

Rosemount™ 499ACL-03

Monochloramine Sensor



A trusted sensor for measuring monochloramine

The Rosemount™ 499ACL-03 sensor is designed to measure monochloramine without the need for a sample conditioning system. These amperometric sensors are ideal for use in drinking water and wastewater applications.

Overview



A Simple Sensor Design

- Measure monochloramine without having to deal with messy reagents or expensive sample conditioning systems.
- Integral Pt-100 RTD allows for automatic temperature compensation.
- Operates in samples up to 50 °C (122 °F).
- Measures 0 to 15 ppm monochloramine.

Ease of Maintenance and Installation

- 1 in. MNPT process connections suitable for mounting in a low flow cell installed in a sidestream sample or directly in a chlorine contact basin.
- Replacing the membrane and electrolyte solution is fast and easy and requires no special tools or fixtures.
- Variopol (VP6) cable connection option, for quick cable-to-sensor release, eliminates cable twisting.

Contents

Ordering Information	3
Specifications	4
Dimensional Drawings	5
Accessories	7

Ordering Information



Rosemount 499ACL-03 monochloramine sensors are available with either a 25 ft integral cable or a Variopol (VP6) quick disconnect connection for use with VP6 interconnecting cables (sold separately). Three replacement membrane assemblies, three O-rings, and a 4 oz (125 mL) bottle of electrolyte solution are provided with each sensor.

Table 1. Rosemount 499ACL-03 Monochloramine ordering information

Model	Sensor Type
499ACL	Chlorine Sensor
Sensor Type	
03	Monochloramine
Transmitter Compatibility	
54	For use with Rosemount 1056, 56, 1066, and 5081 transmitters

Options

Cable Options	
-	No selection - standard 25 ft cable
60	Optimum EMI/RFI protected 25 ft cable
VP	Variopol (VP6) cable connection
Typical Model Number: 499A CL-01-54-60	

Specifications

Table 2. Sensor specifications

Physical characteristics	Specifications
Range	0 to 6 ppm (mg/L)
Wetted parts	Noryl ¹ , Viton ² , silicone, wood, and Zitex ³ (PFTE)
Accuracy	Accuracy depends on the accuracy of the laboratory method used to calibrate the sensor.
Cathode	Gold mesh
Linearity	2% (typ.)
pH range	Response is practically independent of pH between pH 7.0 and 10.0. Sensor current at pH 10.0 is within 5% of sensor current at pH 7.0.
Interferences	Free chlorine and other oxidizing agents
Sample conductivity	>10 μ S/cm at 25 °C (77 °F)
Response time	<30 sec to 90% of final reading at 25 °C (77 °F)
Drift	<2% of reading per week
Back pressure	0 psig (101 kPa abs). Sample must drain to atmosphere.
Temperature	0 to 50 °C (32 to 122 °F)
Process connection	1 in. MNPT
Electrolyte volume	25 mL (approx.)
Electrolyte life	3 months (approx.)
Cable length (standard integral cable)	25 ft (7.6 m)
Cable length (maximum)	300 ft (91 m)
Weight/shipping weight	1 lb / 3 lb (0.5 kg / 1.5 kg)
Sample flow	
Low flow cell	1 to 4 gal/hr (4 to 15 L/hr)
Open channel	Minimum 0.2 ft/sec (0.06 m/sec)

(1) Noryl is a registered trademark of General Electric.

(2) Viton is a registered trademark of E.I. duPont de Nemours & Co.

(3) Zitex is a registered trademark of Performance Plastic Corp.

Table 3. Low flow cell specifications

PN 24091-01 contains a bubble sweeping nozzle to keep bubbles from accumulating against the membrane.	
Wetted parts	Polycarbonate, polyester, 316 stainless steel, and silicone
Process connection	1/4 in. OD tubing compression fitting or 1/4 in. FNPT
Maximum inlet pressure	90 psig (722 kPa abs). Sample must drain to open atmosphere.
Maximum temperature	70 °C (158 °F)
Weight/shipping weight	1 lb / 3 lb (0.5 kg / 1.5 kg)

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

Table 4. Valved rotameter specifications

PN 9390004 for use with low flow cell PN 24091-01	
Wetted parts	Acrylic, 316 stainless steel, Viton
Process connection	1/4 in. NFPT (316 stainless steel)
Maximum pressure	100 psig (858 kPa abs)
Maximum temperature	65 °C (150 °F)

Dimensional Drawings

Figure 1. Standard sensor with integral cable

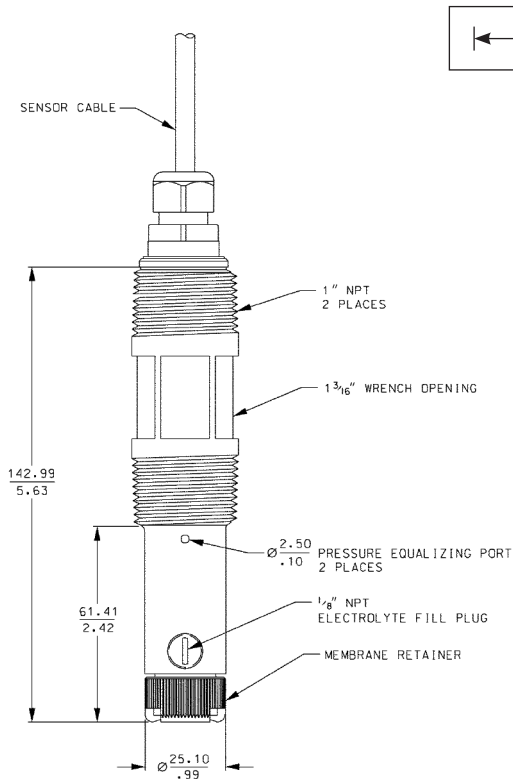
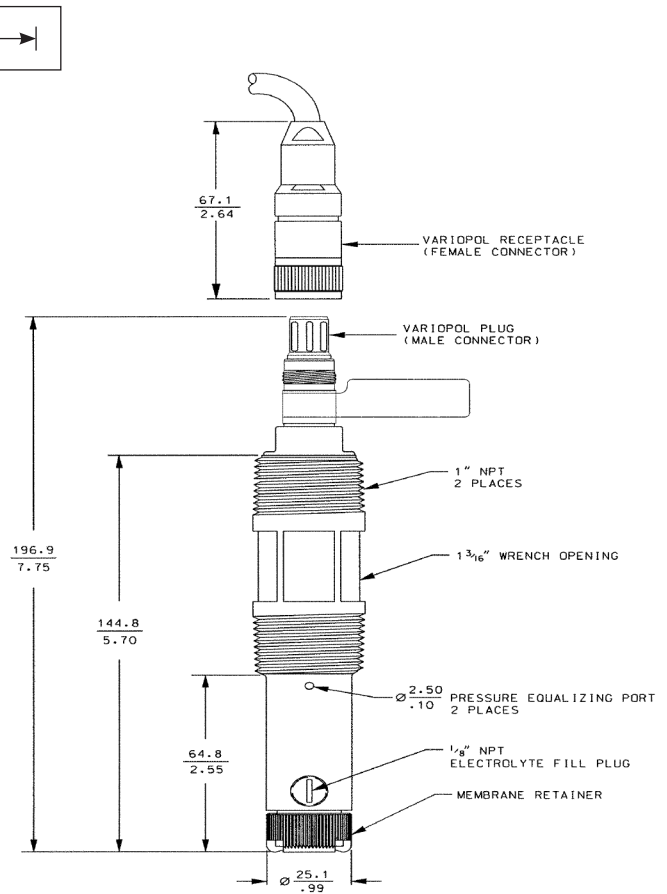
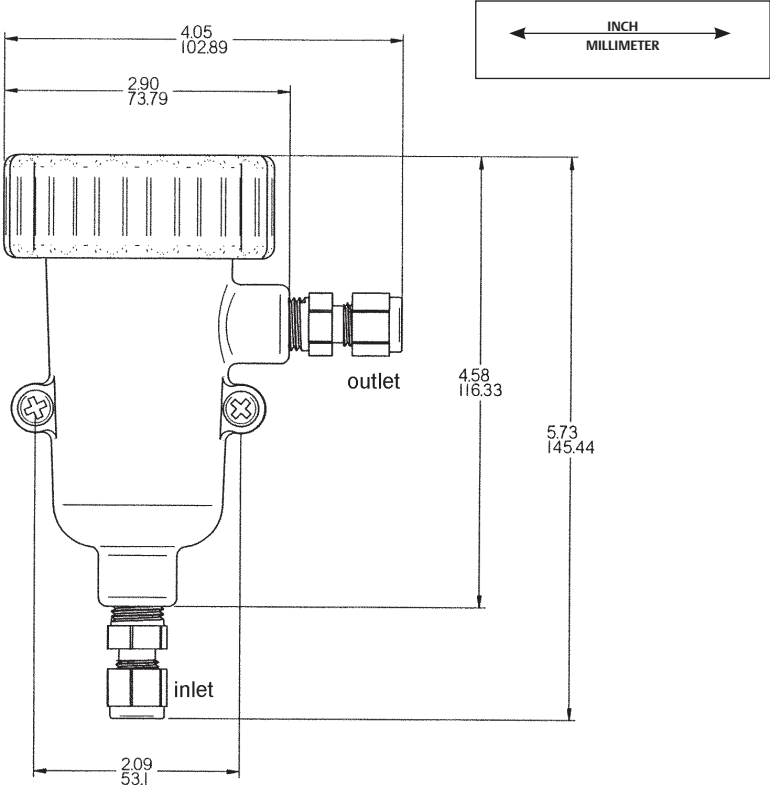


Figure 2. Sensor with Variopool connector



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

Figure 3. Low Flow Cell (PN 24091-00)




The bubble sweeping nozzle in the inlet is not shown.


Accessories

Part number	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)
24091-01	Low flow cell with bubble-shedding nozzle
23550-00	Junction box without preamplifier
9200266	Extension cable for option -54, unterminated (specify length)
9200275	Extension cable (optimum EMI/RFI), unterminated (specify length)
23747-00	Extension cable (optimum EMI/RFI), terminated (specify length)
23501-09	Monochloramine membrane assembly: includes one membrane assembly and one O-ring
23502-09	Monochloramine membrane assembly: includes three membrane assemblies and three O-rings
23747-03	Monochloramine sensor fill solution, 4 oz (125 mL)

www.Emerson.com/RosemountLiquidAnalysis

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