


BEARING CONDITION MONITORING WITH ULTRASOUND INFOGRAPHIC





ULTRASOUND INSTRUMENTS DETECT FRICTION

Mechanical movements produce a wide spectrum of sound. One of the major contributors to excessive stress in machinery is friction. By focusing on a narrow band of high frequencies, the ultrasound detects subtle changes in amplitude and sound quality produced by operating equipment.

It has been established that ultrasound monitoring provides early warning of bearing failure. **VARIOUS STAGES OF BEARING FAILURE HAVE BEEN ESTABLISHED:**

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An **8 dB** gain over baseline indicates **pre-failure or lack of lubrication**
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A **16 dB** gain indicates **advanced failure condition**
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A **35-50 dB** gain warns of **catastrophic failure**

ULTRASONIC BEARING INSPECTION METHODS

There are three methods for ultrasonic bearing monitoring:

- COMPARATIVE** Compare same type of bearings and note deviations, easy & fast to do
- HISTORICAL** Establish a trend over time of measured values with the help of DMS Software
- ANALYTICAL** Utilize Spectralyzer software with the integrated bearing fault calculator

Using the Historical method and DMS Software, we are able to accurately program alarm levels in data points. **ESTABLISH A BASELINE READING**



- 1st ALARM** = indication of lack of lubrication
- 2nd ALARM** = early warning of bearing failure

REMOTE MONITORING OF HARD TO REACH BEARINGS IS POSSIBLE WITH

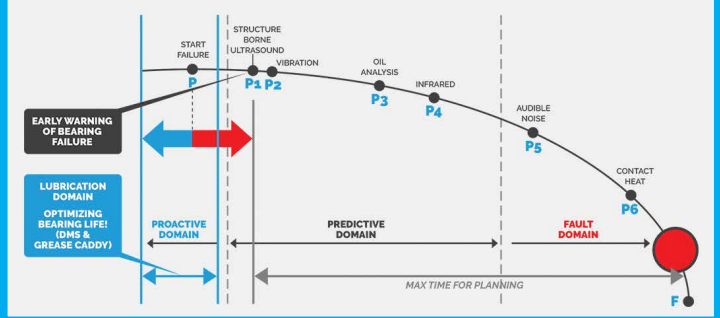


Remote Access Sensors (RAS)



850S Slow Speed or High Speed Sensors

ULTRASOUND CAN DETECT: OUTER/INNER RACE DEFECTS, FLUTING, LOOSE/CRACKED ROTOR BARS & LOOSENESS



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