Great wines start with great chemistry
Analysis tools that make the difference you can taste.

Ensure product quality and exceptional taste throughout the winemaking process with Thermo Scientific™ Orion™ pH and ion selective electrodes, meters and solutions. Our instruments and solutions have been delivering accurate measurements of critical parameters for over 50 years. Thermo Scientific Orion analysis instruments combine excellent meter features with proven electrode technology to provide a complete package to meet your demanding quality standards. Choose from an assortment of standard measurement kits below, or pick-and-choose from our selection of individual products based on the type of analysis you are performing.

**Dissolved Oxygen Analysis**
Oxygen exposure can cause adverse effects during the winemaking process, including browning, aroma and flavor modification, and structural softening. For these reasons, dissolved oxygen (DO) measurement is extremely important for wineries. Optical DO sensor technology improves measurement efficiency with no required warm up time, maintenance solutions or stirring.

**Recommended Product:** Thermo Scientific™ Orion Star™ A323 RDO/DO Meter Kit - STARA3235

This Dissolved Oxygen meter kit includes everything you need to start testing the oxygen exposure of wine samples, including a dissolved oxygen meter, optical DO sensor and portable carrying case.

**Visual Clarity (Turbidity) Analysis**
Accurate visual clarity measurements (turbidity) of wines at various stages of the winemaking process are critical for determining suitability for bottling. An infrared light source allows readings which are not affected by the deep color of red wines or the blush color of rosé wines.

**Recommended Product:** Thermo Scientific™ Orion™ AQUAfast™ Turbidity Meter Kit - AQ3010

This turbidity meter kit includes everything you need to start testing the turbidity of wine samples, including a turbidity meter, primary standards to verify reporting accuracy, vials and portable carrying case.

**pH, Titratable Acidity, Ammonia Nitrogen Analysis**
pH, titratable acidity (TA) and ammonia nitrogen are critical measurements that affect the fermentation process and flavor of wine. pH strongly relates to a wine’s stability and quality, while the level of nitrogen during fermentation affects the taste. Titratable acidity is an indicator of how acidic the final product will taste. Ammonia nitrogen is a major component of assimilable nitrogen, which is important to yeast growth and metabolism.

**Recommended Product:** Thermo Scientific™ Orion Star™ A214 pH/ISE Meter pH and Ammonia Kit - STARA2146

This pH and ammonia meter kit includes everything you need to start testing the pH, titratable acidity and ammonia nitrogen of wine samples, including a meter, pH electrode, ammonia electrode, temperature probe, stirrer probe, ammonia standards and solutions.

**Sulfur Dioxide Analysis**
The presence of sulfur dioxide in wine prevents microbial growth. Too little, and the wine may oxidize and suffer from bacterial growth. High levels of sulfur dioxide may cause the wine to exceed legal limits for sulfur dioxide. You can add an electrode to our pH meter and expand its capabilities to include the measurement of sulfur dioxide.

**Recommended Product:** Thermo Scientific™ Orion™ Sure-Flow™ ORP Electrode and ORP Calibration Standard
- Orion Sure-Flow ORP electrode - 9679BNWP
- Orion ORP calibration standard - 967910 (475 mL) or 967961 (5 x 60 mL)

For even better performance we recommend our ORP electrode with an iodide reference system.
- ORP/Iodide Electrode (Orion Residual Chlorine Electrode) - 9770BNWP
Trust Thermo Scientific products for your wine analysis

In addition to the recommended standard measurement kits on the front of this flyer, we offer additional products that address chemical analyses critical to winemaking, depending on your needs and budget. Refer to the chart below, or call your Thermo Scientific Orion distributor to find the best solution for your requirements.

<table>
<thead>
<tr>
<th>Type of Analysis</th>
<th>Alternative Products</th>
<th>Relevant Features</th>
</tr>
</thead>
<tbody>
<tr>
<td>pH, Total Acidity, Nitrogen Ammonia</td>
<td>Orion Star A211 pH benchtop meter kit – STARA2115</td>
<td>Budget-friendly meter alternative for pH and mV analysis</td>
</tr>
<tr>
<td></td>
<td>Orion Star A321 pH portable meter kit – STARA3215</td>
<td>Portable meter for on-the-spot testing of pH and mV readings</td>
</tr>
<tr>
<td></td>
<td>Orion ROSS Sure-Flow 8172BNWP electrode and Orion stainless steel ATC probe 927007MD for temperature measurement</td>
<td>Sure-Flow pH electrode has very easy-to-clean junction that works best with samples containing viscous or solid materials</td>
</tr>
<tr>
<td></td>
<td>9512BNWP Standard Ammonia Electrode, 951006 ammonia standard, 951211 ionic strength adjuster</td>
<td>Add on to existing pH/mV meter for ammonia nitrogen analysis</td>
</tr>
<tr>
<td></td>
<td>Orion Star A216 pH/RDO/DO benchtop meter kit – STARA2165</td>
<td>Space-saving alternative for combined pH and DO benchtop measurement capabilities</td>
</tr>
<tr>
<td>Dissolved Oxygen</td>
<td>Orion Star A326 pH/RDO/DO portable meter kit – STARA3265</td>
<td>Compact alternative for combined pH and DO portable measurement capabilities</td>
</tr>
<tr>
<td></td>
<td>Orion 087020MD RDO optical dissolved oxygen probe</td>
<td>Long 6 meter cable for deep wine vats</td>
</tr>
<tr>
<td>Sulfur Dioxide using ORP</td>
<td>Thermo Scientific™ Orion™ Triode™ 9180BNMD ORP/ATC electrode</td>
<td>Built-in ATC temperature sensor for convenience</td>
</tr>
<tr>
<td>Visual Clarity (Turbidity)</td>
<td>Orion AQUAfast AQ4500 turbidity meter</td>
<td>Added capability to measure using white light or IR LED</td>
</tr>
<tr>
<td>Spectrophotometry</td>
<td>Talk to us about Thermo Scientific spectrophotometry products</td>
<td>Match your application requirements and budget</td>
</tr>
</tbody>
</table>

To download the latest Thermo Scientific application notes on wine analysis, visit our Fermentation page on the Food & Beverage community site: www.thermoscientific.com/fermentation

For more information on Thermo Scientific Orion products, call your authorized distributor or visit thermoscientific.com

thermoscientific.com/water

© 2015 Thermo Fisher Scientific Inc. All rights reserved. All trademarks are the property of Thermo Fisher Scientific and its subsidiaries.

Water Analysis Instruments

North America
Toll Free: 1-800-225-1480
Tel: 1-978-232-6000
info.water@thermo.com

Netherlands
Tel: (31) 020-4836270
info.water.uk@thermo.com

India
Tel: (91) 22-4157-8800
wai.asia@thermofisher.com

Singapore
Tel: (65) 6778-6876
wai.asia@thermofisher.com

Japan
Tel: (81) 045-453-9175
wai.asia@thermofisher.com

Australia
Tel: (61) 8757-4300
infoau@thermofisher.com