

Turbi-Tech 2000HR Suspended Solids Sensor



Partech Instruments is a specialist company providing analysers and instruments for monitoring and control in; wastewater, raw water, industrial effluent and surface water applications.

Whatever the application and whatever the location, Partech will supply an effective and efficient service and a support package tailored to suit the customer

The Turbi-Tech 2000HR Sensor has been specifically designed for use in wastewater treatment systems where high levels of suspended solids are desirable in the aeration phase.

Membrane Batch reactors typically run with MLSS values in the region of 8,000 to 14,000 mg/l. High MLSS concentrations promote numerous process benefits, including stable operation, complete nitrification, and reduced biosolids production reducing biological volume requirements (and associated footprint) to only 20–30 percent of conventional biological processes. Further, the membrane tanks provide extremely space efficient solids separation and do not require a clarifier in the system.

The Turbi-Tech 2000HR sensor is suitable for monitoring solids in higher ranges than the standard LA version of the sensor due to its shorter path length. The large optical surface and sample volume combine to ensure that the sensor is providing information that is reliable and representative of the solids present in the process.

Deposits of fats and grease on the sensing area do not prevent the sensor from measuring unlike sensors with small optical surfaces

In addition the sensor incorporates a self cleaning mechanism that ensures that the optical surfaces are kept clean at all times, the cleaning system is designed to avoid problems with ragging and does not smear the optical system. The cleaning system ensures that manual intervention on a routine basis is not required, the sensor should simply be checked as part of general site housekeeping.

The Turbi-Tech 2000HR Sensor uses Infrared Light at 860 nm and operates using the Light Attenuation Principle. The optics are housed in cylindrical glass tubes that are moved past a set of polyurethane wipers seals to carry out the cleaning process. The cleaning mechanism is then sealed by 2 Nitrile 'H' Rings that finish the cleaning process. The Nitrile seals can be exchanged for Viton if the process media dictates.

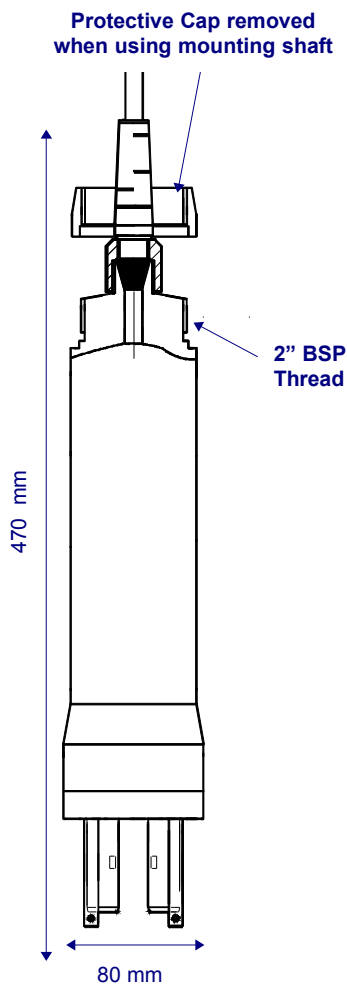
The cleaning process is automatically initiated by the 7200 Monitor at a user determined frequency. The cleaning process takes only 90 seconds, which when that the sensor is available for 99.5% of the time with a 5 hourly cleaning cycle.

An alternative to fixed installation is the 740 Portable Monitor which works with the Soli-Tech 10 Sensor to monitor both Final Effluent and Mixed Liquor in a single package.

Associated Products

- 7200 Monitor
- Mounting Brackets
- Mounting Shafts
- Turbi-Tech 2000LA Sensor
- Turbi-Tech 2000LS Sensor

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Part Numbers

220600 Turbi-Tech 2000HR Sensor

171560 Conversion to Viton Seals

The measuring range will vary according to the nature of the solids being measured, the ranges quoted are based on typical solids from an activated sludge process.



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The company reserves the right to alter the specification without prior notice. E&OE

Physical

Weight	2.2 kg (inc 10 metres of cable)
Dimensions	80 mm diameter x 470 mm long
Enclosure Rating	IP68
Enclosure Material	Black Acetal Co-Polymer
Cable Entries	Integral Cable Gland
Wetted Parts	Black Acetal, 316 Stainless Steel, Glass
Seal Material	Polyurethane and Nitrile (Viton option)
Cable Type	6 core, 9mm O/D Polyurethane Coated
Cable Length	10 metres standard, 100 metres maximum
Service Requirement	Automatic Self Cleaning Seal Service every 3500 cleans (application dependent)

Environmental Data

Operating Temperature	0 to 50°C
Storage Temperature	-20 to 60°C
Location	Indoor/Outdoor

Power Supply

Voltage	12VDC from 7200 Monitor
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Interface to Monitor

Type	PWM Digital Signal
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Measurement Characteristics

Accuracy	Better than +/-5% FSD on real sample
Resolution	Dependent on range setting, typically +/-2%
Repeatability	Better than +/-1% FSD on real sample
Measurement Principle	Light Attenuation
Wavelength/Frequency	860 nm Infrared
Response Time	0.5 seconds - damping provided by monitor
Pressure Rating (Depth)	10 mWC
Flow Rate	Not affected by flowrate, avoid dead spots and extreme turbulence
Maximum Range	0 - 30,000 mg/l
Minimum Range	0 - 10,000 mg/l

Software

Remote Programming	No
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Mounting

Installation Type	Dip, Flowcell or Stilling Tube
Mounting Shaft	0.5 to 3 metres in 0.5 metre increments
Handrail Attachment	Part Numbers 160000 + 160080
Stilling Tube	Yes

Approvals

EMC	EN61326:1998 EMC Requirements for Electrical Equipment for Measuring, Control and Laboratory use
EMC Directive	89/336/EEC
Low Voltage Directive	73/23/EEC
Machinery Directive	89/392/EEC



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