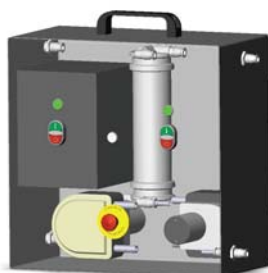




I Application

The **WineBrane® LAB GAS** is a system for the accurately in-line management of dissolved gas concentration in wine in laboratory scale. The gas management includes the whole spectrum of simultaneous oxygen and nitrogen removal and CO₂ impregnation up to the limit of solubility for CO₂ depending on pressure and temperature. These are the O₂, N₂ and CO₂ removal in young red wines, the deoxygenation just before bottling or stocking for vinification, refreshing of white and rosé wines with CO₂ during filling or the production of perlé wines. The system can be used in the laboratory for defining the optimum concentration of dissolved CO₂ for the most equilibrated taste of wines respecting their specific flavours and residual sugars in combination with the CO₂ concentration.

The **WineBrane® LAB ALC** is a system for pre-adjustment in laboratory scale before industrial alcohol removal from wine. By taking a wine at, for example, 15,5% vol. alc. and creating samples declining, with each sample, tenth of a percent down to 13,5% vol. alc., tasters can spot, with a high degree of agreement, three or four points that remark the most equilibrated de-alc points, the so-called sweet spots. Thus, it is possible to choose the exact de-alc target. It is more precise than adding water to the wine in the lab and find out which is the best de-alc point by dilution. Alcohol is a very important portion of wine and the ability to adjust that alcohol can lead to interesting quality enhancements in getting the wine properly equilibrated.



WineBrane® LAB ALC



WineBrane® LAB GAS

I Operating principle

The main component of the skid is a hydrophobic (refuses to get wet) membrane system which is not selective for small gaseous molecules due to its defined size of pores but respects the evaporation pressure of each molecule. Only gases with low molecular weight and high evaporation pressure can pass through the barrier, thus, the structural properties of the wine after the degassing remain unchanged, avoiding any losses of aromatic components. The wine flows at the shell side of the hollow fibre membranes where, in the lumen side, a vacuum or CO₂ as sweep gas is applied for gas removal. For impregnation, the CO₂ flows with an overpressure of 0,2 - 0,5 bar to the wine, which is in this case directly dissolved in the wine and, if desired, up to the limit of solubility.

For alcohol removal, the water flows in counter current to the wine at same flow rate. Thus, caused by the differential concentration, the alcohol of the wine at the shell side passes through the membrane in its gaseous state and is then directly dissolved in the water and, if required, up to the limit of equilibration between wine and water alcohol concentration.

I Design and features

The design and construction of the unit is performed in compliance with the requirements of the food-processing industry:

- Parts in contact with the product in compliance with FDA
- Pumps: peristaltic pump for wine and water, vacuum pump for gases
- Control panel in its own housing in St.St. AISI 304
- Membrane: Hydrophobic polypropylene membrane with FDA certification

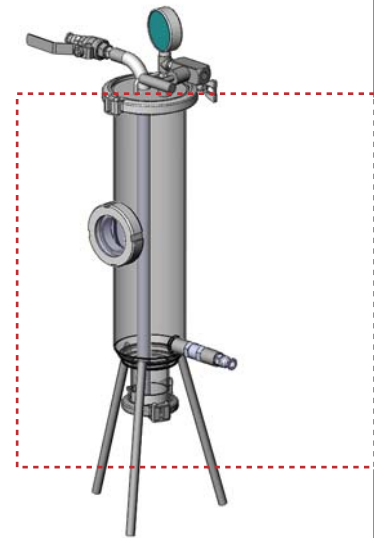
The design is CIP cleanable (alkaline solution and disinfectants), units can also be sanitised with hot water.

I Options

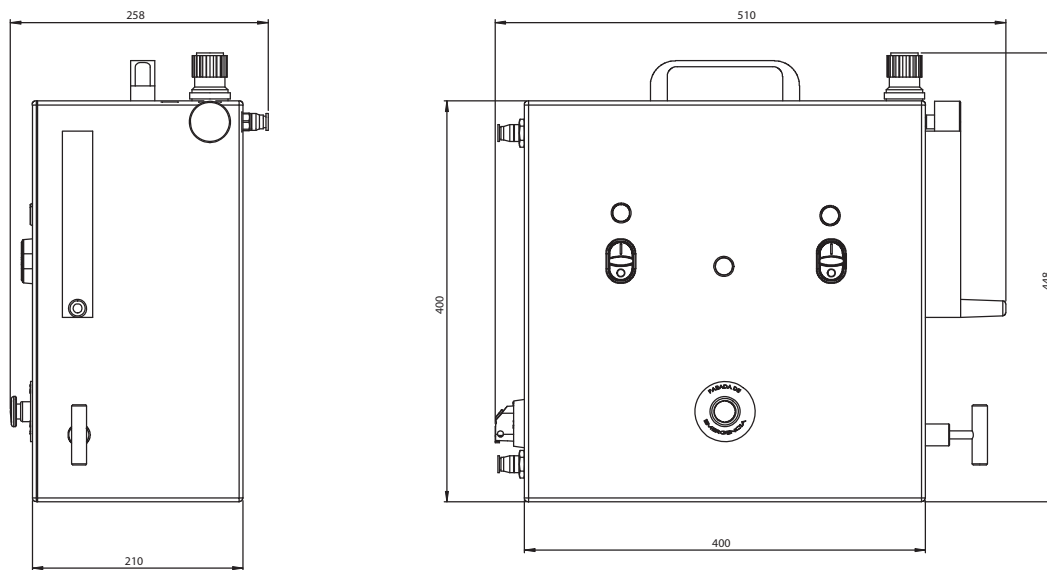
Pressurised tank DEP LAB vol.3L for exact measurement of gases dissolved in wine.

I Technical specifications

Max. flow of wine and water	120 dm ³ /h	0,026 US GPM
Max. operation pressure	2 bar	29 PSI
Operating temperature	1 °C to 40 °C	34 °F to 105 °F
Max. soda sanitation temperature	65 °C	140 °F



I General dimensions



Type	Connections	Power supply	Weight kg	Code
WB-LAB-ALC	Quick connector DN-10	230V II 50Hz IP-55	18	EW014-50AL
WB-LAB-GAS				EW014-50GA
WB-LAB-ALC/GAS				EW014-50ALGA



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