OXIPANEL PLUS

# IK-765-BP SERIES

## Brushing Oxidizer + pH Analyzer with Flow Control for Challenging Water

## DESCRIPTION

Meet the OXIPANEL Plus IK-765-BP Series, a pre-mounted, inline turn-key analyzer engineered for challenging water. Each panel pairs integrated ultrasonic flow control with the UC-80 color touch display/data-logger and the FS-100 ultrasonic flowmeter (with regulating valve) to deliver fast startup, clean wiring, and rock-solid process control across cooling water, food & industrial process water, raw water, and treated wastewater effluent.

Select the chemistry you need without compromise. The IK-765-BP standard series is offered in six sensor formats—Free Chlorine (FCL), Total Chlorine (TCL), Bromine (Br), Chlorine Dioxide (ClO), Hydrogen Peroxide ($H_2O_2$), and 2,2-dibromo-3-nitrilopropionamide (DBNPA), Total + Free Chlorine Combo (TFCL), Free Chlorine + Sulfite Combo (DCL), and Ozone (O3) — while simultaneously monitoring pH, ORP, and temperature. At the core is the ST-765SS-Series smart sensor platform: a membrane-free, bare-gold electrochemical design that reads oxidant and pH together and applies automatic temperature and pH compensation. The result is accurate, repeatable, real-time oxidizer measurement—DPD-consistent up to pH 9.0+—with methods that meet EPA-334.0 and ISO-7393.

**NOTE\*** *Unique dual-gold electrode versions are also available, contact Pyxis Lab, Inc. for details.*

To stay accurate where others drift, the OXIPANEL Plus employs the FR-300-PLUS automated mechanical brush flow assembly, keeping electrodes clean in dirty streams where membrane amperometric or wet-chemistry analyzers typically foul. Combined with FS-100 closed-loop flow control, you get stable signals, longer maintenance intervals, and minimal downtime — a rugged, high-confidence solution built for accuracy and repeatability in the toughest applications.

# FEATURES

## ST-765SS Series Oxidizer + pH + Conductivity + ORP Sensors

The ST-765SS-FCL (Free Chlorine + pH/Temperature/ORP), ST-765SS-TCL (Total Chlorine + pH/Temperature/ORP), ST-765SS-Br (Bromine + pH/Temperature/ORP) , ST-765SS-CLO (Chlorine Dioxide + pH/Temperature/ORP), ST-765SS-H2O2 (Hydrogen peroxide + pH/Temperature/ORP)and ST-765SS-DBNPA (DBNPA + pH/Temperature/ORP) are multi-parameter composite sensors used for the oxidizer measurement residual as well as pH,ORP and temperature in compliance with USEPA 334.0 and ISO-7393 guidelines.  The sensors advanced PCB offers built-in temperature and pH parameter compensation (exceeding pH 9.0+) algorithms eliminating the need for a supplemental pH sensor and controller. Unique Bare-Gold electrode technology for residual oxidizer 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 colorimetric chlorine measurement or conventional electrochemical sensors by utilizing Pyxis replaceable Electrode Head (EH-765-01) for this sensor allowing for years of reliable service.  The ST-765SS Series may be calibrated in-situ after cleaning via DPD method wet chemistry test measurement of active sample.

## FR-300 PLUS Auto-Brushing Flow Reservoir

The FR-300-PLUS is a magnetic coupling motorized brush flow assembly that provides an inline mechanical cleaning of the ST-765SS Series bare gold electrode enabling sensor accuracy in challenging industrial cooling and process waters. This unique device enhances the convective mass transport of the oxidizer analyte to the sensor surface eliminating the need for precision flow control commonly required for other amperometric sensors on the market.  The FR-300-PLUS also provides supplemental deactivation protection of the bare gold electrode for long life, stability and accuracy.  The brushing operation of the FR-300-PLUS is activated by the pre-mounted FS-100 ultrasonic flow meter included on the OxiPanel-PLUS Series analyzers. The FR-300-PLUS also contains a 'chemical detergent injection port' in the assembly housing allowing for the optional injection of cleaning agents at the brush head for extremely challenged industrial waters containing oils and grease.  The FR-300-PLUS may be operated at a broad range of sample flow from 200 and 800mL per minute with an inlet pressure of  7.5-60 psi.  The FR-300-PLUS outlet flow line may be diverted to atmospheric tank/sump within the process itself for reuse or to a lower pressure zone of the recirculating water network.

## FS-100 Ultrasonic Flow Meter

The FS-100 is a state-of-the-art ultrasonic flowmeter that operates on the principle of transit time difference with a measurement range of 0 – 3,000 mL/min and resolution of 1mL.  The sensors advanced PCB design offers built-in temperature compensation to eliminate the effect of temperature with instantaneous, accumulated, and controlled water flow based on user setpoint within the sensor itself. The sample flow rate is controlled via PID logic from the flow sensor to the pre-mounted motor valve on the OXIPANEL Plus analyzer.

## UC-80 Display & Data Logging Terminal

Each OXIPANEL Plus is provided with one UC-80 display that powers the ST-765SS Series sensor, FR-300-PLUS, FS-100 and valve based on the user programmed flow setpoint and system operation.  UC-80 touch screen display/data logger provides sensor calibration & diagnostic interface with 3x 4-20mA, RS-485 and TCP output with two 24VDC relays and one analog PID control relay.

## CloudLink™ 4G LTE Gateway

The OXIPANEL Platinum contains the 4G CloudLink™ and global SIM card as a comprehensive data gateway to cloud device for live mobile APP trend view, data download and reporting.  Contact Pyxis Lab, Inc. for activation details.

# SPECIFICATIONS - TABLE 1

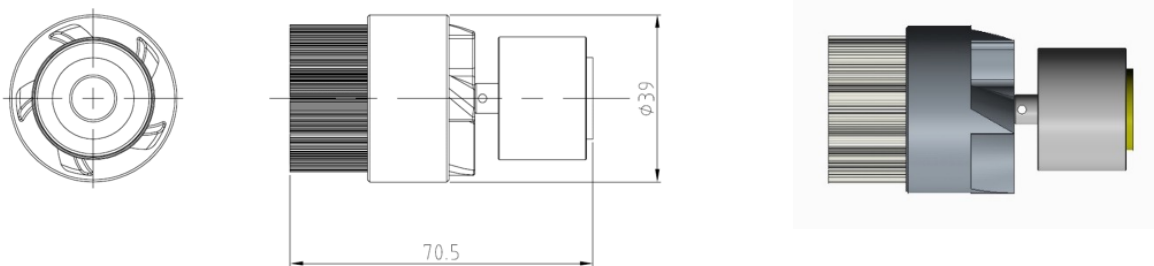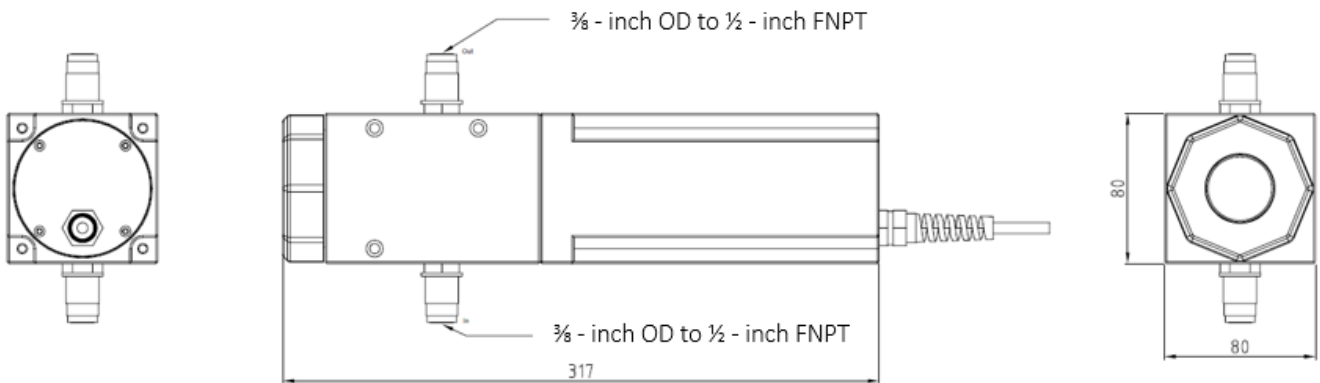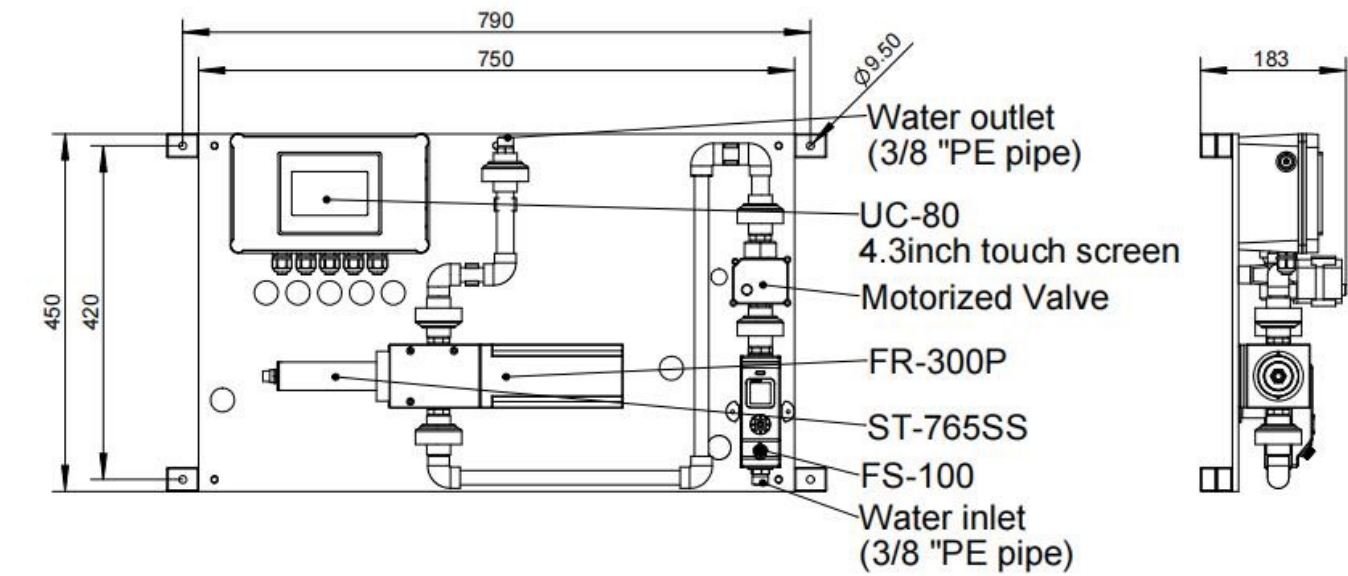| Item | IK-765SS-FCL-BP | IK-765SS-CLO-BP | IK-765SS-Br-BP | IK-765SS-TCL-BP |
|---|---|---|---|---|
| Part Number | 41771 | 44376 | 48076 | 47004 |
| Sensor Body Material | 316L Stainless Steel | | | |
| Sensor Model | ST-766SS-FCL | ST-766SS-CLO | ST-766SS-Br | ST-766SS-TCL |
| Oxidizer Measured | Free Chlorine | Chlorine Dioxide | Bromine | Total Chlorine |
| Oxidizer Range | 0.00–5.00ppm | | | |
| Oxidizer Precision | ±0.01mg/L or 1%; pH Compensated up to 9.0 | | | |
| pH/ORP/Conductivity | 0.00–14.00 (±0.01pH) / ±1,500mV (±1mV ORP) / 0–10,000µS/cm (±5%) | | | |
| Measurement Internval | Continuous | | | |
| Sensor Response Time | T95≤60s - Oxidant / T95≤5s - pH/ORP/Conductivity | | | |
| Sensor Install Method | FR-306 PLUS Magnetic Coupling Brushing Flow Reservoir INCLUDED | | | |
| Sensor Flow Interlock | Sensor Powers Down when in AUTO-Mode if Flow is <50mL/min and >200mL/min | | | |
| Sample Operating Temp. | 4–49 ºC (40–120 ºF) | | | |
| Sample Inlet/Outlet Size | ⅜ inch OD inserted into ½ inch NPT Port | | | |
| **FS-100** | | | | |
| Method of Measure | Ultrasonic Flow Detection | | | |
| Rated Flow Range | 0–3,000mL/min | | | |
| Resolution / MAX Error | 1mL/min or 2% of the Value | | | |
| Display | 1.44" Color LCD | | | |
| Flow Regulating Valve | 4-20mA from FS-100 (Internally Connected) | | | |
| **FR-300 PLUS** | | | | |
| Suggested Flow | 200–800mL/min (Flow Setting Done through FS-100 Interface) | | | |
| Flow Interlock | Brush Motor Turns OFF when in AUTO-Mode if Flow <50mL/min and ON if >200mL/min | | | |
| Rotation Speed | 200RPM - Motorized Brush | | | |
| **UC-80** | | | | |
| Display | 4.3" LCD Color Resistive Touch Screen | | | |
| Input | RS-485 Modbus-RTU | | | |
| Output | (3) 4-20mA / RS-485 Modbus-RTU / Modbus-TCP | | | |
| Relay | (1) 24VDC Relay (Passive or Active - User Selected) / (1) Analog PID Output | | | |
| Data Storage | Built-In 128MB of RAM for Storing up to 1-Million Data/Event Records | | | |
| USB | (1) USB Host for Data Downloading and Screen Upgrade | | | |
| Relative Humidity | 20–90% (No Condensation) | | | |
| Altitude | <6,561ft (<2,000m) | | | |
| **PANEL** | | | | |
| Power Supply | 96–260VAC / 50–60Hz; 60W USA Type-B Plug | | | |
| Storage Temperature | -4–158 ºF (-20–70 ºC) | | | |
| Dimensions & Weight | 450mm H x 750mm W x 180mm D / ~10kg | | | |
| Panel Wet Material | Polycarbonate / 304SS / 316SS / Glass / Gold / Platinum / CPVC / PTFEPOM / ABS / PEEK / PET / NBR | | | |
| Rating | IP-65 Panel & Display / IP-67 Sensors | | | |
| Compliance | CE, RoHS, UKCA | | | |
| Selectivity | Non-Selective, Cross Sensitive to Other Oxidizing Species | | | |
| Warranty | Electrode - 6 Months / Sensor Body & Panel - 13 Months | | | |
| Typical Service Life | Electrode - 2 Years / FR-306 Brush - 12-18 Months depending on the application of use | | | |
| Pyxis 4G LTE CloudLink™ | INCLUDED & Activated on Request with Enrollment - Contact Pyxis Lab, Inc. for Details | | | |

# SPECIFICATIONS - TABLE 2

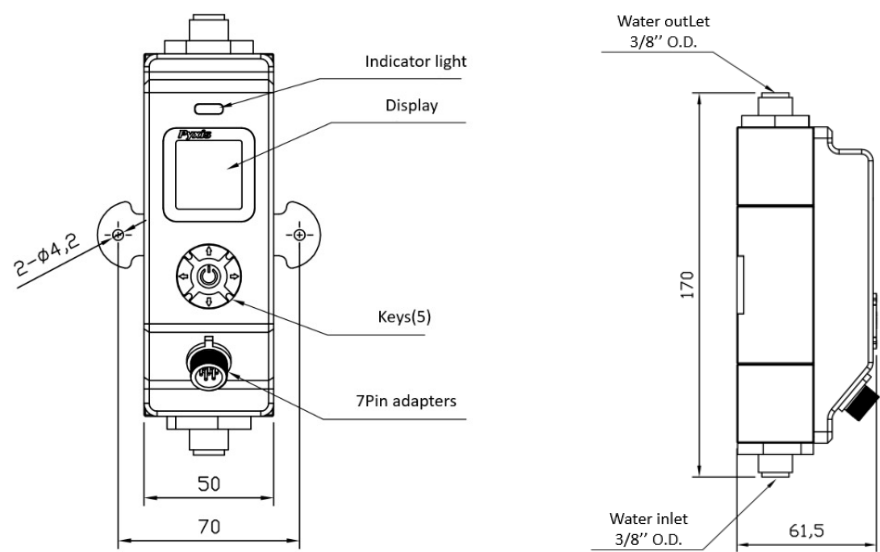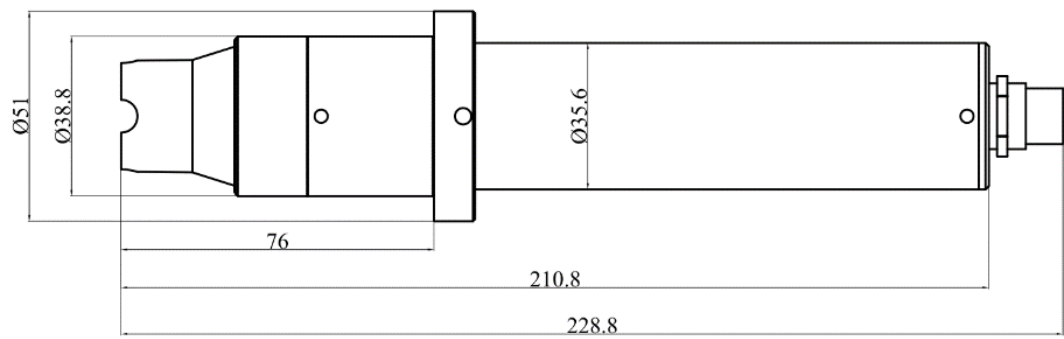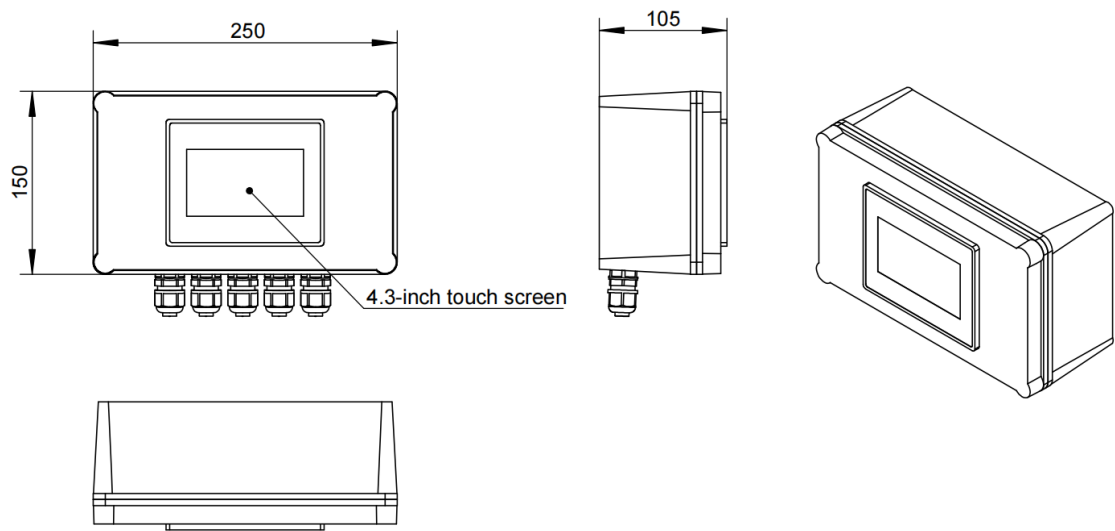| Item | IK-765SS-H2O2-BP | IK-765SS-DBNPA-BP | IK-765SS-TFCL-BP | IK-765SS-DCL-BP |
|---|---|---|---|---|
| Part Number | 47105 | 45652 | 46982 | 48077 |
| Sensor Body Material | 316L Stainless Steel | | | |
| Sensor Model | ST-765SS-H2O2 | ST-765SS-DBNPA | ST-765SS-TFCL | ST-765SS-DCL |
| Oxidizer Measured | H2O2 | DBNPA | Free + Total Chlorine | Free Chlorine + Sulfite |
| Oxidizer & Sulfite Range | 0–200ppm | 0–20ppm | 0.00–5.00ppm | 0.00–5.00ppm + 0–100ppm |
| Oxidizer Precision | ±0.4mg/L or 2% | ±0.02mg/L or 1% | ±0.01mg/L or 1%; pH Compensated up to 9.0 | |
| pH/ORP/Conductivity | 0.00–14.00 (±0.01pH) / ±1,500mV (±1mV ORP) / 0–10,000µS/cm (±5%) | | | |
| Measurement Internval | Continuous | | | |
| Sensor Response Time | T95≤60s - Oxidant / T95≤5s - pH/ORP/Conductivity | | | |
| Sensor Install Method | FR-306 PLUS Magnetic Coupling Brushing Flow Reservoir INCLUDED | | | |
| Sensor Flow Interlock | Sensor Powers Down when in AUTO-Mode if Flow is <50mL/min and >200mL/min | | | |
| Sample Operating Temp. | 4–49 ºC (40–120 ºF) | | | |
| Sample Inlet/Outlet Size | ⅜ inch OD inserted into ½ inch NPT Port | | | |
| **FS-100** | | | | |
| Method of Measure | Ultrasonic Flow Detection | | | |
| Rated Flow Range | 0–3,000mL/min | | | |
| Resolution / MAX Error | 1mL/min or 2% of the Value | | | |
| Display | 1.44" Color LCD with Resistive Touch | | | |
| Flow Regulating Valve | 4-20mA from FS-100 (Internally Connected) | | | |
| **FR-300** | | | | |
| Suggested Flow | 200–800mL/min (Flow Setting Done through FS-100 Interface) | | | |
| Flow Interlock | Brush Motor Turns OFF when in AUTO-Mode if Flow <50mL/min and ON if >200mL/min | | | |
| Rotation Speed | 200RPM - Motorized Brush | | | |
| **UC-80** | | | | |
| Display | 4.5" LCD Color Resistive Touch Screen | | | |
| Input | RS-485 Modbus-RTU | | | |
| Output | (3) 4-20mA / RS-485 Modbus-RTU / Modbus-TCP | | | |
| Relay | (1) 24VDC Relay (Passive or Active - User Selected) / (1) Analog PID Output | | | |
| Data Storage | Built-In 128MB of RAM for Storing up to 1-Million Data/Event Records | | | |
| USB | (1) USB Host for Data Downloading and Screen Upgrade | | | |
| Relative Humidity | 20–90% (No Condensation) | | | |
| Altitude | <6,561ft (<2,000m) | | | |
| **PANEL** | | | | |
| Power Supply | 96–260VAC / 50–60Hz; 60W USA Type-B Plug | | | |
| Storage Temperature | -4–158 ºF (-20–70 ºC) | | | |
| Dimensions & Weight | 450mm H x 750mm W x 180mm D / ~10kg | | | |
| Panel Wet Material | Polycarbonate / 304SS / 316SS / Glass / Gold / Platinum / CPVC / PTFEPOM / ABS / PEEK / PET / NBR | | | |
| Rating | IP-65 Panel & Display / IP-67 Sensors | | | |
| Compliance | CE, RoHS, UKCA | | | |
| Selectivity | Non-Selective, Cross Sensitive to Other Oxidizing Species | | | |
| Warranty | Electrode - 6 Months / Sensor Body & Panel - 13 Months | | | |
| Typical Service Life | Electrode - 2 Years / FR-306 Brush - 12-18 Months depending on the application of use | | | |
| Pyxis 4G LTE CloudLink™ | INCLUDED & Activated on Request with Enrollment - Contact Pyxis Lab, Inc. for Details | | | |

# SPECIFICATIONS - TABLE 3

| Item | IK-765SS-PAA-BP | IK-765SS-NCL-BP | IK-765SS-O3-BP |
|---|---|---|---|
| Part Number | 49511 | 49348 | 44923 |
| Sensor Body Material | 316L Stainless Steel | | |
| Sensor Model | ST-765SS-PAA | ST-765SS-NCL | ST-765SS-O3 |
| Oxidizer Measured | PAA | Monochloramine | Ozone |
| Oxidizer & Sulfite Range | 0–100ppm | 0.0–5.00ppm | 0.00–2.00ppm |
| Oxidizer Precision | 0.2mg/L or 2% | ±0.01mg/L or 1%; pH Compensated up to 9.0 | |
| pH/ORP/Conductivity | 0.00–14.00 (±0.01pH) / ±1,500mV (±1mV ORP) / 0–10,000µS/cm (±5%) | | |
| Measurement Internval | Continuous | | |
| Sensor Response Time | T95≤60s - Oxidant / T95≤5s - pH/ORP/Conductivity | | |
| Sensor Install Method | FR-306 PLUS Magnetic Coupling Brushing Flow Reservoir INCLUDED | | |
| Sensor Flow Interlock | Sensor Powers Down when in AUTO-Mode if Flow is <50mL/min and >200mL/min | | |
| Sample Operating Temp. | 4–49 ºC (40–120 ºF) | | |
| Sample Inlet/Outlet Size | ⅜ inch OD inserted into ½ inch NPT Port | | |
| **FS-100** | | | |
| Method of Measure | Ultrasonic Flow Detection | | |
| Rated Flow Range | 0–3,000mL/min | | |
| Resolution / MAX Error | 1mL/min or 2% of the Value | | |
| Display | 1.44" Color LCD with Resistive Touch | | |
| Flow Regulating Valve | 4-20mA from FS-100 (Internally Connected) | | |
| **FR-300** | | | |
| Suggested Flow | 200–800mL/min (Flow Setting Done through FS-100 Interface) | | |
| Flow Interlock | Brush Motor Turns OFF when in AUTO-Mode if Flow <50mL/min and ON if >200mL/min | | |
| Rotation Speed | 200RPM - Motorized Brush | | |
| **UC-80** | | | |
| Display | 4.5" LCD Color Resistive Touch Screen | | |
| Input | RS-485 Modbus-RTU | | |
| Output | (3) 4-20mA / RS-485 Modbus-RTU / Modbus-TCP | | |
| Relay | (1) 24VDC Relay (Passive or Active - User Selected) / (1) Analog PID Output | | |
| Data Storage | Built-In 128MB of RAM for Storing up to 1-Million Data/Event Records | | |
| USB | (1) USB Host for Data Downloading and Screen Upgrade | | |
| Relative Humidity | 20–90% (No Condensation) | | |
| Altitude | <6,561ft (<2,000m) | | |
| **PANEL** | | | |
| Power Supply | 96–260VAC / 50–60Hz; 60W USA Type-B Plug | | |
| Storage Temperature | -4–158 ºF (-20–70 ºC) | | |
| Dimensions & Weight | 450mm H x 750mm W x 180mm D / ~10kg | | |
| Panel Wet Material | Polycarbonate / 304SS / 316SS / Glass / Gold / Platinum / CPVC / PTFEPOM / ABS / PEEK / PET / NBR | | |
| Rating | IP-65 Panel & Display / IP-67 Sensors | | |
| Compliance | CE, RoHS, UKCA | | |
| Selectivity | Non-Selective, Cross Sensitive to Other Oxidizing Species | | |
| Warranty | Electrode - 6 Months / Sensor Body & Panel - 13 Months | | |
| Typical Service Life | Electrode - 2 Years / FR-306 Brush - 12-18 Months depending on the application of use | | |
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# DIMENSIONS



790
750
Ø9.50

Water outlet
(3/8 "PE pipe)

UC-80
4.3inch touch screen

Motorized Valve

FR-300P

ST-765SS

FS-100

Water inlet
(3/8 "PE pipe)

450
420

183

⅜ - inch OD to ½ - inch FNPT

⅜ - inch OD to ½ - inch FNPT

317

80

80

Ø39

70.5

# DIMENSIONS

4.3-inch touch screen

250

150

105

Ø51
Ø38.8
Ø35.6
76
210.8
228.8

Indicator light

Display

2-ø4.2

Keys(5)

7Pin adapters

50

70

Water outLet
3/8'' O.D.

170

Water inlet
3/8'' O.D.

61,5

## OPTIONAL/REPLACEMENT ACCESSORIES          PART NUMBER

| OPTIONAL/REPLACEMENT ACCESSORIES | PART NUMBER |
|---|---|
| OXIPANEL Plus IK-765SS-FCL-BP | 41771 |
| OXIPANEL Plus IK-765SS-CLO-BP | 44376 |
| OXIPANEL Plus IK-765SS-Br-BP | 48076 |
| OXIPANEL Plus IK-765SS-TCL-BP | 47004 |
| OXIPANEL Plus IK-765SS-H2O2-BP | 47105 |
| OXIPANEL Plus IK-765SS-DBNPA-BP | 45652 |
| OXIPANEL Plus IK-765SS-TFCL-BP | 46982 |
| OXIPANEL Plus IK-765SS-DCL-BP | 48007 |
| OXIPANEL Plus IK-765SS-PAA-BP | 49511 |
| OXIPANEL Plus IK-765SS-NCL-BP | 49348 |
| OXIPANEL Plus IK-765SS-O3-BP | 44923 |

## OPTIONAL/REPLACEMENT ACCESSORIES

| OPTIONAL/REPLACEMENT ACCESSORIES | PART NUMBER |
|---|---|
| ST-765SS-FCL Free Chlorine Sensor Variant | 53607-NFR |
| ST-765SS-CLO Chlorine Dioxide Sensor Variant | 53608-NFR |
| ST-765SS-Br Bromine Sensor Variant | 59643 |
| ST-765SS-TCL Total Chlorine Sensor Variant | 53616 |
| ST-765SS-H2O2 H2O2 Sensor Variant | 53612 |
| ST-765SS-DBNPA DBNPA Sensor Variant | 54267 |
| ST-765SS-TFCL Total + Free Chlorine Sensor Variant | 55994 |
| ST-765SS-DCL Dechlorination Sensor Variant | 58444 |
| ST-765SS-PAA PAA Sensor Variant | 53610 |
| ST-765SS-NCL Monochloramine Sensor Variant | 53623 |
| ST-765SS-O3 Ozone Sensor Variant | 53614 |
| EH-765 Replacement Electrode Head | 53061 |
| EH-765-01 Dual Gold Electrode Head (PAA, DCL, TFCL) | 27918 |
| FR-300 PLUS Replacement Flow Reservoir | 50700-A44 |
| FRP-300-01 Replacement Brush Assembly | 50700-A49 |
| FR-300-03 Brush Extraction Tool | 23504 |
| FS-100 Replacement Flow Meter | 54200 |
| Sample Flow Regulating Valve Replacement | 21972 |
| UC-80 Display & Data Logging Terminal Replacement | 14003 |

| CLEANING & CALIBRATION ACCESSORIES | PART NUMBER |
|---|---|
| pH Combo Calibration Standard Solution Pack (4-7-10) | 57007 |
| ORP 200mV Calibration Standard Solution | 57020 |
| Conductivity Calibration Standard Solution | 57008 |
| Zero Oxidizer Calibration Standard Solution | 21002 |
| Pyxis Lab, Inc. Probe Cleaning Kit | SER-01 |