

ROV-based Passive acoustic leak detector Leaklog[®] PA1



Enhancing subsea pipeline integrity through advanced acoustic sensing, Aquatec's LEAKlog[®] PA1 Passive Acoustic Leak Detector excels in pinpointing high-pressure gas and liquid leaks. Optimised for deep-sea operations up to 2,000 m, this instrument harnesses ultrasonic technology to detect the distinct acoustic signatures of leaks in the 30-150 kHz frequency range.

Specifications

Product	ROV-based Passive acoustic leak detector Leaklog [®] PA1
Country of origin	UK
Manufacturer	Aquatec Group Ltd.

With remarkable precision, the LEAKlog® PA1’s highly sensitive directional hydrophone and sophisticated noise filtration capabilities isolate leak sounds from ambient underwater disturbances. Seamlessly integrating with ROVs and Aquatec’s **AQUAtalk™** software, it delivers real-time acoustic data to operators, enabling rapid leak localisation. An invaluable addition to multi-sensor leak detection strategies, the LEAKlog® PA1 ensures comprehensive pipeline monitoring where conventional methods fall short

Specifications

Material	Acetal and ABS
Depth rating	2.000 meter
Frequency Response	From 30kHz to 150kHz
Supply voltage	12 Vdc
Dimensions	Dimensions 80 mm (3.15 in) diameter × 261 mm (10.28 in) length
Weight	1.4 kg (3.08 lbs)

Key features

- Advanced ultrasonic acoustic sensing tuned to detect leak signatures in the 30-150 kHz range
- Highly directional hydrophone for precise leak localisation
- Sophisticated noise filtration to isolate leak sounds from ambient underwater noise
- Selectable gain options and auto-gain for optimised sensitivity in varying conditions
- Real-time data Integration with **AQUAtalk™** software for immediate leak analysis.

Applications

- Deep-sea pipeline integrity monitoring for the oil & gas industry
- Rapid localisation and mitigation of high-pressure gas and liquid leaks
- Complementary technology for multi-sensor leak detection strategies
- Preventive maintenance and routine subsea inspection surveys
- Remote subsea acoustic monitoring for various underwater operations including valve monitoring

Acoustic leak detection

The LEAKlog® PA1 offers unparalleled acoustic precision. This method utilises a directional hydrophone that ‘listens’ for high-frequency sounds produced by pressurised fluids escaping through small orifices. By using precision filtering, the LEAKlog® PA1 discerns the distinct ultrasonic frequencies of a leak amidst the sea of underwater sounds, including those from ROVs and surface vessels.

The advanced acoustic detection capability of the PA1, powered by noise filters, zeroes in on leaks across a spectrum of pipeline and equipment failures – from risers and flanges to complex sub-sea control systems. Designed for versatility, the hydrophone can be deployed via ROV, AUV, or towed vehicles, providing flexibility and rapid pinpointing of leak locations. Embracing the latest in data handling, the PA1 ensures that leak detection remains accurate and efficient even amid the bustling activity of marine operations.