

# Standalone LPHP Subsea Vibration Monitor

## INTRODUCTION

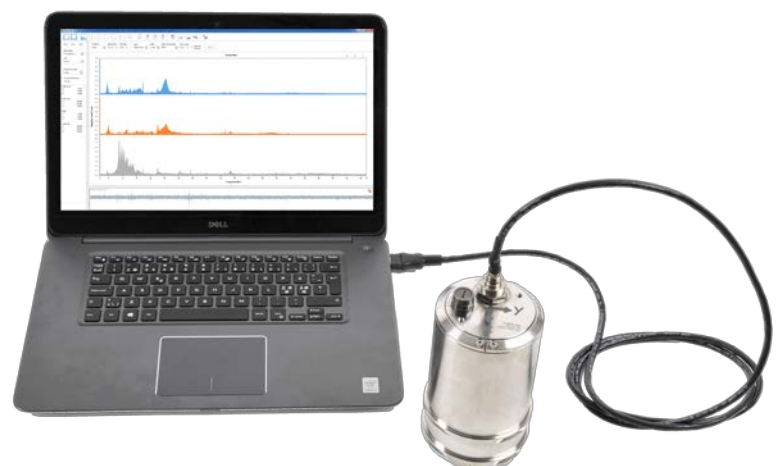
ClampOn Standalone Subsea Vibration monitor allows for accurate quick and easy mobilization and deployment. Combined with ClampOn's software "Vibration Analysis Tool", this kit provides everything needed for inspection and monitoring of vibration subsea. The source of vibration can be anything from Vortex induced low frequency vibration (VIV), Flow Induced Vibration (FIV), Flow Line Induced Pulsation (FLIP) to Slugging and rotating machinery. In combination with advanced computer simulations (modelling), subsea vibration monitoring has become a valuable tool to monitor the state of subsea pipework and structures. In several cases the application has enabled the operator to safely increase production as the measured level of vibration has been less than expected.

## ADVANTAGES

- Standalone, on board battery, processing and data storage
- Rapid installation and retrieval
- Light weight, complete kit in Pelicase
- In store, ready for mobilization
- Flexible, fits all standard pipe sizes
- 3x single axis high Precision accelerometers
- 3-axial low power accelerometer
- 3-axial gyroscope
- 3-axial magnetometer/compass
- 6 month operational life per battery charge
- Plug and play, USB interface for data retrieval and configuration
- Local indication by LED, indicate operational mode, faults and battery status



*Vibration monitor kit in pelicase*

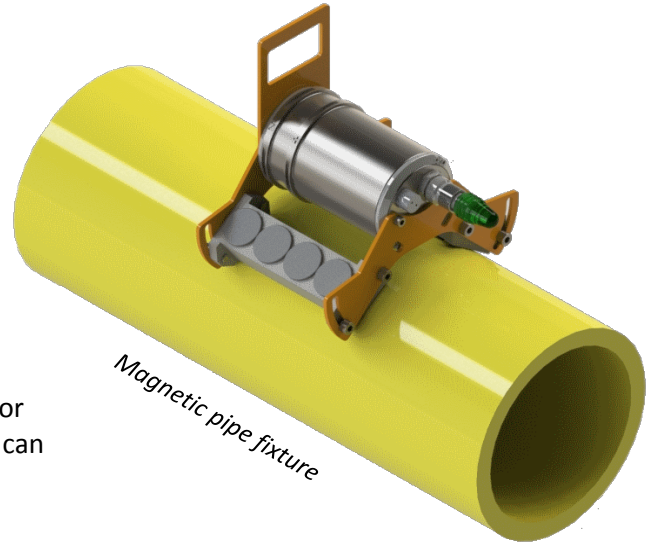


*Vibration monitor connected to PC via USB*

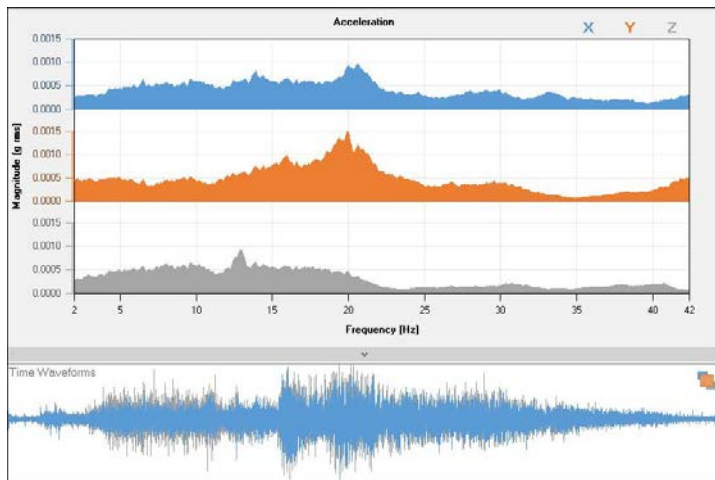
**FIXTURES**

Rapid, efficient deployment and retrieval is important for efficient operation. By means of magnetic fixture it is possible to install and retrieve the vibration monitor very quickly without any wear and tear that would occur on a mechanical clamping system. Our magnetic fixture will lock on to any carbon steel pipework, structures and also flat surfaces, making it a versatile solution. Powerful rare earth permanent magnets ensures that the unit stay in place. Approx. 100kg force is required to remove the fixture from the pipework.

Mechanical clamps are available for standard pipework with or without insulation. Both the Magnetic and mechanical solution can be operated by diver or ROV.



**VIBRATION ANALYSIS TOOL**



**HIGHLIGHTS**

- User Friendly
- Analyse RAW data files
- Support large data files
- Plot Acceleration
- Plot Velocity
- Plot Displacement
- Convert to frequency domain
- Convert to RMS and P-P data
- Generate reports
- Export to CVS files
- Windows based

**OUTLINE SPECIFICATIONS**

- Measurement principle MEMS accelerometers, gyroscope and magnetometer
- Data storage capacity 32 GB
- Battery SAFT Li-ion 54Wh (re-chargable)

<u>Operation modes:</u>	<u>HP (High Precision)</u>	<u>LP (Low Power)</u>
• Acceleration range:	±2g	±2g, ±4g, ±8g, ±16g
• Frequency range:	0-700 Hz	0-400 Hz
• Noise density:	7 µg/√Hz	50 µg/√Hz
• Sampling frequency:	Max 5000 Hz	Max 950 Hz
• Output data bits/sample:	24 bit	16 bit
• Output data resolution:	0.291 µg/LSB	61.0 µg/LSB

*Refer to instrument data sheet for full specifications*