ST-765SS-TCL

Inline Total Chlorine + pH Sensor for Cooling, Process & Drinking Applications

Description

Pyxis ST-765SS-TCL is a multi-parameter composite sensor used for the measurement Total Chlorine (TCL), pH, and Temperature in compliance with USEPA 334.0 guidelines. The sensors advanced PCB offer built-in temperature and pH compensation (up to pH 9.0+) algorithms eliminating the need for a supplemental pH sensor and controller. Unique Bare-Gold electrode technology for Total Chlorine measurement eliminates membranes and electrode solution replenishment commonly associated with conventional sensors. The ST-765SS Series has a uniquely designed flat bubble pH electrode design for reduced fouling potential. Reduce your maintenance and cost versus conventional electrochemical sensors by utilizing Pyxis replaceable Electrode Head (EH-765) for this sensor allowing for years of reliable service. The ST-765SS Series may be calibrated in-situ after cleaning via DPD wet chemistry test measurement of active sample.

The ST-765SS-TCL sensor offers a 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-765SS-TCL makes this platform less prone to contamination or fouling and is easy to clean. The ST-765S-TCL sensor body is composed of 304 stainless steel and is well suited for aggressive environments. The ST-765SS-TCL sensor also offers 2x 4-20mA and RS-485 Modbus outputs and is Bluetooth 5.0 enabled when used in conjunction with the MA-CR Bluetooth Adapter.

Total chlorine is the mixture of free and combined chlorine components and is an important indicator of residual disinfectants in cooling and process water. ST-765SS-TCL is uniquely designed for rapid and precise monitoring of total chlorine for both clean water (while using the FR-50 or ST-007 inline tee assembly) and dirty water (while using FR-300-PLUS self-brushing flow assembly).

Common Applications

- Cooling Water / Process Water
- Wastewater Effluent
- Potable and Drinking Water

ST-765SS-TCL
Total Chlorine + pH Sensor

EH-765
Replacement Electrode
for all ST-765SS Series

Specifications

Item	ST-765SS-TCL
P/N	53616
Sensor Body Material	304SS
Total Chlorine Range	0.00-5.00 ppm
Total Chlorine Precision	± 0.01mg/L or 1% of the value w/pH compensation up to 9.0+
pH Range	0-14
pH Precision	$\pm$0.01 pH
Sensor Power Supply	22 – 26VDC, Power Consumption 2W
Storage Temperature	-7 °C – 60 °C (20 – 140 °F)
Outputs	Dual Isolated 4 – 20 mA Analog Outputs + RS-485 Digital Output
Dimension (L x D)	Length 8.3 inch (210.8 mm), body diameter 1.4 Inch (35.6 mm)
Weight	530 g (1.16lbs)
Maximum Sensor Pressure	100 psi (6.9 Bar) – Sensor Only
Operating Temperature	4 °C – 49 °C (40 – 120 °F)
Wet Material	UPVC
Rating	IP67, Fully Dustproof & Waterproof
Selectivity	Non-Selective / Cross Sensitive to other Oxidizing Species
Compliance	EPA 334.0
Regulation	CE Marked / RoHS / UKCA
Cables Included	MA-4.9CR Cable (8Pin Adapters – 1.5m) MA-1.5CR Cable (8 Pin Adapter / Flying Leads – 1.5m)
Typical Electrode Service Life	2 Years
Electrode Warranty	6 Months
Sensor Body Warranty	13 Months

ST-007 INLINE TEE or FR-50 RESERVOIR for CLEAN WATER APPLICATIONS *(Sold Separately)*		
Item	ST-007	FR-50
P/N	50700-A51	50700-A01
Sample Inlet / Outlet Pressure	7.25 – 30 psi (0.05 – 0.2MPa) / Outlet to Atmosphere-Drain	
Installation	ST-007 Inline Tee Assembly Rotameter NOT Included	FR-50 Self-Regulating Flow Reservoir w/Rotameter & PRV – Included
Suggested Flow Rate	200 -400 mL/minute	600-1,800 mL/min
Sample Inlet/Outlet Line Size	1/4 - inch OD Compression	1/4 -inch OD Inlet 20mm Outlet & Overflow 1/2 - inch NPT Drain

NOTE ST-007 & FR-50 are purchased separately and should be installed downstream of a Rotameter for **CLEAN-WATER APPLICATIONS.**
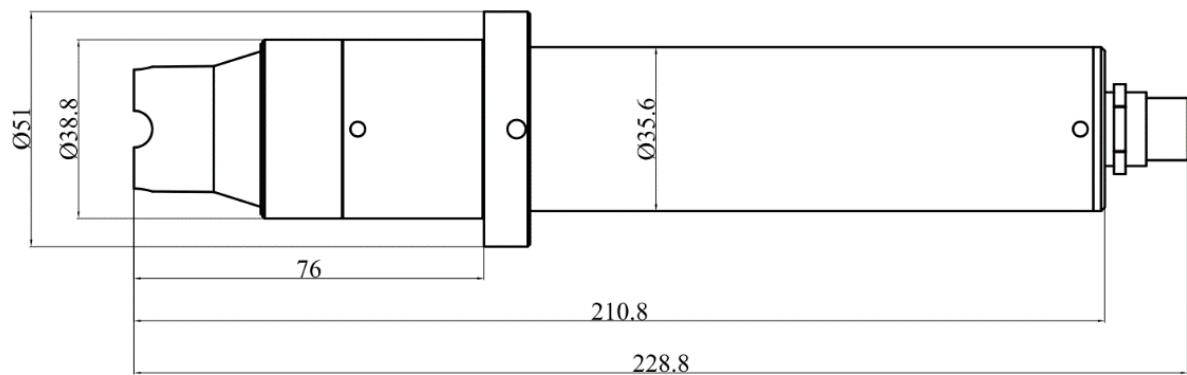
FR-300-PLUS for DIRTY WATER APPLICATIONS *(Sold Separately)*	
Item	FR-300-PLUS
P/N	50700-A44
Sample Inlet Pressure	7.25 – 30 psi (0.05 – 0.2MPa)
Installation	FR-300-PLUS Self-Brushing Flow Reservoir for DIRTY Water Applications
FR-300-PLUS Suggested Flow Rate	200 – 800 mL/minute
FR-300-PLUS Sample Inlet /Outlet	3/8 - inch OD
FR-300-PLUS Operation	24VDC/2.5W Powered Constant ON Mode for Relay Control and RS-485
FR-300-PLUS Rotational Speed	200 RPM – Motorized Brush Preset for Constant Operation

NOTE FR-300-PLUS is purchased separately and **IS REQUIRED** for use in **DIRTY/INDUSTRIAL WATER APPLICATIONS.**
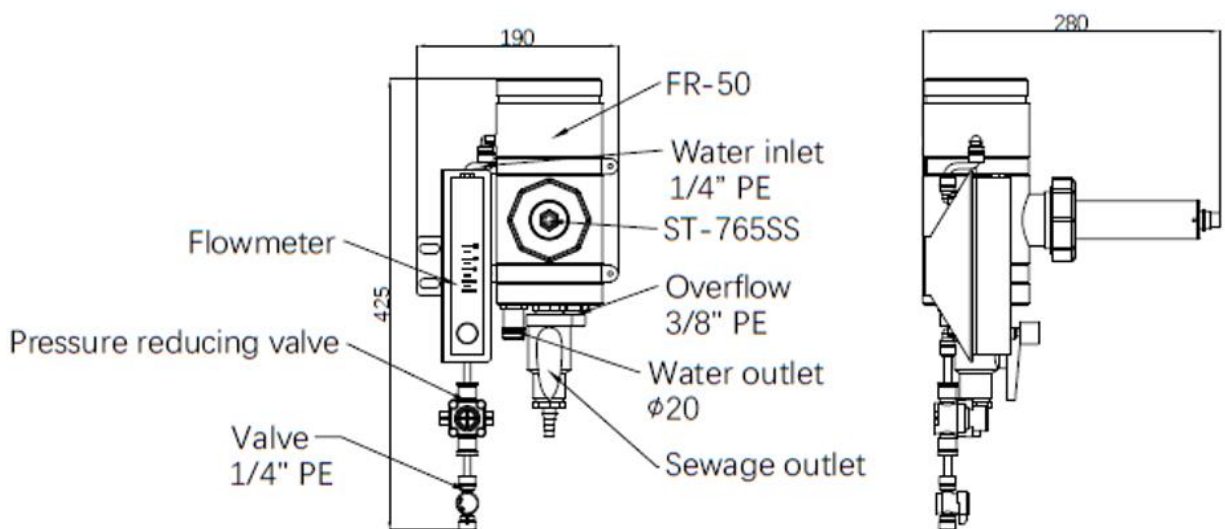
Key Features

- Real-Time pH + Total Chlorine (0-5ppm) Detection
- Dual 4-20mA Outputs (pH + Total Chlorine) and RS-485
- Bluetooth Enabled when used with MA-CR Adapter Wireless uPyxis Calibration.
- Integrated RTD & pH Compensation to pH 9.0+ of the Oxidizer Value
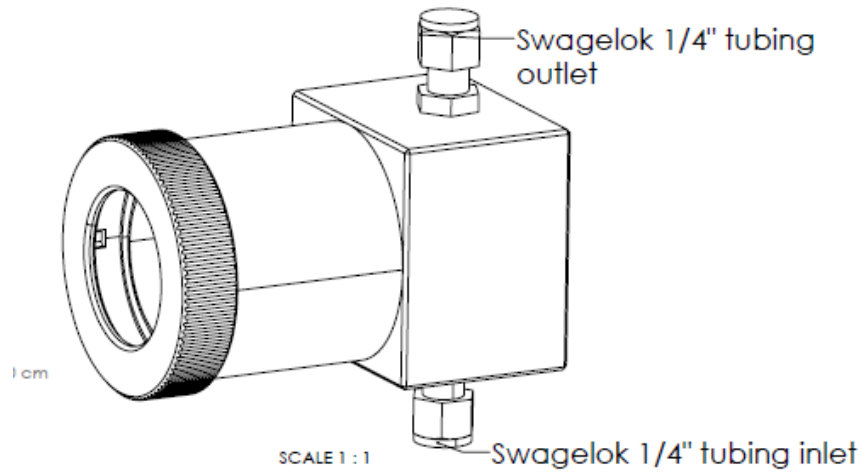- Replaceable EH-765 Reference Electrode Assembly – Simple Maintenance

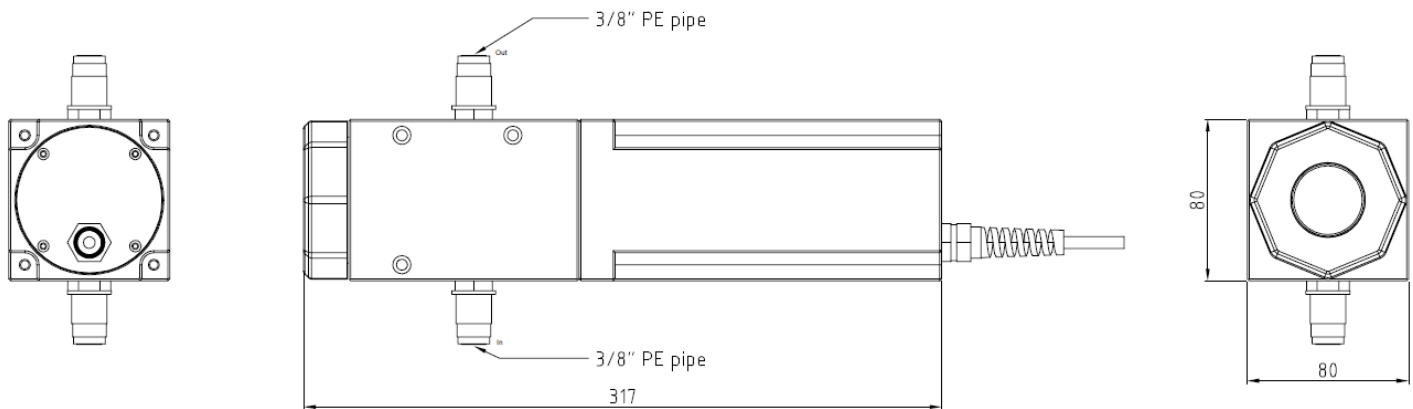## Dimensions of ST-765SS-TCL (mm)

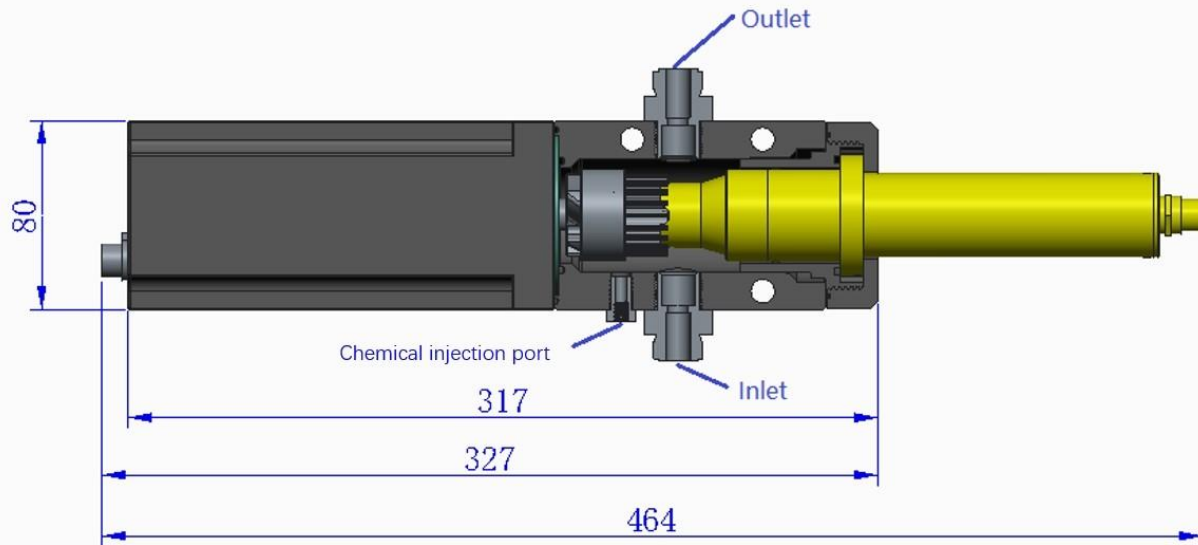## FR-50 Flow Reservoir (mm) – FOR CLEAN WATER USE ONLY

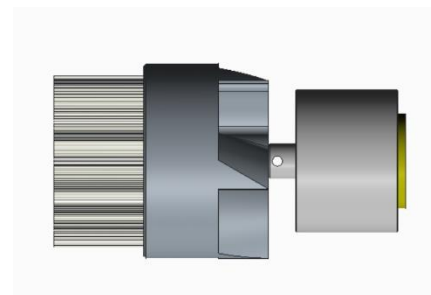ST-007 Flow Cell Dimensions (mm) – FOR CLEAN WATER USE ONLY

Swagelok 1/4" tubing outlet

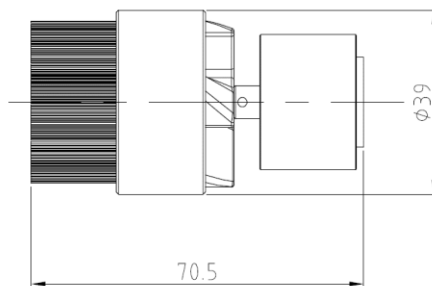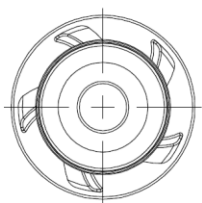Swagelok 1/4" tubing inlet

SCALE 1 : 1

1 cm

FR-300 Flow Cell Dimensions (mm) – FOR DIRTY/INDUSTRIAL WATER USE ONLY

3/8" PE pipe
Out

3/8" PE pipe
In

317

80

80

FR-300-PLUS Component Schematic

FR-300-01 Replacement Brushing Assembly Dimensions (mm) & Image

uPyxis Mobile & Desktop APPS for Wireless Setup, Diagnostics & Calibration

The uPyxis 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-765SS 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.

Note The uPyxis Mobile APP is evolving rapidly and users can find the latest version at no cost on Apple iStore or Google Play. The uPyxis Desktop APP may be downloaded at https://pyxis-lab.com/support-2/

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

Order Information	P/N
ST-765SS-TCL *(Inline Total Chlorine + pH Sensor 0-14 pH / 0- 5.0ppm)*	53616
Optional-Replacement Accessories	**P/N**
EH-765 *(ST-765SS Replacement Reference Electrode Assembly)*	53061
FR-50 *(Flow Reservoir Kit with Rotameter & PRV)*	50700-A01
ST-007 *(Inline Stainless Steel Tee Assembly for use with CLEAN WATER ONLY)*	50700-A51
HALL EFFECT FLOW METER *(Inline ¼-inch Flow Meter for CLEAN WATER ONLY)*	16008
FR-300-PLUS *(Auto-Brushing Flow Assembly For INDUSTRIAL WATER ONLY)*	50700-A44
FRP-300-1 *(Replacement Brush Head for FR-300-PLUS)*	50700-A49
MA-AC-7US *(110VAC Power Supply Adapter for FR-300-PLUS with USA Plug)*	26398
MA-AC-7EU *(230VAC Power Supply Adapter for FR-300-PLUS with EU-DIN Plug)*	28787
NANO-FLOW *(Pyxis Ultrasonic Flow Measurement and Regulation Module)*	21329
MICRO-ROTAMETER FOR ST-007 USE *(Adjustable Micro Rotameter 0 -1.0 Liter/Min)*	22876
MA-CR Bluetooth Adapter *(Optional 8-Pin Bluetooth Adapter for use with uPyxis APP)*	MA-CR
MA-50CR *(50-ft Cable Extension 8-Pin for ST765SS Series)*	50743
SP-200 OxiPocket^{TM} *(Pocket All-Oxidizing Disinfectants Colorimeter & Fluorometer)*	50802