



ULTRAWINE

PERSEO

Full potential extraction from grapes by Ultrasound



Introduction

As a result of a mechanised grape harvesting process, wineries gather a large number of grapes in a very short space of time. Because of this, oenologists need tools to be able to process all the raw material quickly and to also continue producing high-quality wines.

It is this necessity which has led Agrovin to develop an innovative technology. Based on ultrasound, it allows for the maximum polyphenolic and aromatic potential of grapes to be extracted in record time, without altering the organoleptic characteristics of the wine that is produced.

The colour of wine is one of the most valued organoleptic parameters by the consumer, as this gives them information concerning its fermentation and evolution. It is the colour in red wines which is of particular interest. This is due to the economic resources used in extracting the phenolic fraction of the skin - the part of the grape where everything responsible for the colour and phenolic compounds is stored.

Characteristics

The system's structure consists of a large 304 stainless steel unit, supported by six silent block bushings, guaranteeing perfect stability. It also has four castor wheels which allow it to be transported.

The system has a touch panel which gives the user access to its programming. This is all controlled by a PLC automaton and is included in Industry 4.0.

The connections for the input and output of the product to be treated can be found on the side of the system, marked by the input and output symbols, normally connected with NW100. However, it is possible to make another connection with a previous confirmation.

Inside the system, there are cavitation cells which distribute the power created by the ultrasound generator.

Working Principle

Each cavitation cell contains 3000W of power which is received from the ultrasound generator and distributed between the sonoplates available, located on the walls of the cells. The mass, which is circulating through the cell, receives the sonication of the transducers or sonoplates, thus creating the process of cavitation.

The generator is responsible for receiving the electrical power, transforming it, and sending it to each of the sonoplates in the cavitation cells. These 3rd generation generators allow the power that is sent to each sonoplate to be automatically readjusted, thus conserving their integrity in certain circumstances, such as a half-full cavitation cell or an incoming mass of grapes at a very high temperature.

3 system models have been designed based on the power output:

- **Ultrawine Perseo® 6:** work output of 3000kg/h of product. Power output of 6kW in total.

- **Ultrawine Perseo® 9:** work output of 6000kg/h of product. Power output of 9kW in total.

- **Ultrawine Perseo® 12:** work output of 9000kg/h of product. Power output of 12kW in total.

Structural Features

- All structural components made of AISI-304 stainless steel.
- Cavitation cells made of AISI-316 stainless steel.
- Robust but easy to transport with the 4 industrial castor wheels.
- Entirely automatic and autonomous.
- 10" touch panel.
- More sensitive elements protected against impacts and environmental agents. IP 65.
- Alarm system.
- NW100 fittings authorised for food use.
- Operating voltage: 380V 50Hz.
- Refrigeration system for generators.
- Mass flow meter designed especially for measuring liquid-solid flows.
- PT100 temperature sensor.

Dimensions

	Perseo 6	Perseo 9	Perseo 12
Lenght [mm]	2400	2800	3200
Width [mm]	1020	1020	1400
Height [mm]	1700	1700	2300
Weight [kg]	425	550	750

Regulations

AGROVIN SA, as owner of the Ultrawine Perseo System® ultrasound technology, declares the conformity of its product and that both its construction and its elements comply with the corresponding regulations in force.

It complies with the provisions of the Machinery Directive (2006/42/CE).

It also complies with the provisions of the European Union Low Voltage Directive (2014/35/EU) and the European Union Electromagnetic Compatibility Directive (2014/30/EU).

It complies with the provisions of the following harmonised standards:

UNE-EN ISO 12100:2012
UNE-EN 60204-1:2007
UNE EN 61310-2:2008
UNE-EN 842:1997 + A1:2008

Therefore, AGROVIN S.A. is in a position to draw up a Declaration of Conformity and apply the CE marking in accordance with the marketing regulations of the European Union.