HSG electronic vibration-monitoring system

Avoid damage and save money

Excessive vibrations caused by uneven loading or too high a throughput are not always identified straight away by the operator. Damage caused in this way can be avoided by using monitoring equipment.

If the machine is too heavily loaded, the axial vibration needed for transport (originating from the "resonance oscillator" design principle) is stopped, but overloading is not automatically identified and the machine goes on running. Also uneven loading, e.g. by using bucket loaders instead of screw conveyors, has been identified in various cause analyses as a reason for excessive radial deflection.

In both cases this can cause excessive loads on the machine construction and cause major mechanical damage. That is why we recommend monitoring your machines with an electronic vibration-monitoring system.

Uneven loading

To monitor radial deflection, an inductive proximity sensor is fixed to the machine. With this measurement limit values can be set for pre-alarm and system shut down.

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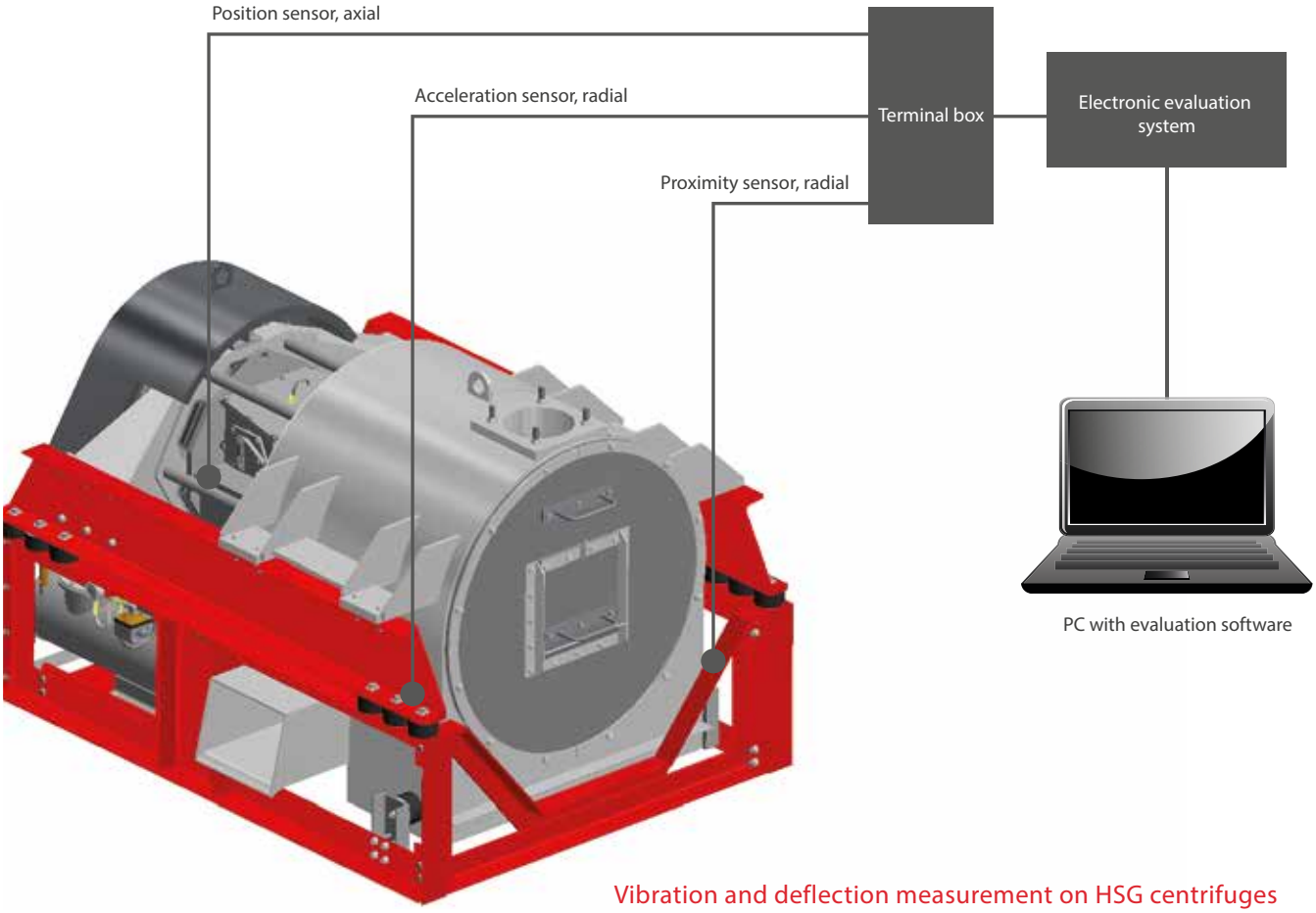
Overloading

To monitor vibration, two acceleration sensors are fitted. One is fastened to the base frame radially, the other to the gear unit axially. From the signals received the electronic evaluation system can determine vibration velocity and amplitude.
The axial sensor enables the machine's loading condition to be identified. As load increases, axial transport vibration decreases. If vibration amplitude falls below 2 mm, an alarm is set off and the product feed to the machine stopped at once.
If the product is not to specification, there is the possibility that the solid material will not be optimally accelerated on the screen. This often results in radial vibration that, if it goes on for too long or occurs too frequently, can also cause mechanical damage. This vibration is monitored by the radial acceleration sensor. On the radial sensor likewise limitscan be set for a pre-alarm and system shut down.
The complete system comprises, as well as the sensors described, an electronic diagnostic system and terminal boxes, fitting adapters and patch cable. The electronic system stores the data for 72 days.

A display in the control system (PLS) keeps the operating personnel informed about the machine's loading condition.

The complete system will reliably guard your machines against uneven loading and overloading and can pay for itself in a very short time.

Our sales engineers would be pleased to answer any questions you may have about the system described here. We would also be pleased to hear any suggestions you may have and experiences you have had, because they will help us further optimise the availability and reliability of our machines and mechanical systems.



Vibration and deflection measurement on HSG centrifuges

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