

## Fluorescein dye detection system

oe2800/1



### The standard oe2800/1 system consists of:

- 1 off oe14366f/oe14-367f Underwater Camera
- 2 off oe11-135f Underwater Lamp
- Baseplate

- Leak detection
- Cost effective
- Rapid deployment

The Kongsberg Maritime Fluorescein Dye Detection system is based on the highly successful OE14-366/367 ROV zoom inspection camera and the OE11-135 underwater floodlight. Modification of the colour temperature output of the lamp allows fluorescein dye to fluoresce when illuminated. Modification of the light wavelength response of the camera allows the camera to only detect the wavelength of light corresponding to the dye fluorescence. This system allows for the easy detection of leaks during integrity testing.

The system is supplied with a baseplate to ensure that the convergence of the lamp beam and camera field of view occurs at around 2 metres. This innovative solution to leak detection offers significant improvements in detection speed and operational costs.

A variation of the system for diver use is also available.

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## Underwater camera

oe14-366f/367f



- 12:1 zoom
- Fluorescein Dye detection
- Leak detection

The Kongsberg Maritime OE14-366 (PAL) and OE14-367 (NTSC) Colour Zoom Cameras use the latest Hyper-HAD solid state sensor to provide excellent light sensitivity and image definition.

These cameras have been designed to offer maximum performance and flexibility for ROV inspection tasks.

These cameras have now been modified to create a variant for Fluorescein Dye detection, the OE14-366f and OE14-367f. They enjoy all the features of the OE14-366 and OE14-367 but have been additionally adapted to detect the wavelength of light emitted by Fluorescein Dye when excited.

## Standard Features

**Electrical**

Horizontal Resolution	460 TV Lines (OE14-366f) 470 TV Lines (OE14-367f)
Light Sensitivity	0.1 Lux (faceplate)
Sensor Type	1/3" Hyper-HAD CCD
Signal to Noise Ratio	>48dB weighted
Scanning	625 Line / 50Hz PAL (OE14-366f) 525 Line / 60Hz NTSC (OE14-367f)
Power Input	Constant Voltage 16V-24Vdc 550mA maximum
Video Output	1V Pk-Pk composite video into 75Ω
Focus/Zoom Control	Standard Single-Wire Tri-state
Electro-Magnetic Compatibility	EN50081-1 Emission EN50082-1 Immunity

**Environmental**

Water Depth	3,000 metres (deeper options available)
Temperature	Operating -5°C to +40°C Storage -20°C to +60°C
Vibration	10g, 20-150Hz, 3-axes (non-operating)
Shock	30g peak, 25mS half-sine pulse

**Optical**

Detection	Fluorescein Dye detection system fitted
Zoom Lens	12:1 Magnification
Water Compensation	Multi-Element Optical Compensator
Iris Control	Automatic
Focus Control	Remote Control 0mm to Infinity
Angle of View in Water	55° (min. Zoom) to 5.3° (max. Zoom) Diagonal in Water

**Mechanical**

Diameter	80mm (main body) 93mm (rubber guard)
Length	175mm (excl. connector)
Weight	1.8 Kg in Air, 1.8 Kg in Water
Standard Housing	6AL/4V ASTM B348 Titanium Alloy
Connector	Sea-Con FAWM-8P-BCRA (or equivalent) Other Connector options available



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## Underwater lamp

oe11-135f



- Adapted colour temperature
- Pressure balanced
- Quick detection

**Standard Features****Electrical**

Lighting	Plug-in high efficiency quartz halogen bulb. Fully variable output.
Power	115V/300 Watt
Reflector	Integral internal body reflector

**Environmental**

Depth Rating	3,000 metres standard
Temperature	Operating -5°C to +40°C Storage -20°C to +60°C
Vibration	10g, 20-150Hz, 3-axes (non-operating)
Shock	30g peak, 25mS half-sine pulse

**Mechanical**

Diameter	80mm (main body) 93mm (rubber guard)
Length	48mm (rear body)
Weight	0.7 Kg in Air, 0.5 Kg in Water
Corrosion Protection	Hard Anodised, Black dyed
Housing	6082-T6 Marine Grade Aluminium
Connector	EO Type (or equivalent) 59F2M Right angle connector options available

**Optical**

Light Output	Colour temperature modification system fitted. Filter system oil filled and pressure balanced to match depth rating.
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Kongsberg Maritime's range of underwater lamps have been designed to address the specific requirements of high quality underwater video inspection and observation tasks.

The OE11-135 is a compact, high power lamp soecifically designed for diver and ROV deployment applications.

The OE11-135 has now been modified to create a variant for Fluorescein Dye detection, the OE11-135f. The OE11-135f enjoys most of the features of the OE11-135 but has been adapted by the incorporation of a filter systems which modifies the lamp colour temperature. This modified output allows Fluorescein Dye to fluoresce when illuminated.

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