LDI

LASER DIAGNOSTIC INSTRUMENTS

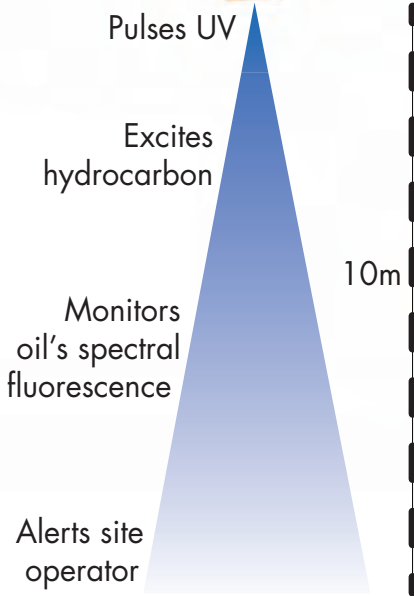# R
# O
# W

EARLY DETECTION
SYSTEM FOR OIL
ON WATER

# ROW ALUMINUM

Pulses UV

Excites hydrocarbon
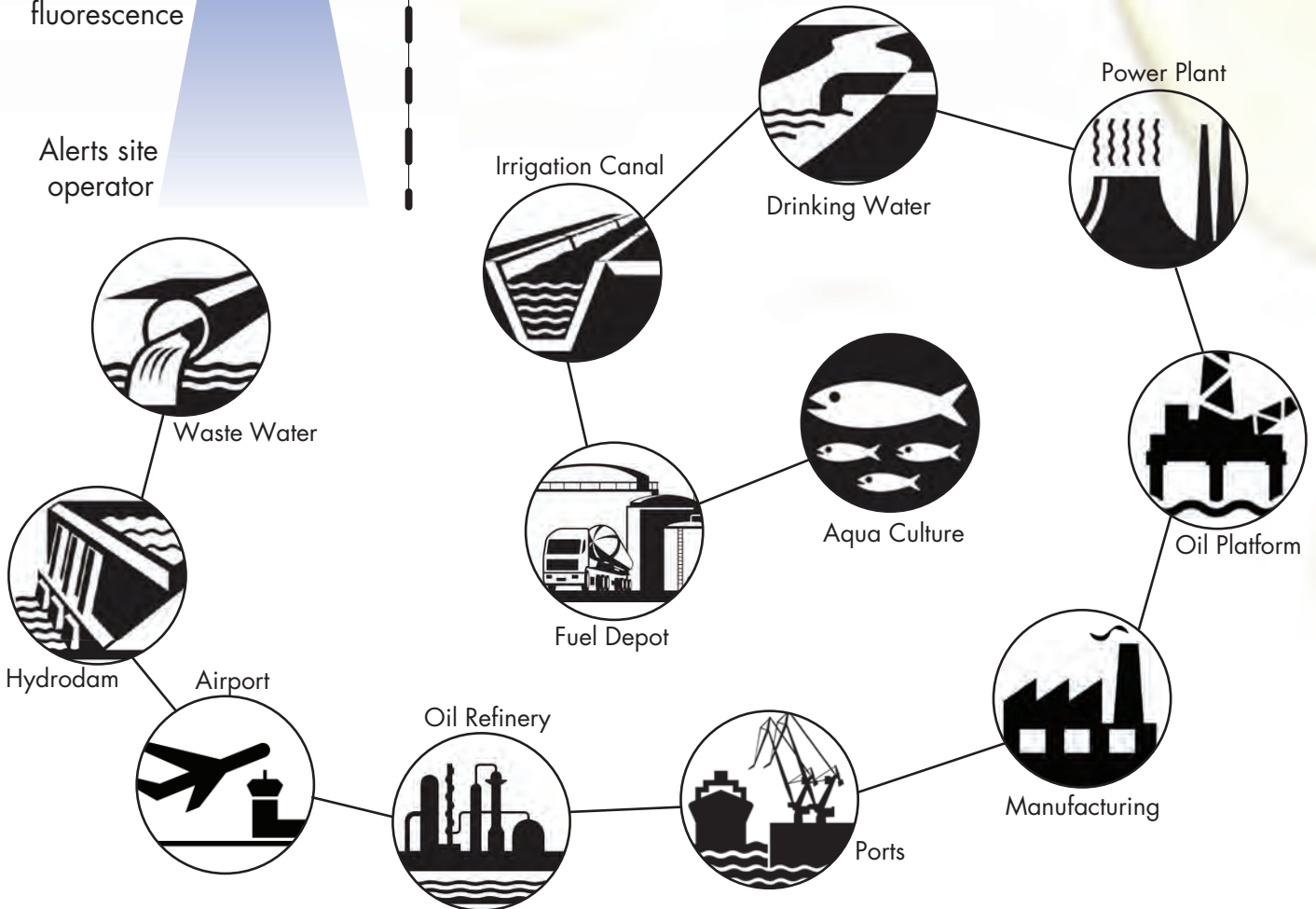
Monitors oil's spectral fluorescence

Alerts site operator

10m

ROW DETECTS:
motor oils, turbine oils,
vegetable oils, fuel oils,
marine diesel oils,
crude oils, heating oils, lube oils, hydraulic oils,
gas oils, motor oils, mineral oils

The **ROW** (Remote Optical Watcher) is a non-contact sensor for detecting oil on water. Highly accurate and easy to maintain, the ROW detects and alerts you to unsuspecting oil spills. It provides 24/7 industrial and environmental water monitoring, whether at effluent discharge or influent intake points.

Irrigation Canal

Drinking Water

Power Plant

Aqua Culture

Oil Platform

Fuel Depot

Waste Water

Hydrodam

Airport
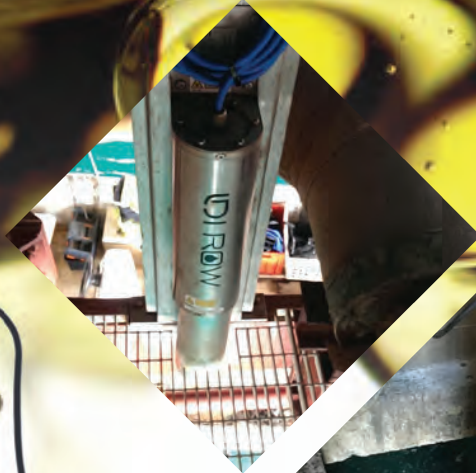
Oil Refinery

Ports

Manufacturing

# ROW ATEX EXD

For hazardous areas including Zone 1 designations, we offer the ROW Ex d Oil Detector in a flameproof (explosion-proof) 3rd party certified enclosure by Bartec.

- 316L Stainless Steel
- IP68
- 8m range
- 1-micron sensitivity
- 2W power consumption
- Explosion Proof Enclosure (Bartec)
  ***Only Enclosure Certified****

All ROWs are compatible with standard industrial telemetry outputs (modbus, 4-20mA, relay) and multiple ROWs can be networked together.

# ROW STAINLESS STEEL

For installations in corrosive conditions, the ROW comes in a Stainless Steel (316L) enclosure.

This ROW model offers a perfect balance between economic costs and rugged design to be installed in even the toughest environments.
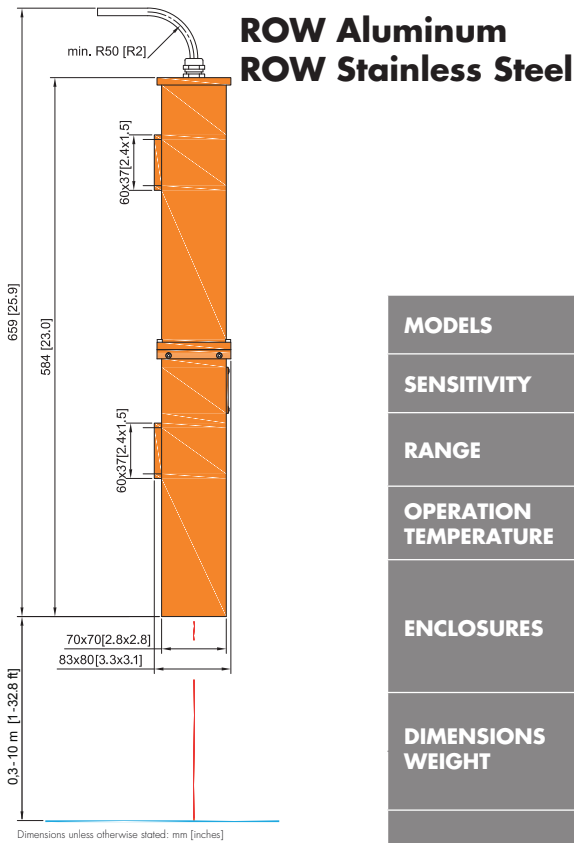
Whether at an oil terminal or in the open seas on a buoy, the ROW can handle the elements and connect seamlessly to your local telemetry.
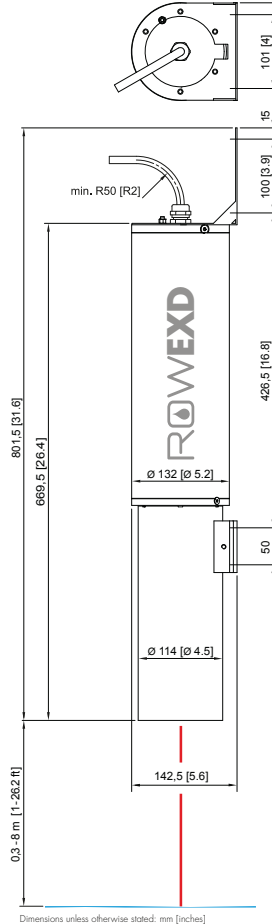
Laser Diagnostic Instruments (LDI) specializes in photonics and software algorithm creating advance fluorescence-based instruments. Located in Estonia (E.U.), LDI is a R&D company and a Manufacturer. All our products are designed and produced in-house. We hold nine core technology patents and continue to innovate our products; as such, you can count on our support for years to come.

# LDI ROW

Optical non-contact and autonomous sensor for real-time detection of oil contamination – UV fluorescence method.

**ROW Aluminum**
**ROW Stainless Steel**

min. R50 [R2]

659 [25.9]
584 [23.0]
60x37[2.4x1.5]
60x37[2.4x1.5]
70x70[2.8x2.8]
83x80[3.3x3.1]
0.3 - 10 m [1-32.8 ft]

Dimensions unless otherwise stated: mm [inches]

## ROW ATEX EXD

101 [4]
15
100 [3.9]
min. R50 [R2]
ROWEXD
426.5 [16.8]
801.5 [31.6]
669.5 [26.4]
ø 132 [ø 5.2]
50
ø 114 [ø 4.5]
142.5 [5.6]
0.3 - 8 m [1-26.2 ft]

Dimensions unless otherwise stated: mm [inches]

# TECHNICAL SPECIFICATIONS

| | |
|---|---|
| **MODELS** | O-2311A (Aluminum), O-2311S (Stainless Steel), O-2301B (ATEX EXD) |
| **SENSITIVITY** | > 1 µm (micrometer) oil film |
| **RANGE** | up to 10 m above surface (water or ground); ATEX EXD only 8 m |
| **OPERATION TEMPERATURE** | -30°C to +60°C [-22°F to 140°F] |
| **ENCLOSURES** | IP68, pressurised (Ar) hermetically sealed, weather proof<br>Aluminum - Anodized, powder painted<br>Stainless Steel - 316L<br>ATEX EXD - 316L ATEX & IECEx flameproof enclosure, Zone 1 II 2 G Ex d IIB, Class 1, Division 1 Groups CD from Bartec |
| **DIMENSIONS WEIGHT** | Aluminum - 659 x 83 x 80 mm   [25.9 x 3.3 x 3.1 in] 1.7 kg [3.7 lbs]<br>Stainless Steel - 686 x 139 x 139 mm   [27 x 5.5 x 5.5 in] 6.9 kg [15.2 lbs]<br>ATEX EXD - 669.5 x 142.5 x 132 mm   [26.4 x 5.6 x 5.2 in] 12 kg [26.5 lbs] |
| **POWER OPTIONS** | 12 VDC (10V - 30V) as standard<br>other options: 110/220 VAC 60/50 Hz<br>AC/DC adapter, solar/battery options available |
| **POWER USAGE** | < 2 Watt (DC) |
| **LIGHT SOURCE** | pulsed UV LED |
| **LED LIFETIME** | 5 years typical, thereafter, LED replacement |
| **OUTPUTS** | relay contacts, RS-485, 4-20 mA (as standard) |
| **TELEMETRY OPTIONS** | RS-232<br>Ethernet/LAN<br>Audio alarm<br>Wireless Radio Link<br>Wi-Fi<br>GSM<br>Custom Solutions | optional adapters available – contact Sales Engineer for additional information |
| **USER INTERFACE** | ROW Configurator for setup & adjustment<br>ROW Manager for network visualization |
| **CERTIFICATIONS** | CE: EN 61000-6-2, 61000-6-3<br>EN 61326-1, 61000-4-2, 61000-4-5, 61000-4-6, 61000-4-8, EN 61010-1<br>US EPA: (EPA/530/UST-90/009)<br>IP68: EN 60529<br><br>⟨Ex⟩ DNV-2003-OSL-ATEX-0436U:   Specific to ROW ATEX EXD<br>EN/IEC: 60079-0, 60079-1   *Only Enclosure Certified\** |
| **WARRANTY** | 2 year factory warranty as standard, supported worldwide |