

ST-500SS-T Series

Removable Stainless Steel PTSA Sensor

For High Pressure Cooling & Process Water Applications

Product Description

The ST-500SS-T sensors is a new 304-stainless steel design allowing insertion and removal of the sensor into the new ST-009 (Stainless Steel) inline tee assembly for high pressure applications up to 290psig. The sensor uses temperature-tolerant and humidity-resistant optical filters that can be operated under a wide range of ambient conditions without the need of humidity and temperature regulation. With this design the performance of the ST-500SS-T series can remain stable and consistent for an extended period time.

The Pyxis ST-500SS-T series sensor measures the concentration of PTSA in water, commonly used as a fluorescent tracer in water treatment applications. This sensor platform is offered in 304-stainless steel body ideally suited for applications of monitoring cooling or process water applications with elevated operating pressures as high as 290psig. The new design allows for easy sensor removal from the Pyxis ST-009 inline tee assembly for sensor diagnostics, cleaning, and calibration without the need for tools.

The ST-500SS-T is offered in 7-pin cable format and should be used with the Pyxis MA-WB Bluetooth/USB adapter for those desiring to use the uPyxis 2.0 Mobile or Desktop App. The 4–20mA current output from the sensor may be connected to any controller that accepts an isolated or non-isolated 4–20mA input. The ST-500SS-T sensor is a smart device. In addition to measuring fluorescence, the ST-500SS-T sensor has extra photo-electric components that monitor the color and turbidity of the sample water. This extra feature allows automatic color and turbidity compensation to eliminate interference commonly experienced in real-world applications as well as cleanliness diagnostic data.

The ST-500SS-T sensor is offered in a measurement range of 0-500ppb as PTSA and is easy to calibrate using the uPyxis[®] 2.0 Mobile or Desktop App. Pyxis Lab calibration standard solutions containing PTSA in the range of 100 to 500 ppb can be used for the calibration of the ST-500SS-T. The calibration standard may also be the water sample itself if the PTSA concentration of the sample is measured and validated by a calibrated offline fluorometer. This allows the ST-500SS-T sensor to be calibrated online without being removed from the system. The uPyxis[®] 2.0 App also provides diagnostic information about the ST-500SS-T sensor such as sensor cleanliness factor which is instrumental in determining if the sensor should be cleaned prior to slope calibration. This diagnostic information can also be available via Modbus RTU. For proper calibration, the ST-500SS-T sensor should be diagnosed for cleanliness via the uPyxis 2.0 APP, then cleaned using the Pyxis Probe Cleaning Kit (SER-01). Once cleaned, sensor cleanliness should be confirmed via the uPyxis 2.0 APP diagnostics function, then the user may proceed to sensor zero and slope calibration.

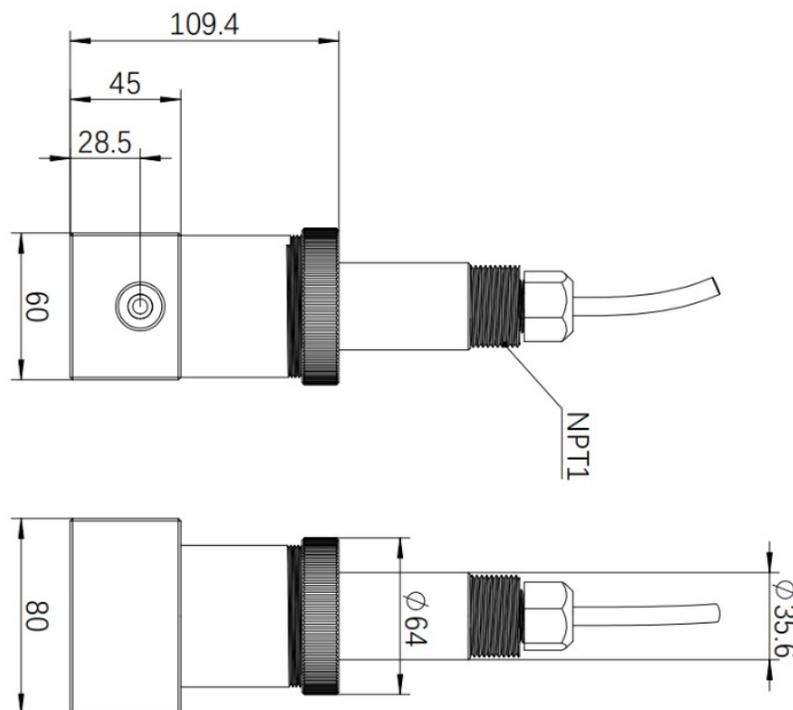


Sensor Specifications

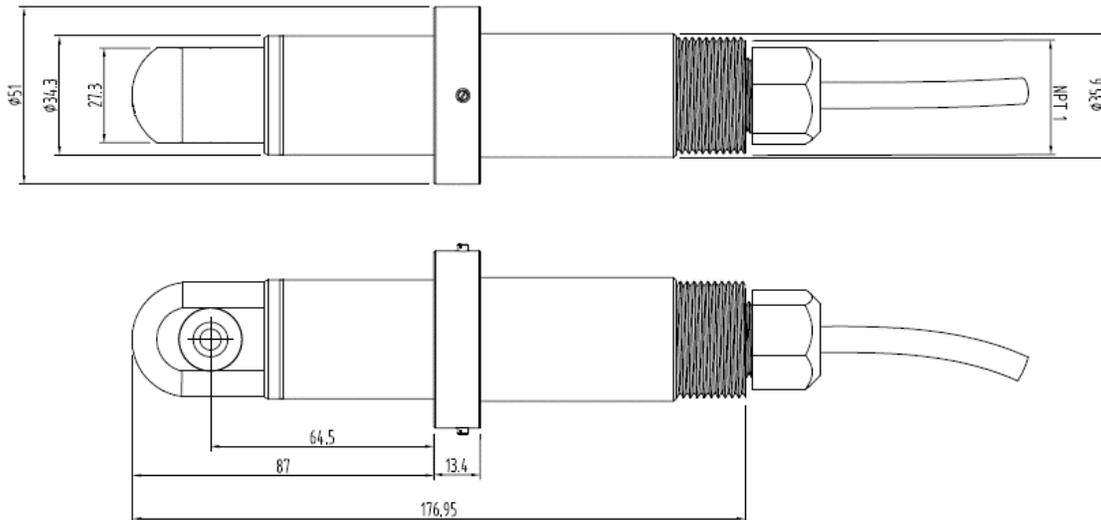
Item	ST-500SS-T
P/N	51152
PTSA Range	0–500ppb
4-20mA SPAN	20mA SPAN may be adjusted to less than max range via uPyxis app
PTSA Resolution	±1.0ppb
Calibration	Two point calibration against DI Water + PTSA Calibration Standard Solution
Power Supply	22–26VDC, Power Consumption ~ 1.5W
Outputs	Isolated 4-20mA Analog Output & Isolated RS-485 Digital Output - 7PIN
Installation	ST-009 Stainless Steel Tee - 3/4inch FNPT Threaded Ports (SOLD SEPARATELY)
Weight	1.1lbs (500g)
Operational Pressure	290psi (20Bar) when used with ST-009
Operational Temp.	4–49 °C (40–120 °F)
Storage Temperature	-20–60 °C (-4–140 °F)
Material	304SS Sensor & 316SS ST-009
Rating	IP-67, fully dustproof & waterproof
Dimensions	6.9in (177mm) L x 1.34in (34mm) D
Cable Length	1.5m 7PIN Bulkhead with Adapter + 1.5m 7PIN Flying Lead with Adapter
Regulation	CE, RoHS, UKCA

**Specifications are subject to change without notice.*

ST-500SS-T and ST-009 Tee System Dimensions (mm)



ST-500SS-T Dimensions (mm)



Sensor Cleaning & Calibration

Pyxis Lab recommends cleaning and calibrating the ST-500SS-T Series inline sensors at a minimum frequency of once per month. For clean water applications this period may be increased. For heavily contaminated applications, diagnosis, cleaning, and calibration may be considered more frequently. The ST-500SS-T Series sensor contains internal hardware and algorithms that enable sensor cleanliness diagnostics. When powered by and connected to the MA-WB (7Pin) or PowerPACK Series Bluetooth Adapter options, the ST-500SS-T sensor can both be wirelessly accessed via Bluetooth from any mobile or desktop device using the uPyxis APP. The APP features a live graphical display of the sensors value outputs for PTSA as well as a sensor cleanliness check and calibration function. The cleanliness check can be conducted rapidly to determine if a cleaning is required prior to sensor calibration. Once the sensor is properly cleaned it can be re-diagnosed to confirm the cleaning was effective and then calibrated with its appropriate Pyxis Calibration Standard based on the sensor range of measurement. (ie. PTSA-100 / PTSA-200). Contact service@pyxis-lab.com for support.

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Trend Chart
4mA= 0

Configuration
ppm

Diagnosis

[1]	0	[2]	25
[3]	1500	[4]	250
[5]	1300	[6]	10
[7]	203	[8]	417
[9]	510	[10]	200
[11]	360	[12]	3799
[13]	1699	[14]	100

Diagnosis Condition

CLEANLINESS CHECK

Click below to purchase your cleaning kit

Pyxis
Cleaning + Calibrations = Accuracy & Repeatability!
Find all your Standards, Reagents & Cleaning Solutions at www.pyxis-lab.com/shop

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Trend Chart

[1]	1	[2]	25
[3]	1500	[4]	250
[5]	1300	[6]	10
[7]	203	[8]	417
[9]	510	[10]	200
[11]	77	[12]	3800
[13]	59	[14]	100

Diagnosis Condition

CLEANLINESS CHECK

Dirty - Please clean

Probe may be fouled, please clean the probe according to the instruction manual.

Click below to purchase your cleaning kit

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Optional Accessories Information

Part Number

ST-009 Inline Stainless Steel Tee Assembly

22624

MA-WB Bluetooth Adapter

MA-WB

PTSA-100 100ppb Calibration Standard

21001

PTSA-200 200ppb Calibration Standard

21000

Sensor Cleaning Kit

SER-01

SP-380 PTSA + Fluorescein Handheld

50208

MA-C10 10' Extension Cable for 7PIN Sensors

50738

MA-C50 50' Extension Cable for 7PIN Sensors

50705