ULYSSES TDR²

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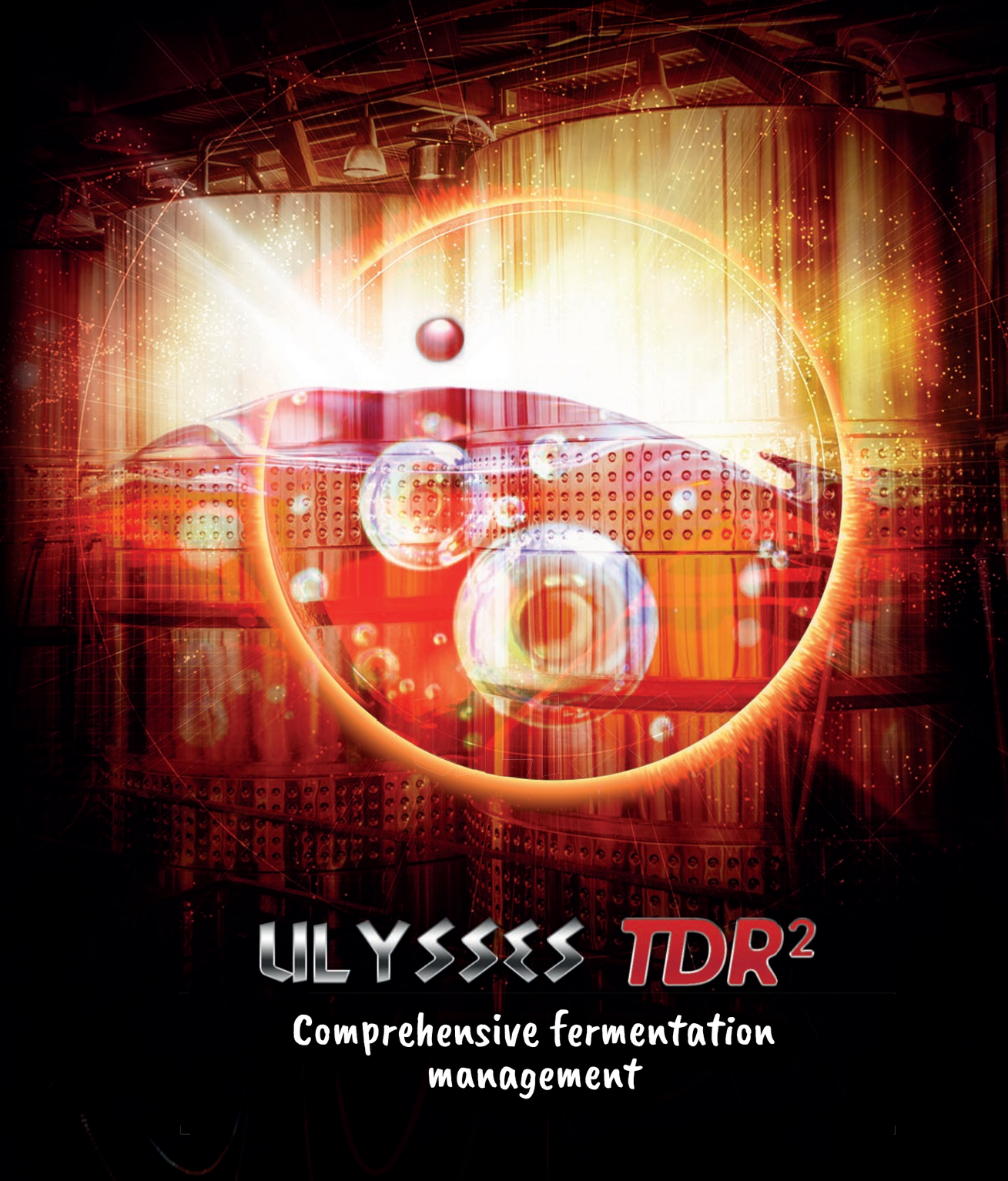
AGROVIN
Committed to Enology



ULYSSES TDR²

Comprehensive fermentation management

WHY DO I NEED THE ULYSSES TDR² SYSTEM?

During the harvest season, your personnel and the effective operation of your winery equipment are indispensable. You have to be able to perform exhaustive real-time monitoring of each and every fermentation tank. To make the proper decisions and keep the winemaking operation functioning as it should, the oenologist needs to know what is happening, and how.

ULISES TDR² provides the oenologist with information about the key parameters of each fermentation tank at all times, ensuring that this crucial step of the winemaking process goes smoothly.

Today, the adoption of new technologies in wineries is making it possible to receive and act on information in real time. The collection of samples and manual monitoring of more traditional winemaking techniques is giving way to process automation and an optimization of human and material resources.

AGROVIN offers this innovative system, which enables the conversion of any conventional tank into an automatic fermenter. Depending on the type of tank, various components are available:

- ↘Probes for temperature control.
- ↘Density measurement system.
- ↘Probes for measuring electrochemical potential.
- ↘Gas injection pumping-over system.
- ↘Level sensors.
- ↘DosiOx (oxygen dosage) system.

The **ULISES TDR²** system improves the process in multiple ways:

↘Up-to-the-minute reporting of winemaking parameters.

↘A quick general overview of the status of the various tanks.

↘Energy savings of up to 65% compared to a traditional pumping-over system.

↘Faster color extraction, thereby shortening maceration times.

↘Refrigeration savings due to better liquid-paste homogenization.

↘Combining of oxygen supplies with their effect on electrochemical potential.

↘Monitoring of winemaking phases based on density range for purposes of micro-oxygenation, pumping over, and temperature control.

↘More hygienic process due to elimination of elements for storing must or grape parts.

DESCRIPTION OF THE EQUIPMENT

AGROVIN offers equipment that is flexible and adaptable to each winery's specific needs, making it possible to expand after starting with a simple installation.

1. PUMPING-OVER SYSTEM.

This is a simple and efficient pressurized air injection system for fermentation tanks. This system is designed to provide optimal mixing of the product contained in the tank, which requires breaking up the cap that forms on the surface.

The system supplies pulses of pressurized air or inert gas to the inside of the tank through injectors installed along the tank's periphery.

As they move up toward the surface, the bubbles that form cause a mixing of the displaced liquid with the surrounding liquid. When these bubbles collide with the cap, they cause it to break up, and the displaced liquid then envelops the fragments and pull them back down into the liquid contained in the tank.

The dual injection system enables a considerable increase in contact between the skins and the must, improving the transfer of tannins, color, and aroma without the involvement of pumps or abrupt movements.

Our experience allows us to optimize the number of pump-overs, duration and intensity for each stage in the winemaking process and can be automated based on density. These parameters can be modified by the user adapting to the specific needs of each winery

2. TEMPERATURE PROBES.

These optimize the performance of the tank cooling system. The two-point temperature monitoring also makes the fermentation temperature more correct. If a significant variation exists, additional pumping over will be carried out to properly homogenize the entire volume contained in the tank.

3. DENSITY PROBES.

These indicate when the fermentation process takes place. The program takes a measurement every second and shows the weighted average on the screen every five minutes. With this data, it generates an ideal density curve so that the technician can detect deviations and respond accordingly.

4. ELECTROCHEMICAL POTENTIAL PROBES (REDOX POTENTIAL).

In oenology, the redox potential measurement makes it possible to predict whether or not the wine is at risk of oxidation (high potentials) or reduction (low potentials). Based on this value, the supply of oxygen to the medium during fermentation can be more intelligently managed.

Knowing the range of values within which this parameter—the potential—should be kept during fermentation, and controlling the oxygen supply to keep it within the upper and lower limits, leads to a safer winemaking procedure that is better suited to the specific type of product.

5. DosiOx (OXYGEN DOSAGE).

Oxygen management is an essential tool for ensuring that the effect of oxygen on the fermentation process is always positive, contributing to the wine's stability and quality.

This system provides precise oxygen dosage in wine through the macro- and micro-oxygenation method. This makes it possible to protect, perfect, and qualitatively improve winemaking. It works in synergy with the redox potential system. Operators establish the free potential values within which to keep the wine during the winemaking process, so the oxygen dosage system performs as needed.

6. U/S AND LASER LEVEL SENSORS.

Incorporating an instrument in the tank to measure its volume is an essential winery tool for real-time assessments.

AGROVIN offers two types of sensors for monitoring the level of each tank:

- Based on ultrasound technology.
- Based on laser technology.

It is now possible to know all of these key quality parameters and to set values for future winemaking.

Continuous and thorough monitoring of the product's characteristics means that actions can be taken quickly.