

Thermo Scientific ORP Standard, 5 x 60 mL Bottles, Cat. No. 967961 Thermo Scientific ORP Standard, 475 mL Bottle, Cat. No. 967901

ORP readings can be reported using the absolute mV values or the E_H mV values, which give the corresponding mV values that would be obtained using a Standard Hydrogen Electrode (SHE), also known as the Normal Hydrogen Electrode (NHE). ORP standard allows operators to correlate their ORP measurements to the Standard Hydrogen Electrode if they are using an Orion ORP electrode. A meter with a relative mV mode and scrolling capability is required.

CAUTION: ORP standard will stain hands and clothing. In case of contact, flush the affected area with water. A dilute sodium thiosulfate solution may help remove stains from clothing.

NOTE: Do not store ORP electrodes in ORP standard.

Adjustment of ORP Readings to E_H Values

To determine ORP values as compared to the Standard Hydrogen Electrode (SHE) at 25 °C with Orion ORP electrodes: $E_H = + 420 \pm 3$ mV

1. Place the ORP electrode in the Orion ORP standard.
2. Set the meter to the relative mV mode.
3. Adjust the mV reading to the E_H value using **Table 1**.
4. The meter is now calibrated to measure the ORP values of samples relative to the Standard Hydrogen Electrode.

Table 1

Temperature (°C)	E_H Value (mV)	Absolute Value with Cat. No. 900011 Filling Solution (mV)	Absolute Value with Cat. No. 900001 Filling Solution (mV)
0	+ 438	218	176
5	+ 435	218	176
10	+ 431	219	175
15	+ 428	219	175
20	+ 424	219	174
25	+ 420	220	173
30	+ 415	220	172
35	+ 411	220	171
40	+ 406	220	170
45	+ 401	220	169
50	+ 396	220	167

Electrode Compatibility

Thermo Scientific Orion ORP standards, Cat. No. 967961 and 967901, are designed for use with following Orion ORP combination electrodes:

- Cat. No. 9778BNWP - Glass body combination ORP electrode with waterproof BNC connector
- Cat. No. 9778SC - Glass body combination ORP electrode with screw cap connector
- Cat. No. 9678BNWP - Sure-Flow® junction, epoxy body combination ORP electrode with waterproof BNC connector
- Cat. No. 967800 - Sure-Flow® junction, epoxy body combination ORP electrode with U.S. standard connector
- Cat. No. 9179BNMD - Epoxy body, non-refillable gel ORP/ATC Triode® with waterproof BNC and 8 pin MiniDIN connectors
- Cat. No. 9179BN - Epoxy body, non-refillable gel ORP/ATC Triode® with BNC and 8 pin DIN connectors
- Cat. No. 9180BNMD - Epoxy body, refillable ORP/ATC Triode® with waterproof BNC and 8 pin MiniDIN connectors
- Cat. No. 9180BN - Epoxy body, refillable ORP/ATC Triode® with BNC and 8 pin DIN connectors

Environmental Instruments Water Analysis Instruments

166 Cummings Center
Beverly, MA 01915 USA

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Toll Free: 1-800-225-1480
Tel: 1-978-232-6000
Dom. Fax: 1-978-232-6015
Int'l Fax: 978-232-6031
email: info.water@thermofisher.com
www.thermo.com/water
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