OXITEST

Oxidation Stability Reactor

Innovative accelerated oxidation test for the determination of the oxidation stability of fats and oils on the whole sample according to AOCS Cd-12c-16.

velp®

Driven by curiosity

OXITEST Oxidation Stability Reactor

The oxidation stability tests performed with the OXITEST reactor accelerate the lipid's oxidation process that in normal conditions can last weeks or months and provide fast, accurate and reliable results for Food & Feed, Cosmetic, Pharma and Petrochemical industries.
The OXITEST provides added value information for Quality Control and Research & Development Labs.

Representative Results

- Determines the oxidation stability of the entire sample — solid, liquid, or doughy — without preliminary extraction
- Delivers accurate and reliable outcomes without altering the sample composition

Premium Resistance

- Oxidation chambers, sample holders, and covers made from titanium for exceptional resistance and chemical compatibility
- Eliminates the need for consumables, reducing running costs

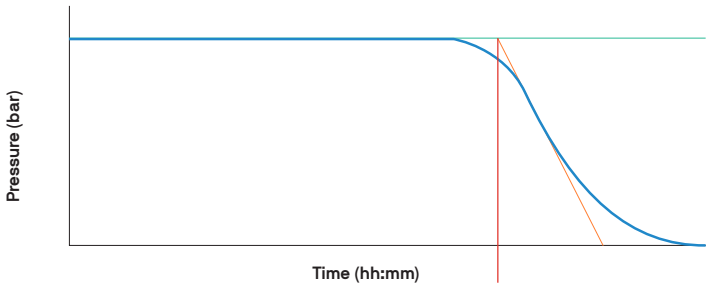
High Productivity & Standards Compliance

- Two independent oxidation chambers, expandable to eight samples by connecting up to four systems to the same PC
- Fully compliant with AOCS Standard Procedure Cd 12c-16 for accelerated oxidation testing of foods, oils, and fats

ERMES ENABLED

How it works

The OXITEST speeds up the oxidation process by applying two accelerating factors: elevated temperature and oxygen pressure.
The instrument measures the absolute pressure change within its two sealed chambers, monitoring the oxygen uptake by reactive components in the sample. Based on this data, it automatically calculates the Induction Period (IP) value.



Results

Induction Period (IP)	14 h 46 min (Graphical Method)
Test duration	21 h 00 min
Curve 1	Y = -0,003x + 6,18
Curve 2	Y = - 1,575x + 29,43

The Induction Period (IP) represents the time required to reach the starting point of oxidation, corresponding to either a level of detectable rancidity or a sudden change in the rate of oxidation. The longer the Induction Period, the higher the stability against oxidation over time. Operators can create detailed reports for individual tests or compare multiple analyses to enhance data interpretation.

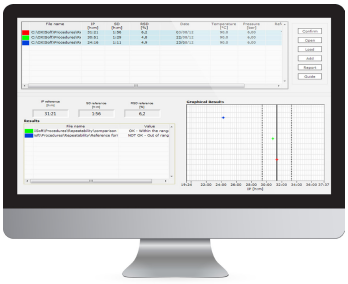
OXISoft™ Software

The OXISoft™ is available in different languages and comes with a pre-installed library of methods related to a wide range of sample types. The operator can use and modify them, or create personalized methods. In order to obtain a visible oxidation flex, the sample tested should contain 2-4% of unsaturated fatty acids.
When product degradation is mainly due to the loss of the aromatic components and the oxidation flex is not visible, information on the product oxidation can be achieved by interpreting the slope of the oxidation curve. Many parameters can be investigated, including:

Repeatability Test

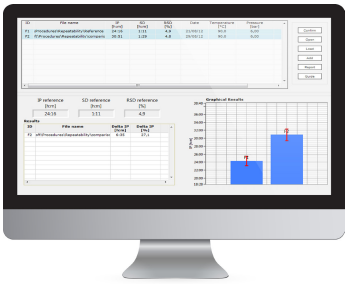
A series of tests run on the same sample or standard to verify its IP, to calculate accuracy and repeatability of the data.

Freshness Test



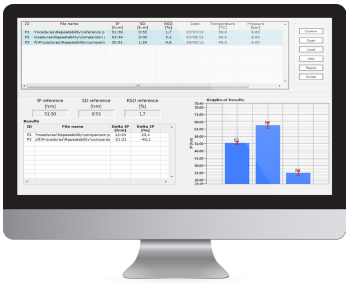
To verify the quality of different lots, for example of the same raw material, by comparing them. This can be valuable to confirm, for example, whether the product freshness is related to the cost of raw materials.

Formulas Comparison



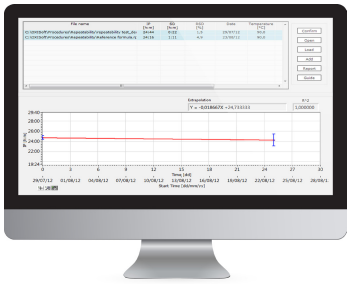
Which ingredients are required to create the most stable formula of a finished product, under the same conditions. By comparing the results, OXISoft™ will be able to automatically distinguish the best formula, easily recognizable by the higher IP.

Packaging Comparison



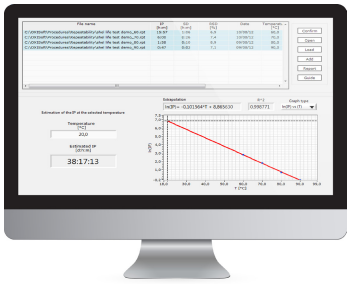
Particularly useful for testing which packaging maintains the product in the freshest condition.

IP During Ageing



This procedure allows to obtain a prediction of the oxidation stability during a shelf life study by measuring the product at defined time intervals.

Estimated Shelf Life Test



It is possible to have a prediction of oxidation stability for shelf life studies. By following a dedicated procedure and testing the same product at different temperatures, in the case of a linear equation, the operator can extrapolate and estimate the oxidation stability of the sample even at room temperature.

Fields of Application

OXITEST works directly on the whole sample without the need for preliminary fat separation, ensuring representative results on solid, semi-solid and liquid samples, raw and finished products

Food, Feed & Beverage

Meat, Fish, Poultry, Cereals, Bakery products,
Milk, Dairy, Oils, Fats, Brewery, Oils Seeds, Pet food

Cosmetics & Personal care

Creams, Lotions, Powders

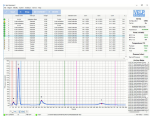
Optional Accessories

OXITEST IQ/OQ Manual	**A00000436**
Calibration temperature kit for Oxitest	**A00000371**
Calibration temperature kit for Oxitest without thermometer and probe	**A00000443**
High temperature sealing grease	**A00000444**
Velp Ermes 1 Year Connection	**E00010012**
Velp Ermes 3 Year Connection	**E00010036**

Instrument - Code

OXITEST	230 V / 50-60 Hz	**F30900248**
OXITEST	115 V / 60 Hz	**F30910248**

Supplied with



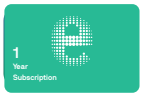
10002948
OXITEST
OXISoft™
Software

40001693
USB cable for
PC, 5m

10001985*
Sample
holder

10001984*
Spacer

A00000236
High temperature
sealing greaser



E00010012
Velp Ermes
1 Year
Connection

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O-ring 3475
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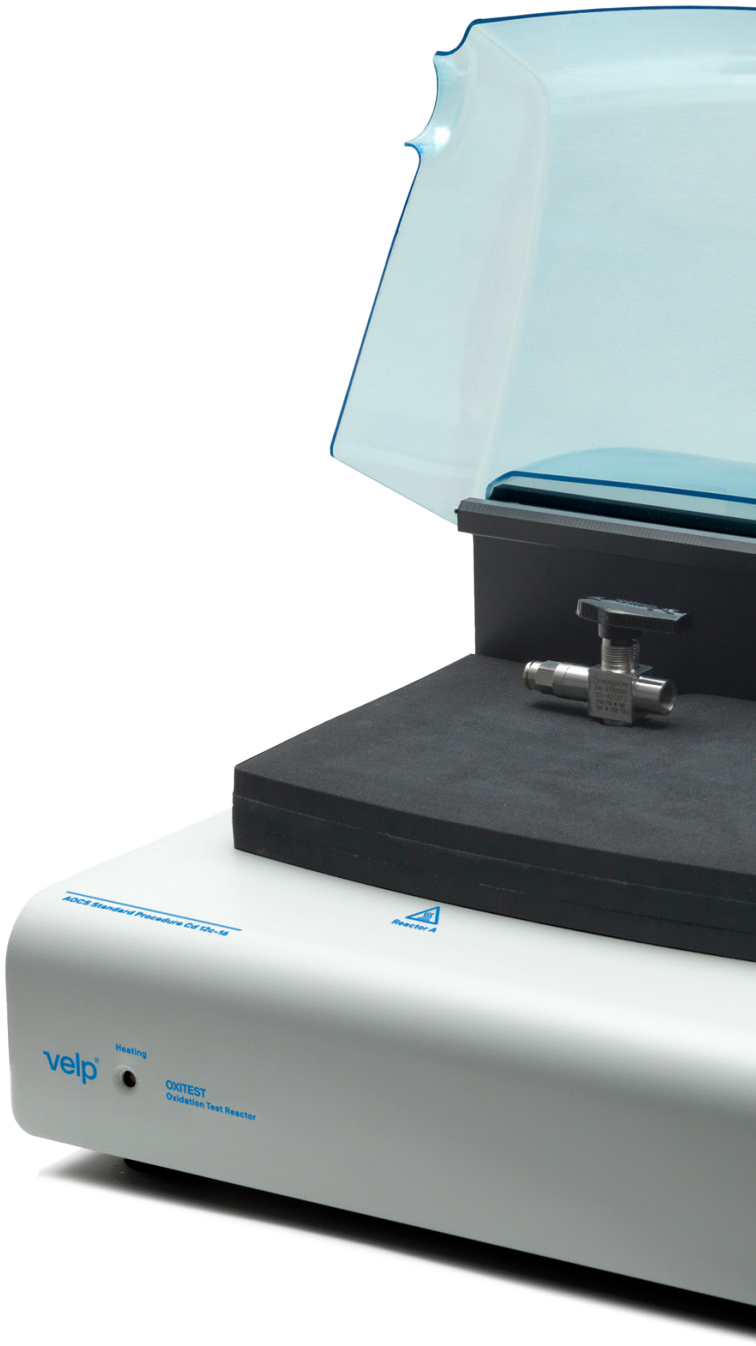
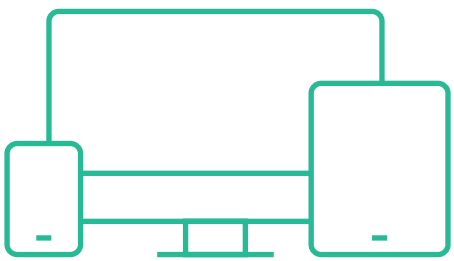


Velp Ermes Connection



Connect the OXITEST to the exclusive Velp Ermes Cloud Platform to improve your laboratory experience. The Velp Ermes Cloud Platform connection will unburden you from tedious tasks improving your lab productivity.

- Enhanced service support
- Real time monitor and control of the instrument from PC, smartphone and tablet whenever you want, wherever you are
- Immediate alert and notification with the possibility to stop the instrument for maximum safety
- Regular software updates will guarantee the best performance and new features with just one-click


AOCS Standard Procedure Cd 12c-16
Reactor A
Reactor B

Technical Data

	OXITEST
Number of oxidation chambers	2
Capacity of single chamber	up to 100 ml
Max deviation from the set temperature	≤ 0.5 °C
Reproducibility of set temperature	≤ ± 0.2 °C
Interface	USB
Connectivity	Ermes cloud platform via LAN or Wi-Fi
Power	900 W
Power supply	115 V / 60 Hz - 230 V / 50-60 Hz
Weight	16.5 Kg 36.3 lb
Dimension (wxhxd)	365x190x485 mm 14.6x7.6x19.4 in
Overpressure	Safety valve
Out-range temperature	Visual alarm
Damaged probe	Visual alarm
Temperature range	From room temp. to 120 °C
Pressure range	0 - 8 bar

Service & Support

Velp products are designed by our engineers to resist years of laboratory use.

Our products are manufactured with premium materials to guarantee the best performance with maximum safety.

According to our experience, a proper and regular maintenance is necessary to ensure the highest performance of analytical instrument. Velp Service Department and Velp Official Partners are always ready to offer you maintenance and service support tailored to your needs.

Get the support you need choosing the options:

- Help-desk and Remote support
- Technical Assistance
- Analytical Support

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