

Roxar subsea Sand monitor

Non-intrusive acoustic detector

Data Sheet



Real time sand monitoring for oil, gas or multiphase pipelines

The Roxar subsea Sand monitors are intelligent non-intrusive devices that utilize the acoustic noise produced by sand particles to calculate real-time sand production in oil, gas or multiphase pipeline flows. The units are compact, robust and designed for easy installation on the outside of the subsea production pipe-work.

Roxar offers two models; ROV retrievable and Non-retrievable, both mounted in fixed pre-installed clamps with guide funnels.

The Roxar subsea Sand monitor is patent protected through the following IP protection:

- NO 325 937 The locking mechanism for the subsea sand monitor
- 000482898-0001 The design solution for the subsea sand monitor



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS

Specifications

General Specifications

Model:

- Roxar subsea Sand monitor (Version 01/ 02/ 03)

Accuracy:

- Up to 95% depending on flow regimes and calibration level

Repeatability:

- Better than 1% (meaning that the sensor signal will read the same values with less than 1% deviation using a fixed noise generator)

Flow velocity:

- Minimum 1 m/s

Particle detection limit:

- In liquid: $\geq 25 \mu\text{m}$ depending on flow rate, viscosity etc.
- In gas: $\geq 15 - 25 \mu\text{m}$ depending on flow rate, viscosity etc.

Guide Funnel Specifications

- Funnel for ROV retrievable detector: D 378mm, H 395mm
- Tube fixture for fixed detector: D 168.3mm, H 411mm

Dry weight:

- Funnel for ROV retrievable detector 22 kg
- Tube fixture for fixed detector 27 kg

Submerged weight:

- Funnel for ROV retrievable detector 19 kg
- Tube fixture for fixed detector 20 kg

Cathodic protection:

- Covered by client CP system

Material Guide Funnel:

- UNS S31603

Material U-bolts:

- UNS S31603

Pipe diameter OD (inches):

- $\geq 3"$ (Schedule: any)

Detector Specifications

Dry weight:

- ROV retrievable 19 kg
- Non-retrievable 19 kg

Submerged weight:

- ROV retrievable 16 kg
- Non-retrievable 16 kg

Material sensor body:

- UNS S31803 Duplex

No. of interface connectors:

- 1

Interface connector type:

- Standard: Omnitech MKII fitting
- Optional: Tronic or ODI connector

Electrical interface:

- 4/ 7/ 12 way, Analog/ Modbus/ Canbus (SIIS Level 2)

Cathodic protection:

- Covered by client CP system, alternatively through jumper cable

Sealing type:

- C- and O-ring seals

Seal materials:

- Inconel 718-Silver plated & Nitrile Rubber (NBR)

Operating depth:

- 3000 meters

Ambient temperature:

- -40°C to $+70^{\circ}\text{C}$

Pipe surface temperature:

- -40°C to $+225^{\circ}\text{C}$

Design lifetime:

- 25 years

ROV handle:

- Paddle as standard. Other ROV handles on request.

Sensor dimensions:

- ROV retrievable $\varnothing 126\text{mm}$, H 506mm
- Non-retrievable $\varnothing 126\text{mm}$, H 416mm

Electronics

System:

- Dual system (redundant)

Voltage:

- 24 VDC (18 - 30 VDC)

Power consumption running:

- Version 01: < 2.2 Watt
- Version 02/03: < 4 Watt

Start-up current:

- Version 01: 4 x nominal, < 1 sec
- Version 02/03: 2 x nominal, < 1 sec

Communication Interface to SEM

- Analogue 4-20mA passive/ Modbus/ Canbus (SIIS Level 2)

Transceiver:

- --/ RS 485 Two wire/ Fault-tolerant CAN

Baud rate:

- -- / 1200 to 19200/ CanBus 50 or 125 Kbaud

Surface Protection

Guide Funnel, Sensor and Locking Mechanism:

- Xylan 1070, RAL1004 Yellow

ROV handle:

- Xylan 1070, RAL 2004 Orange

Material Certification

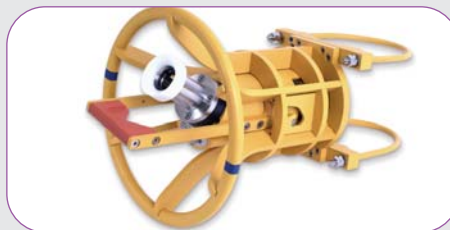
Meter body & guide funnel:

- EN 10204/ 3.1

Design code:

- ISO 13628-6

Roxar subsea Sand monitor



[WWW.ROXAR.COM](http://www.roxar.com)

For further information please contact your regional office or email: info@roxar.com or visit www.roxar.com.

Scandinavia
CIS
Europe/Africa
America

Tel: +47 51 81 88 00
Tel: +7 495 504 3405
Tel: +44 1224 411 200
Tel: +1 713 334 2222

Middle East
Asia Pacific
Australia

Tel: +973 17 517 111
Tel: +603 2162 4450
Tel: +61 8 9315 9500



INTERPRETATION



MODELING



SIMULATION



WELL & COMPLETION



PRODUCTION & PROCESS