Mako Offshore



This subsea Leak & Cement Detection System is designed for accurate detection of fluorescent dyes used in offshore operations. With over a decade of field deployments and thousands of operational days, it delivers highly reliable performance in extreme subsea environments.

The system detects trace levels of dye by emitting high-intensity light at specific wavelengths. Fluorescing dye particles emit light at different wavelengths, which are captured and multiplied through internal optics, allowing for automated, software-based detection. The technology is significantly more sensitive than the human eye or black-light systems and operates even with ROV lights enabled.

Key Features

- Detects minute concentrations of fluorescent dyes
- Operates effectively in harsh subsea environments
- Works without disabling ROV lights (bright-light safe)
- Reduces offshore time and operational cost
- Provides repeatable results, free from human error
- Dual function: leak detection and cement return confirmation
- Supplied with Windows-compatible software interface

Applications

- Leak Detection: Hydraulic lines, risers, manifolds, and subsea connections
- Cement Return Verification: During well cementing and abandonment
- System Commissioning: Spool tie-ins and subsea structural checks
- Decommissioning Support: Verifying plug and abandonment integrity

Detectable Substances

- Rhodamines (e.g., RX9022, B275)
- Fluorescein
- Pelagic 100 & 100 Pink
- Champion Clear Dye
- Hydrocarbons
- *More dyes supported upon request*

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Technical Specifications

Models and Detection Capability

Model Type	Detection Range	Material	Depth Rating	Weight (Air/Water)
Standard 3K Unit	5–7 m	Anodised Aluminium	3,000 m	1.9 kg / 0.97 kg
High-Pressure Unit	5–7 m	Stainless Steel	6,000 m	3.8 kg / 2.8 kg
Shallow Water Unit	5–7 m	Anodised Aluminium	200 m	3.5 kg / 1.8 kg

Electrical and Data

Parameter	Value
Input Voltage	18–32 VDC or 24 VDC battery
Power Consumption	250 mA @ 24 VDC
Communication	RS232 / RS485
Connector Type	MCBH8M wet-mate
Software Interface	Windows Application Included

