

Rosemount™ 3300HT/3300HTVP, 3400HT/ 3400HTVP, and 3500P/3500VP

PERpH-X™ High Performance pH/ORP Sensors



A sensor design that is flexible to meet your demanding pH/ORP needs

Rosemount PERpH-X sensors are versatile sensors suited to meet a number of difficult application requirements. These high performance sensors are ideal for use in high temperature and high pressure processes and feature a wide array of options to solve your pH/ORP measurement needs.

Overview

Extended application flexibility



- Selectable reference electrolytes allow sensors to be used in a large number of applications.
- Electrolyte options include:
 - High temperature: Most suitable for use in highly acidic, basic, or oxidative solutions, and high temperature applications.
 - Bio-film resistant: Inhibits the growth of bacteria and algae.
 - Poisoning resistant: Most suitable for use in processes containing sulfides, mercaptans, and cyanides.
 - Oil resistant: Aimed for use in applications where light oils and greases can foul a sensor.
 - Scaling resistant: Targets applications where the precipitation of calcium magnesium salts, like gypsum or water hardness, coat over the electrode.
 - Metal resistant: Most suitable for use in applications where chloride in the reference electrode would react with the process.

Minimal maintenance and lower total cost of ownership



- A long lasting rebuildable reference junction and electrolyte extends sensor life and allows sensors to be easily rebuilt where normally other sensors would have to be replaced.
- SMART preamplifier allows automatic recognition of pH sensors by Rosemount™ transmitters: 1066, 1057, 1056, and 56.
- pH calibration data is stored, which allows sensors to be calibrated in advance for "plug and play" installations in the field.

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Versatile mounting options to meet your installation requirements

- Ryton body sensors feature 1-in. MNPT front and rear facing process threads.
- Titanium body sensors offered in 21-in. (533,4 mm) and 36-in. (914,4 mm) lengths suitable for use with retraction assemblies.
- Variopol (VP8) cable connection option, for quick cable-to-sensor release, eliminates cable twisting.

Ordering information

Rosemount PERpH-X™ High Performance pH/ORP sensors feature various sensor body options.

Figure 1: Rosemount 3500P pH/ORP Sensor



Sensors are available in a chemically resistant Ryton plastic body (Rosemount 3500P/3500VP) or titanium tube housing (Rosemount 3300HT/3300HTVP/3400HT/3400HTVP). Emerson constructs Rosemount 3500P/3500VP sensors with front and rear facing 1-in. male national pipe threads (MNPT) for insertion or submersion type installations.

Rosemount 3300HT/3300HTVP/3400HT/3400HTVP sensors must be used with a process connector allowing for various insertion depths. These titanium body sensors also have extended sensor length options allowing installation through a ball valve assembly.

Sensors feature a PTFE reference junction and a Pt-100 Resistance Temperature Device (RTD) for temperature compensation. Rosemount PERpH-X pH/ORP sensors are available with either an integral cable connection or Variopol (VP8) connector. Variopol cables sold separately (see [Accessories](#)).

Rosemount 3300HT ordering information

Note

The Rosemount 3300HT pH/ORP sensor is housed in a titanium tube with a replaceable reference junction and refillable reference electrolyte. The sensor includes a Pt-100 temperature compensator. The sensor is available with a standard 15-ft. (4.6 m) cable. You can mount the sensor using a process connector, ordered separately. You can also order junction box kits with preamplifiers separately if the transmitter does not have an integral preamplifier within 15-ft. (4.6 m) of the sensor.

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Model

Code	Description
3300HT	pH/ORP sensor: PERpH-X High Performance

Measuring electrode

Code	Description
10	GPHT hemi pH glass, 0-14 pH
12	Oxidation Reduction Potential (ORP)

O-ring material

Code	Description
30	EDPM

Code	Description
31	FKM
32	FFKM

Cable

Code	Description
02	Without preamplifier, 15-ft. (4.6 m) cable
07	Without preamplifier, 4-ft. (1.2 m) cable
08	Without preamplifier, 10-ft. (3 m) cable

Calibration and conformance certificates - optional level

Code	Description
CC	Certificate of Calibration (no test data given)
LC	Loop Calibration Certificate (sensor and transmitter calibrated together with test data)
EC	Electronic Calibration Certificate (sensor calibrated against factory instrument with test data)

Rosemount 3300HTVP ordering information

Note

The Rosemount 3300HTVP Sensor is available with an integral Variopol (VP 8.0) connector. A mating Variopol connector cable is required for use with these sensors. SMART preamplifier (-70) is the standard preamplifier option.

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Model

Code	Description
3300HTVP	pH/ORP sensor: PERpH-X High Performance with Variopol connector

Measuring electrode

Code	Description
10	GPHT hemi pH glass, 0-14 pH
12	Oxidation Reduction Potential (ORP)

O-ring material

Code	Description
30	EDPM
31	FKM
32	FFKM

Preamplifier options

Code	Description
_	No selection
70	SMART preamplifier ⁽¹⁾

(1) For use with -10 only.

Calibration and conformance certificates - optional level

Code	Description
CC	Certificate of Calibration (no test data given)
LC	Loop Calibration Certificate (sensor and transmitter calibrated together with test data)
EC	Electronic Calibration Certificate (sensor calibrated against factory instrument with test data)

Rosemount 3400HT ordering information

Note

The Rosemount 3400HT High Temperature pH/ORP Retractable Sensor is housed in a titanium tube for use with a ball valve (order separately). You can mount the sensor with a ball valve or a process connector, both ordered separately.

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Model

Code	Description
3400HT	pH/ORP sensor: PERpH-X High Performance Retractable

Measuring electrode

Code	Description
10	GPHT hemi pH glass, 0-14 pH
12	Oxidation Reduction Potential (ORP)

Sensor length

Code	Description
21	21 in (533 mm) titanium tube
25	36 in (914 mm) titanium tube

O-ring material

Code	Description
30	EDPM
31	FKM

Code	Description
32	FFKM

Options

Code	Description
61	9.5-in. (241.3 mm) cable without BNC (for preamplifier options)
62	15-ft. (4.6 m) cable without BNC
07	Without preamplifier, 4-ft. (1.2 m) cable
08	Without preamplifier, 10-ft. (3 m) cable

Calibration and conformance certificates - optional level

Code	Description
CC	Certificate of Calibration (no test data given)
LC	Loop Calibration Certificate (sensor and transmitter calibrated together with test data)
EC	Electronic Calibration Certificate (sensor calibrated against factory instrument with test data)

Rosemount 3400HTVP ordering information

Note

The standard Rosemount 3400HTVP is offered with an integral Variopol connector.

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Model

Code	Description
3400HTVP	pH/ORP sensor: PERpH-X Retractable/Variopol Connector

Measuring electrode

Code	Description
10	GPHT hemi pH glass, 0-14 pH
12	Oxidation Reduction Potential (ORP)

Sensor length

Code	Description
21	21 in (533 mm) titanium tube
25	36 in (914 mm) titanium tube

O-ring material

Code	Description
30	EDPM
31	FKM
32	FFKM

Preamplifier options

Code	Description
_	No selection
70	SMART preamplifier ⁽¹⁾

(1) For use with -10 only.

Calibration and conformance certificates - optional level

Code	Description
CC	Certificate of Calibration (no test data given)
LC	Loop Calibration Certificate (sensor and transmitter calibrated together with test data)
EC	Electronic Calibration Certificate (sensor calibrated against factory instrument with test data)

Rosemount 3500P ordering information

Note

The Rosemount 3500P sensor is a versatile sensor platform for measuring pH or ORP. The rugged Ryton body and rebuildable reference electrode with front and rear facing 1-in. male national pipe threads allows use in either insertion or submersion applications.

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Model

Code	Description
3500P	pH/ORP sensor: PERpH-X Insertion/Submersion

Electrolyte selection

Code	Description
BF	Bio-film resistant
HT	High temperature
MR	Metal resistant
OR	Oil resistant
PR	Poisoning resistant
SR	Scaling resistant

Preamplifier/cable

Code	Description
01	SMART integral preamplifier, 25 ft. (7.6 m) for Rosemount 1056, 1057, 1066, 56, 5081, 6081, and Xmt. ⁽¹⁾
02	Without integral preamplifier, 15-ft. (4.6 m) cable
03	SMART preamplifier, 33-ft. (10 m) cable ⁽¹⁾
04	SMART preamplifier, 50-ft. (15.2 m) cable ⁽¹⁾
05	SMART preamplifier, 66-ft. (20 m) cable ⁽¹⁾
06	SMART preamplifier, 100-ft. (30.5 m) cable ⁽¹⁾
07	Without preamplifier, 4-ft. (1.2 m) cable
08	Without preamplifier, 10-ft. (3 m) cable

(1) Standard preamp if used with ORP.

Measuring electrode

Code	Description
10	GPHT hemi pH glass, 0-14 pH
12	Oxidation Reduction Potential (ORP)

Reference type

Code	Description
21	Double junction reference

O-ring material

Code	Description
30	EDPM
31	FKM
32	FFKM

Calibration and conformance certificates - optional level

Code	Description
CC	Certificate of Calibration (no test data given)
LC	Loop Calibration Certificate (sensor and transmitter calibrated together with test data)
EC	Electronic Calibration Certificate (sensor calibrated against factory instrument with test data)

Rosemount 3500VP ordering information

Note

The Rosemount 3500VP uses a mating Variopol cable (purchased separately). The sensor is offered with six different gel electrolytes to match the application.

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Model

Code	Description
3500VP	pH/ORP sensor: PERpH-X Insertion/Submersion Sensor with Variopol connection

Electrolyte selection

Code	Description
BF	Bio-film resistant
HT	High temperature
MR	Metal resistant
OR	Oil resistant
PR	Poisoning resistant
SR	Scaling resistant

Preamplifier/cable

Code	Description
01	SMART integral preamplifier, 25 ft. (7.6 m) for Rosemount 1056, 1057, 1066, 56, 5081, 6081, and Xmt. (Standard preamp if used with Oxidation Reduction Potential [ORP]).
02	Without integral preamplifier, 15-ft. (4.6 m) cable

Measuring electrode

Code	Description
10	GPHT hemi pH glass, 0-14 pH
12	Oxidation Reduction Potential (ORP)

Reference type

Code	Description
21	Double junction reference

O-ring material

Code	Description
30	EDPM
31	FKM

Code	Description
32	FFKM

Calibration and conformance certificates - optional level

Code	Description
CC	Certificate of Calibration (no test data given)
LC	Loop Calibration Certificate (sensor and transmitter calibrated together with test data)
EC	Electronic Calibration Certificate (sensor calibrated against factory instrument with test data)

Accessories

Table 1: Connector Cable (Required for all First Time Installations)

Part number	Description
24281-00	15 ft (4.57 m) VP8 cable
24281-01	25 ft (7.62 m) VP8 cable
24281-02	2.5 ft (0.762 m) VP8 cable
24281-03	50 ft (15.24 m) VP8 cable
24281-04	100 ft (30.48 m) VP8 cable
24281-05	4 ft (1.22 m) VP8 cable
24281-06	10 ft (3.05 m) VP8 cable
24281-07	20 ft (6.10 m) VP8 cable
24281-08	30 ft (9.14 m) VP8 cable

Table 2: Extension Cables (Requires a Remote Junction Box)

Part number	Description
23646-01	Extension cable, 11-conduit, shielded, prepped, per foot
9200273	Extension cable, 11-conduit, shielded, unprepped, per foot

Table 3: Mounting Assemblies

Part number	Description
11275-01	Handrail mounting assembly
12707-00	Jet spray cleaner
2002011	CPVC flow through tee, 1½-in. National Pipe Thread (NPT) process connection
24091-00	Cell, low flow, ¼-in. inlet and outlet
915240-03	Tee, flow-through, 2-in. PVC, ¾-in. NPT
915240-04	Tee, flow-through, 2-in. PVC, 1-in. NPT
915240-05	Tee, flow-through, 2-in. PVC, 1½-in. NPT

Table 4: Remote Junction Boxes

Part number	Description
2002565	Mounting bracket kit
23555-00	Junction box, Rosemount 54/5081/1055/Xmt/56/1056/1057/1066 compatible preamplifier

Table 5: Other Accessories

Part number	Description
24231-00	High temperature reference kit
24231-01	Bio-film resistant reference kit
24231-02	Poisoning resistance reference kit
24231-03	Oil resistant reference kit
24231-04	Scaling resistant reference kit
24231-05	Metal resistant reference kit
24238-00	High temperature porous PTFE liquid junction
24238-01	Bio-film porous PTFE liquid junction
24238-02	Poisoning resistant porous PTFE liquid junction
24238-03	Oil resistant porous PTFE liquid junction
24238-04	Scaling porous PTFE liquid junction
24238-05	Metal resistant porous PTFE liquid junction
24239-00	High temperature junction and FKM O-ring kit
24240-00	High temperature junction and FFKM O-ring kit
24250-00	FKM O-ring kit
24251-00	FFKM O-ring kit
24270-00	EPDM O-ring kit
34116-00	Junction cap, Ryton
34017-00	Cap, high temperature guard pH/ORP molded PPS
9210012	Buffer solution, pH 4.01, 16 oz. (473.2 ml)
9210013	Buffer solution, pH 6.86, 16 oz. (473.2 ml)
9210014	Buffer solution, pH 9.18, 16 oz. (473.2 ml)
9210392	Reference fill gel high temperature, silica, 1 oz. (30 ml)
9210422	Metal resistant refill kit, 30 cc syringe (4-5 refills per syringe)
9210423	Oil resistant refill kit, 30 cc syringe (4-5 refills per syringe)
9210424	Scale resistant refill kit, 30 cc syringe (4-5 refills per syringe)
9210425	Poison resistant refill kit, 30 cc syringe (4-5 refills per syringe)
9210426	Bio-film refill kit, 30 cc syringe (4-5 refills per syringe)
R508-8OZ	Oxidation Reduction Potential (ORP) standard, 460 ± 10 mV, 8 oz. (236.6 ml)

Specifications

Table 6: Percent Linearity over pH Range

pH range	HT series
0 to 2 pH	94%
2 to 12 pH	99%
12 to 13 pH	97%
13 to 14 pH	92%

Table 7: Rosemount 3300HT/3300HTVP pH/ORP Sensor Specifications

Measurement range	
pH	0 to 14
Oxidation reduction potential (ORP)	-1500 to +1500 mV
Operating temperature	
Without preamplifier	41 to 311 °F (5 to 155 °C)
With preamplifier	Up to 212 °F (100 °C)
Storage temperature	
14 to 138 °F (-10 to 70 °C)	
Maximum process pressure	
400 psig (2859 kPa)	
CRN rating	200 psig at room temperature
Wetted materials	
Platinum (ORP only), titanium, Ryton, PTFE, glass, and user-specified O-ring material (EPDM, FKM, or FFKM)	
Reference electrode	
Double junction with replaceable process side electrolyte and PTFE junction	
Temperature sensor	
Pt-100 Resistance Temperature Device (RTD)	
Process connections	
Must use 1-in. compression process connector (PN 23166-00 or 23166-01)	
Cable length	
4 to 15 ft. (1.2 to 4.6 m) integral cable (Rosemount 3300HT) or VP8 cable for Rosemount 3300HTVP (sold separately)	
Weight/shipping weight	
1 lb./2 lb. (0.5 kg/0.9 kg)	

Table 8: Rosemount 3400HT/3400HTVP pH/ORP Sensor Specifications

Measurement range	
pH	0 to 14
ORP	-1500 to +1500 mV

Table 8: Rosemount 3400HT/3400HTVP pH/ORP Sensor Specifications (continued)

Operating temperature	
Without preamplifier	41 to 311 °F (5 to 155 °C)
With preamplifier	Up to 212 °F (100 °C)
Storage temperature	
14 to 138 °F (-10 to 70 °C)	
Maximum process pressure	
400 psig (2859 kPa)	
CRN rating	200 psig at room temperature
Maximum pressure at retraction or insertion	
21-in. (533.4 mm) length	64 psig (542 kPa)
36-in. (914.4 mm) length	35 psig (343 kPa)
Wetted materials	
Platinum (ORP only), titanium, Ryton, PTFE, glass, and user-specified O-ring material (EPDM, FKM, or FFKM)	
Reference electrode	
Double junction with replaceable process side electrolyte and PTFE junction	
Temperature sensor	
Pt-100 RTD	
Process connections	
Must use 1-in. compression process connector (PN 23166-00 or 23166-01). Can be inserted through a ball valve.	
Cable length	
4 to 15 ft. (1.2 to 4.6 m) integral cable or options 9.5-in. (241.3 mm) for use with sensor head junction box (Rosemount 3400HT)	
VP8 cable for Rosemount 3400HTVP (sold separately)	
Weight/shipping weight	
1 lb./2 lb. (0.5 kg/0.9 kg)	

Table 9: Rosemount 3500P/3500VP pH/ORP Sensor Specifications

Measurement range	
pH	0 to 14
Oxidation reduction potential (ORP)	-1500 to +1500 mV
Temperature range	
41 to 248 °F (5 to 120 °C)	
Storage temperature	
14 to 122 °F (-10 to 50 °C)	
Maximum process pressure	
100 psig (790 kPa)	
CRN rating	40 psig at room temperature
Wetted materials	
Platinum (ORP only), titanium, Ryton, PTFE, glass, and user-specified O-ring material (EPDM, FKM, or FFKM)	
Reference electrode	
Double junction with replaceable process side electrolyte and PTFE junction	
Temperature sensor	
Pt-100 Resistance Temperature Device (RTD)	
Process connections	
1-in. Male National Pipe Thread (MNPT) front and rear-facing threads	
Cable length	
Rosemount 3500P	4 to 100 ft. (1.2 to 30.5 m) integral cable. Maximum of 15 ft. (4.6 m) for sensors without a preamplifier.
Rosemount 3500VP	VP8 cable (sold separately)

Dimensional and installation drawings

Figure 2: Proper Sensor Installation Orientation

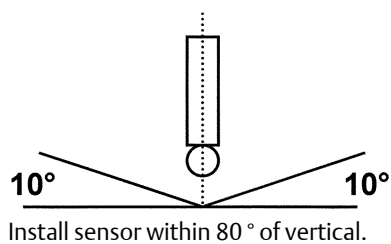
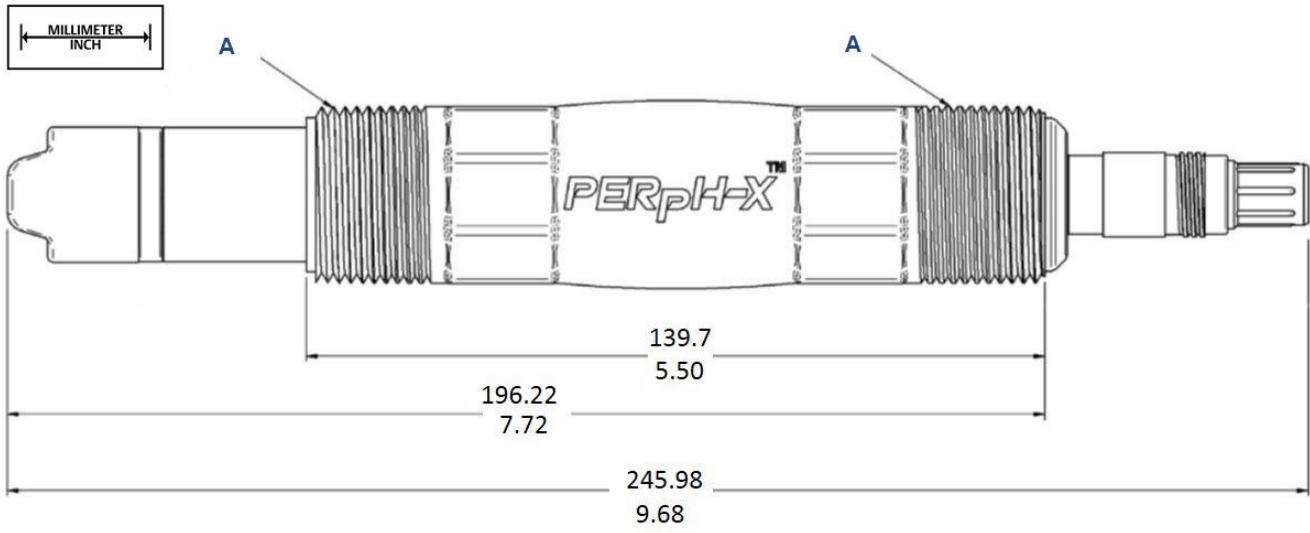
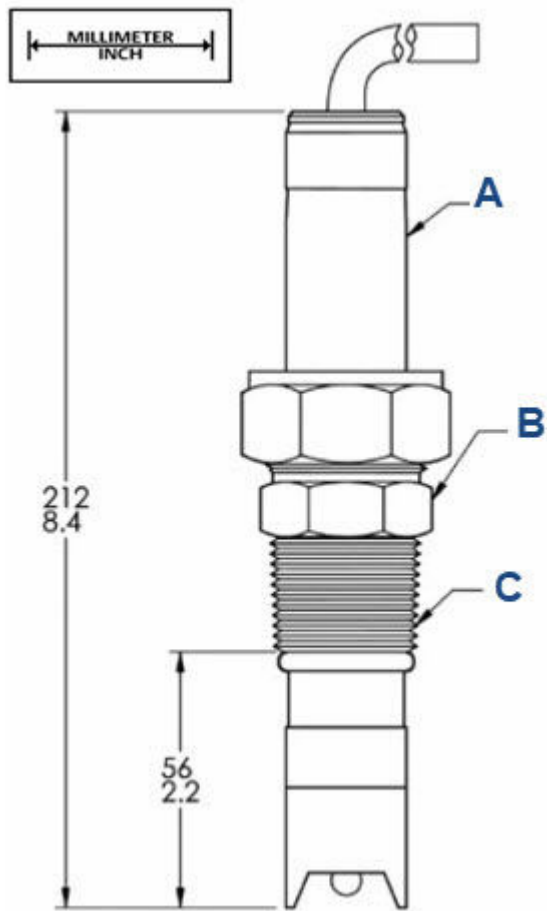


Figure 3: Rosemount 3500VP Sensor Dimensional Drawing



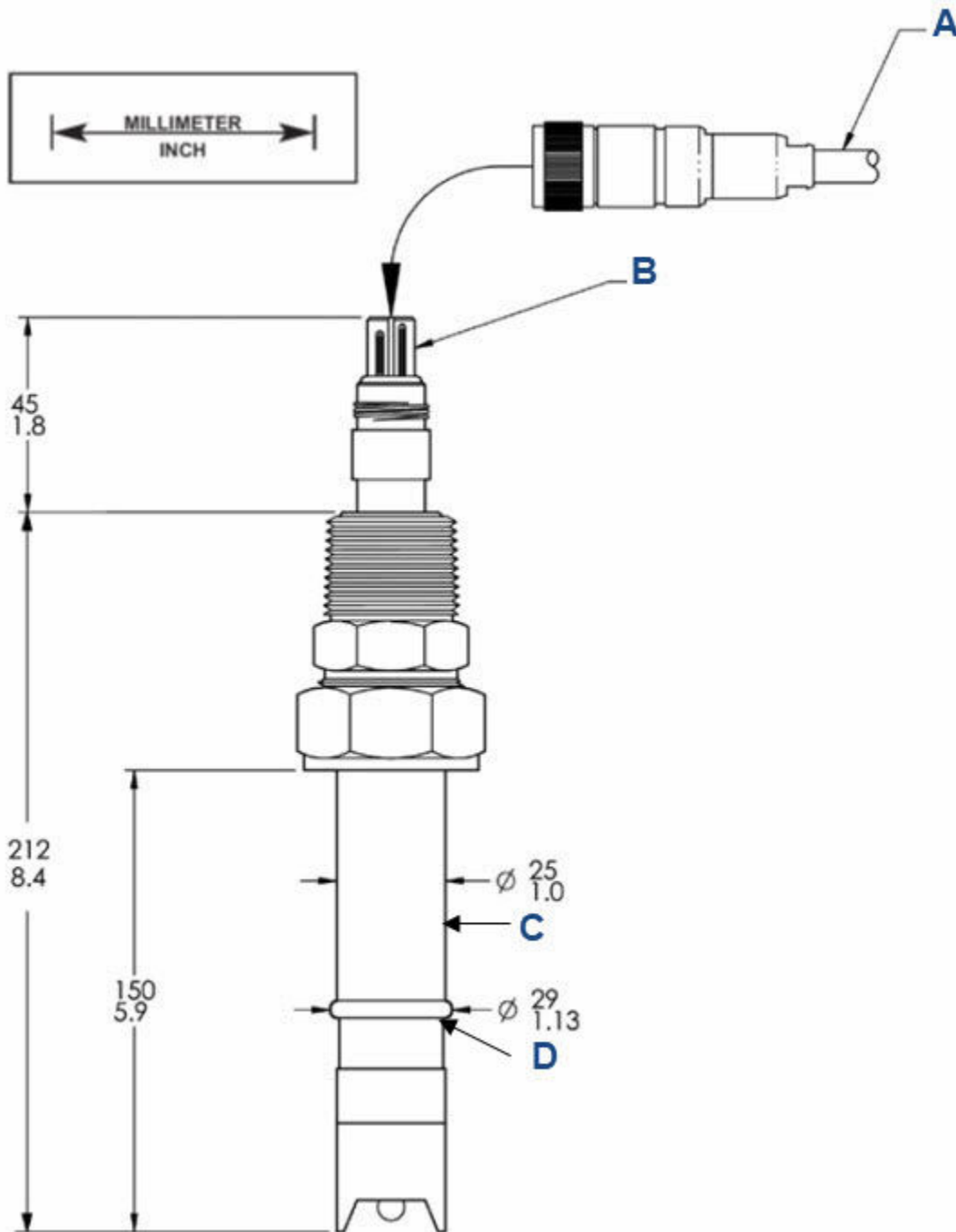
A. 1-in. (25.4 mm) male national pipe thread (MNPT)

Figure 4: Rosemount 3300HT Sensor Dimensional Drawing: Standard Hemi Bulb Sensor



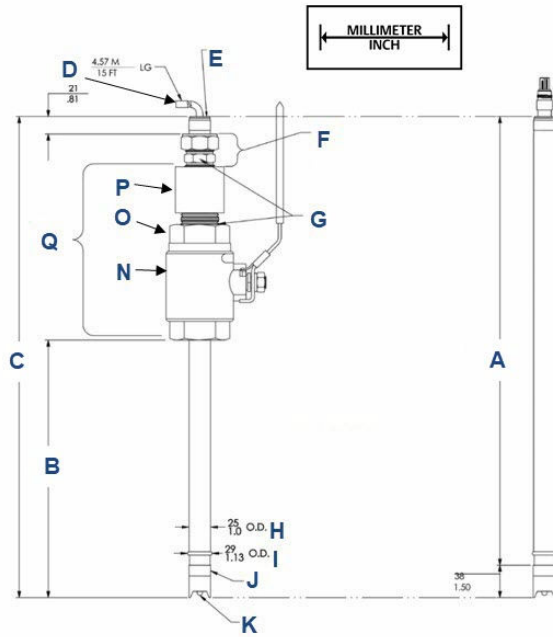
- A. Sensor body
- B. 1-in. (25.4 mm) Swagelok® fitting process connector assembly PN 23166-00/01
- C. 1-in. (25.4 mm) National Pipe Thread (NPT)

Figure 5: Rosemount 3300HTVP: Standard Hemi Bulb Sensor



- A. Cable with Variopol receptacle (female) connector
- B. Variopol plug (male) connector
- C. Sensor body
- D. Retraction stop collar

Figure 6: Rosemount 3400HT Sensor Dimensional Drawing (with and without 1½-in. Ball Valve Assembly)



- A. Dimension (see Table 10)
- B. Dimension (see Table 10)
- C. Dimension (see Table 10)
- D. Cable
- E. Cable bushing polypropylene
- F. 1-in. x 1-in. (25.4 x 25.4 mm) Swagelok fitting kit (PN 23166-00 or 23166-01) required to connect sensor directly to process or to ball valve
- G. Residual pressure may become trapped at this location. Please see the following Caution message for more information.

⚠ CAUTION

Residual pressure and process may remain trapped between ball valve and male connector.

- 64 psig (option 21)
- 35 psig (option 25)

- H. O.D. titanium housing
- I. O.D. retraction stop collar
- J. Electrode housing Ryton®
- K. pH electrode
- L. A process connector (PN 23166-00 or -01 must be used to connect the sensor to a ball valve kit 23240-00. (Process connectors sold separately).
- M. Ball valve kit (PN 23240-00) used with extended length retractable sensor

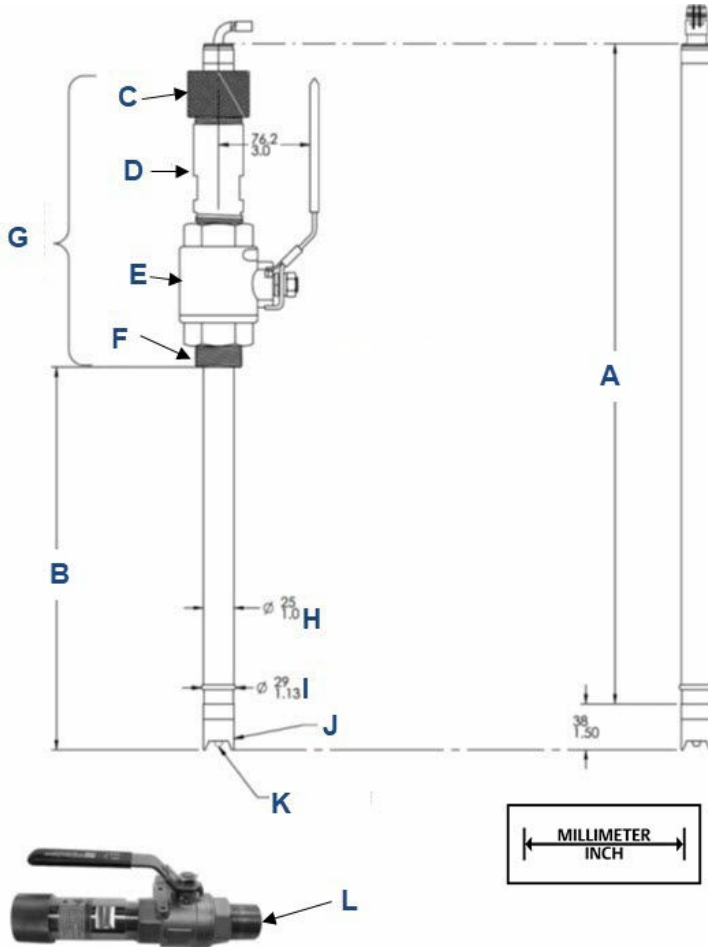
- N. 1½-in. (38.1 mm) Female Pipe Thread (FPT) ball valve PN 9340065
- O. 1½-in. (38.1 mm) Male Pipe Thread (MPT) close nipple
- P. 1½-in. (38.1 mm) FPT reducing coupling
- Q. Ball valve kit PN 23240-00 (optional)

Table 10: Rosemount 3400HT Dimensions

Option	A (in./mm) ⁽¹⁾	B (in./mm)	C (in./mm)
21	21.6/549	14.0/355	23.1/587
25	36.1/917	28.5/724	37.6/955

(1) Add five inches of length to Dimension A if mounting a sensor head junction box onto the sensor.

Figure 7: Rosemount 3400HTVP Dimensional Drawing (with and without 1¼-in. Ball Valve Assembly)



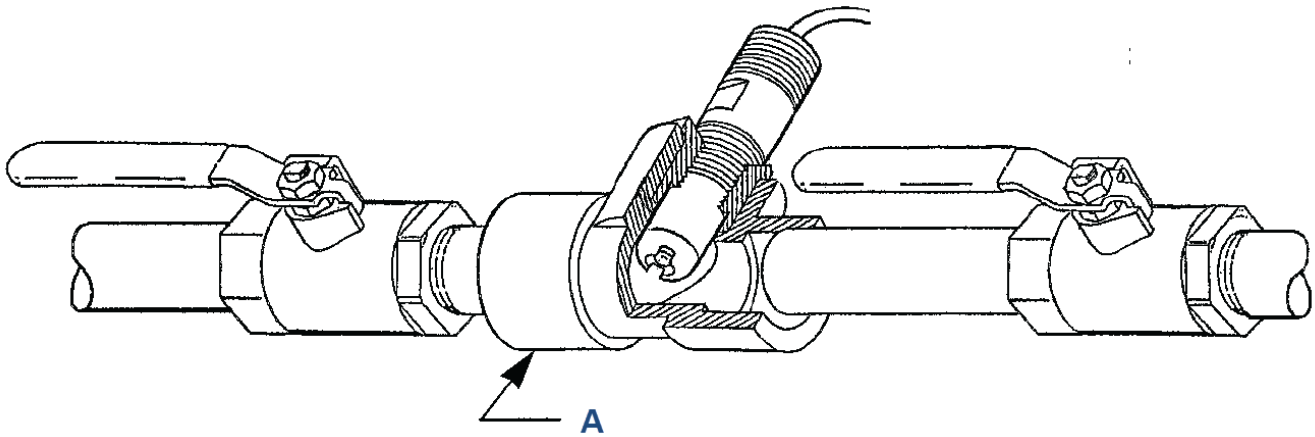
- A. Dimension (see Table 10)
- B. Dimension (see Table 10)
- C. Knurl retainer
- D. Packing adapter
- E. Ball valve
- F. 1¼-in. (31.8 mm) MPT close nipple
- G. Ball valve kit PN 23765-00
- H. Housing titanium
- I. Retraction stop collar
- J. Electrode housing
- K. pH electrode
- L. Ball valve kit PN 23765-00 contains a 1¼-in. (31.8 mm) full port ball valve, 1¼-in. (31.8 mm) close nipple, and a retraction kit PN 23796-00 with carbon graphite packing for easy sensor insertion and removal.

Table 11: Rosemount 3400HTVP Dimensions

Option	A (in./mm) ⁽¹⁾	B (in./mm)
21	21.6/549	12.2/310
25	36.1/917	26.7/678

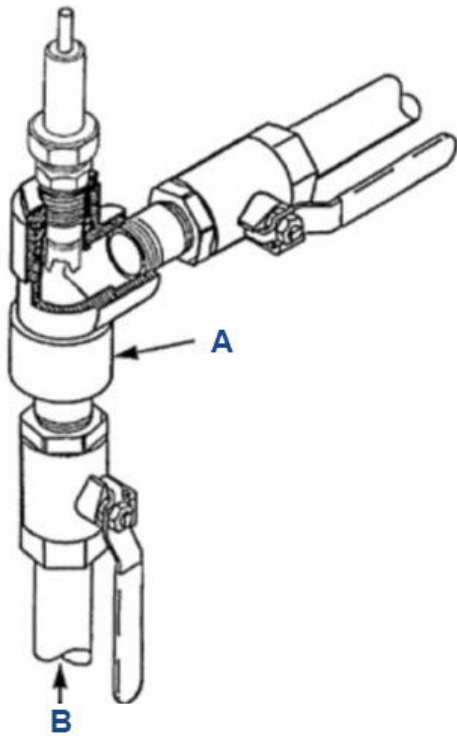
(1) Add five inches of length to Dimension A if mounting a sensor head junction box onto the sensor.

Figure 8: Rosemount 3300HT/3300HTVP Straight Flow Installation



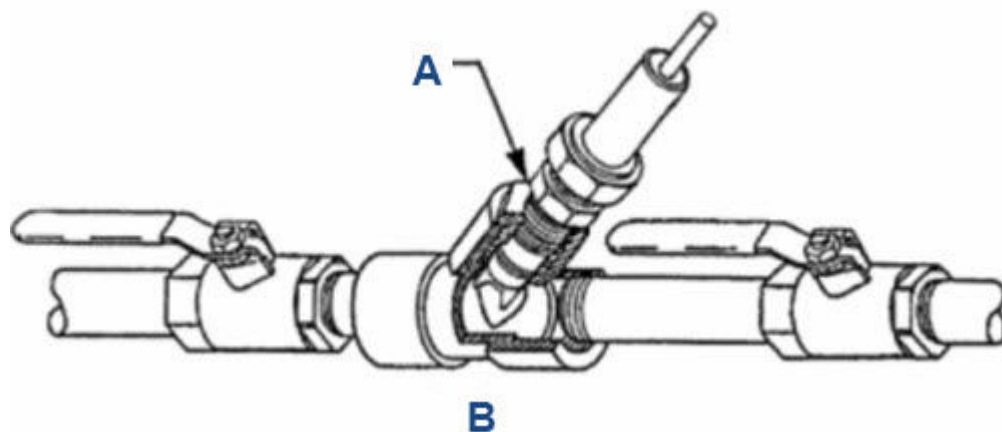
A. 1½-in. (38.1 mm) pipe tee with 1-in. (25.4 mm) threaded connections PN 2002011

Figure 9: Rosemount 3300HT/3300HTVP Angle Flow Installation



A. 1½-in. (38.1 mm) pipe tee with 1-in. (25.4 mm) threaded connections PN 2002011

B. Flow

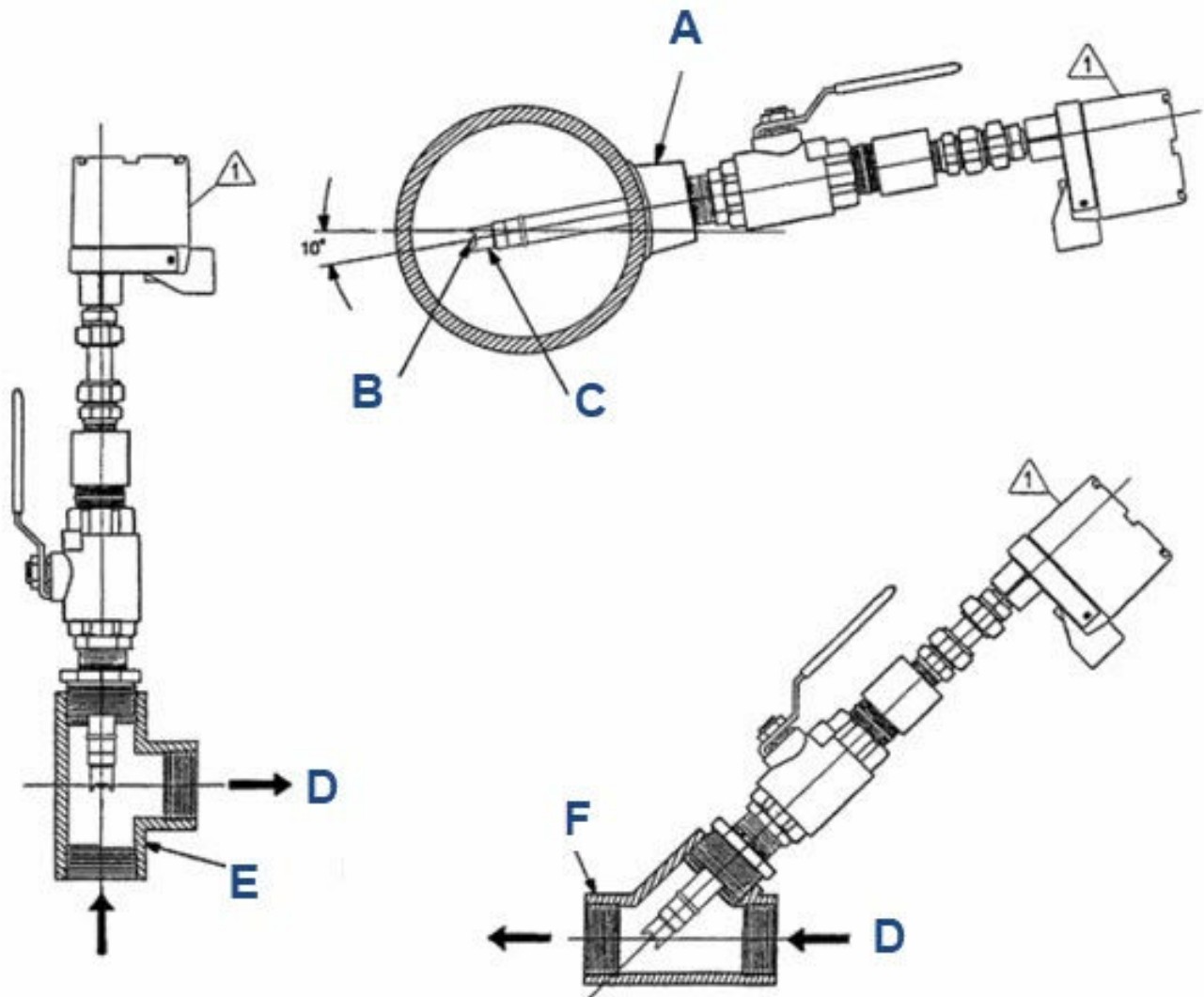
Figure 10: Rosemount 3300HT/3300HTVP Pipe "Y" Installation

- A. 1/2-in. x 1-in. (38.1 x 25.4 mm) reducing bushing
B. 1/2-in. (38.1 mm) pipe "Y"

Note

Valves and fittings must be obtained from other suppliers. Mount the sensor at least 10 degrees from horizontal.

Figure 11: Typical Retraction Mounting for the Rosemount 3400HT Sensor (Shown with Sensor Head Junction Box)



- A. Weldalet (1½-in. [38.1 mm] FPT)
- B. Electrode
- C. Electrode housing tip
- D. Flow
- E. Pipe tee
- F. Pipe "Y"

Note

The sensor must be mounted at an angle between 10 degrees and 90 degrees above the horizontal. The customer provides the pipe tees and weldalets.

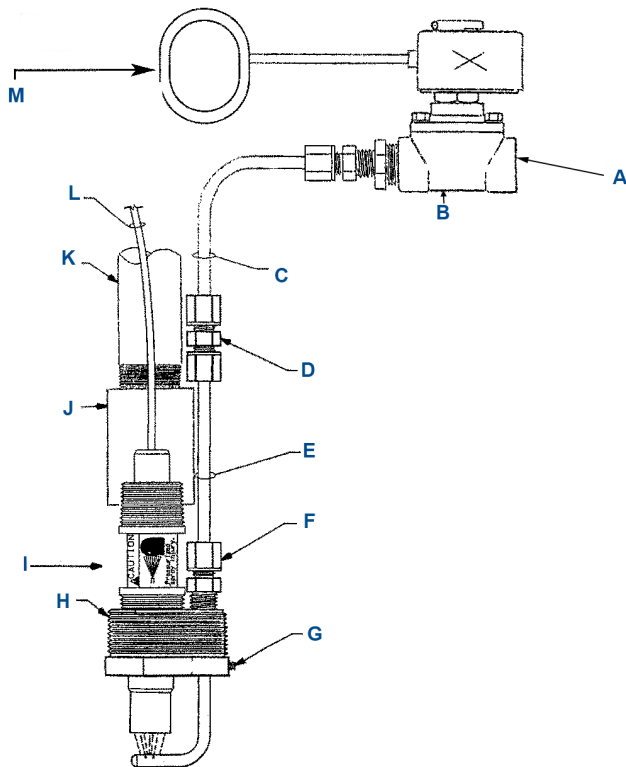
Figure 12: Rosemount 3500P/3500VP Sensor with Jet Spray Cleaner (PN 12707-00) for Submersion Installations



Note

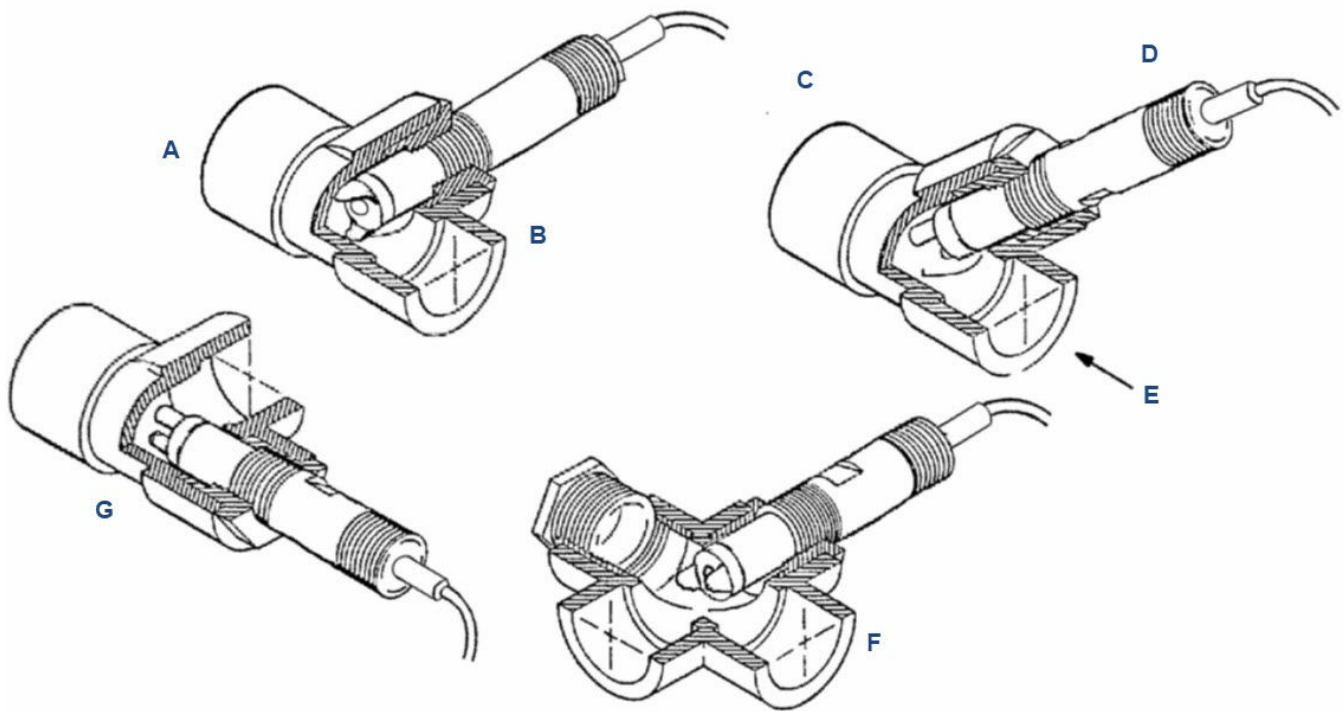
This accessory is especially useful for keeping the sensor clean in dirty ponds or tanks. It can be mounted using a handrail mounting assembly or similar submersion assembly.

Figure 13: Jet spray cleaner



- A. Cleaning solution (supplied by customer)
- B. Solenoid valve or manual valve (supplied by customer)
- C. Corrosion resistant tubing (supplied by customer)
- D. Polypropylene ¼-in. (6.4 mm) compression fitting
- E. ¼-in. (6.4 mm) 316 stainless steel
- F. ¼-in. (6.4 mm) polypropylene
- G. Stainless set screw for adjustable spray nozzle height
- H. 2-in. (50.8 mm) NPT threads
- I. Sensor
- J. 1-in. (25.4 mm) PVC coupling for submersible applications (supplied by customer)
- K. 1-in. (25.4 mm) PVC or stainless conduit (supplied by customer)
- L. Cable
- M. Timer supplied by customer or use timer feature in Rosemount instrument

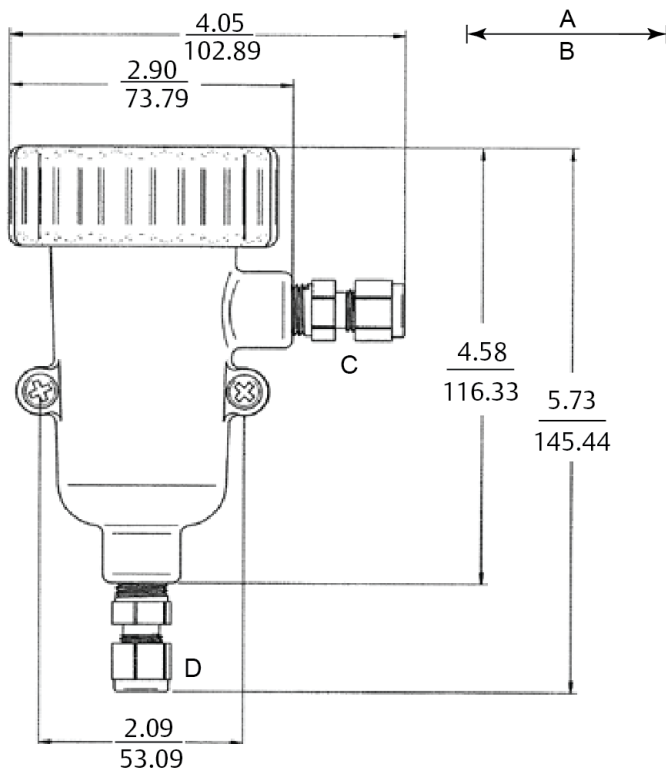
Figure 14: Rosemount 3500P Sensor Flow-through Installations



- A. 1½-in. schedule 80 CPVC tee with 1-in. Female National Pipe Thread (FNPT) connections (code 16) straight flow shown
- B. Always mount sensor at least 10 degrees above horizontal
- C. 1½-in. pipe "Y"
- D. 1½-in. x 1-in. reducing bushing
- E. Flow
- F. 1½-in. schedule 80 CPVC with view or cleaning port
- G. Angle flow shown

Low flow cell specifications

Figure 16: Low Flow Cell (PN 24091-00)



- A. Inches
- B. Millimeters
- C. Outlet
- D. Inlet

Inlet and outlet connections are stainless steel and take ¼-in. (6.4 mm) OD tubing. Flow cell is polycarbonate with ¼-in. (6.4 mm) FNPT fittings.

Wetted materials

Body and nut: Polyester/Polycarbonate
 Fittings: 316 Stainless Steel
 Seals: Silicone

Flow cell ratings

Temperature: 32 to 158 °F (0 to 70 °C)
 Maximum pressure: 90 psig (721 kPa)
 Flow rate: 2 to 5 gallons per hour (7.6 to 18.9 liters per hour)

Sensor threaded connection

24091-00: 1-in. (25.4 mm) NPT adapter

For more information: [Emerson.com](https://www.emerson.com)

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