

MAINTENANCE

The pH/ORP probe will exhibit indications when cleaning is required. The probe will require longer stabilization time, measures erratic reading and, having difficulties to perform calibration. Clean the sensor when these key indications occur. It should be done periodically throughout the operation for optimum performance.

Cleaning

Initial cleaning:

Rinse off impurities from the probe thoroughly with clean water. Scrub the probe gently with soft toothbrush or cloth. Rinse off loose deposit from scrubbing.

Inorganic scale deposit:

Immerse the probe's tip in dilute hydrochloric acid HCl 2% to 5% for 5 minutes. Repeat the steps for initial cleaning.

Oils and fats:

Immerse the probe with soap solution for 5 minutes. Rinse off the excess soap on sensor before installation.

STORAGE

- ◆ When the pH/ORP probe is not in operation, clean the sensor thoroughly to remove impurities. pH/ORP probe requires storage with liquid solution.
- ◆ For pH, immerse the bulb into KCl solution (best), or pH 4.01, pH 7.00, pH 10.01 or at least with sample wastewater.
- ◆ For ORP, immerse the bulb into KCl solution (best), or standard ORP buffer solution or at least with sample wastewater.
- ◆ Position the sensor in an upright position.

CALIBRATION

PH CALIBRATION

Use fresh buffer for calibration. Perform a two-point calibration using buffer solutions in accordance with ASTM method D1293. Schedule periodic calibration according to the time frame for initial and subsequent calibration.

1. Rinse the sensor thoroughly with clean water to avoid cross contamination.
2. Immerse the probe in the **First Point** (pH 7.00 buffer solution) and momentarily stir with sensor for proper even contact.
3. Choose the **Second Point** pH buffer. For best results, make sure the operating pH range in the process is as **nearest** and **in between pH 7.00** and the **Second Point**.

Example 1

The pH range of the process:
pH 6.00 - 7.50

First Point : pH 7.00
Second Point : pH 4.01

Example 2

The pH range of the process:
pH 10.50 - 12.50

First Point : pH 7.00
Second Point : pH 10.01

ORP Calibration

Use fresh buffer for calibration. Perform a one-point calibration using buffer solutions in accordance with ASTM method D1293. Schedule periodic calibration according to the time frame for initial and subsequent calibration.

1. Rinse the sensor thoroughly with clean water to avoid cross contamination.
2. Immerse the probe in the **Standard ORP buffer solution** and momentarily stir with sensor for proper even contact.

Example 1

The ORP range of the process:
175 mV

Standard ORP buffer used:
225mV

Hydro-Air
Process Instruments

User Guide

pH/ORP

Hydro-Air
Process Instruments

Hydro-Air Process Instruments Sdn. Bhd. (1488193-D)

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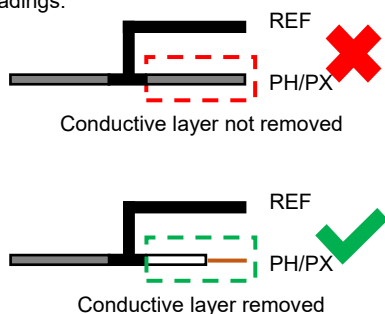
100, Jalan Pusat Perniagaan 1,
Pusat Perniagaan Raja Uda, 12300
Butterworth, Pulau Pinang,
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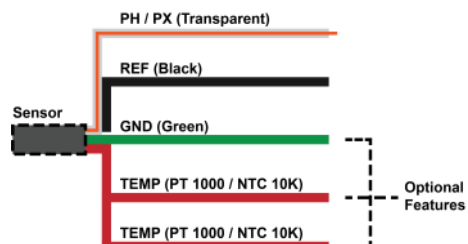
www.hydroair-instruments.com

PREPARATIONS FOR USE

1. Inspect the completeness of the sensor that includes a storage cap with KCl solution. The cap should remain intact with the probe.
2. Unpack the sensor from the box and inspect for any physical damage. Report any defect(s) promptly to your supplier or any Hydro-Air representative.
3. Remove and store the storage cap for future use. Rinse off excessive remains from the sensor and storage cap.
4. The pH/ORP probes works better after conditioning it to the measurement liquid or standard buffer. Immerse the probe into the measurement liquid or standard buffer for about 30 minutes before calibrating.
5. The conductive layer covering the pH/ORP cable must be removed in order to isolate the circuit connection from the Reference. Otherwise, the sensor will display incorrect readings.

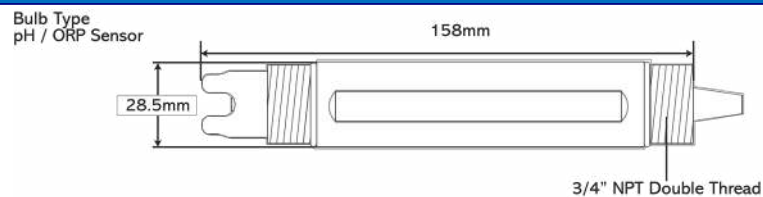


WIRING DIAGRAM

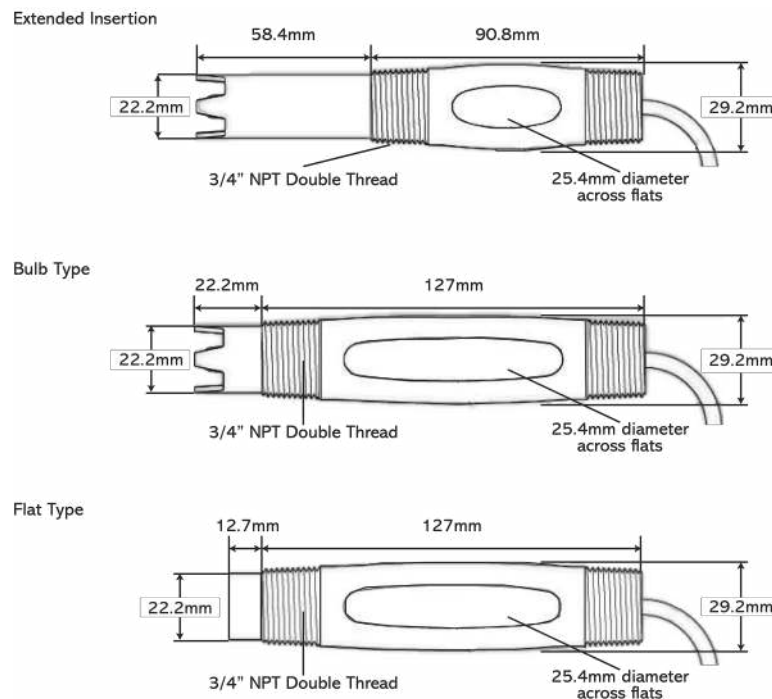


DIMENSIONS

C-Series



E-Series

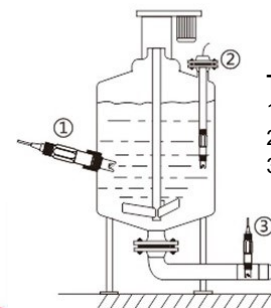


SPECIFICATIONS

Type of Junction	Double Junction
Measuring Range	C-Series: 2.00 – 12.00 pH ±2000 mV E-Series: 0.00 – 14.00 pH ±2000 mV
Temperature Range	C-Series: -5°C to +60°C E-Series: -5°C to +105°C -5°C to +140°C
Resistance	≤200 MΩ
Reference Electrode	Ag-AgCl 3.8M KCl
Maximum Pressure	C-Series: 5 bar E-Series: 10 bar
Materials	C-Series: ABS; Teflon; Glass E-Series: Rytan; Teflon; Glass
Thread	3/4" NPT
Cable Type	Low Noise Coaxial, Dual Shielded

INSTALLATION

1. Install the sensor with a minimum gradient of **30° above from the horizontal line**. This is important for accurate measurement over time.
2. Remove and store the sensor cap for future use.
3. Rinse the probe and proceed with installation on fitting.



- Types of Installation:**
1. Side wall installation
 2. Top flange installation
 3. Pipe installation