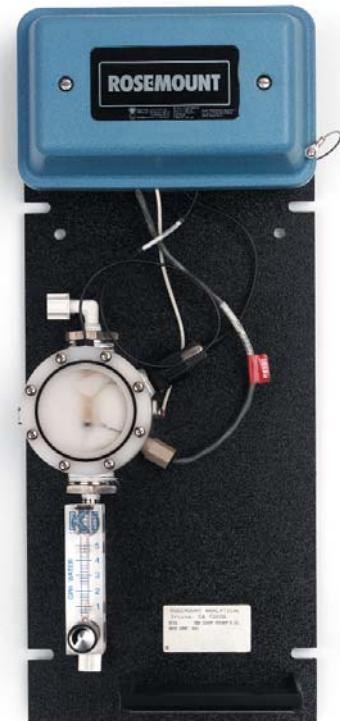


# High Purity pH Sensor

- CORROSION-RESISTANT, WEATHER-PROOF CONSTRUCTION permits installation in almost any environment.
- UNIQUE SENSOR DESIGN provides accurate, stable pH measurement in high purity water.
- ELECTRONICALLY SHIELDED GLASS ELECTRODE protects against electrostatic noise pickup.
- INCLUDES ROTAMETER AND NEEDLE VALVE to assure an accurate, stable measurement.
- CONVENIENT BUFFER CALIBRATION SHELF for easier sensor calibration.



## FEATURES AND APPLICATIONS

The Rosemount Analytical Model 320HP High Purity pH Sensor is uniquely designed for pH measurement in aqueous solutions of very low dissolved solids content (0 to 50 microsiemens/cm). The sensor assembly consists of a stainless steel flow cell, glass electrode, double junction Kynar<sup>1</sup> reference cell with specially designed liquid junction, temperature compensator, rotameter, needle valve and a weatherproof junction box containing an optional preamplifier. All components are mounted on an ABS plate which may be attached to a wall or clamped (optional) to a two-inch pipe.

The electrical resistance of high-purity water is very high, typically one megohm or more. Such liquids can generate a considerable static charge when flowing over an essentially nonconductive (plastic) surface.

An adequate discharge path to a good earth ground must be provided for this static charge; otherwise, it can be easily picked up by the high impedance pH electrode causing excessive noise in the measuring signal. The well-grounded metallic flow cell in the Model 320HP High Purity pH Sensor surrounds the pH electrode and provides an effective discharge path to ground for any static charges. It also serves as an electronic shield against outside interference from AC power lines, arcing electrical equipment, and other similar sources of noise.

<sup>1</sup> Kynar is a registered trademark of Elf Atochem North America, Inc.

## OPERATION

Accurate pH measurement in high purity water depends on a stable reference junction potential, and this requirement is met by the unique design of the reference junction in the high purity sensor. The construction of the junction serves to minimize any changes in junction potential which are caused by variations in flow rate of the high purity water over the junction surface. The flowmeter and needle valve aid in maintaining the low, constant sample flow required for a stable reference junction potential.

## SENSOR SPECIFICATIONS

**Style:** Flow-through

**Wetted Materials:** Kynar, Buna-N, glass, stainless steel, ABS, Teflon<sup>1</sup>, Viton<sup>1</sup>, Polypropylene

**Sample Temperature:** 4°C to 71°C (39°F to 160°F)

**Sample Pressure Required:** 5 to 10 psig

**Sample Flow Rate:** Constant in the region of 0.8 to 2.4 gal/hr

**Process Connections:** 1/4 in. tube

**Reference Electrode:** Sealed, double junction

**Measuring Electrode and Range:**

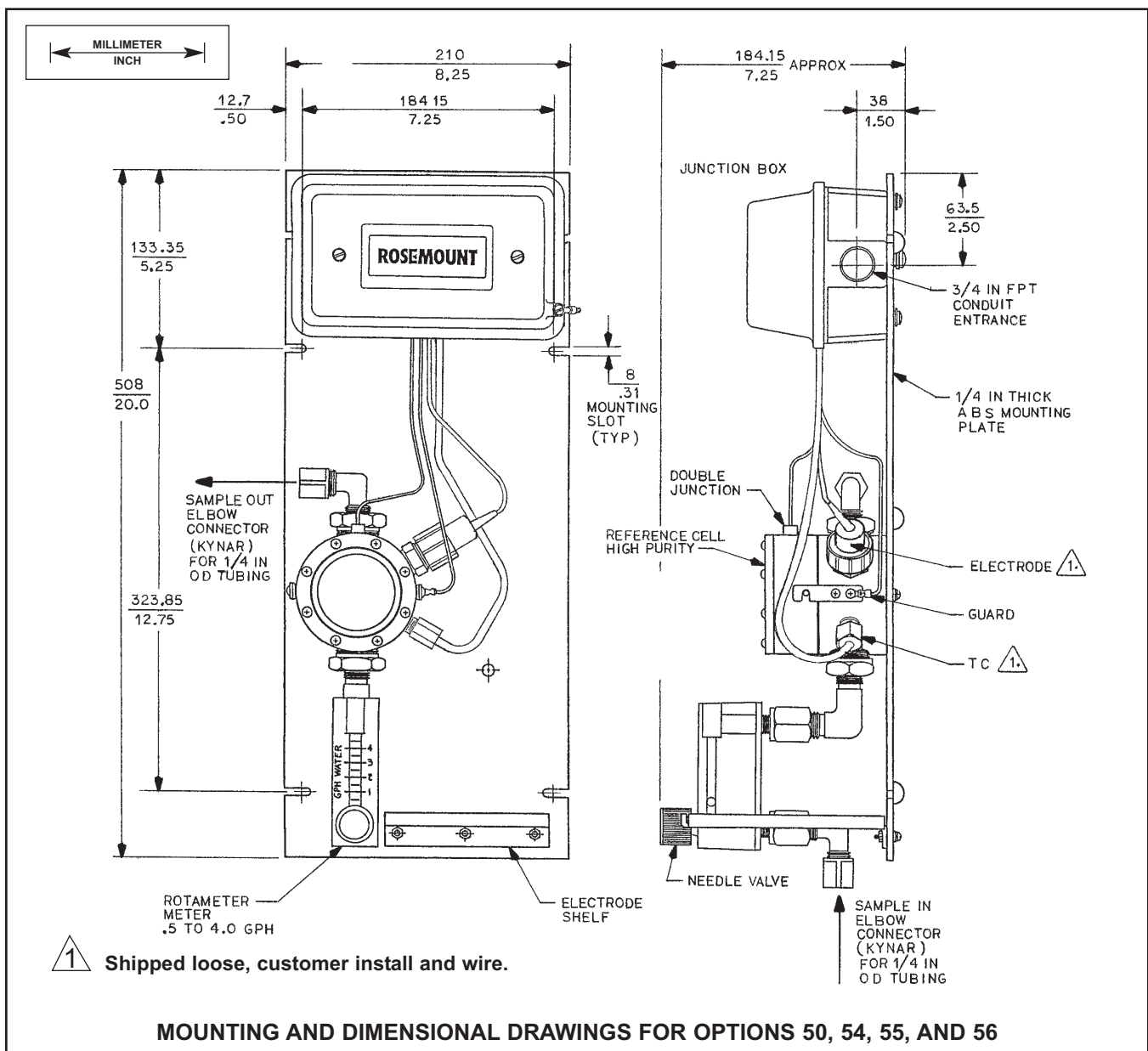
pH Glass: GPHT (0-14 pH)

Percent Linearity Over pH Range: 0-2 pH 97%;

2-12 pH 99%; 12-13 pH 96%; 13-14 pH 92%

**Weight/Shipping Weight:** 9.8 lb/11.0 lb (4.4kg/5.0kg)

<sup>1</sup> Teflon and Viton are registered trademarks of E.I. duPont de Nemours & Comp.



## ORDERING INFORMATION

**Model 320HP Flow Through High-Purity pH Sensor** (used where conductivity is 0 to 50 microsiemens/cm). Includes a 316 stainless steel flow cell, a double junction Kynar reference cell with specially designed liquid junction, pH glass electrode, temperature compensator, and a weatherproof junction box containing an optional pre-amplifier. A rotameter and needle valve are included on the input side of the flow cell for monitoring and control of the sample flow. All components are mounted on an ABS plate which is suitable for wall or pipe mounting. Compatible with most Rosemount Analytical pH Transmitters and Analyzers.

<b>MODEL</b>	
<b>320HP</b>	<b>FLOW THROUGH HIGH-PURITY pH SENSOR</b>
<b>Code</b>	<b>Measuring Electrode</b>
10	General Purpose pH
<b>Code</b>	<b>Preamplifier (Must select one)</b>
50	Preamp and 3K TC for use with Model 1181pH
54	Preamp and Pt 100 TC for use with Models 1054A/B and 2081
55	No Preamp and Pt 100 TC for use with Models 54e, 1055, 81, 2081, 3081, 4081, 5081-P, and Xmt-P
56	Preamp and Pt 100 TC for use with Model SCL-P
58	Preamp and Pt 100 TC for use with Models 54e, 1055, 81, 3081, 4081, 5081-P, and Xmt-P
<b>320HP</b>	<b>10                      58</b>
<b>EXAMPLE</b>	

## ACCESSORIES

<b>PART #</b>	<b>DESCRIPTION</b>
2001492	Tag, Stainless Steel, specify marking (formerly Code -40)
23722-00	Pipe/Wall Mounting Bracket (formerly Code -30)
661-646983	Cable, 4 Conductor, 1 Coax (for Option -55), per ft
661-892884	Cable, 7 Conductor (for Option -56), per ft
9200000	Cable, 4 Conductor, 20AWG, 1 pair shielded (for Option -50, -54), per ft
9200273	Cable, 11 Conductor, shielded, unprepped (for Option -58), per ft



*The right people,  
the right answers,  
right now.*

**ROSEMOUNT ANALYTICAL  
CUSTOMER SUPPORT CENTER  
1-800-854-8257**



ON-LINE ORDERING NOW AVAILABLE ON OUR WEB SITE  
<http://www.raihome.com>

*Specifications subject to change without notice.*



Credit Cards for U.S. Purchases Only.



**Emerson Process Management**

**Liquid Division**

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

<http://www.raihome.com>

