

## Bently Nevada Condition Monitoring Services



# RECIPROCATING COMPRESSORS

### Proactive care for your reciprocating compressors

Reciprocating compressors play an essential role in many key industrial processes in the oil and gas industry. Wherever process profit is strictly linked to reciprocating compressor availability, an advanced condition monitoring system supports the prevention of unscheduled downtime, improves overall maintenance costs and obtains the required level of performance, safety and reliability.

The GE Bently Nevada™ reciprocating compressor condition monitoring solution continues a legacy of over 40 years.

Our best in class condition monitoring solution and diagnostic expertise is the result of an installed base of more than 1000 reciprocating compressors.

GE Bently Nevada Machinery Diagnostic Engineers help you to reach your safety and efficiency goals, ensuring increased uptime, and asset optimization with reduced costs for operation and maintenance.

### Instrumentation & Monitoring turnkey Solutions

GE Bently Nevada delivers turnkey solutions to meet your business' needs. We design, build and install engineered solutions, commissioned, configured and tested by our highly trained and certified team.

### In-depth machine health analysis

A worldwide team of machinery diagnostic experts are available 24/7 to assist you, providing proactive asset health information, analyzing compressor data and performing root cause analysis on malfunctions.



### Services and Total Solution Packages (Supporting Service Agreements)

To get the maximum benefit from the installed monitoring solution, we make sure that it operates at the optimum conditions, providing the support you need to maximize the reliability and efficiency of your reciprocating machinery, making informed decisions on your maintenance activities.

We offer training to plant personnel on all aspects of systems use and maintenance, from instrumentation basics to in depth mechanical and thermodynamic data analysis. All these services can be tailored into a package (Supporting Service Agreement) to ensure the best support is available at all times.



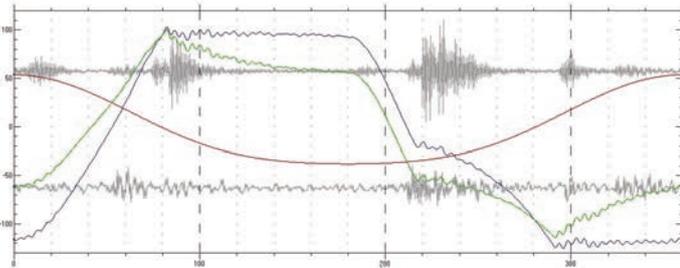
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### Machinery Diagnostics – Supporting Services

The mechanical and thermodynamic behavior of your reciprocating compressors is analyzed by our Machinery Diagnostics Experts; malfunctions on valves, piston rings, rider bands are analyzed as well as vibration on running gear components.



Machinery Diagnostic Services (MDS) can be provided either remotely or on site, on call, periodically, or continuously. This includes: -

- Start-up, commissioning and operational assistance. Data analysis, system optimisation (hardware and software), fine tuning of settings and customisation of data visualisation and management (based on actual operations and users' needs).
- Alarm and Event Management (daily, weekly, 24/7): The "real time" disposition of alarms to indicate machine problems, process problems or instrumentation problems.
- Baseline Audits (on site/remote), asset "baseline" and report for diagnostic and alarming purposes, so that data is available for ongoing diagnostics, minimising nuisance alarms or missed warnings.

- Periodic Audits (on site/remote), asset audit and diagnostic report. Assessing and reporting machine condition, providing recommended actions and, where applicable, performing root cause analysis.

### Training

Understanding the vibration and performance behavior of your machinery is the key for asset optimization. To achieve this we offer tailored training.

- Instrumentation and monitoring systems operation and maintenance: training for instrumentation Engineers, providing basic knowledge on Bently Nevada 3500 system and components, operation and troubleshooting procedures.
- System 1 for reciprocating compressor 'Getting Started' course: hands-on training on system usage, data management and interpretation to enable trainees to analyze malfunctions and use of supporting data for root cause analysis.
- Reciprocating compressor Monitoring and Diagnostic: in this course attendees learn reciprocating compressor components, mechanics, performance theory, and recip-specific diagnostic techniques. The course illustrates several failure patterns through hands-on workshops at our RecipKit and actual case histories. Completion of this course enables system users to understand the compression process and interpret vibration readings of reciprocating compressors.