- Analysis Mode for historic trending and sizing.
- Multiple cursors for sizing of numerous parameters.
- Acceptance Criteria functionality.
- Report writing facility.
- Charger, carry case included.

Product might differ from images in this brochure.

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BACKGROUND

In industrial processes that rely on hoisting machinery, sheave wheels are an integral and critical part of the process. Due to the ex tensive u se of the sheave wheels, their eventual wear is inevitable. This in turn leads to the wearing of the wire rope and possibly even seizing of the rope on the sheave wheel.

To minimise wear yet maximise ductility and strength, she ave whee ls are usually designed with a hardened outer layer combined with a ductile but softer interior. Unfortunately, once a wheel has worn through the hardened layer, the softer interior wears extremely quickly.

A sheave wheel can be reconditioned using inserts, re-machining of the groove and hardening of the grove, all of which can be done at a fraction of the cost of replacing the sheave wheel if done timeously.

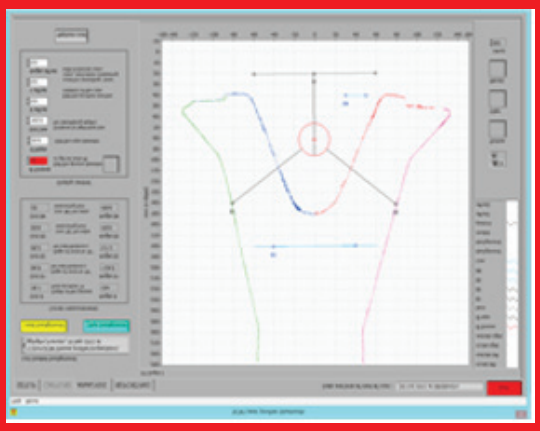
A wire rope cannot be easily reconditioned and is expensive to replace. By performing the required bi-annual inspections, the user can identify worn grooves, determine wear rates, and identify misalignment or incorrect groove pressure on the wire rope, all of which can cause premature failure of the wire rope, or even seize a rope.

The inspection results can therefore be used to correct misalignments, planning for refurbishment, or in extreme cases, allow for timely planning for replacement ropes or sheave wheels.

To optimize the utilisation of a sheave wheel and its wire rope, both the rope and the sheave wheel need to be used for as long as it is safe to do so and the replacement interval needs to be as extended as possible yet synchronized with the maintenance schedule of the entire operation, thus avoiding unnecessary losses in production. Extending the life of a sheave wheel and wire rope is possible with routine inspections and enables trending of wear rates thus allowing effective outage planning to replace or refurbish.

Due to numerous fatalities caused by wire rope failures, legislation mandates bi-annual inspections of hoisting equipment. The decision to replace or refurbish is determined by acceptance criteria from the manufacturers and is based on certain manufacturers specifications (limits) and can be entered into the software for the analysis, and an automatic report can be generated for immediate transmission to the office or client.

This report can therefore be sent via e-mail, or a printed hard copy can be provided to the customer before the technician leaves site, therefore improving productivity and decreasing down time.



DATA ACQUISITION

After attaching the profiler to the sheave wheel using the magnetic feet, the user switches on the profiler and launches the software on the tablet PC. The connection is then established (Bluetooth, Wi-Fi or USB cable), and the start button pressed. For one-man operation, a start button is present on both the tablet, and on the instrument.

The laser spot is then swept over the surface of the sheave wheel, while the captured profile is displayed on the tablet screen.

Following the capture of the profile, the analysis screen allows the user to use several cursors to take measurements, and to compare the profile to other profiles for trending purposes. The data can also be saved for later trending and further analysis.

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