QUARTZ ANALYTICS
Making Science Simple
A Crystal Filtration Company

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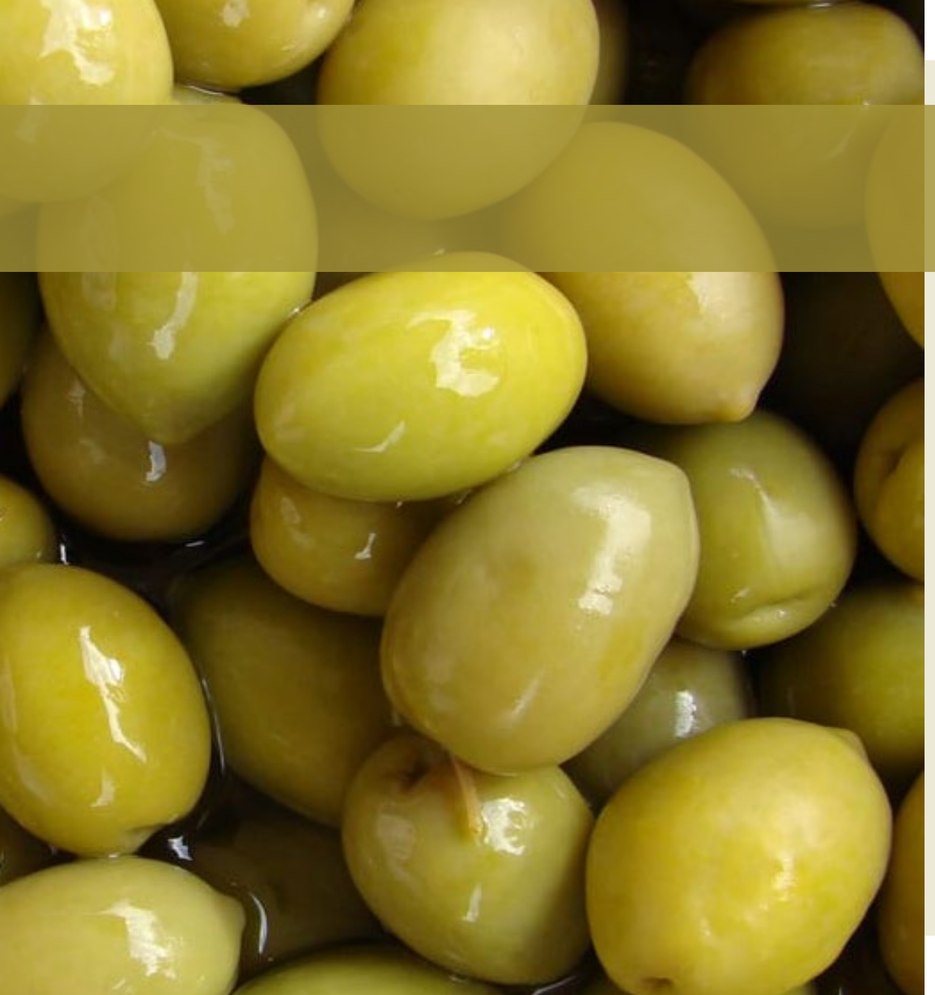
OXITester

OLIVE OIL

Buyer's Guide



CONTENTS

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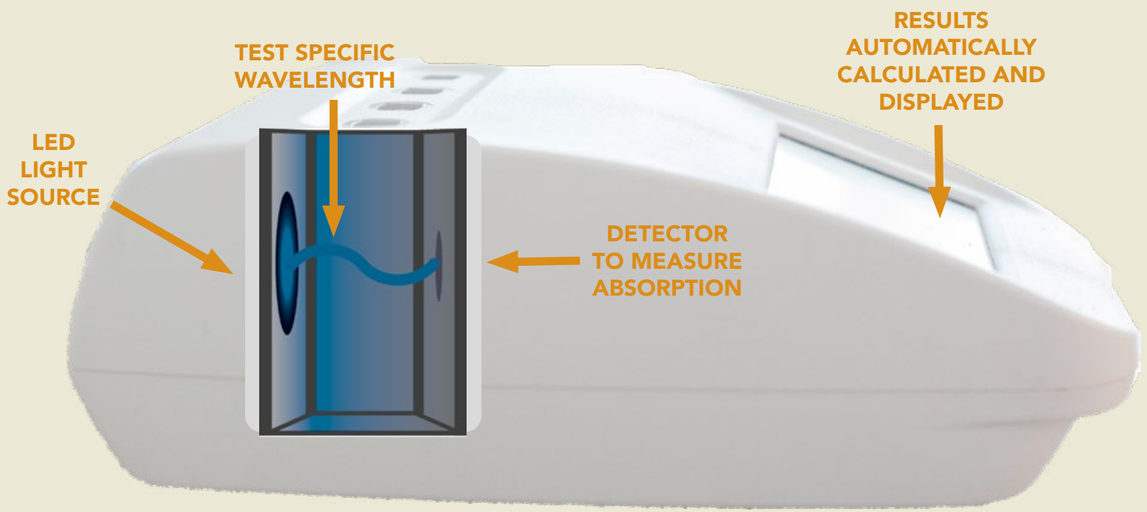
HOW THE CDR OXITester WORKS

The CDR FoodLab® line analyzers are pre-calibrated, easy to use photometers that utilize pre-filled reagent kits and LED technology in order to simplify the testing process of many foods and beverages.



Easy to Use

The analysis methods of the CDR OxiTester are easier than the traditional official methods and can be performed in a few steps. Thanks to this design, the CDR OxiTester is not only to be used in a laboratory, but also real time in the processing plant by staff with no previous lab experience. The analyzers feature touch screen technology and step-by-step directions through the testing process.

Reliable

The CDR OxiTester system and its calibrations, which are correlated to the standard methods, guarantees high sensitivity, a wide measuring range, and excellent repeatability of test results due to its photometric technology utilizing LEDs.

Minimal Prep

Thanks to CDR FoodLab®'s pre-filled reagent kits, there is no mixing of chemicals, cleaning of glassware, or exposure to highly toxic chemicals. The reagents come pre-filled and ready to use in specialized kits for each test.

Reduced Testing Times

The CDR OxiTester allows for accurate, reliable results within minutes.

Stay Up to Date

The CDR OxiTester line utilizes state of the art technology and allows one to stay up-to-date with remote calibration checks, periodic software updates, the ability to store thousands of results, and export results to a computer.

OXITester

CONFIGURATIONS | 222004Z02* $7,020.00

OLIVE OIL

Free Fatty Acid
Peroxide Value
Total Polyphenols/OSI
K270

OLIVES

Fermentable Sugars

*Reagent Kits are NOT Included with Analyzer

Analyzer Specs

- 5.7" TFT color LCD touchscreen
- 2 USB 2.0 ports to transfer database of performed tests and update configuration and software
- USB type B port for technical service and PC connection
- Ethernet (LAN) port
- Internal memory to store thousands of results of analyses in CSV and XML files, compatible with all database formats
- 37C/98.6F incubation block with 16 sample prep positions
- Multitasking Mode
- Thermal Printer on board 80mm width

WHAT'S INCLUDED:

1-10uL Pipette
20-25uL Pipette
50-100uL Pipette
1mL Micropipette
1mL Pipette Tips
10uL MiniPet
30uL MiniPet
MiniPet Tips
Cuvette Holder
USB Cord
Power Cord
AC Adapter
Cover

OXITesterJr.

Junior
CONFIGURATIONS | 242004Z01B* **$4,041.00**

OLIVE OIL Free Fatty Acid, Peroxide Value

Junior Plus
CONFIGURATIONS | 242004Z01P* **$4,490.00**

OLIVE OIL Free Fatty Acid, Peroxide Value, Total Polyphenols/OSI

Junior Portable
CONFIGURATIONS | 242030* **$5,335.00**

OLIVE OIL Free Fatty Acid, Peroxide Value, Total Polyphenols/OSI

- Lithium Ion Battery
- Case
- Bluetooth Printer

*Reagent Kits are NOT Included with Analyzer

Analyzer Specs

- 4.3" TFT color LCD touchscreen
- 1 USB "B" - Bluetooth 2.1 port
- Internal memory to store thousands of results of analyses in CSV and XML files, compatible with all database formats
- 37C/98.6F incubation block with 3 sample prep positions

WHAT'S INCLUDED:

1-10uL Pipette
20-25uL Pipette
50-100uL Pipette
1mL Micropipette
1mL Pipette Tips
10uL MiniPet
30uL MiniPet
MiniPet Tips
Cuvette Holder
USB Cord
Power Cord
AC Adapter

REAGENT KITS

TEST	MEASURING RANGE	TESTING TIME	SHELF LIFE	STORAGE CONDITIONS	QUANTITY	PART NUMBER	PRICE
FREE FATTY ACID	0.01-3.5% Oleic Acid	1 min	12 Months	2-8 C	10 Pre-filled	300128	$57.00
					100 Pre-Filled	300125	$496.00
					100 Bulk	300120	$354.00
					250 Bulk	300148	$490.00
PEROXIDE VALUE	0.3-50 meqO2/Kg	4 min	12 Months	15-25 C	10 Pre-filled	300154	$57.00
					100 Pre-Filled	300150	$496.00
					100 Bulk	300190	$354.00
					250 Bulk	300161	$490.00
POLYPHENOLS/OSI	10-900 mg/Kg Gallic Acid	5 min	12 Months	-20 C	10 Pre-filled	300478	$95.00
					100 Pre-filled	300475	$874.00
					100 Bulk	300479	$552.00
					250 Bulk	400480	$1,380.00
FERMENTABLE SUGARS	0.5-50.0 mg/L	6 min	15 Months	2-8 C	10 Pre-filled	300384	$57.00
					100 Pre-filled	300380	$496.00
K270	0.020-1.570	1 min	24 Months	15-25 C	100 Bulk	300570	$294.00

PRE-FILLED VS. BULK

Pre-filled test kits come with the reagent in cuvettes, ready to use. Bulk test kits come with empty cuvettes that need to be filled with pre-mixed bottled reagents. Bulk test kits come with everything need to fill cuvettes and test.

SPECIALTY KITS

Unsure if you need a specialty kit?
Contact: support@quartz-analytics.com

KIT	DESCRIPTION	SHELF LIFE	STORAGE CONDITIONS	QUANTITY	PART NUMBER	PRICE
EXTRAFLUID	Extraction solution for chocolates, baked goods, and more	24 Months	15-25 C	100 Tests	300133	$13.00
DEMULSIFIER	Demulsifier powder used to break emulsions	12 Months	15-25 C	20 Tests	300595	$65.00
DILUENT KIT	Dilution for high peroxide and free fatty acid values	24 Months	15-25 C	100 Tests	300129	$59.00

ACCESSORIES

	DESCRIPTION	QUANTITY	PART NUMBER	PRICE
CDR Easy Pipette 1-10uL ●	1-10uL Micropipette	1	15000Z01	$185.00
CDR Easy Pipette Tips 1-10uL	Pipette tips for 1-10uL CDR Easy Pipette	25	15094	$25.00
CDR Easy Pipette 20-25uL ●	20-25uL Micropipette	1	15001Z01	$185.00
CDR Easy Pipette Tips 20-25uL	Pipette tips for 20-25uL CDR Easy Pipette	25	15093	$25.00
CDR Easy Pipette 50-100uL ●	50-100uL Micropipette	1	15002Z01	$185.00
CDR Easy Pipette Tips 50-100uL	Pipette tips for 50-100uL CDR Easy Pipette	25	15092	$25.00
10uL White Minipet ●	Pipette for Peroxide Value R2	1	ACF012	$20.00
Printer Paper ●	Paper for Touch Analyzer	1	AEP143	$5.00
Mini Centrifuge	Used for seperating extracted oils	1	222061	$415.00
2.0mL Tubes	2.0mL Mini Centrifuge Tubes	100	225246	$32.00
Nut Press + Cups	Used to press oil out of nuts, seeds, and chips	1	OEP18	$900.00
ZIP-IQ Centrifuge	Used for flour and meat meal extractions	1	ZIP-IQ TT	$635.00
15mL Centrifuge Tubes	Centrifuge tubes for ZIP-IQ Centrifuge	100	225248	$35.00
Opticon PX-20 QR code-Barcode Scanner	Barcode Scanner	1	222084	$400.00
Minipet Pipette Tips	Tips for minipets	1000	ACF058	$20.00
200-1000uL Micropipette ●	Adjustable Micropipette 200-1000uL	1	ACF080	$300.00
200-1000uL Micropipette Tips	Pipette tips for 200-1000uL Micropipette	100	225245	$5.00

● Indicates items that come with the CDR FoodLab analyzers

TEST PARAMETERS

Free Fatty Acid

Free fatty acids (FFAs) are the result of the triglyceride (fat molecule) undergoing hydrolysis. This process takes place whenever the oil is either treated or stored in non-optimal conditions. Therefore, acidity represents a fundamental indicator of the product quality and is used to define its Merceological classification in accordance with European regulations.

HOW IT WORKS

Free fatty acids of a sample, at pH <7.0, react with a chromogenous compound and decrease its color. The decreasing of color, read at 630nm, is proportional to the acid concentration of the sample, expressed as % of oleic acid.

K270

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

HOW IT WORKS

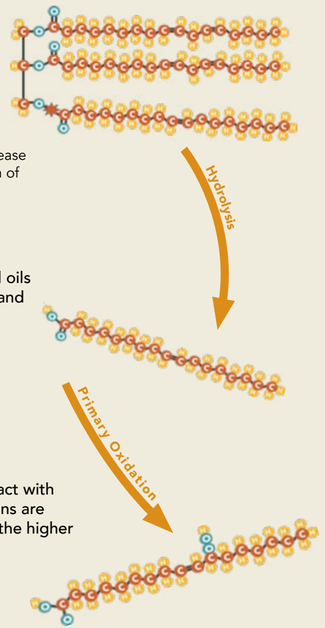
The oil sample is dissolved in an appropriate solvent and the absorbance of the solution is read at 270 nm. Absorbance values are expressed as specific extinction E 1% 1 cm (1% extinction of a fatty substance in the prescribed solvent at a thickness of 1 cm), which is generally indicated as K and sometimes called extinction factor.

Peroxide Value

The peroxide value of oil describes the primary oxidation state and its tendency to become rancid. Fatty acids react with oxygen to form peroxides, which trigger a series of chain reactions resulting in volatile compounds. These reactions are accelerated by higher temperatures as well as by exposure to light and oxygen. The lower the peroxide number, the higher the oil quality.

HOW IT WORKS

R-O-O-R peroxides oxidize Fe2+ ions. The Fe3+ ions resulting from oxidation are grouped and form a red complex. Its colorimetric intensity, measured at 505nm, is directly proportional to the concentration of peroxides in the sample. Results are expressed as meqO2/Kg.



See how the CDR FoodLab correlates to the official methods

Fermentable Sugars (Glucose, Fructose)

The measurement of fermentable sugars, the sum of glucose and fructose, can provide important indications on the maturation of the olive fruit. Therefore, knowing the fermentable sugars content of olives is useful to determine ripening and to predict harvest time.

HOW IT WORKS

The glucose and fructose present in the sample are determined enzymatically in a specific way. The Redox reaction is read at 366 nm (end-point) and the absorbance value is directly proportional to the concentration of glucose and fructose in the sample.

Total Polyphenols

Polyphenols are among the most precious components of olive oil. They are the source of its characteristic fully taste; its sharp and tangy bite. Polyphenols are antioxidants which protect the oil from becoming rancid and have health benefits to consumers. The total polyphenol content of an oil depends on its cultivar variety, harvest period, soil characteristics, and extraction process. The higher the polyphenol concentration, the longer the olive oil lasts and the greater its health benefits.

HOW IT WORKS

The polyphenols, in contact with a chromogenous compound in an alcoholic solution, are oxidized and decrease the color of the compound. The decreasing of color, read at 505 nm, is directly proportional to the concentration of polyphenols in the sample, expressed as mg / kg of tyrosol. The OxiTester is calibrated in correlation to the reference method IOC / T.10 /Doc. n. 29: 2009.

Stability Index (OSI)

Oxidative stability represents the oil's resistance to oxidation and rancidification, therefore, its lasting freshness. The CDR OxiTester method is a valid alternative to the reference Rancimat method. Oxidative Stability analysis is performed indirectly with the CDR OxiTester method through the analysis of Total Polyphenol content, which can be performed in drastically shorter times than the reference Rancimat method.

PRODUCT SUPPORT

To register your OXITester Analyzer for the extended 3 year warranty, find software updates, SDS documents, FAQs, procedures, and more, please visit:

www.resources.cdrfoodlab.com

For help or assistance, please email support@quartz-analytics.com or call us at (248) 923 3671

WARRANTY

CDR S.r.l. designs and manufactures its products in compliance with the quality management system under ISO 9001 standards, which envisage constant monitoring of the product through all the production stages.

Warning: OBLIGATION TO READ THE USER'S MANUAL: at the time of delivery of the goods the final customer must read the user's manual, to avoid damages at the product.

General warranty conditions:

- CDR declares to the original purchaser that each product manufactured and/or sold by CDR shall be free from defects in material workmanship and, under normal and proper use conditions, warrants it for a period of 12 months from the invoice date or 36 months if you have registered your analyzer. If you want to extend the warranty period to 36 months register your CDR Analysis System and upload a copy of your invoice.

- CDR's obligation is limited to repairing, replacing or modifying (at CDR's undisputed judgment) at CDR's factory - or elsewhere - the material whose defects have been verified, on condition that the Purchaser has informed CDR of any defects found within 8 days from receipt of the product or from discovery in case of defects which may not be identified in the normal inspection.

- Damages caused by or connected to transport are excluded. Transport to and from CDR's Factory will be at purchaser's charge and risk and shall be paid also for reshipment.

- This warranty certificate does not cover those parts which deteriorate or which are considered consumables or those parts or items which by their nature are normally required to be replaced periodically consistent with normal maintenance (including without limitation lamps, cuvettes and caps).

- Those instruments or accessories, which are supplied by CDR but are not of CDR manufacture will only benefit from the warranty conditions offered by the manufacturer.

- It's also understood that, following the purchase and delivery of the product, the purchaser shall be deemed liable for any losses, damages or complaints concerning persons or things incurred by the use or misuse of the instrument on behalf of the purchaser, his employees, co-operators or others.

- CDR does not assume any obligation or warranty engagement concerning precision and/or accuracy of the measurements as well as for any damage to the instrument directly or indirectly resulting from the use of reagents and/or consumables different from those produced by CDR specifically for its own instruments on the same properly tested.

To activate the warranty is necessary to register your CDR Analysis System and upload a copy of your invoice.