prism

RT-200 High Temperature Inline Refractometer

Product Description

The Pyxis RT-200 Prism is an inline digital refractometer that measures the refractive index of a liquid sample and provides a direct reading of highly accurate concentration values for a wide variety of water and process related applications. RT-200 is particularly suitable for sugar production and other high-temperature processes. It is a stand-alone device capable of self-sustained operation, live data display and data logging.

The RT-200 Prism also offers fully integrated 4-20mA and RS-485 Modbus output signals for connectivity to any microprocessor-based controller, display, PLC or DCS network. The RT-200 Prism has 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), Sugar Content (Brix) and Advanced Low Viscosity Fluid (ALV). Built-in Bluetooth 5.0 makes it easier to connect to your phone. Additional concentration curves can be added via uPyxis APP.

The RT-200 Prism is a very robust, digital sensor capable of operating in contaminated fluid samples. It is important however to note that users should take all precautions to mitigate and filter suspended solids from the sample stream prior to the sensor to avoid tenacious deposit build-up on the sensor eye. Pyxis Lab offers the Ultra-Sonic RT-Ser 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-200 refractive index sensor.

Contact Us at *order@pyxis-lab.com* for More Information...

Typical Applications

- Refractive Index Direct Read for Process Applications
- Mono-Ethylene/Propylene Glycol High Temperature Closed Loop System Monitoring
- Brix/Sugar Concentration Process Applications in High Temperature
- Advanced Low Viscosity Fluid Heat Transfer Fluid
- Specific Gravity Determination via Refractive Index

Features

- Operational at temperatures as high as 248 °F (120 °C)
- 4-20 mA Output of Sample Temperature and the Unit of Display Selected via the Screen Interface
- User Customizable 4-20mA Concentration Output Ranges with uPyxis® APP
- RS-485 Modbus RTU Output of Temperature, Refractive Index and Other Diagnosis Parameters
- Built-in Temperature Dependent Equations % BRIX, %MPG, %MEG and % ALV
- Additional Concentration Curves can be added via uPyxis® APP.
- Local Large Screen Display and Push-Button Interface
- 110VAC – 24 VDC Wall Outlet Powered for Independent Operation w/out Controller
- Built-In Historical Data Log up to 56 Days of Storage at 1 Reading Per Minute via uPyxis® APP
- Built-In Bluetooth for easier setup and diagnosis via uPyxis® APP
- Sturdy 316L Stainless-Steel Construction and Suitable for Harsh Application Environments
- Convenient Stainless-Steel Tri-Clamp Flow Cell Assembly w ¾-inch NPT Flange
- Optional RT-Series Ultra-Sonic Cleaning Module Sold Separately

RT-200 PRISM (57124) Package Includes

- (1) PRISM RT-200 Refractive Index Sensor
- (1) 8-Pin Female Cable
- (1) 316L Stainless Steel Tri-Clamp Flow Cell Assembly (P/N: 56206)
- (1) MA-1.5CR Cable (1.5m / 4.9ft 8-Pin Male Adapter & Flying Lead) (P/N: 50746)

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Specifications

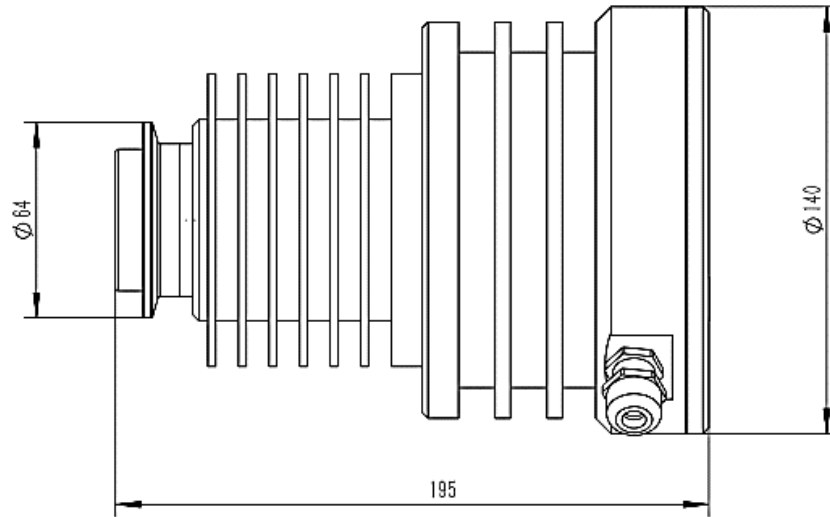| Item	RT-200
Part Number	57124
Range (% by Mass)	**Refractive Index: 1.31700–1.5100**
	BRIX: 0.00–85.00%
	Mono-Ethylene Glycol: 0.00–100.00%
	Mono-Propylene Glycol: 0.00–100.00%
	Advanced Low Viscosity Fluid: 0.00–100.00%
	Temperature: -20–150 ºC
Resolution	Refractive Index: 0.000001, BRIX & Glycol: 0.001%
Accuracy	Refractive Index: ±0.000001, BRIX & Glycol: ±0.001%
Sample Temp.	-4–248 ºF (-20–120 ºC)
MAX Pressure/Flow	≤142psi (0.98MPa) / <13.5 GPM (9,8ft/s)
Eviron. Temp.	14–113 ºF (-10–45 ºC)
Weight	5.73lbs (2.6kg)
Dimensions	5.51x7.67 in (140x195 mm)
Protection	IP-67
Light Source	LED
Wet Material	Sapphire, 316L Stainless Steel
Signal Output	(2) 4-20mA & RS-485, Bluetooth® 5.0
Power	24V DC (1.5W)
Regulation	CE, RoHS

Optional/Replacement Accessories - Purchased Separately

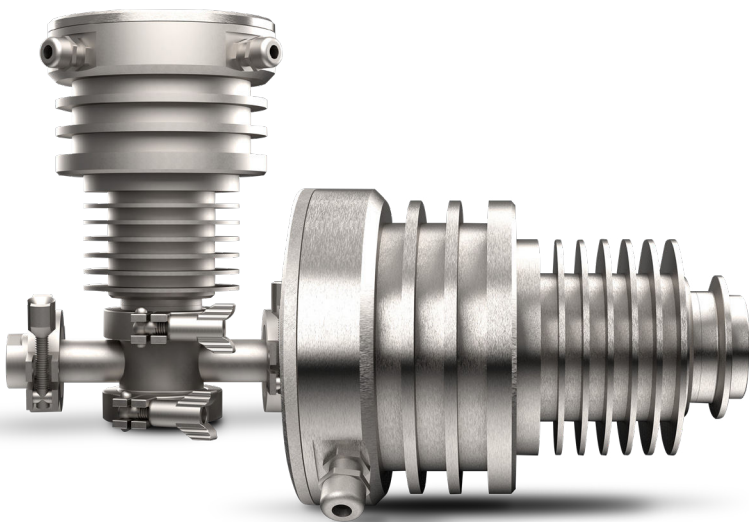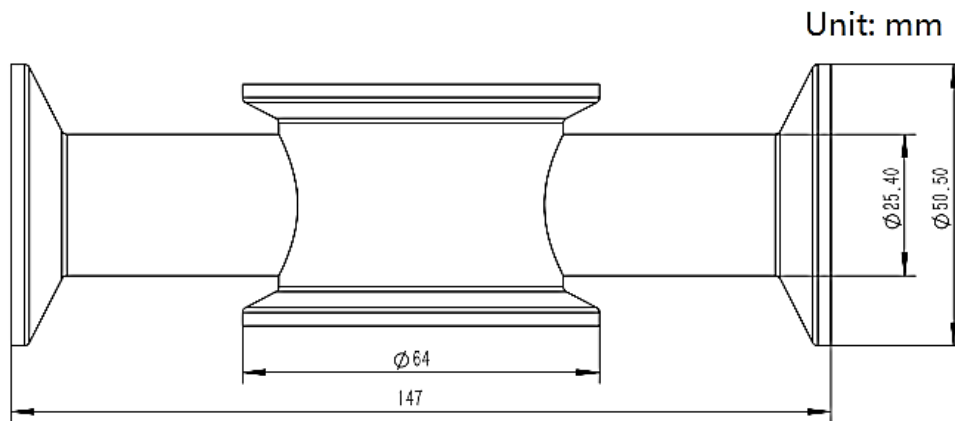| Optional/Replacement Accessories	P/N
Replacement Wall Outlet Adapter Kit (110VAC to 24VDC)	56207
MA-NEB USB Bluetooth® Adapter for uPyxis® Desktop	MA-NEB
MA-50CR 50' 8-Pin Extension Cable	50743
Pyxis Probe Cleaning Kit	SER-01
Tri-Clamp Flow Assembly Complete REPLACEMENT KIT	56206
Tri-Clamp Flow Cell REPLACEMENT GASKET KIT	56209
RT-Series Ultrasonic Cleaning Module Kit	56208

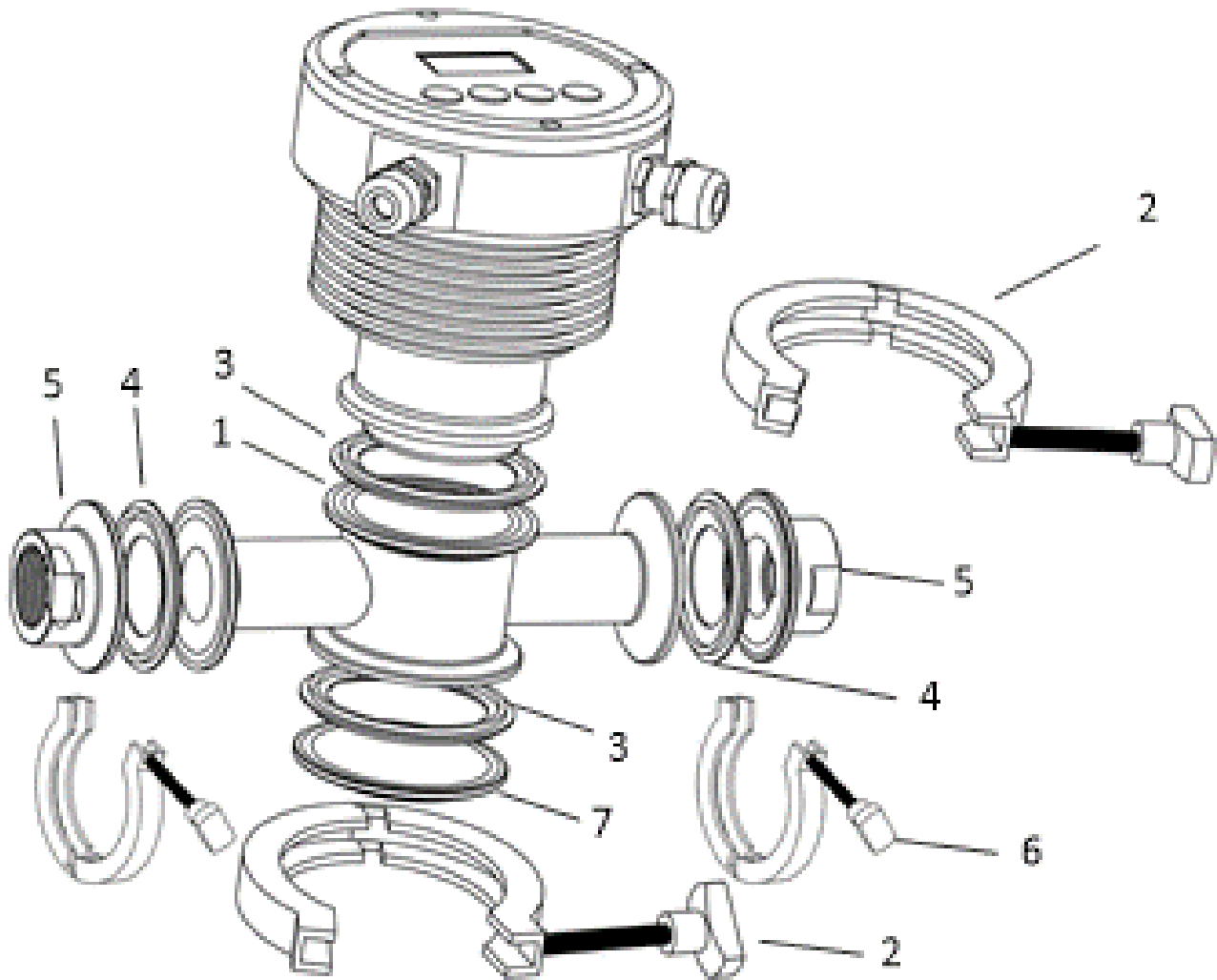Contact Us at *order@pyxis-lab.com* for More Information...

RT-200 PRISM™ Dimensions (mm)

Ø 64
Ø 140
195

Tri-Clamp Flow Assembly Dimensions (mm)

Unit: mm

Ø 25.40
Ø 50.50
Ø 64
147

RT-200 Tri-Clamp Flow Cell Components (Included with each RT-200 Purchase)

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

Order Information

Order Information	Part Number
RT-200 PRISM Inline Refractometer	57124
Wall Outlet Power Supply Adapter Kit	56207
RT-Series Ultrasonic Cleaning Module	56208
MA-NEB USB Bluetooth® Adapter	MA-NEB
MA-50CR 50ft Extension Cable with 8-Pin Adapters	50743
Sensor Cleaning Kit	SER-01
Tri-Clamp Flow Cell Assembly - Full Replacement	56206
Tri-Clamp Flow Cell Assembly Replacement Gasket Kit	56209

uPyxis® Diagnosis, Calibration & Historical Data Transfer

The uPyxis® app manages all Pyxis Lab® portable meter and inline sensors on mobile and desktop devices. When connected to the PRISM RT-200, 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 & Temperature Data Trends.

NOTE:

The uPyxis® mobile app is evolving rapidly and users can find the latest version at no cost on the Apple iStore or GooglePlay. The desktop version of the uPyxis® app can be downloaded at:
www.pyxis-lab.com/upyxis-app