

ROSS pH electrodes for Monitoring Food and Beverage

Test a wide range of foods, dairy and beverages with Thermo Scientific Orion ROSS epoxy electrodes

Food, beverage and dairy environments can be demanding on pH electrodes and pH measurement. It is a crucial parameter for consistency in taste and appearance. Users are often faced with a broad range of challenges that include low ionic strength water, viscous protein containing samples such as cream, which can clog porous frit or invade the inner filling solution and contaminate the reference. This can be identified by a slow response time of the electrode or worse, a non-responsive electrode.

We offer a range of Thermo Scientific™ Orion™ ROSS™ Electrodes that avoid the pitfalls of traditional Ag-AgCl ion pair electrodes. The ROSS electrodes contain no silver or silver chloride—instead an iodide or triiodide ion pair is incorporated into a double-junction design. This patented design provides superior lifetime of usage and fast stability in a broad range of temperature profiles, and is compatible with Tris buffer, protein, sulfide and heavy metal.

Up-close with the ROSS electrode

Reference system for ROSS electrodes

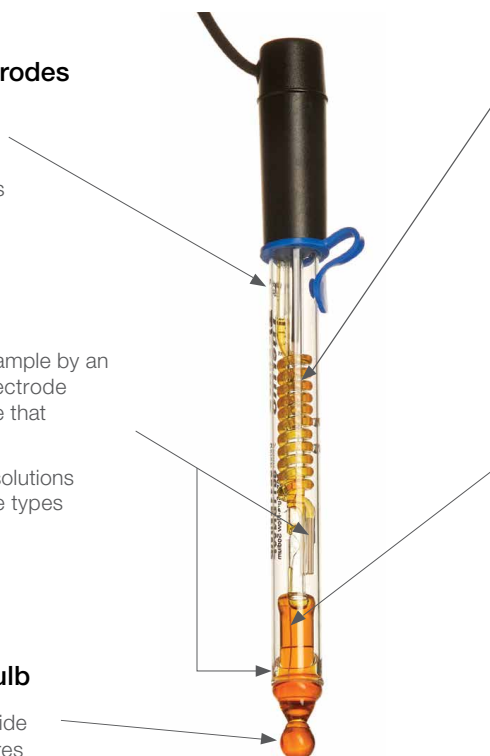
- Superior measurement stability
- Fast response
- High accuracy and precision in samples with varying temperatures
- No long-term drift

Double-junction design

- Reference system is isolated from the sample by an intermediate fill solution to make the electrode compatible with samples, such as those that contain Tris, proteins, and sulfides
- Electrode can be filled with a variety of solutions that are compatible with various sample types

Proprietary pH-sensitive glass bulb

- Optimized for sensitive response and wide dynamic range at all sample temperatures



Unique coil reference design

- Path from junction to reference wire is 3 to 4 times longer than in conventional sensors, minimizing dispersion of outer fill solution to the reference wire, which increases reference stability
- Reference part of the electrode is maximally protected from the sample and lasts longer than in electrodes with a conventional design

Inert platinum wire

- Does not introduce metal ions into sample
- Does not deplete over time

Long life and up to double the warranty life of traditional electrode

The ROSS electrodes come with a 2-year warranty for the Thermo Scientific™ Orion™ ROSS™ Triode™ Electrodes and an 18-month warranty for the low maintenance ROSS versions.

Usage with brand meter

- ROSS electrodes can be utilized on any brand meter that utilizes a BNC connector and offer specific electrodes suitable for other popular meters.
- If you are using the ROSS electrode with another brand meter and you require temperature compensation, we recommend that you purchase a separate temperature probe suitable for that meter.



Figure 1: Thermo Scientific™ Orion™ ROSS Ultra™ Triode™ Low-Maintenance pH Combination Electrode (Cat. No. 8107BNUMD)

Figure 2 : ROSS Sure-Flow Semi Micro pH Combination Electrode (Cat. No. 8175BNWP)

Our Thermo Scientific™ Orion™ ROSS™ Sure-Flow™ Epoxy Electrodes are ideal for food, dairy and beverage testing, where they feature our unique Sure-Flow design which prevents the clogging of frit and epoxy bodies for robustness. Choose from gel-filled for low maintenance or a refillable design for prolonged lifetime of usage.

Part number	Description	Suitability	Temperature Compensation
8107BNUMD	ROSS Triode, epoxy, low Maintenance pH electrode, 1m cable, mini din for temperature	Orion Star Series Meters only	Built-in temperature sensor
8156BNWP	ROSS Sure-Flow, Epoxy	Any Meter with BNC connector	Requires temperature sensor for meter
8175BNWP	ROSS Sure-Flow, Epoxy, Semi Micro (0.2ml liquid sample)	Any Meter with BNC connector	Requires temperature sensor for meter
8165BNWP	ROSS Sure-Flow, Epoxy Combination pH Electrode (for many sample types, especially thick or viscous)	Any Meter with BNC connector	Requires temperature sensor for meter
8107BNURCA	Thermo Scientific Orion ROSS Ultra pH/ATC Triode electrode, epoxy body, low maintenance gel, and NTC30 thermistor/RCA Plug	Compatible with meters which require an NTC 30KΩ thermistor with an RCA plug, such as the Mettler-Toledo Five and Seven Series meter	Built-in temperature sensor
8157BNURCA	Thermo Scientific Orion ROSS Ultra pH/ATC Triode electrode, epoxy body, refillable, and NTC30 thermistor/RCA plug	Compatible with meters which require an NTC 30KΩ thermistor with an RCA plug, such as the Mettler-Toledo Five and Seven Series meters	Built-in temperature sensor
927007MD	Stainless steel ATC (Temperature) probe, MiniDIN connector	Orion Star Series Meters	0-100°C
928007MD	Micro ATC (Temperature) probe with stainless steel 1mm x 38mm tip, MiniDIN connector	Orion Star Series Meters—suitable for small samples	0-100°C
8101BNWP	ROSS pH Half-Cell Electrode	This is a pH Half cell—use with 800500U Reference electrode	Requires temperature sensor for meter
8611BNWP	Orion Sodium Ion Selective Electrode with built in reference	Built in Reference	
9609BNWP	Orion Fluoride Ion Selective Electrode with built in reference	Built in Reference	
8411BN	Orion Sodium Ion Selective Electrode (half cell; requires reference)	Use with 800500U (Reference electrode)	
9409BN	Orion Sodium Ion Selective Electrode (half cell; requires reference)	Use with 800500U (Reference electrode)	
800500U	ROSS Ultra Reference Electrode	Reference Electrode, requires a working electrode such as pH of Half cell or Sodium Ion Selective electrode	

Find out more at thermofisher.com/ross40