



SoliTechw² IL Sensor

Sludge Density, Suspended Solids and Turbidity Sensor

PRODUCT DATASHEET

APPLICATIONS

Primary and Final Settlement
Sludge Thickening and Dewatering
Sludge Import and Export
RAS Control

MEASUREMENT PRINCIPAL

Sapphire Optical Window
180° Back Scatter
Infrared 960 nm

FEATURES

Ball Valve Mounting to allow removal
under pressure
Can be installed in existing pipework
Insensitive to Entrained Air

BENEFITS

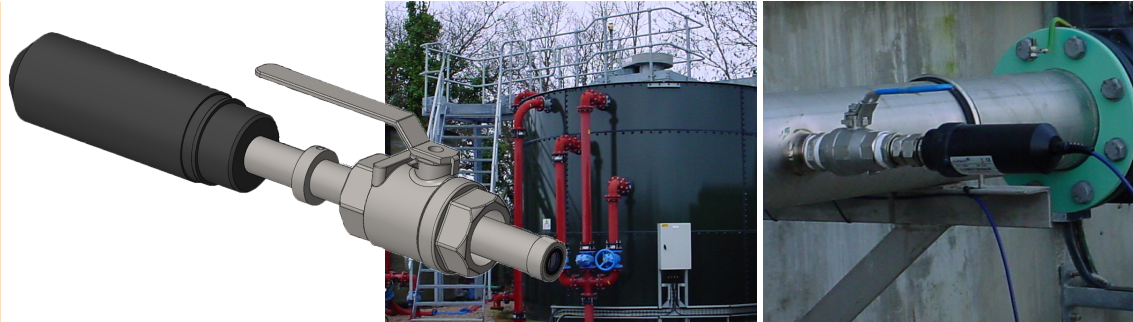
Reduced sludge transportation costs
Allows fully automatic tank de-sludging
Improved sludge treatment

COMPATIBLE MONITOR

7300w² Monitor

ALTERNATIVE SENSOR

TurbiTechw² LA
TurbiTechw² HR



The SoliTechw² IL Sensor provides reliable and repeatable, continuous in-line measurement of sludge density, suspended solids and turbidity. The sensor is installed through a mounting boss onto any pipeline that is larger than 65 mm diameter; the sensing element is positioned flush with the inside wall of the pipe. This ensures that the optical surface is kept clean by the flow passing the sensor and that the sensor does not cause an obstruction to the flow. The optical element has a sapphire window, this offers excellent resistance to fouling and to damage caused by the abrasion from particles in the flow.

The sensor is suitable for a variety of applications including the auto de-sludging of primary and final settlement tanks, where reliable sludge density measurement ensures that downstream treatment processes can operate at their optimum level. When detecting turbidity the sensor can give immediate warning of a filter failure or of contamination of a process by suspended particles. The sensor is also well suited to the monitoring of sludge at tanker intake points, giving an excellent indicator of the strength of the incoming liquor allowing both process adjustments and the charges to be applied to the tanker operator.

The sensor uses infrared back-scatter at 960nm, the light is transmitted and received through a lens that is optically split. The infrared measurement principle allows the sensor to work in applications where entrained air prevents the use of ultrasonic sensors.



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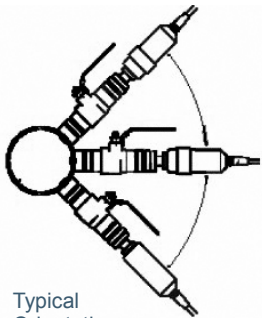
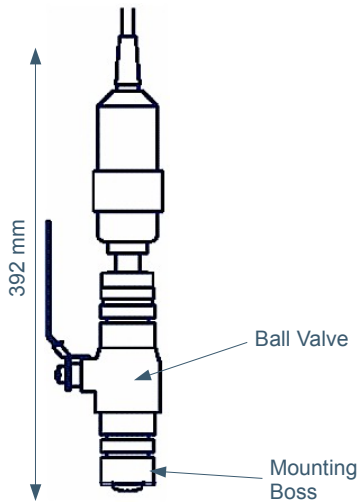




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Typical Orientation

Order Codes

Part No	Description
223614	SoliTechw ² IL Sensor (Range: 0-5 %SS, Cable Length: 10 metres)
223890	SoliTechw ² IL Sensor (Range: 0-5 %SS, Cable Length: 20 metres)
223891	SoliTechw ² IL Sensor (Range: 0-0.5 %SS, Cable Length: 10 metres)
223892	SoliTechw ² IL Sensor (Range: 0-0.5 %SS, Cable Length: 20 metres)

Publication No: I32250DS-Iss03
 The company reserves the right to alter the specification without prior notice. E&OE

Physical

Weight	7.2 kg (inc 10 metres of cable)
Dimensions	392 mm long
Enclosure Rating	IP68
Enclosure Material	Black Acetal Co-Polymer
Cable Entries	Integral Cable via Cable Gland
Wetted Parts	316 Stainless Steel, Sapphire
Cable Type	4 Core, 2 Twisted Pair, 5mm O/D Polyurethane Coated
Cable Length	10 metres standard, 100 metres maximum
Service Requirement	No routine servicing Will require manual cleaning frequency application dependent

Environmental Data

Operating Temperature	0 to 60°C
Storage Temperature	-20 to 60°C
Location	Indoor/Outdoor

Power Supply

Voltage	12VDC from 7300w ² Monitor
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Interface to Monitor

Type	RS485
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Measurement Characteristics

Accuracy	+/-5% FSD on real sample
Resolution	Dependent on range setting, typically +/- 2% FSD
Repeatability	+/-1% FSD on real sample
Measurement Principle	Back Scatter
Wavelength/Frequency	960 nm Infrared
Response Time	0.5 seconds - damping provided by monitor
Pressure Rating	2 Bar
Flow Rate	Not affected by flowrate, sample should be mixed avoiding laminar flow
Maximum Range	0 – 5%SS or 0 – 50,000 mg/l
Minimum Range	0 – 0.5%SS or 0 – 5,000 mg/l

Software

Remote Programming	No
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Mounting

Installation Type	In-Line via Mounting Boss, alternatively a flanged pipe section can be provided Process connection – 1 1/4" BSP Male thread Minimum Line size; 65 mm
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