

# Machinery Vibration Monitoring Service

- Insight into developing issues.
- Reduced operations and maintenance costs.
- Expertise when you need it.
- Tailored program to support your needs.



*Maintain the peak performance of your rotating machines with Machinery Vibration Monitoring Service.*

## Introduction

Many companies waste money through unnecessary equipment breakdowns and by performing preventative maintenance on machines that are not broken. Even the most thorough and comprehensive routine maintenance program cannot stop faults from developing in machinery.

Condition monitoring is a critical component in improving the performance of rotating machinery. The P-F curve shows the qualitative time relationship between potential failure (P) and functional failure (F). The further to the left one can operate for any given asset, the easier it is to plan for maintenance activities and lower the likelihood of surprise functional failures. Vibration analysis is one of the most successful techniques used for condition monitoring for Rotating Equipment. Vibration analysis is a predictive maintenance method that allows early problem detection (1 – 9 months) in rotating machinery.

Many companies recognize the benefits of a vibration analysis program but do not have the skills or resources to have a complete in-house program.

Let Emerson's team of machinery monitoring experts do the heavy lifting for you with our Machinery Vibration Monitoring Service. We can access your condition monitoring systems remotely to provide the expert analysis you need. Our specialists can monitor route-based vibration data, data from our wireless devices, and continuously collected data from our online systems. We then provide an easy-to-read, actionable report you can take to your maintenance department.

With Emerson's expertise, technologies, and training, you will be able to implement a world-class predictive maintenance program for periodic or continuous monitoring of critical assets. Emerson provides portable, online, and wireless solutions based on your plant's needs. Emerson's Machinery Vibration Monitoring Service gives you advance warning of faults, so you can reduce downtime and use maintenance resources more effectively.

## Benefits

### Insight into developing issues:

You need to focus on your plant’s process to make money. We have experience with Oil & Gas, Chemical, Pulp & Paper, Refineries, Mining, Food & Beverage, Power & Water, and the associated assets in each of these industries. Let our experts give you the insight you need into developing machinery problems that can lead to downtime.

Reduced operations and maintenance costs: Maintaining a high level of machinery health is essential to high performance plant operations. The ROI for any Machinery Health program is directly related to accurate and timely equipment health assessments. Emerson, with field-proven experience, has demonstrated the value of the Machinery Vibration Monitoring program to many customers with its best-in-class offering.

### Expertise when you need it:

Emerson maintains a team of trained, ISO 18436-2 Category III and above certified professional analysts. The analysis is centralized, consistent, and process driven. This allows you to focus on corrective action, rather than learning analysis technology. There is no need for the high cost associated with maintaining certified vibration analyst on site.

### Tailored program to support your needs:

Emerson’s Vibration Monitoring service can supplement your existing in-house program with on-demand analysis, or we can completely manage your vibration monitoring program by doing continuous or periodic monitoring on your machinery. We can also monitor the health of your condition monitoring system to give you a complete picture of your asset reliability.

## Service Description



*The Machinery Vibration Monitoring Service includes three steps shared between you and Emerson experts.*

1. Machinery Data Collection: Any vibration data from a CSI 2140, CSI 9420, or CSI 6500 can be uploaded and analyzed remotely. Our experts can remotely access your system and provide the level of analysis that you need. Route-based collection can be performed by you or by the local Emerson service provider.
2. Monitoring & Analysis: The objective is to identify defects before they reach alarm levels, allowing time to schedule maintenance and mitigate issues. Waveform and spectrum data are analyzed for machinery issues, while DC Gross scans reveal wiring and sensor problems on online systems. Data is compared to previous readings to identify changes and determine if the equipment is deteriorating over time. Analysis experts issue easy-to-read but comprehensive reports that provide you with the actionable information you need.
3. Report Interpretation & Corrective Actions: Our analysts and local service providers can help you interpret the report and take the appropriate corrective and preventative maintenance actions.

## Service Deliverables

Customer's Requirements	Committed Deliverables	Optional Deliverables
Number of Assets	Initial Setup	Data collection
Method of Data Collection	Machinery Monitoring and Analysis	CSI 2140
Vibration Analysis Frequency	Reports	
Types of Assets (pump, motor, compressor, etc.)	On site and/or Remote Consultation	

## Ordering Information

To learn more about how Remote Vibration Analysis can improve reliability and safety in your facility, please contact your local Emerson Rep/FSO.

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