SOLITAX®sc TURBIDITY & SUSPENDED SOLIDS SENSORS

Applications

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

PROGNOSYS™ READY

Accurate, color-independent suspended solids and turbidity measurements.

Greater Accuracy, Less Maintenance

Hach 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

Any two SOLITAX sc sensors can be installed on one Hach sc200 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.

HACH®
Be Right™

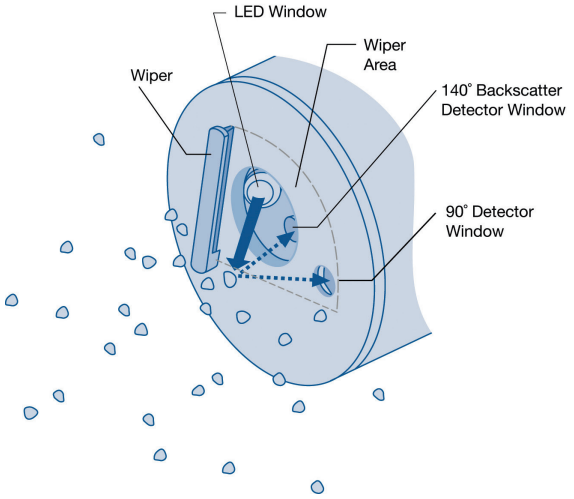
Specifications*

	For insertion in pipes		For immersion in open tanks		
Model	INSERTION inline sc	INSERTION highline sc	IMMERSION t-line sc	IMMERSION ts-line sc	IMMERSION hs-line sc
Parameter	Suspended Solids, Turbidity	Hight Range Suspended Solids, Turbidity	Turbidity	Suspended Solids, Turbidity	Hight Range Suspended Solids, Turbidity
Measuring Range Turbidity	0.001 to 4000 NTU	0.001 to 4000 NTU	0.001 to 4000 NTU	0.001 to 4000 NTU	0.001 to 4000 NTU
Measuring Range TSS-Content	0.001 mg/L to 50 g/L	0.001 mg/L to 500 g/L		0.001 mg/L to 50 g/L	0.001 mg/L to 500 g/L
Unit	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	Suspended solids content: < 3 %				
	Turbidity: < 1 %				
Response Time	1 s < T90 < 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 certified to EN 61326-1, EN 61326/A1, EN 61326/A2, EN 61010-1				
Flow	Max. 3 m/s (the presence of air bubbles affects the measurement)				
Operating Temperature Range	0 to 40 °C (32 to 104°F)				
Pressure Limit	Stainless steel: 6 bar or 60 m (87 psi) PVC: 1 bar or 10 m (14.5 psi) Stainless steel: 6 bar or 60 m (87 psi) PVC: 1 bar or 10 m (14.5 psi)				
Material	Optics Carrier and Sleeve: stainless steel 1.4571 or black PVC Wiper Arm: stainless steel 1.4581; Wiper Blade: silicone (standard) Optional: Viton (LZX578); Wiper Shaft: stainless steel 1.4571 Threaded cable fitting: stainless steel 1.4305 or white PVC		Optics Carrier and Sleeve: stainless steel 1.4571 or black PVC Wiper Arm: stainless steel 1.4581; Wiper Blade: silicone (standard) Optional: Viton (LZX578); Wiper Shaft: stainless steel 1.4571 Threaded cable fitting: stainless steel 1.4305 or white PVC	
Weight Sensor	Insertion stainless steel: 2.4 kg (5.29 lb.)		Immersion stainless steel: 1.38 kg (3.0 lb.) Immersion PVC: 0.52 kg (1.2 lb.)		
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

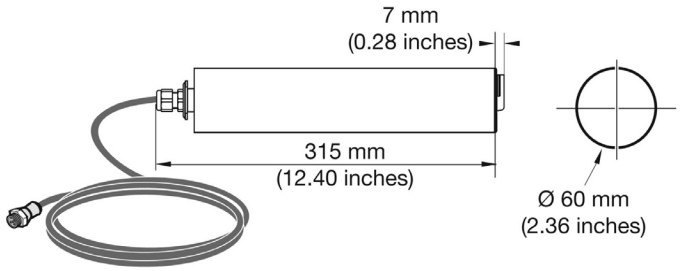
- Dual infrared light beams. LED light source transmits light at 45° to sensor face.
- Nephelometric photoreceptors detect light at 90° to the transmitted light beam.
- Backscatter photoreceptor (included on all models except the SOLITAX sc t-line) detects light at 140° to the transmitted light beam 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.



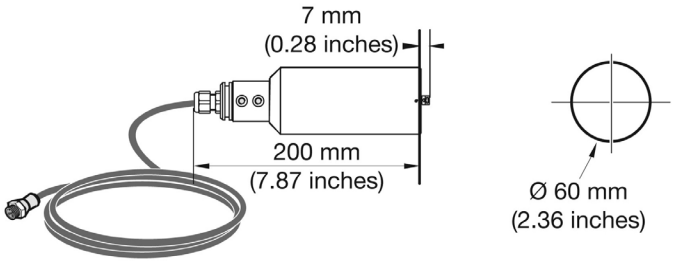
Dimensions

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

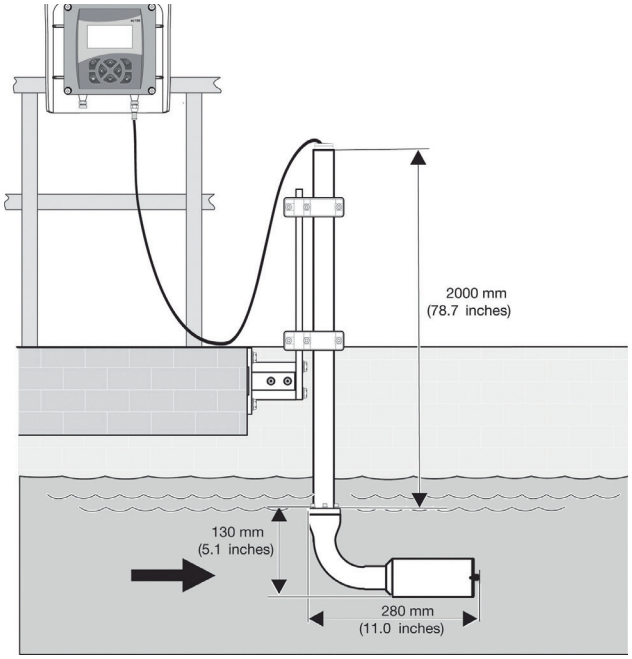


SOLITAX sc Immersion Probe

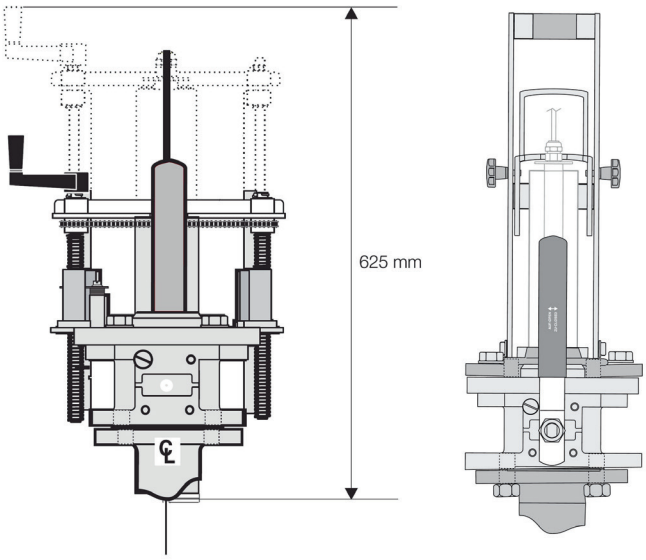


Installation / Mounting

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



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. 936, max. pressure 1 bar.



Ordering Information

Common Configurations: SOLITAX sc Turbidity and Suspended Solids Analyzers with sc200 controller and sensors shown

Immersion in Open Tanks Applications

2983400 Turbidity Analyzer, t-line sc, stainless steel with wiper (0.001 to 4000 NTU)

2983500 Turbidity and Suspended Solids Analyzer, ts-line sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

2983600 Turbidity and High Range Suspended Solids Analyzer, hs-line sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

Insertion in Pipes Applications (includes insertion mounting kit)

2983700 Turbidity and Suspended Solids Analyzer, inline sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

2983900 Turbidity and High Range Suspended Solids Analyzer, highline sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

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 Turbidity, t-line sc, PVC without wiper (0.001 to 4000 NTU)

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 Turbidity and Suspended Solids, ts-line sc, PVC without wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

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

LXV423.99.02100 Turbidity and Suspended Solids, ts-line sc, stainless steel without wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

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

LXV423.99.12200 Turbidity and Suspended Solids, hs-line sc, PVC without wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

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

LXV423.99.02200 Turbidity and Suspended Solids, hs-line sc, stainless steel without wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

Insertion Sensors

LXV424.99.00100 Turbidity and Suspended Solids, inline sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

LXV424.99.02100 Turbidity and Suspended Solids, inline sc, stainless steel without wiper (0.001 to 4000 NTU, 0.001 mg/L to 50 g/L)

LXV424.99.00200 Turbidity and Suspended Solids, highline sc, stainless steel with wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

LXV424.99.02200 Turbidity and Suspended Solids, highline sc, stainless steel without wiper (0.001 to 4000 NTU, 0.001 mg/L to 500 g/L)

Installation Accessories

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

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

AHA033NPT Sensor Adapter, straight 1-1/2 FNPT

AHA034NPT Sensor Adapter, elbow 1-1/2 FNPT 90°

MH236B00Z Handrail Mounting Kit (for sensor to be used with either adapter above) includes 1.5-inch diameter by 7.5-ft long CPVC pipe and swivel/pivot/ pipe clamp assembly

LZX337 Stainless steel ball valve safety armature/ extraction fitting for in-line and hi-line probes w/o welding flange, maximum operating pressure 6 bar/87 psi

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

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LIT2472 Rev 8
C15 Printed in U.S.A.
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