Product Data Sheet
June 2017
LIQ-PDS-404

Rosemount™ 404

Contacting Conductivity Sensors

Reliable conductivity measurements for your process

With the Rosemount 404 Contacting Conductivity Sensors, you will be able to accurately measure electrolytic conductivity in a broad range of applications from high purity water to clean cooling water. The Rosemount 404 contacting conductivity sensors are ideal for use in clean, non-corrosive liquid having conductivity less than 2,000 µS/cm and where process conductivity and temperature changes quickly.

ROSEMOUNT™

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Overview

Minimize Start-up and Installation Time

- A factory-measured cell constant ensures out-of-the-box accuracy and no initial calibration requirements.
- Available in cell constants of 0.01 and 0.1/cm.

A Robust Sensor Design

- The sensors have concentric titanium electrodes separated by a PEEK insulator.
- An EPDM O-ring seals the internal parts of the sensor from the process liquid.
- Meet process compatibility requirements with a choice of either a PVC or Stainless Steel body.
- Maximum operating temperature up to 100 °C.
- Maximum pressure rating up to 100 psig.

Contents

Ordering Information

The Rosemount 404 Contacting Conductivity sensor features an integrated flow cell design. The flow through sensor design has a small holdup volume allowing for rapid response to sudden changes in process conductivity and temperature. The sensor must be used in a sidestream sample. Rosemount 404 sensors are available with either a PVC or stainless steel body. The stainless steel version can be disassembled for cleaning, whereas the PVC version cannot be taken apart.

Additional Information

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Table 1. Rosemount 404 Contacting Conductivity Sensor ordering information

Model	Sensor type
404	Contacting Conductivity Sensor
Cell constant	
11	0.01/cm
12	0.1/cm
Flow cell type	
16	PVC
17	Stainless Steel
Temperature Compensation	
_	Pt-1000 (1)
54	Pt-100
Options	
_	No selection
50	Extended Integral Cable Length (50 ft; 15 m)
Typical Model Number: 404-12-17_-50	

1. Recommended for use with Rosemount transmitters 1056, 56, 1057, 1066, and 5081.

Specifications

Table 2. Rosemount 404 Contacting Conductivity Sensor specifications

Wetted materials	
Electrodes	Titanium
Insulator	Glass Filled PEEK
Body	Option -16: PVC Option -17: 303 Stainless Steel
O-ring	EPDM
Fittings	Option -16: Polyethylene Option -17: 316 Stainless Steel
Temperature range	
Option -16	32 to 140 °F (0 to 60 °C)
Option -17	32 to 212 °F (0 to 100 °C)
Pressure	
Option -16	100 psig (791 kPa abs) at 77 °F (25 °C); 20 psig (239 kPa abs) at 140 °F (60 °C)
Option -17	100 psig (791 kPa abs) maximum
Process connection	
Option -16	3/8 in. barbed tubing connector
Option -17	Compression fitting for 3/8 in. OD tubing. Fittings can be removed to leave ¼ in. FNPT ports.
Cell constants	
0.01 and 0.1/cm	
Cable length	
10 ft (3.1 m) standard; 50 ft (15.2 m) optional	

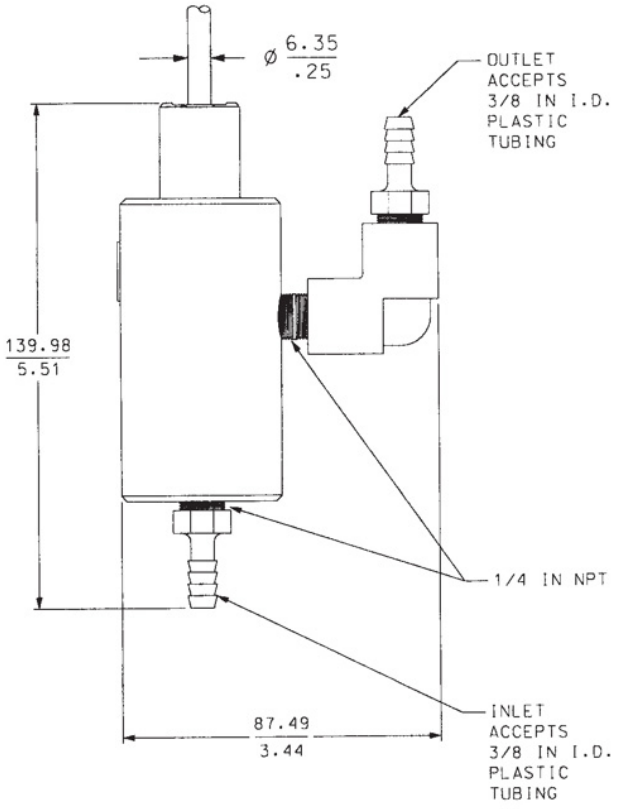
Table 3. Rosemount 404 weights and shipping weights*

Model	With 10 ft. (3.1 m) cable		With 50 ft. (15.2 m) cable	
	Weight	Shipping Weight	Weight	Shipping Weight
Rosemount 404-16	2 lb. (1.0 kg)	3 lb. (1.5 kg)	4 lb. (2.0 kg)	5 lb. (2.5 kg)
Rosemount 404-17	4 lb. (2.0 kg)	5 lb. (2.5 kg)	6 lb. (3.0 kg)	7 lb. (3.5 kg)

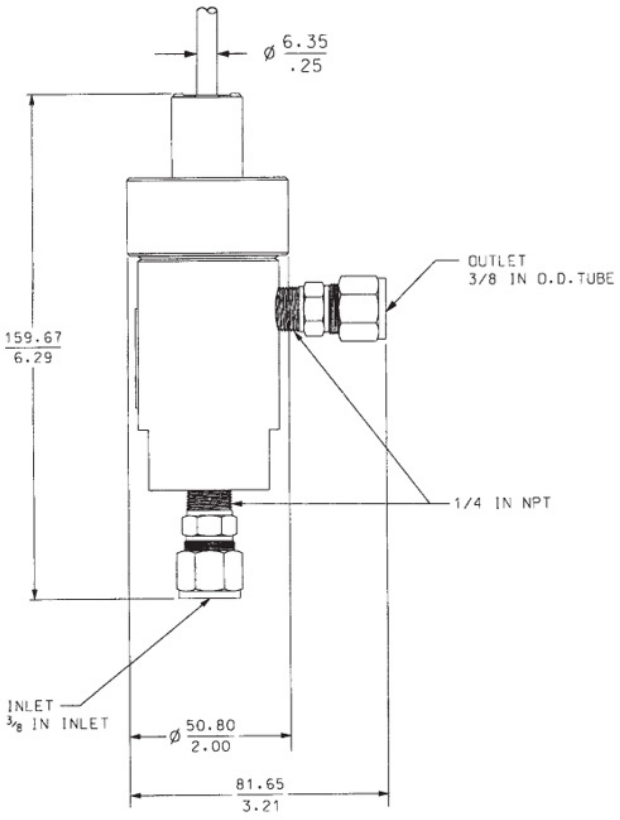
** Rounded up to the nearest 1 lb or 0.5 kg.*

Dimensional Drawings

Figure 1. Rosemount 404 dimensional drawing



Option -16 PVC Flow Cell



Option -17 Stainless Steel Flow Cell

Accessories

Table 4. Rosemount 404 Contacting Conductivity Sensor accessories information

Part number	Description
23550-00	Remote junction box without preamplifier
23747-00	Interconnect cable, prepped (must specify length)
9200275	Extension cable, unprepped (must specify length)
05010781899	Conductivity standard SS-6, 200 µS/cm, 32 oz (0.95 L)
05010797875	Conductivity standard SS-6A, 200 µS/cm, 1 gal (3.78 L)
05010782468	Conductivity standard SS-5, 100k0 µS/cm, 32 oz (0.95 L)
05010783002	Conductivity standard SS-5A, 1000 µS/cm, 1 gal (3.78 L)
05000705464	Conductivity standard SS-1, 1409 µS/cm, 32 oz (0.95 L)
05000709672	Conductivity standard SS-1A, 1409 µS/cm, 1 gal (3.78 L)
9210004	Conductivity standard, 2000 µS/cm, 16 oz

Engineering Specifications

Cell constants 0.01, 0.1, and 1.0/cm

- The sensor shall be suitable for the determination of electrolytic conductivity in clean, noncorrosive sidestream samples where rapid response to changes in conductivity or temperature is needed.
- The sensor shall incorporate titanium electrodes and a PEEK insulator.
- The sensor shall have an integral platinum RTD for temperature measurement.
- The sensor shall be available with either a PVC or stainless steel body flow cell.
- The PVC body sensor shall have 3/8-in. barbed tubing connectors.
- The stainless steel body sensor shall have compression fittings for 3/8-in. OD tubing. The compression fittings shall be removable to leave ¼-in. FNPT ports.
- The maximum temperature for the PVC body sensor shall be 140 °F (60 °C) at 20 psig (239 kPa abs).
- The maximum temperature for the stainless steel body sensor shall be 212 °F (100 °C) at 100 psig (791 kPa abs).
- The sensor shall be Rosemount 404 or approved equal.

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