

MICRODENS
EASY, FAST AND ACCURATE **WINE QUALITY TESTING**

GIBERTINI

Portable Electronic Densimeter

MICRODENS

to determine **ABV, total dry extract**, **density, specific gravity, sugar scales in Wines & Musts**



Compliant with official OIV methods:

OIV-MA-AS312-01B
OIV-MA-AS2-01B
OIV-MA-AS2-03B
OIV-MA-BS-01
(EC) N° 2870/2000
OIV-MA-VI-05

OIV
International Organisation of Vine and Wine
Intergovernmental Organisation

MICRODENS: Wine and Must analysis, made easy



High-precision **alcohol content** & concentration measurement in just **5 seconds**. **Automatic temperature adjustment**. More than 30 customizable methods

MICRODENS: Beverage Quality Control, made easy



ABV MEASUREMENT

MicroDens is a portable digital **densimeter** based on **oscillating tube** (MEMS) technology that enables the precise measurement of liquid density in a matter of seconds, Microdens can determine the **Alcoholic Strength by Volume** (ABV) of a distilled sample with a **resolution** up to **0.01 % vol, while** simultaneously displaying **ABV**, temperature, and **density** at 20°C, in **just 6 seconds**.



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OIV-MA-AS312-01B: R2021

FAST AND EASY

Pour the distillate, the wine, or the must sample into the cylinder, **insert** the Microdens tube, **Press the central button** and **Wait** for the magic to begin.

It is as simple as that.

Direct analysis on distilled and **undistilled** samples



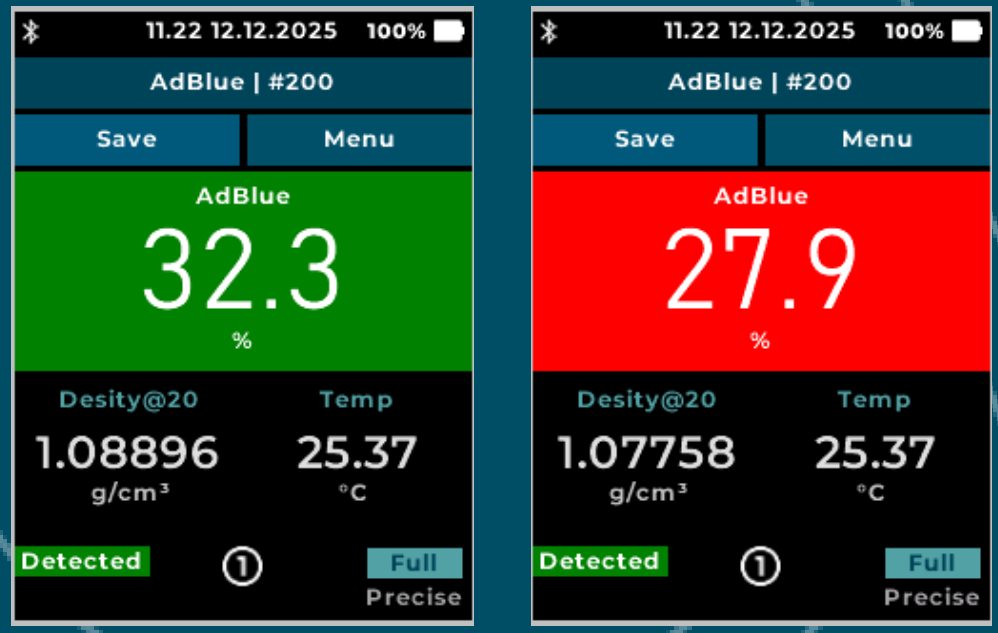
"**Detected**" Visual indicator ensures the **accuracy** of the value

ADVANCED QUALITY CONTROL

Microdens speeds up daily laboratory quality control with instant, at-a-glance density checks.

Customisable methods allow limit setting for QC applications, while an intuitive colour-coded display immediately highlights sample compliance: green within tolerance, red out-of-range, ensuring:

- ✓ Programmable limits for each method
- ✓ Immediate visual feedback OK/KO – even when saved in history

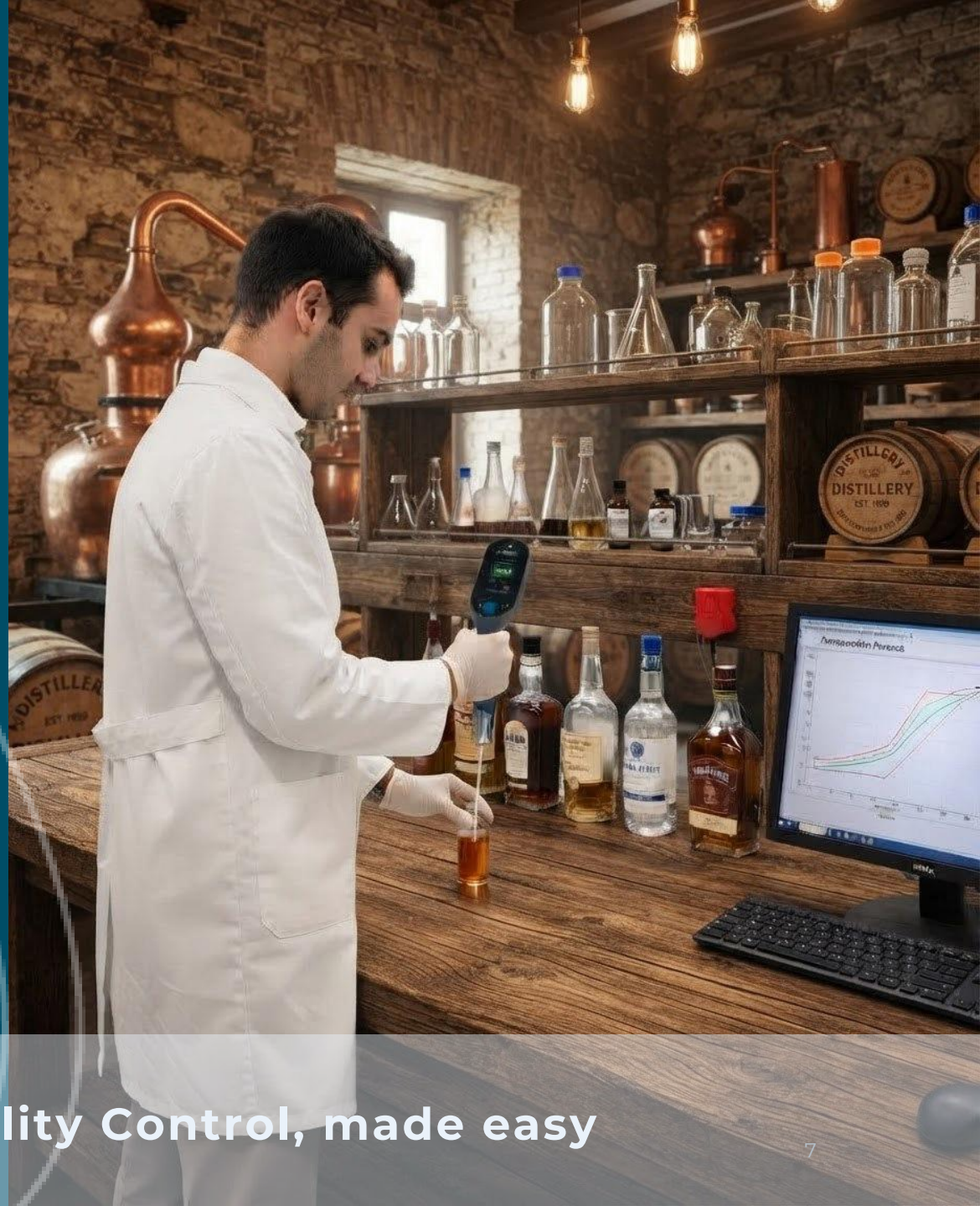


DENSITY AND SPECIFIC GRAVITY

*"In oscillating U-tube densimetry, the density of wine or musts is determined with a **digital density meter** by measuring the **resonance frequency of a U-shaped tube** filled with the sample, where frequency variations are directly correlated to the sample's mass and density"*

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TOTAL DRY EXTRACT

In spirits such as **brandy, rum or whisky**, dry extract refers to the non-volatile residue left after alcohol and water are removed — congeners, oak-derived compounds picked up during cask ageing, and other solids that build body and mouthfeel. It's a key parameter for verifying product authenticity and detecting dilution or adulteration. MicroDens calculates it indirectly from the specific gravity of the alcohol-free distillate, displaying **Dry Extract, ABV%, Real Extract, OG and Attenuation** on the same reading, fully compliant with **OIV-MA-AS2-03B.**

WASH ANALYSIS

Before distillation, the fermented wash — from grain, molasses, fruit or cane, depending on the spirit — must be monitored to **maximize alcohol yield** and ensure a clean base for the still. Tracking the drop in specific gravity confirms fermentation is complete and identifies the right moment to distil, directly affecting the **character** and **consistency** of the final **spirit**. MicroDens provides real-time density, ABV% and the main sugar scales (°**Brix, °Plato, °Baumè, °Babo**) needed to follow the wash from pitching to distillation.

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Dry Extract (g/l)

ABV%



CONCENTRATIONS IN BINARY SOLUTIONS

Microdens enables the rapid and accurate determination of concentration in **binary liquid solutions** through precise density measurement.

Fast on-site measurements support quality control, process optimization, product consistency, and regulatory compliance throughout production.

This analytical approach is ideally suited for a wide range of food and beverage applications, including **salt brines (NaCl), glycerol solutions, propylene glycol mixtures**, and sugar solutions containing **sucrose, glucose, or fructose.**

Microdens features already inbuilt methods to calculate the concentration of chemical components in binary solution.





SOFTWARE : LOGGER PRO

Logger Pro is a dedicated software dedicated to the Collection, visualization, analysis, plotting, and export of the measurements generated by the MicroDens densimeter.

MAIN FEATURES

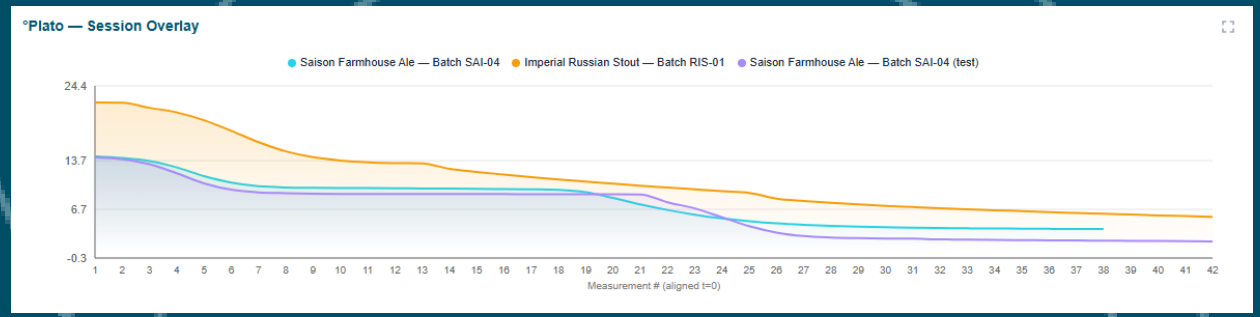
Logger Pro allows the user to visualize simultaneously many important parameters, such as :

Quality Control :

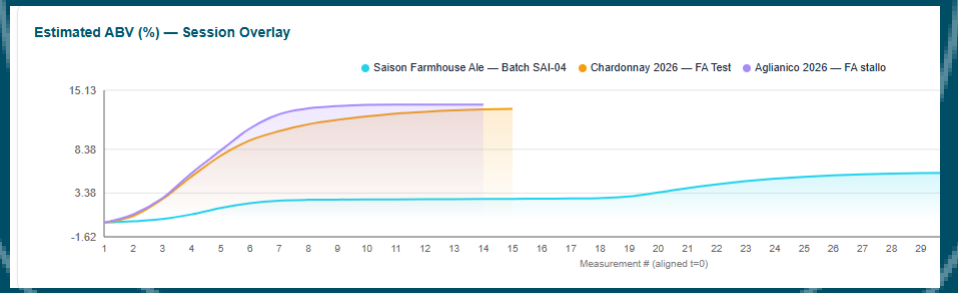
- Automatic comparison with targets and limits
- PASS/OOS result for a reading, sample, or lot

Statistics : Mean, σ, CV%, percentiles, MAD, capability indices Cp/Cpk

Traceability: Lot, product, order, shift, customer, operator, notes, and annotations on charts



°Plato variation in time - comparison



Estimated ABV variation in time - comparison

FEATURES

Density	
Measuring Range	0.600 - 1.200 g/cm³
Resolution	0.00001 g/cm³
Repeatability	0.00005 g/cm³
Accuracy	0.0001 g/cm³

Temperature	
Measuring Range	0°C – 60°C
Resolution	0.01 °C
Repeatability	0.1 °C
Accuracy	0.1 °C

Viscosity	
Measuring Range	0 – 5 mPa·s

ALCOHOLIC STRENGHT BY VOLUME (TAV%)	
Measuring Range	0.00 - 100.00 %
Resolution	0.01 %
Repeatability	0.05 %
Accuracy	0.1 %

TOTAL DRY EXTRACT	
Dry Extract range	0.0 – 505.5 g/l sucrose
Accuracy and repeatability	± 0.3 g/l

SUGAR SCALES & MUST EVALUATION	
Density Range	0.600 - 1.200
Degrees	Brix, Baumé, Babo, Oechsle, Plato

THE ALL-IN-ONE SOLUTION FOR BEVERAGE ANALYSES

Parameters	Accuracy	Resolution	Measurement Range
Density (20°C)	0.0001 g/cm³	± 0.00001 g/cm³	0.6÷1.20
Specific Gravity - ABV - (d20/20) (SG)	0.0001	± 0.00001	0.6÷1.20 (d20/20)
Specific Gravity - Total Dry Extract - (d20/20) (SG)	0.00001	± 0.00001	0.79000÷0.99995 (d20/20)
ABV - Alcohol Strength by Volume (%v/v)	0.1 % vol	±0.01 % vol (15÷25°C)	0.050÷99.990% vol
ABW - Alcohol by Weight (%w/w)	0.1 % w	±0.01 % vol (15÷25°C)	0÷100
Dry Extract (20°C) (g/l)	0.3	0.1 g/l	0÷505.5 g/l sucrose
Baumé Grades (°Bé)	0.1	0.01	0÷30 °Bé
Babo Grades (°Babo)	0.1	0.1	0÷45 °Babo
Brix Grades (°Bx)	0.3	0.1	0÷55 °Bx
Oechsle Grades (°Oe)	0.1	0.1	0÷120 °Oe
Plato Grades (°P)	0.03	0.01	0÷40 °P
Plato (°Plato) Balling formula (Oe)	0.03	0.01	0÷40 °P
Real Extract Balling formula (RE)	0.05	0.01	0÷120 °Oe
NaCl (%)* In bynary solution*	0.1	0.01	0÷25 %
Temperature	0.1°C	±0.1°C	0÷60°C

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TECHNICAL FEATURES:

- Power tension & Consumption: 3,7 VDC / 2500 mA
- Memory 2000 set of measured data / 30+ customizable methods
- Operating temperature: 10 ÷ 40°C (suggested 15 ÷ 25°C)
- Dimensions: 320 mm x 100 mm x 65 mm (L x D x H)
- Net weight: 380 g
- Data output: USB – C & Bluetooth
- Standard equipment:
  - power supply + USB-C Cable
  - n. 2 PTFE filling tubes
  - n. 1 Hard Case for transport
  - n. 1 Quick-Guide & Calibration Report

ACCESSORIES (on demand)**:**

- **Hydroalcoholic** solution Accredia RMP certified (Certified Reference Material)
- Digital Label printer

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Standards & References:

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Technical specifications are subject to change without notice.
All our instruments are intended solely for scientific purposes and internal control.
They must not be used in environments with explosion hazards.
The use of our balances is prohibited in the circumstances outlined in Article 1, Point 2, Letter a) of Directive 2014/31/EU, except for models approved with the CE mark (legal metrology).
Electronic balances are sensitive to variations in gravitational acceleration and must be calibrated at the installation site (2014/31/EU).
All our instruments comply with Directive 2004/108/EU (electromagnetic compatibility).



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