SHAKING INCUBATOR
ARGO LAB

User manual

SKI 4

Contents

1 Warranty

Thank you for purchasing an ARGO LAB 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:

1. Universal attachment
2. Power supply cable
3. User manual

3 Installation

The shaker incubator should be installed in follow conditions:

1. Dry, clean and stable work table with a flat horizontal surface
2. Respect minimum spaces of 30 cm around instrument
3. Room temperature between 15 °C and 30 °C, maximum relative humidity 85%
4. Max altitude 2000 m
5. Power supply socket with earth connection
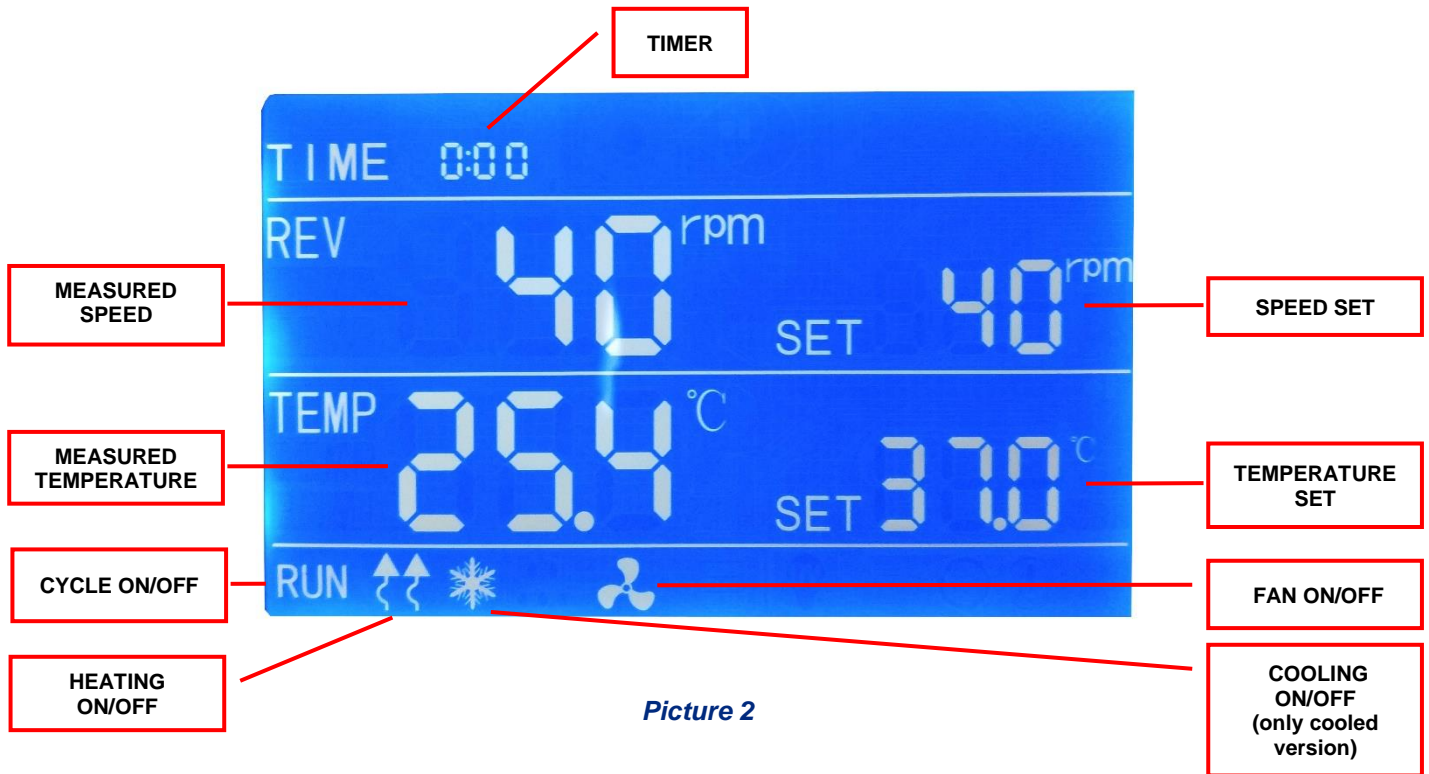6. Power feed between 220-240 V - 50 Hz

3.1 Instrument parts

Lid

Passage hole

Opening/ closing handle

Universal attachment

Display

Keypad

Picture 1

4 Display and commands

TIMER

MEASURED SPEED

SPEED SET

MEASURED TEMPERATURE

TEMPERATURE SET

CYCLE ON/OFF

FAN ON/OFF

HEATING ON/OFF

COOLING ON/OFF (only cooled version)

Picture 2

DISPLAY / COMMAND	DESCRIPTION
	This part of display shows timer value that may be a finite value (hh:mm), the continuous operating mode (00:00) or cycle ended/stopped ("end").
	This part of display shows the speed value measured by the instrument.
	This part of display shows the temperature value measured by the instrument.
	This part of display shows the last set speed value.
	This part of display shows the last set temperature value.

RUN	This part of display shows if the instrument is running or not.
	This indicates if the heating element is working or not.
	This indicates the working phase of the fan inside the chamber.
	This icon together to an intermittent beep indicate an alarm (End of cycle, over temperature, etc.)
	This icon indicates that an alarm (End of cycle, over temperature, etc.) was silenced by the operator
START STOP	It allows you to start or stop the process of the instrument.
SET	The SET/PROG button permits the working parameters setting.
	They allow you to increase or decrease the value of the parameter you are editing.
	The "shift key" allows you to quickly move between the digits of the value that you are editing.
	On/off button.
7 0	Overtemperature adjustable switch
	Discharge valve
	Power cable inlet

5 Operation

5.1 Switching on the instrument

Connect the power cord to a power outlet with a protective ground connection.

Switch on the shaking incubator with ON/OFF button on the side of the instrument.

The display light on and the instrument is ready to start with the parameters set during the last operation.

NOTE: if the instrument had finished a process before being switched off, it will display on the display "End" and make beep. To stop the buzzer, press any key.

5.2 Setting of parameters

With the instrument switched on it's possible to modify the operating parameters using the button "SET/PROG".

Pressing (short press) more times this button, the various parameters start sequentially to blink: TIMER, STIRRING SPEED, TEMPERATURE and while flashing they are adjustable by the ▲ ▼ buttons.

NOTE: a**ll parameters can be changed also while the instrument is in working cycle.**

5.2.1 Timer

With the instrument in standby phase or during the operation, pressing one time the "SET/PROG" button (short press), the "Timer display" blinks showing the last value of timer set in that moment.

Use the ▲ ▼ button to increase and decrease the value of timer from 00:00 to 99:59 hh:mm.

Press again the "SET/PROG" button (short press) to confirm the value and pass to the next parameter.

NOTES:

- **the timer starts counting when the cycle begins**
- **if you do not set a definite time, but is left to the value "00:00", the instrument will work in "continuous" mode, that will not stop until the operator stops it manually by pressing the "STOP" button**

5.2.2 Stirring speed

With the instrument in standby phase or during the operation, pressing two time the "SET/PROG" button (short press), the "Speed display" blinks and shows the speed value set in that moment.

Use the ▲ ▼ button to increase and decrease the value of speed from 40 to 300 rpm.

Press again the "SET/PROG" button (short press) to confirm the value and pass to the next parameter.

NOTE: even if the speed control range is from 40 to 300 rpm, the speed can be forced also at 0 rpm, in that case the shaking incubators works like a regular incubator without stirring.

5.2.3 Temperature

With the instrument in standby phase or during the operation, pressing three time the "SET/PROG" button (short press), the "Temperature display" blinks and shows the temperature value set in that moment.

Use the ▲ ▼ button to increase and decrease the value of temperature from RT + 5°C to 60 °C.

Press again the "SET/PROG" button (short press) to confirm the value.

5.3 Start/stop of cycle of operation

After setting of parameters, it's possible start the operating cycle **pressing the "START/STOP" button in long way (about 4 seconds).**

The instrument starts its working cycle and simultaneously also the timer starts.

To stop the working cycle press the "START/STOP" button. The instrument stops, the display shows "End" and it beeps.

NOTE: To stop the buzzer press a keys.

6 Alarms

The instrument can make some acoustic-visual alarms to report any anomalies:

TEMPERATURE EXCESS – if the temperature measured by the sensor inside the instrument exceeds the set temperature by more than 3 ° C, the heating would stop and the instrument would emit an audible warning.
The beep can be stopped by pressing any key.

- **MOTOR OVERLOAD** – if the motor has been in overloaded for more than 10 seconds due to excessive load fluctuations, the instrument will emit an audible warning.
The beep can be stopped by pressing any key.

- **PROBLEMS ON TEMPERATURE SENSOR –** in the case where the temperature sensor has problems, the display would display the following message "------" .

7 Cleaning and maintenance

Proper maintenance and cleaning of the instrument guarantee its good conditions.

It's possible to clean 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.

8 Disposal of electronic equipment

The electrical and electronic equipment marked with this symbol may not be disposed of in landfills.

In accordance with EU Directive 2012/19/UE, the European users of electrical and electronic equipment have the opportunity to give back to the distributor or manufacturer upon purchase of a new one.

The illegal disposal of electrical and electronic equipment is punished with an administrative fine.