



WaterTechw² Redox8000

Redox/ORP Flowcell Sensor

PRODUCT DATASHEET

APPLICATIONS

Intake Protection
Activated Sludge Control
Disinfection Control
Industrial Effluent Control

MEASUREMENT PRINCIPLE

Combination Double Junction ERP
Redox 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

Insertion or Flow Cell

COMPATIBLE MONITORS

7300w² Monitor

ALTERNATIVE SENSORS

WaterTechw² PHEVT – Combined pH,
Redox and Temperature



Measurement of Redox or ORP is useful in many water, wastewater and industrial water processes, for example the control of disinfection processes such as chlorination in cooling towers. The electrode design is very similar to the equivalent pH electrode (WaterTechw² pH8000), the difference being that the pH glass is replaced with a Platinum band.

The measurement of the oxidation-reduction potential (Redox or ORP) of an aqueous solution is a broad, non-specific indicator of the chemical activity of the solution. In drinking water processes Redox measurement is a highly effective tool for controlling chlorine and ozone treatment, it provides an excellent indicator of the ability of the disinfectant to remove contaminants from the water.

In wastewater processes Redox measurement has the ability to provide an indication of the condition of the anoxic and anaerobic zones within an activated sludge (ASP) plant's aeration tanks, this is beyond what is possible with the far more commonly used Dissolved Oxygen measurements. The measurement can also be used as an indicator of the load entering a processing plant, giving an early warning of potential control problems.

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WaterTechw² Redox8000

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

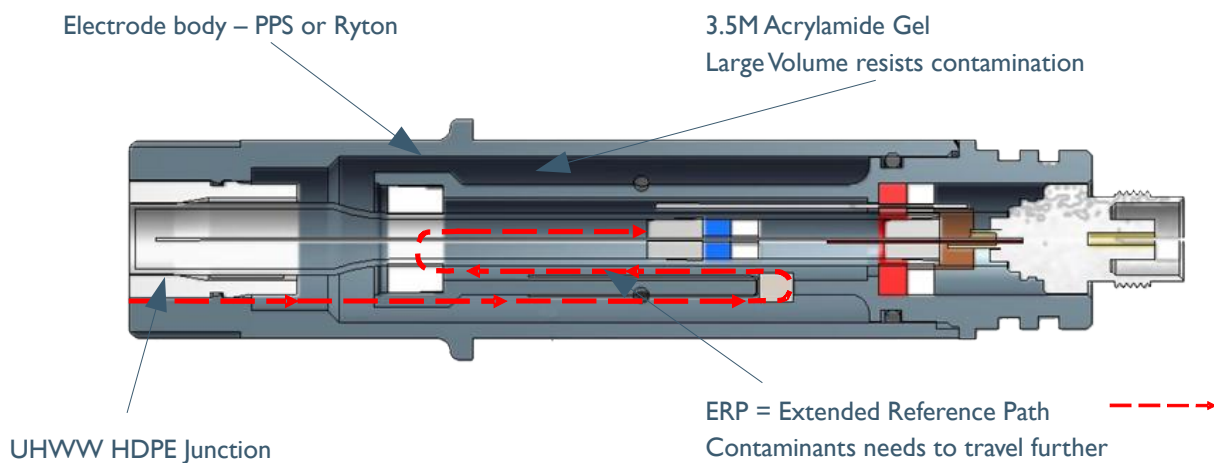
Double Junction Reference
Greater durability in harsh
environments

PPS (Ryton) Construction
Improved chemical and temperature
performance



The WaterTechw² Redox8000 Sensor has been designed to provide highly reliable Redox and Temperature measurements. The sensor uses a flat surfaced electrode which includes an extended reference path, these features combine to provide an extremely robust Redox measurement, suitable for use in surface water, waste water and drinking water applications.

The electrode uses field proven flat surface, self-cleaning technology. The reference system is enhanced by the 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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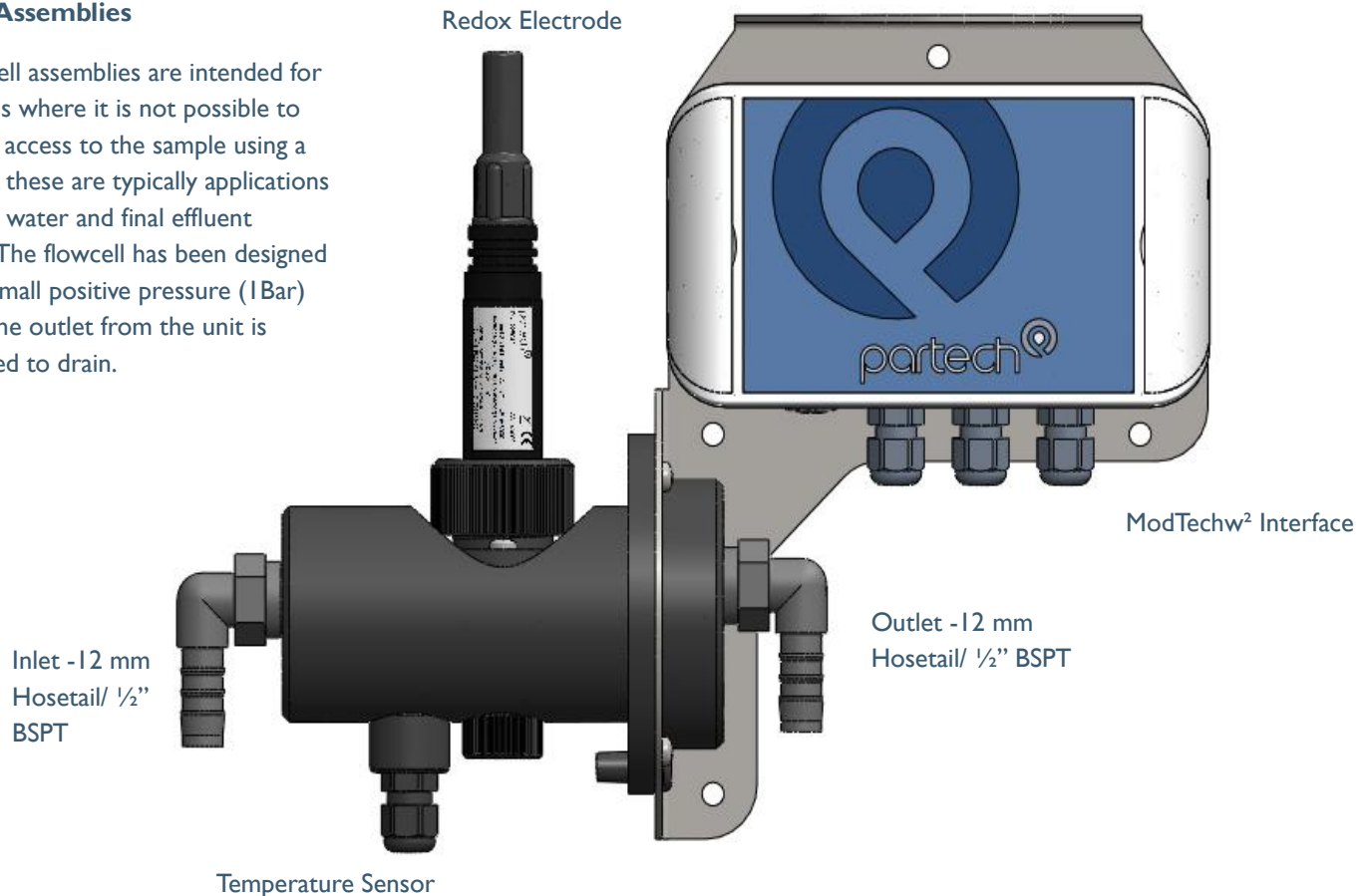
WaterTechw² Redox8000

Flowcell Assembly

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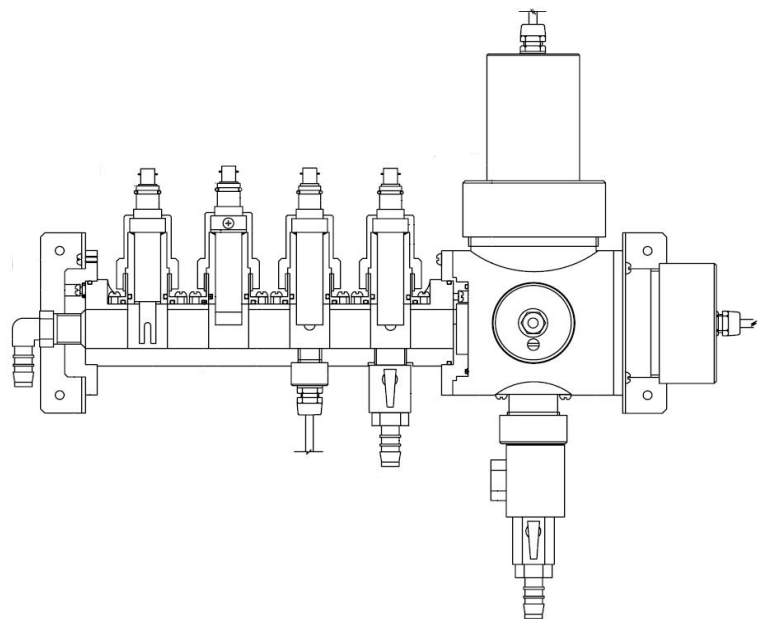
Flowcell Assemblies

Our flowcell assemblies are intended for applications where it is not possible to gain direct access to the sample using a dip sensor; these are typically applications in drinking water and final effluent discharge. The flowcell has been designed to take a small positive pressure (1Bar) however the outlet from the unit is normally fed to drain.



Multiparameter Options

The WaterWatch² platform has been designed to accommodate multiple sensors and multiple parameters in the same 7300w² Monitor. Versions of this flowcell are available to combine Redox measurement with Turbidity, pH and DO. These combinations provide an extremely cost effective way of monitoring for regulatory or control purposes.



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WaterTechw² Redox8000

Redox/ORP Flowcell Sensor

PRODUCT SPECIFICATION

Measurement

Accuracy
Resolution
Range
Measurement Principle

Service Requirement

Electrical

Power Supply
Interface to Monitor
Cable Entries
Cable Type

Environmental Data

Operating Temperature
Storage Temperature
Pressure
Location

Physical (Flowcell)

Dimensions (HxWxD)
Weight
Protection Class
Enclosure Material
Electronics Housing
Electrode body
Cable Length

Redox

+/- 2mV pH
1 mV
-1999 to +1999 mV
Redox:

Temperature:

Electrode Replacement

Periodic calibration and cleaning are required at a frequency determined by the application

12 Volts from Monitor

RS485

Integral Cable Gland

4 core, Polyurethane Coated

0 to 70°C

0 to 70°C

7.5 Bar, de-rated at higher temperature

Indoor/Outdoor

235 x 310 x 155 mm

0.35 kg (inc 2 metres of cable)

IP65

Black Acetal Co-Polymer with Stainless Steel Mounting Plate

IP65, Polycarbonate

PPS (Ryton)

2 metres standard, 100 metres maximum

Temperature

+/- 0.5°C

0.01°C

0 – 70°C

Combined electrode, Ag/AgCl ref
Gel Electrolyte (Acrylamide), Double Junction
ERP Reference

NTC (Negative Temperature Coefficient
Thermistor)

Order Codes

Part No Description

224689 WaterTechw² Redox8000
Flowcell Assembly includes
Redox Electrode and
Temperature Sensor (Redox
Range: -1999 to 1999 mV,
Temperature Range: 0-50°C,
Cable Length: 2 metres)

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

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