



FORCED CONVECTION OVEN

OVE059-059



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1. Warranty

Thank you for purchasing a Labstac instrument. In normal use conditions, the instrument is guaranteed for a period of 24 months from the date of purchase.

The warranty is valid only if the product is original. It does not apply to any product or parts of it that have been damaged due to incorrect installation, improper connections, improper use, accident or abnormal conditions of operation.

The manufacturer declines all responsibility for damage caused by failure to follow instructions, lack of maintenance and any unauthorized modification.

2. Contents of package

The instrument is delivered complete with the following parts :

- Drying Oven (main unit)
- 2 stainless steel wire shelves
- 4 brackets for shelves
- Power supply cable
- 2 core of fuse
- User manual

3. Installation requirements and safety tips

3.1 Installation requirements

The incubator should be installed in follow conditions:

1. Dry, clean and stable work table with a flat horizontal surface.
2. Respect minimum spaces around the instrument 80 cm.
3. Room temperature between 41°F (5°C) and 104 °F (40°C) , and relative humidity maximum of 85%.
4. Power supply socket with earth connection.
5. Power feed between 220V 50Hz.

3.2 Instruction for Safety

3.2.1 Danger !

The improper use of this unit may cause property damage and/or personnel injury.

1. The product must be properly electrically grounded (The Hot line or the Neutral line should not be the grounded connection to adhere to the product's requirement before using).
2. Please ensure the voltage and frequency of the power supply are compatible with the incubator power requirements prior to use. The fluctuations of the supply voltage shall not exceed 10% of the nominal supply voltage.
3. This unit must use the included electrical cord with a dedicated electrical circuit with a confirmed

electrical ground connection.

4. The power switch MUST be in the "OFF" position when power is connected or disconnected from the unit.
5. Do not arbitrarily lengthen or shorten the power supply connection wire. Do not modify the power cord in any way.
6. It is prohibited to put in flammable, explosive, volatile, and corrosive substances for drying and baking.
7. Do not touch the chamber door, the chamber body or the surrounding surface when the set temperature is over 176°F (80°C) !
8. Do not put hands or objects into the air inlet or air outlet.
9. The unit should have routine inspections and should be serviced by a qualified service technician when needed.

3.2.2 Warning!

1. Please use the socket connecting with the ground connection to prevent electric shock. If the socket does not have the ground connection, the earth wire must be installed by the qualified electrician. Be sure not to conduct the ground connection through the gas pipe, water pipe, telephone line or lightning rod! This kind of ground connection may cause electric shock due to the incomplete loops.
2. 304 stainless steel material is not acid resistant, so please pay attention to the corrosion prevention measures. Never place corrosive materials inside the unit to prevent damage
3. Do not tension the power supply cord when plugged in.
4. The power cord must be removed from receptacle when any of the following occur:
 - When replacing the fuse;
 - When the product is waiting for overhaul due to faults;
 - When the product goes out of service for a long time;
 - When the product is being moved;

3.2.3 Caution!

1. The incubator should be located on a strong solid surface.
2. Take care when opening and closing the door to prevent damage to delicate internal components.

4. Product introduction

4.1 Function introduction



Figure 1



Figure 2

1. Control system
2. Screen display
3. Opening / Closing handle
4. Fuses
5. Power outlet

4.2 Display and commands

4.2.1 Display introduction



Figure 3

4.2.2 COMMANDS and DESCRIPTION



Figure 4

1. The  button permits the working parameters setting and to enter/escape from the programs (PRO version only).
2. The  button permits to quickly change the digit (Program, units, tens, etc.) of the value of the parameter you are editing.
3. In combination with the  key allows access to menus with password.
4.  and  adjustment buttons allow you to increase or decrease the value of the operating

parameter being edited.

5. The  button permits to start / stop a cycle operation or a program (PRO version only).
6. The ON/OFF button allows you to turn on and turn off the instrument.

4.3 Specifications

Forced Air Drying Oven

Model	OVE059-059
Chamber Volume	59L
Temperature Range	Ambient+10°C~200°C / Ambient+18°F~392°F)
Temperature Stability	±1°C/±1.8°F
Display Resolution	0.1°C / 0.1°F
Standard Quantity of Shelves	2
Maximum Quantity of Shelves	9
Shelves loading	20Kg
Net Weight	51
Timer	1~5999mins
Internal Dimension (W*H*D, mm)	400*415*305
External Dimension (W *H*D, mm)	690*640*560
Electrical Requirement	AC220V,50Hz
Power Consumption	1100W

Table 1

5.Operation (Basic version)

5.1 Switching on the instrument

1. Connecting the power cord to a power outlet with a protective ground connection.
2. Turn on the instrument by pressing the ON / OFF Button and the display will light up. The display shows the initialization sequence and then the instrument is ready for use.

NOTE: Every time you turn the instrument beeps intermittently, the icon of visual alarm and the word “end” appear on the display, indicating that a heating cycle had been done before. Press any button to silence the audible signal and the icon appears.

5.2 Setting of parameters

5.2.1 Working time

1. After confirming the temperature, the last value of the set time (timer) starts flashing. Set the desired value (hh:mm) by pressing  or  keys. It's possible a quick movement between the digits using the  button.

2. Confirm the set value with another press of  button.

NOTE: the value "00:00" indicates the operating mode "continuous", that means once you start the operating cycle by the START / STOP button, it continues maintaining the set temperature until it is stopped manually (START/STOP)

3. If you set a value of time, such as 1 hour, the instrument will reach the set temperature and maintain it for an hour.

5.2.2 Working temperature

1. When the instrument is switched on, pressing one time the  button, the set temperature value starts to blink. Set the desired temperature value (in Celsius degrees) pressing keys.

2. It's possible a quick movement between the digits using the  button.

3. Confirm the set value with another press of  button.

5.3 Start/stop heating cycle

1. After setting the operating parameters, pressing  button with long pressure (4-5 seconds), the heating cycle starts for the defined time in hh:mm or continuous (00:00). The word "end" at the top right corner of the display disappears, the message RUN appears in the bottom left corner and the display shows contemporary: timer, temperature measured inside the chamber, set temperature and fan speed if present (see Picture 4).

2. At any time, you can always manually stop the cycle by pressing the  button with long pressure (4-5 seconds).

3. Once the set time or after manual stop, the instrument beeps intermittently, the icon of visual alarm and the word "end" appear on the display. Pressing any button, it's possible to silence the audible signal and the icon appears.

NOTE: the acoustic signal will not end until it is stopped by the operator, but the heating cycle is terminated so for the samples inside the instrument will remain exposed to the internal temperature of the chamber.

5.4 Functions with password access

5.4.1 Access to menu with password

1. Simultaneously pressing the  and  for few seconds, you can access some functions and parameters that are password protected.
 2. To access these submenus and avoid mistakenly entering in the operating parameters setting, it is recommended to firstly press the SHIFT key, keep it pressed, and then press the SET / PROG for a few seconds.
 3. After making this key combination, on the right top part of the display instead of the word TIME, “Lk” (lock) appears close to “0000” (password).
- Below the passwords and access sequence to the various parameters/functions.

PASSWORD	FUNCTION / PARAMETER	DESCRIPTION
0000	dy	Delay of heating cycle start
0003	tm	Safety temperature limiter for samples protection
	Po	Restart mode after absence of power supply
	AL	Temperature range for over temperature alarm
	Pb	Temperature offset on single point
	PK	Temperature offset on the entire ramp
	PA	Temperature offset of the room temperature probe

Table 2

5.4.2 Delay of heating cycle start

1. It's possible to set a delay (hour and minutes) for the heating cycle to start. Please follow the instructions reported at paragraph 6.4.1 and confirm the “0000” password pressing shortly one time . On the top right part of the display the parameter “dy” (delay) appears close to value 00:00.
2. Set the desired delay value (hh:mm) pressing  or  keys. It's possible a quick movement between the digits using the  button. Confirm the set value with another press of  button. The display comes back to the standby screen.
3. Pressing the  button with long pressure (4-5 seconds) the instrument starts the work cycle but it doesn't immediately heat: the word “end” and the set delay time alternately blink on the top right part of the display, counting the wait time until the real starting of heating. Once the delayed time is passed the instrument starts to heat and the regular timer appears on display.

6.Operation (Programmable version)

6.1 Switching on the instrument

Connect the power cord to a power outlet with a protective ground connection. Turn on the instrument by pressing the button ON / OFF. Button and the display will light up.

The display shows the initialization sequence and then the instrument is ready for use.

NOTE: every time you turn the instrument beeps intermittently, the icon of visual alarm and the word "end" appear on the display, indicating that a heating cycle had been done before. Press any button to silence the audible signal and the icon appears.

6.2 Programming

In the Professional version the instrument can manage up to 8 programs with 9 steps, each one in temperature, timer are settable.

6.2.1 Calling programs

When the instrument is switched on, pressing shortly one time the  and  button for 4-5 seconds, You can find the words "lk", "Pn", "Cy" and "dy" showed on the screen. You can use  button to switch between them. Choose "Pn" and the value of "Pn" is the number of programs you have chosen to run.

Calling the desired program by the  or  keys. Confirm pressing shortly one time the  button. The selected program is then ready to start.

6.2.2 Modify a program

To modify a program, it's necessary to press the button  for 4-5 seconds: the word "PROG" and the program number start to blink together and after some moment only the program number blinks.

Now it's possible to choose the desired program to be modified by the keys  and  to confirm it by a short press of  button.

Then the instrument enters in the modification mode and the timer value of the first step blinks together the word "PROG" to indicate that you are in programming phase.

STEP 1

Set by the,  and  keys the time value of the first step. Press shortly  to confirm it and pass to the next value (temperature), it's also for step one!. Set by the and  keys the desired timer value of the first step and confirm by a short press of .

If the instrument is a forced air model, the next parameter to be set is the fan speed, adjustable by the

 and  keys to switch among (H=High, M=Medium, L=Low), otherwise pass to STEP 2.

REPEAT THE ABOVE INSTRUCTIONS FOR EVERY STEP YOU WANT TO MODIFY.

NOTE: if you do not want to use all 9 STEPS of the program you are editing; simply set in the next step after the last step you want to use and set the time equal to "00:00".

EXAMPLE

If the last work step you want to use is the fifth, it's sufficient to set in the sixth step the timer equal to "00:00", imposing in this way to the instrument to stop it at the end of the fifth step.

6.3 Start/stop of a program

After setting the program, simply call one of them and press the  with long pressure (4-5 seconds) to start the selected program.

The word "end" at the top right of the display disappears, the message RUN appears on bottom left part and display shows simultaneously: program number, step in progress, timer, measured temperature inside the chamber, set temperature and fan speed if present (see Picture 5).

At any time, you can always manually stop the cycle by pressing the  button with long pressure (4-5 seconds).

Once the set program is finished or after a manual stop, the instrument beeps intermittently, the icon of visual alarm and the word "end" appear on the display. Pressing any button will silence the audible signal and the icon appears.

NOTE: the acoustic signal will not end until it is stopped by the operator, but the heating cycle is terminated so for the samples inside the instrument will remain exposed to the internal temperature of the chamber.

6.4 Functions with password access

6.4.1 Access to menu with password

Simultaneously pressing the  and  for few seconds, you can access some functions and parameters that are password protected.

To access these submenus and avoid mistakenly entering in the operating parameters setting, it is

recommended to firstly press the  key, keep it pressed, and then press the  for a few seconds. After making this key combination, on the right top part of the display instead of the word TIME, "Lk" (lock) appears close to "0000" (password). Below the passwords and access sequence to the various parameters/functions.

PASSWORD	FUNCTION/ PARAMETER	DESCRIPTION
0000	Pn	Number of program to which to apply the dy e Cy functions
	Cy	Number of repetitions of the work cycle
	dy	Delay of heating cycle start

0003	tm	Safety temperature limiter for samples protection
	Po	Restart mode after absence of power supply
	AL	Temperature range for over temperature alarm
	Pb	Temperature offset on single point
	PK	Temperature offset on the entire ramp
	PA	Temperature offset of the room temperature probe

Table 3

6.4.2 Number of program to which apply the Delay and Cycle functions

On the contrary of the Basic version that doesn't have more programs but a unique work cycle, in the Professional version it's necessary to define to which program (from 1 to 7) apply the functions of starting delayed (Delay) and repetition of cycle (Cycle).

To do that it's necessary enter in the first submenu with password access (0000) and modify the parameter "Pn" (the value is the program number) by using  and  keys and confirm the selected program by a short press of  button.

6.4.3 Repetition of a program

The instrument allows the repeating from one to more times of the selected program. After have chosen the program to which apply the function by the parameter Pn it's possible set the Cy value (Cy)= 1, 2,

3...with,  and  keys, confirm it by pressing  shortly.

NOTE: it's also possible to set the continuous repetition of a program, setting it in continuous "loop", with the parameter Cy=0.

6.4.4 Delay of the program start

It's possible to set a delay (hour and minutes) of the program start.

After have chosen the program to which apply the function by the parameter Pn it's possible to set the desired delay value (hh: mm) by pressing  and  keys. It's possible to do a quick movement between the digits by using the  button. Confirm the set value with another press of  button.

The display comes back to the standby screen. By pressing the button  with a long pressure (4-5 seconds), the instrument will start the program but it doesn't immediately start heating: the word "end" and the set delay time alternately blink on the top right part of the display, counting the waiting time until the real starting of the program.

Once the delayed time is passed, the instrument starts to heat and the regular timer appears on display.

7.Clean and maintenance

- Proper maintenance and cleaning of the instrument guarantee its good conditions.
- The inner chamber of the instrument is made of stainless steel, so it can be cleaned with any detergent provided it is not aggressive and / or corrosive.
- You should clean the inside and outside surfaces with a standard all-purpose cleaner sprayed on a soft cloth.
- Before proceeding with any cleaning or decontamination, the user must ensure that the method used does not damage the instrument.

IMPORTANT

If the instrument must be returned for service, it is necessary to provide for proper cleaning and possible decontamination by pathogens of the same.

It is also recommended to put the instrument in its original packaging to send it in for repairs and if it is missed it is necessary to pack it properly in order to transport.

Any damage caused from the incorrect shipping will not be covered by warranty.

8.Troubleshooting Guide

Symptoms	Possible Causes	Remedies
No power after startup (pilot lamp is not on)	Power socket is not energized or plug is in poor contact.	Make It was repaired.
	Chamber power line broken or plug is not inserted properly.	Make it was repaired or inserted again.
	Power switch is broken (or is not turned on)	Make It was fixed by the professional personnel.
	Fuse blown	If the fuse still burned out after the replacement and energization, you need to check if the switch, heater or temperature controller are short-circuited or leaked (insulation resistance of 0) and restart after repairing.
The temperature displayed abnormal on the screen	Sensor is out of order or wiring is broken (knocked off)	Pt100 is repaired or replaced.
No temperature rise	Check if timing is set up and time is up.	Refer to the operation of the timing function.
	The controller does not work (without output)	When OUT light doesn't shine or 3061 is broken, replace it.
	Setting temperature is lower than the internal temperature	Open the door until the internal temperature is lower than the setting temperature.

Temperature control is inaccurate (static difference is large)	The difference between room temperature and set temperature is less than 10 degrees Celsius.	Minimum temperature under control :Ambient+10°C
Noise abnormal	The fan is broken or lack of lubricating oil	Replace fan or add lubricating oil
	Friction on rear air duct plate	Repair or add washer

Table 4

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