ISIOX

INNOVATIVE SYSTEM FOR THE MANAGEMENT OF GASES DISSOLVED IN WINE

POWERED BY ExperTi

BENEFITS

- PROCESSING OF ALL TYPES OF WINE
- RAPID INTEGRATION INTO PRODUCTION LINES
- REPRODUCIBILITY OF THE OPERATING CYCLE
- MADE IN ITALY PRODUCT
- EASE OF OPERATION
- AUTOMATIC AND SEMI-AUTOMATIC MODES OF OPERATION
- IMPROVED ECONOMIC, SOCIAL AND ENVIRONMENTAL SUSTAINABILITY

ISIOX is an innovative system, made in Italy, designed to **optimize the various low molecular weight gases dissolved in wine** in a simple, non-invasive way. Its application allows to alter **oxygen and carbon dioxide** levels as well as remove **hydrogen sulphide** and **methyl mercaptan**.

The system is beneficial and optimal for regulating gas concentration during the final stages of wine stabilisation such as **racking, transportation, refrigeration, or filtration** and especially during **bottling**.
It can **reduce oxygen levels by as much as 97%** depending on flow rates and modes of operation.

It is recommended in cases where:

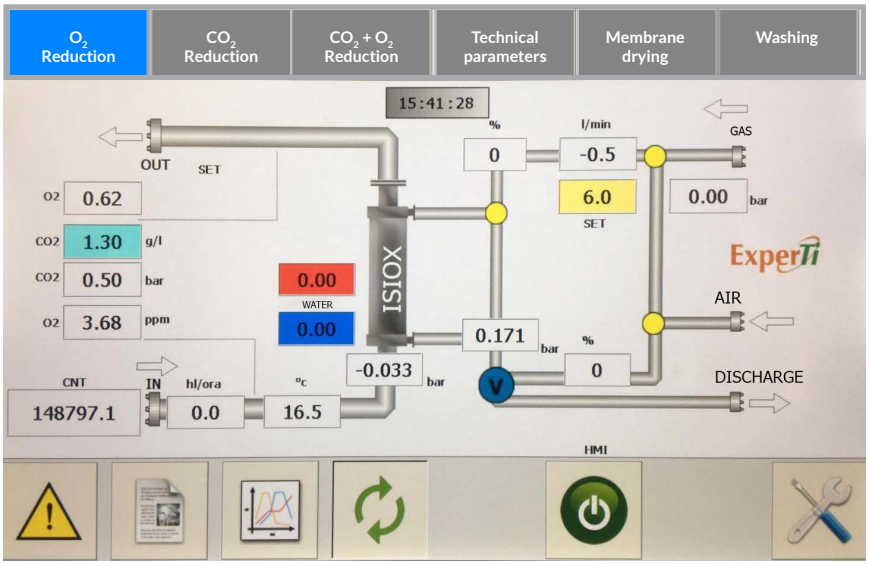
- O_2 and/or CO_2 concentrations need to be altered **without stripping**.
- The local legislation requires strict CO_2 levels that vary according to the target market.
- Soft and deformable containers such as as Tetra Pak and Bag-in-Box.
- There is a need to reduce or eliminate the addition of sulphur dioxide to facilitate the production of healthy wines.

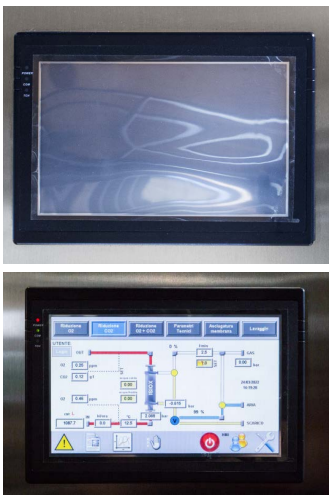
Through olfactory cleansing and elimination of light sulphurous compounds, ISIOX makes it possible to **improve the organoleptic quality of the wine, adapt it to the tastes of the target market and improve *shelf life*** in the bottle.

The process is monitored using a **built-in PLC.** The management software is controlled by a **touch screen monitor** that has a simple, intuitive interface or by remote PC – the interface displays a fluid flow diagram for the operator, indicating status, conditions and alarms. Variables are measured continuously, and dedicated sensors monitor oxygen content (standard sensors) and carbon dioxide content (optional) before and after the process.
The system, equipped with castors, can **be transported easily** and is fully encased using an IP 55 protection rating.

A new feature is currently under development that will also remove **free acetaldehyde**.

ISIOX technology **complies with the International Oenological Code** and is permitted by **Commission Implementing Regulation (EU) No 1251/2013 of 3 December 2013**.





FEATURES AND BENEFITS

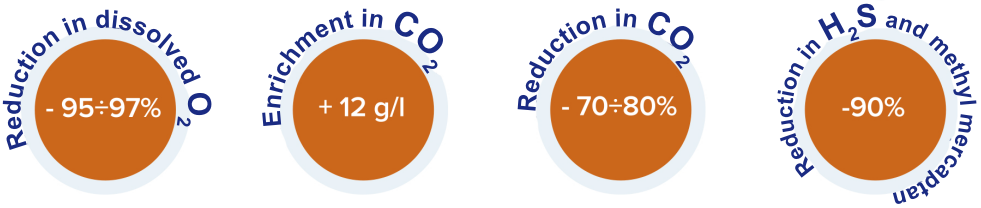
- Can be used on all **types of wine**
- Simple to use via **user-friendly interface**
- **Rapid integration** into production lines
- **Automatic** and **semi-automatic** modes of operation
- **Automation** of **sparkling wine degassing** process
- **Operating cycles** are **consistent** and **results standardized**
- Display of **status parameters** and alarms
- Application during **stabilisation** and **bottling** stages
- Automatic adjustments to **flow rate fluctuations**
- Includes **castors** for transportation
- Equipment **Made in Italy**

OPERATION AND APPLICATIONS

The ISIOX system is designed to:

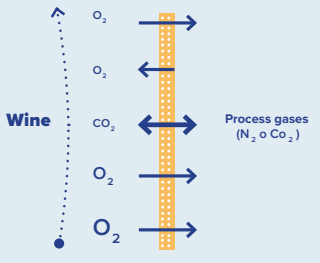
- **Remove O_2** during racking, when unloading trucks, following tartaric stabilisation or filtration, and even during pre-bottling to **improve the shelf life of wines.**
- **Remove, hold or add CO_2** up to 12 g/l (6 bar) to modify the impact of taste to meet the needs of customers and their markets (- CO_2 = + softness; + CO_2 = + vivacity).
- **Remove hydrogen sulphide and methyl mercaptan,** even below perception thresholds, to prevent or eliminate reduction and obtain improved olfactory cleanliness, even after secondary fermentation.
- **Regulate CO_2** pressure of sparkling and semi-sparkling wines up to 6 bars with the aim of ensuring accurate, homogeneous data for all bottles and the prevention of bursting.
- **Remove CO_2** before packaging in soft containers to prevent deformation.
- A new feature is currently under development that will **remove free acetaldehyde.**

Performance



Innovative ISIOX technology enables the **regulation of dissolved gases at the molecular level.**
The treated wine flows through a hydrophobic **molecular sieve** in counterflow to the technical process gas. The partial pressure difference results in the subtraction or addition of low molecular weight gases dissolved in the product. The system thereby provides the **best alternative to stripping, preventing losses in aroma.**

ISIOX®, for a natural balance of gases



Natural regulation of gases

- ⊖ OXYGEN
- ⊖ HYDROGEN SULPHIDE
- ⊖ METHYL MERCAPTAN
- ⊖ ACETALDEHYDE
- ± CARBON DIOXIDE

The system features two modes of operation:

AUTOMATIC MODEL (LOGIC)	Once a customised recipe has been set, the system carries out the process autonomously with no need for an operator, in accordance with the preset parameters.
SEMI-AUTOMATIC MODEL (TECH)	The operator selects the operating parameters and monitors the stages of the process.

Operation consists of three steps:

1.	OPERATING STAGE	2.	WASHING OF THE MOLECULAR SIEVE	3.	DRYING

SUSTAINABILITY

ISIOX is designed to provide wineries with the highest standards of sustainability.

SOCIAL SUSTAINABILITY	Reduction in the use of sulphur dioxide to facilitate the production of healthy wines
ECONOMIC SUSTAINABILITY	● Replacement of the most time-consuming manual processes ● Reduction in operation times via automation ● Reduction in electricity consumption (200-400 watt/h) ● Reduction in technical gas consumption (nitrogen) as compared to stripping
ENVIRONMENTAL SUSTAINABILITY	● Reduction in water consumption ● Long service life ● Reduction in the need for spare parts and consequent disposal thereof ● Storing a dry sieve with no need for chemical sanitisers

TECHNICAL SPECIFICATIONS

- AISI 304 stainless steel housing on carriage for easy transportation
- Enclosure with IP 55 protection rating
- Footprint: L 1220 x L 620 h 1220 or L 1260 x L 620 h 2000 depending on model
- Weight 250 to 350 kg depending on model
- Electric power 230 Volt 50/60Hz
- Process control via industrial PLC
- Continuous monitoring of process parameters
- Interconnection to factory computer systems
- Wi-Fi or wired connectivity
- Wine inlet and outlet with DIN 50 fittings (thread)
- Nitrogen and CO_2 with 8-10 mm rilsan fitting (or DIN 65), minimum 4 bar
- Compressed air 8 bar
- Remote maintenance, remote diagnostics and remote control system with Ubiquity app
- Compliant with the most recent safety standards
- Compliant with EN ISO 12100:2010 and EN ISO 4414:2012 standards

OPTIONALS DEPENDING ON MODEL

- WASHING KIT
- CO_2 SMART KIT
- CO_2 “G+P” KIT (grams/litre + pressure)
- CO_2 PLUS KIT

WINE INLET-OUTLET FITTINGS

PROCESS GAS FITTINGS: COMPRESSED AIR, NITROGEN AND CO_2

RANGE

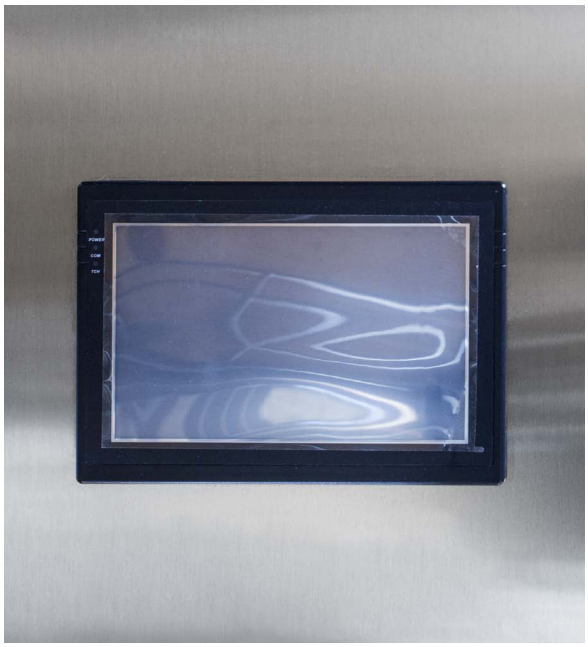
	ISIOX 1 TECH	ISIOX 2 TECH	ISIOX 500 TECH	ISIOX 1 LOGIC	ISIOX 2 LOGIC	ISIOX 3, 4, 5 LOGIC	ISIOX 500 LOGIC
FLOW RATE MAX hL/h	60 hL/h	120 hL/h	500 hL/h	60 hL/h	120 hL/h	180, 240, 300 hL/h	500 hL/h
PROCESS MANAGEMENT SOFTWARE	✓	✓	✓	✓	✓	✓	✓
AUTOMATIC OXYGEN MANAGEMENT	-	-	-	✓	✓	✓	✓
DISSOLVED OXYGEN MEASUREMENT	-	-	-	✓	✓	✓	✓
AUTOMATIC CO_2 MANAGEMENT	-	-	-	OPTIONAL			
DIMENSIONS (mm)	L1220xL620 H 1220	L1220xL620 H 1220	L1260xL620 H 2000	L1220xL620 H 1220	L1220xL620 H 1220	L1260xL620 H 2000	L1260xL620 H 2000

ISIOX 3.4.5 and 500

ISIOX 1-2

COMPONENTS

MONITOR



PLC operator panel to set up operating schedules and monitor system operation.

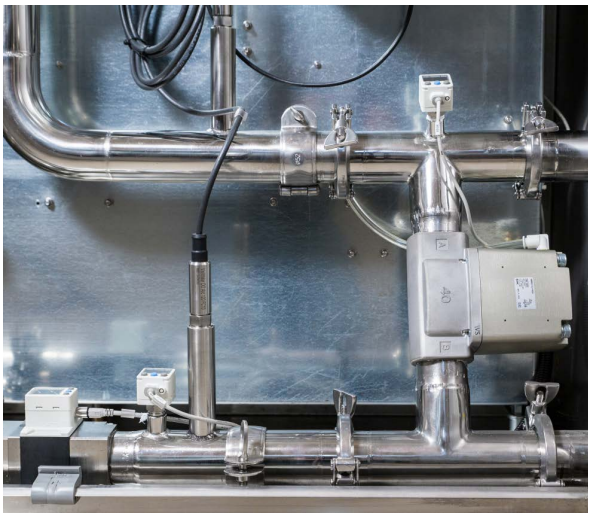
MOLECULAR SIEVE

Wine flows through the hydrophobic molecular sieve where an exchange of dissolved gases occurs.

CO_2 MEASUREMENT SENSOR

Sensor for measuring carbon dioxide after processing.

O_2 MEASUREMENT SENSOR



Inlet and outlet dissolved oxygen measurement sensor.