HX270

Belt condition monitoring and control system

Automated, on-line monitoring system for belt conveyors
Principle of HX270 monitoring system

- Control room
- User interface computer
- Clean side measurement (CSM) module
- Material side measurement (MSM) module
- Laser and machine vision camera

CSM module

MSM module
The HX270 is an on-line conveyor belt condition monitoring system for material side and/or clean side of the belt. Recognition of faults that appear in the belt is based on the optical shape measurement of the surface by machine vision cameras and laser lightning, without touching the belt. Measurements take place in real-time while the conveyor is running. The measurement result is a three-dimensional shape of belt surface, from which differences are detected. The results are classified as faults according to the limits set by the user. In case of critical fault conveyor will stop automatically.

**CONTROL YOUR PROCESS**
The HX270 belt condition monitoring and control system improves especially the operational efficiency of critical and/or long conveyors.

- Detects belt faults in early stage and enables preventive maintenance planning.
- Prevents critical belt faults like belt split, which would cause unscheduled production stoppage and substantial repair work.
- Measures belt abrasion and thickness to be able to predict life time as precisely as possible.
- Improves safety at work. Belt failures are a safety risk.

**HX270 VALUE PROPOSITION**

- Improved productivity
- Better utilization of maintenance stoppages
- Longer service life of conveyor belts
- Reduction of conveyor belts in stock
- Modularity
- Integration into customers process control system possible
Monitoring system in Action

The HX270 monitoring system identifies faults and classifies them in two different categories, belt faults and critical belt faults. When the HX270 detects a fault, abrasion or belt misalignment it sends an alarm as an audio signal, graphic alarm or text message. In case of critical belt fault the HX270 stops the conveyor and prevents belt breakage and long term production stop is avoided. The non-critical faults and belt abrasion are detected and alarmed in early stage giving time to react for upcoming belt repair or replacement.

PRODUCT RANGE

The HX270 is a modular system, which contains one or two independent measurement modules and the user interface computer in control room.

The product range consists of three different options:

• Clean side monitoring (CSM) system monitors longitudinal surface faults such as scratches and belt splits from the clean side of the belt. Measurement module is installed close to the loading section between the upper and return belt.

• Material side monitoring (MSM) system monitors surface faults, belt abrasion and misalignment such as belt joint openings, tears, cuts, holes and dints from the material side of the belt. Measurement module is installed close to the discharge point under the return belt.

• Dual side monitoring (DSM) system monitors both sides of the belt, clean and material side.

In addition, extra measurement modules can be added to meet customer needs. Thanks to stepless width adjustment, it is easy to install measurement modules on existing conveyors and different frame widths.
Critical belt split fault on conveyor...

...and system stops conveyor and alarms

Monitoring holes and dints...

...to abrasion...

...to belt joint opening and tears