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ST-766SS SERIES

Inline Oxidizer + pH + Conductivity Sensor Series for Cooling, Process & Drinking Water

DESCRIPTION

The ST-766SS Series are multi-parameter sensors designed for continuous measurement of various oxidizing species and reducing species in water treatment applications. Each model is identified by its product name ST-766SS followed by a suffix indicating its target analyte, these include the following: **FCL** (Free Chlorine) / **TCL** (Total Chlorine) / **CLO** (Chlorine Dioxide) / **Br** (Bromine) / **NCL** (Monochloramine) / **PAA** (Peracetic Acid) / **H2O2** (Hydrogen Peroxide) / **SO3** (Sulfite) / **O3** (Ozone) and **DBNPA** (2,2-dibromo-3-nitropropionamide). Two specialty combination models are also available including **TFCL** (simultaneous Free & Total Chlorine) and **DCL** (simultaneous Free Chlorine and Sulfite for Dechlorination).

All models incorporate additional measurements of pH, ORP, Conductivity, and Temperature for comprehensive process monitoring. Among these, pH and temperature are automatically utilized for oxidizer concentration compensation, while ORP serves as a direct indicator of whether the water environment is in an oxidizing or reducing state. Conductivity is included as an auxiliary parameter, eliminating the need for a separate conductivity sensor.

The ST-766SS series sensor offers the newly enhanced Oxi-Logic designed replaceable, front loading reference electrode assembly that has been independently developed by Pyxis Lab eliminating the shortcomings associated with membranes and gel replacement while offering reduced polarization time on startup with an electrode life span potential of up to 2-years. The flat front-end design of the ST-766SS makes this platform less prone to contamination or fouling and is easy to clean, while the quick engage pin design prevents any potential for water ingress or internal wiring damage during replacement.

Each sensor eliminates the drawbacks of membranes and liquid reagents, providing fast startup, reduced maintenance, and extended electrode life of up to 2 years. The replaceable dual-gold electrode head assembly (EH-766 Series) and flat, front-end design resist fouling, while pairing with a variety of flow assembly design options, ensures consistent performance across clean to heavily contaminated water applications. The rugged 316 stainless steel body withstands aggressive industrial environments, while built-in 2x 4–20mA and RS-485 Modbus outputs plus Bluetooth® 5.0 (with MA-CR or PowerPACK adapters) enable flexible integration and easy field diagnostics through the uPyxis® app. The ST-766SS Series sets a new benchmark in multi-parameter oxidizer monitoring—field-tough, lab-precise, and comprehensive, covering the widest range of oxidizers available in a single sensor platform.

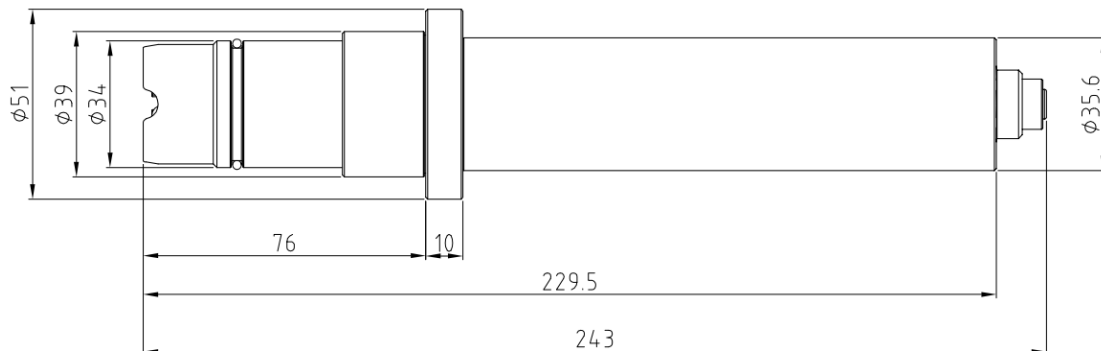
COMMON APPLICATIONS

- Cooling Water
- Food, Beverage, Vegetable Process Water (NON-POULTRY)
- Wastewater Effluent
- Potable & Drinking Water
- Irrigation & Process Water
- Food & Beverage Processing Equipment Sanitization
- Spring Water Transport Disinfection
- Bottled Water Filler Production
- RO Feedwater
- Industrial Process Water
- Conveyors & Flume Water

FEATURES

- Real-Time Oxidizer(s) + pH Detection
- Sensitivity Adjustable - LDL as low as 0.001ppm
- Zero Burn-In Time & No Membranes
- pH & ORP Measurement
- Conductivity & Temperature Measurement
- Dual 4-20mA & RS-485 Modbus Outputs
- Bluetooth® Enabled with the MA-CR or PowerPACK Bluetooth® Adapters for use with uPyxis®
- Integrated RTD and pH Compensation up to 9.0+ of the Oxidizer Value
- Replaceable EH-766 Bare-Gold Reference Electrode Assembly - 2 Year Life Span
- Simple Change and Maintenance
- Rugged 316L Stainless Steel Design
- CE/UKCA/RoHS Marked

DIMENSIONS



SENSOR SPECIFICATIONS (FCL/CLO/TCL/NCL/TFCL)

Sensor Model	ST-766SS-FCL	ST-766SS-CLO	ST-766SS-TCL	ST-766SS-NCL	ST-766SS-TFCL
Part Number	51154	55821	51379	54731	55659
Sensor Body Material	316L Stainless Steel				
Electrode Head Type	EH-766				EH-766-01
Oxidizer Measured	Free Chlorine	Chlorine Dioxide	Total Chlorine	Monochloramine	Free + Total Chlorine
Oxidizer Range	0.00–5.00ppm				
Oxidizer Precision	±0.01mg/L or ±1% with pH Compensation up to 9.0				
pH Range	0.00–14.00				
pH Precision	±0.01pH				
ORP Range	-1,500 – 1,500mV				
ORP Precision	±1.0mV ORP				
Conductivity Range	0–10,000µS/cm				
Conductivity Precision	±5% of Value				
Measurement Interval	Continuous				
Sensor Response Time	T95≤240s - Oxidant T95≤5s - pH/ORP/Conductivity				
Operating Temperature	4–49 °C (40–120 °F)				
Inlet Operating Pressure	7.25–87psi (0.05–0.6MPa)				
Power Supply	22–26V DC, Power Consumption ~2W				
Rating	IP67				
Compliance	EPA 334.0 / ISO-7393				
Regulation	CE Marked, RoHS, UKCA				
Selectivity	Non-Selective, Cross Sensitive to Other Oxidizing Species				
Warranty	6 Months - Electrode 13 Months - Sensor Body				
Typical Electrode Life	2 Years				
Cables Included	MA-1.5CR (1.5m Flying Lead Cable with 8PIN Male Adapter) MA-4.9CR (1.5m Bulkhead Cable with 8PIN Male/Female Adapter)				

SENSOR SPECIFICATIONS (O3, BR, H2O2, PAA)

Sensor Model	ST-766SS-O3	ST-766SS-Br	ST-766SS-H2O2	ST-766SS-PAA
Part Number	54828	52743	53302	54803
Sensor Body Material	316L Stainless Steel			
Electrode Head Type	EH-766-03	EH-766		EH-766-01
Oxidizer Measured	Ozone	Bromine	Hydrogen Peroxide	Peroxyacetic Acid
Oxidizer Range	0.00–2.00ppm	0.00–5.00ppm	0.00–200.00ppm	0.00–100.00ppm
Oxidizer Precision	±0.01mg/L or ±1% with pH Compensation up to 9.0		±0.5mg/L or 1% with pH Compensation up to 9.0	
pH Range	0.00–14.00			
pH Precision	±0.01pH			
ORP Range	-1,500 – 1,500mV			
ORP Precision	±1.0mV ORP			
Conductivity Range	0–10,000µS/cm			
Conductivity Precision	±5% of Value			
Measurement Interval	Continuous			
Sensor Response Time	T95≤240s - Oxidant T95≤5s - pH/ORP/Conductivity			
Operating Temperature	4–49 °C (40–120 °F)			
Inlet Operating Pressure	7.25–87psi (0.05–0.6MPa)			
Power Supply	22–26V DC, Power Consumption ~2W			
Rating	IP67			
Compliance	EPA 334.0 / ISO-7393			
Regulation	CE Marked, RoHS, UKCA			
Selectivity	Non-Selective, Cross Sensitive to Other Oxidizing Species			
Warranty	6 Months - Electrode 13 Months - Sensor Body			
Typical Electrode Life	2 Years			
Cables Included	MA-1.5CR (1.5m Flying Lead Cable with 8PIN Male Adapter) MA-4.9CR (1.5m Bulkhead Cable with 8PIN Male/Female Adapter)			

SENSOR SPECIFICATIONS (SO3, DCL)

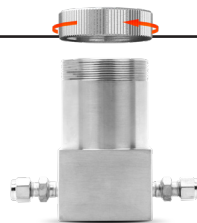
Sensor Model	ST-766SS-SO3	ST-766SS-DCL
Part Number	58305	57300
Sensor Body Material	316L Stainless Steel	
Electrode Head Type	EH-766	EH-766-01
Target Measured	Sulfite	Free Chlorine + Sulfite
Free Chlorine Range	Not Measured	0.00–5.00ppm
Free Chlorine Precision	Not Measured	±0.01mg/L or 1% with pH Compensation up to 9.0
Sulfite Range	0–100ppm	
Sulfite Precision	±0.5mg/L or ±1% with pH Compensation up to 9.0	
pH Range	0.00–14.00	
pH Precision	±0.01pH	
ORP Range	-1,500 – 1,500mV	
ORP Precision	±1.0mV ORP	
Conductivity Range	0–10,000µS/cm	
Conductivity Precision	±5% of Value	
Measurement Interval	Continuous	
Sensor Response Time	T95≤240s - Oxidant T95≤5s - pH/ORP/Conductivity	
Operating Temperature	4–49 °C (40–120 °F)	
Inlet Operating Pressure	7.25–87psi (0.05–0.6MPa)	
Power Supply	22–26V DC, Power Consumption ~2W	
Rating	IP67	
Compliance	EPA 334.0 / ISO-7393	
Regulation	CE Marked, RoHS, UKCA	
Selectivity	Non-Selective, Cross Sensitive to Other Oxidizing Species	
Warranty	6 Months - Electrode 13 Months - Sensor Body	
Typical Electrode Life	2 Years	
Cables Included	MA-1.5CR (1.5m Flying Lead Cable with 8PIN Male Adapter) MA-4.9CR (1.5m Bulkhead Cable with 8PIN Male/Female Adapter)	

SENSOR SPECIFICATIONS (DBNPA)

Sensor Model	ST-766SS-DBNPA
Part Number	50484
Sensor Body Material	316L Stainless Steel
Electrode Head Type	EH-766
Target Measured	DBNPA (2-2dibromo-3-nitrilopropionamide)
DBNPA Range	0–20ppm
DBNPA Precision	±0.05mg/L or ±1% with pH Compensation up to 9.0
pH Range	0.00–14.00
pH Precision	±0.01pH
ORP Range	-1,500 – 1,500mV
ORP Precision	±1.0mV ORP
Conductivity Range	0–10,000µS/cm
Conductivity Precision	±5% of Value
Measurement Interval	Continuous
Sensor Response Time	T95≤240s - Oxidant T95≤5s - pH/ORP/Conductivity
Operating Temperature	4–49 °C (40–120 °F)
Inlet Operating Pressure	7.25–87psi (0.05–0.6MPa)
Power Supply	22–26V DC, Power Consumption ~2W
Rating	IP67
Compliance	EPA 334.0 / ISO-7393
Regulation	CE Marked, RoHS, UKCA
Selectivity	Non-Selective, Cross Sensitive to Other Oxidizing Species
Warranty	6 Months - Electrode 13 Months - Sensor Body
Typical Electrode Life	2 Years
Cables Included	MA-1.5CR (1.5m Flying Lead Cable with 8PIN Male Adapter) MA-4.9CR (1.5m Bulkhead Cable with 8PIN Male/Female Adapter)

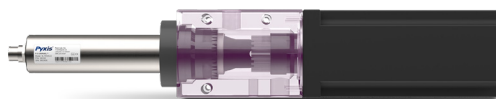
Clean - Potable Water Application Installation Formats

Item	ST-007	ST-009	FR-50
Part Number	50700-A51	22624	50700-A01
Sample Pressure	7.25–30psi (0.05–0.2MPa) / Outlet to Atmosphere-Drain		
Installation	ST-007 & ST-009 Stainless Inline Tee Assemblies, Rotameter NOT Included		FR-50 Self-Regulating Flow Reservoir with Rotameter and PRV Included
Suggested Flow Rate	200–400mL/min)		600–1,800mL/min
Sample Line Size	¼ inch OD Compression	¾ inch FNPT	1/4 inch OD Inlet 20mm Outlet & Overflow ½ inch NPT Drain

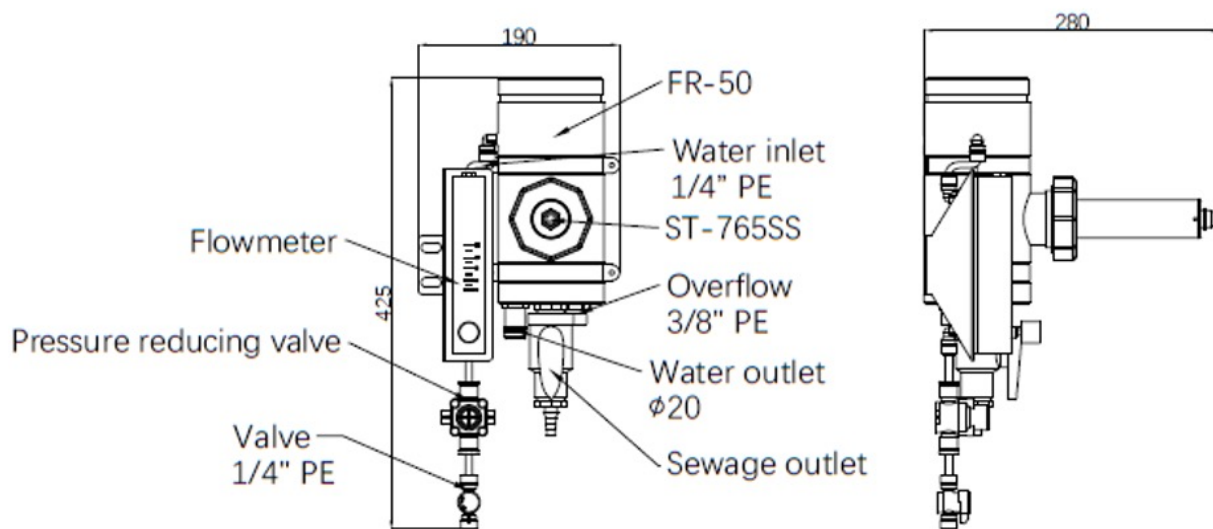


Dirty - Industrial Water Application Installation Formats

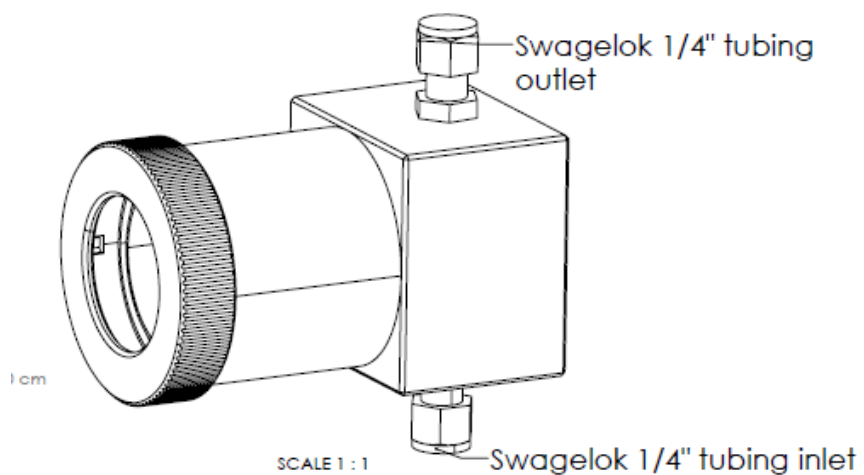
Sensor Model	FR-306 PLUS
Part Number	24236
Description	Self-Brushing Single Flow Reservoir Assembly for Pyxis Lab, Inc. Sensors
Supply Voltage	24V DC
Power Consumption	1W (Typical during Normal Operation) MAX: 20W (Locked-Rotor Condition, Sustained up to 5 seconds and Trigger Alarm)
Control Method	RS-485 or Powered Relay (24VDC)
Dimensions	9.25" (235mm) Length, 3.15" (80mm) Body Square
Body Material	UPVC and PC
Sample Inlet Pressure	7.25–60psi (0.05–0.41MPa)
Sample Inlet/Outlet	½ inch NPT
Detergent Injection Port	¼ inch NPT
Suggested Flow Rate	200–800mL/min (Consistent Flow Rate Required up to 3,000mL/min Acceptable)
Brush Rotational Speed	200RPM - Motorized Brush
Wet Material	UPVC & PC & ABS & 316L Stainless Steel
Cable Interface	Explosion-Proof Male 7PIN Adapter
Typical Brush Life	12–18 Months depending on the Application of Use
Cables Included	CE-FE-4.9CR (1.5m Flying Lead 7PIN Waterproof Cable with Male Adapter) CE-MS-FE-2.0 (0.6m Cable 7PIN Adapter for PowerPack Connection)



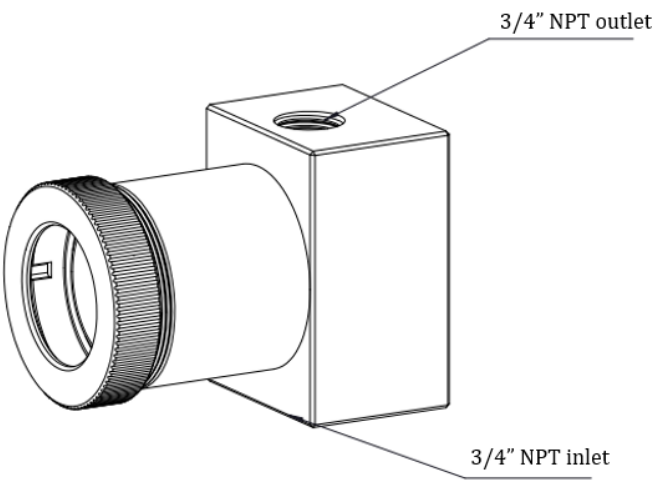
FR-50 FLOW RESERVOIR FOR CLEAN WATER ONLY



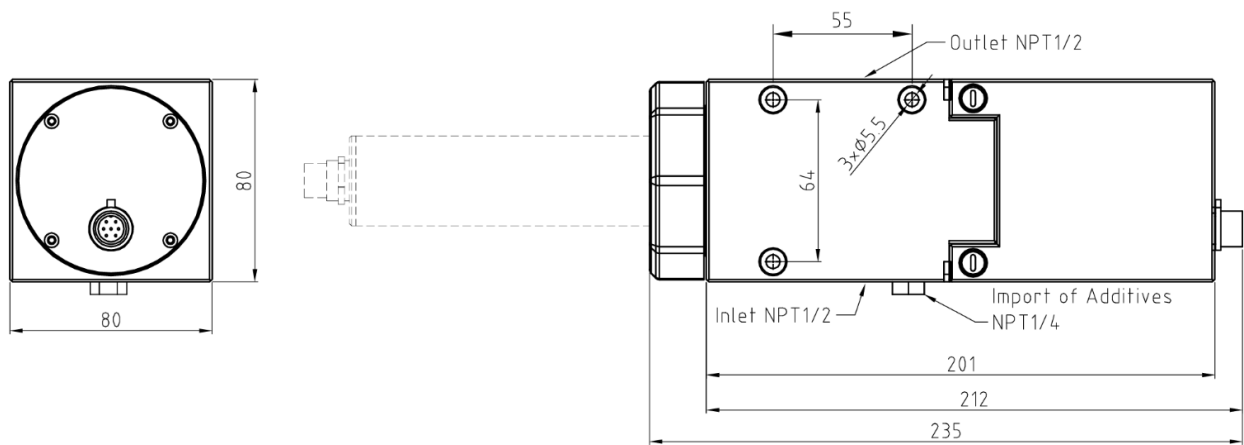
ST-007 FLOW CELL FOR CLEAN WATER ONLY



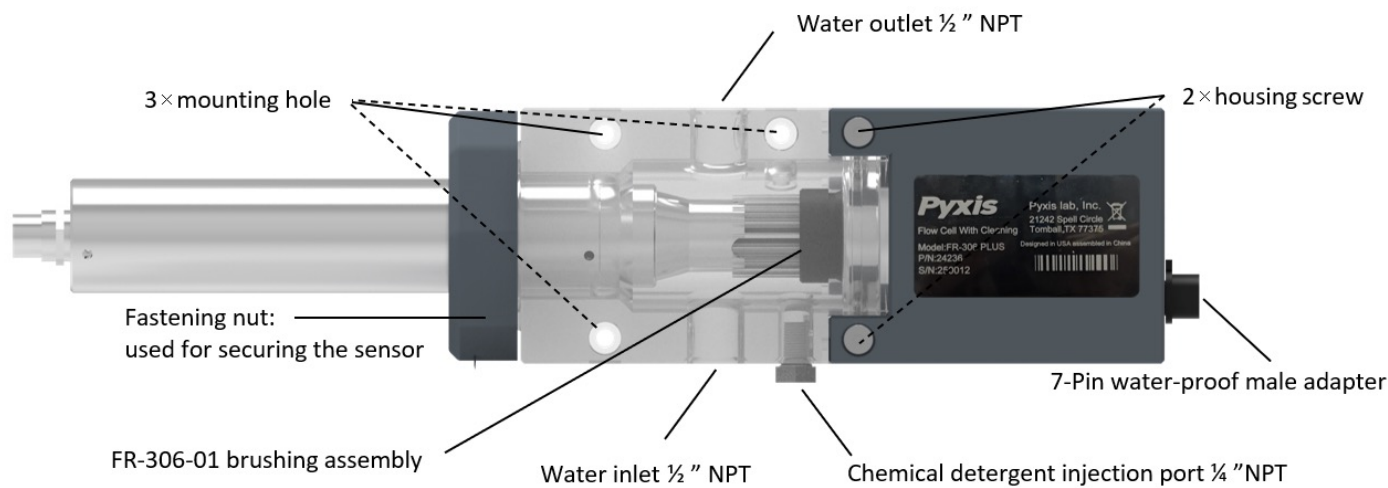
ST-009 FLOW CELL FOR CLEAN WATER ONLY



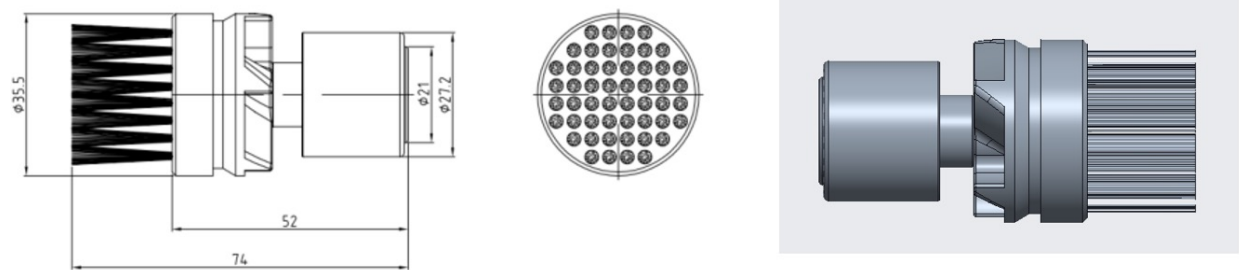
FR-306 PLUS FLOW CELL FOR DIRTY AND CLEAN WATER



FR-306 PLUS COMPONENT SCHEMATIC



FR-306-01 BRUSH ASSEMBLY DIMENSIONS



CLEANING & CALIBRATION

The uPyxis® App APP manages all Pyxis portable meter and inline sensors on mobile and desktop devices, including Apple iPhones and Samsung Android smartphones. When connected to the Pyxis ST-766SS Series inline sensors, the uPyxis APP enables users to conduct a wireless probe calibration of pH and oxidizer from the touch of their smart device. The uPyxis direct calibration of the sensor eliminates unnecessary time wasted with calibrating the probe through the receiving controller and ensures the highest degree of accuracy and minimizes time spent in the field.

For wireless access to all Pyxis devices via uPyxis, users will require the inline Bluetooth Adapter (PN: MA-CR). Details can be found in the Order Information section of this data sheet.

Contact service@pyxis-lab.com for Support

NOTE:

The uPyxis mobile app is evolving rapidly and users can find the latest version at no cost on Apple Store or Google Play. The uPyxis desktop app may be downloaded at www.pyxis-lab.com/upyxis-app



ORDER INFORMATION**PART NUMBER**

ST-766SS-FCL Inline Free Chlorine Sensor	51154
ST-766SS-CLO Inline Chlorine Dioxide Sensor	55821
ST-766SS-TCL Inline Total Chlorine Sensor	51379
ST-766SS-NCL Inline Monochloramine Sensor	54731
ST-766SS-O3 Inline Ozone Sensor	51658
ST-766SS-SO3 Inline Sulfite Sensor	58305
ST-766SS-Br Inline Bromine Sensor	52743
ST-766SS-PAA Inline Peroxyacetic Acid Sensor	54803
ST-766SS-H2O2 Inline Hydrogen Peroxide Sensor	53302
ST-766SS-DBNPA Inline DBNPA Sensor	50484
ST-766SS-TFCL Inline Free + Total Chlorine Sensor	55659
ST-766SS-DCL Inline Free Chlorine + Sulfite Sensor	57300
EH-766 Replacement Electrode Head	22093
EH-766-01 Replacement Electrode Head	22277
EH-766-03 Replacement Electrode Head	22530

OPTIONAL ACCESSORIES

PART NUMBER

ST-007 Inline Tee Assembly	50700-A51
ST-009 Inline Tee Assembly	22624
FR-50 Flow Reservoir	50700-A01
Hall Effect Flow Meter	16008
FR-306-PLUS Brushing Flow Reservoir	23504
FRP-306-01 Replacement Brush Assembly Kit	20802
FRP-300-03 Brush Extraction Tool	23504
MA-AC-7US 110VAC Power Adapter for USA	26398
MA-AC-7EU 230VAC Power Adapter for EU	28787
MA-AC-7UK 230VAC Power Adapter for UK	25802
Nano-Flow Ultrasonic Flow Measurement & Regulating Valve	21329
Replacement Micro-Rotameter for ST-007/ST-009/FR-50	22876
MA-CR Bluetooth Adapter	MA-CR
PowerPack-2 Bluetooth & Power Auxiliary Adapter	MA-BLE-2
pH Combo Calibration Pack	57007
ORP 200mV Calibration Solution	57020
Conductivity 1,000µS/cm Calibration Standard Solution	57008
SP-200 OXIPOCKET All Oxidizing Disinfectants Handheld	50802
SP-208 Free & Total Chlorine Handheld	63068
CL-FL Reagent Free Chlorine Dropper Kit	35262
CL-TL Reagent Total Chlorine Dropper Kit	39879