

Fundamentals of Vibration

Course 2069

*Prepared by
Educational services
Machinery Health Management*




EMERSON.
Process Management



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Fundamentals of Vibration

Chapter 1



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Objectives

- Discuss two common types of maintenance
- Define Vibration Analysis as an industrial tool
- Discuss types and applications of the most common vibration sensors
- Discuss how and where vibration data should be taken (best practices)

Introduction to Understanding the Vibration Signal

Chapter 2



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Objectives

- Define vibration and the different units used to measure vibration
- Define the three vibration amplitude and frequency units
- Describe the relationship between the time and frequency domains

Analysis Parameters

Section 3



Objectives

- Discuss the analysis parameter setup for standard vibration measurement points
- Describe the use and function of parameter alarms
- Discuss some specific spectral patterns that will be used during data analysis
- Discuss the three categories of spectral energy

Recognizing Basic Fault Patterns

Section 4



Objectives

Consider waveform and spectral characteristics for six faults:

- Unbalance
- Misalignment
- Looseness
- Rolling Element (R.E.) Bearings
- Belts
- Gears

Basic Fault Identification

Section 5



Objectives

Consider a case history using the recommended steps for data analysis...