

Retractable/Submersion/Insertion pH/ORP Sensor

- ADVANCED ON-LINE SENSOR DIAGNOSTICS for use with the Models 54e or 1055 pH/ORP Analyzer, or Models 81, 3081, 4081, 5081, or Xmt Transmitter.
- RETRACTABLE VERSION allows safe removal and replacement under pressure without process shutdown.
- LONG-LIFE, TRIPLE JUNCTION REFERENCE ELECTRODE provides longer service life in applications where poisoning ions are present.
- DISPOSABLE TEFZEL¹ AND TITANIUM DESIGN provides maximum chemical resistance and economic advantage where minimal troubleshooting and maintenance downtime are of prime importance.



FEATURES AND APPLICATIONS

The Rosemount Model 385+ Sensor is designed to provide advanced sensor diagnostics* available with the Models 54e or 1055 pH/ORP Analyzer, or Models 81, 3081, 4081, 5081, or Xmt Transmitter. (Please refer to the instrument's product data sheet for complete information.) These advanced sensor diagnostics provide preventative maintenance by notifying the operator to replace an aged sensor or clean a fouled sensor for continuous optimum performance.

The Model 385+ Sensor measures the pH or ORP (Oxidation Reduction Potential) of aqueous solutions in pipelines, open tanks, or ponds. It is suitable for applications where a low cost, industrial, disposable sensor is required. The combination electrode features a peripheral ceramic junction. The triple junction reference cell provides longer life in processes containing sugar, ammonia, chlorides, sulfides or other poisoning ions. The Model 385+ body is constructed of molded, chemically resistant Tefzel in two standard body versions.

The retraction version is housed in a titanium tube, with a plug-in style surface mount preamplifier in a weatherproof junction box. It is designed for use with a standard 1-1/2 in. ball valve assembly for process mounting where a separate sample stream is difficult or impossible to provide. The entire installation process is accomplished without line depressurization and minimal process fluid loss. Following sensor removal from the ball valve, maintenance and replacement is easy.

The insertion/submersion version has two body configurations: 25 ft (7.6 m) integral cable and preamplifier; 15 ft (4.5m) integral cable for use with remote preamplifier.

¹ Tefzel is a registered trademark of E.I. du Pont de Nemours & Company

* US Patent numbers 5,469,070 and 6,429,660

PERFORMANCE SPECIFICATIONS

Measuring Range: AccuGlass™¹

Percent Linearity Over pH Range		
	Option 10	Option 11
0-2 pH	94%	94%
2-12 pH	99%	97%
12-13 pH	97%	98%
13-14 pH	92%	98%

Temperature Compensation: (pH only) 0 to 100°C
(32 to 212°F)

PHYSICAL SPECIFICATIONS

Wetted Materials: Tefzel, titanium, EPDM, 316 SS and Teflon² (Code 02), Viton², glass, ceramic and (ORP only) platinum.

Maximum Process Pressure and Temperature:
790 KPa (abs) (100 psig) at 100°C (212°F)

Maximum Pressure at Retraction or Insertion (ball valve version): 542 KPa (abs) (64 psig)

Process Connections: 1-1/2 in. with ball valve;
1 in. without ball valve

Cable: P/N 9200273 (Unprepped) or P/N 23646-01 (Prepped)

Weight/Shipping Weight:

Submersion/insertion: 1.6 lb/2.8 lb (0.7Kg /1.25 Kg)

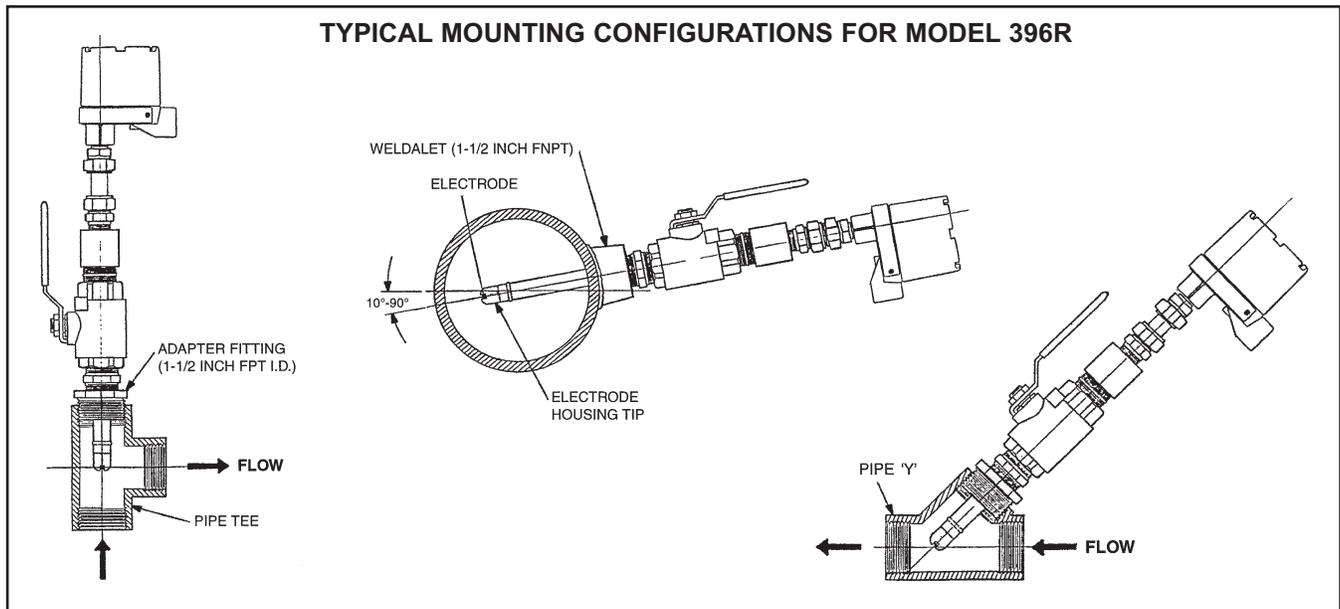
Retraction: 6 lb/11 lb (2.7 Kg/5.0 Kg)

Ball Valve: 5 lb/10 lb (2.25 Kg/4.5 Kg)

¹ Registered trademark of Rosemount Analytical.

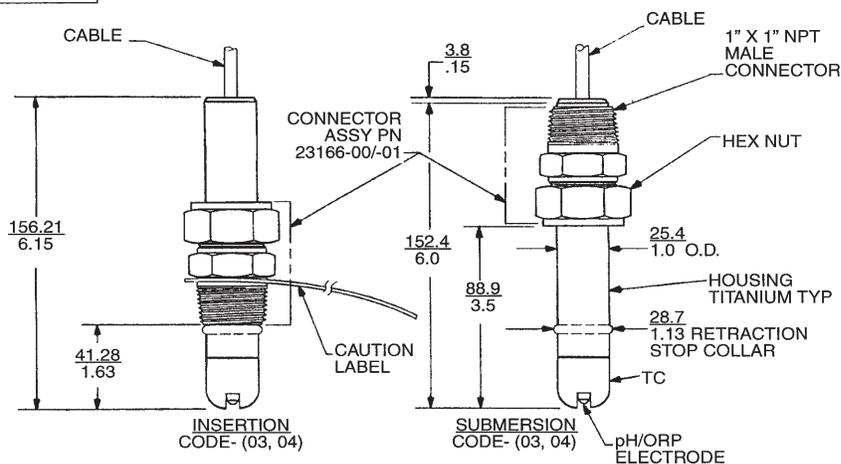
² Registered trademark of E.I. du Pont de Nemours & Company.

TYPICAL MOUNTING CONFIGURATIONS FOR MODEL 396R

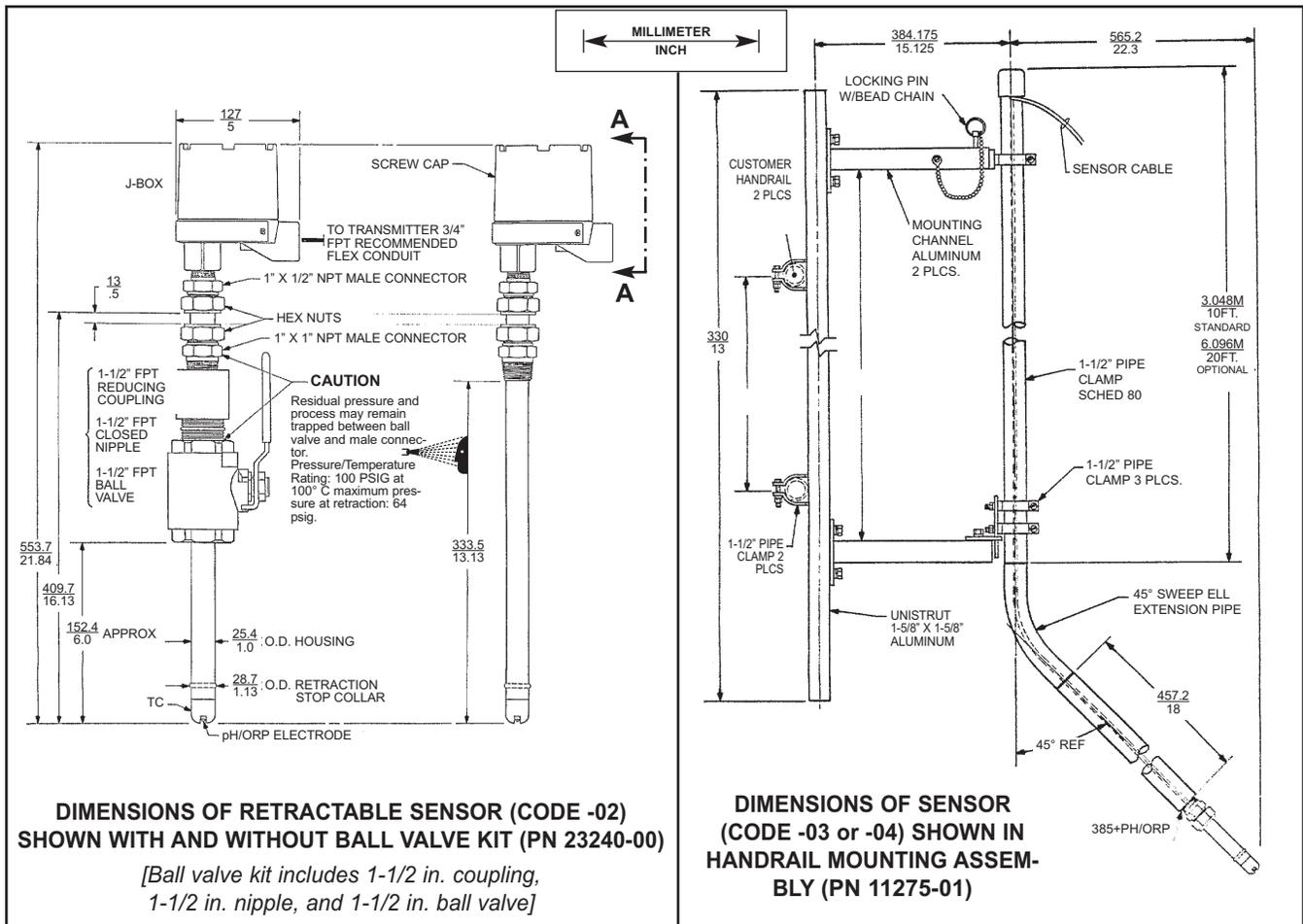


MILLIMETER
INCH

BACK VIEW



SUBMERSION/INSERTION VERSIONS



FOR FIRST TIME 385+ INSERTION/SUBMERSION INSTALLATIONS, USE THE FOLLOWING GUIDE:

1. Process Connector Accessories (required for all first time installations of code -03 and -04 sensors)

- Choose one: PN 23166-00, 316 SST, 1 in. x 1 in. NPT process connector
- PN 23166-01, Titanium, 1 in. x 1 in. NPT process connector
- PN 9510066, Nylon, 1 in. x 1 in. NPT process connector

2. Mounting Accessories (optional)

- Choose one: PN 915240-03, PVC flow through tee, 3/4 in. NPT process connection
- PN 915240-04, PVC flow through tee, 1 in. NPT process connection
- PN 915240-05, PVC flow through tee, 1 1/2 in. NPT process connection
- PN 11275-01, Handrail mounting assembly

3. Remote Junction Boxes (optional, recommended for sensor-to-analyzer distances of more than 15 ft)

- Choose one: PN 23555-00, includes preamplifier for Models 54, 81, 3081, 4081
- PN 23550-00, for cable extension (code -02 or -03 only)

4. Extension cables (used with remote junction boxes)

- Choose one: PN 23646-01, 11 conductor, shielded, prepped
- PN 9200273, 11 conductor, shielded, unprepped

FOR FIRST TIME 385+ RETRACTABLE INSTALLATIONS, USE THE FOLLOWING GUIDE:

1. Retractable Mounting

- Choose one: PN 23240-00, 1 1/2 in. ball valve assembly, 316 SST
- PN 23765-00, 1 1/4 in. ball valve assembly, 316 SST

2. Extension cables

- Choose one: PN 23646-01, 11 conductor, shielded, prepped
- PN 9200273, 11 conductor, shielded, unprepped

ORDERING INFORMATION

The Model 385+ pH/ORP Sensor: Standard features include a Tefzel sensor body with a triple junction gel filled reference electrode and automatic temperature compensator housed in a titanium tube. The retractable version comes with a weatherproof junction box, a process connector, and preamplifier. The insertion/submersion version has two optional body configurations: integral preamplifier and 25 ft (7.6 m) integral cable, or 15 ft (4.5 m) integral cable for use with remote preamplifier. The 385+ is designed to be used with the Models 54e or 1055 pH/ORP Analyzer, or Models 81, 3081, 4081, 5081, or Xmt pH/ORP Transmitter.

MODEL 385+ pH/ORP SENSOR	
Code	Body Configuration (Required Selection)
02	Retractable with sensor head junction box, preamplifier, and process connector
03	Insertion/Submersion with Integral Sensor Preamplifier and 25 ft (7.6 m) cable
04	Insertion/Submersion for use with Remote Preamplifier and 15 ft (4.5 m) cable
Code	Combination Electrode (Required Selection)
10	GPLR, General Purpose Low Resistivity (0-13 pH)
11	High (0-14 pH)
12	ORP (Platinum)
385+	02 10 21 EXAMPLE

NOTES:

OPTION-02 recommended interconnecting cable from sensor to transmitter is Rosemount Analytical P/N 23646-01 (prepped) or P/N 9200273 (unprepped). Specify length.

OPTION-03, 04 require a 1 x 1 in. NPT process connector. Recommended PN's 23166-00 or 23166-01.

ACCESSORIES

ACCESSORIES	DESCRIPTION
9210012	Buffer solution, 4.01 pH, 16 oz
9210013	Buffer solution, 6.86 pH, 16 oz
9210014	Buffer solution, 9.18 pH, 16 oz
R508-160Z	ORP solution, 460 mV \pm 10 at 20°C
9550167	EPDM O-ring for Process Connector (PN 23166-00 or 23166-01)
12707-00	Jet Spray Cleaner for submersion service



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the right answers,
right now.*

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Emerson Process Management

Liquid Division

2400 Barranca Parkway
Irvine, CA 92606 USA
Tel: (949) 757-8500
Fax: (949) 474-7250

<http://www.raihome.com>