

WineScan™ SO₂



WineScan™ SO₂ for analysis of wine quality parameters in 30 - 150 seconds.

Features and Benefits

- WineScan™ SO₂ is a fast and robust FTIR solution for analysis of main quality parameters in wine
- Results for main quality parameters, including free and total SO₂, are determined at once in a single analysis
- Low reagent cost per analysis and easy sample preparation
- Ready-to-use strong calibrations for wine, must under fermentation and must, covering most quality parameters of all major types of wine
- Foss Integrator software platform with traceability tools, prediction performance and outlier detection to ensure safe data handling and storage
- The optional WinISIT™ software package facilitates development of customised calibrations or new parameters
- Possibility of A₄₂₀, A₅₂₀ and A₆₂₀ colour analysis by visual spectroscopy
- A flexible solution with a variety of optional modules and applications to match your analysis needs, incl. autosampler

Description

WineScan SO₂ is the solution for the busy wine laboratory requiring fast, accurate analysis. Ready-to-use strong calibrations allow for the simultaneous analysis of major wine quality parameters.

Sample preparation is easy as no preheating or chemical pre-treatment is required. Cost per sample is low as no expensive reagents are needed. The automatic flow system and zero-setting function ensure reliable and consistent results.

WineScan SO₂ analyses main product components such as Ethanol, pH, sugars, organic acids and Free and Total Sulphur Dioxide in wine. Up to 32 parameters can be analysed from one sample - ask your local FOSS representative for the full parameter list.

The wine samples in the calibrations represent red, white and rose wines, which gives you a reliable and robust calibration.

See application notes for up-to-date and detailed information about available calibrations.

Technology

WineScan SO₂ has a FTIR (Fourier Transform Infrared Spectroscopy) interferometer that scans the full infrared spectrum. The SO₂ analysis is featured by SO₂ gas releasing from the wine sample and subsequent FTIR scanning of the gas phase created. Collection of data from the entire spectrum allows you to analyse many parameters in a short period of time. Analysing new parameters is only a matter of calibration development.

System Description

WineScan SO₂ consists of the analyser and Foss Integrator software. Options for WineScan SO₂ include the possibility to upgrade with colour (VIS) module and to automatic version with XY Autosampler.

Performance data

One of the following calibration packages is included:

Flex*: Finished Wine: (Ethanol, Glucose/Fructose, Malic Acid, Volatile Acid, Total Acid, pH, Free Sulphur Dioxide, Total Sulphur Dioxide)

or Must: (pH, Malic Acid, Tartaric Acid, Total Acid, Brix, Density, Free Sulphur Dioxide, Total Sulphur Dioxide.)

Auto*: Finished Wine: (Ethanol, Glucose/Fructose, Malic Acid, Volatile Acid, Total Acid, pH, Free Sulphur Dioxide, Total Sulphur Dioxide.)

More calibrations are available. A large number of parameters can be analysed simultaneously, and the number of measure profiles that can be set-up is unlimited.

Without SO₂ analysis switched on:

Analysis time:	30 seconds (excl. SO ₂ , see below)
Carry-over:	< 1%
Sample Temperature:	5 - 35°C
Sample Volume:	Programmable 4 - 25 ml, standard volume is 7 ml for Flex and 8 ml for Auto version.
Optical System:	Hermetically sealed, humidity control.
Cleaning:	Automatic and programmable.
Calibration routines:	Slope & Intercept Adjustment.
Options in WinISIT™	
SW package:	PLS (Partial Least Squares) and modified PLS calibrations and PCA (Principal Component Analysis). Flexible selection of spectral intervals.

With SO₂ analysis switched on:

Analysis time:	150 seconds (options for fast hydrolysis time of 86 seconds)
Carry-over:	< 2%
Sample Temperature:	5 - 35°C
Sample Volume:	Fixed 4.2 ml to be added (total 8.2 - 29.2 ml)
Hydrolysis agent:	4 ml 25% Phosphoric acid
Optical System:	Independent detector, hermetically sealed, humidity control.
Cleaning:	Automatic and programmable.
Calibration routines:	Slope & Intercept Adjustment.
WinISIT™ SW options:	no SO ₂ - 32 liquid parameters available

* WineScan Auto is configured with an autosampler for the busy laboratory, WineScan Flex has manual sample intake.

Installation requirements

WineScan™

Power supply:	100 - 240 VAC ±10% – 50 - 60 Hz
Power consumption:	Max. 600 VA during measurement, 200 VA in standby
Ambient temperature:	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; 97.4kg 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.
Degree of protection:	IP43 (IP43 PC is optional)
Noise Level:	< 70 dB
Fuse:	T 10.0 A
Installation category:	II
Pollution degree:	2
Altitude:	≤ 2000 m

XY Auto Sampler

Power supply:	100 - 240 VAC ±10% – 50 - 60 Hz
Weight:	8.4 kg
Dimensions (H×W×D):	61×33×50.8 cm (with sample probe)

PC Requirements (Minimum)

- 1 GHz CPU speed (minimum)
- 1 GB RAM (2 GB recommended) (Emulator: 256 MB)
- 4 GB free disk space (Emulator: 2GB)
- NTFS File system
- SVGA at 1024*768, min. 16bit colours
- Windows® XP SP3 or Windows® 7 (32 bit)
- Microsoft® office
- CD/DVD drive
- 2 USB Ports
- 1 Serial port
- Mouse/trackball
- Windows-based printer

Standards and Approvals

WineScan™ SO₂ is CE labelled and complies with the following directives:

- EMC Directive 89/336/EC and amendments EN 61000-6-3 EN 61000-6-2
- Low voltage directive 73/23/EC and amendments EN/IEC 61010-1 version 2
- Classification, packaging and labelling of dangerous preparations directive 99/45/EC and amendments
- Packaging and packaging waste directive 94/62/EC
- Directive on waste electrical and electronic equipment (WEEE)
- Food and Drug Administration (FDA), Title 21, CFR, chapter J

FOSS

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