

WineScan™ SO₂

Full control of winemaking.
From grape harvesting to bottling



ANALYTICS BEYOND MEASURE

WineScan™ SO₂ ensures full control of the entire winemaking process from grape harvesting to bottling. Ready-to-use calibrations allow for the simultaneous analysis of major wine quality parameters including SO₂.

Cost effective tool to achieve full process control

With the full calibration package, WineScan SO₂ gives you robust multi-component analysis, including 42 robust calibrations based on a FOSS database of more than 150.000 samples. At a low cost per sample, WineScan SO₂ provides a cost effective way of performing analysis for a fast return of investment.

Fast and easy SO₂ measurement

Fast and easy analysis of free and total SO₂ in just 2 minutes allows anyone in the lab to run analysis at any time. WineScan SO₂ provides robust and documented performance against three different reference methods while saving your business both time and cost.

Secure wine quality

The grape soundness parameter package enables you to segregate grapes for better control of your final wine quality, regardless of fluctuations in grape quality.

Sample type

Grapes, must, must under fermentation and finished wine

Parameters

Most critical quality control parameters incl. SO₂

Technology

FTIR (Fourier Transform Infrared Spectroscopy) interferometer that scans the full infrared spectrum.

For SO₂ analysis, phosphoric acid is used as a hydrolysing agent to release SO₂ gas from the wine sample, that is subsequently scanned using FTIR.

Specifications

Applications

Components	Unit	Ranges within producttype *			comments
		Must	Must under fermentation	Finished wine	
Absorbance A420 nm	Absorbance units			0.002 – 1.20	2 mm cuvette
Absorbance A520 nm	Absorbance units			0.08 – 3.0	2 mm cuvette
Absorbance A620 nm	Absorbance units			0.02 – 0.40	2 mm cuvette
Alpha amino nitrogen	mg/l	35 - 280			
Ammonia	mg/l	20 - 200			
Citric acid	g/l			0.2-1	
CO ₂	g/l		400 - 1200	200 - 1100	
Density	g/ml	1.05 - 1.12	0.98 - 1.10	0.98 - 1.03	
Ethanol	% Vol.	0.01 - 0.4	1.6 - 9	8 - 16	
Extract	g/l	150 - 300			
Fructose	g/l	60 - 160		0.2-10; 1 - 45	2 calibrations
Gluconic acid	g/l	0.2 - 2.5		0.2 - 1.5	
Glucose	g/l	65 - 145		0.2-6; 1 - 25	2 calibrations
Glucose/fructose	g/l	95 - 300	5 - 200	0.2-20; 20-50	2 calibrations
Glycerol	g/l	0.2 - 2.0		4-10	
Lactic acid	g/l	0.1 - 2.5		0.1-3	
Malic acid	g/l	1 - 8	1 - 5	0.1 - 4	
pH	None	2.8 - 3.9	3.2 - 3.8	2.8 - 4	
Potassium	mg/l	900 - 3000			
Reducing sugar	g/l	120 -240	5 - 200	0.5-20; 20-150	2 calibrations
Sorbic acid	mg/l			20 - 300	
Tartaric acid	g/l	5 - 8		1-4.5	
Total acidity	g/l	3 - 11	2.6 - 7.1	2-5.7	Expressed as sulphoric acid
Total polyphenol	None			30 - 60	
Total soluble solids	°Brix	10 - 25			
Volatile acidity	g/l	0.05 - 0.5	0.1 - 0.7	0.1 - 1.2	Expressed as acetic acid.
Free sulphur dioxide	mg/l	5 - 75		5 - 100	WSC SO ₂
Total sulphur dioxide	mg/l	20 - 130		10 - 250	WSC SO ₂

*Performance details are available in the application notes corresponding the components and product type.

Technical specification

System description	WineScan SO ₂ consists of the analyser and Foss Integrator software. Options for WineScan SO ₂ include the possibility to upgrade with colour (VIS) module and to automatic version with XY Autosampler WineScan SO ₂ Flex and WineScan SO ₂ Auto
Analysis time	150 seconds, (30 seconds when SO ₂ application not active)
Auto Sampler capacity	3 rack sizes: 21 positions/30 ml cups; 80 positions/20 ml cups; 120 positions/12 ml cups;
Carry-over	<2% for SO ₂ applications; < 1% for other applications
Sample temperature	5 - 35°C
Sample volume	Programmable 4 - 25 ml, standard volume is 7 ml for WSC Flex and 8 ml for WSC Auto version. For SO ₂ application 4 ml extra.
Cleaning	Automatic and programmable.
Options	
Calibration development	FTIR Calibrator with options for PLS and ASM.
Colour	Colour module (LED)
Sample filtration	Manual filtration unit Vacuum pump

Installation requirements

Power supply	100 - 240 VAC ±10% – 50 - 60 Hz
Power consumption	Max. 600 VA during measurement, 200 VA in standby
Temperature for sample and instrument	5 - 35°C
Ambient humidity	< 80% RH, cyclic up to 80% RH when going from low to high ambient temperature
Weight	89 kg for WSC Flex; 100,7 kg incl. XY Autosampler
Dimensions (h × w × d)	54×88×47.3 cm (excl. PC)
Environment	For best performance, place the instrument on a stable surface away from excessive and continuous vibration.
XY Auto Sampler	
Power supply	100 - 240 VAC ±10% – 50 - 60 Hz ; 1,04 A Autosampler input: 24 V DC; 3,33 A
Weight	11,7 kg
Dimensions (H×W×D)	62×33×59 cm (with sample probe, cables and tubing mounted)

FOSS