

valvealert™



condition monitoring systems
for reciprocating compressor
valves and cylinder end
components



COMPRESSOR PRODUCTS
International

an EnPro Industries company

DEPENDABLE
QUALITY
EXPERIENCED
EXPERTISE



valvealert™ - moving from an art to a science

Numerous monitoring systems are available to the compressor industry that are either costly to install and maintain or require specialist manpower to collect, process and analyze the data. ValveAlert™ provides a total solution that allows the user to collect, analyze and pinpoint anomalies with reciprocating compressor valves and other cylinder end components without the need for specialist training.

What is ValveAlert™

ValveAlert™ is a technology that provides automatic detection and alerting to anomalies with the operation of reciprocating compressors.

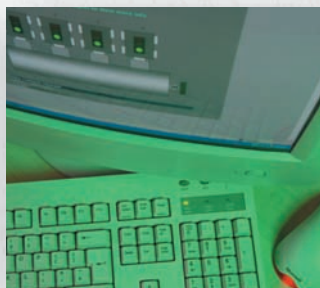
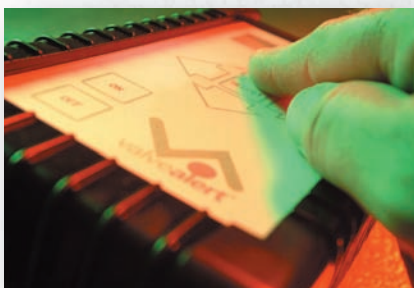
ValveAlert™ records an acoustic emission (AE) and temperature fingerprint for the operation of each valve (baseline). Data is analyzed against the baseline to determine the anomalies with the operation of the compressor.

ValveAlert™ provides detection of:

- > Leaking Valves
- > Stiff/Weak springs
- > Slamming
- > Valve Flutter
- > Late and early valve opening and closing events

Key benefits of ValveAlert™:

- > ValveAlert™ is intrinsically safe
- > ValveAlert™ is non-intrusive
- > No drilling or tapping of the cylinders
- > Simple and fast data collection
- > Automatic analysis of the data
- > Automatic triggering of alerts
- > Simple graphical status display



ValveAlert™ platforms

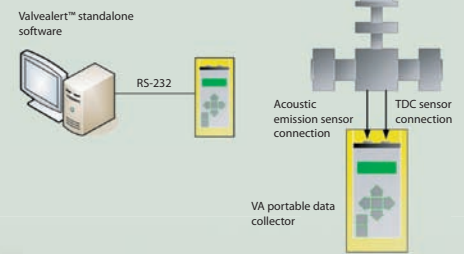
ValveAlert™ is available in two main options:

- > VA2 handheld portable data collector
- > Mentor™ permanent on-line monitoring system

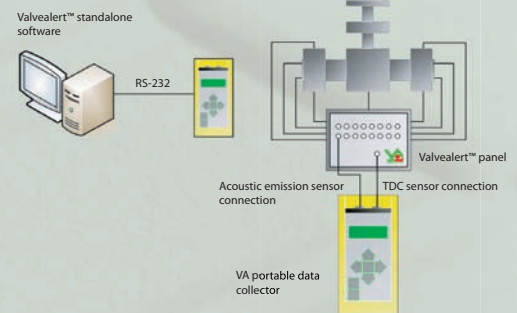
Both options are available as standalone or networked systems:

- > ValveAlert™ platforms can be mixed
- > Monitor non-critical machines using VA2 portable data collectors
- > Monitor critical machines using the Mentor™ system
- > ValveAlert™ server service provides a central control point for information.

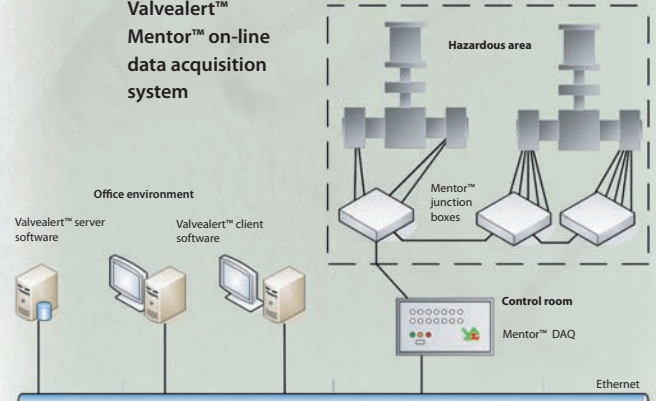
ValveAlert™ standalone system



ValveAlert™ panel standalone system



ValveAlert™ Mentor™ on-line data acquisition system



valvealert™

VA2 handheld portable data collector

The handheld data collector records acoustic emission data and temperature. A sensor from the handheld unit is attached to a quick release connector bonded to the valve cover. Once the data is collected and stored on the VA2 unit, it is uploaded to a PC or laptop where the data is automatically analyzed by the Valvealert™ software. Making this a versatile way of monitoring compressor valves in all applications.

Mentor™ on-line monitoring system

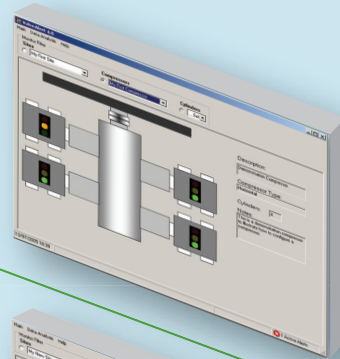
This option is more permanent providing a complete condition based maintenance and optional performance analysis for reciprocating machinery, that encompasses; machine protection, condition monitoring and performance monitoring.

Mentor™ on-line monitoring and diagnostic system records and analyzes machine data in real-time, using Valvealert™ pattern recognition technology; making condition, risk assessments, fault diagnosis, maintenance and operational information, and alert generation available 24 hours a day.

The Mentor™ system provides a portal for continually acquiring condition data such as valve acoustic emissions and temperature. Further access to the information from plant databases can be made available over the internet. Additionally the system provides easy scalability and integration of different technologies.

Valvealert™ software

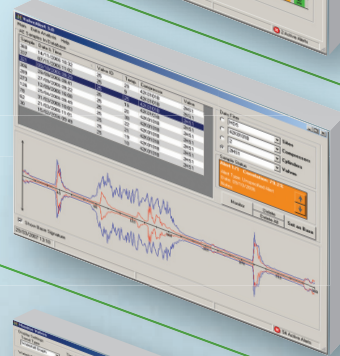
Data is analyzed using the sophisticated algorithms embedded within the software, with the results of the analysis presented to the user through simple graphic displays. In addition the Valvealert™ software provides a full complement of trending and diagnostic features. The usability of the Valvealert™ software means an accurate assessment of valve performance can be established without the need for specialist training.



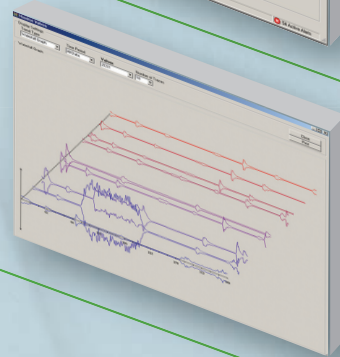
Traffic light warnings
potential anomalies or problem areas are highlighted using a simple traffic light graphic display.



Location pinpointed
problem areas are highlighted using a simple graphic display together with bar charts that indicate operational anomalies.



Valve signature
valve problems are analyzed using the AE signature obtained from the data collected from the compressor, and displayed in simple to navigate graphic displays..



Valve performance trends
the software features 'Trending' of valve performance, using data and graphics such as a cascading view of AE signatures recorded over time, as shown in this example.



CPI's unique approach in developing new compressor valve concepts and non-metallic materials used in the production of valve plates, piston rings, rider rings, packings and oil wipers, together with our application expertise, has transformed the performance and reliability of reciprocating compressors for many operators in a wide range of applications around the world. Further information about CPI's specialized products, general product range and services can be accessed via our website at www.c-p-i.com



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