

FOR IMMEDIATE RELEASE

Electrochemistry

Media Contact Information:

Name: Cindy Neely

Phone: 978.232.6102

Email: Cynthia.neely@thermofisher.com

Website: www.thermo.com/water

Thermo Fisher Scientific Announces the New Orion 2100 pH/ORP and Conductivity systems

BEVERLY, MA (July 17, 2009) – Thermo Fisher Scientific, [NYSE:TMO] today unveiled the Orion 2100 systems for pH/ORP and Conductivity. These systems are ideally suited to deliver high performance measurements across a wide variety of industrial processes. The latest innovation from the Orion 2100 series platform, offers unsurpassed measurement capabilities developed from 35 years of electrochemical sensor expertise. From power generation to drinking water applications, the Orion 2100 systems provide real-time, rapid response and best-in-class accuracy required by the rigorous demands of dynamic chemical process environments. As industry regulations and control limits continue to trend lower, the need to increase efficiency with limited resources place more reliance on dependable on-line measurements. The Orion 2100 series rises to the challenge – placing an emphasis on durable, cost-effective measurement systems loaded with features, in an intuitive and easy-to-operate platform. Understanding critical component failure caused by improper chemical control, the Orion 2100 pH/ORP and conductivity measurement systems optimize results, and create confidence in on-line data integrity.

Designed for flexibility in measurement parameters, simply select single, dual or combined pH/ORP and conductivity inputs, offered with optional digital communications for customization to each plant's measurement requirements. These systems can be utilized with any of the premium Orion industrial electrodes as well as most competitive probes utilizing a PT100, Pt1000 thermistor and tinned lead connections. Developed over decades of expertise in ultra pure water analysis, the measurement and temperature compensation algorithms provide superior accuracy across the most difficult high purity measurement.

It's easy to see why the Orion 2100 systems continue to set the pace!

- Easy to operate and calibrate – the system walks you through the step-by-step calibration process, ensuring a successful calibration the first time and every time
- Expandable platform – single channel add-on boards for second channel monitoring of pH/ORP or conductivity measurement loops with plug-in ease
- Cation and ammonia/ETA compensation for various cycle chemistries
- Ultra pure water compensation algorithms for low ionic strength waters
- Rugged NEMA 4X ½ DIN custom enclosure suitable for panel mounting or pipe mounting installations
- Analyzer can be used with a variety of pH, ORP and conductivity sensors for maximum flexibility

The heart of the Orion 2100 pH system is the patented Orion 2001SC ROSS pH Electrode technology. The Orion 2101SC ROSS electrode's unique internal double junction reference design uses no silver chloride and provides faster response, greater accuracy and more reproducible results than conventional electrodes. Calibration is fast and easy – resulting in the highest degree of precision and allows sample measurements to be extremely accurate for extended periods of time without human intervention and thus limiting the frequency of time-consuming calibration cycles.

- Response is FAST – pH readings are extremely stable even in samples varying from one another by 50 °C or more.
- Over the temperature range of 0 to 100 °C results are three to five times more accurate than those obtained with conventional electrodes. Drift is minimal thus, eliminating the need for frequent calibration.

Continuous monitoring of ORP ranges in the power plant water/steam circuit has grown considerably as we witness an evolution into metallurgical investigations for the protection of critical steam cycle components. Used to indicate of the oxidation-reduction status for in-pipe conditions, ORP monitoring in reducing AVT (R) environments can help prevent the costly mistake of chemical overfeed. Alternatively, the innovation in membrane technology and reverse osmosis filtration expanded, the use of ORP control to protect against the damaging effects of disinfection by-products associated with chlorine in drinking water applications can be avoided. The Orion 2100 ORP systems core platinum sensing electrode technology can be standardized with ease using a proprietary long lasting and non-hazardous ORP calibration solution.

Understanding the criticality of measuring specific conductivity with accuracy in high purity water is not all created equal. The measurement and temperature compensation algorithms provide vital analysis to the conductance in cycle chemistry system with complete assurance. Utilizing the 2 electrode stainless steel Orion 2002SS High Purity conductivity sensor with integral temperature combined with a side steam flow chamber assures precise measurements with minimal maintenance and peace of mind.

Maximizing your process control potential with the highest quality measurements is now simpler than ever before using the Orion 2100 series pH / ORP and conductivity monitors. For more information on any of Thermo Scientific Process Water quality products, please visit www.thermo.com/processwater.

Thermo Scientific is part of Thermo Fisher Scientific, the world leader in serving science.

About Thermo Fisher Scientific

Thermo Fisher Scientific Inc. (NYSE: TMO) is the world leader in serving science, enabling our customers to make the world healthier, cleaner and safer. With annual revenues of \$10 billion, we have more than 30,000 employees and serve over 350,000 customers within pharmaceutical and biotech companies, hospitals and clinical diagnostic labs, universities, research institutions and government agencies, as well as environmental and industrial process control settings. Serving customers through two premier brands, Thermo Scientific and Fisher Scientific, we help solve analytical challenges from routine testing to complex research and discovery. Thermo Scientific offers customers a complete range of high-end analytical instruments as well as laboratory equipment, software, services, consumables and reagents to enable integrated laboratory workflow solutions. Fisher Scientific provides a complete portfolio of laboratory equipment, chemicals, supplies and services used in healthcare, scientific research, safety and education.



Together, we offer the most convenient purchasing options to customers and continuously advance our technologies to accelerate the pace of scientific discovery, enhance value for customers and fuel growth for shareholders and employees alike. Visit www.thermofisher.com.