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### **YSI IQ SensorNet ViSolid®**

#### **Total Suspended Solids Sensor**

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 TSS allows direct calculation of sludge age and optimal control of nitrification, denitrification and bio-P removal.

- **Factory Calibration**

The ViSolid sensors are precisely factory calibrated for two different types of sludge (activated and primary). The calibration is extremely stable and there is no need to calibrate on-site. A matrix adjustment is possible as needed. A 1-point or multi-point calibration is possible if sludge size, structure or coloration variations need to be taken into account.

- **UltraClean Ultrasonic Cleaning**

The ultrasound source is integrated in the sensor and generates high-frequency vibrations of the optical windows. Ultrasonic cleaning prevents biofouling resulting in maintenance free operation with accurate measurements everytime.

- **Measurement Principle**

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

- **2-year Warranty**



**Parameters:**

Total Suspended Solids

Temperature



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

Watch the UltraClean technology cleaning in action:

[bit.ly/IQclean](http://bit.ly/IQclean)



## IQ SensorNet ViSolid TSS Sensor General Specifications

Calibration Capability	Factory calibrated; user calibration available: 1-8 points	
Typical Applications	Matrix Type 1: aeration basin of wastewater plants even with >3,000 mg/L (3%) TSS; return line Matrix Type 2: digested sludge	
Cleaning System	UltraClean ultrasonic clean technology; Non-mechanical	
Signal Output	Digital	
Lightning Protection	Yes; when used with IQ SensorNet components	
SensCheck	Detects optic contamination or failure of cleaning system for early malfunction detection	
Power Consumption	1.5 watts	
Maximum Pressure	10 bars (145 psi); with sensor connection cable	
Electrical Connections	2-wire shield cable with quick sensor connection	
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 (SW version Titanium, POM (Polyoxmethylen)); Sapphire window
	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)
	Warranty:	2 years

## 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
	Saturation	0.0003 to 100%
TSS Resolution	Auto-Ranging	0.1 mg/L to 1 mg/L
Temperature	Operating	32 to 140 °F (0 to 60 °C)
	Storage	23 to 149 °F (-5 to 65 °C)

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

ViSolid 700 IQ (#600 012Y)	Digital total suspended solids (TSS) sensor with UltraClean cleaning for the IQ system ideal for water, wastewater, sludge applications
ViSolid 700 IQ SW (#600 013Y)	Digital total suspended solids (TSS) sensor with UltraClean cleaning for the IQ system ideal for industrial or corrosive applications
SACIQ-1.5 (#480 040Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 4.9 ft (1.5 m)
SACIQ-SO (#480 041VY)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length special order up to 330 ft (100 m)
SACIQ-7.0 (#480 042Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 23 ft (7 m)
SACIQ-15.0 (#480 044Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 49 ft (15 m)
SACIQ-20.0 SW (#480 045Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 65 ft (20 m) with screwable SACIQ-Plug
SACIQ-50.0 SW (#480 060Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 162 ft (50 m) with screwable SACIQ-Plug
SACIQ-100.0 SW (#480 062Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 330 ft (100 m) with screwable SACIQ-Plug
SACIQ-SO SW (#480 064VY)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length special order up to 330 ft (100 m) with screwable SACIQ-Plug
SACIQ-25.0 SW (#480 066Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 82 ft (25 m) with screwable SACIQ-Plug
SACIQ-75.0 SW (#480 067Y)	Sensor cable for all IQ SensorNet sensors, IP68 waterproof connection; cable length 243 ft (75 m) with screwable SACIQ-Plug
SACIQ-Plug (#480 065Y)	Screwable plug for all SACIQ sensor cables for IQ sensors

### YSI

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