WineScan™ SO_2

WineScan™ SO_2 for analysis of wine quality parameters in 30 - 150 seconds.

Features and Benefits

- WineScan™ SO_2 is a fast and robust FTIR solution for analysis of main quality parameters in wine
- Results for main quality parameters, including free and total SO_2, 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 WinISI™ software package facilitates development of customised calibrations or new parameters
- Possibility of A_{420}, A_{520} and A_{620} 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 SO_2 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 pretreatment 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 SO_2 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 SO_2 has a FTIR (Fourier Transform Infrared Spectroscopy) interferometer that scans the full infrared spectrum. The SO_2 analysis is featured by SO_2 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 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.

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 - 35ºC
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 WinISI™	
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 - 35ºC
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.
WinISI™ 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 - 35ºC
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™ SO_2 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

FOSS Analytical
Slangerupgade 69
DK-3400 Hilleroed
Denmark

Tel.: +45 7010 3370
Fax: +45 7010 3371

info@foss.dk
www.foss.dk

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