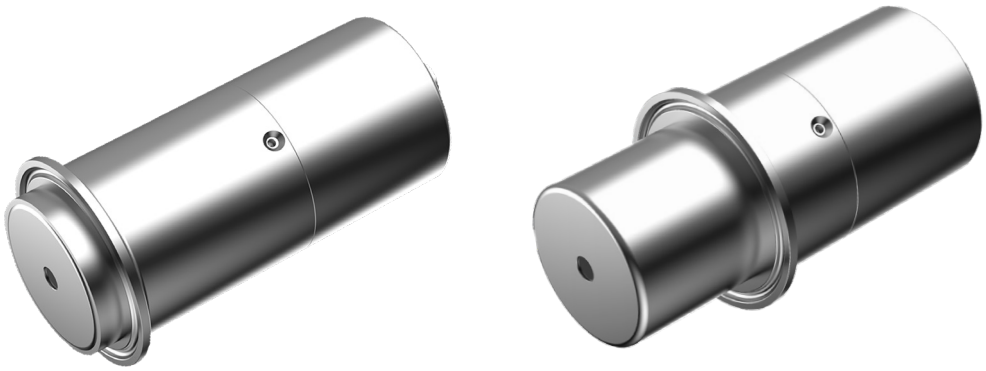
Pyxis®

www.pyxis-lab.com

DATA SHEET

prism



RT-110 SERIES

Inline Refractive Index / %BRIX / %Glycol Sensors

Scan the QR Code to
CONTACT US FOR MORE INFO

DESCRIPTION

The PRISM RT-110 series are online digital refractometers that measure the refractive index of a liquid sample. These sensors provide highly accurate concentration values for a wide variety of water and process related applications. They are stand-alone devices capable of self-sustained operation, live data logging and communication output. The Prism RT-110 series also offer fully integrated 4-20mA and RS-485 Modbus output signals for connectivity to any microprocessor-based controller, display, PLC, or DCS network. The Prism RT-110 series have built-in temperature-dependent equations to convert the measured sample temperature and refractive index to the percentage concentration of Mono Ethylene Glycol (MEG), Mono Propylene Glycol (MPG) and Sugar Content (Brix). Two installation design versions of the RT-110 series are available, including RT-110 for bypass flow installation and RT-110L for tank wall installation.

The PRISM RT-110 is a very robust sensor and capable of operating in contaminated fluid samples. It is important, however, to note that users should take all precautions to prevent and filter suspended solids from the sample stream prior to the sensor to avoid tenacious deposit build-up on the sensor eye. In highly fouled applications, Pyxis recommends users conduct sensor eye cleaning on a regular basis. Pyxis Lab offers the Ultrasonic RT-Series Cleaning Module Kit (P/N 56208) for installation into the Tri-Clamp Flow Cell Assembly as an optional accessory allowing for automated online cleaning of the RT-110 refractive index sensor.

Contact www.order@pyxis-lab.com for technical and pricing details of this online cleaning accessory.

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TYPICAL APPLICATIONS

- Refractive Index Direct Read for Process Applications
- Mono-Ethylene Glycol Closed Loop System Monitoring
- Mono-Propylene Glycol Closed Loop System Monitoring
- Brix/Sugar Concentration Process Applications
- Specific Gravity Determination via Refractive Index
- RT-110 is specifically designed for Bypass Sample Flow Installation
- RT-110L is specifically designed for Direct Installation on the Tank Wall

FEATURES

- 4-20mA Output of Optical Cell Temperature and the Unit Selected via the uPyxis app
- User Customizable 4-20mA Concentration Output Ranges with uPyxis App
- RS-485 Modbus RTU Output of Temperature, Refractive Index and Other Diagnostics
- Built-In Temperature Dependent Equations %BRIX, %MEG, %MPG
- User-Defined Custom Curve Setup Capable via uPyxis app
- Built-In Historical Data Log up to 56 Days of Storage at 1 Reading per minute via uPyxis app
- Bluetooth® Enabled when used with MA-CR Bluetooth® Adapter
- Sturdy 316L Stainless Steel Construction and Suitable for Harsh Application Environments
- RT-110 Convenient Stainless Steel Tri-Clamp Flow Cell Assembly with ¾ inch NPT Flange
- RT-110L Convenient Stainless Steel Sanitary Coupler for Tank Installation - 2.5inch
- RT-110 is designed to Integrate into Data Center Coolant Monitoring Systems
- RT-110L is specifically designed for Direct Installation on the Tank
- Optional RT-Series Ultrasonic Cleaning Module Sold Separately (For Use with RT-110L ONLY)

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SPECIFICATIONS

Item	RT-110	RT-110L
Part Number	59207	57682
Range of Measurement	Refractive Index: 1.31700–1.5100 Brix: 0.00–85.00% Mono-Ethylene Glycol: 0.00–100.00% Mono-Propylene Glycol: 0.00–100.00% Temperature: -20–80 °C	
Resolution	Refractive Index: 0.00001 Brix and Glycol: 0.01%	
Accuracy	Refractive Index: ±0.0001 Brix and Glycol: ±0.1%	
Sample Temperature	-4–158 °F (-20–70 °C)	-4–149 °F (-20–65 °C)
Max Sample Pressure & Flow	≤142psi (0.98 MPa) <13.5GPM (9.8ft/s)	
Environmental Temperature	14–104 °F (-10–40 °C)	
Weight	1kg	
Dimensions	φ2.52 x 5.24 inch (φ64 x 133mm)	
Protection	IP67	
Light Source	LED	
Wet Materials	Sapphire, 316L Stainless Steel	
Signal Output	4-20mA and RS-485 Modbus	
Power	24V DC (1.5W)	
Regulation	CE, RoHS Marked	

RT-110 Package (PN: 59207) for Bypass Flow Installations

Item	Quantity
RT-110 Prism Refractive Index Sensor with 8PIN Female Adapter	1
316L Stainless Steel Tri-Clamp Flow Cell Assembly (PN: 56206)	1
MA-1.5CR Cable (1.5m/4.9ft Male Adapter/Flying Lead) (PN: 50746)	1
MA-4.9CR Cable (1.5m/4.9ft Male -Female Adapter) (PN: 50745)	1

RT-110L Package (PN: 57682) for Tank Side Wall Installations

Item	Quantity
RT-110L Prism Refractive Index Sensor with 8PIN Female Adapter	1
316L Stainless Steel Sanitary Clamp Coupling (PN: 24641)	1
MA-1.5CR Cable (1.5m/4.9ft Male Adapter/Flying Lead) (PN: 50746)	1
MA-4.9CR Cable (1.5m/4.9ft Male -Female Adapter) (PN: 50745)	1

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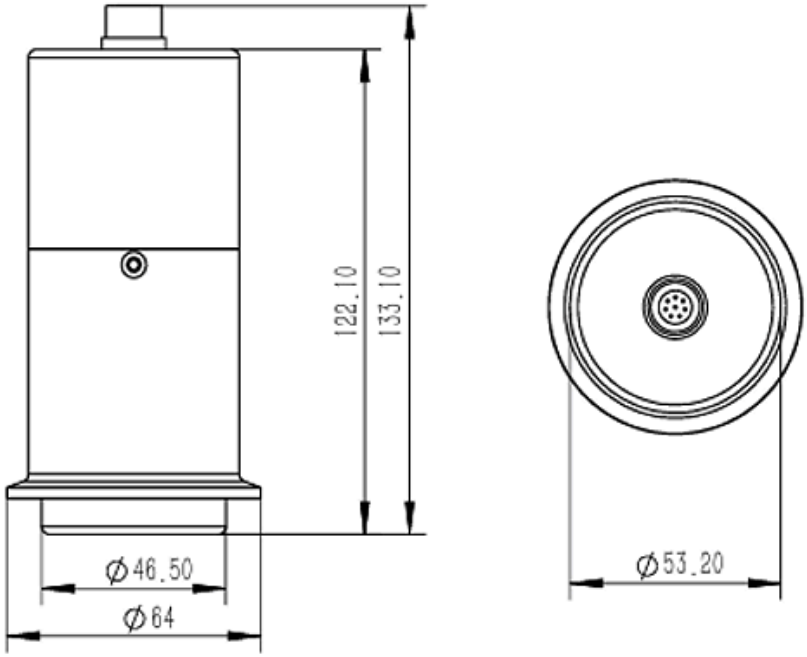
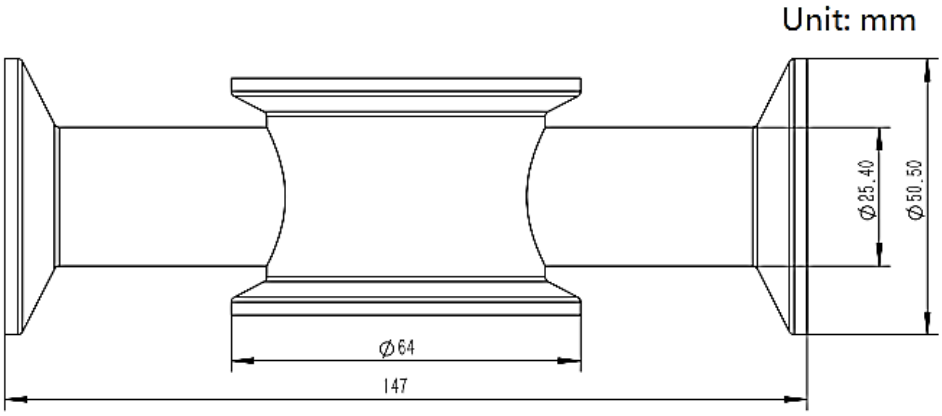
DIMENSIONS

RT-110 Prism Dimensions (mm) - Bypass Flow Installations



Tri-Clamp Flow Assembly Dimensions (mm) - For Use with RT-110 ONLY



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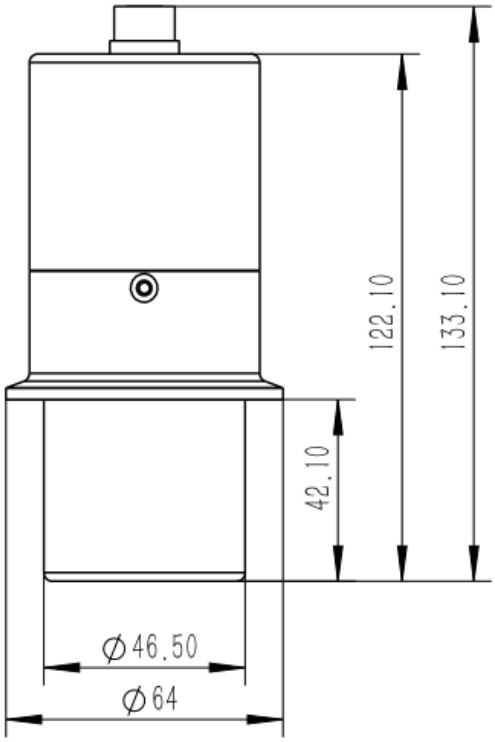
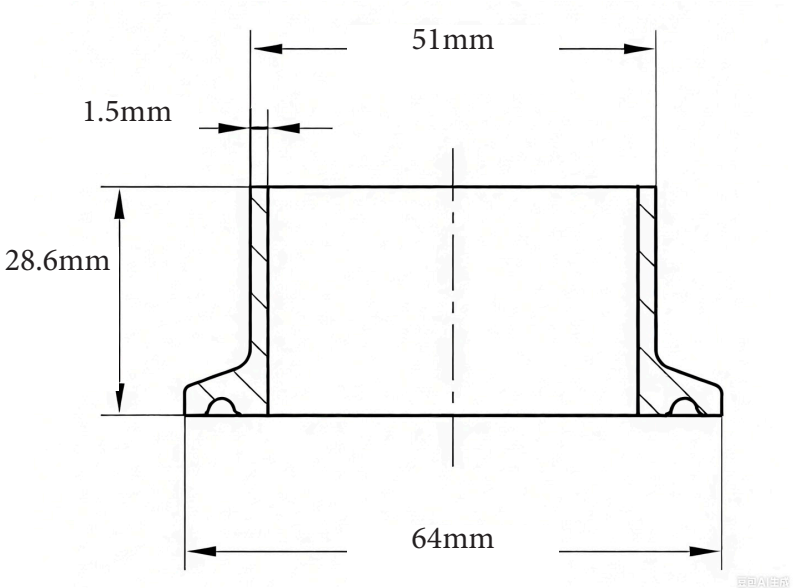
DIMENSIONS

RT-110L Prism Dimensions (mm) - Tank Wall Installations



316L Stainless Steel Clamp Coupling Dimensions (mm) - For Use with RT-110L ONLY



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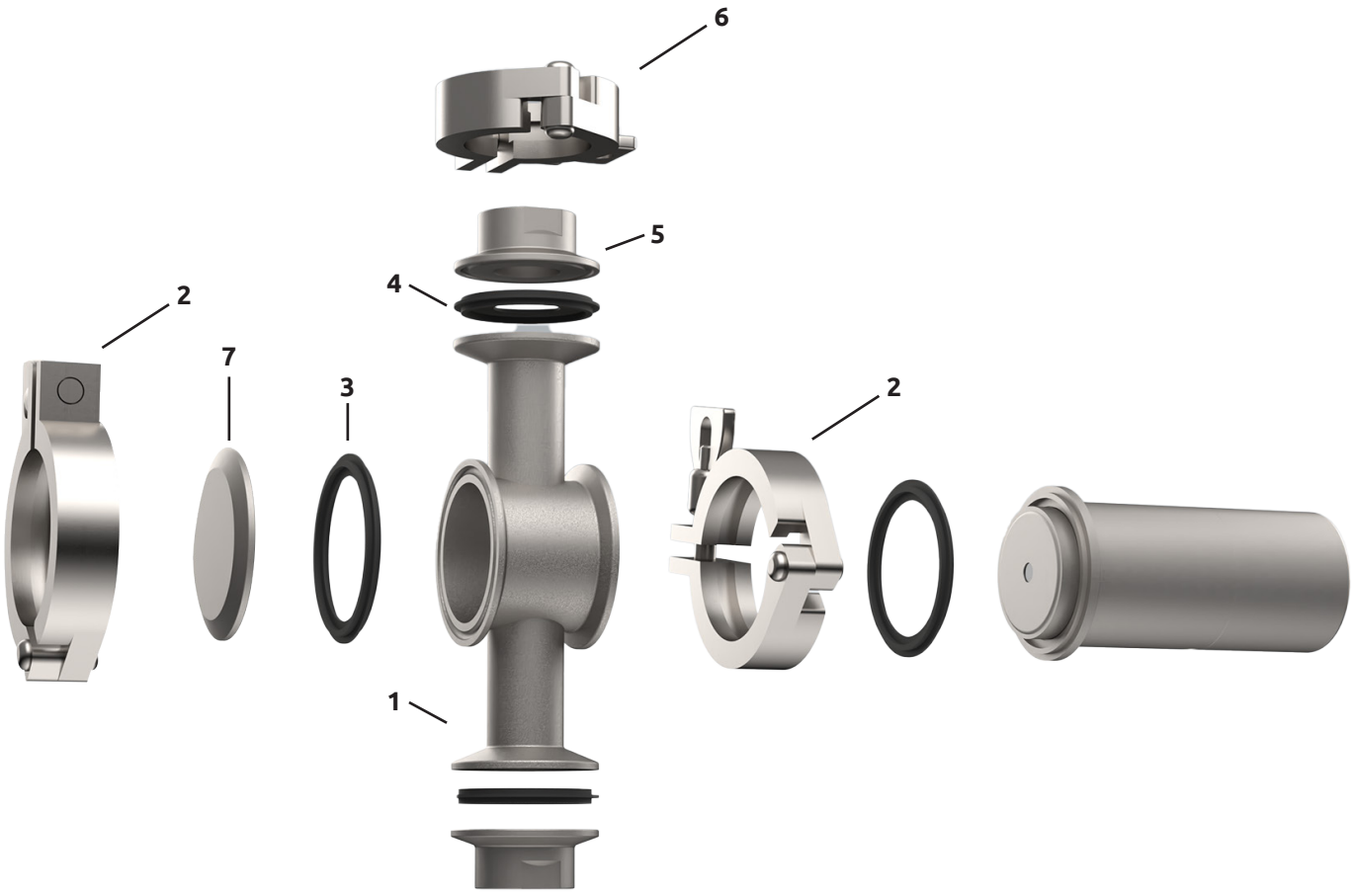
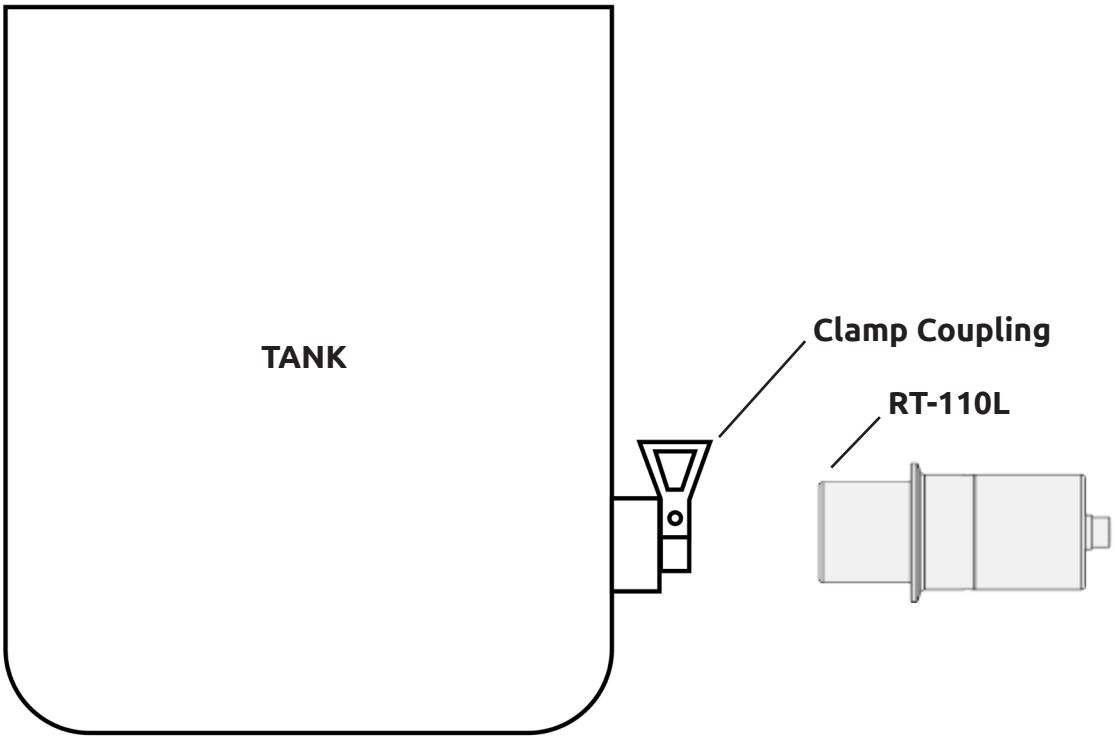
Installation Diagram for RT-110 Tri-Clamp Flow Assembly (PN: 56206)



ID #	Description
1	Flow Cell with 2.5inch Port for Sensor Head
2	Sensor Tri-Clamp 2.5inch
3, 4	Tri-Clamp Flow Cell Gasket Kit (PN: 56209)
5	¾ inch FNPT Flange
6	Flange Tri-Clamp 2inch
7	Plug Cap 64mm, Reserved Self-Cleaning

Installation Diagram for RT-110L



uPyxis App Diagnosis, Calibration and Historical Data Transfer

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 RT-110 Prism, the uPyxis APP enables users to diagnose, air-calibrate Refractive Index value, Off-Set Calibrate Liquid Concentrations to Refractive Index Value, Restore Factory Settings, Transfer Historically Logged Data and View Live Sensor Refractive Index and Temperature Data Trends. For wireless access to RT-110, the MA-CR Bluetooth Adapter will be required and should be purchased as an optional accessory.

NOTE: The uPyxis mobile app is evolving rapidly and users can find the latest version at no cost on the Apple Store or Google Play.

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ORDER INFORMATION	PART NUMBER
RT-110 Inline Refractometer	59207
RT-110L Tank Refractometer	57682

OPTIONAL/REPLACEMENT ACCESSORIES

MA-CR Bluetooth® Adapter	MA-CR
MA-NEB USB Bluetooth® Adapter for uPyxis Desktop RT-Series	MA-NEB
Ultrasonic Cleaning Module Kit for use wit RT-110 Only	56208
Tri-Clamp Flow Cell Assembly Complete Replacement Tri-Clamp	56206
Flow Cell Replacement Gasket Kit	56209
Stainless Steel Sanitary Clamp Coupling with Gasket Pyxis Lab	24641
Probe Cleaning Kit	SER-01
MA-10CR 10ft Extension Cable	50741
MA-50CR 50ft Extension Cable	50743
Y-MS-1.0 *(Y-type 8-3-8 Adapter Cable for RT-110 use with Ultrasonic Transducer)*	12045

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