

# D.E. 2000



Automatic steam distiller-extractor for volatile acidity and alcohol by the official method (CEE n°2676/90), pre-equipped for cooling bath.

This instrument is designed for the distillation of alcohol, until 20% vol. (about 45% vol. when using a specific closed-circuit circulating cooling bath such as FREE-EAU 02 or SUPER FREE-EAU 02) and the extraction of volatile acidity or sorbic acid by a steam generator.

All operations are conformable to European regulations (Official Journal L272 of 3/10/90) and the O.I.V. standards such as those described in the *Recueil des Méthodes Internationales d'Analyse des Vins et des Moûts* (Compendium of International Methods of Analysis of Wine and Musts).

Quick to start and reliable results make the DE 2000 advisable for laboratories dealing with wine analysis, spirits, fermented beverages, fruit juices and numerous other agriculture and food industry products (tomato sauces, vinegars, etc...).

## Characteristics and specific features

- Dimensions  
Height : 970 mm  
Width : 450 mm  
Depth : 360 mm
- Weight : approx. 35 kg
- Power supply : 220 V - 50 Hz.
- Steam generator made of highly resistant machine-cut aluminium with built-in electric heater
- Injection, by a dosage pump, of the water necessary for the generator throughout the entire extraction process (no container of boiling water).



## Distillation - Extraction

- A stainless steel bubbler with airtight heater bands allows the extraction without increasing the initial volume of the sample, and the total releasing of volatile acids ;
- The bubbler is topped by a steam 1000 ml bubbler flask and an extra 250 ml flask, preventing the carry over of the sample ;



- A steam rectifying column with Rashing rings length of 35 cm prevents the distillation of the lactic acid ;
- The end of extraction, depending on the chosen time, is immediatly obtained thanks to the stop of the pump which supplies the generator with water ;

- The work time is very short : about 5 minutes for the extraction of volatile acidity (20 ml of sample - 200 ml of distillate), and 6 minutes for the distillation of alcohol (250 ml of distillate).

## Condensation and cooling

- Use of Graham cooling coils (external diameter : 44 mm, length : 450 mm, length of the en-rolled coil : 2,50 m) ;
- Digital display of the cooling liquid temperature ;
- Alarm by a red indicator light indicates an insufficient flow of the cooling liquid ;
- Automatic circuit opening of the cooling circulation between distillations ;
- Pre-equipment for the connection of a cooling unit in closed circuit such as FREE-EAU 02 or SUPER FREE-EAU 02 (possible closed loop control of a peripheral circulating pump) ;
- Atmospheric pressure glass bead tube for the pressures trim outbound without alcohol loss ;
- The distillate outlet with a fringed tip for reception in aqueous environment.

## Use and maintenance

- A simple exhaustion of demineralised water in a container enables a water supply of the steam generator ;
- The running of the steam generator without water supply is without damageable consequence for the apparatus ;
- The work time is managed by an electronic timer preset by the user ;
- The steam generator unit with it dosing valve is removable and replaceable in order to allow a possible maintenance in our workshop without stopping the use ;
- After a short time of preheating (about 2 mn), the instrument remains constantly available without particular preparation ;
- The washy wine disposal to the sewer is allowed thanks to the opening of a stainless steel valve situated under the bubbler ;
- The steam generator included in the apparatus body, the inaccessibility of heating parts, and the absence of a boiler, ensure a total security for the user ;
- The simplification and the automation of different tasks imply an easy use ;
- The quality and the reliability of the results are ensured by different elements of control : steam production control, alarm and display of cooling temperature.

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