

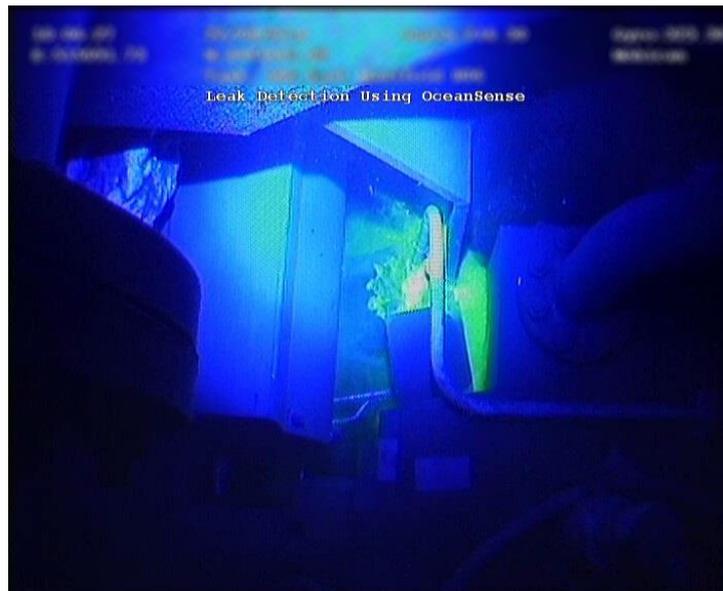


OceanTools

OceanSENSE

Subsea leak and cement dye detection systems

OceanTools OceanSENSE Subsea Leak and Cement Dye detection systems are *field-proven* on hundreds of offshore jobs with a very impressive *detection rate of close to 100%*.



Overview

A *single OceanSENSE* unit may be used both to detect a range of oil and other hydrocarbon leaks from subsea infrastructure *and* cement dye during cementing operations. As a result, significant amounts of money can be saved.

When deployed in a commissioning role, **OceanSENSE** can be used to prove the structural integrity of spool tie-ins and subsea structures beyond the capability of the human eye to see trace dye in water.

OceanSENSE emits high intensity light at a wavelength specific to the tracer dye under detection. The agitated fluid emits light at a different wavelength which is then detected by the **OceanSENSE**'s photo-detector electronics. The light is passed through a photo-multiplier which amplifies the light many thousands of times before the electronics filter and analyse the data. The photo-detector electronics have a detection capability approximately 50 times that of the human eye and that of conventional black-light detection systems.

Detection can be carried out at a safe working distance, and the ROV or manned submersible's lights do not have to be turned off when **OceanSENSE** is in operation, thus making for significantly safer operations.

The simple and intuitive **OceanSENSE** detection software is easy to use by an offshore operator without prior training or specialist knowledge.



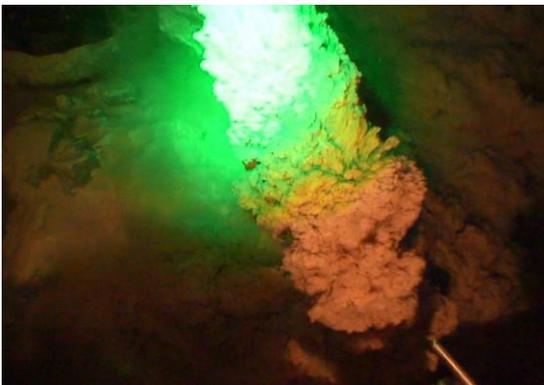
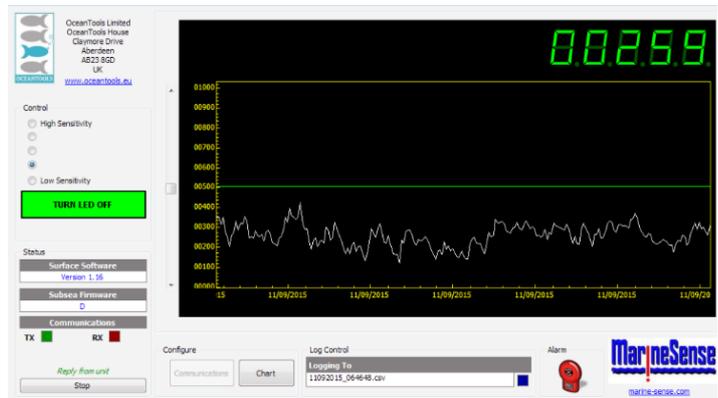
C-Dye

When used with **OceanSENSE** ROV-mounted or diver-held systems, **C-Dye** has greater detection properties than any other dye.

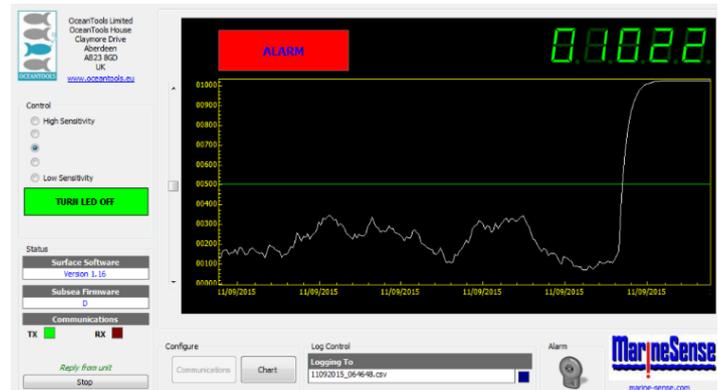
OceanTools C-Dye possesses excellent environmental credentials. In the UK, it conforms to the highest classification, 'Gold with no substitutable components' and in Norway, it holds 'Yellow 1' classification. **C-Dye** has also been successfully EPA/OSHA tested for use in the US. Few other dyes meet this very high level of environmental acceptance.



No cement

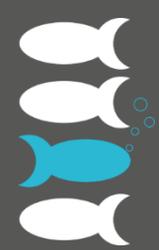


Cement detected



OceanSENSE is field-proven to work with a wide range of dyes, including:

- **OceanTools C-Dye**
- Rhodamine RX9022 and B275
- Fluoresceins
- Champion Cleardye and Fluorodye



The perfect tool for BOP integrity management

The early detection and verification of the source of BOP (Blowout Preventer) valve leaks can mean the difference between having to suspend a drilling operation and continuing the job.

OceanSENSE has been tested against *Houghton Stack-Magic Eco-F*, a hydraulic fluid used globally in BOPs.

OceanSENSE can typically detect *Stack-Magic Eco-F* at ranges up to 7m when used at typical concentrations.

Key Features

- Repeatable results
- ROV/AUV and Diver-held versions
- Results visible both on camera and via software
- Impressive detection range up to 7m
- Field proven on hundreds of jobs
- Simple to operate system



Houghton Stack-Magic Eco-F laboratory test

Satisfied leak detection clients

"They pressured up the MeOH line and we started looking for the leak with the OceanSENSE Sensor.

The OceanSENSE software picked up a trace which then focused our attention to a particular area and basically led us in until the visual leak could be seen. The leak was in an awkward place which could have easily been missed if a visual only system was being utilised.

I would use the analogy that the OceanSENSE is like a sonar for leaks - guiding you in when the visual indication of a leak is outwith the range or reach of a camera.

The equipment was small, light, easy to install and we had zero failures on either of the two systems we were hiring. During the planning and preparation of the job the staff at OceanTools in the UK were extremely helpful and their assistance was perfect to make the job happen in the timeline we were given by the client, so thanks to the team at OceanTools.

As far as I know no support was required from them during the work so that is testament alone to the usability and reliability of the equipment."



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OceanSENSE-RM ROV Mounted units (3000m and 6000m)



OceanSENSE-DH Diver Held unit

	OceanSENSE-RM (ROV Mounted) 3000m	OceanSENSE-RM (ROV Mounted) 6000m	OceanSENSE-DH (Diver Held)
Length (incl connector)	220mm	200mm	210mm
Maximum diameter	105mm	126mm	116mm
Measurement cone	7°	7°	7°
Weight in air	1.9kg	3.5kg	3.5kg
Weight in water	1.0kg	2.2kg	1.8kg
Standard depth rating	3000m	6000m	200m
Input voltage	18-32VDC	18-32VDC	18-32VDC
Operating current	550mA @ 24VDC	550mA @ 24VDC	570mA @ 24VDC
Data communications	RS232/RS485	RS232/RS485	-
Display	-	-	Internal micro VGA

See animations and videos of **OceanSENSE** online at www.youtube.com/user/OceanToolsLtd

Product datasheets, GA drawings, case studies and other supporting documents are available to download from data.oceantools.co.uk
All specifications are subject to change without notice. E&OE.

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