

HL2

Polyphenol elimination

Introduction

After years of research, a technique for the reduction of potentially-oxidisable polyphenols has been developed. This technique is efficient and easy to apply.

Features

The procedure used for activation allows to exclusively eliminate the ions responsible for the appearance of undesirable browning, to guarantee the reduction of colour in the treated product and its stability over time. Furthermore, this system does not adversely alter the organoleptic qualities and ensures a perfect conservation of the remaining parameters critical in the quality of the treated product.

The process is fast, automatic, does not require the user to be specialised and does not involve the increase of foreign substances in the treated product.

One of its most important features is the high potential of the equipment which is capable of working at flow rates exceeding 50 hl/h.

The equipment is autonomous and the user can, at any time, change the flows and working times to fit his or her needs; and to perform a detailed traceability both, of the treated product, and of the solutions used in the different stages.

It is a compact equipment that does not require any special installation or of any auxiliary equipment in the winery.

A fast,
efficient,
sustainable
and ecological process



Structural aspects

- The exchange column is manufactured with an anti-acid material. The inside is food-grade polystyrene and the outside is fibreglass.
- Stainless steel chassis and enclosure covered by an epoxy resin resistant to acids and strong bases.
- Centrifugal 1CV type process pump, with frequency inverter that allows a slow flow within the column, AISI 304.
- 17" PC IP65 touch panel with software control.
- 2 pneumatic process pumps for dosing the different solutions, manufactured with special anti-corrosion material.
- 2 online electronic pH sensors for the automatic management of the treatment process and subsequent cleaning and regeneration processes. Inflow and outflow pH monitoring.
- 1 online conductivity sensor for the automatic management of the different phases.
- 1 electronic flowmeter, output 1.5V 10-100 l/min.
- 1.5V pressure sensor and safety pressure switch.
- 2-way and 3-way motorized flow control and regulation valves (24V d40).

- d40 and d25 check valves.
- 2 filters, regulator and pressure gauge with stainless steel EV for N2 and air control.
- Pipes and accessories in PPH 100 d40, thermo-welded connections (PPH = high density food grade polypropylene).
- Authorized food grade couplings.
- Must inflow and outflow, NW50.
- Water inlet and outlet, 1" hose holder.
- Regenerative electrolytic solution inlet, ½" hose holder.
- Neutralizing electrolyte solution inlet, ½" hose holder.
- Nitrogen and air inlet, 8mm fast outlet.
- Protection of the electronic boards to avoid corrosion.
- Electrical panel on an AISI 304 stainless steel support, according to EC regulations.
- Working voltage: 220 V.
- Maximum power 5 kW.
- It is possible to use the water supply network for washing, cleaning, regeneration and rinsing processes.

Optional material

- Online product preparation system for feeding the different washing and regeneration solutions.
- Special plastic container to store the different solutions required for the treatment.
- Flexible PVC hose system for mixing electrolytic solutions and water.
- Polyester water storage tank with a capacity for 2500 litres with an automatic filling system.

Equipment performance

Our proposal includes several models designed according to the workload. They are all automatic or semi-automatic.

| MODELO | Caudal de trabajo en intercambio [l/h] | Volumen tratado por ciclo * [hl] |
|--------|--|----------------------------------|
| HL2 H1 | 1.000 | 20 |
| HL2 H3 | 2.000 | 40 |
| HL2 H5 | 3.500 | 70 |
| HL2 H7 | 4.500 | 90 |

All the equipment, except H1, can be set up with one or two columns.

Ad-hoc set-ups can be made, including two columns on a specific model.

* Once the equipment workload for the exchange phase is known, and taking into account the duration of the washing, cleaning and regeneration stages, the equipment performance depends on the following factors:

- 1.- Number of daily cycles: depending on the winery schedule.
- 2.- Percentage of product mixture.
- 3.- Total polyphenol concentration in the product to be treated.