Rosemount™ 499AOZ

Dissolved Ozone Sensor

A trusted sensor for reliably measuring dissolved ozone

The Rosemount™ 499AOZ dissolved ozone sensor is an easy to use amperometric sensor with a rugged construction. This sensor is ideal for measuring dissolved ozone concentrations in municipal water filtration, bottling, and food processing plants.

Overview

Ease of Maintenance

- Extend sensor life with simple membrane and electrolyte replacement; no special tools required.
- Automatic temperature correction with integral Pt-100 RTD.
- Variopol (VP6) cable connector option eliminates cable twisting and allows for quick sensor replacement.

High Performance Design

- Measures dissolved ozone concentrations between 0 and 3 ppm.
- Operates in process temperatures up to 122 °F (50 °C) and process pressures up to 65 psig.
- Polysulfone sensor body with forward and rear facing 1 inch MNPT process connections.
- Internal flexible bladder allows automatic pressure equalization for minimal influence from pressure changes on sensor response.

Contents

Ordering Information

The Rosemount 499AOZ dissolved ozone sensor is ideal for measuring dissolved ozone concentrations in a variety of municipal and industrial applications. The sensor is available with either an integral cable or Variopol (VP6) connector. Variopol cables are sold separately (see Accessories). Rosemount 499AOZ sensors are generally mounted in an off-line low flow cell. Sensors come standard with three replacement membrane assemblies, three O-rings, and a 4 oz (125 mL) bottle of electrolyte.

Table 1. Rosemount 499AOZ Dissolved Ozone Sensor ordering information

Model	Sensor Type
499AOZ	Dissolved Ozone Sensor
Transmitter Compatibility	
54	For use with Rosemount 1056, 56, 1066, and 5081 transmitters

Options

Cable Options	
-	No selection - standard 25 ft cable
60	25 ft optimum EMI/RFI cable
VP	Variopol (VP6) connector[1]
Typical Model Number: 499AOZ-54-VP	

1. For use with VP interconnecting cables (see Accessories).

Sensor Specifications

Range: 0 to 3 ppm (mg/L) as O3.

Wetted parts: Polysulfone, Viton[1], Teflon[2], and silicone

Cathode: gold (not normally wetted)

Accuracy: Accuracy depends on the accuracy of the chemical test used to calibrate the sensor.

Linearity: ±5% of reading or ±3 ppb (whichever is greater) at 77 °F (25 °C)

Repeatability: ±2% of reading at constant temperature

Response time: 30 sec to 90% of final reading at 77 °F (25 °C)

Pressure: 0 to 65 psig (101 to 549 kPa abs)

Temperature (operating): 32 to 122 °F (0 - 50 °C)

Membrane permeability correction: Defined between 41 and 95 °F (5 and 35 °C)

Process connection: 1 in. MNPT

Electrolyte volume: 25 mL (approx.)

Electrolyte life: 3 months (approx.); for best results, replace electrolyte monthly

Cable length (standard integral cable): 25 ft (7.6 m)

Cable length (maximum): 300 ft (91 m)

Sample flow:

Flow through	1-5 gpm (3.8 to 19 L/min)
Open channel	1 ft/sec (0.3 m/sec)
Low flow cell	2 to 5 gph (7.6 to 19 L/hr)

Weight/shipping weight: 1 lb / 3 lb (0.5 kg / 1.5 kg)
Weight and shipping weight are rounded up to the nearest whole pound or 0.5 kg.

Other Specifications

Low flow cell: PN 24091-00

Wetted parts: polycarbonate, polyester, 316 stainless steel, and silicone

Process connection: 1/4-inch OD tubing compression fitting or 1/4-inch FNPT

Maximum pressure: 90 psig (722 kPa abs)

Maximum temperature: 158 °F (70 °C)

Note: The temperature and pressure specifications for the low flow cell exceed the specifications for the sensor.

Flow through tee: (2 in. body) PN 915240-03/04/05

Wetted parts: PVC and Buna N; body is schedule 80 PVC

Process connection: ¾ in. NFPT, 1 in. NFPT, or 1½ in. NFPT

Maximum pressure: 60 psig (515 kPa abs)

Maximum temperature: 120 °F (49 °C)

Valved rotameter: PN 9390004 for use with low flow cell

Flow: 0.4 to 5 gph (1.5 to 19 L/hr)

Wetted parts: acrylic, 316 stainless steel, and Viton

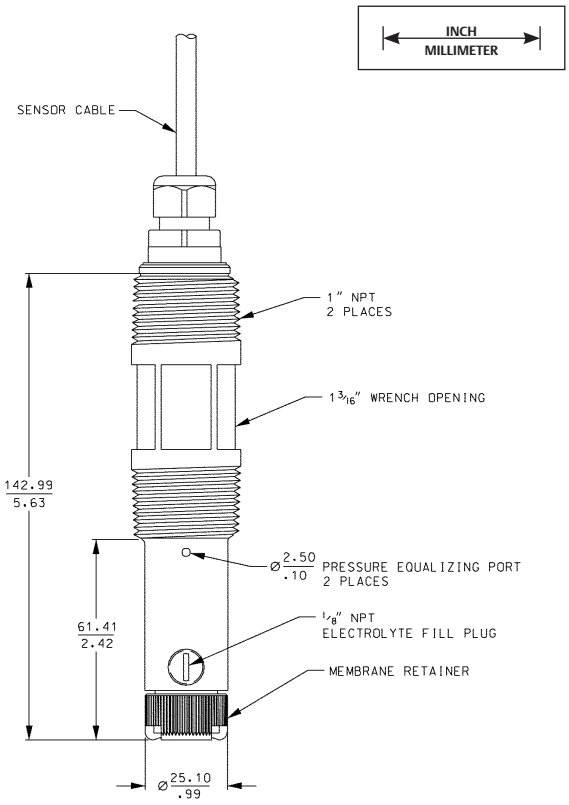
Process connection: ¼ inch NFPT (316 stainless steel)

Maximum pressure: 100 psig (858 kPa abs)

Maximum temperature: 150 °F (65 °C)

Dimensional Drawings

Figure 1. Rosemount 499AOZ with Integral Cable Sensor dimensions



1 Viton is a registered trademark of E.I. du Pont de Nemours.

2 Teflon is a registered trademark of E.I. du Pont de Nemours.

Figure 2 Sensor with Variopol connector.

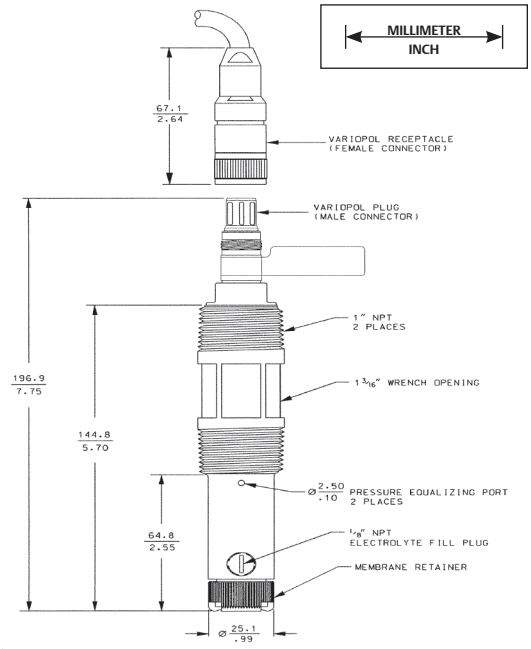
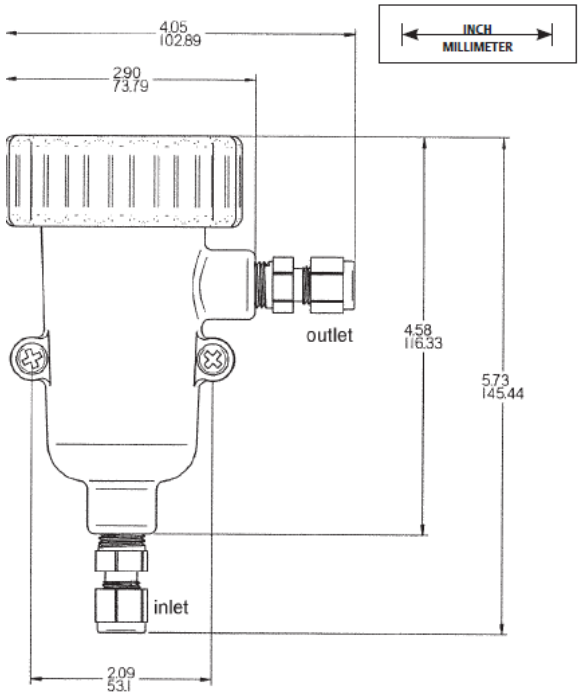


Figure 3 Low flow cell (PN 24091-00)



Length of assembled sensor is 9.3 in. (236 mm).

Figure 4 Flow-through tee (1-1/2 inch) (PN 23567-00)

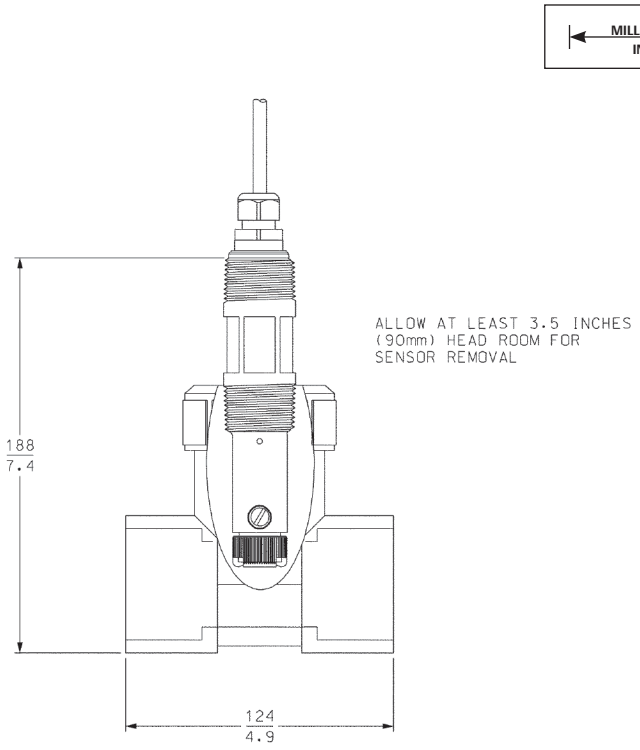
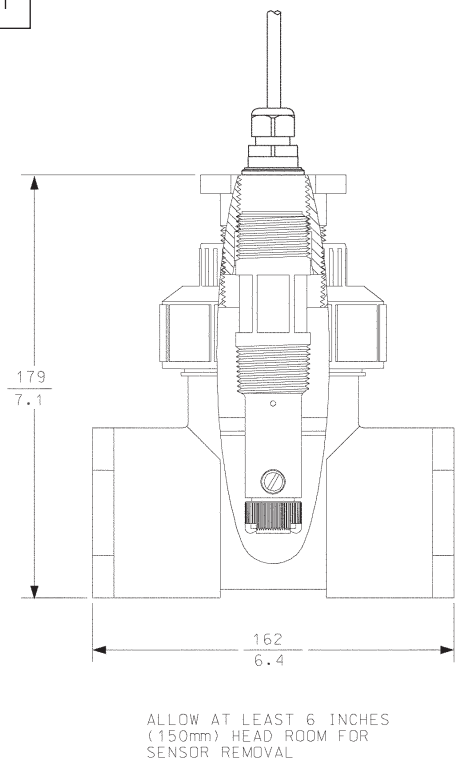


Figure 5 Flow-through tee (2 inch) (PN 915240-03, -04, -05)



Accessories

Part #	Description
23747-06	Interconnecting cable, VP 6, 2.5 ft. (0.8 m)
23747-04	Interconnecting cable, VP 6, 4 ft. (1.2m)
23747-02	Interconnecting cable, VP 6, 10 ft. (3.0 m)
23747-07	Interconnecting cable, VP 6, 15 ft. (4.6 m)
23747-08	Interconnecting cable, VP 6, 20 ft. (6.1 m)
23747-09	Interconnecting cable, VP 6, 25 ft. (7.6 m)
23747-10	Interconnecting cable, VP 6, 30 ft. (9.1 m)
23747-03	Interconnecting cable, VP 6, 50 ft. (15.2 m)
23747-11	Interconnecting cable, VP 6, 100 ft. (30.5 m)
23567-00	1-1/2 in. flow through tee with 1-1/2 in. socket connections
915240-03	2 in. flow through tee with 3/4 in. FNPT connections
915240-04	2 in. flow through tee with 1 in. FNPT connections
915240-05	2 in. flow through tee with 1-1/2 in. FNPT connections
24091-00	Low flow cell with 1/4 in. OD tubing compression fittings
9390004	Rotameter: 0.5 - 5.0 gph
22550-00	Junction box, 12 terminals
9200266	Extension cable for option -54, unterminated (specify length)
9200275	Extension cable for optimum EMI/RFI cable, unterminated (specify length)
23747-00	Extension cable for optimum EMI/RFI cable, terminated (specify length)
23501-11	Dissolved ozone membrane assembly; includes 1 membrane assembly and 1 O-ring.
23502-11	Dissolved ozone membrane assembly: includes 3 membrane assemblies and 3 O-rings
9210299	#3 Dissolved ozone sensor fill solution, 4 oz (125 ml)
33521-02	Membrane retainer
33523-02	Fill plug

Notes

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