

Retractable pH/ORP Sensor

- RETRACTABLE SENSOR can be easily removed and replaced under pressure without process shutdown.
- CHEMICALLY RUGGED TEFZEL¹ BODY with titanium tube provides maximum resistance and is completely sealed to eliminate sensor leakage.
- LONG-LIFE, TRIPLE JUNCTION REFERENCE ELECTRODE provides longer service life in applications where poisoning ions are present.
- INTEGRAL PREAMPLIFIER provides noise free, long distance transmission of the high impedance pH signal.
- WEATHERPROOF JUNCTION BOX permits installation in most environments.



FEATURES AND APPLICATIONS

The Rosemount Analytical Model 385 Retractable pH/ORP Sensor is designed to meet a wide variety of industrial applications. It has been specially designed for applications where the process cannot be shut down and a separate sample stream is difficult or impossible to provide. The Model 385 body is constructed with a standard titanium tube and Tefzel, allowing the sensor to be used in especially harsh applications such as bleach lines in paper mills.

The Model 385 Retractable pH/ORP Sensor is designed for use with a standard 1-1/2 inch ball valve. This makes it ideal for replacing or updating any manufacturer's existing retractable pH/ORP sensor without process shut-down. Initial installations can even be accomplished without process shut-down by hot tapping a 1-1/2 inch ball valve at the desired point of measurement.

Sensor removal is accomplished by retracting the sensor until it reaches the built-in mechanical stop (no cables or chains are required for retraction). The ball valve may then be closed, and the insertion sensor

removed from the process. The entire process is accomplished with almost no loss of process fluid and without depressurizing the line. Once the sensor is removed from the ball valve it can easily be buffer checked or its disposable sensor tube replaced.

The Model 385 pH sensor comes standard with a triple junction gel filled reference cell. The peripheral ceramic liquid junction around the base of the glass electrode assures maximum working life even in solutions containing ammonia, chlorine, and other poisoning ions.

The plug-in style, solid state preamplifier is housed in a weatherproof junction box as an integral part of the sensor. This preamplifier provides noise free, long distance transmission of the pH/ORP signal to a remote analyzer, such as the Rosemount Analytical Models 3081pH/ORP, 54pH/ORP, 1054B pH/ORP, and many others. (Refer to the respective Product Data Sheets for further information.)

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

PERFORMANCE SPECIFICATIONS

pH Range: ACCUGLASS™¹ 0 to 14pH

Repeatability: ± 0.05 pH

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

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

Maximum Pressure at Retraction and Insertion:
542 kPa [abs] (64 psig)

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%

PHYSICAL SPECIFICATIONS

Junction Box: Weatherproof

Process Connection: 1-1/2 in. with ball valve, 1 in. without ball valve

Wetted Materials: Tefzel, titanium, Viton², EPDM, a 316 stainless steel tube fitting, glass, and ceramic

Interconnecting Cable: P/N 9200000

Electrical Classification: General purpose

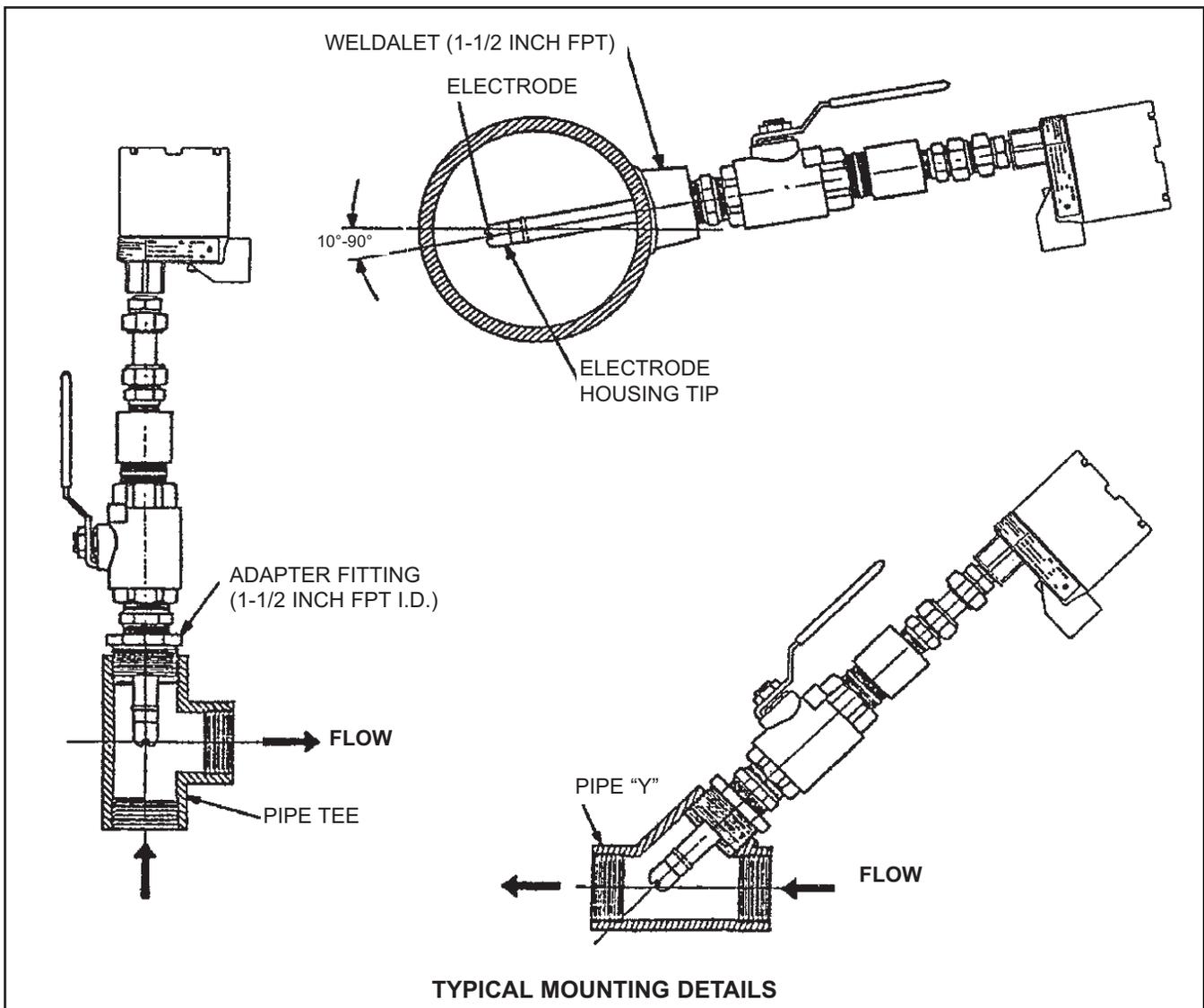
Weight/Shipping Weight:

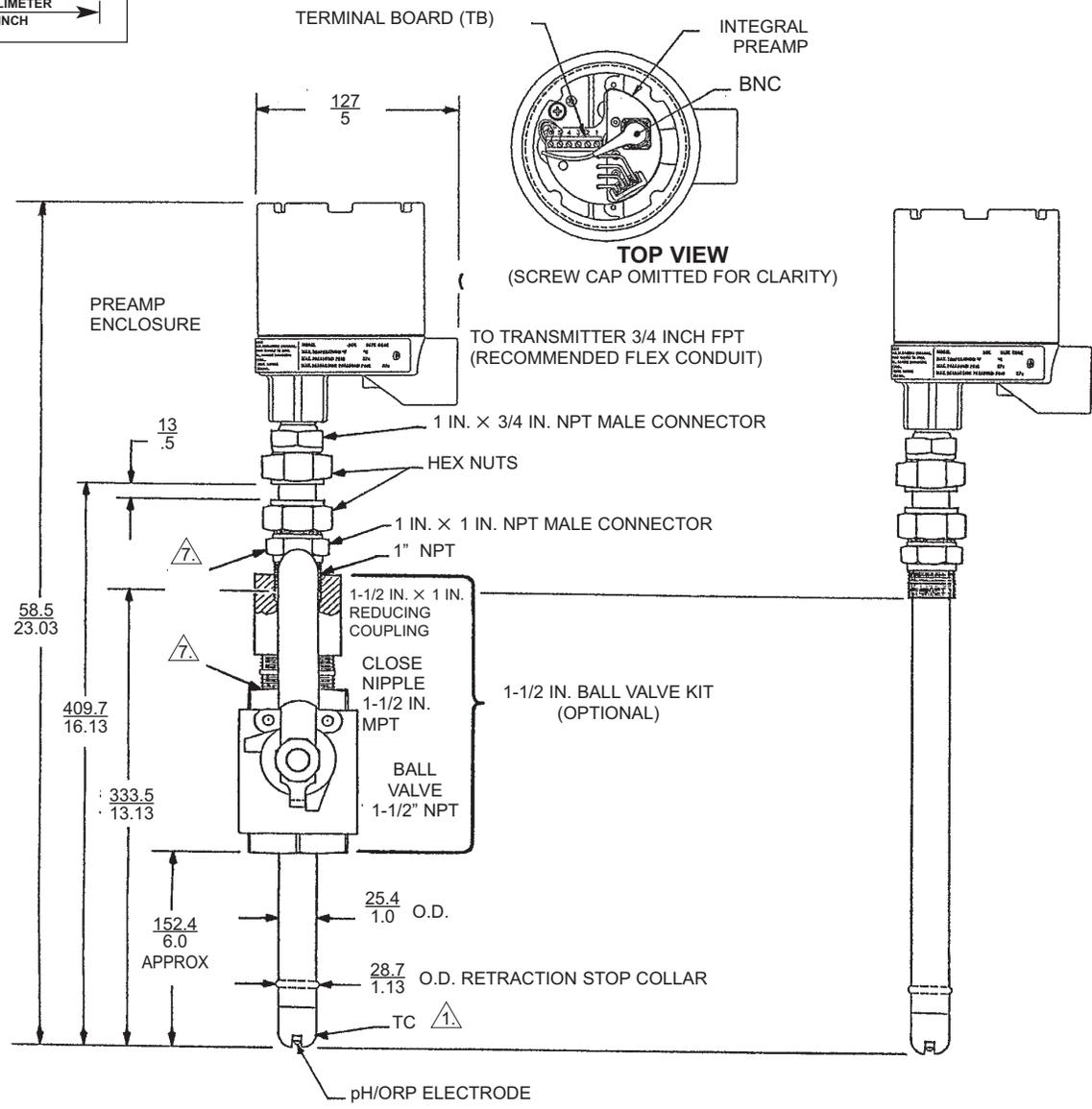
With Ball Valve: 10 lb/15 lb (4.5 kg/6.8 kg)

Without Ball Valve: 5 lb/10 lb (2.25 kg/4.5 kg)

¹ ACCUGLASS is a registered trademark of Rosemount Analytical.

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





- CAUTION:**
RESIDUAL PRESSURE AND PROCESS MAY REMAIN TRAPPED BETWEEN BALL VALVE AND MALE CONNECTOR.
6. PRESSURE/TEMPERATURE RATING: 100 PSIG AT 100°C.
MAXIMUM PRESSURE AT RETRACTION: 64 PSIG.
WETTED MATERIALS: 316 SST. TITANIUM, TEFZEL, VITON, EPDM GLASS OR PLATINUM.
 5. SEE DRAWING NO. 40038502 FOR WIRING DETAILS.
 4. WIRING TO J-BOX MUST BE VIA FLEXIBLE CABLE (19" MIN) OR CONDUIT FOR EASE OF SENSOR HOUSING REMOVAL.
 3. PROVIDE A MINIMUM OF 24 INCH CLEARANCE ABOVE JUNCTION BOX FOR SENSOR HOUSING REMOVAL.
 2. INSTALL SENSOR ASSY WITHIN 80° OF VERTICAL WITH ELECTRODE TIP POINTING DOWNWARD.
- TC NOT USED ON MODELS: 1181 ORP 1060 AND 1023.**
NOTES: UNLESS OTHERWISE SPECIFIED.

MOUNTING AND DIMENSIONAL DRAWING

ORDERING INFORMATION

The Model 385 Retractable pH/ORP Sensor: Standard features include Tefzel sensor body with triple junction gel filled reference electrode and automatic temperature compensator housed in a titanium tube. The sensor comes with a weatherproof junction box and an internal preamplifier.

MODEL	
385 RETRACTABLE pH/ORP SENSOR	
CODE	TUBE MATERIAL (Required Selection)
02	Titanium
CODE	ANALYZER/TC COMPATIBILITY (Required Selection)
04	For Models 1181ORP, 1060, 1023 (no TC)
06	For Models 1054ORP, 1054A ORP, 1054B ORP (PT100)
07	For Models 1181pH, 1050, 1003 (3K TC)
08	For Models 1054A/B pH, 2054 pH & 2081 pH (PT/100)
CODE	COMBINATION ELECTRODE (Required Selection)
10	General Purpose Low Resistivity, GPLR (0-13pH)
11	High pH (0-14pH)
12	ORP
CODE	PREAMPLIFIER (Required Selection)
50	Integral, for use with Models 1181pH/ORP
52	Remote, for use with Models 1181pH/ORP, 1050/1060, & 1003/1023, with 15 ft (4.5 m) cable
53	Remote, for use with Models 1054A, 1054B, 2054, 2081, 54, 3081, 4081, 81, & 2700 with 15 ft (4.5 m) cable
54	Integral, for use with Models 1054A, 1054B, 2054 & 2081
CODE	BALL VALVE KIT (Optional)
20	Carbon Steel
21	316 Stainless Steel
385pH	02 08 11 54 20
EXAMPLE	

NOTES:

Recommended interconnecting cable from sensor to transmitter is Belden 8722 or equivalent, available from Rosemount Analytical as P/N 9200000. Specify length.



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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>