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YSI IQ SensorNet ViSolid®H

Total Suspended Solids sensor for hazardous locations (Class 1, Div. 2) according to NFPA 820

The ViSolid® is an optical based TSS (total suspended solids) sensor for the IQ SensorNet process monitoring and control system. In order to get a sufficient degree of nitrification, a sufficient sludge age must be maintained. Sludge age is affected by the amount of sludge wasted and the MLSS (mixed liquor suspended solids) concentration in the aeration tank. Monitoring MLSS and returned activated sludge with the ViSolid allows you to calculate sludge waste and Sludge Retention Time to help you optimize your treatment process and maintain consistent, high quality effluent.



Parameters:
Total Suspended Solids

• **Factory Calibration**

The ViSolid sensor is factory calibrated for two different types of sludge - primary and activated. The factory-calibration and stable optics of the sensor provide accurate measurements without the need for a user-calibration. The sensor can be adjusted to the process and a 1-point calibration can be performed if needed due to the specific application.

• **UltraClean® Ultrasonic Cleaning**

The ViSolid's unique ultrasonic cleaning prevents biofouling which significantly reduces maintenance requirements. UltraClean is integrated into the sensor and never requires a seal or wiper replacement.

• **Measurement Principle**

Utilizes two measurement methods depending on TSS concentrations - either backscatter for higher concentrations or scattered light for lower concentrations.

• **2-year Warranty**



A ViSolid sensor with UltraClean technology remains clean after a 30-day deployment.

Watch the UltraClean technology cleaning in action:

bit.ly/IQclean



IQ SensorNet ViSolid TSS Sensor General Specifications

Calibration Capability	Factory calibrated; user calibration and matrix adjustment available: 1-8 points
Typical Applications	Matrix Type 1: Primary effluent, aeration basin and return activated sludge Matrix Type 2: Primary sludge, digested sludge
Electrical data	Voltage range: 14 VDC to 24 VDC via the MIQ/BB2 barrier box Consumption: 1.5 W Protective Class: III
Cleaning System	UltraClean ultrasonic cleaning system built directly into the sensors, no moving parts or seals to replace
Signal Output	Digital
Warranty	2 years
pH range	4 to 12
Temperature	
Operating	32 to 140 °F (0 to 60 °C)
Storage	23 to 149 °F (-5 to 65 °C)
SensCheck	Detects optic contamination, failure of cleaning system or measurement error for early malfunction detection
Maximum Pressure	10 bars (145 psi); with sensor connection cable (SACIQ (SW))
Conformance/ Certifications	
Electrical	UL 61010-1, CAN/CSA 22.2 #61010.1
Hazardous Location Ratings	Conforms to: ANSI/ISA-12.12.01, CAN/CSA C22.2 #213 for the following location rating: Class 1 Division 2, Group D T6, Class 1 Zone 2, Group IIA T6 (must be used with IQ SensorNet cable and MIQ/BB2 barrier box)
Process Variation Coefficient	According to DIN 38402 part 51; <2% for matrix type 1, <4% for matrix type 2
Sensor	
Material:	Housing - V4A stainless steel 1.4571; Sapphire window; Connector - POM and ETFE
Rating:	IP68; waterproof
Dimensions :	365 L x 40 D mm (14.37 L x 1.57 D in)
(length x diameter)	
Weight:	990 g (2.18 lbs)

IQ SensorNet ViSolid TSS Sensor Technical Specifications

TSS Range	Concentration	0 to 400 mg/L; 0 to 4000 mg/L; 0 to 25,000 mg/L; 0 to 40,000 mg/L
	% Solids	0.0003 to 100% (practical limit: 4%)
TSS Resolution	Auto-Ranging	0.1 mg/L to 1 mg/L, 0.001%, 0.01% or 0.1%

IQ SensorNet ViSolid TSS Sensor Ordering Information (order terminals, modules, cables, sensors and mounting separately)

ViSolid 700 IQ H (#207 012Y)	Digital Total Suspended Solids (TSS) sensor with UltraClean cleaning for the IQ SensorNet system ideal for hazardous locations
MIQ/ BB2 (#207 002Y)	Barrier Box for connecting ViSolid 700 IQ H to an IQ SensorNet system - Class 1 Div 2, Group D T6, Class 1 Zone 2, Group IIA T6

The MIQ/ BB2 Barrier Box (YSI part number 207 002Y) must be used for connection. Refer to the following documents for proper installation:

- Control drawing, YSI document no. 28124 (see MIQ/BB2 operating manual)
- MIQ/BB2 operating manual
- All applicable electrical code regulations

Visit YSI.com/IQ for additional information on the entire IQ SensorNet system.

YSI

1725 Brannum Lane, Yellow Springs, OH 45387
Tel +1 937.767.7241 800.897.4151 (US)
info@ysi.com
YSI.com
@YSIinc facebook.com/myYSI

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