

Oxidation Stability Reactor



A detailed view of the Reactor B, showing a circular sample area filled with a granular material, a central adjustment knob, and a pressure gauge mounted on the side.

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

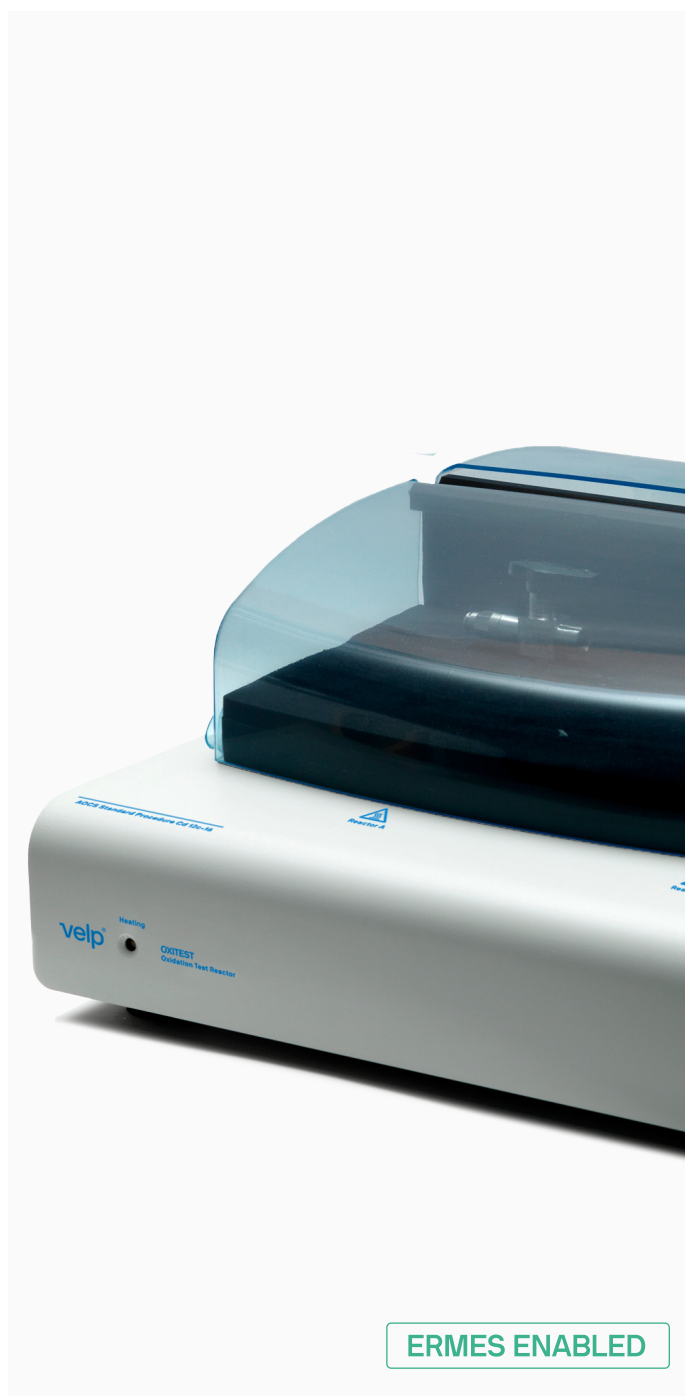
- Determines the oxidation stability of the entire sample — solid, liquid, or doughy — without preliminary extraction
- Delivers accurate and reliable outcomes without altering the sample composition

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

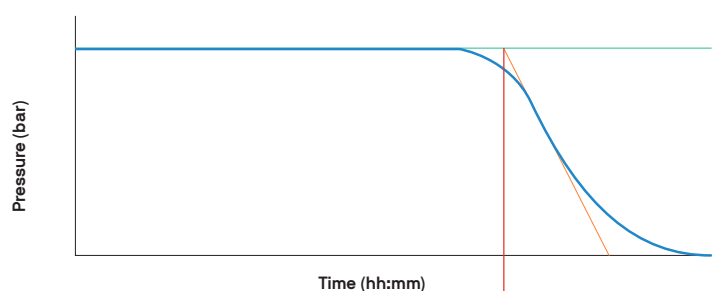
High Productivity & Standards Compliance

- 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



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	$Y = -1,575x + 29,43$

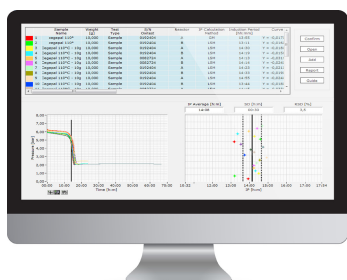
The Induction Period (IP) represents the time required to reach the starting point of oxidation, corresponding to either a level of detectable rancidity or a sudden change in the rate of oxidation. The longer the Induction Period, the higher the stability against oxidation over time. Operators can create 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.

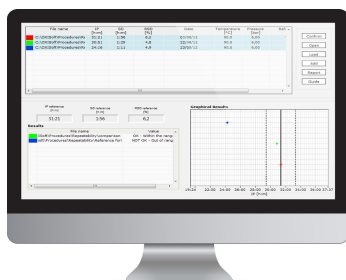
When product degradation is mainly due to the loss of the aromatic components and the oxidation flex is not visible, information on the product oxidation can be achieved by interpreting the slope of the oxidation curve. Many parameters can be investigated, including:

Repeatability Test



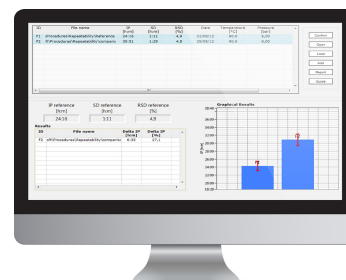
A series of tests run on the same sample or standard to verify its IP, to calculate accuracy and repeatability of the data.

Freshness Test



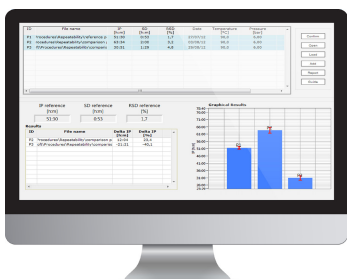
To verify the quality of different lots, for example of the same raw material, by comparing them. This can be valuable to confirm, for example, whether the product freshness is related to the cost of raw materials.

Formulas Comparison



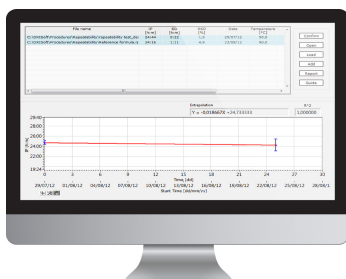
Which ingredients are required to create the most stable formula of a finished product, under the same conditions. By comparing the results, OXISoft™ will be able to automatically distinguish the best formula, easily recognizable by the higher IP.

Packaging Comparison



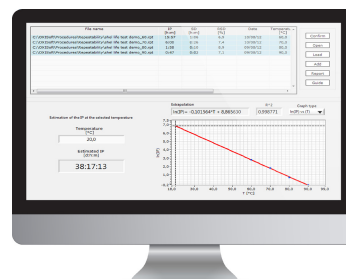
Particularly useful for testing which packaging maintains the product in the freshest condition.

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

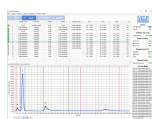
Optional Accessories

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



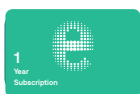
10001985*
Sample
holder



10001984*
Spacer



A00000236
High temperature
sealing greaser



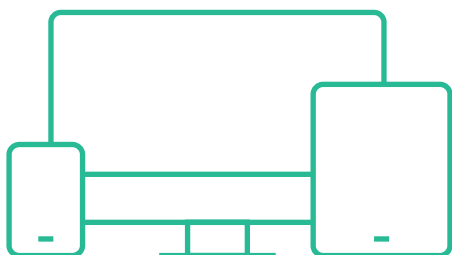
E00010012
Velp Ermes
1 Year
Connection



10002033
O-ring 3475
viton



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



Technical Data

OXITEST

Number of oxidation chambers	2
Capacity of single chamber	up to 100 ml
Max deviation from the set temperature	$\leq 0.5\text{ }^{\circ}\text{C}$
Reproducibility of set temperature	$\leq \pm 0.2\text{ }^{\circ}\text{C}$
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



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

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