

## Automatic cycle

By pressing on the figure of the yeasts, it is possible to tell the program how many kg of yeasts we want to reactivate. By pressing the figure of the "Temperature to be reached" it is possible to set the heating temperature of the water. By pressing the figure of the "Acclimation temperature", it is possible to set the temperature that the yeasts mixed with water will afterwards reach before adding them to the must.

Program number

01 - Operator input Press to START cycle

Yeasts Kg. 012

Temperature to be reached 012

Acclimation temperature 012

01 - Water loading MANUAL

Yeasts Kg. 012 Water Lt 012

Temperature 012°C Setpoint 012

The second display programs the automatic loading of water into the tank, proportionally to the selected kg of yeasts.

01 - Water loading MANUAL

Yeasts Kg. 012 Water Lt 012

Temperature 012°C Setpoint 012

Back MANUAL controls

Water loading Lt 012 Must loading Must unloading

Heating °C 012 Aerat. Mix

Once the water level has been reached, the water will be heated at the selected temperature (Setpoint) and will be mixed periodically.

01 - Heating MANUAL

Loaded liters 012

Temperature 012°C Setpoint 012

Back MANUAL controls

Water loading Lt 012 Must loading Must unloading

Heating °C 012 Aerat. Mix

An acoustic sound will signal that the selected temperature has been reached; now the operator can add the yeasts to the reactivator and select the button "Push for rehydration".

01 - Input operator MANUAL

Mixing time 0 1 2 3 4 5

Aeration time 0 1 2 3 4 5

Break time 0 1 2 3 4 5

Loaded liters 0 1 2 3 4 5

Temperature 012°C Setpoint 012

01 - Rehydration MANUAL

Cycle length 0123 sec.

Passed time 0123 sec.

Temperature 0 1 2 °C

Acclimation temp. 0 1 2 °C

01 - Rehydration MANUAL

Reactivateur® 60 will mix water and yeasts and will cyclically alternate the mixing

Cycle length 0123 sec.

Passed time 0123 sec.

Temperature 0 1 2 °C

Acclimation temp. 0 1 2 °C

Reactivateur® 60 will slowly add some must to the newly prepared yeast

01 - Must loading MANUAL

The loading of the must can be carried out in two ways: after a certain time or for temperature difference according to which one of the two values is reached first.

Load 0123 0123 Delta 1 °C 01

Mix 0123 0123 Cycle Nr. 01

Aeration 0 1 2 3 0123

Temper. °C 012 Mainten. °C 012

# Réactivateur® 60

## automatic reactivator for yeast and malolactic bacteria



### Technical-instrumental aspects

In order to improve the fermentative process of must as well as the refermentation and malolactic fermentation of wines, selected yeast and bacteria must promptly prevail over the indigenous microorganisms, lest the selection of strains with improved characteristics is rendered totally futile. The AEB GROUP has made of the concept of prevalence the focal point of its research for biotechnologies.

### Alcoholic fermentation carried out with selected yeasts

The competition that takes place between natural yeasts and the inoculated ones, hinges on their quantitative ratio. The must's indigenous microflora consists mainly of yeast unsuitable for a good fermentation and varying in quantity from a few tens of thousands to millions of cells per millilitre, depending on the time needed for bringing in and crushing

the grapes, on the general sanitary-hygienic conditions and on pre-fermentation temperatures.

To ensure that the selected yeast will prevail, it is necessary to inoculate yeast at a concentration at least 20 times higher than that of indigenous yeasts.

Therefore, 20 grams per hectolitre of active dry yeast, if correctly hydrated and reactivated, will supply an adequate yeast charge, ensure prevalence in musts containing a high microbial charge and finally render the effect of indigenous yeasts irrelevant.

In order to standardize procedures and limit human error during the preparation of the yeast inoculum, Réactivateur® 60 has been designed, equipment that during years changed its characteristics in order to satisfy more and more customers' needs.

Yeast behaviour during reactivation

The selected yeast, after its introduction into the reactivation solution, rapidly absorbs water and quickly reacquires its vital functions. After 5-10 minutes, the yeast is already capable to multiply and cannot do without glucose and fructose if it is to survive (Photo 1). To prevent interruption of the yeast's vital cycle, it is always advisable to prepare a sugary solution at 5-8% concentration. The sugars found in the hydration solution are rapidly consumed by the actively multiplying yeast and after 10-15 minutes (Photo 2) it becomes necessary to add grape must, preferably containing a low microbial charge.



Photo 1  
In the first 5 minutes, the multiplying yeasts inglobe water and produce a white foam with large bubbles.



Photo 2  
After 10-15 minutes, the yeasts begin to consume sugars and produce a very thick foam with fine bubbles.

The must needs to be added gradually in order to avoid temperature changes in excess of 5°C. During the entire reactivation phase it is necessary to allow an intermittent intake of air in order to stimulate cell multiplication. These operations, which if carried out manually would require considerable labour and attention, are carried out automatically and in perfect sequence by Réactivateur® 60.

Advantages of Réactivateur® 60 in yeast reactivation

- It reduces yeast latency
- Extremely regular alcoholic fermentations
- Improves the fermentation run even when the microbiological conditions of musts and cellar hygiene are not ideal
- Ensures that the reactivation is always correctly carried out and that the inoculated mass is active and at the highest possible multiplication level
- It is ideal to reactivate stuck fermentations and to produce the yeast starter for Charmat or Champenois refermentation methods.

Malolactic fermentation carried out with selected bacteria

Similarly to alcoholic fermentation, it is of the utmost importance that the selected malolactic bacteria immediately prevail over polluting indigenous bacteria. The main aim of this reactivation is to protect the bacteria from being simultaneously attacked by unfavourable pH conditions, sulphur dioxide, alcohol, temperature and lack of nutritional factors. The ideal pH and temperature conditions, allow the selected bacterial cultures of BIOLACT® ACCLIMATÉE to multiply.

Models	Yeast quantity	Tank volume
Réactivateur® 60/800	3-12 kg	800 l
Réactivateur® 60/1200	5-25 kg	1200 L

Technical characteristics

- Solution recycle system to homogenize and solubilize
- Foam abatement system
- Air inlet system
- Automatic filling system
- Must-based yeast cooling system (acclimatization)
- PLC functions management
- Stainless steel electronic board
- Warming up system with stainless steel element and acoustic signal when required temperature is reached
- Integrated washing system
- Maximum level control system
- Emptying pump with 10 bar pneumatic sealing valve

Réactivateur® 60 enables, thanks to many installable programs and their immission facility, to personalize the equipment according to the customers' needs.

Reactivation procedure of Biolact® Acclimatée

To reactivate whilst simultaneously promoting the growth of selected malolactic bacteria, it is necessary to take a part of the wine which needs to be inoculated (250 litres for the treatment of 250 hectolitres), disacidify it down to a pH of 3,5-4, add 5 g/L of FERMOPLUS® MALOLACTIQUE (i.e. 1250 g) and, after having introduced the most suitable BIOLACT® culture, maintain a temperature of 24°C for 24 hours. Réactivateur® 60 assists the acclimatization process, making it more effective and increases the malolactic bacteria population.



TOUCH SCREEN



Back		SETTING	
Yeast mixing	0 1 2 3	Must loading time	0 1 2 3
Yeast break	0 1 2 3	Must mixing	0 1 2 3
Cycle length	0 1 2 3	Yeast/must aeration	0 1 2 3
Water temperature °C	0 1 2	Maintenance temp. °C	0 1 2
Acclimation temp. °C	0 1 2	Must Delta T° °C	0 1 2

Réactivateur® 60: the certainty of an effective reactivation

**Yeast cycle instructions**  
All is needed to reactivate yeast with Réactivateur® 60 is two clicks of the switches. When the start button is pressed, Réactivateur® 60 allows the correct quantity of water in, heating it until the selected temperature is reached (normally 38°C). Réactivateur® 60 is controlled by different programs which are activated through a touch screen. The touch screen simulates buttons, selectors and control indicators and is a complete interface man/equipment, where it is possible to put and modify the process parameters and where the program communicates the working state and the alarms: all this in a few centimeters.

The utilization is very simple and intuitive: the buttons are drawn and have a label. By lightly pressing the area we are interested in, the following input/output screen will appear. Also, by pressing any figure, a numerical keypad will appear (if allowed), that will enable to increase or decrease the figure. At any step of the program it is possible to press the button **Manual**: the program will be broken off, it is possible to carry out some manual operations and when pressing the button **Back**, the program will start again from where it had been broken.

MANUAL

ver. 2.1

AEB engineering

AUTOM.

Reactivateur® 60

Back

MANUAL comands

Water loading Lt 012

Must loading Must unloading

Heating °C 012

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01 - Input operator to START cycle

Yeasts Kg. 012

Temperature to be reached 012

Temperature acclimation 012

01 - Water loading

Yeasts Kg. 012

Temperature 012°C

Water Lt 012

Setpoint 012