

# TDIF

# BACCHUS3



## **AUTOMATIC ANALYSER (FTIR - UV - VIS)**

The new **BACCHUS3** is the only analyser on the market-place that provides simultaneously the integral IR, UV and visible absorbance spectra; it is thus particularly well adapted to cover most wine analysis situations:

*Maturity control at reception bay level  
Must and fermenting must  
Finished wines  
(dry, sweet, sparkling, fortified wines)*



**COMPACT, RELIABLE, REVOLUTIONARY**



# BACCHUS3

## SYSTEM MODULES



**Thermo Fisher Scientific iS5 FTIR** spectrometer: absorbance reading with 25  $\mu\text{m}$  proprietary transmission flow cell. Nicolet EZ-Omnisc FTIR software included.



**UV/Visible module:** High performance diode-array spectrophotometer; spectral range: 200-850 nm; equipped with an easily interchangeable 0.2 mm flow-cell (MultiSpec version)

- ✓ Automation control and command module.
- ✓ Auto sampler: 117 Positions. (Optional)

## PARAMETERS

\* **BACCHUS3** is delivered with all available calibrations\*

- ✓ **Alcohol, Sugar (reducing, total, G/F, saccharose), density, dry extract.**
- ✓ **Total acidity, pH, volatile acidity.**
- ✓ **Organic acids: acetic, malic, lactic, tartaric, gluconic, succinic, citric, ethyl acetate, sorbic.**
- ✓ **Glycerol, assimilable nitrogen, total SO<sub>2</sub>, CO<sub>2</sub>, anthocyanins, tannins, butanediol.**
- ✓ **Baume, brix, probable alcohol, potassium.**
- ✓ **Colour intensity, shade, hue, OD 280, total polyphenol index (official method).**

## PRECISION (standard deviation)

Alcohol	$\pm 0,05 \%$	Sugar	$\pm 0,30 \text{ g/l}$
Total acidity	$\pm 0,07 \text{ g/l}$	pH	$\pm 0,035$
Volatile acidity	$\pm 0,04 \text{ g/l}$	Malic acid	$\pm 0,15 \text{ g/l}$
Colour	$\pm 0,05$	Total polyphenols	$\pm 0,20$

## INSTALLATION

FTIR module dimensions:	W44 x D44 x H40 cm
Autosampler dimensions:	W30 x D44 x H37 cm
Weight:	$\sim 20 \text{ kg}$
Power:	220 v - 50/60 Hz

## TECHNICAL SPECIFICATIONS

- ✓ Throughput: 120 samples/hour (whatever the number of parameters)
- ✓ Universal calibrations for all types of wines and musts.
- ✓ High-tech, state of the art, optical bench: insulated optics, controlled temperature and hygrometry. Dynamic alignment.
- ✓ Transmission flow-cell. Thermo-regulation at 28°C ( $\pm 0.1^\circ\text{C}$ ) with Peltier circuitry enabling the processing of samples from 5 to 35°C.
- ✓ Online filtration and degassing.
- ✓ Dual halogen/deuterium light source (2,000 hours).
- ✓ Quick change of all standard modules.
- ✓ Easily upgradable system.

## SOFTWARE

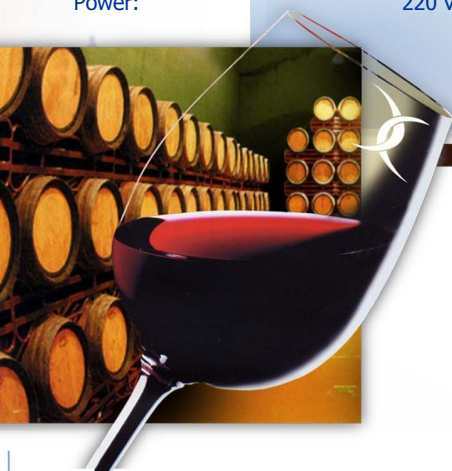
The software package of Bacchus3 includes 2 powerful applications that were designed for a simple, intuitive and flexible operation of the system.

### BACCHUS Analysis

- ✓ Calibration adjustment (slope and bias).
- ✓ Real time adjustment of calibrations.
- ✓ Saving of spectra and reanalysis.
- ✓ Flow-cell standardization.
- ✓ Management of urgent samples.
- ✓ Automatic identification of wine/must, dry/sweet wines with identification library.
- ✓ Troubleshooting functions (automation, optics).
- ✓ Password-controlled access to critical functions.
- ✓ Result upload with various file formats: TXT, MDB...
- ✓ Custom analysis protocols: selection of calibrations and analytical parameters.
- ✓ Traceable analysis protocol parameters.
- ✓ Print-out of the laboratory documentation.
- ✓ Automatic and manual rinsing cycles.

### QL Analyst

- ✓ Development of PLS and/or MLR calibrations.
- ✓ Quantitative and qualitative calibrations.
- ✓ Display of spectra in graphics mode (overlay, zoom, cursor).
- ✓ Mathematical tools for the definition of the optimal spectral bands, cross validation, selection of the number factors, etc.



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