

# PER<sub>PH</sub>-X<sup>®</sup> High Performance pH Sensors

- High Temperature design increases sensor life when used in elevated temperatures up to 145 °C
- Field proven AccuGLASS<sup>®</sup> pH glass formulations minimize glass cracking, resulting in enhanced performance and increased life
- Longer sensor life because of refillable reference electrolyte and replaceable reference junction
- Rugged Titanium and Ryton<sup>®</sup> outer body construction

<sup>1</sup> PER<sub>PH</sub>-X is a trademark of Rosemount Analytical.

<sup>2</sup> AccuGLASS is a registered trademark of Rosemount Analytical.

<sup>3</sup> Ryton is a registered trademark of Chevron Phillips Chemical Company.

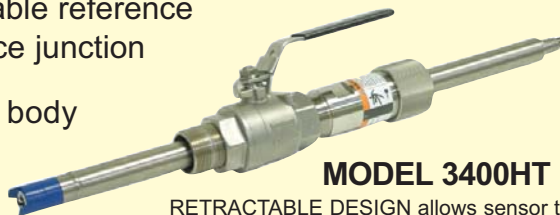
These new Rosemount Analytical Inc. products by Emerson Process Management are designed for use in the following Industries:

Pulp & Paper, Metals & Mining, Chemical Processing, Petroleum Refining, Power, Wastewater and General Applications



## MODEL 3300HT

INSERTION/SUBMERSION DESIGN allows for variable insertion depths and simple sensor removal without cable twisting



## MODEL 3400HT

RETRACTABLE DESIGN allows sensor to be removed for calibration and maintenance without process shutdown



## MODEL 3500

120°C at 100 psig  
FRONT AND REAR FACING 1" MNPT THREADS allow use in either insertion or submersion applications.

**ROSEMOUNT**<sup>®</sup>  
Analytical

  
**EMERSON**<sup>™</sup>  
Process Management

EMERSON. CONSIDER IT SOLVED.<sup>™</sup>

## FEATURES and APPLICATIONS for MODELS 3300HT, 3400HT and 3500

Rosemount Analytical **PER<sub>PH</sub>-X**. High Performance pH sensors incorporate several design innovations that prolong the life of the pH sensor in difficult applications. High temperatures cause deterioration of the glass pH sensing membrane, depletion of the reference electrolyte, and thermal stress on all sensor components. Use the Models 3300HT, 3400HT and 3500 to lower your total cost of ownership and avoid frequent sensor replacement.

The ACCUGLASS<sup>®2</sup> pH bulb means that the **PER<sub>PH</sub>-X** sensors resist cracking and have near theoretical response even at extreme pH values. The GPHT glass formulation resists glass matrix breakdown in hot processes while providing exceptional thermal stability to the pH glass membrane. A slotted tip surrounds the glass bulb to protect the bulb from direct impacts from process hazards, and can be rotated ninety degrees for self cleaning action if desired.

The **PER<sub>PH</sub>-X** sensors contain an enhanced double junction reference that is excellent for extreme applications. The outer gel based reference retains viscosity to resist the pumping actions of temperature and pressure. Predictive maintenance of the outer reference can extend

the ultimate life of the pH sensor considerably by preventing concentration changes in the inner reference.

Reference flow into the process stream is controlled using a porous Teflon junction that can be replaced in the event of fouling or plugging. The specially designed junction is chemically resistant and has a large surface area to maintain a steady reference signal in dirty or oily applications.



- High Temperature Kit
- Bio-Film Resistant Kit
- Poisoning Resistant Kit
- Oil Resistant Kit
- Scaling Resistant Kit
- Metals Resistant Kit.

### Six different SOLUTIONS Kits are available

Each kit uses a specific chemistry to extend the life of the reference electrode in its targeted application.

## PERFORMANCE and PHYSICAL SPECIFICATIONS

### Measured Range:

pH: 0 - 14 pH

### Percent Linearity Over pH Ranges:

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

**Wetted Materials:** Titanium, Ryton<sup>3</sup>, Teflon<sup>®1</sup>, glass, and EPDM: Options, Viton<sup>®4</sup> or Kalrez<sup>®5</sup>

### Process Connections:

Model 3300 and 3400 must use a 1 inch process connector (PN 23166-00 or 23166-01).

Model 3400 can be inserted through a 1 1/4" or 1 1/2" ball valve.

Model 3500 has 1" MNPT front and rear facing threads.

### Operating Temperature:

**Models 3300 & 3400:** 5° to 145°C (41°F to 293°F)

**Model 3500:** 0°-120°C (32°- 248°F)

### Maximum Process Pressure and Temperature:

100 psig (790 kPa [abs]) at 293°F (145°C)

250 psig (1825 kPa [abs]) at 212°F (100°C)

### Maximum Pressure at Retraction or Insertion

#### Model 3400:

64 psig (524 kPa [abs]) Code 21

35 psig (343 kPa [abs]) Code 25

#### Model 3500:

100 psig (790 k PA abs) at 248°F, (120°C)

<sup>1</sup> Teflon is a registered trademark of E.I. du Pont de Nemours and Company.

<sup>2</sup> ACCUGLASS is a registered trademark of Rosemount Analytical.

<sup>3</sup> Ryton is a registered trademark of Chevron Phillips Chemical Company

<sup>4</sup> Viton<sup>®</sup> is a registered trademark of DuPont Performance Elastomers.

<sup>5</sup> Kalrez<sup>®</sup> is a registered trademark of DuPont Performance Elastomers.