

Sentia

Wine testing made easy



Sentia: a wine analyzer for fast and reliable testing.

The Sentia analyzer is the most convenient wine analysis tool available to winemakers, laboratory scientists and cellar hands. Sentia is a portable, hand-held potentiostat that performs electrochemical detection methods, and is currently equipped to test 6 key wine analytes measured during the winemaking process:

- Acetic acid
- Free SO²
- Fructose
- Glucose
- Malic acid
- Titratable acidity

How does Sentia work?

Originating from a pedigree of modern POC medical devices, Sentia uses the same expertise in healthcare technology to deliver meaningful, accurate and consistent results for the wine industry in just minutes. Specialized test strips unique to each test method have a series of widely recognized and researched industry common reagents dried down into a small reaction chamber contained within the strip. Once this test strip is inserted into the device and a single drop of sample is applied, the reagents will dissolve and react with the wine, all whilst the device delivers a voltage to the strip electrodes. Electrons are consequently transferred at the strip electrode surface, and the current generated from this exchange of electrons is measured using electrochemical techniques such as squarewave voltammetry and amperometry.

Machine based learning algorithms and calibration parameters generated from industry reference methods are then applied to give you a final result within minutes of sample application.



1. Power button.
2. Touch screen display.
3. Test strip eject button for mess free disposal.
4. Test strip port & protective cap for insertion of Sentia test strips and protection of hardware.
5. USB charge port.



Rapid results for fast decisions



Hand-held size lets you analyze in the winery



Upload results to a PC, tablet or phone via Wi-Fi



More than 100 tests achievable on a single charge



Affordable



Easy and intuitive for any team member



Auto calibrating



No hazardous chemicals for safe handling



Touchscreen



Reproducible results comparable to other test methods

Test strip & measurement specifications

Acetic Acid 	<table> <tr> <td>Product code</td><td>30730</td></tr> <tr> <td>Sample type</td><td>Red or white wine</td></tr> <tr> <td>Measurement range</td><td>0.1 to 1.5 g/L</td></tr> <tr> <td>Test time</td><td><3.5 min</td></tr> <tr> <td>Dilution required</td><td>Yes (1 part sample, 3 parts deionized/distilled water)</td></tr> <tr> <td>Coefficient of determination (R_2)*</td><td>0.91</td></tr> <tr> <td>Standard error*</td><td>0.1 to 1.5 g/L = 0.05 g/L</td></tr> <tr> <td>Repeatability</td><td>Red wine: 0.02 g/L; White wine: 0.04 g/L</td></tr> </table>	Product code	30730	Sample type	Red or white wine	Measurement range	0.1 to 1.5 g/L	Test time	<3.5 min	Dilution required	Yes (1 part sample, 3 parts deionized/distilled water)	Coefficient of determination (R_2)*	0.91	Standard error*	0.1 to 1.5 g/L = 0.05 g/L	Repeatability	Red wine: 0.02 g/L; White wine: 0.04 g/L
Product code	30730																
Sample type	Red or white wine																
Measurement range	0.1 to 1.5 g/L																
Test time	<3.5 min																
Dilution required	Yes (1 part sample, 3 parts deionized/distilled water)																
Coefficient of determination (R_2)*	0.91																
Standard error*	0.1 to 1.5 g/L = 0.05 g/L																
Repeatability	Red wine: 0.02 g/L; White wine: 0.04 g/L																
Free SO₂ 	<table> <tr> <td>Product code</td><td>30230</td></tr> <tr> <td>Sample type</td><td>Post-fermentation red or white wine</td></tr> <tr> <td>Measurement range</td><td>3 to 50 mg/L</td></tr> <tr> <td>Test time</td><td><1 min</td></tr> <tr> <td>Dilution required</td><td>No</td></tr> <tr> <td>Coefficient of determination (R_2)</td><td>0.93</td></tr> <tr> <td>Standard error</td><td>2.7 mg/L</td></tr> <tr> <td>Repeatability</td><td>≤1.37 mg/L SD</td></tr> </table>	Product code	30230	Sample type	Post-fermentation red or white wine	Measurement range	3 to 50 mg/L	Test time	<1 min	Dilution required	No	Coefficient of determination (R_2)	0.93	Standard error	2.7 mg/L	Repeatability	≤1.37 mg/L SD
Product code	30230																
Sample type	Post-fermentation red or white wine																
Measurement range	3 to 50 mg/L																
Test time	<1 min																
Dilution required	No																
Coefficient of determination (R_2)	0.93																
Standard error	2.7 mg/L																
Repeatability	≤1.37 mg/L SD																
Fructose 	<table> <tr> <td>Product code</td><td>30530 (strips); 91004 (diluent)</td></tr> <tr> <td>Sample type</td><td>Red or white wine</td></tr> <tr> <td>Measurement range</td><td>0.1 to 10 g/L</td></tr> <tr> <td>Test time</td><td><2 min</td></tr> <tr> <td>Dilution required</td><td>Yes (1 part sample, 4 parts Sentia fructose buffer)</td></tr> <tr> <td>Coefficient of determination (R_2)*</td><td>0.1 to 10 g/L = 0.99</td></tr> <tr> <td>Standard error*</td><td>0.1 to 1.0 g/L = 0.09 g/L; 0.1 to 10 g/L = 0.17 g/L</td></tr> <tr> <td>Repeatability</td><td>0.1 to 5 g/L = ≤0.11 g/L SD; 5.1 to 10 g/L = ≤1.8% CV</td></tr> </table>	Product code	30530 (strips); 91004 (diluent)	Sample type	Red or white wine	Measurement range	0.1 to 10 g/L	Test time	<2 min	Dilution required	Yes (1 part sample, 4 parts Sentia fructose buffer)	Coefficient of determination (R_2)*	0.1 to 10 g/L = 0.99	Standard error*	0.1 to 1.0 g/L = 0.09 g/L; 0.1 to 10 g/L = 0.17 g/L	Repeatability	0.1 to 5 g/L = ≤0.11 g/L SD; 5.1 to 10 g/L = ≤1.8% CV
Product code	30530 (strips); 91004 (diluent)																
Sample type	Red or white wine																
Measurement range	0.1 to 10 g/L																
Test time	<2 min																
Dilution required	Yes (1 part sample, 4 parts Sentia fructose buffer)																
Coefficient of determination (R_2)*	0.1 to 10 g/L = 0.99																
Standard error*	0.1 to 1.0 g/L = 0.09 g/L; 0.1 to 10 g/L = 0.17 g/L																
Repeatability	0.1 to 5 g/L = ≤0.11 g/L SD; 5.1 to 10 g/L = ≤1.8% CV																
Glucose 	<table> <tr> <td>Product code</td><td>30330</td></tr> <tr> <td>Sample type</td><td>Red or white wine</td></tr> <tr> <td>Measurement range</td><td>0.1 to 10 g/L</td></tr> <tr> <td>Test time</td><td><1 min</td></tr> <tr> <td>Dilution required</td><td>No</td></tr> <tr> <td>Coefficient of determination (R_2)*</td><td>0.1 to 5 g/L = 0.97; 0.1 to 10 g/L = 0.99</td></tr> <tr> <td>Standard error*</td><td>0.1 to 1.0 g/L = 0.13 g/L; 0.1 to 10 g/L = 0.18 g/L</td></tr> <tr> <td>Repeatability</td><td>0.1 to 5 g/L = ≤0.05 g/L SD; 5.1 to 10 g/L = ≤1.0% CV</td></tr> </table>	Product code	30330	Sample type	Red or white wine	Measurement range	0.1 to 10 g/L	Test time	<1 min	Dilution required	No	Coefficient of determination (R_2)*	0.1 to 5 g/L = 0.97; 0.1 to 10 g/L = 0.99	Standard error*	0.1 to 1.0 g/L = 0.13 g/L; 0.1 to 10 g/L = 0.18 g/L	Repeatability	0.1 to 5 g/L = ≤0.05 g/L SD; 5.1 to 10 g/L = ≤1.0% CV
Product code	30330																
Sample type	Red or white wine																
Measurement range	0.1 to 10 g/L																
Test time	<1 min																
Dilution required	No																
Coefficient of determination (R_2)*	0.1 to 5 g/L = 0.97; 0.1 to 10 g/L = 0.99																
Standard error*	0.1 to 1.0 g/L = 0.13 g/L; 0.1 to 10 g/L = 0.18 g/L																
Repeatability	0.1 to 5 g/L = ≤0.05 g/L SD; 5.1 to 10 g/L = ≤1.0% CV																
Malic Acid 	<table> <tr> <td>Product code</td><td>30430 (strips); 91002 (diluent)</td></tr> <tr> <td>Sample type</td><td>Red or white wine</td></tr> <tr> <td>Measurement range</td><td>0.05 to 5 g/L</td></tr> <tr> <td>Test time</td><td><1 min</td></tr> <tr> <td>Dilution required</td><td>Yes (1 part sample, 4 parts Sentia malic acid buffer)</td></tr> <tr> <td>Coefficient of determination (R_2)</td><td>0.99</td></tr> <tr> <td>Standard error</td><td>0.05 to 1 g/L = 0.065 g/L; 1 to 5 g/L = 6.75%</td></tr> </table>	Product code	30430 (strips); 91002 (diluent)	Sample type	Red or white wine	Measurement range	0.05 to 5 g/L	Test time	<1 min	Dilution required	Yes (1 part sample, 4 parts Sentia malic acid buffer)	Coefficient of determination (R_2)	0.99	Standard error	0.05 to 1 g/L = 0.065 g/L; 1 to 5 g/L = 6.75%		
Product code	30430 (strips); 91002 (diluent)																
Sample type	Red or white wine																
Measurement range	0.05 to 5 g/L																
Test time	<1 min																
Dilution required	Yes (1 part sample, 4 parts Sentia malic acid buffer)																
Coefficient of determination (R_2)	0.99																
Standard error	0.05 to 1 g/L = 0.065 g/L; 1 to 5 g/L = 6.75%																
Titrateable Acidity (pH 7.00 & 8.20) 	<table> <tr> <td>Product code</td><td>30630</td></tr> <tr> <td>Sample type</td><td>Red or white wine</td></tr> <tr> <td>Measurement range</td><td>3 to 10 g/L</td></tr> <tr> <td>Test time</td><td><1 min</td></tr> <tr> <td>Dilution required</td><td>No</td></tr> <tr> <td>Coefficient of determination (R_2)*</td><td>pH 7.00 = 0.89; pH 8.20 = 0.87</td></tr> <tr> <td>Standard error*</td><td>pH 7.00 = 0.25 g/L; pH 8.20 = 0.26 g/L</td></tr> <tr> <td>Repeatability</td><td>Red wine: 0.07 g/L SD; white wine: 0.12 g/L SD</td></tr> </table>	Product code	30630	Sample type	Red or white wine	Measurement range	3 to 10 g/L	Test time	<1 min	Dilution required	No	Coefficient of determination (R_2)*	pH 7.00 = 0.89; pH 8.20 = 0.87	Standard error*	pH 7.00 = 0.25 g/L; pH 8.20 = 0.26 g/L	Repeatability	Red wine: 0.07 g/L SD; white wine: 0.12 g/L SD
Product code	30630																
Sample type	Red or white wine																
Measurement range	3 to 10 g/L																
Test time	<1 min																
Dilution required	No																
Coefficient of determination (R_2)*	pH 7.00 = 0.89; pH 8.20 = 0.87																
Standard error*	pH 7.00 = 0.25 g/L; pH 8.20 = 0.26 g/L																
Repeatability	Red wine: 0.07 g/L SD; white wine: 0.12 g/L SD																

*Validated by the Australian Wine Research Institute (AWRI), Australia.