Solitax sc Turbidity & Suspended Solids Sensors

Applications

- Drinking Water
- Wastewater
- Beverage
- Industrial
- Power Generation

Accurate, color-independent suspended solids and turbidity measurements

Greater accuracy, less maintenance

Hach®'s Solitax sc sensors provide accurate, color-independent measurement of turbidity and suspended solids in drinking water, wastewater and industrial process applications. A self-cleaning device prevents biological growth and interference of gas bubbles. This system's reliable performance and full data communication capability help improve process control and reduce treatment costs associated with polymer use, digester volume, and sludge handling.

Excellent correlation to laboratory analysis

Solitax sc sensors show an exceptional correlation to laboratory analysis. On-line measurement not only saves time on manual analysis, but also provides critical real-time measurements that can be used to operate the plant more efficiently.

Fully serviceable sensors

Conventional turbidity and suspended solids sensors are potted and are discarded when they no longer function. Solitax sc sensors are fully serviceable, which often doubles the useful life of the sensor.

Easy one-point calibration

Factory calibrated in conformity with DIN EN ISO 7027 for long-term calibration stability. Calibration is easy with a simple correction factor procedure.

Multi-channel, multi-parameter system

Multiple Solitax sc sensors can be installed on one Hach SC Controller. The same controller can also accommodate any combination of parameters. All of Hach's model sc sensors are "plug and play" with no complicated wiring or set-up procedure necessary.
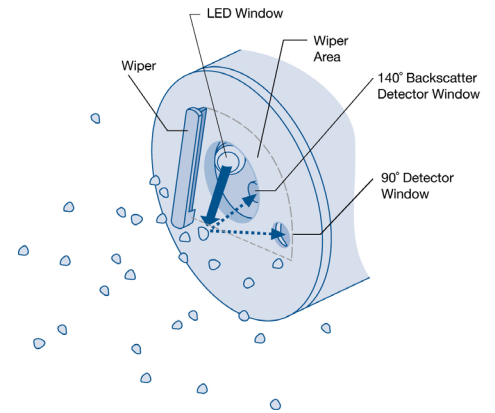
Technical Data*

	For insertion in pipes		For immersion in open tanks		
Model	Solitax inline sc	Solitax highline sc	Solitax t-line sc	Solitax ts-line sc	Solitax hs-line sc
Parameter	Suspended Solids, Turbidity	High Range Suspended Solids, Turbidity	Turbidity	Suspended Solids, Turbidity	High Range Suspended Solids, Turbidity
Range	TSS content: 0.001 mg/L - 50 g/L Turbidity: 0.001 - 4000 NTU	TSS-content: 0.001 - 500 g/L; 0.001 - 500,000 mg/L (the upper range is dependent on the sample property) Turbidity: 0.001 - 4000 NTU	Turbidity: 0.001 - 4000 NTU	TSS content: 0.001 mg/L - 50 g/L Turbidity: 0.001 - 4000 NTU	TSS-content: 0.001 - 500 g/L; 0.001 - 500,000 mg/L (the upper range is dependent on the sample property) Turbidity: 0.001 - 4000 NTU
Units	Turbidity: User selectable - NTU, FNU, or TE/F Suspended Solids: User selectable - g/L, mg/L, ppm, or % solids				
Accuracy	Turbidity up to 1000 NTU: without calibration < 5% of the measured value ±0.01 NTU with calibration < 1% of the measured value ±0.01 NTU				
Repeatability	TSS content: < 3 % Turbidity: < 1 %				
Response Time T90	1 - 300 s adjustable				
Calibration Method	Turbidity: Formazin or STABLCAL Standard (at 800 NTU). Suspended Solids: Sample specific, based on gravimetric TSS analysis with a correction factor procedure.				
Certifications	CE, MCERTS				
Flow	Max. 3 m/s (the presence of air bubbles affects the measurement)				
Operating Temperature Range	0 - 40 °C				
Pressure Range	Stainless steel insertion sensor: <6 bar or <60 m		PVC: <1 bar or <10 m	Stainless steel immersion sensor: <6 bar or <60 m PVC: <1 bar or <10 m	
Material	Optics carrier and sleeve: stainless steel 1.4571 or black PVC Wiper arm: stainless steel 1.4581 Wiper blade: silicone (standard) Optional: FKM/FPM (LZX578) Wiper shaft: stainless steel 1.4571 Threaded cable fitting: stainless steel 1.4305 or white PVC				
Weight	Immersion: Stainless steel: 1.38 kg; PVC: 0.52 kg Insertion: Stainless steel: 2.4 kg				
Cable Length	10 m (optional extension cables available)				

Subject to change without notice.
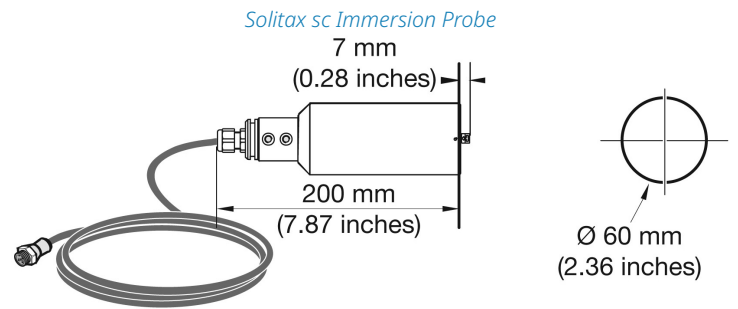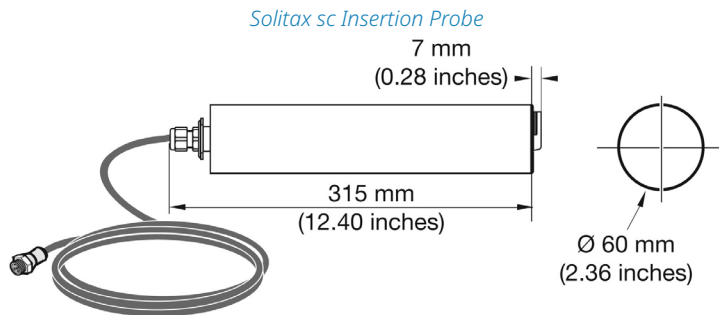
Principle of Operation

Solitax sc ts-line sensor with dual-beam optics and added backscatter detector

- Dual infrared light beams. LED light source transmits light at 45° to sensor face.

- Nephelometric photoreceptors detect light at 90° to the transmitted light beam.

- Backscatter photoreceptor (included on all models except the Solitax sc t-line) detects light at 140° to the transmitted light beam to measure suspended solids in heavily loaded sample streams.

- Self-cleaning wiper, optional.

- T-line probes measure turbidity only. TS, HS, inline, and highline sensors measure either turbidity or suspended solids.
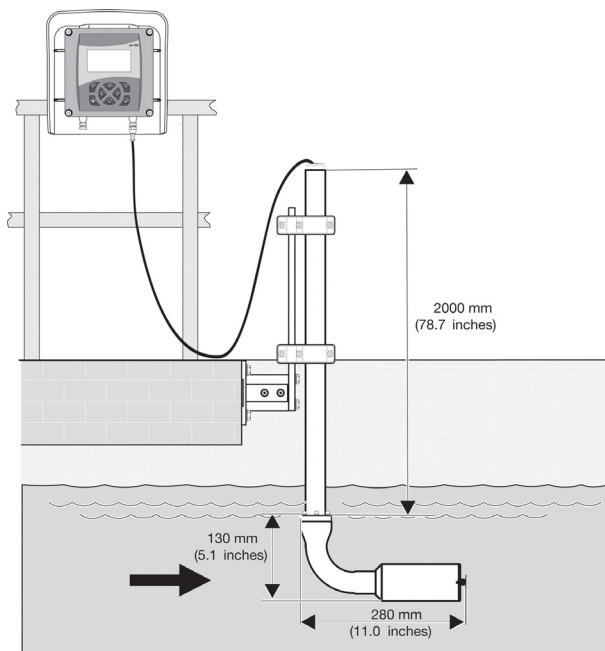
Dimensions

Hach Solitax sc sensors can be fixed to the rim of the tank for immersion applications or inserted directly through the sidewall of a pipeline for insertion applications. A variety of installation kits are available.
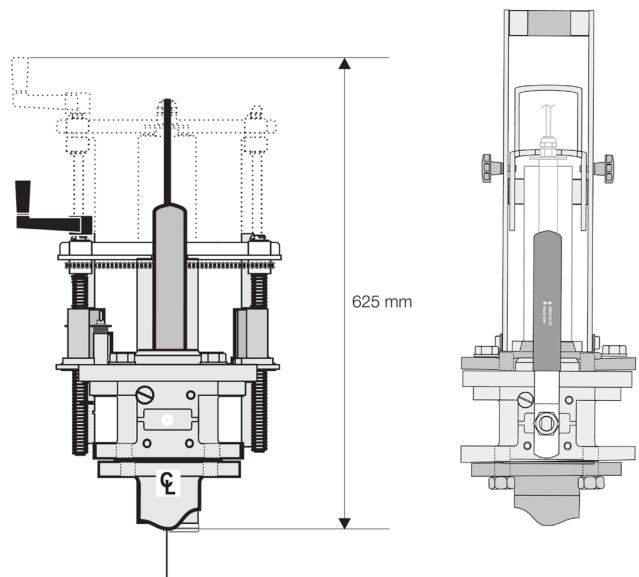
Solitax sc Insertion Probe
7 mm
(0.28 inches)
315 mm
(12.40 inches)
Ø 60 mm
(2.36 inches)

Solitax sc Immersion Probe
7 mm
(0.28 inches)
200 mm
(7.87 inches)
Ø 60 mm
(2.36 inches)

Installation/Mounting

Installation for mounting Solitax sc for immersion in open tanks. (Stainless steel pole mount kit, Prod. No. LZY714.99.53120)

2000 mm
(78.7 inches)

130 mm
(5.1 inches)

280 mm
(11.0 inches)

Fixture with ball valve for mounting Solitax sc models inline and highline sensors in pipes, minimum pipe size 100 mm (4-in.) (Prod. No. LZX337, max pressure 6 bar; Prod. No. LZX936, max. pressure 1 bar.

625 mm

Order Information

Common Configurations: Solitax sc Turbidity and Suspended Solids Analyzers with SC4500 controller and sensors shown

Immersion in Open Tanks Applications

LXV525.97KTO031   Solitax t-line sc Turbidity (0.001 to 4000 NTU), with wiper, PVC

LXV525.97KTO035   Solitax hs-line sc Turbidity (0.001 to 4000 NTU) and Suspended Solids (0.001 mg/L to 500 g/L), with wiper, stainless steel

Insertion in Pipes Applications (includes insertion mounting kit)

LXV525.97KTO026   Solitax inline sc Turbidity (0.001 to 4000 NTU) and Suspended Solids (0.001 mg/L to 50 g/L), with wiper, stainless steel

LXV525.97KTO032   Solitax highline sc Turbidity (0.001 to 4000 NTU) and Suspended Solids (0.001 mg/L to 500 g/L), with wiper, stainless steel

NOTE:
1. Power cords must be ordered separately.
2. Fixed point installation kit or handrail mount kit must be ordered separately for all immersion analyzers.

Individual Solitax sc Sensors

Immersion Sensors

LXV423.99.10000   Turbidity, t-line sc, PVC with wiper (0.001 to 4000 NTU)

LXV423.99.12000   Solitax t-line sc Turbidity immersion probe, 0.001 - 4000 NTU, w/o wiper, PVC

LXV423.99.10100   Turbidity and Suspended Solids, ts-line sc, PVC with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

LXV423.99.12100   Solitax ts-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-50 g/L) immersion probe, w/o wiper, PVC

LXV423.99.00100   Solitax ts-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-50 g/L) immersion probe, with wiper, stainless steel

LXV423.99.02100   Solitax ts-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-50 g/L) immersion probe, w/o wiper, stainless steel

LXV423.99.10200   Solitax hs-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-500 g/L) immersion probe, with wiper, PVC

LXV423.99.12200   Solitax hs-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-500 g/L) immersion probe, w/o wiper, PVC

LXV423.99.00200   Solitax hs-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-500 g/L) immersion probe, with wiper, stainless steel

LXV423.99.02200   Solitax hs-line sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-500 g/L) immersion probe, w/o wiper, stainless steel

LXV424.99.00100   Solitax inline sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-50 g/L) built-in probe, with wiper, stainless steel

LXV424.99.02100   Solitax inline sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-50 g/L) built-in probe, w/o wiper, stainless steel

LXV424.99.00200   Solitax highline sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-500 g/L) built-in probe, with wiper, stainless steel

LXV424.99.02200   Solitax highline sc Turbidity (0.001-4000 NTU) and Suspended Solids (0.001-500 g/L) built-in probe, w/o wiper, stainless steel

Installation Accessories

LZY714.99.53120   Stainless Steel pole mount kit for Solitax t-line, ts-line, and hs-line sc immersion sensors, including 10 cm base and 2 m pole with sensor adapter

LZX337   Stainless steel ball valve safety armature/ extraction fitting for Solitax inline and highline sc probes, for filled and pressurised pipes, max. operating pressure 6 bar

LZX936   Stainless steel ball valve armature, maximum operation pressure 1 bar/14.5 psi

LZX660   Non-coped stainless steel welding flange for insertion kit

LZX661   Non-coped carbon steel welding flange for insertion kit

5738400   Insertion Mounting Kit for inline and highline insertion sensors (ball valve safety armature and extraction system). Kit includes a 4 inch pre-coped Carbon Steel Flange. Non-coped flanges are available. See below.

AHA033NPT   Sensor Adapter, straight 1-1/2 FNPT

AHA045NPT   Probe Adapter, elbow 1-1/2 FNPT 90°

MH236B00Z   CPVC Immersion Handrail Mounting Hardware, 1", pHD Series

Hach Service Protects Your Investment

With Hach Service, you have a global partner who understands your needs and cares about delivering timely, high-quality service you can trust. Our Service Team brings unique expertise to help you maximize instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.