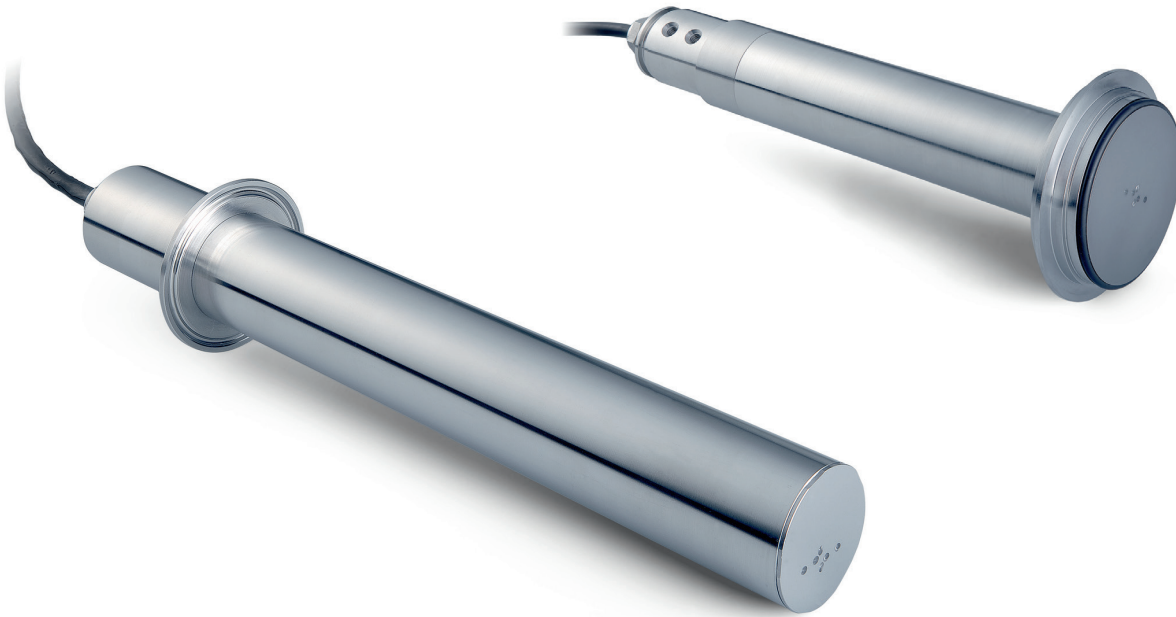


# TSS sc Suspended Solids Probes

## Applications

- Drinking water
- Power
- Pure water applications
- Environmental monitoring



## Measures online suspended solids in virtually all applications under the strictest regulatory conditions

TSS sc probes measure online suspended solids from spring water to corrosive chemicals under the strictest regulatory conditions. With 8 different probe models with several mounting options, it is possible to measure suspended solids over a wide range of concentrations with just one probe.

### Unique Multi-Beam Pulsed Infrared Light System

TSS sc probes have a double optical system with two pulsating infrared LEDs and four receivers. This combined multiple beam alternating light method with beam focusing facilitates accurate colour independent measurement of turbidity from 0.001 to 4,000 FNU and suspended solids from 0.001 to 500 g/L.

### Automatic Compensation for Air Bubbles and Temperature Swings for Accuracy

Special software gives the system the ability to recognise gas bubbles or temperature swings for a more accurate suspended solids or turbidity measurement.

### Standard-Compliant and Precise with Easy Calibration

The turbidity measurement complies with the standard DIN EN 27027 (ISO 7027). Calibration is not necessary. If the probe is used to measure the solids content, a one-point calibration suffices. For special applications, curves can be defined using several calibration points.

### Withstands Difficult Conditions and Harsh Environments

Probes are made of highly polished stainless steel or titanium with a scratch resistant sapphire window. They are designed to withstand harsh environments and keep particles from sticking to the surface.

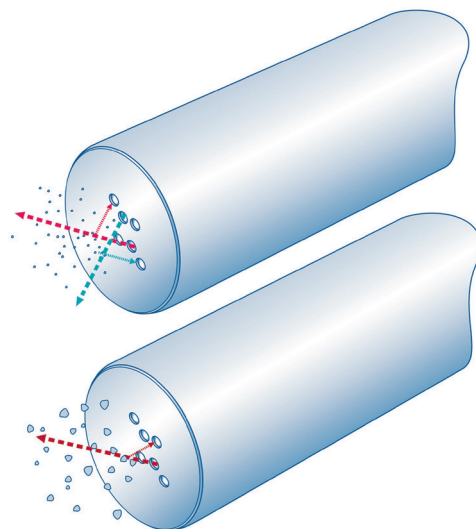
## Technical Data\*

<b>Models</b>	TSS sc TSS W sc TSS HT sc TSS Vari sc TSS XL sc TSS EX1 sc TSS Titanium2 sc TSS Titanium7 sc	<b>Calibration</b>	Turbidity (TRB): Factory calibrated  Solids (TS): To be calibrated by customer on site  Zero point: Permanently calibrated in the factory
<b>Mounting configurations</b>	Tank-side, Triclamp, Inline, Varivent measuring tube, XL measuring tube	<b>Pressure range</b>	< 6 bar: TSS W sc  < 10 bar: TSS sc, TSS HT sc, TSS Titanium2 sc, TSS Titanium7 sc  ≤ 10 bar: TSS EX1 sc  < 16 bar: TSS Vari sc, TSS XL sc
<b>Measurement method</b>	Combined multiple beam alternating light method with infrared diode system and beam focusing  Turbidity (TRB): 2-channel 90° scattered light measurement in accordance with DIN EN ISO 7027, wavelength = 860 nm  Solids (TSS): 90° and 120° scattered light measurement, wavelength = 860 nm	<b>Ambient temperature</b>	0 - 50 °C: TSS W sc  0 - 60 °C: TSS sc, TSS Titanium2 sc, TSS Titanium7 sc  0 - 80 °C: TSS Vari sc, TSS XL sc  0 - 90 °C: TSS HT sc  -10 - 50 °C: TSS EX1 sc
<b>EExp / Hazardous Location</b>	Class I Div 2 certified (TSS EX1 sc only)	<b>Dimensions</b>	Tank-side models, installation sensor Inline models: 330 mm x 40 mm (L x D)  Installation sensor Triclamp models: 332 mm x 40 mm (L x D)  TSS Vari sc, TSS XL sc: 232 mm x 40 mm (L x D)
<b>Measuring range</b>	Turbidity (TRB): 0.001 - 9999 NTU  Solids (TSS): 0.001 - 500 g/L	<b>Weight</b>	Tank-side models, installation sensor Inline/Triclamp models: approx. 1.6 kg  TSS Vari sc, TSS XL sc: approx. 1.5 kg  TSS EX1 sc: approx. 2.7 kg
<b>Accuracy</b>	Turbidity: Up to 1000 FNU/NTU: < 5 % of measurement value or ±0.01 NTU, whichever is greater	<b>Controller compatibility</b>	SC200, SC1000
<b>Repeatability</b>	Turbidity (TRB): < 3%  Solids (TSS): < 4%		
<b>Response time</b>	1 s < T90 < 300 s (adjustable)		

\*Subject to change without notice.

## Principle of Operation

The Hach TSS sc probes have a double optical system with two pulsating infrared LEDs and four receivers. As the transmitted light is scattered, the receivers pick up the incident light at 90° and 120° angles effectively doubling the accuracy of the instrument. This eight channel measurement system, with an integrated bubble and temperature compensating software, enables the instrument to have a wide measuring range that effectively covers most applications, from the darkest pre-treated water to the freshest of spring waters, with one instrument.



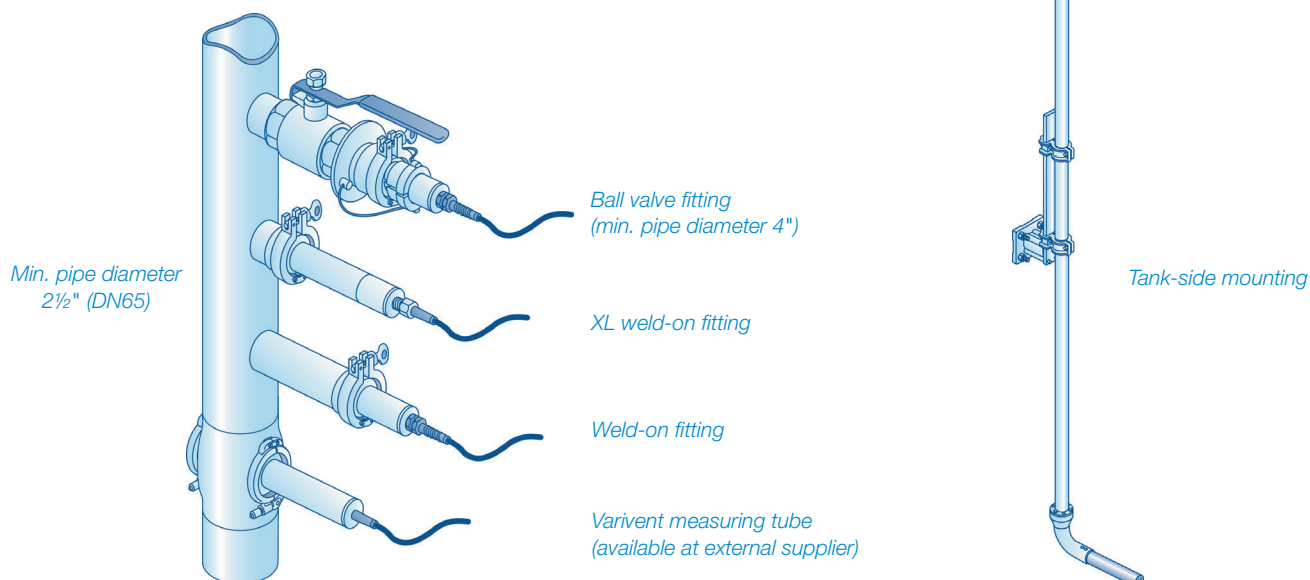
## Overview Probes and Mounting Options\*

Model	Type of mounting	Description	Part number
<b>Stainless steel</b>			
<b>TSS sc</b>	Tank-side mounting	All purpose standard probe for turbidity and suspended solids measurement.	LXV323.99.10001
	Weld-on fitting	All purpose probe with Triclamp.	LXV323.99.20001
	Ball valve fitting	All purpose probe for simple inline installation.	LXV323.99.30001
<b>TSS W sc</b>	Tank-side mounting	All purpose probe with wiper to ensure a clear view. For use in high solids environments.	LXV324.99.10001
	Weld-on fitting	All purpose probe with wiper, with Triclamp.	LXV324.99.20001
	Ball valve fitting	All purpose probe with wiper for simple inline installation.	LXV324.99.30001
<b>TSS HT sc</b>	Tank-side mounting	Turbidity and suspended solids probe for use in high temperature environments of up to 90 °C and 95 °C for short intervals.	LXV325.99.10001
	Weld-on fitting	High temperature probe with Triclamp.	LXV325.99.20001
	Ball valve fitting	High temperature probe for simple inline installation.	LXV325.99.30001
<b>TSS Vari sc</b>	Varivent measuring tube <i>(available at external supplier)</i>	Turbidity and suspended solids probe for colour-independent measurement of highly concentrated sludges. This probe connects to Varivent piping systems.	LXV326.99.10001
<b>TSS XL sc</b>	XL weld-on fitting	Turbidity and suspended solids probe for colour-independent measurement of highly concentrated sludges. This probe connects to Triclamp piping systems.	LXV327.99.10001
<b>TSS EX1 sc</b>	Tank-side mounting	Turbidity and suspended solids probe designed for use in hazardous locations (Calls I Div 2).	LXV328.99.10001
	Ball valve fitting	Turbidity and suspended solids probe designed for use in hazardous locations (Calls I Div 2) with Triclamp.	LXV328.99.20001
	Ball valve safety fitting	Turbidity and suspended solids probe designed for use in hazardous locations (Calls I Div 2) for simple inline installation.	LXV328.99.30001
<b>Titanium</b>			
<b>TSS Titanium sc</b>	User defined	Turbidity and suspended solids Titanium2 probe for use in aggressive or corrosive environments.	LXV329.99.10001
	User defined	Turbidity and suspended solids Titanium2 probe with Triclamp for simple inline installation and quick access for maintenance.	LXV329.99.20001
<b>TSS Titanium7 sc</b>	User defined	Turbidity and suspended solids Titanium7 probe for use in brine, seawater, or high salinity environments.	LXV330.99.10001
	User defined	Turbidity and suspended solids Titanium7 probe with Triclamp for simple inline installation and quick access for maintenance.	LXV330.99.10001

\*Subject to change without notice.

## Types of mounting

Whether tank-side mounting, inline installation, or hygienic fittings are required, the TSS sc family of probes has suitable mounting solutions for any situation.



## Order Information

### Mounting Hardware

<b>LZY714.99.53120</b>	Stainless steel pole mounting hardware for TSS sc probes, including 10 cm bracket and 2 m pole with 90° adapter
<b>LZU300.99.00000</b>	Ball valve armature for TSS sc Triclamp
<b>LZY630.00.10000</b>	Ball valve armature for TSS sc, TSS W sc, and TSS HT sc inline probes including non-coped stainless steel welding flange LZX660
<b>LZY630.00.11000</b>	Ball valve armature for TSS sc, TSS W sc, and TSS HT sc inline probes including non-coped carbon steel welding flange LZX661
<b>LZY630.00.12000</b>	Ball valve armature for TSS sc, TSS W sc, and TSS HT sc inline probes without welding flange
<b>LZY630.00.20000</b>	Ball valve armature for TSS EX1 sc inline probe including non-coped stainless steel welding flange LZX660
<b>LZY630.00.21000</b>	Ball valve armature for TSS EX1 sc inline probe including non-coped carbon steel welding flange LZX661
<b>LZY630.00.22000</b>	Ball valve armature for TSS EX1 sc inline probe without welding flange
<b>LZX660</b>	Non-coped stainless steel welding flange for insertion kit
<b>LZX661</b>	Non-coped carbon steel welding flange for insertion kit
<b>LZY441</b>	Hand wheel for ball valve inline armature
<b>LZY462</b>	Gasket for mounting flange of ball valve inline armature

### Welded Branch Pieces

<b>LZU302.99.00000</b>	Welded branch piece raw for all TSS sc Triclamp probes
<b>LZU302.99.10000</b>	Welded branch piece raw for TSS XL sc probes
<b>LZU303.99.00000</b>	Screwed branch piece for all TSS XL sc Triclamp probes

### Accessories

<b>LZY634</b>	Wiper set TSS sc (for 5 changes with screws and screwdriver)
<b>LZY635</b>	Maintenance set wiper (consisting of wiper, wiper axis 2-parts and gaskets)
<b>LZY653</b>	Gasket Silicon for TriClamp mounting
<b>LZY654</b>	Gasket PTFE for TriClamp mounting
<b>LZY655</b>	Gasket FPM for TriClamp mounting
<b>LZY656</b>	Clamp 2-parts, with screw type clamp for TriClamp mounting
<b>LZY657</b>	Clamp 3-parts, with screw type clamp for TriClamp mounting (to use with PTFE gasket)

### 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 maximise instrument uptime, ensure data integrity, maintain operational stability, and reduce compliance risk.