Monitoring Compressed Air Supply Units with FAG DETECTOR III

Examples of Application Engineering

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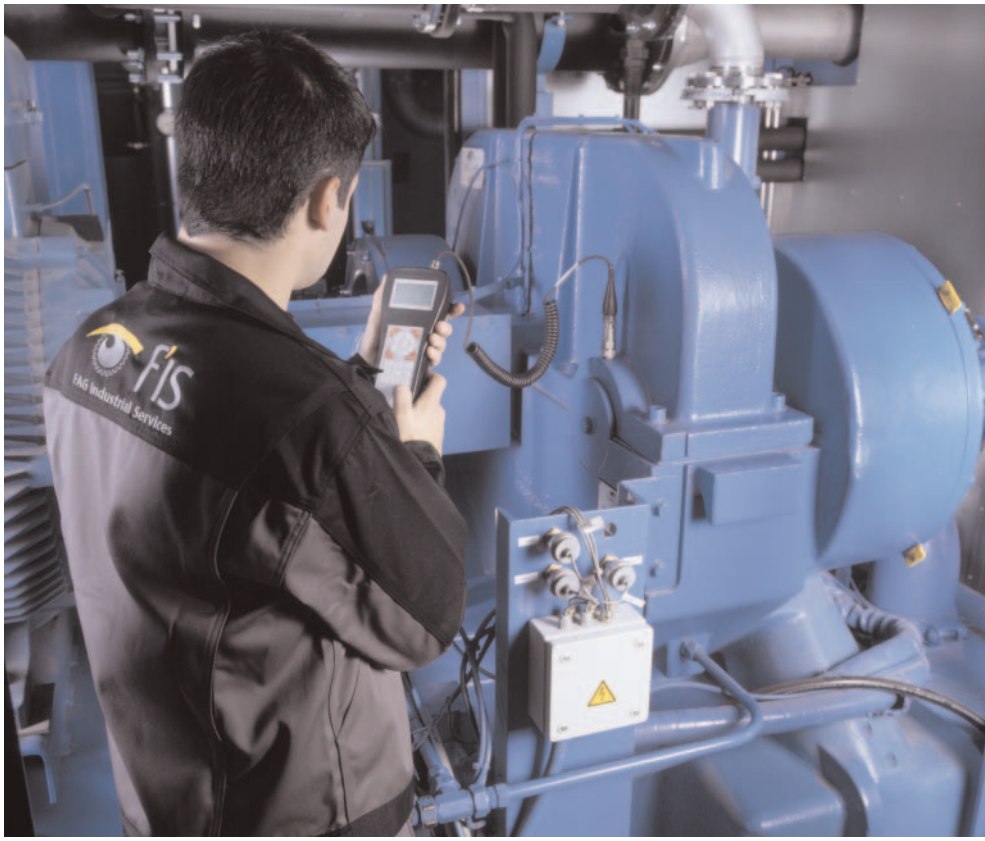

FAG DETECTOR III in use:
Monitoring the bearings in an electric motor and in a compressor.

Compressed air is often described as the fourth utility. Although not as ubiquitous as electricity, petrol and gas, it plays a fundamental part in the modern world.
The main difference is that users generate their own air.
The importance of compressed air is often overlooked, but in reality it plays a vital part in most modern manufacturing processes, from general industry, with offshore applications and oil-free applications, to the building industry, with high-pressure shipping applications, through to gas compression. Most products we use today simply could not be made without compressed air. Compressed air accounts for about 10% of the global energy used in industry today.

As so many applications in different environments are dependent on compressed air, the compressors not only have to compress the air to a specific pressure and at a defined, effective rate, they also have to deliver air of the right quality.
In order to generate compressed air of the right quality and to guarantee continuous availability, appropriate vibration and process monitoring is required in addition to the compressor.
FAG Industrial Services (F'IS), the service company of the Schaeffler Group, has long-standing experience in this field.
Within the Schaeffler Group, the F'IS experts work very closely with the **Application Engineers** in Schweinfurt and our **Field Service Engineers** (FSE) on the ground to develop solutions which are tailored to specific customer applications.

The range of services offered by F'IS in the field of continuous monitoring covers the following areas:
- sector-specific consultancy
- installation
- initial operation
- system support
- continuous and regular measurements

Working from individual customer requirements, F'IS prepares a concept which is tailored to individual needs and assists with its specific implementation.

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As a rule, the vibration diagnosis system is integrated homogeneously into the existing process landscape. Schaeffler offers three different service options for monitoring a plant:

- F'IS monitors all processes
- Monitoring is carried out by the customer's staff. This presupposes that the staff involved are appropriately qualified to so, having received the training and individual instruction required to carry out the monitoring work independently and on their own responsibility.
- A combination of the above two points.

Irrespective of which service option a customer chooses, F'IS experts are on-hand worldwide and provide customised support from the very beginning of a project through to its implementation.
F'IS considers itself not merely a supplier of products but a project partner and solution developer.

FAG DETECTOR III

FAG Detector III is a mobile vibration measuring device which is indispensable in mounting and maintenance. It also makes an excellent choice for equipping the Aftersales Service.
FAG Detector III – The multi-talent for condition-related maintenance

Principle and handling

1) Condition-based maintenance

This means:

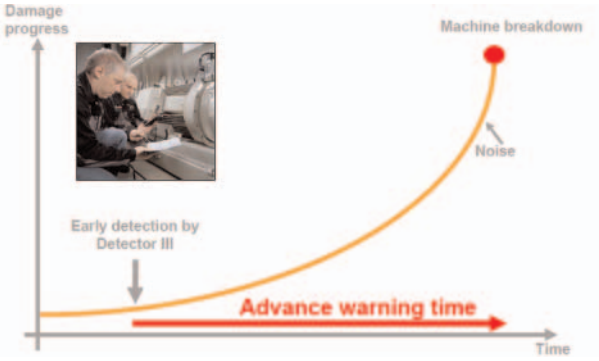
- Identifying damage at an early stage
- Scheduling repairs on a defined basis
- Making optimum use of bearing life
- Considerable cost reductions

FAG DETECTOR III fulfils these tasks to an optimum degree and is also highly suitable for users without special knowledge of vibration technology.

2) Preventing plant downtime

A considerable percentage of unplanned machinery downtime can be attributed, directly or indirectly, to imbalance or misalignment.

During operation, imbalance – e.g. at compressors – can generate considerable vibrations that can lead to secondary damage such as premature bearing wear or fatigue fractures. This results in machine failure and consequently unplanned production shutdowns.
FAG DETECTOR III is a tool that can not only be used to identify critical conditions at a very early stage, but also to eliminate such conditions easily and efficiently.



3) High functionality – Simple handling

FAG DETECTOR III is an offline vibration monitoring system, data collector and operational balancing device rolled into one. It can record the position, vibrations, temperatures and speeds of machinery. Step by step, the device's software guides the user through the measurement and balancing procedure and allows easy and effective data analysis. Any incipient damage can thus be detected at a very early stage. As a result, maintenance can be planned and machine availability can be increased.
FAG DETECTOR III is thus the ideal entry level device into the world of offline plant monitoring.

Advantages and customer benefits

- **Easy to use** – as a result of user-friendly configuration and manageable format
- **Software incl. all upgrades free of charge and licence-free** –for installation on unlimited number of workstations and laptops
- **Flexible selection of measuring points from the plant structure** – through route planning by drag & drop
- **Efficient data recording** – through automatic identification of measuring points using RFID technology
- **Meaningful information and comprehensive analysis options** – through integrated bearing database and F'IS Viewer
- **Simple preparation of measuring results** – through report generator configurable to customer requirements
- **Worldwide F'IS support and service** – through free hotline and automated measurement data export to F'IS Teleservice Centre
- **High functionality at a unique price performance ratio**

Detailed information on FAG Detector III can be found in TPI WL 80-64/2.

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