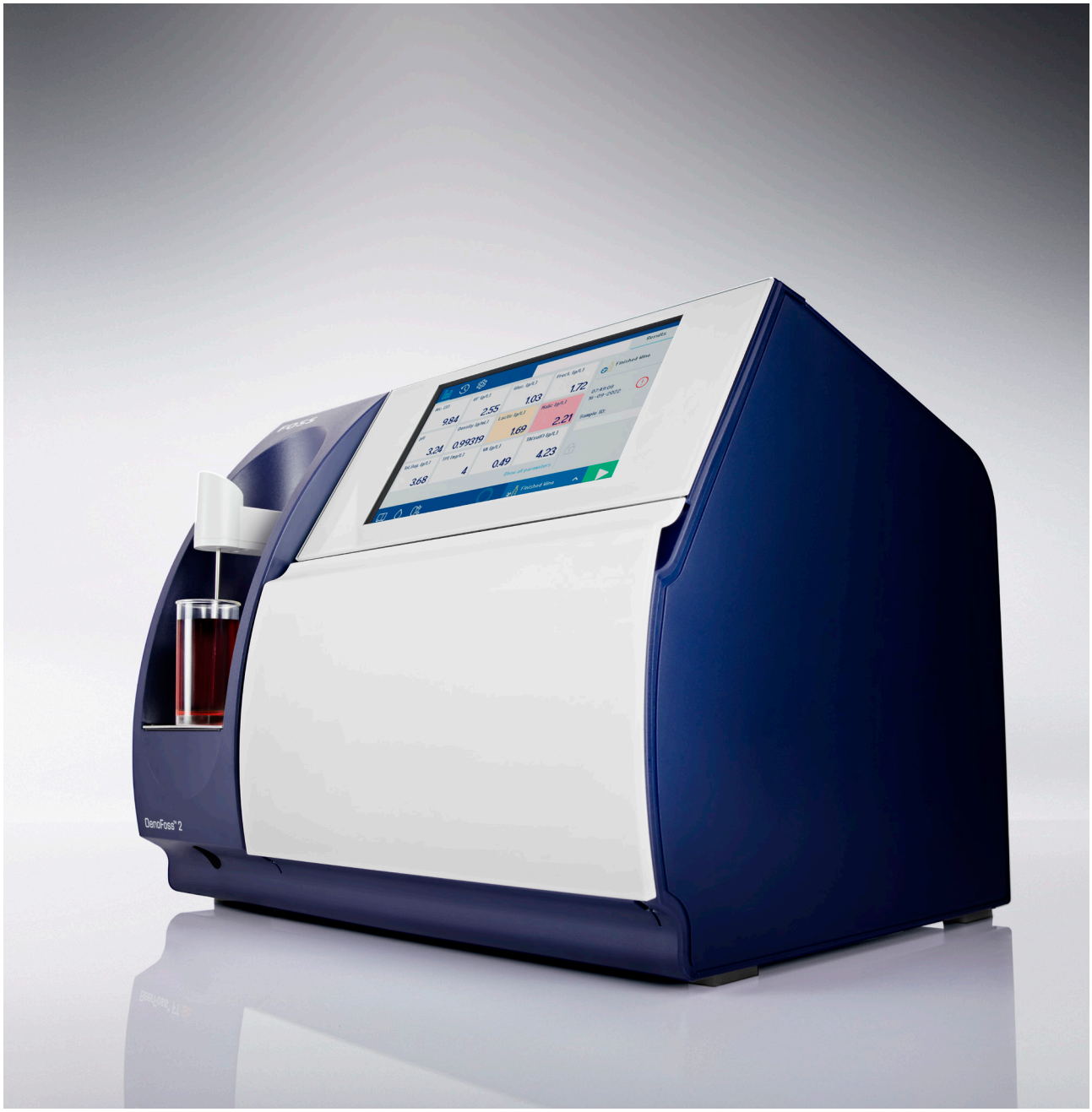
FOSS

WINEMAKING WITH OENOFOSS™ 2

The value of insight



ANALYTICS BEYOND MEASURE

DATA PLUS EXPERIENCE THE OENOFOSS™ 2 MIX

While sensory perception will always be at the heart of decision-making, rapid wine quality analysis adds a valuable new perspective that helps to improve both quality and business.

Just as wine held to the light reveals valuable information to a trained eye, so a small sample of wine tested with an easy-to-use instrument in less than two minutes pours forth a wealth of information that puts winemakers in full control of the winemaking process.

The availability of analytical data allows better decision-making throughout the winemaking process leading to more consistent quality and ultimately better business through improved brand and economy. Tradition supported by reliable test data is a unique partnership that paves the way for even higher levels of quality wine.

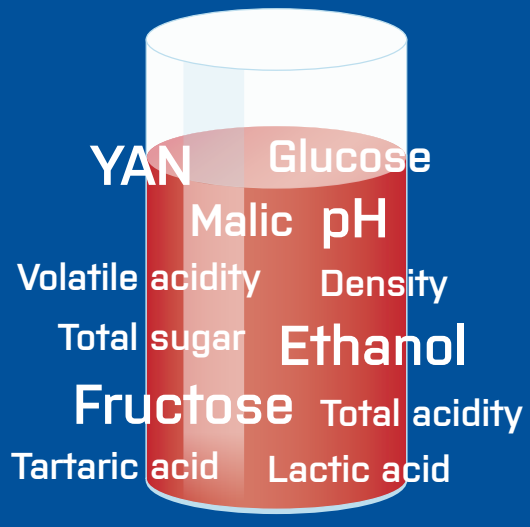
OVER 22 YEARS OF DATA COLLECTION

From WineScan™ to OenoFoss™ 2

The performance of the OenoFoss™ 2 is built on the shoulders of the benchmark WineScan™ analyser that has served winemakers and wine laboratories for decades. That's because the analytical packages for both the WineScan and OenoFoss 2 are based on a vast, shared pool of global data. The data has been acquired over many years of partnership with the wine industry and represents growing seasons and regions from around the world. Reliable performance is further assured by automatic adjustment for instrument wear and the capability to switch between different sample types without problem.

TRUSTWORTHY DATA SHOWS THE WAY FROM VINEYARD TO LABELLING

- A range of different test parameters to choose from – build the perfect portfolio for your winery
- Performance matched to the industry-standard WineScan™
- Instrument adjusts itself for wear with no user intervention, as was required with earlier generation instruments



10 ml of sample – over 25 key parameters

Choose the right selection for your winery and add more parameters* as you need them.

*See the OenoFoss™ 2 product page on www.fossanalytics.com for a continuously updated list of available parameters.

ART SUPPORTED BY SCIENCE

A few examples of how OenoFoss™ 2 adds value throughout the winemaking process

Harvest decisions

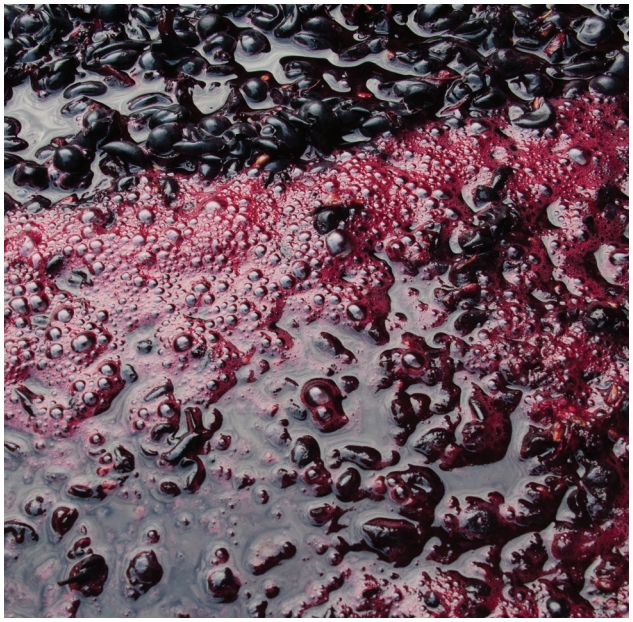
Rapid analysis of grape must allows you to follow the development of grape maturity from the start of the veraison period through to harvest. Grape pulp parameters such as fructose, glucose, total sugar and others can be followed to help you achieve the balance you are looking for between sugars and acids. Get an overview of ripeness, both in terms of the physiological maturity of the grapes and through insight into quality characteristics that contribute to the final quality of the wine.

Key parameters to consider:
Fructose, glucose, tartaric acid, malic acid, total acidity

Spot potential disorders before they affect your wine

Rapid analysis is valuable in tracking the interaction between microorganisms and grapes. Frequent test data helps you to avoid the mistakes and costs associated with poor quality grapes. For instance, test data on metabolites such as ethanol provides a valuable supplement to your local knowledge. This allows a more complete indication of potential disorders.

Key parameters to consider:
Glycerol, gluconic acid, acetic acid, ethanol



Fermentation insights

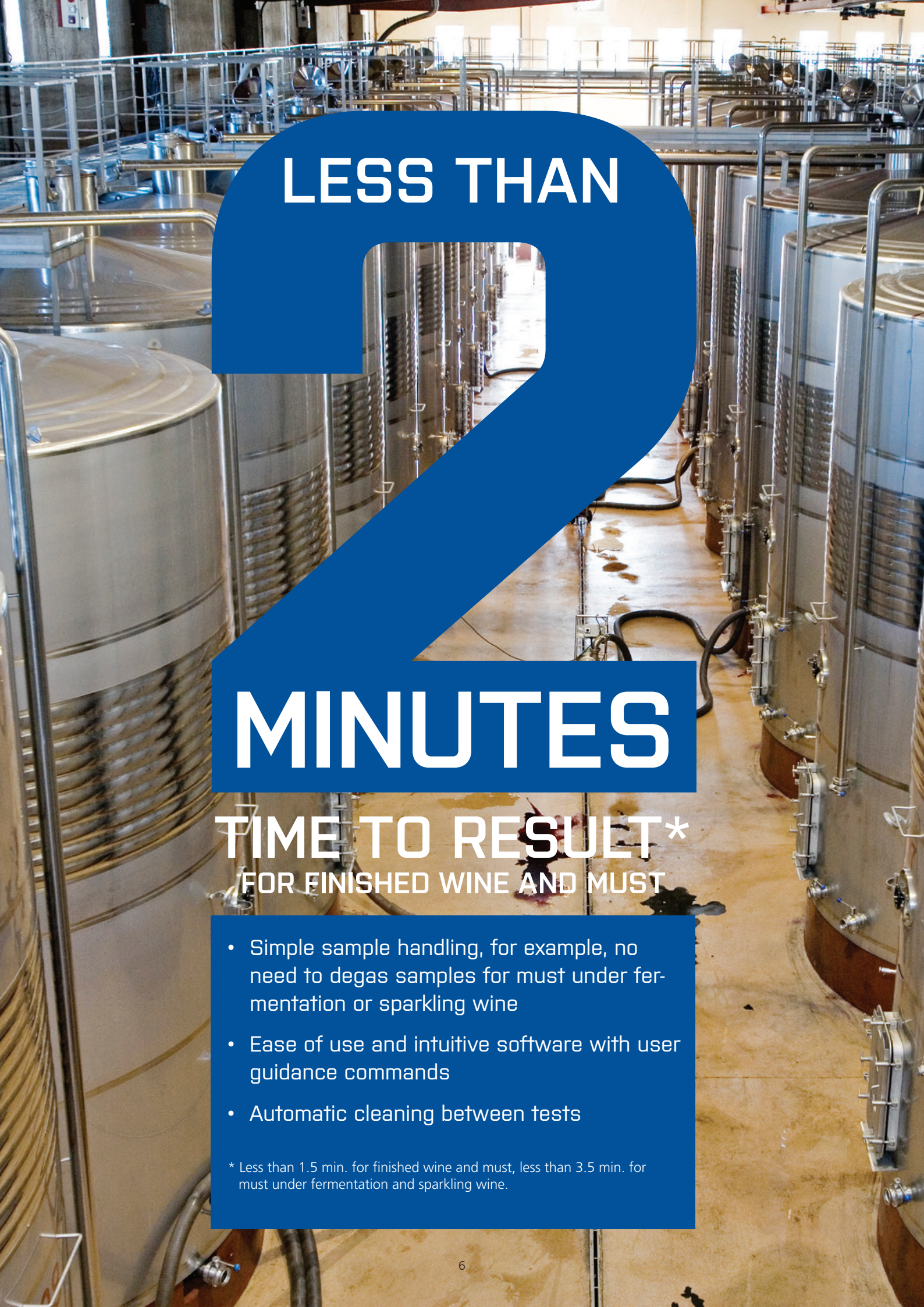
Track alcoholic and malolactic fermentation and react in time to avoid potential issues. For instance, you can check that the yeast has the right nutrients to grow. A test for yeast assimilable nitrogen (YAN) allows you to supplement nitrogen deficient must with diammonium phosphate at the start of fermentation to provide adequate nitrogen levels. The measurements also provide a valuable reference when tasting for those complex components only discernable to the experienced palate. Likewise, for malolactic fermentation, rapid analysis tracks the conversion of malic acid to lactic acid with a simple convenient test. If you are using barrels, you can test each one at no extra cost.

Key parameters to consider:
Alcohol, YAN, malic acid, lactic acid, ethanol, total sugar

Perfect blending and bottling

Ensure stability of wine for bottling and measure finished wine for correct blending, bottling and documentation with minimal administration work. The multiple analysis results from a single sample will help you meet demands from customers for increasingly detailed product information. And you can complete labelling and administrative tasks precisely with accurate analysis using a small sample volume.

Key parameters to consider:
Glucose/fructose, pH, acetic acid, ethanol, malic acid, total acidity



LESS THAN 2 MINUTES

TIME TO RESULT*

FOR FINISHED WINE AND MUST

- Simple sample handling, for example, no need to degas samples for must under fermentation or sparkling wine
- Ease of use and intuitive software with user guidance commands
- Automatic cleaning between tests

* Less than 1.5 min. for finished wine and must, less than 3.5 min. for must under fermentation and sparkling wine.

Analysis on auto pilot

Training of temporary staff during busy periods can lead to concerns about data quality. With OenoFoss™ 2 intuitive operation and advanced instrumentation makes owning and running a wine-analysis solution simple and worry-free. Onboarding of staff is made easy without compromising data quality.

No degassing of must under fermentation and sparkling wine samples saves time and avoids potential human error in the degassing step.

Infinite quality

OenoFoss™ 2 prepares you for whatever the future brings. No matter the spring weather, no matter the availability of staff and no matter how market trends develop, OenoFoss 2 promotes better decision-making throughout the winemaking process. Tradition supported by reliable test data is a unique partnership that points the way to even higher levels of quality wine throughout the industry.

Future proof technology for tomorrow's winery

- Connectivity ensures that operators need never feel alone with instrument operation
- Automatic backup and reporting keeps data safe, traceable and accessible
- FOSS SmartCare™ program offers a comprehensive range of flexible service offerings.

Fits with your winery today and tomorrow

The unique range of analytical packages for OenoFoss™ 2 allows you to start small with a few parameters and add more as you need them.

OenoFoss 2 is also smart-enabled to provide unprecedented levels of support while ensuring that valuable analysis data is always safe, traceable and easy to access and share.

FTIR – the perfect technology for rapid and reliable testing of must and wine

Fourier Transform Infrared (FTIR) analysis is a spectroscopic technique that makes use of the naturally occurring electromagnetic spectrum. Specifically, the wavelengths between 2,500 nanometers (nm) and 25,000 nm are used. This is the 'mid-infrared' region and this is why FTIR is also sometimes referred to as Mid IR. Generally though, it is the name of a mathematical technique used to convert measurement data into a usable result (Fourier Transform) that is popular, hence, Fourier Transform Infrared, or FTIR for short.

The Fourier Transform was first developed by the French mathematician Jean Baptiste Joseph Fourier (1768-1830). He would no-doubt be delighted to know that his work is now being put to good use in the wine industry in concert with the latest developments in analytical technology.

Because the spectrums generated by an FTIR analyser are based on many data points, it provides a highly accurate spectral representation of the sample under analysis. By exploiting the broad mid-infrared spectrum FTIR analysis can collect a lot of data simultaneously with many parameters measured in a single test. These might include ethanol, glucose/fructose, malic acid, volatile acid, total acid, pH to name just a few.

Fast, clean and simple to use, FTIR analysis has become an important tool for the wine industry ever since FOSS introduced it in the form of our WineScan™ analyser in 1999. It is not that winemakers could not make high quality wine before, but rapid analysis has been proven to give an edge in winemaking by providing reliable and objective analytical insights at any time they might be required. Now it is time for you to share the power and convenience of FTIR testing with the OenoFoss™ 2.

Technical specification

Analysis time	Less than 1.5 min. for finished wine and must, less than 3.5 min. for must under fermentation and sparkling wine
Noise level	< 70 db (A)
Sampling	
Samples volume	6-10 ml
Sample preparation	Clarification required. Clarification by filtration or centrifugation. Particle size less than 25 µm.
Sample temperature	15-25 °C
Maintenance	
Cleaning	Automatic and programmable
Test	Automatic, integrated. Self test option
Options	
Models	FOSS provides ready to use models

Installation requirements

Power supply	(100 to 240V) V - 50/60 Hz
Power consumption	12V, 5A, - 60 W
Ambient temperature	15-25 °C
Ambient humidity	< 80 %RH
Ambient CO_2 concentration	< 2000 ppm
Weight	11 kg (Including zero/clean liquids)
Dimensions (h x w x d)	285 x 345 x 280 mm
Environment	For best performance place the instrument on a stable surface away from excessive and continuous vibrations

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