ST

Pyxis ______ ST-500 Series

PTSA Inline Sensor

For Industrial Cooling & Membrane Water Applications

Description

The ST-500 Series inline sensor platform is a proprietary design for the direct measurement of PTSA (Pyrenetetrasulfonic Acid, CAS# 59572-10-0) utilizing LED UV light sources (365nm ex/ 410nm em) for use in industrial cooling water and process treatment applications.

The ST-500 Series offers Pyxis proprietary algorithms to determine the concentrations of PTSA while measuring sample turbidity and color in highly contaminated waters (ie. \leq 150 NTU and 10 ppm Fe) for internal compensation. The ST-500 Series offers a combination of 4-20mA as well as RS-485 Modbus output signals and is Bluetooth Enabled for wireless cleanliness diagnostics and calibration when used with MA-WB or PowerPACK Series Bluetooth Adapters and the uPyxis APP for Mobile or Desktop devices. The ST-500 Series is provided in CPVC with the standard Pyxis ST-001 inline $\frac{3}{4}$ " FNPT Tee assembly, 5-foot bulk-head cable with quick adapter and 1.5ft flying lead cable with quick adapter, enabling rapid wiring to any microprocessor controller, PLC or DCS system. The ST-500SS is offered in 304L Stainless Steel with $\frac{3}{4}$ " FNPT ports for high pressure applications.



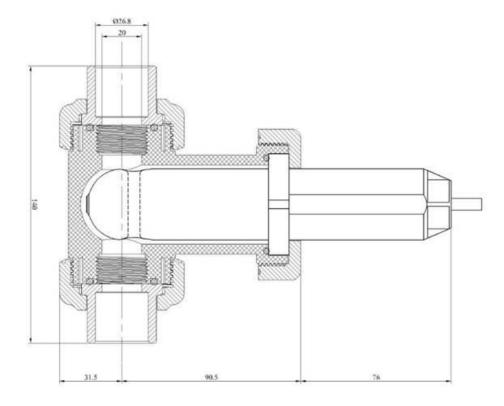
Figure 1 - ST-500 and ST-500SS Inline PTSA Sensors

Specifications

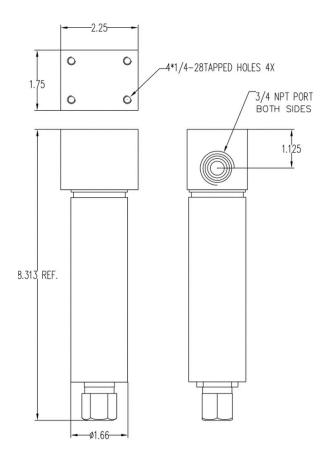
Item	ST-500	ST-500SS						
P/N	50661	50700						
PTSA Output Scale Set At Factory	0-200ppb	0-40ppb	0-200ppb					
PTSA Maximum Range Adjusted via uPyxis	0-300ppb	0-300pb						
PTSA Precision/Accuracy	+/- 1 ppb	+/- 1 ppb						
Excitation/Emission	LED 365/410nm							
Power Supply	22 – 26V DC, Power Consumption – 1W							
Outputs	Isolated 4 – 20 mA Analog Outputs & Isolated RS-485 Digital Output -7Pin							
Installation	ST-001 Inline Tee (Socket 8	¾" FNPT Threading						
Weight	170 g (0	1,148 g (2.5lbs)						
Operational Pressure	100 psi (290 psi (20 Bar)						
Operating Temperature	4 °C – 49 °C (40 – 120 °F)							
Storage Temperature	-20 °C – 60 °C (-4 – 140 °F)							
Material	СР	304 Stainless Steel						
Rating	IP67, Fully Dustproof & Waterproof							
Regulation	CE Marked + RoHS							
Dimension (L x W x H)	Length 6.8 inch (172.7 mm), body diameter 1.44 Inch (36.6 mm)							
Cable Length	5 feet, terminated w/IP67 adapter + 1.5 feet flying lead w/IP67 adapters							

Optional Accessories Information ST-001 Inline Tee Assembly Spare (3/4" FNPT Inline Tee For ST Probes)	P/N 50704	
PTSA-100 (PTSA Calibration Standard 100ppb / 500mL)	21001	
ST-500 Cleaning & Calibration Kit (Contains MA-WB Adapter + PTSA-100 + Probe Cleaner)	57013	
MA-WB Bluetooth Adapter (Pyxis Bluetooth Adapter for 7Pin Pyxis Sensors)	MA-WB	
PowerPACK-1 (Single Chanel Auxiliary Power Supply w/Bluetooth For Pyxis Sensors)	MA-BLE-1	
PowerPACK-4 (Four Chanel Auxiliary Power Supply w/Bluetooth For Pyxis Sensors)	MA-BLE-4	
MA-NEB Bluetooth/USB Adapter (Enables Bluetooth for Desktop and uPyxis APP)	MA-NEB	
Pyxis ST/LT Series Sensor Cleaning Kit (Includes Sensor Cleaner 500mL + Accessories)	SER-02	
SP-350 Handheld PTSA Fluorometer (PTSA 0-300ppb)	50206	
MA-C10 (10' Extension Cable for 7Pin Pyxis Sensors)	50738	
MA-C50 (50' Extension Cable for 7Pin Pyxis Sensors)	50705	

ST-500 / ST-500RO and Inline Tee Assembly Diagram (mm)



```
ST-500SS Diagram (in)
```



1729 Majestic Ave. Suite 5, Lafayette, CO. USA 80027 | info@pyxis-lab.com | +1(866)203-8397

Cleaning and Calibration

Pyxis Lab recommends cleaning and calibrating the ST-500 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-500 Series sensor contains internal hardware and algorithms that enable compensation of color and turbidity as well as sensor cleanliness diagnostics. When powered by and connected to the MA-WB (7Pin) or PowerPACK Series Bluetooth Adapter options, the ST-500 Series 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 Pyxis Calibration Standard (*ie. PTSA-100*). Contact service@pyxis-lab.com for support.

Instructional videos on this and other Pyxis devices can be found at

YouTube <u>https://www.youtube.com/channel/UC8RqYgnwL-Vzu2TRzraqrUw</u>



Calibration and diagnostics made easy with the uPyxis APP

verizon 🗢 10:47 AM 🛛 🖬 uPyxis ST-500	ul Verizon 🗢 ≮uPyxis	10:47 АМ ST-500	• 🛋	utt verize		3:21 РМ ST-500	-7. 40%	uPyx		2:25 PM ST-500	🕈 48% 🔳	
100.60 ppb		100 65		[1]	75	[mA]	9.33	[1]	76	[mA]	4.00	
132 TOO.OO ppb	201.32 S	lope Calibratio	n	[2]	22	[6]	2958	[2]	22	[6]	3206	
	Dut ti	he probe into a so		[3]	30	[7]	14	[3]	30	[7]	14	
		with known PTSA		[4]	10	[8]	28	[4]	10	[8]	29	
	126.79	concentration.		[5]	9	[9]	643	[5]	9	[9]	667	
	80.53			[10]	2944	[11]	967	[10]	3	[11]	7	
	40.20			[12]	27	[13]	645	[12]	6	[13]	686	
00 30:00 Date/Time	0.00	Slope Calibrate		Diagno	sis Conditio	on	Not Applicable	Diagnos	is Conditi	on	Not Applicab	
Dater (me	Cancel			For servic	For service, export diagnosis data to service@pyxis-lab.com				For service, export diagnosis data to service@pyxis-lab.com			
Zero Calibration		Zero Calibration					Export & Upload				Export & Uploa	
				Cleanlin	ess Check	c	lean	Cleanline	ess Check		Dirty	
Slope Calibration	1	2	3	Probe i	s in good c	ondition.		Probe may be fouled, please clean the prob according to the instruction manual.				
4 - 20mA Span	4	5	6						-			
	GHI	JKL	MNO	Click before	w to purchase y	your cleaning kit		Click below	to purchase a	your cleaning kit		
Reading is refreshed every 4 seconds	7 Pars	8	9 wxyz	Py	xis		ULUUT	Pu		-	-	
ien Degrada Device into		0	$\langle X \rangle$	-		*	Device Info	Caller	1	×	Device Inte	