Steam Sterilizable Products

Electro-Chemical Devices

Features	Benefits
• Autoclavable or Insitu Sterilizable	• Suitable for SIP and CIP cleaning cycles
• Durable Gel filled Design	• Reliable and Simple to Use
• 3 Insertion Lengths	• Accomodate Top or Side entry
• ESA Connector Style	• Gold Plated, Teflon Insulator
• TriClamp and 25 mm Port fittings	• 316 SS Sanitary Fittings for growth to recovery

Steam Sterilizable Products
pH, ORP and DO Sensors
Stainless Steel Fittings

Description

The Pharmaceutical and Biotech industries have numerous applications requiring the measurement of pH and conductivity. While the S80 sensors do address most applications in the media preparation, recovery and waste treatment areas, there are many applications that require the sensors to be steam sterilized or autoclaved. The ECD steam Sterilizable Electrodes (SE) and Sterilizable Fittings (SF) provide a reliable and economical solution for these measurements.

The SE Series pH, ORP and DO electrodes are 12 mm diameter. The pH and ORP are gel filled, sealed combination electrodes. Many months of reliable measurements can be provided by the robust design and stable double junction reference electrode . The galvanic DO electrode provides stable output over months of service. Various insertion lengths are available to meet the requirements of both top entry and side entry reactors. The standard insertion lengths are 120 mm, 225 mm and 360 mm. The process connection of the electrical connectors is PG 13.5. This broad offering allows the same SE Series pH, ORP and Dissolved Oxygen electrodes to be used in R&D pilot reactors or large scale production vessels.

The SF Series fittings are available in a variety of installation styles, the 25 mm Port Fitting and several Sanitary Flange styles. The SF Series comply with the basic criteria for CIP (Clean in Place) and SIP (Steam in Place) service developed by the European Hygienic Equipment Design Group (EHEDG). The wetted materials include AISI 316L stainless steel with a surface finish of Ra = 0.8 µm (optional Ra = 0.4 µm) and FDA compliant o-ring seals. The 25 mm Port Fitting is available with a standard 1.6” insertion length, common on most installations, or the longer 2.4” insertion length needed on some B. Braun vessels. Sanitary Flange Fittings are available in 1.5”, 2” and 3” diameters and various insertion depths. All fittings have an electrode guard that protects a 120 mm pH electrode from breakage. The guard has no value for the longer length sensors so the fittings can be ordered without the guard as an option.

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Electrode Specifications

Electrode Type	pH Glass Electrode	Dissolved Oxygen	ORP (REDOX)
Measurement Range	0.00-14.00 pH	0.00-20 ppm	±1500 mV
Sensor Tip	Low Radius pH Glass Bulb	Teflon PFA Membrane	Platinum
Reference Cell	KCl/KCl Ag-AgCl Double Junction	Galvanic Pb/Ag	KCl/KCl Ag-AgCl Double Junction
Temp. Range	-5°C to 135°C	-5°C to 130°C	-5°C to 135°C
Pressure (max.)	100 psig	30 psig	100 psig
Wetted Materials	Glass, ceramic	Glass, PFA Teflon	Glass, Ceramic, Platinum
Dimensions (Dia. x Length)	12mm x 120, 225, 360mm	12mm x 120mm	12mm x 120, 225, 360mm
Electrical Connection	4-pin ESA	4-pin ESA	4-pin ESA
Process Connection	PG13.5	PG13.5	PG13.5

Ordering Information

Part Number	Description
2005212-4	pH Electrode, Sterilizable, 120 mm insertion with PG13.5 ESA connector
2005222-4	pH Electrode, Sterilizable, 225 mm insertion with PG13.5 ESA connector
2005232-4	pH Electrode, Sterilizable, 360 mm insertion with PG13.5 ESA connector
2005412-4	DO Electrode, Sterilizable, 120 mm insertion with PG13.5 ESA connector
2005512-4	ORP Electrode, Sterilizable, 120 mm insertion with PG13.5 ESA connector
2005522-4	ORP Electrode, Sterilizable, 225 mm insertion with PG13.5 ESA connector
2005532-4	ORP Electrode, Sterilizable, 360 mm insertion with PG13.5 ESA connector

Accessories

Part Number	Description
2200402	Cable Assembly, 1 meter with ESA connector
2200412	Cable Assembly, 3 meters with ESA connector
2200422	Cable Assembly, 5 meters with ESA connector
2200432	Cable Assembly, 10 meters with ESA connector
1000240	SF 316 SS 25mm port fitting, standard insertion length 1.6”
1000241	SF 316 SS 25mm port fitting, special for B.Braun vessels, insertion 2.4”
1000242	SF 316 SS Tri-Clamp 1.5” with 0.4” insertion
1000243	SF 316 SS Tri-Clamp 1.5” with 1.7” insertion
1000244	SF 316 SS Tri-Clamp 2” with 2.5” insertion

Specifications subject to change without notice.

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CERTIFIED ISO9001 QUALITY SYSTEM