STABYMATIC

Cation exchange automatic equipment for tartaric stabilisation

Stabymatic 200 ECO C

Stabymatic 500

Stabymatic 30 ECO

Stabymatic is revolutionary equipment for tartaric stabilisation; its operation is based on the utilisation of **pH-Stab 2.0**, that enables it to decrease K+ and Ca++ salts in wine with the aim of stabilising it. The decrease of electro-positive ions enables one to lower the pH value of the treated wines.

Ion exchange resins are obtained from a polymerisation process at high temperatures of Styrene and Divinylbenzene - in a specific % for AEB - with active sulphonic groups, giving high chemical-physical stability and a physical structure in the form of a gel, preventing the adsorption of organic matters.

OPERATION PRINCIPLE OF PH-STAB 2.0

The tartaric stabilisation using resins is obtained by removing the mineral salts with positive charges. The liquid passes through the columns that contain **pH-Stab 2.0** exchanging ions and consequently reducing the conductivity and the pH. **pH-Stab 2.0** exchanges cations with H+ ions and it further regenerate with Acid+, the sulphurif acid activator of the resin.

The system is designed to have a minimum sensory impact on the treated musts or wines. The type of resin used, the flow of the liquid and the oenological pumps used guarantee a minimum stress of the product; tests carried out demonstrate how there is no combination of SO_2 in the entire process.

The perfect relationship between height and diameter of the column according to the size of the exchanging spheres, specially designed by AEB, allows pH-Stab 2.0 to work also with high levels of turbidity.

To optimise the regeneration by Acid+, the machine is equipped with an accomulation system which prepares and circulates the solution in the columns. The system ensures a full recharge without waste of product, compared to other current systems.

The machine is equipped with tubes and dedicated pumps for the wine treatment and recirculation of the regenerative solution, in order to operate in continuous (one column exchanges, the other regenerates).

The machine has a software specifically designed for must/wine treatments, that allows to work in the most extreme conditions. The automatic alkaline wash, reduced by the higher perfomance of pH-Stab 2.0 reduces, allows the resin to return to its original state by removing any organic substance that may have accumulated on the spheres.

The special formula of **pH-Stab 2.0** allows to switch between red wine to white with a specially programmed whitening operation with a simple operator input.

CHARACTERISTICS AND ADVANTAGES OF STABYMATIC

1. Separate line for wine and regenerants
2. In-flow regeneration and backwash
3. Specific columns in stainless steel
4. Easy replacement of the resins
5. Easy maintenance of the diffuser column
6. Use of products based on sulphuric acid for regeneration
7. Oenological type pumps for the handling of the wine
8. Possibility of using the same columns (**pH-Stab 2.0**) both for white wines and for red wines thanks to the whitening cycle (**Peracid**)
9. Automatic, semi-automatic and manual operation options
10. Limited water consumption thanks to tank recirculation
11. Treatment possible with high NTUs
12. Works in any productive phase
13. Emptied by nitrogen or air
14. Treatments scheduled by target pH and volume to be treated

STABYMATIC CAN OPERATE IN 3 MODES: AUTOMATIC, SEMI-AUTOMATIC AND MANUAL.

AUTOMATIC MODE

The machine operates automatically, both in the exchange and in the regeneration. By setting the target pH and the volume to treat, Stabymatic alternates cycles of regeneration and exchange, until it reaches the input setting.
Among the available options, we can set the wine flux during the exchange and the flushing period.

SEMI-AUTOMATIC MODE

The system allows one to perform all the functions by selecting the desired function:

- Load H_2O accumulation
- Recirculate accumulation
- Drain H_2O Discharge/Regen. with nitrogen column
- Rinse column with H_2O
- Drain wine with nitrogen
- Rinse wine tubes with H_2O
- Refill column with H_2O
- Empty direct accumulation

MANUAL MODE

By using the touch screen the operator can select individual task. In addition, the machine has a series of special cycles that allow one to optimise the operation of the **pH-Stab 2.0** or enhance the machine's performance.

Stabymatic allows to work at different speed to better suit the type of wine/must and the needs of the cellar.

STABYMATIC

COMPONENTS

The equipment consists of the following components:

- Supported stainless steel structure
- Two columns with DIN 150 openings and mechanical safety valve.
- Transparent PVC tank with lid at the bottom and equipped with floats for drainage.

USERS

- Wine input
- Wine output
- Water input
- Drains
- Wine mixing input

SYSTEM

- Simple effect two-way pneumatic valves with magnetic safety device and three-way beacon with magnetic safety device and beacon
- Sphere-shaped manual valves with safety lock (wine input, wine output and regenerating drain), an additional valve on the wine mixing kit
- Turbine-driven and electromagnetic flowmeter
- Digital pressure switches
- Electronic flow detectors
- Two electrodes for detecting the pH (input and output)
- Temperature Probes PT100
- Pipes in AISI 316 stainless steel
- Sampling port (wine input and output)
- Solenoid valves (for the management of the distribution of the air/nitrogen) electro-pneumatic group for valve and pump control
- Pressure regulator
- Air pressure indicator

PUMPS

- Exchange-wine pump with impeller in EPDM, regulated by inverter
- Regeneration pump with impeller in EPDM and special seals
- Rinse pump with impeller in natural rubber, regulated by inverter
- Pneumatic pumps for compounds **Acid+, Alca-** and **Peracid.**

OPERATION

- Automatic, semi-automatic, manual
- Gas circulation

ELECTRICAL PANEL

The electrical panel in stainless steel contains the following components:

- General switch
- Emergency stop button
- Enable key
- Silence alarms key
- Buzzer for alarms
- Motor circuit breakers
- 10.4” Touch screen
- Mitsubishi PLC
- Modem for connection to Internet via LAN
- Inverter
- pH-meters

ACCESSORIES INCLUDED

- Funnel for loading resins
- Polyvalent DIN key
- Neutralisation Kit: additional pneumatic pump (900 l/hour) for the direct dosage of Alca- in the drainage line to neutralize the acidic regenerative solutions.

OPTIONALS AVAILABLE ON REQUEST

- Water division kit: additional input for the water network with pneumatic valve. The standard input already present on the equipment will be intended only for demineralised or osmosised water. Programmed for the automatic management of the two types of water according to the needs of the equipment.
- The prefilter with frame in stainless steel including two 20” housings and two 150 micron filtering cartridges in stainless steel.
- Waste separation kit: additional discharge valve controlled by the software which separates acidic discharges from the rinses. Disposal of waste acids is greatly reduced.

MODELS

The models of **Stabymatic** range present on the market are:

STABYMATIC LINE

- Stabymatic 500: up to 30 hL/h
- Stabymatic 1000: up to 60 hL/h
- Stabymatic 2000: up to 120 hL/h

STABYMATIC ECO LINE

- Stabymatic 30 ECO: up to 3 hL/h
- Stabymatic 50+50 ECO C: up to 6 hL/h
- Stabymatic 200 ECO C: up to 25 hL/h
- Stabymatic 500 ECO C: up to 60 hL/h

For detailed information on each model, refer to the relevant technical data sheet.

Referenza: STABYMATIC_DEP_EN_1211019_Italy