

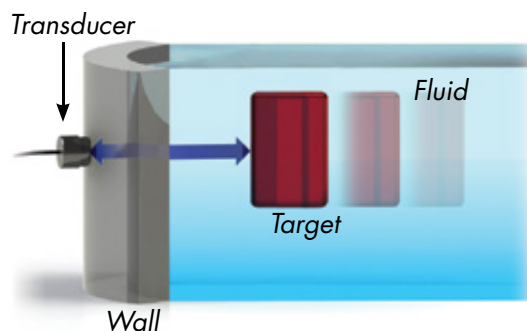
Ultrasonic Vibration Monitoring System: UVMS Valve Internal Vibration Monitoring

UVMS CAN SEE THROUGH A WALL AND MEASURE VIBRATION WITH EXTREME ACCURACY.

Structural Integrity Associates has developed a new, state of the art, vibration monitoring technology to measure vibration behind pressure boundaries where the application of conventional vibration probes are extremely difficult, expensive, or not possible. The pressure boundary could be a BWR or PWR reactor pressure wall, valve body or pump housing, for example.

ABOUT UVMS

UVMS utilizes conventional ultrasonic technology with cutting edge data acquisition, data processing and state of the art signal processing. UVMS uses high frequency ultrasound to penetrate through the pressure boundary and the water to measure the vibration of the target.



UVMS FACTS:

- Application specific testing performed to date has shown the following characteristics:
- Accuracy: 0.0056 [mill-RMS]
- Wide Measuring Range
- Thickness of Pressure Boundary: 0.25-12" (carbon steel)
- Length of Water Path: 0-12"

SIMPLE NON-INTRUSIVE INSTALLATION

One of the main advantages of the UVMS is the simple nonintrusive installation. UVMS probes can be installed without opening or compromising the pressure boundary. For certain valve configuration, the installation time of the transducers is expected to be comparable to traditional vibration sensors.

NO SENSOR CALIBRATION OR ENGINEERING FACTOR

Because of the unique configuration of UVMS no sensor calibration is needed. There is no engineering factor associated with this technology. Accuracy of the sensors will not change in time and will not be affected because of temperature or radiation.

POTENTIAL APPLICATIONS INCLUDE

- Valve and Pump Internal Vibration Monitoring
- Jet Pump Condition Monitoring
- Cavitation Monitoring or Mapping

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