



Attn: Head Office
Technical Department

Settimo di Pescantina, 13th April 2010

Object: MASTERMIND ® REMOVE – the reduction of the percent alcohol through membrane direct passage

Vine's cultivation and growing choices, together with the last vintages where relevant climatic changes have occurred, have often led to the production of highly concentrated and alcoholic wines. Some recent market trends ask for round, typical wines, expression of their own territory, but which are not characterized by high alcoholic contents. In many wine-making countries the request for alcohol-removing technologies has therefore been increasing.

The Regulation (CE) No. 606/2009 dated 10th July 2009 introduces, as a **permitted oenological practice**, wine's partial alcohol removal through physical methodologies. The reduction of the effective volume alcoholometric titre cannot be higher than 2 % vol.

MASTERMIND ® REMOVE is a plant designed on the basis of the original patent in order to perform a reduction of wine's percent alcohol through direct membrane passage, **without any need of fractioning**.

During the process wine is not filtered, as it doesn't pass through the membrane, but only alcohol is moved to the extracting solution.

The main advantages of the technique developed by JUCLAS are:

- The process is **selective** and is carried out at room temperature;
- The product treated doesn't undergo any thermal or mechanical damage;
- The process requires a **minimum energy cost** (quasi-isothermal process);
- The process is extremely **simple** and **stable** (no fouling);
- **The process performance is very high**, wine's volume reduction is equal to the volume of extracted alcohol;
- Alcohol removal through "Per-Extraction" causes a minimum loss of flavours (it cannot be sensorially perceived) or other volatile compounds (e.g. acetic acid, acetaldehyde, sulphurous anhydride etc.) and doesn't produce any alteration in the constituents of the fixed solids (organic acids, polyphenols, salts etc.) or in other non-volatile components.

The cycles of membranes' detergency and regeneration have been finalized and validated by Vason Group's R&D, based on the pluriennial experience, accrued in the management of electro dialysis (ED), cross-flow filtration (MFTS), reverse osmosis (JRO) and micro-filtration (SOFOS) plants.

MASTERMIND ® REMOVE has recently been awarded the Innovation Prize at the 2010 INTERVITIS INTERFRUCTA Fair in Stuttgart.

Even MASTERMIND ® REMOVE, as all the equipment developed by JUCLAS, can benefit from the fiscal concessions provided by Decreto Legge N. 78 dated 01.07.2009 "Tremonti-ter", allowing for the TAX REDUCTION ON THE INVESTMENTS IN PLANTS AND EQUIPMENT until the 30.06.2010.

For further information, the organization of tests/demonstrations, requests for services on behalf of third parties, You are kindly asked to contact our commercial office at the phone number +39 045 685 90 17.

Best Regards

JU.CLA.S. Srl