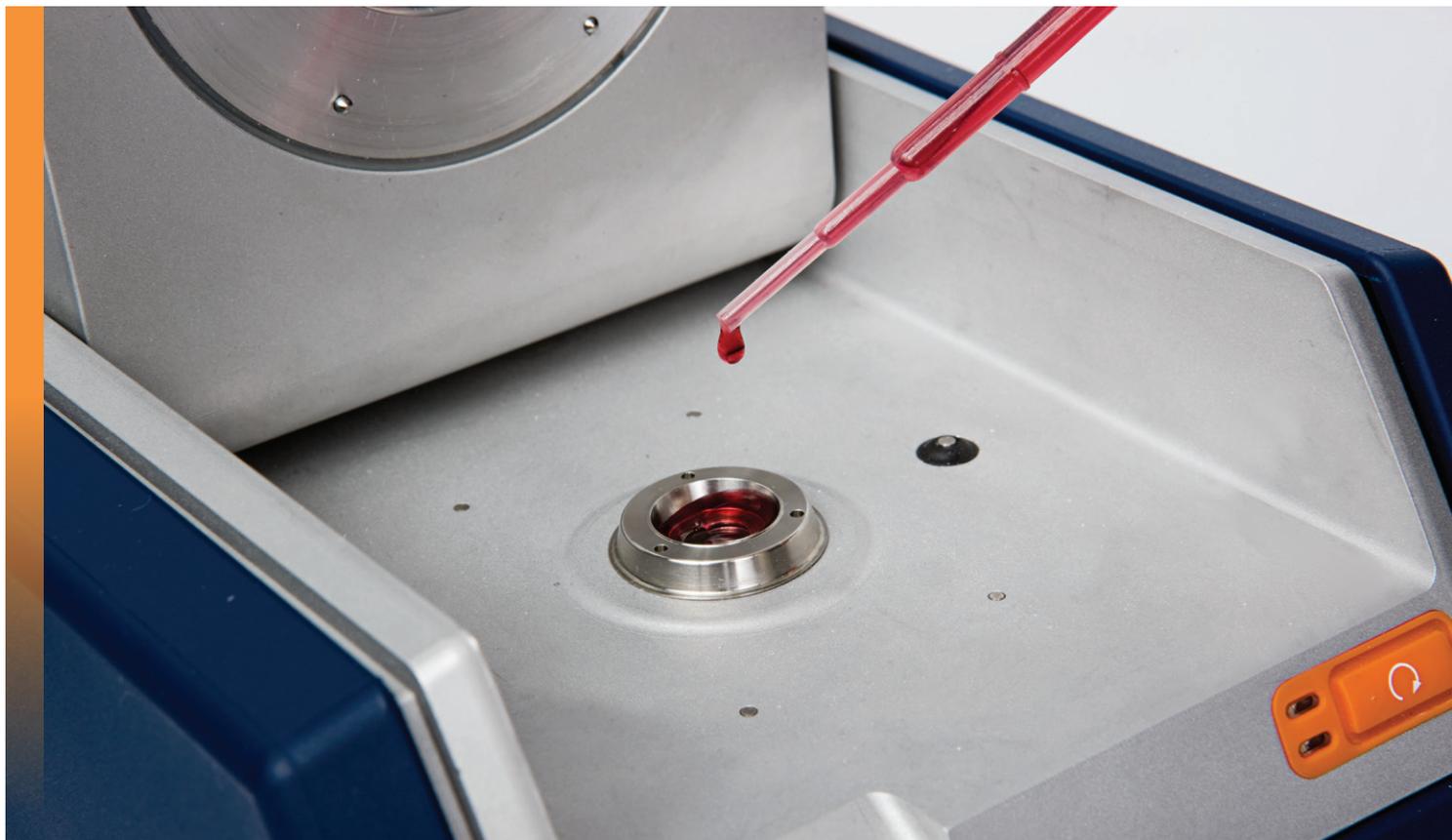


OenoFoss™

Instant quality control throughout the winemaking process

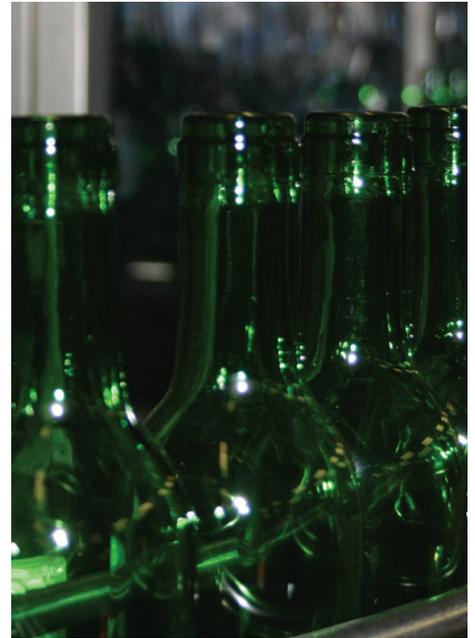


The Oenofoss is a dedicated analyser for rapid, routine measurement of key parameters in winemaking. You can measure multiple components from grape must, fermentation liquids and finished wine in two minutes. It is ideal for:

- Testing grape must to decide harvest time and strategy
- Grape segregation based on quality and soundness parameters
- Fermentation planning and monitoring
- Individual barrel quality control
- Blending control and pre bottling measurement

Parameters Must	Parameters Must under fermentation	Parameters Finished Wine	Parameters Colour
Brix, pH, Total Acidity, Volatile Acidity, Alpha Amino Nitrogen, Ammonia, Tartaric Acid, Malic Acid, Gluconic Acid, Density	Ethanol, Total Acidity, Malic Acid, Volatile Acidity, Glucose/fructose, pH	Ethanol*, Total Acidity*, Malic Acid*, Lactic Acid, Volatile Acidity*, Glucose/fructose*, Glucose, Fructose, pH*, Density	Oenofoss can be configured with a colour module to analyze OD at 420 nm, 520 nm and 620 nm in parallel with other parameters

*Sweet wine calibrations available



Do more analysis with less

OenoFoss™ is a compact, simple-to-use analytical solution that measures multiple parameters of grape must, must under fermentation or wine in just two minutes.

It replaces various time-consuming analysis solutions with a single test performed on the spot. Because it is so quick and simple to perform tests, you'll find that you can do more analysis, more frequently giving you valuable objective information to support your decisions.

Grape maturity and segregation

A few drops of must juice is enough to analyze grape samples with Oenofoss. The parameter list includes organic acids, sugars and soundness indicators. This allows you to closely map the grape maturity on your estate and plan the harvest down to individual blocks. The multiple quality parameters allow you to segregate grapes precisely for maximum value.

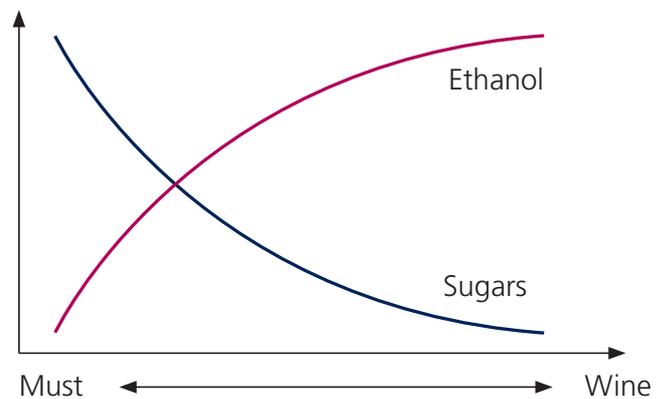
Vinification control

Oenofoss gives you real-time analysis of the vinification processes. You'll still have to consider optimal growth conditions for the yeast and the risk of stuck fermentation, but with Oenofoss by your side, you can track trends in a tight measurement programme and avoid problems before they arise.

Barrels, Blending and Bottling

Oenofoss enables control of individual barrels to detect possible infections and to monitor the wine development over time before it is blended and bottled. The small sample volume requirement is a great advantage in a frequent barrel control program.

Oenofoss is the ideal solution to assist in quality wine production at all stages from harvest to bottling



Keep track of your fermentation process with tight mapping of key parameters

FOSS a reliable partner in the wine industry

FOSS wine analysis solutions were introduced to the wine industry in 1999 and FOSS has quickly become a leading force in quality control of wine at all stages of production. More than 1000 wine producers and laboratories across the wine industry have discovered the ability of FOSS analytical solutions to deliver the rapid and accurate results that winemakers demand. Solutions are based on FTIR analysis technology – a field in which FOSS has vast experience and knowledge.

Our knowledge and experience is complemented by local presence around the world, ensuring that you can always talk to a dedicated sales and support team located near you.

Purpose built FTIR unit for reliable wine analysis operations

Built on the well proven Fourier Transform Infrared (FTIR) technology behind the world's most widely used routine wine analyser – WineScan™- the Oenofoss analyser provides a solid platform for wine analysis.

The principle of FTIR technology is to scan a must or wine sample in the full mid-infrared spectrum. Light is absorbed in the sample according to the appearance of wine constituents such as sugars and acids. The absorption is converted through the Fourier transform mathematical model to a prediction of the concentration of various constituents. FTIR provides multiple results for many parameters very quickly.

Proven technology

A common question in relation to FTIR analysis is: 'Can you trust the results?'

The answer is that the performance of Oenofoss relates to the strengths of the built-in calibrations. All Oenofoss calibrations are ready-to-use meaning that you can start to measure immediately. During installation, an initial adjustment of the unit may be required to accommodate your exact wines. Hereafter, adjustment is a rare event and you can trust the result.

Oenofoss calibrations cover a wide range of analytical requirements. Application notes are available with information about the accuracy and repeatability performance.

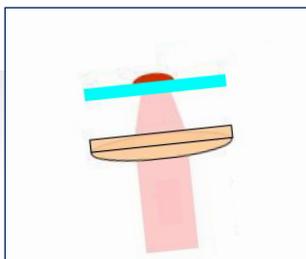


After sales support

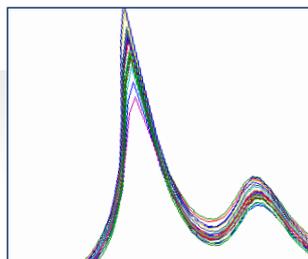
FOSS offers a range of support packages that takes care of everything related to maintenance of the Oenofoss from hardware updates to calibration adjustments, updates, and maintenance.

Together we will customize a support package that fits with your business. Opportunities exist to get remote support through the built-in networking software, where a FOSS representative can assist with a range of support tasks in a fast and efficient manner. This can be combined with on-site support visits. This leaves you free to concentrate on using the results for managing your wine production.

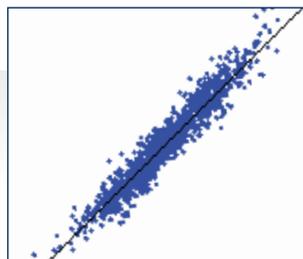
How does it work?



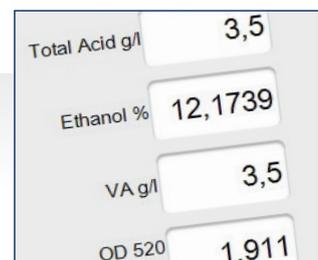
1. Infrared light through sample



2. Spectrum analysis



3. Calculations



4. Result on screen

The principle of FTIR routine analysis involves infrared scanning of must or wine samples. Through mathematical modeling, the concentration of up to ten different wine constituents is predicted within two minutes.

User friendly design and intuitive user software

Unlike other FTIR units, Oenofoss has an open cuvette system which allows very small samples volumes to be applied. This is a significant advantage when making exclusive wines.

The open cuvette design also makes it very simple to use an Oenofoss. All it requires is the ability to use a pipette, to place the sample into the cuvette and push start. Oenofoss takes care of the rest and presents the results in two minutes.

Results are automatically stored on a PC and history views display developments over time. You also have the option to customize your software settings in order to reflect your operations in terms of wine types, sample identification, etc.

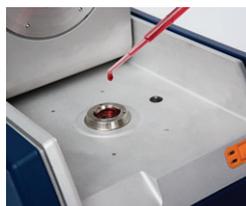
Sample ID	Date	Gluc/Fruc g/l	Total Acid g/l	pH	Ethanol Vc
98	19/08/2011 10:57:26	4.904	3.566	3.704	15.908
12	19/08/2011 10:54:49	4.729	3.572	3.704	16.009
345	19/08/2011 10:52:30	4.844	3.556	3.706	15.981
23	19/08/2011 10:50:07	0.475	4.739	3.789	14.120
32	19/08/2011 10:46:51	4.878	3.569	3.720	15.920
36	19/08/2011 10:41:31	5.558	3.588	3.703	15.522
65	19/08/2011 10:35:43	28.697	3.782	3.353	8.661
76	19/08/2011 10:27:53	29.200	3.783	3.340	8.811
45	19/08/2011 10:25:01	29.216	3.767	3.342	8.657
	19/08/2011 10:22:25	28.548	3.762	3.329	8.767



Just how easy is it to use?



1. Select sample type



2. Load sample



3. Press start

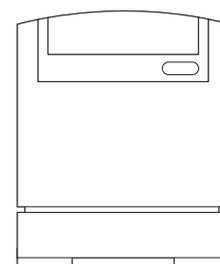


4. Await result



5. Clean

Specifications



Feature	Specification	
Parameters & Calibration range Must	Brix: 12 - 27 °Brix pH: 2.6 - 4.0 Volatile Acid: 0 - 0.6 g/l TA to pH 7.0: 2 - 12 g/l Alpha Amino Nitrogen: 17 - 345 mg/l Ammonia: 0 - 175 mg/l	Density: 1.04 - 1.15 g/ml Gluconic Acid: 0.03 - 4.63 g/l Malic Acid: 0.1 - 7.26 g/l Tartaric Acid: 0 - 11.7 g/l
Parameters & Calibration range Must under fermentation	Glu+Fru: 0 - 240 g/l pH: 2.6 - 4.0 TA to pH 7.0: 2.0 - 6.5 g/l Malic Acid: 0 - 7 g/l Volatile Acid: 0 - 0.6 g/l Ethanol: 0 - 13 Vol %	
Parameters & Calibration range Finished wine	Glu+Fru: 0 - 20 g/l pH: 2.6 - 4.0 TA to pH 7.0: 2 - 5 g/l Malic Acid: 0 - 6 g/l Volatile Acid: 0 - 1.0 g/l Ethanol: 8 - 16 Vol % Density: 0.99 - 1.01 g/ml	Lactic Acid: 0 - 4.63 g/l Glucose: 0.02 - 10.65 g/l Fructose: 0.15 - 10.20 g/l
Parameters & Calibration range Sweet wine	Ethanol: 7-19 Vol % Glucose + Fructose: 0 - 180 g/l Malic Acid: 0 - 5.2 g/l Total Acidity: 0.2 - 6.0 g/l Volatile Acidity: 0 - 1.2 g/l pH: 2.9 - 4.0	
Parameters & Calibration range Colour	Colour abs 420: 0 - 1.2 Colour abs 520: 0 - 3.0 Colour abs 620: 0 - 0.6	
Accuracy	See application notes for performance details	
Repeatability	See application notes for performance details	
Analysis time	FTIR wine unit; 2 minutes	
Sample ambient temperature	10°C - 35°C	
Sample volume	600 µl of must, must under fermentation or finished wine with a manual pipette. Close the lid and start analysis within 6 seconds to ensure reliable results	
Instrument warm up time	1 hour	
Cleaning	With a regular tissue and commonly used detergent cleaning liquids	
Sample preparation	Clarify sample using a centrifuge or filtration. Particle size <10 µm. In case of excess CO ₂ , degassing is necessary (e.g. use vacuum pump or ultrasonic treatment)	
Calibration routines	Slope & Intercept Adjustment	
SW package	Foss Integrator with PLS calibrations	
Cuvette FTIR wine unit	Cuvette with variable light pathways	
Cuvette VIS colour unit	2 mm (700 µl)	

Installation requirements

OenoFoss™	
Power supply	100 - 240 VAC ± 10%, 50 - 60 Hz
Power consumption	66 VA [max of Power supply]
Ambient temperature	10°C - 35°C
Ambient humidity	< 93% RH
Weight	Wine unit: 6,3 kg. Colour unit: 3,8 kg
Dimensions (H×W×D)	189 × 154 × 321 mm (excl PC), same size for each module
Environment	Place the instrument on a stable surface away from excessive and continuous vibration. Do not place the instrument in direct sunlight or close to an open window
Degree of ingress protection	IP40
Noise level	< 70 dB (measured value typically lower than 45 dB)
Altitude	< 2000 m

Standards and Approvals

OenoFoss is CE labeled and complies with the following directives:

- EMC Directive 89/336/EC and amendments
- EN 61000-6-3 and EN 61000-6-2 (covering by this 61000-6-1 and 61000-6-4)
- Low voltage directive 2006/95/EC and amendments
- EN/IEC 61010-1, 2001
- Classification, packaging and labeling of dangerous preparations directive 99/45/EC and amendments
- Packaging and waste directive 94/62/EC
- ROHS directive (2002/95/EC)

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