



# OceanTools

## D3 and D5 DyeLighter®

### Subsea fluorescent dye detection lights

The **D3** and **D5 DyeLighter** systems are a cost-effective modern replacement for old-fashioned “black lights” for the detection of subsea leaks using dye fluorescence.



D3 DyeLighter



D5 DyeLighter

## Overview

The **D3** and **D5 DyeLighter** systems may be used to highlight leaks from subsea infrastructure such as manifolds, wellheads or pipelines if a suitable dye has been added to the infrastructure fluids. They may also be used during casing cementing operations to help detect cement returns if a tracer dye is added to either the seawater spacer or to the cement itself.

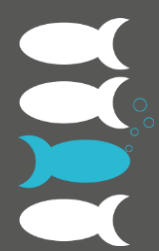
High intensity LEDs are combined with specially developed optics to focus, filter and diffuse the light. The concentrated beam is tuned to a specific wavelength to cause maximum molecular agitation and fluorescence of the dye at which it is pointed.

**DyeLighters** are designed to be used in conjunction with a dye detection camera, which contains special filters to remove background light to aid detection of the dye.

The ultra compact **D3 DyeLighter** has been designed for smaller observation ROVs where space might be at a premium. It contains a single filtered high intensity LED. The more powerful **D5 DyeLighter** contains a trio of LEDs and may be fitted to larger ROV systems. Both models have provision for a mounting bracket or clamp.

## Key Features

- Rhodamine, Fluorescein or Ultraviolet dye detection
- Focused beam and filtered high intensity LEDs
- Provision for mounting bracket or clamp
- 30 month standard OceanTools warranty



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## Detection Dyes

Versions of the **D3** and **D5 DyeLighter** are designed to work with specific types of dye in addition to OceanTools **C-Dye** and **C-Dye 370**, including:

- Rhodamine dyes such as B275, RX9022, Pelagic 100 Pink
- Fluorescein dyes such as HW443, HW540P, Oceanic Yellow LTF
- Ultraviolet dyes such as RX9026E, Pelagic 100, Champion Cleardye, Castrol HT2

Please contact OceanTools for advice on other dyes that may be detected using **DyeLighter** systems.

## Specifications

	D3 DyeLighter	D5 DyeLighter
<b>Input voltage</b>	24VDC (12–36VDC)	
<b>Maximum current</b>	1A @ 24VDC	3A @ 24VDC
<b>Excitation wavelength</b>	520–530nm (Rhodamine) or 450–460nm (Fluorescein) or 360–370nm (Ultraviolet)	
<b>Depth rating</b>	4000m or 8000m	
<b>Housing</b>	Anodised Aluminium (4000m) or Titanium (8000m)	
<b>Window</b>	Sapphire Glass	
<b>Length (excl connector)</b>	119mm	130mm
<b>Maximum diameter</b>	40mm	80mm
<b>Weight in air *</b>	350g	1.2kg
<b>Weight in water *</b>	200g	700g
<b>Connector</b>	Seacon / Subconn MCBHMP SS (others on request)	
* 4000m rated version		

## Related Products

**D7 DyeTector** systems include the very latest photon multiplier technology to detect even the smallest amounts of fluorescence from the agitated dye molecules. Advanced detection electronics convert the measurements to digital data.

Product datasheets, GA drawings, case studies and other supporting documents are available to download from [data.oceantools.co.uk](http://data.oceantools.co.uk)

All specifications are subject to change without notice. E&OE.

Version 4 (29.07.2020)



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