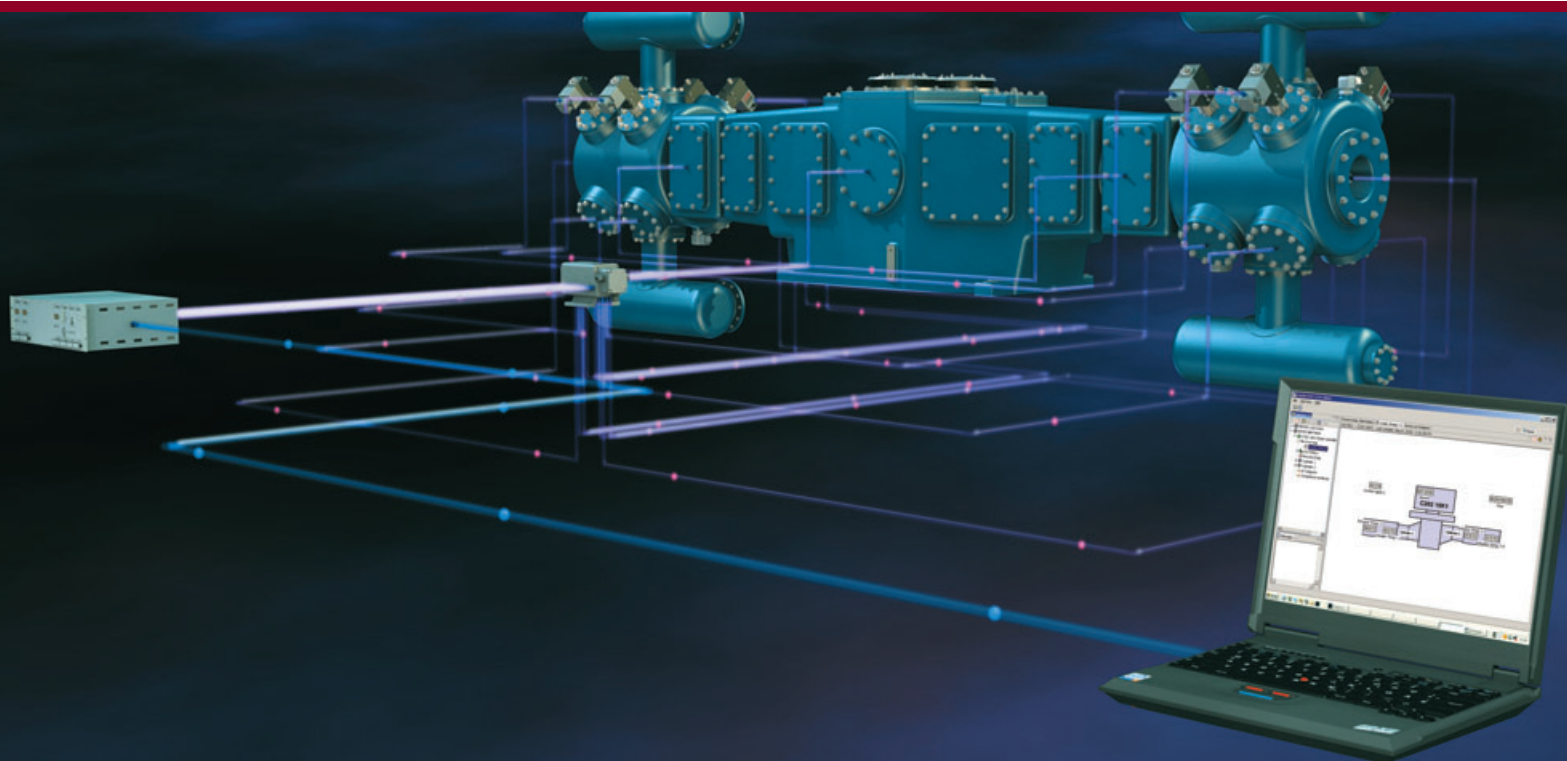


# RecipCOM by HOERBIGER – More protection and efficiency for reciprocating compressors



# Do you like surprises? Or would you rather opt for condition monitoring?

If detected too late, compressor faults may not only result in plant shutdowns and highly expensive repair work but in the worst case also in severe risks to human beings, the environment and the plant.

If problems with critical compressor components and parameters such as

- Valves
- Rider rings
- Piston rings
- Packings
- Crosshead and piston connections
- Capacity control systems
- Rod loads
- Process parameters

are detected early on, operators and maintenance staff have sufficient time to set targeted measures and remove faults before they can cause serious damage and potentially dangerous situations.

HOERBIGER's RecipCOM system enables continuous condition monitoring of all critical compressor components. The following decisive advantages exist compared to compressors without continuous condition monitoring:

- **Increased reliability**
- **Increased safety**
- **Reduced operating costs**
- **Improved productivity**
- **More efficient decision-making**



# Compressor monitoring with RecipCOM by HOERBIGER

## **RecipCOM identifies faults and arising problems at a very early stage.**

Thus, you are given the opportunity to better plan maintenance tasks and co-ordinate them with production staff. Planned maintenance work saves costs. In addition, the risk of industrial accidents is significantly lower than with unscheduled plant shutdowns. Last but not least, planned servicing can be carried out during the downtime of other plant parts thus preventing additional production loss.

## **RecipCOM keeps you continuously updated on your compressor's condition**

RecipCOM immediately informs you about changes in both compressor performance (capacity) and efficiency no matter where you are. Thus, a real-time exchange of information with partners and experts is possible at any time. In addition, detailed trend and signal recordings significantly contribute to an exact fault-cause analysis and thus pave the way for more efficient decision making.

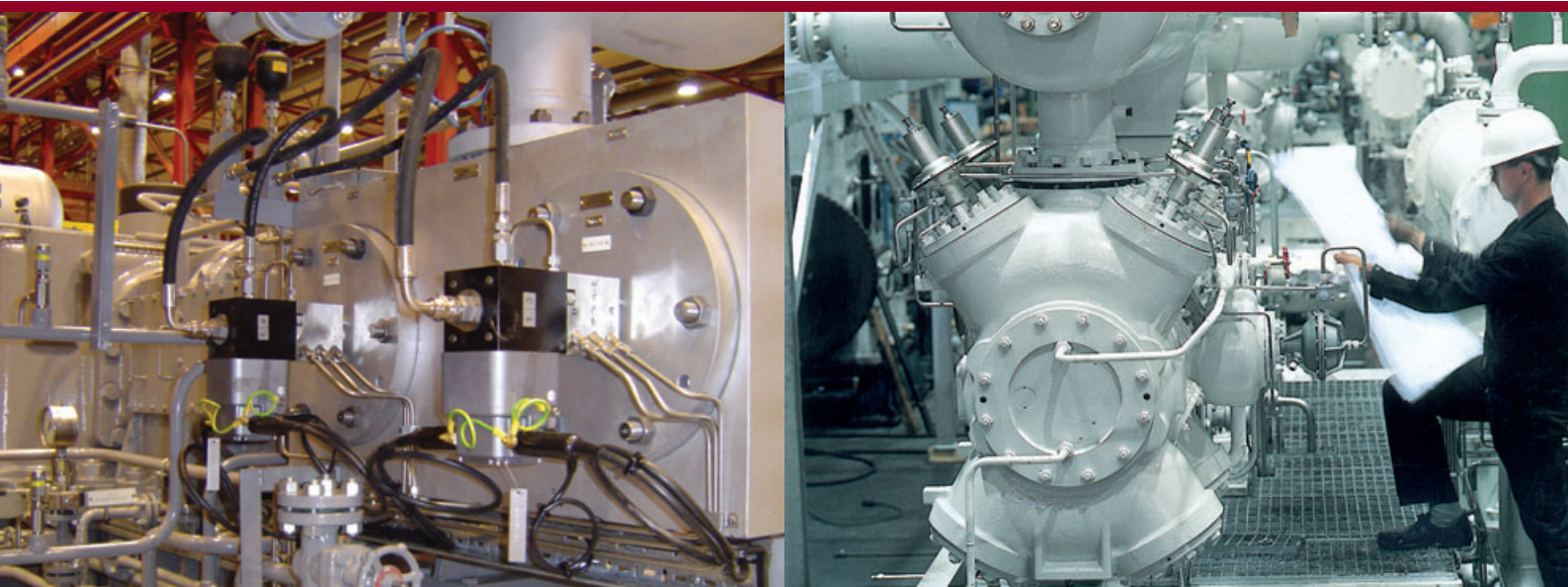
## **RecipCOM enables maximum exploitation of wear parts**

RecipCOM helps you increase service intervals without running the risk of more plant shutdowns. This way you reduce maintenance costs since wear parts are only replaced if absolutely necessary.

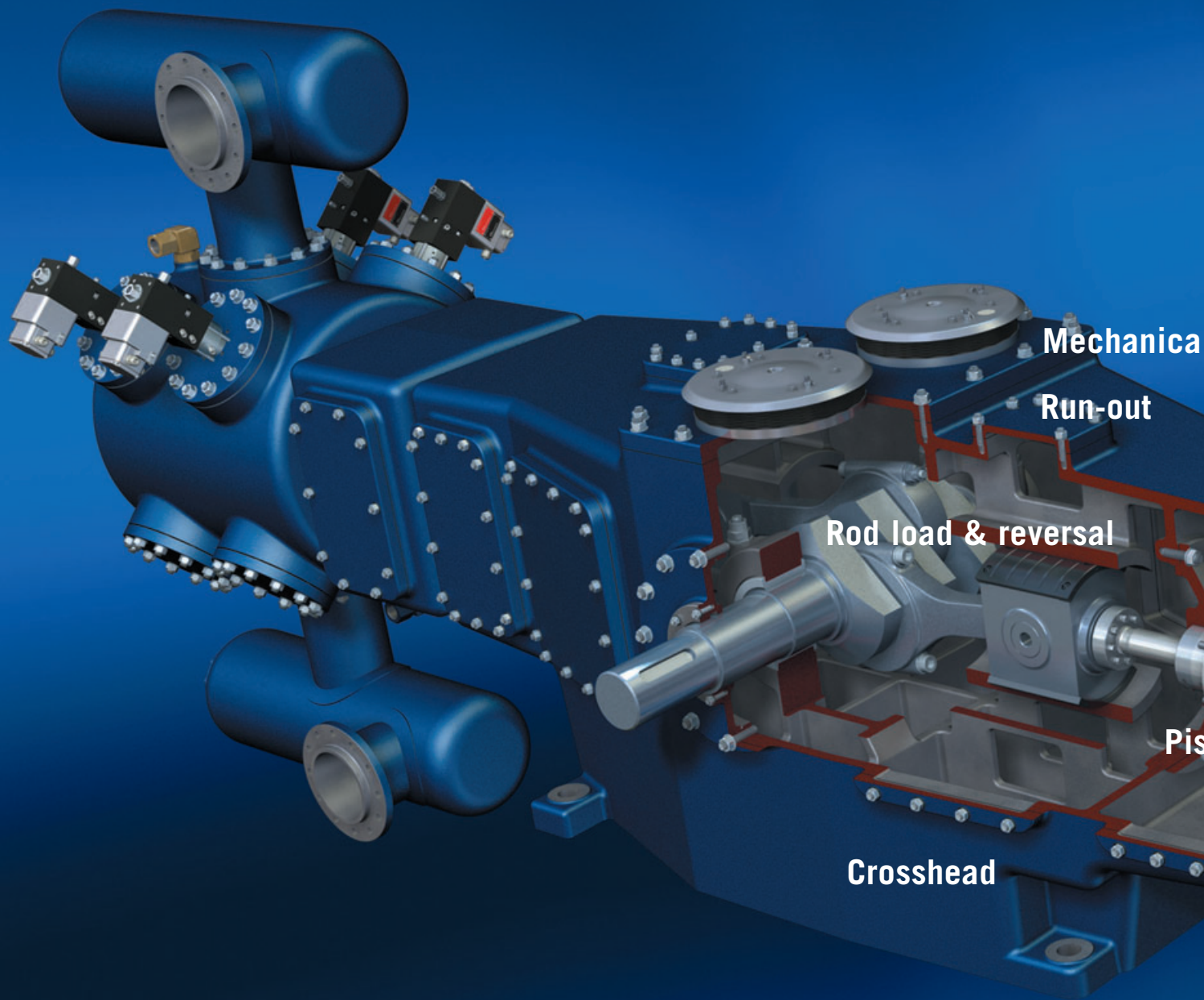
Apart from system provision and delivery, HOERBIGER offers installation, installation supervision and training.

All the way from the accurate remote diagnosis to corrective measures and fault removal on site, HOERBIGER ensures full optimisation of your compressor's as well as your plant's safety, reliability and efficiency.

By acquiring RecipCOM you have the opportunity to benefit from HOERBIGER's longstanding experience with both the production of critical compressor components and the servicing of a variety of compressor types. RecipCOM's diagnosis methods not only reflect our specialists' in-depth know-how concerning the production of compressor valves, cylinder rings, packings and capacity control systems but also their comprehensive compressor expertise.



# RecipCOM



Mechanical

Run-out

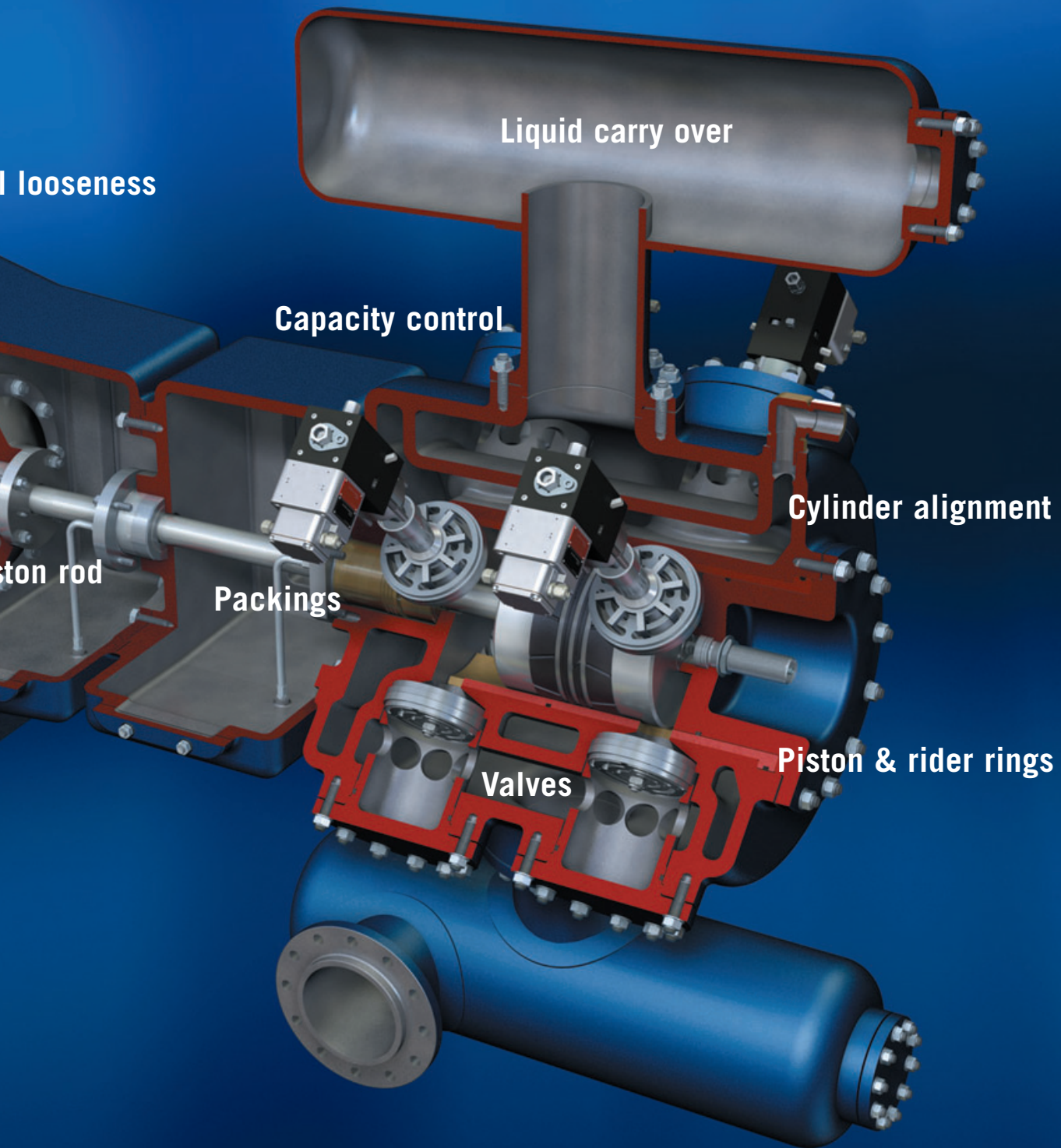
Rod load & reversal

Pis

Crosshead

Bolting to foundation

and you can keep an eye on your compressor.



# RecipCOM delivers all the necessary data straight to your desk.

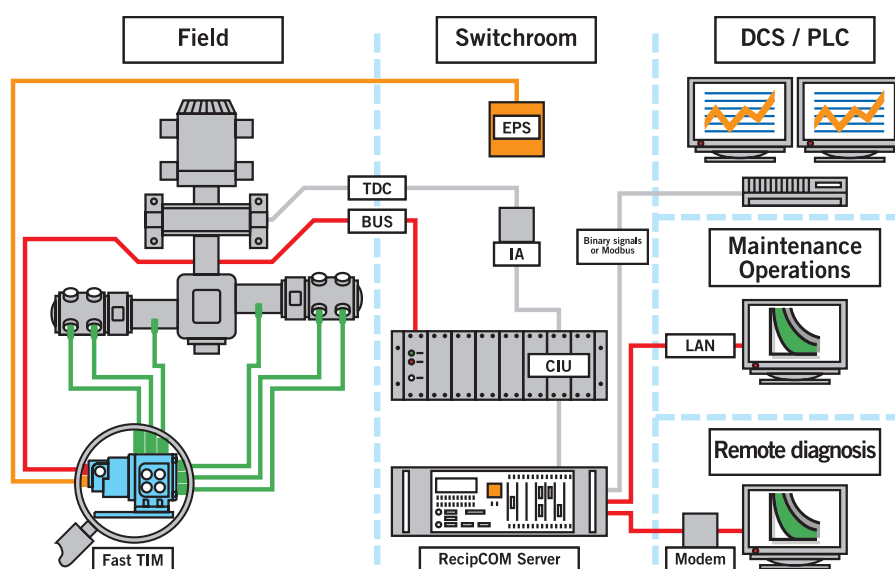
**A small number of system interfaces enable easy integration. In addition, both decentralised data acquisition as well as bus communication reduce installation costs for online monitoring.**

## How does RecipCOM work?

Both with existing and new installations, RecipCOM constitutes the ideal upgrade for your compressor.

Fast Transmitter Interface Modules (Fast TIMs) enable decentralised data acquisition and bus communication. They contain power supply and barriers for up to eight intrinsically safe transmitters. Fast-TIMs are mounted on or close to the compressor and thus save field wiring as well as installation costs.

Signals are sampled synchronically and transmitted via field bus to the Compressor Interface Unit (CIU), which receives and processes the digitalised data.



The CIU transfers the data to the RecipCOM server for analysis, alarming and trending.

Data from your DCS/PLC are integrated via MODBUS or OPC. Further more, full network integration enables user access via network or modem (LAN, WAN, internet).

RecipCOM keeps you continuously updated on your compressor's condition with the system delivering detailed analyses, comprehensive reports and a multitude of export functions straight to your desk.

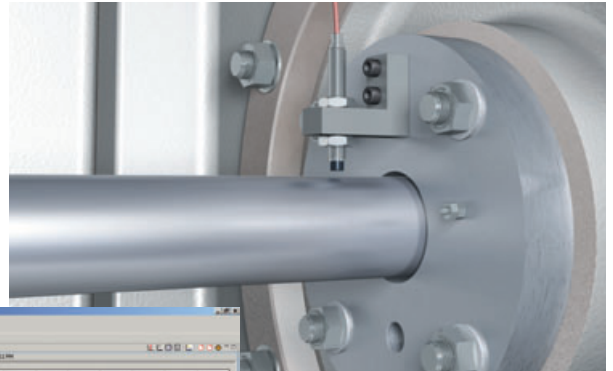
# All diagnoses at a glance

## Rod motion:

Continuous monitoring of

- Rider ring wear
- Run out
- Loose crosshead/piston connections
- Broken piston rings
- Alignment problems
- Excessive crosshead clearance

Rod motion sensor

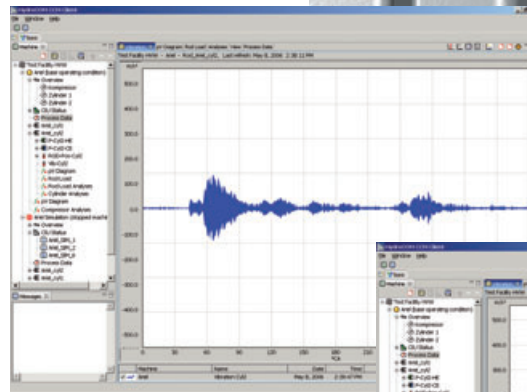


## Vibrations:

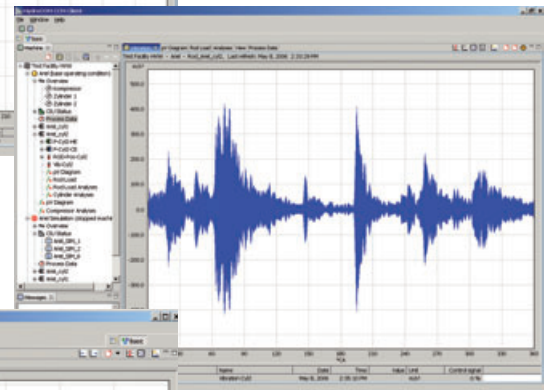
Continuous monitoring of

- Crosshead assembly failures
- Crosshead pin failure
- Loose crosshead/piston connections
- Damaged piston rods
- Loose valves/cages
- Liquid carry over

Vibration  
Good condition



Vibration  
Bad condition

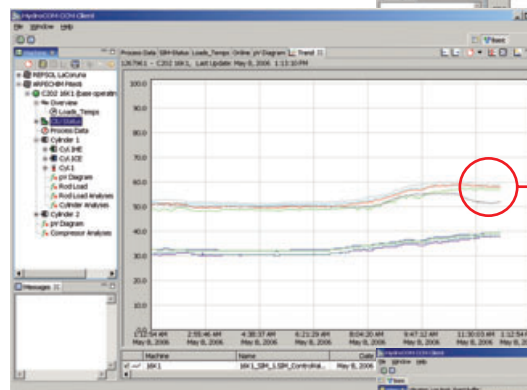


## Level data:

Unexpected changes of level data indicate arising problems.

- Valve nest temperatures
- Inlet/outlet temperatures
- Interstage pressure and temperatures
- Lube oil pressure and temperatures
- Bearing temperatures
- Motor temperatures

Unexpected changes

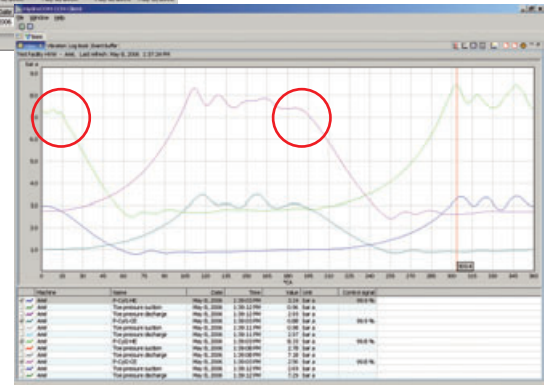


## pV analysis:

Continuous monitoring of

- Cylinder valves
- Piston rings
- Packings
- Control systems, e. g. unloaders
- Rod load and rod load reversal
- Clogging of suction strainer
- Performance and efficiency

Late closing of  
compressor valves caused  
by oil stiction  
(excessive cylinder lubrication)



# The advantages of compressors using HOERBIGER RecipCOM compared to compressors without continuous monitoring:

- ✓ Increased safety
- ✓ Increased reliability
- ✓ Reduced operating costs
- ✓ Improved productivity
- ✓ More efficient decision making
- ✓ Online condition monitoring by specialists with in-depth expertise concerning compressor components and compressor servicing
- ✓ Unlimited user licenses
- ✓ Vibration measuring for the complete crankshaft revolution
- ✓ Easy installation even with already operating compressors
- ✓ Smart alerting for both timely and accurate alerts
- ✓ Full network integration
- ✓ Little field wiring through decentralised data acquisition in ex-zone (ATEX, CSA, FM, Japan)
- ✓ Assistance in diagnosing and removing problems on site
- ✓ Graphic user interface in many different languages
- ✓ 100% HOERBIGER expertise and experience

[www.hoerbiger-compression.com](http://www.hoerbiger-compression.com)

  
**HOERBIGER**  
*because performance counts*

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