



# IL55BV2 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

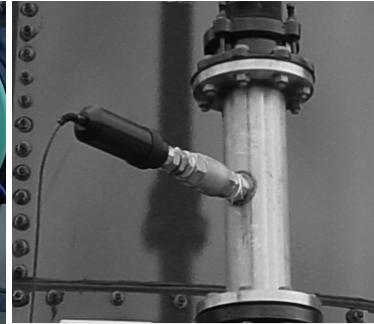
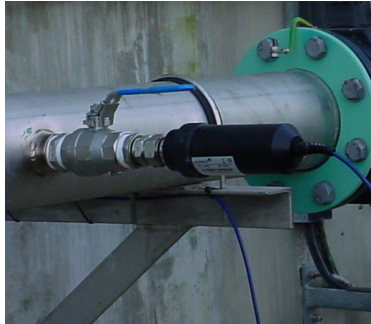
Reduced sludge transportation costs  
Allows fully automatic tank de-sludging  
Improved sludge treatment

### COMPATIBLE MONITOR

7200 Monitor

### ALTERNATIVE SENSOR

IL55



The IL55BV2 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 use 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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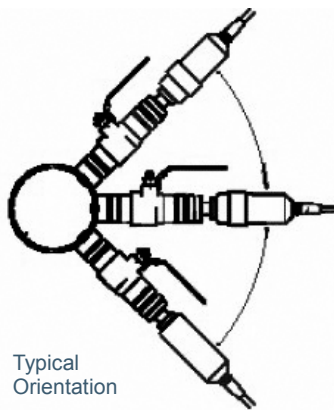
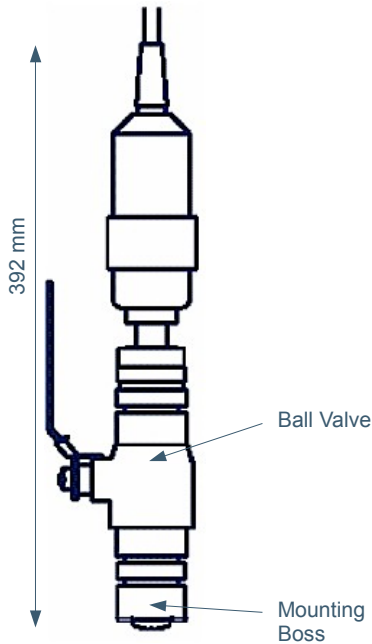




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#### Physical

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	3 core, 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	12VDC from 7200 Monitor
Voltage	

#### Interface to Monitor

Type	0 - 5 mA (linearised by Monitor)
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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 BarG
Flow Rate	Not affected by flowrate
Maximum Range	0 - 5%SS or 0 - 50,000 mg/l
Minimum Range	0 - 0.5% or 0-500mg/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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