

### 3. Vibration Analysis Solutions

#### Bearing problems are the most common cause for machine and plant damage.

Slight misalignment or imbalance creates significant greater than expected load for a bearing. Very often bearing lubrication is found insufficient. All of these factors reduce the service life of bearings. The identification of insufficient lubrication or a source for a bearing damage is no great matter and done in a few minutes.

A detailed problem analysis is important. So it happens that engineers suspect a bearing damage, but gear problems are actually present. The bearings are replaced now, costs are incurred without eliminating the problem. Therefore it is essential to find the cause of the problem. Just changing a bearing where an imbalance or a misalignment is causing the problem does not solve the problem and the bearing will fail shortly again creating more cost.

Statistics show that insufficient bearing lubrication is the highest cause for most bearing damages. Finding lubrication problems is simple and fast with the CMT vibration and ultrasonic devices. A single measurement of only a few seconds gives information about the lubrication of the bearing. Avoid bearing damage and unnecessary costs without much effort.

#### CMT Vibration Meter



The Vibration Meter is a multi-function portable meter that bridges the gap between the basic Vibration meter and advanced FFT data collector / analyser.

It is a complete machine condition monitoring system that gives results without the use of a computer or laptop. It is designed for the technician, engineer and consultant who needs to analyse a rotating machine on-site without investing and carrying expensive instruments to site. Using the CMT Vibration Meter cannot be easier!

Both experts and users without knowledge of vibration analysis can use the device immediately. For the latter the FASIT-Mode (fault source identification tools) has been introduced for simple and rapid damage analysis. It gives an immediate analysis of the problem according to the "traffic light" principle.

Already at the first measurement simple pictograms show whether a lubrication problem, an unbalance, loose parts or a bearing damage is present.

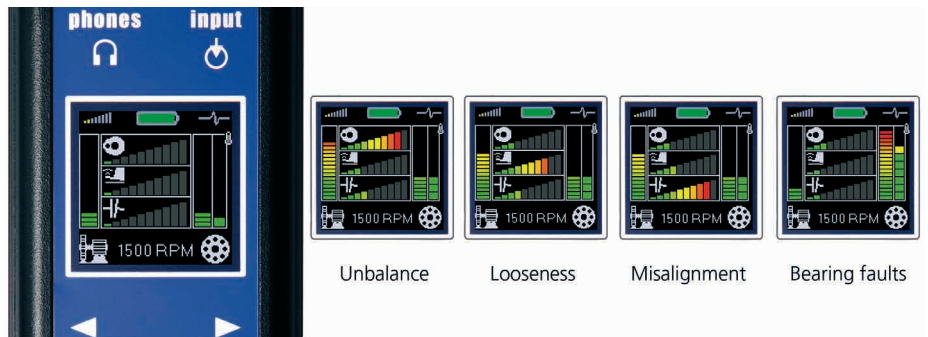
With this unique measuring device, unskilled users can perform following more measurements:

- temperature
- speed measurement
- strobe scope
- stroboscope

In addition it incorporates a handy inspection torch.

This single meter undertakes:

- overall vibration measurement
- three band spectrum
- Time Wave Form
- FFT spectrum



#### Specification Vibration Meter

Input	1 x ICP powered accelerometer 100 mV/g (60g)
Display	1.5 inch / 38 mm (128 x 128 pixel) color OLED display
Output	1 x AC 8 Ohm / 0.5 W signal for external headphones
Velocity	10 - 1000 Hz
Acceleration	500 - 16 000 Hz
Displacement	1 - 1000 Hz
Velocity Spectrum	0 - 200 Hz
Stroboscope	10 - 18000 rpm
Power	2 x AA batteries for 8 hours operation
Operating Temp.	-5 - 50 °C
Dimensions	150 x 60 x 35 [mm]
Weight	330 g device including battery / 540 g complete