

DW-2100 Series

Multi-Parameter Inline Analyzers for Drinking Water

Product Description

The DW-2100P series are multi-parameter inline water analyzers specifically designed as a 'Turn-Key' monitoring solution for clean water applications including drinking water networks, secondary water supply and decorative/swimming water applications. The DW-2100P series offers highly accurate, real-time measurement, display and data-logging of Ultra-Low Turbidity, Free-Residual Chlorine, pH and Temperature utilizing proprietary Pyxis Lab smart sensor technology, coupled with a Pyxis touch screen display and data logging terminal. The DW2100P series is offered in a convenient and easy to integrate panel mounted format for rapid installation and simple maintenance.

The DW-2100P series analyzer integrates two unique Pyxis smart sensors. The ST-765SS-FCL measures Free-Residual Chlorine, pH and temperature of the sample water. This sensor is membrane-free and based on unique principles and incorporate Pyxis' advanced technology in the field of bare-gold electrochemical detection. The ST-765SS-FCL sensor integrates free-residual chlorine, plus pH measurement and can perform temperature and pH compensation for the measurement of free chlorine based on conditions present in the application of use. This unique internal compensation results in a highly accurate oxidizer measurement consistent with DPD wet chemistry methodology as high as pH 9.0 and meets EPA-334.0 compliance.

The LT-739 sensor offers a unique flat surface distal end in a quartz glass plate, allowing for extended cleanliness, easy maintenance and prevention of air bubble interference. With a detection range of up to 40 NTU and an industry low resolution of 0.001 NTU, the LT-739 sensor is designed for optimal accuracy and performance with a wide range of turbidity water samples from raw influent to treated effluent. The LT-739 uses 90° surface scatter configuration and Warm White Light (LED) or InfraRed (LED) and is EPA-180.1 and ISO-7027 compliant respectively.

The DW-2100 analyzer requires a small installation footprint and offers simple operation and maintenance and is specifically designed for use in domestic and drinking water applications. The analyzer is also available with an optional Pyxis CloudLink™ 4G remote gateway, which can upload on-site analyzer data to a cloud server in real time and allow for additional sensor/device inputs for cloud access. See specifications for details.



Figure 1 – DW-2100P Series

Typical Applications

- Drinking Water / Domestic Water / Secondary Water Supply
- Sanitary Water
- Decorative Water / Swimming Water
- Food & Beverage Process Water



Features

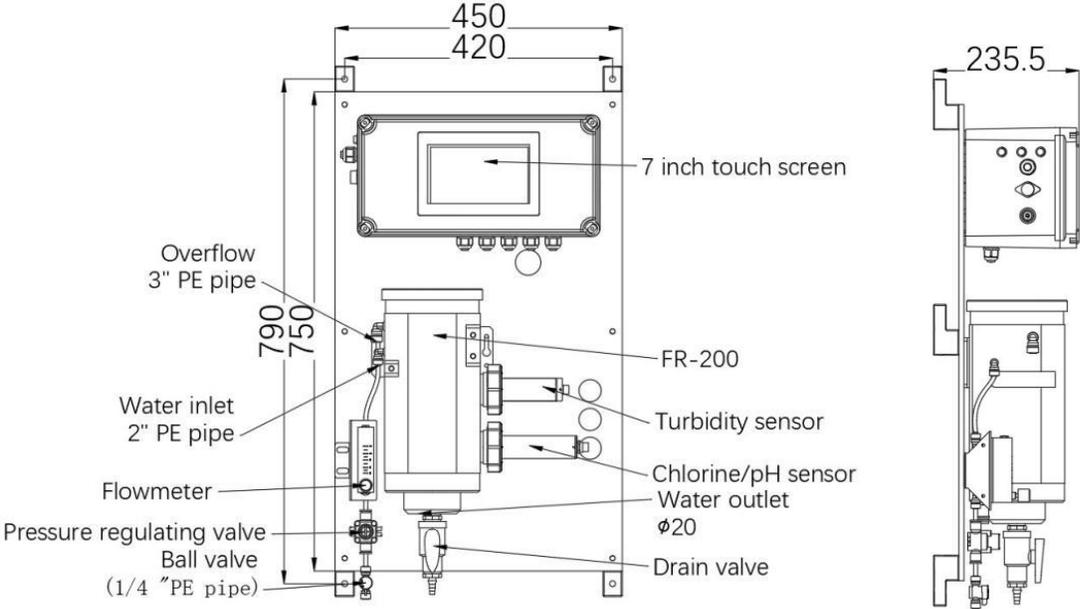
- Pyxis Lab's advanced research and development sensor technologies to achieve highly accurate and stable measurement of Turbidity, Free-Residual Chlorine, pH and Temperature.
- Pyxis LT-739 (EPA) and LT-739B (ISO) ultra-low resolution turbidity sensors offer a detection light source using warm white LED in 90-degree surface scatter format in accordance with USEPA 180.1 standards or Infra-Red 860nm in accordance with ISO-7027.1 standards. The turbidity sensors are mounted in the unique Pyxis FR-200 dual sensor flow reservoir enabling the highest resolution possible of 0.001NTU with unmatched stability. The LT-739 and LT-739B offers simple calibration via the Pyxis LT-SOLID-CAL Solid State Turbidity Calibration Kit (no Formazin needed) or the Pyxis L-CAL Portable Liquid Turbidity Calibration Kit (uses 500mL per calibration).
- Pyxis ST-765SS-FCL three-parameter composite sensor is used for the measurement residual free-residual chlorine, pH and temperature in compliance with USEPA 334.0 and ISO-7393 guidelines. The sensors advanced PCB offers built-in temperature and pH parameter compensation (up to pH 9.0) algorithms eliminating the need for a supplemental pH sensor and controller. Unique Bare-Gold electrode technology for free-residual chlorine measurement eliminates membranes and electrode solution replenishment commonly associated with conventional sensors. The ST-765SS-FCL 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) for this sensor allowing for years of reliable service. The ST-765SS-FCL may be calibrated in-situ after cleaning via DPD Free Chlorine wet chemistry test measurement of active sample.
- Pyxis FR-200 Dual-Sensor flow reservoir provides sample calming for dissipation of air-bubbles and settling of suspended solids, foam or other impurities commonly observed in drinking water influent with a recommended flow range of 600–1,000mL/minute. This unique flow reservoir design results in the highest level of turbidity resolution on the market and greatly extends the maintenance cycle of the sensor while providing a large buffer capacity to mitigate pressure fluctuations. The minimum inlet pressure of FR-200 flow reservoir is only 7.5 psi (0.05mpa) making it highly suitable for the end of pipe networks and secondary supply influent sampling.
- Both sensors offer a self-cleaning flat electrode design making them easy to maintain and clean.
- Simple sensor removal and replacement. Both sensors are connected to the display/data logger via RS-485 modbus (RTU) allowing for integrated sensor calibration interface and diagnostics within the display touch screen.
- Convenient and simple to install Back-Panel (DW-2100P) for rapid and easy installation.
- Touch screen display/data logger interface with sensor calibration integrated. Display/data logger offers 2x 4-20mA I/O as well as RS-485 and TCP-IP with remote diagnosis and parameter adjustment. Pyxis CloudLink™ 4G Gateway version available.

Specifications

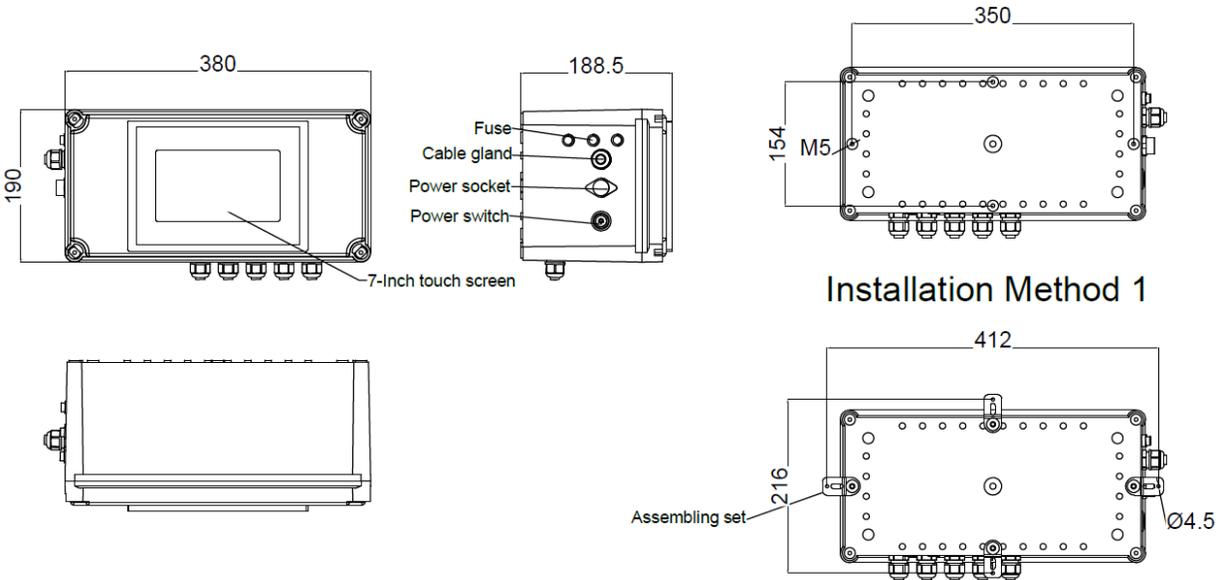
Item	DW-2100P-US	DW-2100P-EU	DW-2100P-US-G	DW-2100P-EU-G
P/N	42135	42136	42137	42138
Turbidity Wavelength	Warm White	860 nm	Warm White	860 nm
Light Source	LED			
Turbidity Dual Range	0.001 – 10 / 10 - 40.00 NTU			
Turbidity Accuracy	± 0.005 NTU or 2% <10NTU			
Turbidity Repeatability	± 0.001 NTU or 0.5% <10NTU			
Free-Residual Chlorine Method	Bare Gold - Electrochemical Method			
Free-Residual Chlorine Range	0.01 – 5.00 ppm as FCl ₂			
Selectivity	Non-Selective cross sensitive to other oxidizing species			
pH Range	0.01 – 14.00 pH			
Measurement Accuracy	0.001NTU or ± 1% Full Scale ±0.01 ppm or 1% Full Scale w/pH compensation to 9.0 ±0.01 pH			
Minimum Resolution	0.001 NTU 0.01 ppm 0.01 pH			
Response time	4s after immersion - Turbidity T95≤60s – Free Chlorine T95≤5s - pH			
Compliance	EPA-180.1/334.0	ISO-7027/7393	EPA-180.1/334.0	ISO-7027/7393
Measurement Interval	Continuous Measurement			
Display	7-inch LCD Color Industrial Capacitive Touch Screen			
Storage Capacity	Built-In 4GB of Ram for Storing up to 1-Million Data/Event Records			
Power Requirement	96-260VAC / 50-60 Hz; 10A Fuse; 200 W			
Output	2 x 4-20 mA / RS-485 Modbus - RTU / Modbus TCP			
Input	2 x 4-20 mA / RS-485 Modbus - RTU			
USB	1 x USB host, for data downloading and screen upgrade			
Internet	RJ-45 socket, Modbus-TCP			
Panel Operational Temperature	40 – 113°F (4-45 °C)			
Storage Temperature	Instrument: -4 – 131°F (-20 – 55°C) / Sensors 32 – 122°F (0 – 50°C)			
Sample Water Temperature	40 – 104°F (4-40°C)			
Sample Water Pressure	7.25 – 30 psi (0.05 – 0.2MPa)			
FR-200 Sample Water Flow Rate	600-1,000mL / Minute			
FR-200 Line Size	¼-inch Inlet / ⅜-inch Overflow / 20mm Outlet / ½-inch Drain			
Rating	IP-65 Panel-Display / IP-67 Sensors			
Regulation	CE / RoHS			
Relative Humidity	20% - 90% (No Condensation)			
Altitude	<6,561 feet (<2,000 Meter)			
Dimensions (HxWxD)	Panel (DW-2100P) 790H x 450W x 235D mm			
Approximate Product Weight	DW-2100P ~ 20 kg			
Pyxis 4G CloudLink™	NA		Included	
CloudLink™ Bands	NA		Global (B1/2/3/4/5/7/12/13/14/20/28/66/7)	
CloudLink™ Protocols	NA		IP/TCP/UDP/HTTP/HTTPS/Modbus	

NOTE Specifications may change without notice. Technical specifications on the LT-739/B and ST-765SS-FCL sensors can also be found in their respective Operation Manuals. Global SIM Card for 'G' version sold separately. Contact info@pyxis-lab.com for details.

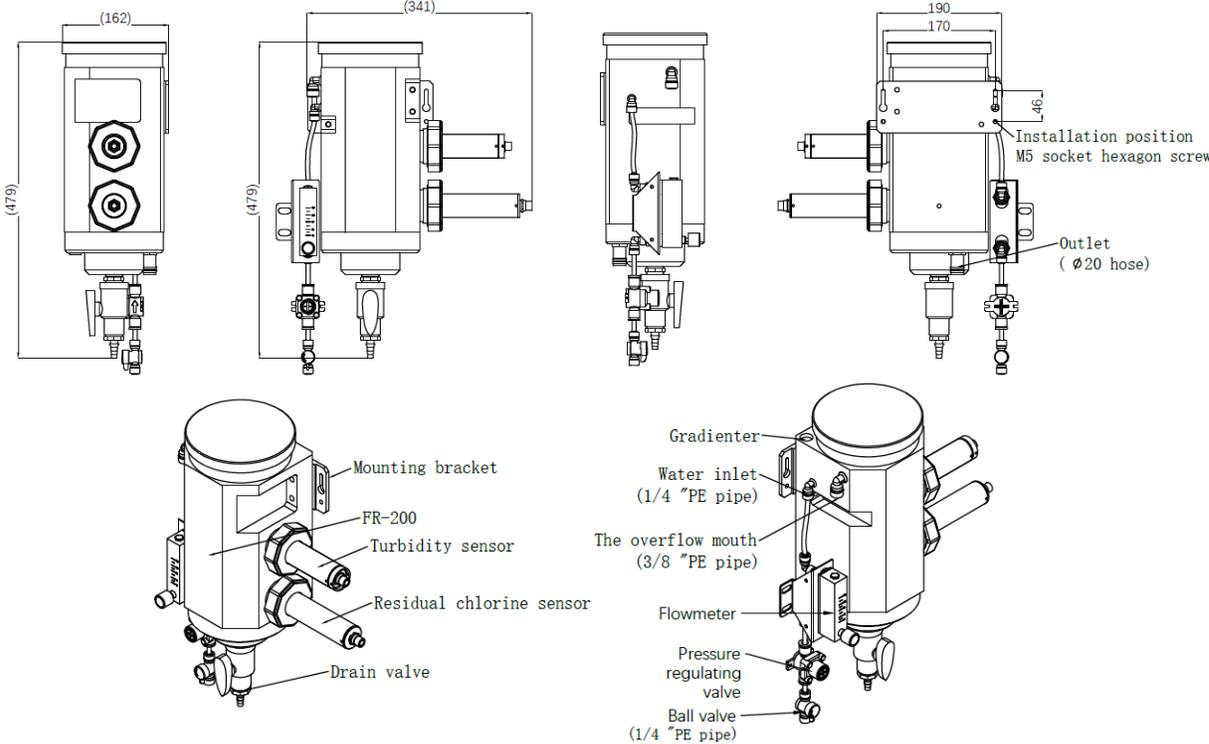
DW-2100P Series Panel Dimensions (mm)



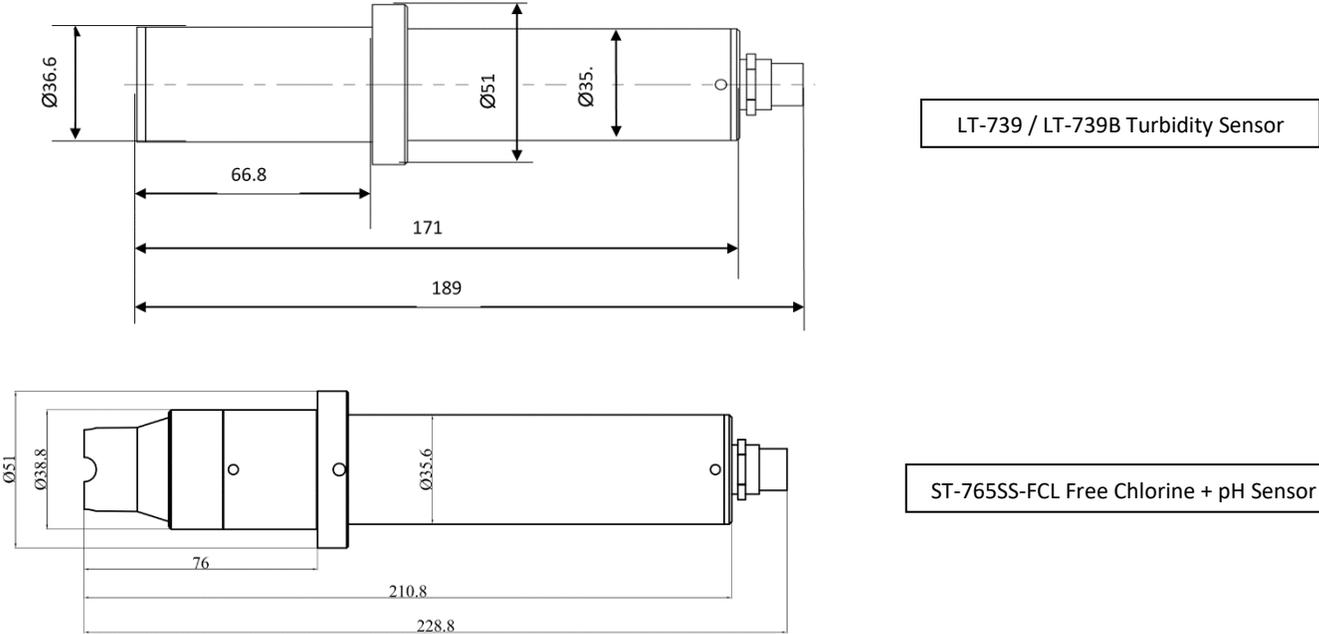
DW-2100P Series Display/Data Logger Dimensions (mm)



DW-2100P Series FR-200 – Flow Reservoir Dimensions (mm)



DW-2100P Series Sensor Dimensions (mm)



Order Information

	P/N
DW-2100P-US (<i>Drinking Water Analyzer for EPA-180.1 Compliant Markets</i>)	42135
DW-2100P-EU (<i>Drinking Water Analyzer for ISO-7027 Compliant Markets</i>)	42136
DW-2100P-US-G (<i>DW-2100P-US with optional Pyxis CloudLink™ 4G Gateway</i>)	42137
DW-2100P-EU-G (<i>DW-2100P-EU with optional Pyxis CloudLink™ 4G Gateway</i>)	42138

Optional / Replacement Accessories Information

	P/N
LT-739 Ultra-Low Turbidity (<i>Warm White LED 0.000-40.00 NTU</i>)	53221
LT-739B Ultra-Low Turbidity (<i>InfraRed 860nm LED 0.000-40.00 NTU</i>)	53225
ST-765SS-FCL (<i>FreeResidual Chlorine + pH + Temperature Sensor w/Internal Compensation – Sensor Only</i>)	53607-NFR
EH-765 (<i>Replacement Electrode Head for ST-765SS-FCL</i>)	53061
FR-200 Dual Sensor Flow Reservoir Assembly	50781
FRP-200 (<i>Motorized Brush Cleaning Module for FR-200</i>)	50700-A17
FRP-200-1 (<i>Replacement Brush for FRP-200</i>)	50700-A15
L-CAL (<i>Portable Liquid Formazin Calibration Kit for LT-73X Series Sensors</i>)	53247
LT-SOLID-CAL 739 (<i>Solid State Calibration Kit for LT-739 - 0.1 / 8.0 / 25 NTU</i>)	53229
LT-SOLID-CAL 739B (<i>Solid State Calibration Kit for LT-739B - 0.1 / 8.0 / 25 NTU</i>)	53239
Pyxis Turbidity Calibration Std – 10.0 NTU (<i>4,000mL</i>)	57010-10L
Pyxis Turbidity Calibration Std – 30.0 NTU (<i>4,000mL</i>)	57010-30L
Pyxis pH Combo Calibration Pack (<i>pH 4-7-10 Calibration Solution 3-Pack - 500mL ea.</i>)	57007
Global Prepaid SIM Card for Wireless Data Access (<i>1-Year</i>)	CLD-SIM-01