



Pyxis[®]

WATER QUALITY INSTRUMENTS

Water Professionals Deserve Better Tools

ABOUT US

Pyxis, founded in 2012, operates out of Lafayette, Colorado as well as in Shanghai, China. We offer high quality inline and handheld fluorometers, fluorescent tracing chemicals, and supports to the water treatment industry.

With our help in instrumentation, chemistry, and knowledge in cooling and boiler water treatment, a large amount of water treatment companies around the globe have embraced their fluorescence traced programs. Our products have been installed in thousands of locations across various industries in last four years. With each of these installations, we improve the customers operations by controlling chemical dosing, delivering higher productivity, and reducing the environmental impact of water treatment operations.

Our products are designed by an experienced team of former water treatment professionals who have had years of experience in industry from major water treatment companies. We combine a broad range of the latest chemical, material, optical and electronics technologies to enable you to apply water treatment products more accurately and effectively ever before. We are devoted to cutting edge technology and instrumentation robustness for wider ranges, lower detection limits, higher accuracies, and easier operations.

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SP-710 Water Multimeter

The Pyxis SP-710/B is a handheld multimeter that measures up to 6 key water treatment parameters simultaneously: pH, conductivity, PTSA, fluorescein, ORP, and temperature. The simplicity of the one-handed operation is empowered by the Pyxis proprietary and patented technology that combines electrochemical and optical measurements in a cuvette-less platform.

In less than a minute, results for all key parameters for a typical water treatment application, such as cooling tower analysis, can be determined without any reagent. It stores the history for all measurements which can then be transferred via Bluetooth to smartphones or computers for statistical analysis.

Custom product names and tracer / product ratios can be configured via Bluetooth-enabled devices as well. The PTSA measurement uses our proprietary signal processing algorithms to compensate for sample color and turbidity conditions that would otherwise cause erroneous readings.



Typical Applications

Traced water treatment for industrial / commercial cooling towers and boilers.

Features

- Breakthrough technology combines PTSA / Fluorescein with Conductivity / pH and ORP in single rugged one-handed meter.
- Proprietary pH/ORP module design with extra-large junction capacity provides increased service life and can be replaced without opening the meter enclosure. Intelligent sensor aging and/or pollution detection capability. Self-diagnosis during calibration. Record up to 8G historical data with a calendar time
- mark and options to set up sample location information.
- Long battery life - 10,000+ readings.

Item	Specification	
Analysis	PTSA / Fluorescein	0~300ppb, ±1ppb or 1% precision 0~600 ppb, ±0.6ppb
	Conductivity	1~15,000 μS/cm with ATC ±1% or ±1 μS/cm precision
	pH	0~14 with ATC, ±0.01 pH unit precision
	ORP	±1500mV, ±1mV precision
	Temperature	0~70 °C (32~160°F) ±0.1 °C (±0.18°F)
Storage temperature	-20 °C ~ 60° C (-4~140°F)	
Operational temperature	0° C ~ 40° C (32~104°F)	
Sensor module	pH/ORP, replaceable	
Typical sensor life	pH/ORP - 2 years PTSA/Conductivity - 5 years	
Protection grade	IP67, full dust and waterproof	
Regulation	CE marked	
Display	Color LCD, visible under direct sunlight	
Power supply	(4) AA alkaline batteries	
Typical battery life	10,000 readings	
Dimension (L x W x H)	L180 W80 H38.5 (mm)	
Weight	~500g batteries excluded	

With Pyxis' continuous improvement policy, this specification is subject to change without notice.

Product	P/N	Description
SP-710	50352	Water Multimeter (Without Fluorescein)
SP-710B	50316	Water Multimeter (With Fluorescein)
pH/ORP Module	50315	pH/ORP Module Replacement

SP-710 Free/Total Chlorine Testing

TMB Colorimetric Method

Description

The Pyxis SP-710 offers both Free & Total Chlorine methods based on the USEPA-accepted tetramethylbenzidine (TMB) chemistry. These unique liquid reagents contain TMB, a pH buffer, and a polymeric binder. When three drops of liquid reagent are administered into the sample, the TMB reagent chemically reacts with Free Chlorine or Total Chlorine to develop a yellow colored solution. The SP-710 measures the absorbance value of the resulted yellow solution to directly determine the free or total chlorine concentration in the sample.

Applications

- Cooling Tower Water Samples
- Influent & Wastewater Effluent
- Domestic Water Samples

Features

- Liquid dropper bottle provides easier user & safety over a powder pillow
- One dropper bottle (30mL) contains sufficient volume for 230x tests
- Acidic reaction pH eliminates CaCO_3 and CaPO_4 precipitation common in the DPD method
- Includes Disposable Pipette to be used either in a lab setting or field setting



Ordering Information

SP-710 (pH, uS/cm, ORP, Temp, PTSA, F & T Cl₂)
 TMB Free Chlorine Reagent (x 230 tests)
 TMB Total Chlorine Reagent (x 230 tests)

P/N: 50352
 P/N: 63901
 P/N: 63902

Wireless Ultrasonic Level Transmitters

Typical Applications

Chemical tank consumption and inventory monitoring



Features

- Simplified commission with battery power and Bluetooth communication.
- Battery life up to 6 months by ultra-low power design and smart power management.
- uPyxis (Pyxis Smartphone APP) supported to for reading and setup.
- Report by gallons or pounds after setup via uPyxis app.
- Easy installation to common 1-inch or 2-inch bulkhead fittings

Specification	
Range	LS-202: 0.08~2m
Accuracy	0.5% or 2mm, whichever is greater
Resolution	0.5mm
Housing Material	EPMD/PC
Rating	IP65
Operation	-0 ~ 60 °C
Storage Temperature	-20 ~ 70 °C
Power Supply	4AA Batteries & 24V
Signal Output	Bluetooth
Dimensions	172 mm long, 80mm diameter
Weight	~ 550g without battery

LSP-100 Level Sensor

Typical Applications

Chemical tank consumption and inventory monitoring.



- ### Features
- Logs up to 6 months of inventory data.
 - Bluetooth Wireless up to 150 ft Line of Site.
 - uPyxis (Pyxis Smartphone APP) supported to for reading and setup.
 - Measures up to 393 inches (32.8 ft or 10 meters).
 - Easy installation to common 1-inch or 2-inch bulkhead fittings.
 - Can be 24V powered, provides 4-20mA/RS-485 output by wire

Item	Parameter
Power Supply	4 AA Li/SOC12 or 24 VDC, 2W
Output	Bluetooth 4.1, 32 ft. (10 Meters) Line of Sight / RS-485 MODBUS and 4-20 mA
Data Storage	6 months (60 minutes per log measurement)
Cable Length	32.8 ft. (10 m)
Range	0 - 393 inchH2O (0 - 10 mH2O)
Resolution	0.02 inch (0.5 cm)
Accuracy	±0.2% of the range
Stability	±0.2% URL / year
Measurement Interval	Continuously , 3 min, 10 min, 60 min, configurable
Installation	1-inch NPT
Weight	3.1 pound (1400 g)
Enclosure Material	Polycarbonate (PC)
Transducer Material	316L Stainless Steel / PVC / PVDF
Cable Material	PTFE
Temperature	Working: 14 - 140°F (-10 - 60 °C) Storage: -4 - 158°F (-20 - 70 °C)
Enclosure Rating	IP66
Transducer Rating	IP68
Regulation	CE

Ordering Information

LSP-100	316 Stainless Steel	P/N:	54005
LSP-200	PVC	P/N:	54009
LSP-300	PVDF	P/N:	54010

CR-200/300 Corrosion Sensor

Principle: Linear polarization resistance method

Features

- Digital technology: The weak LPR signal is conditioned, amplified and digitized immediately in the sensor, avoiding interference and attenuation caused by long-distance transmission to the transmitter.
- Anti-electromagnetic interference design.
- Ruggedized design for harsh environments.
- MODBUS support with isolated RS-485 communication. Easy connection to DCS.



Order Information

Product	P/N	Description
LS-202	54002	Wired (4-20mA & RS485) communication Capability Bluetooth Capability Battery Operation Optional (4AA)
CR-300	51007	Corrosion rate sensor
CR-200	51006	Wireless corrosion rate sensor
CE-01	51002	Electrodes - Steel
CE-02	51003	Electrodes - Copper
CE-03	51004	Electrodes - SS
BTA-100	50729	Bluetooth to 4-20mA Transmitter

Specification	CR-200 / CR-300
Range ⁽¹⁾	0~2, 0~20 MPY. Configurable to report as mm/a
Conductivity Compensation	10-10,000 $\mu\text{S}/\text{cm}$
Measurement Cycle	Option of 1min, 2 min, and 5 min
Resolution	0.1%
Housing Material	CPVC
Installation	flow cell with 1" NPT
Pressure	Up to 0.7 MPa (100 PSI)
Alloy Factor	0.2~3
Rating	IP65
Operation	0 ~ 50 °C
Storage Temperature	0 ~ 70 °C
Power Supply	CR-300: 5VDC 1W, 100-240 VAC 50/60Hz 5W CR-200: 3.6V ER26500 battery
Signal Output	Isolated RS-485. MODBUS. 4-20mA
Cable Length	1.5 m as standard. 10m or 20m extension cable
Dimensions	CR-300: 216 mm long, 23mm diameter CR-200: 277mm long, 47mm diameter
Weight	CR-300: 265 g CR-200: 365 g with battery
Regulatory	CE mark

SP-910 Portable Water Analyzer

A Major Upgrade From SP-900

Simple, Robust, Intelligent



PTSA and Fluorescein

Measure PTSA and Fluorescein in the same meter for your traced programs in cooling and boiler applications.



Calibrate ST-500 Directly

Calibrate a nearby ST-500 via built-in Bluetooth after measuring sample concentration. No laptop or any other tool needed.



User Defined Programs

User defined programs supported with non-linear calibration curves. 60+ programs including reagent-less nitrite and chlorine dioxide measurement.



Battery Life Doubled

Six months or more under typical usage even equipped with higher resolution LCD readable in direct sunlight.



More Upgrades

Turbidity range extended to 0-100 and 0-1,000 NTU with auto ranging. 16mm tube adaptor available for programs require digestion. Talk to smart phone for firmware upgrade and data log.



3-in-1 Fluorometer
Colorimeter
Turbidimeter



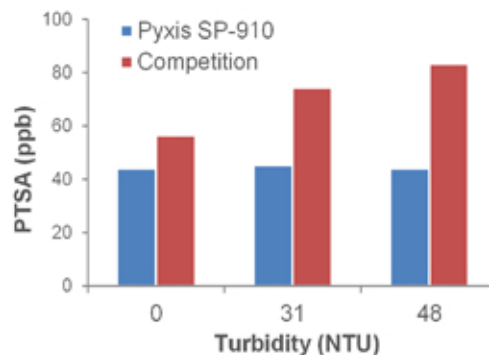
Fluorometer

Colorimeter

Turbidimeter

PTSA Determination

Maximum rejection to sample color and/or turbidity interference by state-of-the-art optical design and proprietary compensation algorithm.



77 Methods Supported... Keep Increasing

Parameter	Description, Corresponding Hach® PRMP Number	Range(ppm)	
NO ₃ ⁻	Direct nitrate, no reagent needed, Pyxis method	100	1000
Cl ⁻	Turbidimetric method for chloride ion, Low Range, Pyxis method	4	40
Cl ⁻	Turbidimetric method for chloride ion, Middle Range, Pyxis method	40	400
Mg ²⁺	Magnesium, EBT method, Middle Range, Pyxis method	10	100
Mg ²⁺	Magnesium, EBT method, High Range, Pyxis method	100	400
Polymer	Turbidimetric method for anionic polymers, Pyxis method	0.2	13.0
ClO ₂	Direct reading automatic range selection, Pyxis method	0.2	3000
Bleach	Direct method measuring sodium hypochlorite concentration, Pyxis method	1%	12%
Chlorine	Chlorine, Free, DPD, PRMP 9	0.02	2.2
Chlorine	Chlorine, Total, DPD, PRMP 9	0.02	2.2
Chlorine	High Range DPD Chlorine, No sample change needed, PRMP 12	0.1	6.0
Cu	Copper, Bicinchoninate method, PRMP 20	0.02	5.0
Cu	Porphyrin method for Copper, PRMP 22	0.006	0.2
DEHA	DEHA, Iron reduction method for Oxygen Scavengers, PRMP 25	0.009	0.5
Ca ²⁺	Calcium: Calmagite Colorimetric method, PRMP 29	0.08	4.0
Mg ²⁺	Magnesium: Calmagite Colorimetric method, PRMP 30	0.13	4.0
Fe	Iron, 1,10 phenanthroline method, PRMP 33	0.03	3.0
Fe	Iron, FerroZine method, PRMP 37	0.011	1.3
Fe	Iron, TPTZ method, PRMP 39	0.04	1.8
Fe	Iron, for cooling water with molybdenum-based	0.03	1.8
MoO ₄ ²⁻	Molybdenum, High Range, Mercaptoacetic acid method, PRMP 44	0.2	40.0
MoO ₄ ²⁻	Molybdenum, Low Range, Ternary Complex, PRMP 47	0.07	3.0
NO ₂ ⁻	Nitrite, High Range, Ferrous Sulfate, PRMP 59	2.0	150.0
NO ₂ ⁻	Nitrite, Low Range, Diazotization, PRMP 60	0.005	0.3

Supported colorimetric methods are available at www.pyxis-lab.com by downloading the latest operation manual or procedure.

Parameter	Description, Corresponding Hach® PRMP Number	Range(ppm)	
OPO4	Phosphorus, Reactive, Molybdovanadate, PRMP 77	0.2	45.0
OPO4	Phosphorus, Reactive, Orthophosphate Ascorbic Acid, PRMP 79	0.05	2.5
OPO4	Phosphorus, Reactive, Amino Acid, PRMP 85	0.2	30.0
Phosphonate	Phosphonates, Persulfate UV Oxidation, PRMP 80	0.05	2.5
ClO ₂	Chlorine Dioxide, DPD, PRMP 112	0.04	5.0
ClO ₂	Chlorine Dioxide, Direct Reading, PRMP7	7.3	50.0
SiO ₂	Silica, High Range, Silicomolybdate, PRGM 89	1.0	75.0
SiO ₂	Silica, Low Range, Heteropoly Blue, PRMP 90	0.02	1.6
Azole	Benzotriazole, UV Photolysis Method, PRMP 3	0.7	16.0
SO ₄ ²⁻	Turbidimetric method for Sulfate, PRMP 91	4.9	70.0
Cr (VI)	Hexavalent chromium, 1,5-Diphenylcarbohydrazide Method, PRMP 13	0.01	0.6
Cr	Chromium total Alkaline Hypobromite Oxidation Method, PRMP15	0.01	0.6
NH ₃ -N	Salicylate Method, PRMP 64	0.02	0.5
Mn ²⁺	Low Range Manganese PAN Method, PRMP 43	0.02	0.7
Mn ²⁺	High Range Manganese, Periodate Oxidation Method, PRMP 41	0.2	20.0
NH ₂ Cl	Indophenol Method for MonoChloramine, PRMP 110	0.1	3.0
Al	Aluminon Method for Aluminum, PRMP 1	0.02	0.8
F ⁻	SPADNS 2 Method for Fluoride, PRMP 27	0.05	2.0
Zn	Zincon Method for Zinc, PRMP 97	0.02	3.0
S ²⁻	Methylene Blue Method for Sulfide, PRMP 93	0.01	0.7
CN ⁻	Pyridine-Pyrazalone Method for Cyanide, PRMP 23	0.008	0.2
N ₂ H ₄	P-Dimethylaminobenzaldehyde Method for Hydrazine, PRMP 31	0.016	0.5
NO ₃ ⁻ -N	Middle range nitrate, PRMP 54	0.2	5.0
NO ₃ ⁻ -N	High range nitrate, PRMP 51	0.8	30.0
Ni	PAN Method for Nickel, PRMP 48	0.013	1.0
(HOCN) ₂	Turbidimetric Method, PRMP 24	7	5
pH	Phenol red method for pH, PRMP 75	6.5	8.5

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Specifications

Range	0~300ppb PTSA, 0~600ppb Fluorescein
Colorimeter Wavelength	365, 420, 455, 525, 560, 570 and 630nm
Turbidity Excitation Wavelength	White and IR LED
Fluorescence Excitation Wavelength	365 / 470 nm LED
Fluorescence Emission Wavelength	410 / 525 nm
Wavelength Accuracy	±1 nm
Absorbance Reproducibility	0.005 au in the range of 0 to 1.0 au (3 sigma)
Absorbance Linearity range	0 to 1.0 au
Fluorescence Reproducibility	0.3 ppb PTSA / 0.03 ppb Fluorescein (3 sigma)
Fluorescence Detection Limit	1 ppb PTSA / 0.1 ppb Fluorescein
Turbidity Range	0~100 / 0~500 NTU Auto Range
Turbidity Detection Limit	1 NTU
Battery	4 AA alkaline
Typical Battery Life	6 months
Display	LCD display, visible under direct sunlight
Dimension	L265 W88 H69 (mm)
Weight	1.33lb (600g, without batteries)
Temperature Range	40 to 106 °F (4 to 41 °C)
Humidity	85% at 106 °F (41 °C)
Environmental	IP67, dustproof and waterproof

Due to continuous improvements, specifications are subject to change without notice.



Product	P/N	Description
SP-910	50603	Portable Water Analyzer
16mm test tube adapter	52214	For COD digestion
RD-800	50612	12-position digester

Field Cleaning Kit For ST-500

The ST-500 online PTSA probe from Pyxis Lab has proven to be an industry leader in accurately detecting PTSA fluorescent tracer in cooling and process water applications while compensating for color and turbidity. Pyxis recommends a minimum cleaning frequency of once per month be maintained dependent on application needs and foulant level. High stress applications with excessive suspended solids and corrosion/scale by-product can result in the need to increase the frequency of cleaning the ST-500 probe. For field use, Pyxis has developed an ST-500 custom field cleaning kit specifically designed to target a wide variety of inorganic deposits and foulants commonly experienced in cooling water applications.

Product Details

- Custom Blend of Organic Acid/Reducing Agent & Surfactant
- Targets Inorganic Fouling & Deposition on ST-500
- Will Not Damage Probe
- 500mL Bottle = Sufficient For 5 Cleanings
- Probe Cleaning Procedure Provided on Bottle
- Q-Tips & Pipe Cleaners Included (10)
- Kit Price = \$29.99/each



Procedure

- Soak lower half of ST-500 probe in 100mL of cleaning kit solution
- Allow to soak for 30 minutes
- You may use cotton swab or pipe cleaner to gently remove excessive deposit after soaking
- Rinse with DI water then check for flashing blue light inside ST-500 quartz tube
- If surface is not entirely clean soak the ST-500 probe for an additional 30 minutes then repeat check

Ordering Information

ST-500 Field Cleaning Kit

P/N: SER-01

SP-800

Multi-Parameter Colorimeter

SP-800
Portable
Water
Analyzer

The SP-800 is a multi-wavelength colorimeter specifically designed and suited for Municipal, Environmental and Industrial water analysis. It uses

common colorimetric reagents and provides

colorimetric measurements at 7 LED wavelengths. The SP-800 is pre-calibrated for colorimetric

measurements of analyses common in industrial water treatment and other water testing in the laboratory or field environments, such as

Chlorine, Phosphate, Iron, Copper and many others. In multiply side-by-side validation and comparison studies, the SP-800 has proven to be statistically more accurate than other devices on the market.



Key Features

- Adding user defined methods via uPyxis PC app
- Data log downloadable via uPyxis apps
- Bluetooth enabled
- 7 LED wavelengths and 64 built-in reagent-based methods
- Display a concentration-time profile curve during color development.

Unique Pyxis Tests

- Direct Read Bleach Chlorine Concentration (0-16%)
- Direct Read Chlorine Dioxide Concentration (0-3,500ppm)
- Cyanide Free Zinc Method
- Peracetic Acid (PAA)

Items	Parameters
Colorimeter Wavelength	365, 420, 455, 525, 560, 570, 630 nm
Absorbance Reproducibility	0.005 au (0 - 1.5 au) (3sigma)
Absorbance Linearity Range	0 to 1.0 au
Battery	4 AA alkaline, 3 months typical battery life
Display	Graphical LCD 160x240 pixels, visible under direct sunlight
Instrument Dimension	L 265 mm W 88 mm H 62 mm
Instrument Weight	600 g without batteries
Storage Temperature	0 to 140°F (-18 - 60°C)
Operation Temperature	40 to 106 °F (4 - 41°C)
Humidity	85% at 106 °F (41 °C)
Environmental	IP67, dustproof and waterproof
Regulation	CE

SP-400 Handheld Fluorometers

Just One Press

To Start Your Fluorescence Traced Programs



*Patent:US9612221B2

Intuitive Operation

Fill water into the built-in sample cell and press OK button. With an intuitive graphical display, it is also straightforward to conduct calibration when needed.

Simple operation flow. PTSA Standalone Calibration (2 Point with Zero)

SP-400/SP-3xx Common Specifications

Items	Specification
Battery	9V alkaline battery
Typical Battery Life	3,200 readings (480mAh battery)
Display	TFT-LCD, visible under direct sunshine
Dimension	L160 W74 H33 (mm)
Weight	295g without battery
Temperature Range	40~106 °F (4 ~41°C)
Humidity	85% at 106°F (41°C)
Environmental	IP67, dustproof and water proof
Regulation	CE

Product	P/N	Description	Application
SP-350	50206	PTSA (0~300 ppb)	Cooling tower fluorescence tracing
SP-380	50208	PTSA (0~300 ppb) fluorescein (0~600 ppb)	Cooling tower and boiler fluorescence tracing
SP-395	50209	Halogenated azoles (0~5 ppm), NDSA (0~100 ppb)	Cooling tower and closed loop azole monitoring
SP-400*	50201	PTSA (0~300 ppb), Conductivity (0~15,000 µS/cm)	Cooling tower fluorescence tracing

Simplicity of Operation

One-handed operation. No vial or cuvette needed. One press to calibrate Pyxis ST-500 inline fluorometer via built-in WIFI or Bluetooth.

Tolerance to Interferences

Auto compensation for sample color and turbidity. Holds accuracy for long period of time. No need for frequent calibration.

Durable and Affordable

Fully dust / waterproof. Rugged structure to survive in tough industrial environment. Affordable to start fluorescent traced program today.



PTSA Determination Immune to Color and Turbidity

In the past, lack of attention to color and turbidity interference has impacted measurement accuracy of PTSA fluorescence. Pyxis solves this with technology that robustly rejects interference by utilizing a state-of-the-art optical design and an advanced compensation algorithm.

SP-350 PTSA reading compensates for sample turbidity up to 40 NTU and sample color equivalent to 5 ppm total iron. If the sample turbidity is too high or the sample color is too intensive, SP-350 will display a warning. When this happens, please filter your water sample before testing.

*Patent Granted: US9612221B2

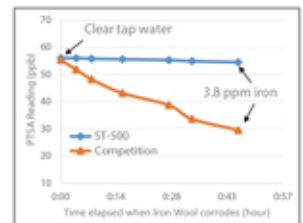
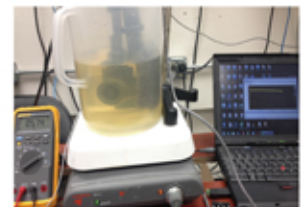
ST-500 Series Inline Fluorometers

(PTSA / Fluorescein / NDSA)

With earned reputation in its great accuracy and proven robustness, the ST-500 inline fluorometer has become a popular model for real-time monitoring of inhibitor doses in the application of fluorescence traced cooling programs. It is mostly used for feedback control to maintain the dosed concentration within a narrow band around the set point against changes in cycle or heat load dynamics.

Now the ST-500 Series covers a broad range of analytes, including fluorescein and naphthenic disulfonic acid (NDSA) to bring your success of traced cooling programs to boiler and other applications.

Thanks to state-of-the-art fluorescence technology adopted in our design, the ST-500 Series is very forgiving to real world sample water conditions. With its flow-through optical design and multiple wavelength color/turbidity compensation algorithm, the ST-500 probe keeps high performance for water samples with up to 100 NTU turbidity and/or 5ppm iron. The comparison in the experiment shown below clearly demonstrates the superior performance of the Pyxis ST-500 probe in the presence of iron color.



Special Warranty Program

To continuously support our customers, we proudly offer 3-year warranty for ST-500 Series starting from September of 2017 for global customers.

For more details, please reach www.pyxis-lab.com.

Typical Applications

- Traced cooling water treatment and RO programs.
- Traced boiler water treatment programs.

Features

- Color and turbidity compensation
- Long term stability and less frequent calibration.
- Typical maintenance cycle in months.
- Can be calibrated by SP-910/700/400 via the WiFi / Bluetooth adapter.
- Isolated 4-20mA output. No need for additional transmitter for easy connection with PLC and DCS.

	ST-500/ST-500SS [1]	ST-525/ST-525SS [2]	ST-540
P/N	50661 50700 for SS	50665 50666 for SS	50667
Target	PTSA	Fluorescein	NDSA
Range	0~300 ppb	0~60ppb	0~100 ppb
Resolution	0.1 ppb		
Accuracy	±1% of reading or 1 ppb whichever is greater		
Method	UV Fluorescence		
Power Supply	22-26V DC, Power Consumption ~1W		
Outputs	Isolated 4-20mA Analog Output Isolated RS-485 Digital Output, Supporting MODBUS protocol		
Dimension	Length 6.8 inch, body diameter 1.44 inch, 500ss/525SS 8.3x2.25x1.75 inch		
Weight	0.37lbs ,525SS/525SS:		
Installation	Custom tee with 3/4" NPT ports		
Housing Material	CPVC / stainless steel		
Pressure	ST-500SS & ST-525SS 290psi / ST-500 and ST-525 100psi		
Temperature	Operation 40-120 °F, Storage 20~140 °F		
Cable Length	5 feet, terminated with IP67 connectors. 30 feet, 60 feet extension cables available		
Calibration	Two point calibration against standard solutions		
Rating	IP66		
Regulation	CE marked		

[1] Camlock version available.

[2] Stainless housing version available. Check www.pyxis-lab.com.

Inline pH / ORP / Conductivity Sensors With Embedded Transducer

The Pyxis ST-700 series of pH, ORP and conductivity probes are designed to simplify installation, calibration, and in-use operation for industrial wastewater and cooling water applications. These probes have an embedded 4~20mA and RS-485 transmitters.

The oversized platinum disk ORP and the flat pH bubble sensing elements increase resistance to contamination. The large junction electrolyte capacity also ensures a long sensor life with minimum maintenance.

Typical Applications

Industrial waste water treatment, cooling water treatment.

Features

- Large conjunction capacity (compared to replaceable electrode design) leading to longer service life.
- High contamination resistance for longer maintenance cycles.
- Eliminate the need of pre-amplifier and transfer signal directly in 4~20mA or digital communication (RS-485 supporting MODBUS). Enhanced
- robustness when controller is away from the sample point.
- Specially designed pH/ORP electrodes tolerant of short time frozen during shipment or storage.
- Stainless steel solution grounding on sensor to avoid ground loop problems.

Items	Specification
pH	0~14 range with ATC, ±0.01 pH unit precision
ORP	±1500mV range, ±1mV precision
Conductivity	1~15,000 uS/cm
Sample Temperature	0~65°C (32~149°F)
Response Time	95% within 5 sec
Power Supply	12-36V DC, ~1W
Output	4~20mA isolated, RS-485 isolated
Connector	Custom IP67 water proof connector, 1.5m (4.5ft)
Operation Pressure	Up to 0.7 MPa (100 PSI) at 65°C (149°F)
Installation	Custom 3/4 inch tee with NPT thread
Storage temperature	-20 ~ 60° C (-4~140°F)
Operational temperature	0 ~ 40° C (32~104°F)
Typical service life	pH/ORP 2 years, Conductivity 5 years
Housing material	CPVC
Dimension	172mm long, 36.6mm diameter(6.8 inch long 1.44inch diameter)
Weight	170g (0.37 lbs)
Regulation	CE

With Pyxis' continuous improvement policy, this specification is subject to change without notice.



ST-712
Inline pH+ORP Sensor
P/N: 53003



ST-710
Inline pH Sensor
P/N: 53001



ST-711
Inline ORP Sensor
P/N: 53002



ST-720
Inline Conductivity Sensor
P/N: 53101



ST-001 Custom Tee for All Sensors

- UPVC, molded
- SCH 80
- Dual unions for 3/4 inch NPT or unthreaded ports

P/N: 50704

Product	P/N	Description
ST-710	53001	Inline pH Sensor
ST-711	53002	Inline ORP Sensor
ST-712	53003	Inline pH+ORP Sensor
ST-720	53101	Inline Conductivity Sensor
ST-001	50704	Custom Tee for All Sensors

Inline Turbidity Meters

ST-730 Series is designed for monitoring the middle range turbidity in various applications. It is more robust, and tolerant of fouling, particular matters, and air bubbles comparing to other online turbidity meters designed for relatively clean water applications.

ST-730 series turbidity probe measures two optical densities and two scattering intensities at two wavelengths. This helps measure a large turbidity range and yet maintain a fine resolution. This design also helps the probe run self-diagnoses.



	ST-730	ST-730B	ST-735	ST-731
Range	0~100 NTU	0~500 NTU	0~10,000 NTU	0~10 NTU
Resolution	0.1 NTU	1 NTU	10 NTU	0.01NTU
Accuracy	±2% of reading or 1 NTU whichever is greater			±2% or 0.1NTU
Method	Nephelometric, with light sources of White LED and IR LED (860nm)			
Power Supply	22-26V DC, Power Consumption ~1W			
Outputs	Isolated 4-20mA Analog Output			
Dimension	Isolated RS-485 Digital Output, Supporting MODBUS protocol			
Weight	Length 6.8 inch, body diameter 1.44 inch			
Installation	Custom tee with 3/4" NPT ports			
Material	CPVC			
Pressure	Up to 100psi			
Temperature	Operation 40-120 °F, Storage 20~140 °F			
Cable Length	5 feet, terminated with IP67 connectors.			
Calibration	30 feet, 60 feet extension cables available			
Rating	Two point calibration against standard solutions			
Regulationa	IP66			

Typical Applications

- Industrial water treatment process control including raw water, cooling water, and wastewater.
- Surface water monitoring.
- Other chemical processes with middle range of turbidity.



ST-730



ST-600

Inline Bleach Sensors

The Pyxis ST-600 inline probe measures the concentration of bleach (sodium hypochlorite) and the ST-601 the concentration of Chlorine dioxide (ClO₂).

Unlike disinfection sensors based on amperometric approach for disinfection liquids in the ppm level, the ST-600 / 601 applies an optical method and directly measures the optical density of the bleach / ClO₂ solution in percentage level without dilution.

The probe applies a near UV light as the major light source and also a built-in reference light source and a reference light detector. This configuration ensures a long-term stable measurement of the bleach and ClO₂ concentration.

Typical Applications

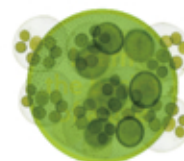
- Bio-control for industrial water
- Swimming pool and SPA
- Secondary disinfection treatment

	ST-600	ST-601
Target	Sodium hypochlorite	Chlorine dioxide
Range	0%-16%	0~0.35% (0~3,500 ppm)
Resolution	0.01 in percentage ±2% of reading or 0.1	0.01 in percentage ±2% of reading or 0.05
Accuracy	percentage, whichever is greater	percentage, whichever is
Method	UV Absorbance	
Power Supply	22-26V DC, Power Consumption ~1W	
Outputs	Isolated 4-20mA Analog Output Isolated RS-485 Digital Output, Supporting MODBUS protocol	
Dimension	Length 6.8 inch, body diameter 1.44 inch	
Weight	0.37 pounds	
Installation	7 mm OD Teflon tubing for measurement flow Customized 3/4" tee in PVC also available when ordering	
Material	CPVC	
Pressure	Up to 100psi	
Temperature	Operation 40-120 °F, Storage 20~140 °F	
Cable Length	5 feet, terminated with IP67 connectors. 30 feet, 60 feet extension cables available	
Calibration	Two-point calibration against standard solutions	
Rating	IP66	
Regulation	CE marked	

Order Information

Product	P/N	Description
ST-730	53201	Inline Turbidimeter (0-100NTU)
ST-730B	53202	Inline Turbidimeter (0-500NTU)
ST-735	53204	Inline Turbidimeter (0-10,000NTU)
ST-731	50505	Inline Turbidimeter(0-10NTU)
ST-600	50213	Inline Bleach Sensor (0-16%)
ST-601	50214	Inline ClO ₂ Sensor(0-3,500ppm)
Adapter	MA-BW	Inline WiFi / Bluetooth adaptor

Algae Monitoring Solutions



EM-400



EM-500

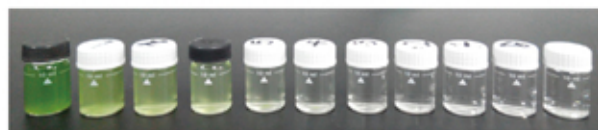
The Pyxis algae monitoring products measure the in-vivo chlorophyll-a concentration in live algae cells which is the major photosynthetic pigments of algae. Chlorophyll-a measurement can be used to assess algal biomass. These fluorometers provide instant, reagentless monitoring capability to understand algae growth dynamic in your system and can be used for alarming or guiding algicide dosing. Both portable and inline version of the instrument are available.

Typical Applications

- Cooling water
- Surface water monitoring

Features

- Pre-calibrated with using a live algae sample. The fluorescence chlorophyll-a measurement is automatically compensated for sample color and turbidity interference. Calibrated using a water sample with known chlorophyll-a concentration or a simulated 470/675 (Ex/Em) fluorescent sample through a user-friendly menu-driven procedure.
- Sample vials available for EM-900 for multiple sample measurement and ease-of-cleaning.



Product	P/N	Description
EM-400 50508		Portable Chlorophyll-a Analyzer
EM-901 50504		Portable Cyanophytes Analyzer (Fresh water)
EM-902 50506		Portable Cyanophytes Analyzer (seawater)
EM-500 50501		Inline Chlorophyll-a Sensor
EM-501 50503		Inline Cyanophytes Sensor (Fresh water)
EM-502 50505		Inline Cyanophytes Sensor (seawater)

	EM-500	EM-501	EM-502
Product	chlorophyll-a	Cyanophytes(Fresh Water)	Cyanophytes(seawater)
Range ⁽¹⁾	0~50/0~1000 ppb	0~200,000cel/mL	0~200,000cel/mL
Resolution	0.1 ppb	500cel/mL	500cel/mL
Accuracy	≤ 3% or 0.1 ppm, whichever is greater		
Method	In-vivo Fluorescence		
Power Supply	22-26V DC, Power Consumption ~2W		
Outputs	Isolated 4-20mA Analog Output Isolated RS-485 Digital Output, Supporting MODBUS protocol		
Dimension	Length 6.8 inch, body diameter 1.44 inch		
Weight	0.37 pounds		
Installation	Custom tee with 3/4" NPT ports		
Material	CPVC		
Pressure	Up to 100psi		
Temperature	Operation 40-120 °F, Storage 20~140 °F		
Cable Length	5 feet, terminated with IP67 connectors. 30 feet, 60 feet extension cables available		
Calibration	Two point calibration against standard solutions		
Rating	IP65		
Regulation	CE marked		

	EM-400	EM-901	EM-902
name	chlorophyll-a	Cyanophytes(Fresh Water)	Cyanophytes(seawater)
Range ⁽¹⁾	0~50/0~500 ppb	0~200,000cel/mL	0~200,000cel/mL
Resolution	0.1 ppb	500cel/mL	500cel/mL
Accuracy	≤3% or 0.1ppm		
Method	In-vivo Fluorescence		
Excitation Wavelength	470 nm LED		
Emission Wavelength	675 nm		
Wavelength Accuracy	±1 nm		
Detection Limit	0.3 ppb		
Battery	4x AA batteries		
Typical Battery Life	10,000 readings		
Display	LCD visible under direct sunlight		
Dimension	L265 W88 H69 (mm)		
Weight	1.33lb (600 g, without batteries)		
Temperature Range	40 to 106 °F (4 to 41 °C)		
Environmental	IP67, dustproof and waterproof		
Regulation	CE marked		

[1] In-vivo Chlorophyll-a results are highly ed by the specie of algae and algae living conditions.
 [2] The detection range can be customized according to the user requirement.

Oil-in-Water (PAHs) Monitoring



Pyxis HM-500 series inline Oil-In-Water (OIW) sensors measure the concentration of PAHs in water for various applications.

Typical Applications



- Heat exchanger leakage detection
- Marine discharge monitoring
- Oil tank leakage detection
- Industrial wastewater monitoring
- Re-injection water monitoring

Inline OIW Sensor Features

- Easy calibration with long term stability
- Low maintenance
- Ruggedized for harsh environments
- Custom Configurations

Portable OIW Meter Features

- Disposable extraction tube prefilled with a non-toxic and non-flammable solvent for quick measurement on spot.
- Accepts hexane as extraction solvent
- Great reproducibility and correlation to widely used non-dispersive/filtered IR analysis method
- No dilution required for up to 1,000 ppm
- Portable, rugged, easily field deployable



Product	P/N	Description
HM-900	52201	Portable Oil In Water
HM-900T	52202	Portable Oil In Water Suit
HM-500	52101	Online Oil In Water
HM-510	52102	Online Oil In Water
16mm adapter	52213	Apply to Oil In Water
16mm adapter	52214	Apply to COD

Specification	HM-500	HM-510	HM-520
Range ⁽¹⁾	10 ppm	1000 ppm ⁽²⁾	100 ppm
LOD ⁽¹⁾	0.1 ppm	0.5 ppm	0.5 ppm
Reproducibility	≤3% or 0.1 ppm, whichever is greater		
Principle	Fluorescence		
Housing Material	CPVC		
Installation	Custom flow cell with 3/4" NPT		
Pressure	0-100 PSI		
Flow	0-3 m/s		
Rating	IP65		
Temperature	Operation 1~40 °C. Storage -7~60 °C		
Power Supply	22-26V DC, 2W		
Signal Output	4-20mA and MODBUS over RS-485		
Cable Length	1.5 m as standard. 20m extension cable		
Dimensions	Length 173 mm, diameter 36.6 mm		
Weight	0.37 lbs (170 g)		
Regulatory	CE mark		
Suitable for	Crude, lubricants, Hydraulic oil, certain fuel oils		
Calibrations ⁽²⁾	Calibration against lab result Pyxis secondary standards available		
Auto Cleaning ⁽³⁾	Optional, surfactant and/or compressed air needed		

Note:

[1] Range and LOD may vary with different types of hydrocarbon mixtures.

[2] Emulsified oil.

[3] Cleaning system is required to ensure effective operation for certain applications.

Specification	HM-900
Range ⁽¹⁾	0~1,000 ppm
LOD ⁽¹⁾	0.05 ppm
Reproducibility	≤3% or 0.1 ppm whichever is greater
Principle	Fluorescence
Excitation	365nm LED, 470nm LED
Emission	410 nm, 675nm
Power Supply	4x AA batteries
Battery Life ⁽²⁾	4 month typical
Display	LCD, Visible in direct sunshine
Rating	IP67
Temperature	Operation 1~40°C, Storage -7~60°C
Dimensions	H265 W88 H69 (mm)
Weight	1.33 lbs (600 g, without batteries)
Regulatory	CE mark
Calibrations	Calibration against lab result Pyxis secondary standards available

Note:

[1] Range and LOD vary against different types of hydrocarbon mixture.

[2] Assume 10 tests per day and 5 days per week.

HM-600 Dissolved Organic Matters (DOMs)

Typical Applications

Raw water, Water Source Protection, RO water inlet

Features

- Initial investment reduced more than 70% by DOM monitoring comparing with TOC monitoring. Operation cost reduced due to the fact of no consumables or no reagents required.
- Measurement every 4 seconds, fast response to sudden pollution events or system upset to prevent production losses.
- No moving parts, tolerant of shock and vibration in mobile applications.
- Low maintenance, long term stability, and less frequent calibration required.



Specification	HM-600	HM-610
Range ⁽¹⁾	10 ppm	200/m
LOD ⁽¹⁾	0.1 ppm	1/m
Reproducibility	≤3% or 0.1ppm	±1.5% or 0.5 /m
Principle	Fluorescence / UV 254 absorption	
Housing Material	CPVC	
Installation	Custom flow cell with 3/4" NPT	
Pressure	Up to 0.7 MPa (100 PSI)	
Flow	0-3 m/s	
Rating	IP65	
Operation	0 ~ 40 °C (32~104 °F)	
Storage	-20 ~ 60 °C (-4~140 °F)	
Power Supply	22-26V DC, 2W	
Signal Output	4~20 mA isolated, RS-485 isolated Or 4-20mA	
Cable Length	1.5 m as standard. 10m or 20m extension cable	
Dimensions	172 mm long, 36.6 mm diameter	
Weight	170 g (0.37 lbs)	
Regulatory	CE mark	
Typical life	2 years	
Auto Cleaning ⁽²⁾	Optional, surfactant and/or compressed air needed	

Notice:

(1) Depends on organic compounds and water quality

(2) For certain applications, cleaning system is required to ensure effective operation.

HM-610 UVAS Sensor

Typical Applications

- Wastewater inlet and outlet.
- Stormwater monitoring and alarm
- Miniciple water treatment process monitoring

Principle

Monitoring pollutants in wastewater in real-time by measuring UV absorbance at 254 nm. It is widely used as an alternative indicator of COD/BOD in process control and surface water monitoring.

Features

- Long life 254nm light source. Lamp replacment not required in working life.
- No heavy metal disposal issue comparing to online COD monitoring.
- No reagent, low maintenance.

Product	P/N	Description
HM-600	52111	Inline DOM Sensor
HM-610	52112	Inline UVAS Sensor
UC-200	43003	Display Pannel

FDX-98 / FDX-10 PTSA Dye for Cooling Tower and RO

Typical Applications

Concentration monitoring and dosing control in cooling tower and RO applications

Features

- Active ingredient: 1,3,6,8-Pyrenetetrasulfonic acid, tetrasodium salt (PTSA), CAS# 59572-10-0
- High quantum efficiency. Ideal for monitoring as low as 50ppb for cooling and 5ppb for RO.
- Colorless at the target concentrations and easy to dissolve
- Inert fluorescent tracer. Great compatibility with almost water treatment chemical formulations
- Dust-free for easy handling.
- Long-term stability. 3-year shelf life in the original package.



Instruction

It is recommended to blend FDX-98 dye with water treatment formulation in 1:1,000 weight ratio. The concentration should be controlled at 50~200 ppb in recirculation systems for the best monitoring performance.

FDN-95 Tracing Dye for High Pressure Boilers

Typical Applications

Chemical concentration monitoring and dosing control in feedwater or blowdown in high pressure boiler applications



Features

- Active ingredient: Naphthalene disulfonic acid (NDSA). CAS# 211366-30-2. Insignificant decomposition at high temperature and pressure.
- Can be monitored in either feedwater or blowdown.
- High quantum efficiency, ideal for monitoring as low as 10 ppb.
- Inert fluorescent tracer, great compatibility with boiler treatment formulations.
- Long-term stability. 3-year shelf life in the original package.
-

Instruction

It is recommended to blend FDN-95 with water treatment formulation in 1:1,000 weight ratio. The concentration of should be controlled at 30 ~ 60ppb in feedwater.

FDF-99 Tracing Dye for Low Pressure Boilers

Typical Applications

Chemical concentration monitoring and feedwater dosing control in low pressure boiler applications, especially in the food and beverage industry.

Features



- Active ingredient: Fluorescein, CAS# 2321-07-5
- Non-toxic. It can be used in boilers, where steam contacts food or equipment.
- Very high quantum efficiency, ideal for as low as 5 ppb monitoring in feed.
- Inert fluorescent tracer. Great compatibility to almost all boiler chemical formulations. Stable in oxygen-free low pressure boilers (<150psi).
- Long-term stability. 3 years of shelf life in the original package.



Instruction

It is recommended to blend FDF-99 dye with boiler treatment formulations in 1:1,000 weight ratio. The concentration should be controlled at 5~10ppb in feedwater.

Order Information

	FDX-98	FDX-10	FDN-95	FDF-99
P/N	20303	20201	20305	20306
Description	98% light yellow powder	10% water solution	95% white powder	99% dark red powder
Package	in 25kg paper drum	in 200kg plastic drum	in 25kg paper drum	in 25kg paper drum
Application	Cooling, RO	Cooling, RO	High pressure boiler	Medium-low pressure boiler
				

Accessories

Standards and cleaning solution

Apply to calibrate portable or online instruments.

Remove contamination on sensor surfaces.

Find more details on page 16.



Inline Bluetooth Adapter (P/N: MA-WB)

Connect any Pyxis inline sensor to computers or Smartphones with uPyxis app via Bluetooth connection to read, calibrate, diagnose, and set up.

Quartz Sample Vials

Apply to SP-900 / 910 / 800 Series. Order more vials for multiple sample testing.

10ml vial (P/N: MA024), 25ml vial with the 10, 20, and 25ml marks (P/N: MA025)



Bluetooth Adapter (P/N: MA-NEB)

Connect Pyxis portable meters to the PC without built-in low-power Bluetooth. It is shipped with SP-700 / 910 as standard accessory.

Extension Cables

For applications that inline sensors and controller are separated.

50 feet / 15m (P/N: 50705), 100 feet / 30m (P/N: 50706)



Sealing O-ring for ST-001 Tee (P/N: MA-150)

Replacement for missing or damaged O-ring for Pyxis inline sensors.

SP910 / 800 Consumables and Accessories



16mm test tube adaptor
P/N: 52213 for Oil-In-Water
P/N: 52214 for COD



Reagents

Order Information

Product	P/N	Description
High quality quartz sample vials	MA024	10ml , 24mm diameter, Glass Sample Vial
	MA016	10ml, 16mm diameter, Glass Sample Vial
	MA025	25ml, 24mm diameter, Glass Sample Vial
Inline Bluetooth Adapter	MA-WB	Inline Bluetooth Adapter
High quality sensor extension cables	50705	15m,dual channel analog and digital
	50706	30m,dual channel analog and digital
	50707	15m, digital, for ST-500D / ST-700D series
	50708	30m, digital, for ST-500D / ST-700D series
Seal O-ring	MA150	Seal O-ring for ST-001 standard tee
Standard solutions and cleaning fluids	21001	PTSA calibration solution, 100ppb, 500ml
	21002	PTSA calibration solution, 50ppb, 500ml
	21003	PTSA calibration solution, 300ppb, 500ml
	21004	Conductivity PTSA Combined calibration solution (100ppb,1000uS/cm, 500ml) for SP-400/700
	21005	Turbidity Standard 100 NTU
	21006	Turbidity Standard 50 NTU
	FLUO-10	10 ppb fluorescein calibration standard
	FLUO-50	50 ppb fluorescein calibration standard
	FLUO-250	250 ppb fluorescein calibration standard
	FLUO-500	500 ppb fluorescein calibration standard
	HST-02	2 ppm Halogen stable azole calibration standard
	TTA-02	2 ppm tolyltriazole standard
	21020	Cleaning Solution for OIW, 500ml
RD-800	50612	12-position Digester for COD and total PO ₄ , 16mm
16mm test tube adapter	52213	Apply to OIW
	52214	Apply to COD

uPyxis Universal Pyxis Connectivity App

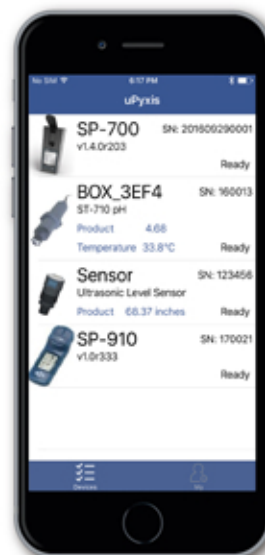
uPyxis manages all Pyxis portable meters and inline sensors on your iPhones, Android phones or computers.

Create your own colorimetric method, add more traced product names, transfer data log to a computer, upload diagnosis information for support from Pyxis, quickly download instruction manuals, ...

Note:

[1] uPyxis is still evolving rapidly. Some features may only be available on the smart phone version. Check our website www.pyxis-lab.com for latest information.

[2] Inline Bluetooth adapter (P/N: MA-WB) is required for inline sensors to be connected.



Customization Service

Looking for something not included in this catalog?

Please feel free to contact us via phone or email. We are happy to offer custom designs addressing water quality measurement challenges with colorimetric, fluorescence, electrochemical and other approaches.

More specifically, we can custom design inline or handheld fluorometers for any combination of excitation wavelength (255 to 650 nm) and emission wavelength (340 to 800 nm).

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The Pyxis logo is displayed in a bold, italicized blue font with a registered trademark symbol. It is set against a decorative background of light blue water ripples that spans the width of the page.

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