

*VIBRATION MONITORING  
FOR  
Cooling Towers*

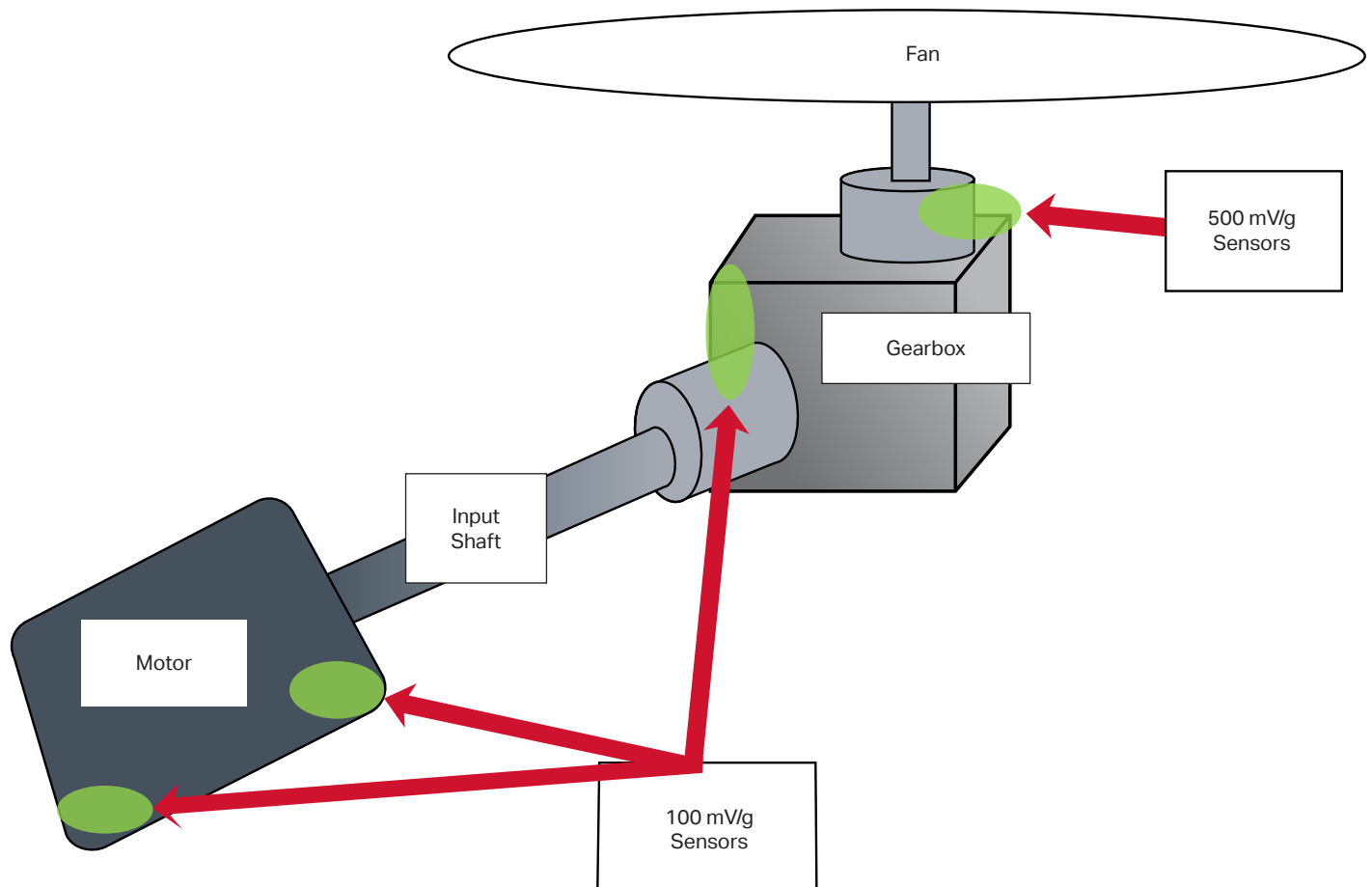


**WHEN RELIABILITY MATTERS  
CONNECT TO CONFIDENCE**

Cooling towers are frequent choices for vibration monitoring due to their often critical role in maintaining operational efficiencies. Vibration analysis can be used to improve reliability and extend lifetime of cooling tower equipment. While cooling towers range from small single cell units to large multi-cell configurations, any configuration that employs the use of rotating parts requires effective monitoring.

### **How It Works**

The machinery generally consists of three phases: motor, gearbox, and fan. In order to provide maximum reliability, all three phases should be monitored. To accomplish this, accelerometers should be placed at key places on the motor, gearbox, and fan bearings. Typically, vibration sensors are mounted on the bearing surface in either the horizontal, vertical, or axial directions.



**What We Offer**

**Accelerometers:**

For maximum coverage, six sensors should be used on both the motor and the gearbox for a total of 12 sensors per installation. General purpose sensors like CTC's AC102, AC104, AC192 and AC194 series sensors rated at 100 mV/g are recommended for applications over 30 CPM (0.5 Hz). Additionally, triaxial accelerometers like CTC's TREA Series are a great way to get three axes of data with lower cabling and installation costs.



**AC102**  
Standard Size,  
Top Exit



**AC104**  
Standard Size,  
Side Exit



**AC192**  
Compact Size,  
Top Exit



**AC194**  
Compact Size,  
Side Exit



**TREA330**  
Mini Size,  
Triaxial Side Exit

Low-frequency applications from 12 CPM to 30 CPM (0.2 Hz to 0.5 Hz) should use a 500 mV/g sensor like CTC's AC133, AC134, and TXFA331 series accelerometers.



**AC133**  
Standard Size,  
Top Exit



**AC134**  
Standard Size,  
Side Exit



**TXFA331**  
Standard Size,  
Triaxial Side Exit

**Cables & Connectors:**

CTC's V Series Viton® Boot Connectors are ideal for use in the wet, caustic environment created by cooling towers. They create an IP69-rated seal with the sensor, and are excellent in highly-corrosive environments. CTC recommends using these connectors in conjunction with CTC's CB111 or CB119 FEP jacketed cables.



**CB111**



**CB119**



**V2R**



**V3N**



**V4J**

V Series connectors come in 2, 3, and 4 pin options for use with single axis, biaxial, or triaxial sensors.