



INDUSTRIAL pH INSTRUMENTATION & ELECTRONICS

General Purpose Sensor for Viscous Applications



- ✓ High Temperature
- ✓ High Pressure
- ✓ Any Angle Orientation

Application

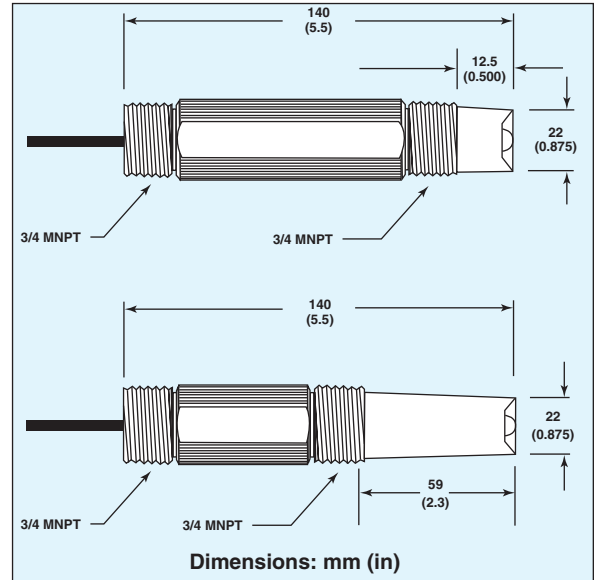
- ✓ Continuous and Batch Process Control
- ✓ Pulp and Paper
- ✓ Petro-Chemical

The PHE-7451-15 is a combination pH sensor designed specifically for insertable use in process and waste water applications. The outer body material is PPS (Ryton®) and has 3/4 MNPT (or optional 1 MNPT) front and rear facing threads. The double junction reference cell is highly resistant to electrode poisoning solutions, while the use of the non-fouling patented Porous PTFE liquid junction ensures a steady presence of reference electrolyte. The PHE-7451 assures a low maintenance service life in most applications. The concave sensor configuration (see drawing above) protects the pH bulb from particulate matter and provides a cleansing flow without affecting critical line pressure characteristics. Use of the high temperature version is recommended where service temperatures continuously exceed 80°C (176°F).



PHE-7354-15,
\$150, shown
smaller than
actual size.

PHE-7451-15,
\$135, shown
smaller than
actual size.



Specifications

Body Material: Ryton® PPS

pH Range: 0 to 14 pH

Temperature Range:

Standard Version: 0 to 80°C
(32 to 176°F)

High Temperature Version:
0 to 110°C (32 to 230°F)

Pressure Range:

Standard Version: 0 to 100 psig

High Temperature Version:
0 to 150 psig

Accuracy: ±0.1% over full range
Sodium Error: Less than 0.05 pH
 in 0.1 molar Na⁺ ion @ 12.8 pH
Impedance: 150 MΩ @ 25°C
(76°F)
Reference Cell: Double KNO₃
KCl/AgCl
Zero Potential: 7.0 pH ±0.2 pH
Wetted Materials:
Ryton®, PTFE, FKM, glass
Response Time:
95% of reading in 10 sec
Drift: < 2 mV per week

Option Codes

Order Suffix	Description	Additional Cost
-HT	High temperature reference cell	\$35
-HPH	High pH glass	30
-HF	HF/Fluoride resistant	50
-PT100	100 Ω Pt RTD	40
-PT1K	1000 Ω Pt RTD	40
-SG	Solution ground	45
-SCO	Self-cleaning option mounting (cleaning cage sold separately model no. PHEH-SCO, \$75)	30
-TJ	Triple junction reference cell	45
-ULT	Combination of ATC, triple junction, high temp, and solution ground	125

MOST POPULAR MODEL HIGHLIGHTED!

To Order (Specify Model Number)

Model No.	Price	Price w/ATC	Description
PHE-7451-15-(*)	\$135	\$175	3/4 MNPT sensor for viscous liquids
PHE-7354-15-(*)	150	190	3/4 MNPT long insertable sensor for viscous liquids

Comes complete with operator's manual.

* Specify ATC sensor: "-PT100" for 100 Ω Platinum RTD or "-PT1K" for 1000 Ω Platinum RTD.

Ordering Examples: PHE-7451-15-PT1K-HPH, pH sensor with "-HPH" (high pH), \$175 + 30 = \$205.

PHE-7354-15, pH electrode for viscous liquids, \$150.

D-X

For Sales
& Service

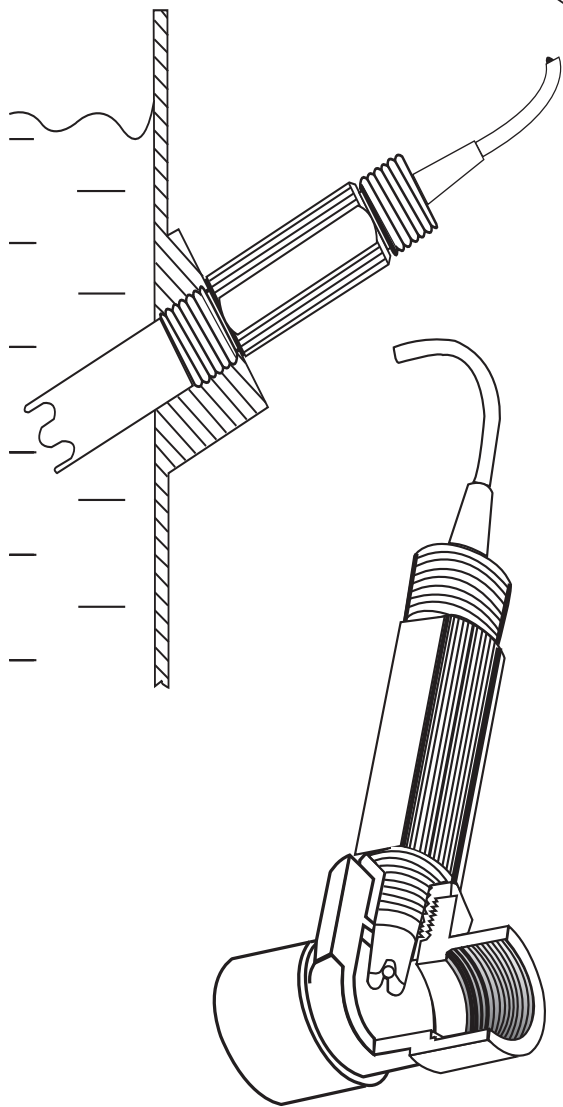
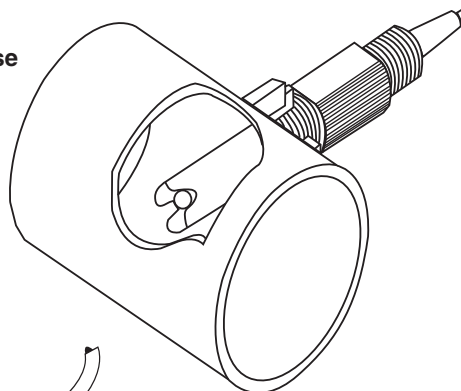
1-800-82-66342[®]
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Universal Industrial Sensors



- ✓ Universal Solution to Ground Loop with Optional Solution Ground or Differential Amplifier
- ✓ PPS/Ryton® Strong Molded Body
- ✓ Ideal for In-Line or Submersible Use
- ✓ 100 PSI Operating Pressure
- ✓ Porous PTFE Double Junction
- ✓ Automatic Temperature Compensation, Optional
- ✓ Original Self-Cleaning Design Option



Model No.	PHE-7352-15	PHE-7451-15	PHE-7353-15
Page	D-37	omega.com/phe7451	D-37
pH Range	0 to 14	0 to 14	0 to 14
ORP Model	ORE-7352-15 \$175	ORE-7451-15 \$175	ORE-7353-15 \$190
HF Fluoride (-HF)	\$50	\$50	\$50
Extreme pH (-HPH)	\$30	\$30	\$30
Std Temp Range, °C (°F)	0 to 80 (32 to 176)	0 to 80 (32 to 176)	0 to 80 (32 to 176)
High Temp (-HT)	110°C \$35	110°C \$35	110°C \$35
Reference Cell	KCl-AgCl/dbl	KCl-AgCl/dbl	KCl-AgCl/dbl
Triple Junction (-TJ)	\$45	\$45	\$45
Cable/Connector, m (ft)	4.5 (15)*/BNC	4.5 (15)*/BNC	4.5 (15)*/BNC
Length, mm (in)	150 (5.9)	140 (5.5)	120 (4.7)
Diameter, mm (in)	22 (0.87)	22 (0.87)	22 (0.87)
Installation	¼ MNPT	¼ MNPT	¼ MNPT
Insertion Length, mm (in)	23 (0.91)	12.5 (0.49)	59 (2.32)
Optional Insertion L	59 mm PHE-7353	59 mm PHE-7354	23 mm PHE-7352
Solution Ground (-SG)	\$45	\$45	\$45
ATC (-PT100)	\$40	\$40	\$40
ATC (-PT1K)	\$40	\$40	\$40
ATC (-TH700)	\$40	\$40	\$40
ATC (-R3K)	\$40	\$40	\$40
Amplifier (-AMP)	\$100	\$100	\$100
Diff. Amp (-DIF)	N/A	N/A	N/A
Base Price	\$135	\$135	\$150

* To order with 6 m (20') cable, replace "-15" in model no. with "-20" and add \$5 to price.

** To order with 6 m (20') cable, replace "-10" in model no. with "-20" and add \$10 to price.

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