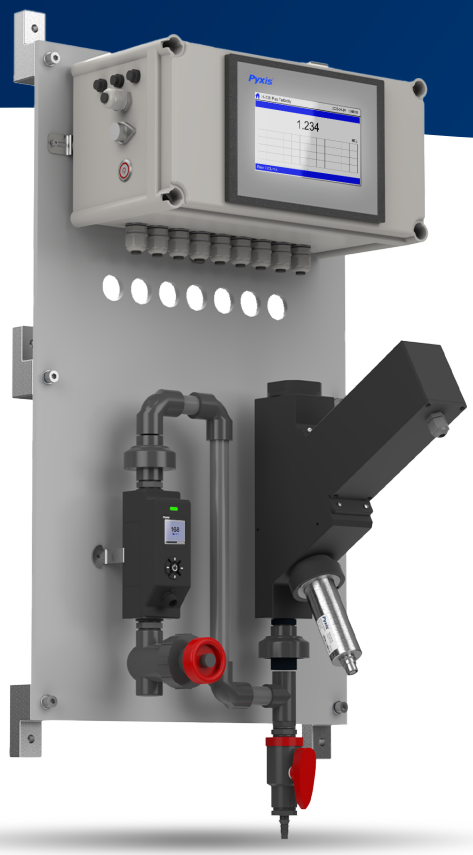
AUSTRALIA CHEMTROL
Smart. Clean. Simple

Pyxis®

DATA SHEET



IK-73X PLUS Series Auto-Brushing Turbidity Analyzer

Product Description

The IK-73X-PLUS series are single parameter inline turbidity analyz- ers specifically designed as a 'Turn-Key' monitoring solution for in- dustrial water applications including cooling, process, influent and wastewater effluent. The IK-73X-PLUS series offers auto-brushing, highly accurate, real-time measure-ment, display and data-logging of turbidity utilizing proprietary Pyxis Lab smart sensor technolo- gy, coupled with the FS-100 ultrasonic flow sensor and Pyxis touch screen display and data logging termi-nal. The IK-73X-PLUS series is offered in a convenient and easy to integrate panel mounted format for rapid installation and simple maintenance.

The IK-73X-PLUS series analyzer integrates the LT-739 and LT-736 ultra-low turbidity sensor platforms installed in the FT-100-PLUS auto-brushing flow tee. The LT-73X series sensor offers a unique flat surface distal end in a quartz glass plate, allowing for rapid in- line auto-cleaning and prevention of air bubble interference. With a detection range of 0.000 to 40 NTU (LT-739) and 0.000 – 1,000 NTU (LT-736) and an industry low resolution of 0.002 NTU, the LT- 73X series turbidity sensors are designed for optimal accuracy and repeatability with minimal sensor drift. The LT-73X series sensors use 90° surface scatter configuration in Warm White Light (LED) and are EPA-180.1 compliant.

The IK-73X-PLUS series analyzers require a small installation foot- print and offer simple operation and maintenance and are spe- cifically designed for use in commercial, industrial, and domestic/ 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.

Typical Applications

- *Industrial Cooling & Process Water*
- *Raw Surface Water*
- *Wastewater Effluent*
- *Domestic & Drinking Water*
- *Secondary Water Supply*
- *Sanitary Water*

Features

- Pyxis Lab advanced research and development sensor technologies to achieve highly accurate and stable measurement of Turbidity with ultra-low resolution.
- Pyxis LT-739 and LT-736 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 wavelength standards. The turbidity sensor is mounted in the unique Pyxis FT-100-PLUS auto-brushing flow reservoir with motorized mechanical cleaning of the sensor optical lense enabling the highest resolution possible of 0.002NTU with unmatched stability. The LT-739 and LT-736 both offer simple calibration via the Pyxis L-CAL Portable Turbidity Calibration Kit as outlined in this manual.
- The LT-73X series turbidity sensors offer a flat optical lens design making them easy to maintain and clean while effectively mitigating the impacts of air bubble entrainment on turbidity reading.
- Simple sensor removal and replacement. LT-73X sensor is connected to the display/data logger via RS-485 modbus (RTU) allowing for integrated sensor calibration interface and diagnostics within the display screen.
- Convenient simple to install back-panel for rapid and easy installation. Truly a plumb and power to go plat- form with intense factory setup, testing and sensor calibration prior to shipment.
- For NSF Certified Applications the IK-73X-PLUS discharge flow of approximately 500-2,000mL/minute may be sent to sanitary drain or returned to the inlet of the pretreatment system.

FS-100 Ultrasonic Flow Meter

Pyxis 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 and accumulated sample water flow for live display display, data log and alarm on no flow condition.

UC-100 Display Data Logging Terminal

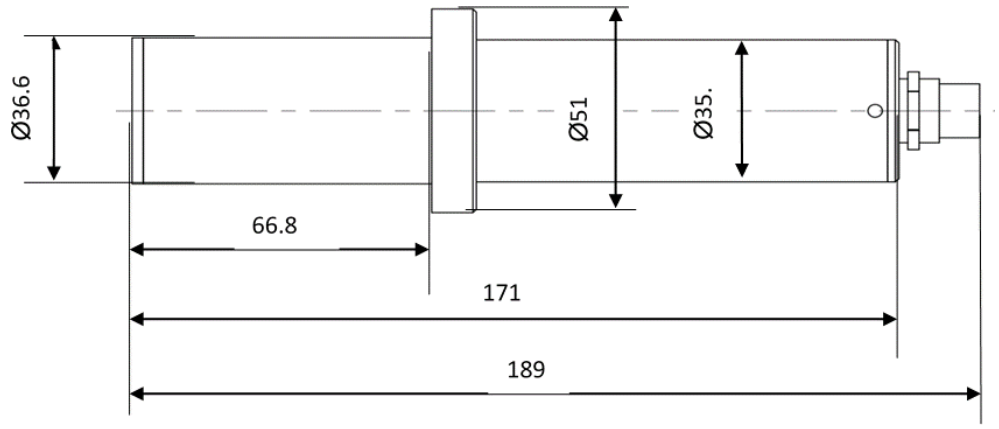
7inch touch screen display/data logger interface with sensor calibration integrated. Display/data logger offers 2x 4-20mA I/O as well as RS-485 for signal passthrough to any PLC or DCS network. Pyxis CloudLinkTM 4G Gateway version available.

FT-100-PLUS Flow Reservoir

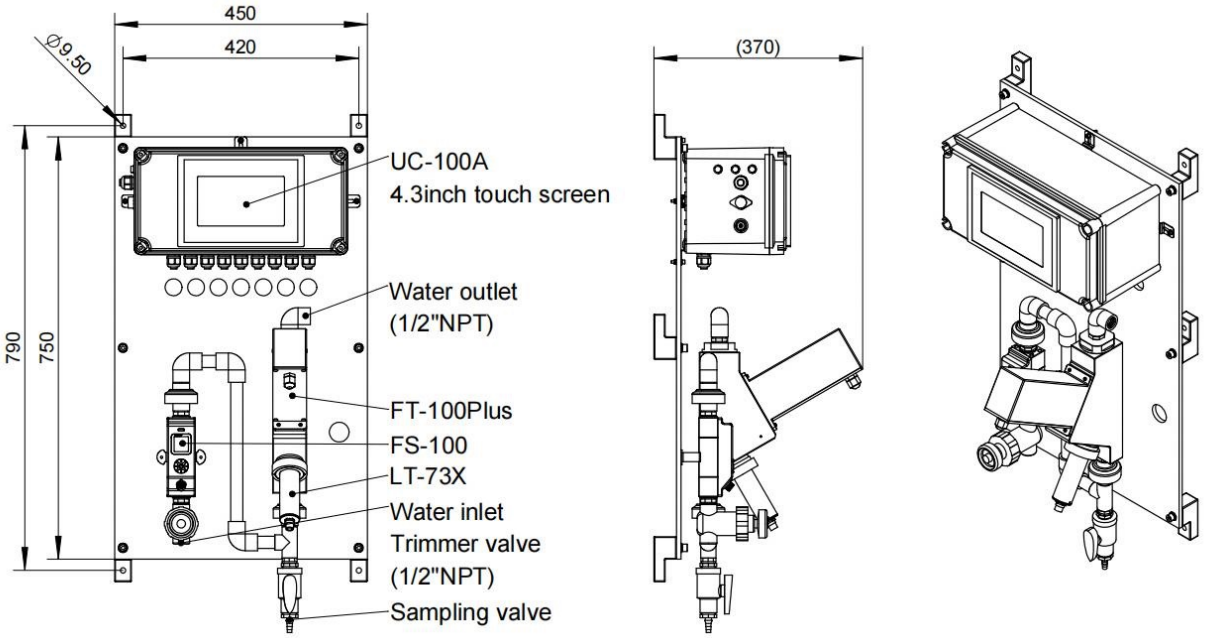
FT-100-PLUS is a motorized auto-brushing flow tee assembly that provides user programmable mechanical cleaning cycles of the LT-73X series inline ultra-low turbidity sensor. This unique flow tee design allows for trou- ble-free operation of the Pyx- is inline sensor in a wide variety of water quality applications by automatically brush- ing the sensors optical lens to ensure optimum turbidity measurement repeatability and accuracy. Programming of the FT-100-PLUS is simple through the UC-100A touch screen displa interface and may be set to desired cycle frequency and duration. The minimum inlet pressure of FT-100-PLUS flow tee is only 7.5 psi (0.05mpa) making it highly suitable for the end of pipe networks.

Item	IK-739 Plus	IK-739 Plus G	IK-736 Plus	IK-736 Plus G
Part Number	12001	12002	12003	12004
4G Gateway	Not Included	Included	Not Included	Included
Turbidity Dual Range	0.00–40.00 NTU	0.00–40.00 NTU	0.00–1,000 NTU	0.00–1,000NTU
Source/Wavelength	LED/Warm White			
Flow Cell with Brush	INCLUDED			
Accuracy	0.001NTU or ±1% Full Scale			
MIN. Resolution	0.002NTU			
Response Time	4s After Immersion - Turbidity			
Compliance	EPA180.1			
Measure Interval	Continuous Measurement			
Display	7inch LED Color Industrial Capacitive Touch Screen			
Storage Capacity	Built-In 4GB of RAM for Storing up to 1-Million Data/Event Record			
Power Requirement	96– 260 VAC / 50-60Hz; 10A Fuse; 200W			
Output	(2) 4–20mA / RS-485 Modbus - RTU / Modbus - TCP			
Input	(2) 4–20mA / RS-485 Modbus - RTU			
USB	(1) USB Host for Data Download / Screen Upgrade			
Internet	RJ-45 Socket, Modbus TCP			
Storage Temp.	40–113 °F (4–45 °C)			
Sample Temp.	Instrument: -4–131 °F (-20–55 °C) / Sensor: 32–122 °F (0–50 °C)			
Sample Pressure	40– 104 °F (4–40 °C)			
Sample Flow Rate	7.25–30psi (0.05–0.2 MPa)			
Sample Line Size	500–2,000mL/min			
FS-100				
Measure Method	1/2inch NPT			
Rated Flow Range	10–3,000mL/min			
Resolution/MAX Error	1mL/min or ±2% of the value			
Display	1.44inch Color 128 x128 Resolution			
PANEL				
Rating	IP-65 Panel Display / IP-67 Sensor			
Regulation	CE/RoHS			
Relative Humidity	20–90% (No Condensation)			
Altitude	<6,516ft (<2,000m)			
Dimensions	750H x 450W x 243D (mm)			
Approx. Weight	~15kg			

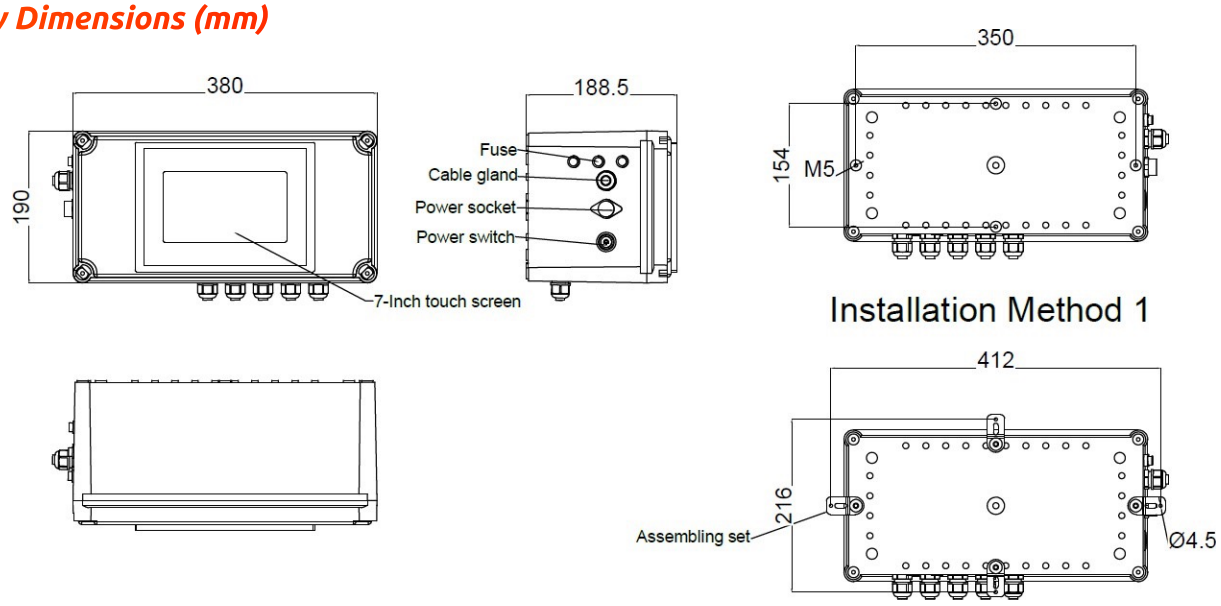
LT-73X Sensor Dimensions (mm)



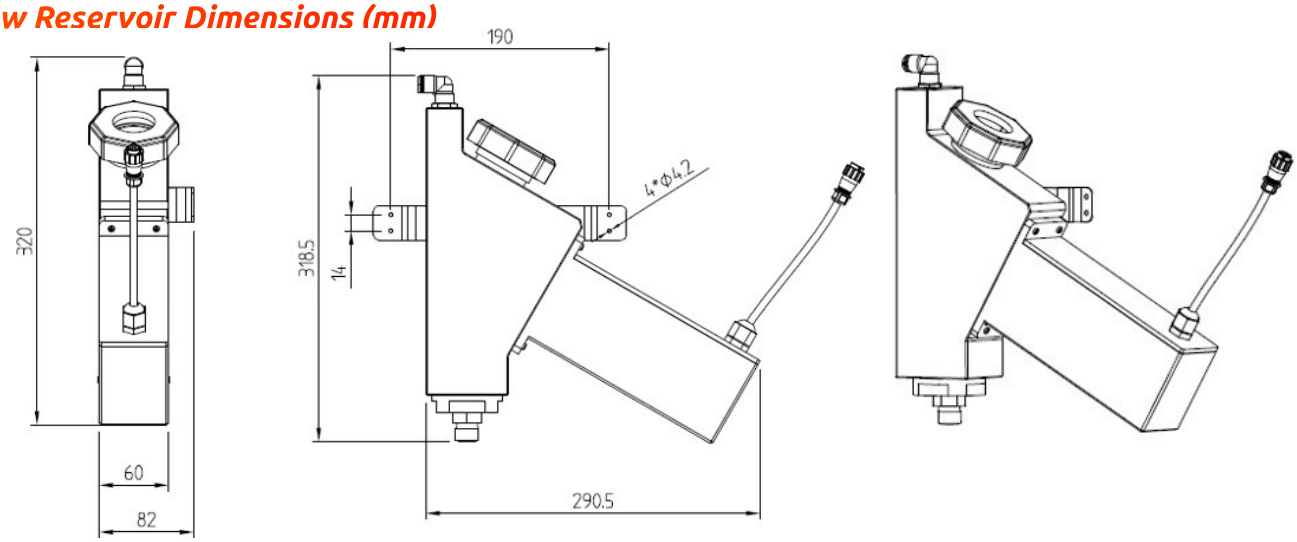
Panel Dimensions (mm)



Display Dimensions (mm)



Flow Reservoir Dimensions (mm)



Order Information	Part Number
IK-739-PLUS (Auto Brushing Turbidity Analyzer 0.000 – 40.000 NTU)	12001
IK-736-PLUS (Auto Brushing Turbidity Analyzer 0.000 – 1000 NTU))	12003
FT-100-PLUS (Replacement FT-100-PLUS Reservoir Replacement)	16005
FTP-100-1 (Replacement Brush & Seal Assembly Kit for FT-100-PLUS)	28698
LT-739 (Replacement Inline Turbidity Sensor 0.000 – 40.000 NTU)	53221
LT-736 (Replacement Inline Turbidity Sensor 0.000 – 1,000 NTU)	53215
FS-100 (Replacement Ultrasonic Flowmeter with Display 0-3000mL/Minute)	54200
UC-100A (Replacement Display & Data Logging Terminal)	43054
Pyxis 10 NTU Turbidity Calibration Standard (500mL)	57010-4
Pyxis 30 NTU Turbidity Calibration Standard (500mL)	57010-8
Pyxis 500 NTU Turbidity Calibration Standard (500mL)	57010-2