WEL SERIES pH/ORP ELECTRODES

Walchem's WEL Series electrodes are cost-effective differential pH and ORP electrodes for industrial applications. They are modular in design with a rugged CPVC housing that contains the electronics; pH and ORP cartridges can easily be connected or replaced in minutes without tools. The cartridges feature a unique threaded interlock connection and a double o-ring seal, ensuring a watertight fit and secure seating at all times.

The optional differential preamplifier and temperature compensation element are in the housing, and are not thrown away when the electrode needs replacement. The electrode is powered by the controller it is connected to, so the signal is always preamplified and there are no batteries to go dead.

A titanium solution ground rod integral to the housing enables the differential measuring technique. This results in prolonged electrode life and reliable measurement, resistance to stray voltages and currents or ground loop problems.

The electrode design enables a universal mounting style - a single housing and cartridge can be mounted in-line or submersed. This reduces inventory of parts and spares needed.

SUMMARY OF KEY BENEFITS

- **Differential preamp**
- **Universal mounting**
- **Easily replaceable electrode cartridges**
- **Electronics are not discarded with the electrode**
- **Optional ATC**
- **Easy to install**
- **Cartridge Styles:**
  - **Flat Surface**
  - **Bulb / Rod**
  - **HF Resistant**

- **Resistant to electronic noise, ground loops**
- **CE Performance & Safety Certifications**

The differential preamplifier and optional automatic temperature compensation (ATC) element are built into the housing, resulting in signal amplification at the optimal location - right next to the sensor. Temperature response is fast, increasing accuracy of measurement.

The titanium ground rod makes the differential measurement technique possible and it is resistant to aggressive chemistries.

The differential technology provides a longer electrode life, a signal that is more immune to electronic noise, high voltage potential in solution and ground loops.

The preamp electronics are powered by the controller it is attached to: the signal is always preamplified, distance from the controller is not critical (less than 1000 ft. is recommended) and there is no concern about a battery going dead.

The electrode cartridge can be replaced without also having to replace the preamp or ATC element. Different styles are available to best fit your need: flat surface design resists fouling; low cost bulb version for less demanding applications; a fluoride-resistant glass version for aggressive solutions.

The cartridge has a unique threaded interlock connection which seats the electrode securely in the housing. Knurled machining of the casing at the surface end provides for a sure grip when removing or inserting a cartridge. The design of the electrode enables the unit to be used in immersion or in-line applications, reducing required inventory.

ORDER INFORMATION

WEL ☐ – ☐ ☐

cartridge housing mounting style

CARTRIDGE

PHF = Flat surface pH
PHB = Bulb pH
PHH = HF resistant pH
MVF = Flat surface ORP
MVR = Rod style ORP
PHLI = Flat pH, if sample is between 10 and 100μS

HOUSING

1 = Housing with preamplifier and PT1000 ATC, 20' cable with tinned leads
2 = Housing with preamplifier, 20' cable with tinned leads
3 = Housing with PT1000 ATC, 20' coaxial cable with BNC connector
4 = Housing, 20' coaxial cable with BNC connector

MOUNTING STYLE

1 = Submersion mounting
2 = In-line mounting (3/4" NPTF tee)
3 = Metric in-line mounting (G 1¼ male adapter)

SPECIFICATIONS

pH/ORP Electrode

Range	0 to 14 pH (0 to 12 without sodium ion error ±1999 mV (ORP)
Response	95% in less than 5 seconds
Impedance:	
Cartridge	Not to exceed 1000mΩ over temp range
Housing	100Ω, preamplified versions Not to exceed 1000mΩ over temp range non-preamplified versions
Operating Pressure	100 psig

Temperature Range

Housings with preamplifier	32 to 158°F (0 to 70°C)
Housings without preamplifier	32 to 212°F (0 to 100°C)
PHF, MVF, MVR & PHLI	50 to 212°F (10 to 100°C)
PHB cartridges	32 to 212°F (0 to 100°C)
PHH cartridges	32 to 122°F (0 to 50°C)

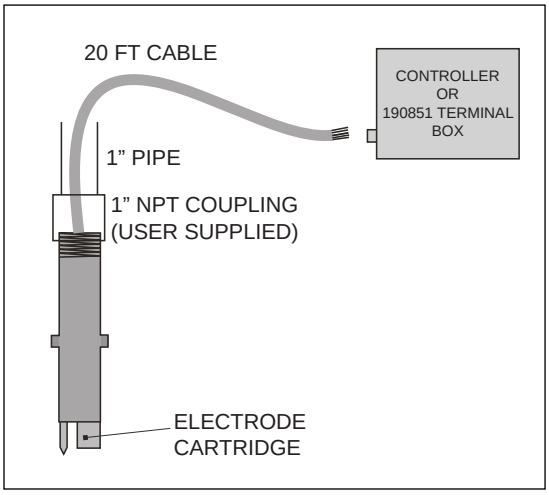
Note: Electrode life is drastically reduced when used at temperatures above 122°F (50°C).

Wetted Materials of Construction

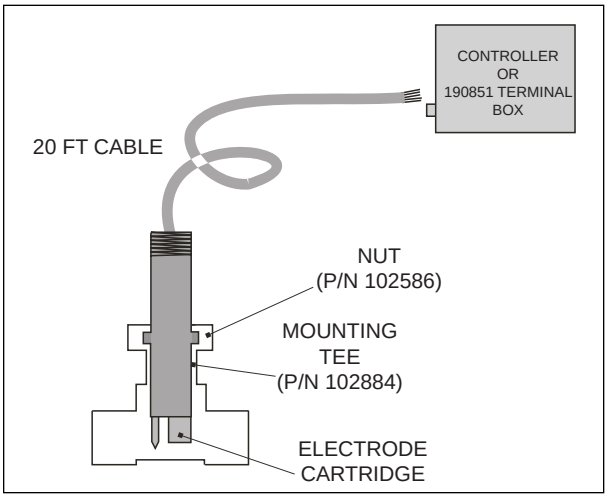
Electrode body	CPVC
Electrode reference	HDPE
O-rings	FKM
Electrode	Glass (pH) or platinum (ORP)

The WEL Series electrodes are in compliance with CE EMC standards.

SUBMERSION Installation with Preamplified Housing



IN-IINE Installation with Preamplified Housing



ABOUT US

Walchem integrates its advanced sensing, instrumentation, fluid pumping and communications technologies to deliver reliable and innovative solutions to the global water treatment market

Our in-house engineering is driven by quality, technology and innovation. For more information on the entire Walchem product line, visit: www.walchem.com

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WALCHEM
An Iwaki America Company

Walchem, An Iwaki America Incorporated Company
Five Boynton Road Hopping Brook Park
Holliston, MA 01746 USA
Phone: 508-429-1110
Fax: 508-429-7433
www.walchem.com

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