



cdR OxiTester Touch



cdR OxiTester Junior

Analysis	
Acidity (FFA), Peroxide value, Polyphenols / Stability index, K270	Acidity (FFA), Peroxide value, Polyphenols (optional) Stability index (optional)
Display	
5,7" TFT color LCD touchscreen	4,3" Wide TFT color LCD touchscreen
Connectivity	
2 USB 2.0 to transfer the database of performed tests and update the configuration and software	1 USB type B for technical service and PC connection
1 USB type B for technical service and PC connection	Bluetooth 2.1
1 Ethernet (LAN)	
Storage of results	
Internal memory to store thousands results of analyses in CSV and XML files, compatible with all database formats (e.g.:XLS, SQL).	Internal memory to store thousands results of analyses in CSV and XML files, compatible with all database formats (e.g.:XLS, SQL).
Photometric module	
6 different wavelengths in 4 reading cells	6 different wavelengths in 4 reading cells
Incubation module	
37°C thermostated block with 16 positions	37°C thermostated block with 3 positions
Number of samples you can analyze at the same time	
16	3
Multitasking mode (possibility to perform more analyses on the same sample)	
Yes	No
Printer	
Graphic printer on board 80 mm width	Absent
Dimension and weight	
32 x 29,5 x 13 cm (W x D x H) 2,80 Kg	15 x 22 x 8,3 cm (W x D x H) - 0,80 Kg
Power supply	
24 V	24 V or lithium ion battery (optional)

cdR OxiTester Junior

Portable model, lithium battery powered, with Bluetooth printer and rigid carrying case.



cdR OxiTester

The intuitive and comprehensive analysis system

ANALYSIS SYSTEM FOR QUALITY CONTROL OF OLIVE OIL



ANALYSES

Acidity (FFA), Peroxide value, Polyphenols / Stability index, K270



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Quality system certified
ISO 9001 ed.2008

THE SYSTEM

CDR OxiTester is composed of a thermostated analyzer based on photometric technology that uses LED; a kit with disposable pre-vialled reagents with low toxicity, in package of 10 tests, 1 year shelf life, developed and produced by the research laboratories of CDR.

REDUCED TESTING TIMES

With **CDR OxiTester** now it is possible to perform the analyses autonomously, in your own brewery, easily and rapidly, without relying on dedicated external laboratories.

It is possible to **analyze 16 samples at the same time** (with the **CDR OxiTester Touch model**) and to monitor constantly the production process, obtaining in few minutes exact and accurate answers.

EASY TO USE

The system is designed to be used by anyone, without the support of skilled staff.

The analysis methods are easier than the traditional ones and can be performed in few steps:

- 1 Adding the sample volume to the pre-vialled reagent.
- 2 Following the displayed instructions and if there is ever a doubt, the **HELP function** will lead you through the process.
- 3 Results are automatically calculated, displayed and printed.

RELIABLE

This measuring system owes its **sensitivity, accuracy and reliability** to the photometric technology based on LED luminous sources. The **results** of the analyses are **correlated with the reference methods**.

TEST	Measuring range	Resolution	Repeatability
Acidity (FFA)	0,03-1,10% Oleic acid	0,01%	0,02%
	0,1-3,50% Oleic acid	0,1%	0,1%
	1-26,03% Oleic acid	0,1%	0,5%
Peroxide value	0,3-25 meqO ₂ /Kg	0,01 meqO ₂ /Kg	0,1 meqO ₂ /Kg
	1-50 meqO ₂ /Kg	0,1 meqO ₂ /Kg	0,3 meqO ₂ /Kg
Polyphenols (Biophenols)	200-1000 mg/ g tyrosol	1 mg/Kg	10 mg/Kg
Stability index	9-40 h Induction time	0,1 h	0,3 h
K270	0,02-1,570	0,001	0,01



Acidity

The free acidity content of an oil is given by the free fatty acids derived from hydrolysis (rancidification) of triglycerides. This process takes place whenever the oil is treated or stored in non-optimal conditions. The acidity represents therefore a fundamental indicator of the product quality, and is used to define its merceological classification in accordance with the European regulations.

Category	Extra Virgin Olive Oil	Virgin Olive Oil	Lamp Olive Oil
ACIDITY (% oleic acid)	0,8	2	

Peroxides

The peroxide number of an oil describes its primary oxidation state and, therefore, its tendency to become rancid. Unsaturated fatty acids react with oxygen to form peroxides, which trigger a series of chain reactions terminating with the production of volatile compounds with the characteristic rancid smell. These reactions are accelerated by higher temperatures as well as by exposure to light and oxygen. The lower the peroxide number, the higher is the oil quality and its conservation state.

Quality	High	Good	Medium	Low
PEROXIDES mEqO ₂ /Kg	7	12	20	

Total polyphenols

Polyphenols are among the most precious components of olive oil: they are the source of its characteristic fruity taste and its sharp, tangy bite; they protect the oil from becoming rancid and possess a powerful antioxidant action on the organism. The total polyphenol content of an oil depends on its cultivar variety, the harvest period, soil characteristics and extraction process. The higher the polyphenol concentration, the longer it lasts and the greater its beneficial health effects. **The new Total Polyphenol (Biophenols) test employed by CDR OxiTester has been tuned using the reference method COI/T.20/Doc. 29:2009 by the Chemical Merceological Laboratory in Florence. The Total Polyphenol readings on olive oil as assayed by the CDR OxiTester are therefore well correlated with the reference method.** The complete paper, "Technological methods for the rapid assay of biophenol content in olive oils" can be downloaded from www.cdroxitester.it/polifenoli.

Quality	Very High	High	Medium	Low
TOTAL POLYPHENOLS (biophenols) mg/Kg of tyrosol	550	400	250	

Stability index

Oxidative stability represents the resistance of the oil to oxidation and rancidification, and is therefore linked to its lasting freshness. CDR OxiTester method is a valid alternative to the reference Rancimat method, as was demonstrated by a study from University of Athens published in an important scientific paper. Oxidative Stability analysis is performed indirectly with the CDR OxiTester method through the analysis of Total Polyphenol contents, which can be performed in drastically shorter times than the reference Rancimat method.

The paper on the correlation between **CDR OxiTester and Rancimat**, "A novel photometric method for evaluation of oxidative stability of virgin olive oils" can be downloaded from www.cdroxitester.it/JAOAC.

Endurance	Very High	High	Media	Low
STABILITY INDEX Induction time, hours	18	14	10	

K270

The K270 spectrophotometric reading allows detection of rectified oils additions to virgin olive oil. Rectified oils show a characteristic ultraviolet absorbance peak in the 270 nanometer range, peak that is markedly higher than in extra virgin and virgin oils.