



WaterTechw² pH8000

pH Dip Sensor

PRODUCT DATASHEET

APPLICATIONS

- Intake Protection
- Discharge Monitoring
- Activated Sludge Control
- Coagulation Control
- Final Water
- River Monitoring
- Industrial Effluent Control

MEASUREMENT PRINCIPLE

Combination Double Junction ERP pH Electrode

FEATURES

- Built-In Temperature Compensation
- Self Cleaning Flat Surface Electrode
- Enhanced ERP Reference System
- Mercury (Calomel) Free

BENEFITS

- Improved Effluent Quality
- Reduced Operating Costs
- Longer Time Between Calibration

INSTALLATION OPTIONS

Self Cleaning Flexible Coupling for Dip Assemblies

COMPATIBLE MONITORS

7300w² Monitor

ALTERNATIVE SENSORS

WaterTechw² pH8000 Flowcell Version



Measuring pH is a vital part of control systems throughout water, wastewater and process industries. In activated sludge plants, the biological process is greatly influenced by the acid or alkaline condition of the mixed liquor, on-line control is vital to maintain effluent quality. In effluent discharge regulations, pH is the most common water quality parameter, giving vital feedback on plant performance and protecting the environment from pollution events.

In sewage and industrial effluent, pH control is vital for ensuring that pollutants are removed effectively. When the pH moves away from a neutral position the biological activity of the bacteria reduces, at less than 5pH or greater than 10pH then the activity ceases and the treatment system will start to breakdown. In combination with 7300w² Monitor we provide the monitoring and control functionality to ensure that the control system remains functional and is carried out in the most cost effective manner.

pH monitoring and control also plays a vital role in the success of potable water treatment. If the water is acidic (lower than 7), lime, soda ash, or sodium hydroxide is added to raise the pH. Lime is commonly used for pH adjustment for municipal water, or at the start of a treatment plant for process water, as it is cheap, but it also increases the ionic load by raising the water hardness. Making the water slightly alkaline ensures that coagulation and flocculation processes work effectively and also helps to minimize the risk of lead being dissolved from lead pipes and lead solder in pipe fittings. Acid (HCl or H₂SO₄) may be added to alkaline waters in some circumstances to lower the pH. To ensure correct treatment, it is necessary to monitor as well as control the optimisation of the chemical dosing.

The WaterTechw² pH8000 sensor has been designed to provide highly reliable operation across the range of drinking water and wastewater applications. The flat faced electrode included the latest innovations in double junction reference with the ERP reference path.

For installation in applications where gross fouling is anticipated we recommend that the sensor is installed using our specially designed mounting system, with a flexible joint in the mounting shaft. The flexible joint moves the sensor in the process, reducing bio-fouling and allowing rags to fall away from the assembly. This motion is similar to that achieved by using a floating ball assembly, with the added advantage of placing the sensor below the surface of the liquid. In applications where fouling is not expected or where there is insufficient space alternative mounting arrangements are available.

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WaterTechw² pH8000

Electrode Details

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New ERP Reference

Extended length reference path to slow contaminants

Flat Surface Self Cleaning

Electrode resists coating and fouling

Acryl-2 Gel

Heavy Duty Gel resists chemical attack

Increased Gel Capacity

For Longer sensor life

Double Junction Reference

Greater durability in harsh environments

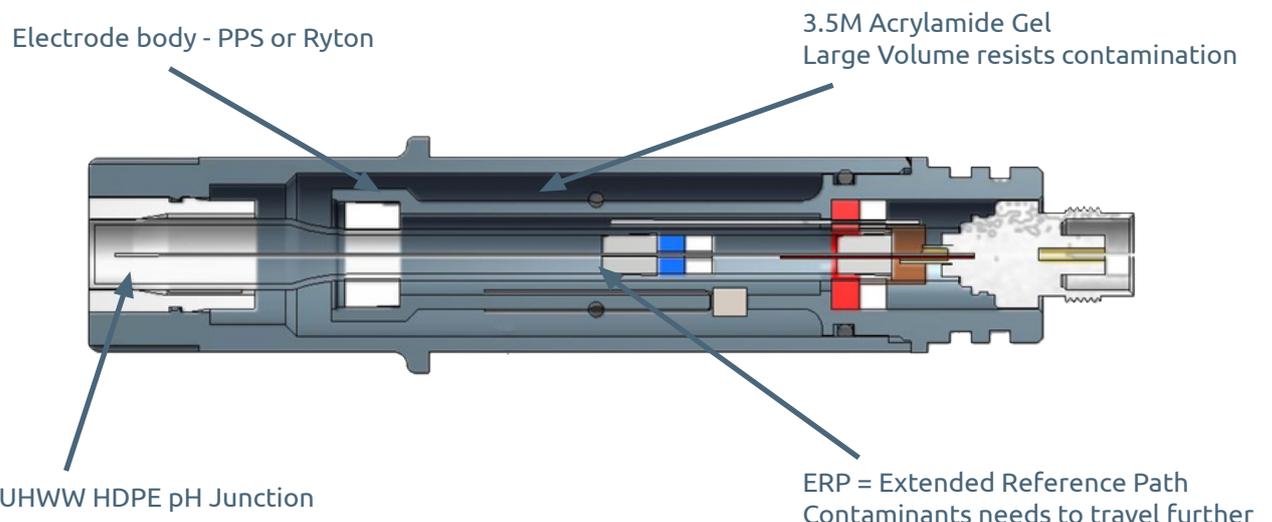
PPS (Ryton) Construction

Improved chemical and temperature performance



The WaterTechw² pH8000 Sensor has been designed to provide highly reliable pH and Temperature measurements. The sensor uses a flat surfaced electrode which includes an extended reference path, these features combine to provide an extremely robust pH measurement, suitable for use in surface water, wastewater and drinking water applications.

The electrode uses field proven flat surface, self-cleaning technology. The reference system is enhanced by Extended Path Reference (ERP) design which provides a complex path to protect the reference in the presence of interacting ions such as proteins, silver and sulphides.



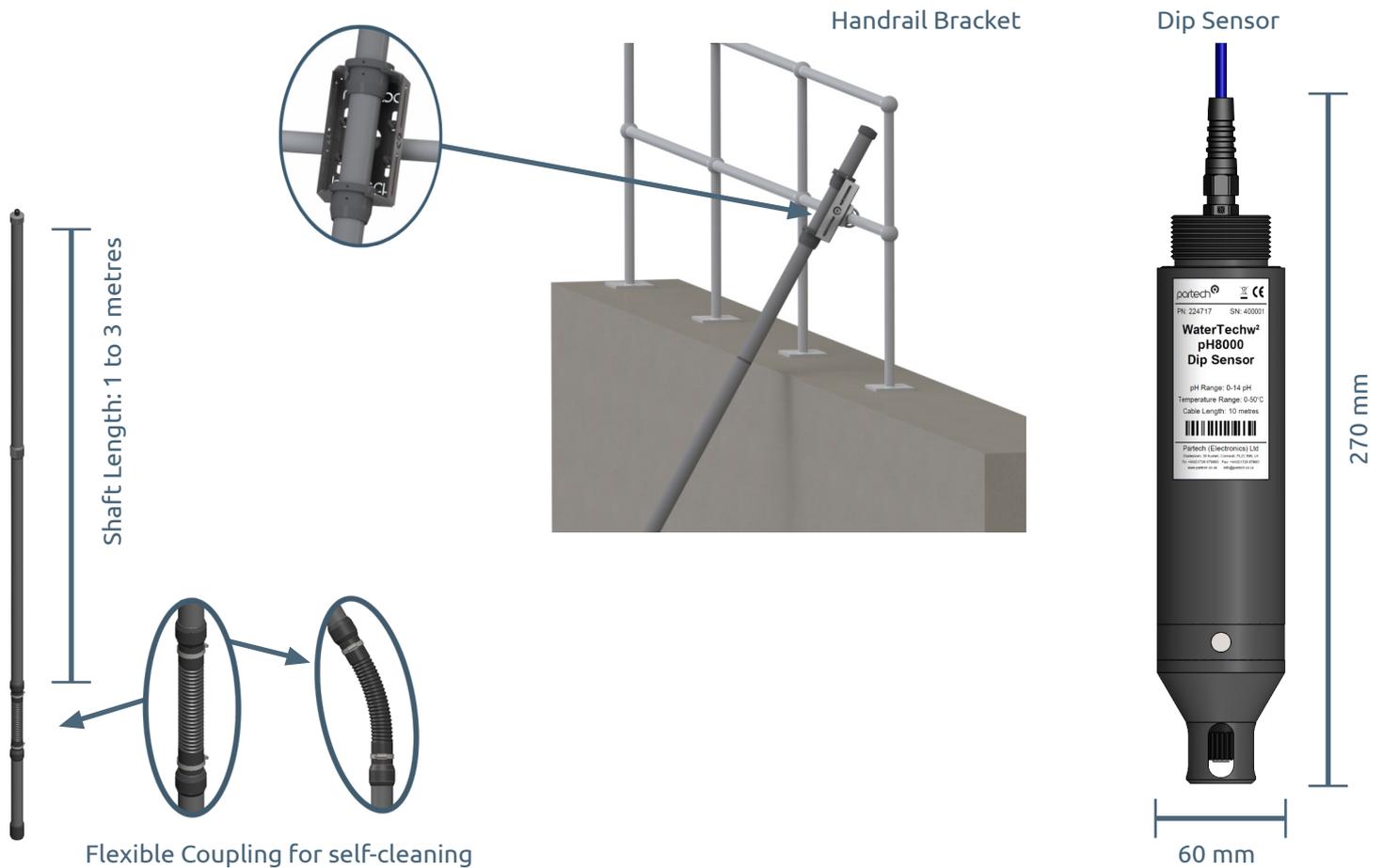
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WaterTechw² pH8000

Dip Assembly

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Shaft Assemblies

When used in dip format the WaterTechw² pH8000 sensor can be supplied with a shaft assembly and accompanying handrail/wall brackets. These parts have been designed to be suit the majority of installations, alternatives and bespoke solutions can be supplied if necessary. Shaft lengths up to 3 metres are offered as standard with longer lengths being catered for when required subject to safety and shipping considerations.

Self-Cleaning Flexible Coupling

In applications where fouling is likely we offer a flexible coupling in the mounting shaft, as illustrated above. This coupling allows the sensor to move in the flow, this means that fouling does not get a chance to build up on the electrodes flat face. Ragging is also swept away from the assembly by the flow rather than wrapping round the shaft. This method of cleaning has consistently proven effective and at a much lower cost than complex air purge or water jet cleaning alternatives.

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pH Dip Sensor

PRODUCT SPECIFICATION

Physical (Dip excluding shaft)

Dimensions
Weight
Wetted Materials
Seal Material
Enclosure Rating
Cable Type
Cable Length
Temperature Rating
Pressure Rating
Thread for Mounting Shaft Connection

270 x Ø60 mm
1.2 kg (inc 10 metres of cable)
Body: Black PVC, Nylon Cable Gland, Electrode: PPS (Ryton) Nitrile
IP68
4 core, 2 Twisted Pair, 5mm O/D Polyurethane Coated
10 metres standard, 100 metres maximum
0 to +50°C
2 Bar
1 1/2" BSPP Male

Interface to Monitor

Power Supply
Type

12VDC from Monitor
ModTech - RS485

Measurement

Principle of Operation

pH

Combination pH Electrode with Extended Reference Path
pH
0 to 14 pH
± 0.05pH
0.01 pH

Temperature

Silicon Based Linear Thermistor
°C
0 to 50°C
± 0.5°C
0.1°C

Applicable Units
Range
Accuracy
Resolution

Service Requirements

Cleaning
Sensor Service

See FlexTech range of autoclean mounting options
Electrode Replacement - typically yearly

Mounting

Mounting Shafts: 1.0 to 3.0 metres
Handrail Bracket: PN223980
Extension Bracket: PN224567 or PN228175

Order Codes

Part No Description

- 224717 WaterTechw² pH8000 Dip Assembly includes pH Electrode and Temperature Sensor (0-14 pH, Temperature Range: 0-50°C, Cable Length: 10 metres)
- 224718 WaterTechw² pH8000 Dip Assembly includes pH Electrode and Temperature Sensor (0-14 pH, Temperature Range: 0-50°C, Cable Length: 20 metres)

Publication No: 224717DS-Iss07

The company reserves the right to alter the specification without prior notice. E&OE

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