GEnyus*
System 1* System Extender

GE Energy

imagination at work
Reciprocating compressors are an ideal fit for a variety of applications, but they need to be properly maintained and managed in order to maximize the return on investment. Condition monitoring can help you get the most out of your reciprocating compressors through increased run time and substantial savings in maintenance costs.

However, when choosing a condition monitoring solution, there are a number of factors to consider, from detection and diagnostic capabilities, to predictive maintenance outcomes and OEM expertise.

GE can address the unique machinery protection and condition monitoring needs of reciprocating compressors. The GEnyus® System 1® System Extender solution can help close the gap, bringing reciprocating maintenance costs closer to the levels associated with centrifugal compressors, while helping to improve reliability and availability.
Benefits

- Provides accurate, prompt, and reliable data and diagnosis
- Turns data into Actionable Information*
- Improves machinery management
- Helps to reduce maintenance
- Contributes to reduced operational risk

- Can extend machinery asset life
- Facilitates timely decision making
- Minimizes unplanned outages with condition-based maintenance
- Enables improved understanding of asset health to confidently operate your machinery
OEM Expertise – We Know Your Compressor

Combining the domain expertise derived from an installed fleet of 6,500 GE Oil & Gas reciprocating compressors, with more than 40 years of Bently* Nevada condition monitoring experience on recips, GE’s engineers have developed the GEnyus System 1 System Extender software suite. This solution is an advanced software system designed to give you the power to optimize the performance of your GE API and hyper compressors. Customized for each GE reciprocating compressor, the ratios, specifications, and nuances of the compressor are built into the GEnyus System 1 System Extender, enabling abnormal compressor behavior to be more quickly detected and acted upon. In fact, more than 10,000 associations between individual parameters are made, correlating greater than 100 symptoms and diagnosing more than 50 different anomalies in critical components such as:
• Rod small end bearing connections
• Rod big end bearing connections
• Main bearings
• Piston rings in any cylinder of any stage
• Piston rider bands in any cylinder of any stage
• Cross-head shoes

This gives your engineering and maintenance staff a key advantage. By minimizing the amount of time required by maintenance personnel to gather information and extrapolate alternative scenarios, teams can instead immediately initiate corrective actions, knowing best where to focus their efforts before more serious problems develop. The GEnyus System 1 System Extender identifies the anomaly for you, so your team can spend time on diagnostics and planning.
Condition Monitoring Expertise – We Know Predictive Maintenance

Once a fault is detected, it becomes vital to determine the severity of the issue – and then drill down to the root cause of the anomaly to prevent reoccurrence. The GEnyus System 1 System Extender solution contains multiple tools that enable users to take the next step in obtaining Actionable Information expertise from your condition monitoring system. Our solution identifies and prioritizes potential causes of performance deviations and provides these as alarms and events in System 1 software. This feature is designed to aid in the diagnosis and resolution of reciprocating compressor malfunctions. Included in the GEnyus System 1 System Extender are:

- Detection of suction/discharge valve damage and leakage
- Contamination in the process gas
- Failure in the cylinder and packing lubrication systems
- Crosshead pin condition wear and adequate lubrication
- Failure in the pressure packing systems
- Calculation of critical machine parameters
Services Expertise – We Know Machine Protection

GE provides custom engineered service solutions to maintain and enhance the performance of your reciprocating compressor over the life of your machinery. Our offerings span from traditional services, including field services, repair, and technical assistance, to advanced programs, such as machinery diagnostics and performance evaluation for greater reliability and availability of installed equipment.

1,300 trained and certified Field Service Engineers in more than 50 locations around the world back our installation, commissioning, and outage services. Combining our engineering expertise and domain knowledge, GE delivers a comprehensive and world-class service solution that no other vendor can offer.
GEnergy System 1 System Extender solution... a powerful condition monitoring solution for your reciprocating condition monitoring needs.

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