

## TECHNICAL DATA SHEET

### What does Cool-Gauge do?

- ✔ Cool-Gauge is an intelligent approach to monitoring levels of Heat Transfer Fluid's (HTFs) in your cooling system. It monitors constantly showing reserves of the typical HTFs such as MPG, MEG and ALV, ALV+, Brix & Temperature.
- ✔ Cool-Gauge enables automatic dosage of your HTF against specific set points which ensures accurate control of your HTF reserve is maintained, at all times.
- ✔ Cool-Gauge can output the data it monitors to external devices such as a laptop, smart phone, chiller display or BMS and it does this via RS485 and Wi-Fi.
- ✔ Cool-Gauge is also Bluetooth enabled for localised diagnostic data collection via a phone app.

### Why Use Cool-Gauge?

- ▶ Provides accurate and constant HTF monitoring & control.
- ▶ Data output to operators in real-time or download.
- ▶ Can be alarmed and give a visual signal (flashing light) at the point of use alerting operators e.g., low HTF fluid in the dosage tank.
- ▶ Automatically doses HTF fluids to the system against setpoints to maintain accurate reserves – not too high, and not too low for peak system efficiency.
- ▶ Can help to minimise energy consumption by maintaining optimum viscosity of HTF within the system – which reduces pumping costs.
- ▶ Maintains in-built inhibitor reserves at the correct level to help prevent corrosion and scale build up.

## Coolgauge Refractive Index Sensor

### Product Description

The Coolgauge RT-100 is an online digital refractive index sensor that measures the refractive index of a liquid sample. The sensor provides a direct reading of highly accurate concentration values for a wide variety of cooling water and process related applications. It is a stand-alone device capable of self-sustained operation, live data display and data logging. The Coolgauge RT-100 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 Coolgauge RT-100 has built-in temperature dependent equations to convert the measured sample temperature and refractive index to the percentage concentration of all common Anti-freeze products (often referred to as Heat Transfer Fluids or HTFs) such as Mono Ethylene Glycol (MEG), Mono Propylene Glycol (MPG), Sugar Content (Brix) and Advanced Low Viscosity Fluid (ALV and ALV+).

### 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.
- Advanced Low Viscosity Fluid Heat Transfer Fluid.
- Specific Gravity Determination via Refractive Index.

## Technical Features

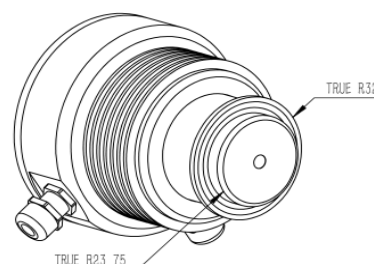
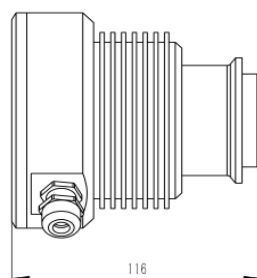
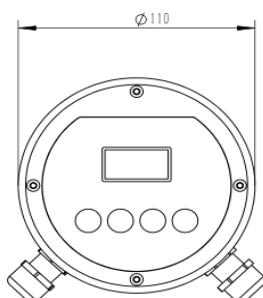
- 4-20 mA output of sample temperature and the displayed unit selected via the screen interface.
- RS-485 Modbus RTU output of temperature, refractive index and factory diagnostic parameters.
- Built-in temperature dependent equations % BRIX, %MPG, %MEG and % ALV+.
- Local display and historical data log saved in the unit programmable via a mobile APP.
- Sturdy 316L stainless-steel construction, suitable for harsh application environments.
- Convenient Stainless-Steel Tri-Clamp Tee with 3/4-inch BSP Flange for Easy Install and Removal.

## Specification

ITEM	COOLGAUGE RT-100
P/N	55106
RANGE	Refractive Index: 1.31700 – 1.5100
OF	Brix: 0.00 – 85.00%
MEASUREMENT	Temperature: -20°C – 80°C
RESOLUTION	Refractive Index: 0.0001
ACCURACY	Brix and Glycol: 0.1% Refractive Index: ±0.0002
SAMPLE TEMPERATURE	Brix and Glycol: ±0.2%
SAMPLE PRESSURE	-4 – 158 °F (-20 – 70 °C)
ENVIRONMENTAL TEMPERATURE	≤142 psi (0.98 MPa)
WEIGHT	14 – 104 °F (-10 – 40 °C)
DIMENSION	6.2 pound (2.8 kg)
IP RATING	4.33 x 4.57 inch (110 x 116 mm)
LIGHT SOURCE	IP-67
WET MATERIALS	LED
SIGNAL OUTPUT	Sapphire, 316L Stainless steel
POWER	2 x 4-20 mA and RS-485 Modbus
REGULATION	24 VDC (1.5W) CE / RoHS Marked

## Dimensions (mm)

Unit: mm



## Standard Accessories

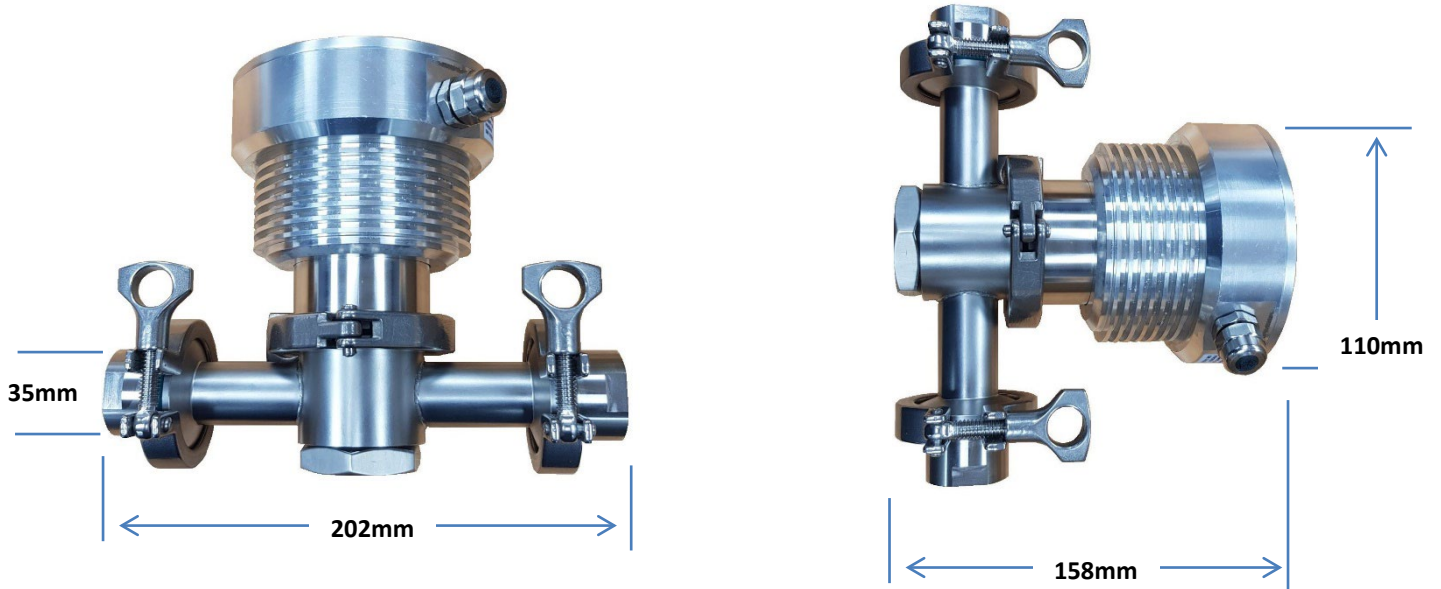
- Package will include one Coolgauge RT-100 Refractive Index Sensor with 8 pin Female Cable
- One 316L Stainless Steel Triclamp Flow Cell Assembly for RT-100 (P/N 56206)
- One MA-1.5CR Cable (1.5 Metre/4.9ft - 8 Pin male Adapter/Flying Lead (P/N 50746)



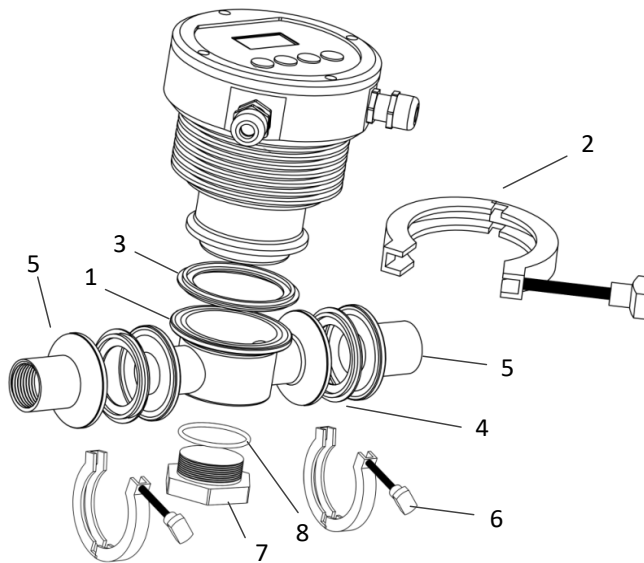
## Optional Accessories

Optional Accessories	P/N
RT-100 Wall Outlet Power Supply Adapter Kit (Plug In Power Supply Kit Converts Wall Outlet 90-240VAC to 24VDC for RT-100 – 2Pin)	56207
MA-CR (Bluetooth Adapter for 8-Pin Sensors for use with uPyxis Mobile & Desktop)	MA-CR
MA-NEB (USB Bluetooth Adapter for PC to use uPyxis Desktop)	MA-NEB
MA-50CR (15m/50' ft Extension Cable w/8Pin Adapters)	50743
Probe Cleaning Kit	SER-01
RT-100 Tri-Clamp Flow Cell Assembly Complete Replacement	56206
RT-100 Tri-Clamp Flow Cell Replacement Gasket Kit	56209

## Flow cell Assembly Dimensions



## Flow cell Components



ITEM	ID #	DESCRIPTION	P/N
COOL GAUGE RT-100 TRI-CLAMP FLOW CELL ASSEMBLY	1	Flow cell with 2.5-inch Port for Coolgauge RT-100 Sensor Head	56206
	2	Coolgauge RT-100 Sensor Tri-Clamp 2.5-inch	
	3, 4, 8	Tri-Clamp Flow Cell Gasket Kit (PN:56209)	
	5	¾ inch BSPF Flange	
	6	Flange Tri -Clamp 2-inch	
	7	Threaded Plug for Cleaning Device Install	

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