

# SHAKING INCUBATORS

User's manual



**Incubator with forced ventilation *shaking*, multifunctional with microprocessor temperature controller.**

| <b>Model</b> | <b>Description</b>   | <b>Temperature range</b>                             |
|--------------|--|--|
| <b>SKI 4</b> | <i>Incubator with forced ventilation shaking 4 L (useful volume)</i> | <i>From + 5 °C above room temperature to + 60 °C</i> |

**Refrigerated incubator with forced ventilation *shaking*, multifunctional with microprocessor temperature controller.**

| <b>Model</b>   | <b>Description</b>  | <b>Temperature range</b>      |
|----------------|---|-------------------------------|
| <b>SKI 8-R</b> | <i>Refrigerated incubator with forced ventilation shaking 8 L (useful volume)</i> | <i>From + 4 °C to + 60 °C</i> |

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# 1.Safety information

- **Definitions of warning words and symbols**

The safety information in this manual is very important to avoid personal injury, damage to the instrument, malfunction or incorrect results due to non-compliance. Please read this manual carefully in its entirety and make sure you become familiar with the instrument before operating and working with it. This manual must be kept close to the instrument so that the operator can refer to it if necessary. Safety instructions are indicated by warning terms or symbols.

- **Reporting deadlines:**

**CAUTION/WARNING/DANGER** for a dangerous situation that could lead to serious injury, reduced or average, serious injury or death if not avoided.

**NOTICE** for important product information.

**NOTES** Useful information.

- **Warning symbols:**



**DANGER**

This symbol indicates an **imminently hazardous** situation which, if not avoided, could result in death or serious (irreversible) injury.



**WARNING**

This symbol indicates a potentially hazardous situation which, if not avoided, could result in death or serious (irreversible) injury.



**ATTENTION**

This symbol indicates a potentially hazardous situation which, if not avoided, may result in minor or moderate (reversible) injury.



**NOTICE**

This symbol draws attention to possible damage to the instrument or instrumental parts.













**NOTES**

This symbol identifies useful product information.


- **Pictograms**

Throughout this manual there are different symbols identifying dangers, prohibitions and obligations as illustrated below.



- **Danger symbols**

|   |   |
|---|---|
|    | Danger of electric shock                              |
|    | Danger of explosion                                   |
|    | Fire hazard   |
|    | Danger of poisoning                                   |
|    | Danger of overheating surfaces                        |
|    | Danger of damage to health caused by toxic substances |
|   | Risk of injury from tipping objects                   |
|  | Risk of injury from lifting heavy objects             |
|  | Danger of environmental damage                        |
|  | Danger of corrosion                                   |

- **Prohibition symbols**








|   |                       |
|---|-----------------------|
|  | Do not wet with water |
|---|-----------------------|

- **Symbols of obligation**


|   |   |
|---|---|
|  | Disconnect the instrument from the power supply by pulling the plug |
|  | Eye protection must be used   |

## 2. General safety instructions







If the Shaking Incubator is not installed, commissioned, cleaned, adjusted or set up correctly, there is a risk of malfunction, which could lead to personal injury and material damage to the instrument and samples. Therefore, the Shaking Incubator must only be installed, commissioned, cleaned, adjusted and set up by qualified personnel.

|  <b>DANGER</b>   |   |
|---|---|
| <br><br> | <p><b>Danger of electric shock and Danger of death</b></p> <ul style="list-style-type: none"> <li>⊗ Do not get the instrument wet during installation, commissioning or maintenance.</li> <li>⊗ Do not connect the instrument to the power supply if the rear panel is dented or damaged.</li> </ul> <ul style="list-style-type: none"> <li>➤ Before opening the rear panel, remove the plug from the power supply.</li> <li>➤ If the power cord or rear panel of the instrument is damaged, discontinue use immediately, remove the plug from the power supply and contact your dealer for repairs.</li> <li>➤ All work on electrical components of the instrument must be carried out by qualified personnel only.</li> </ul> |
|    | <p><b>Danger of explosion</b></p> <ul style="list-style-type: none"> <li>➤ Install the instrument only where there is no risk of explosion.</li> </ul> <ul style="list-style-type: none"> <li>⊗ Do not keep air/solvent mixtures or explosive dusts in the vicinity.</li> <li>⊗ Never introduce materials into the instrument that are explosive or flammable at the selected operating temperature.</li> <li>⊗ Never introduce materials containing flammable or explosive solvents into the instrument.</li> <li>⊗ Never introduce materials into the instrument which, by sublimation or pyrolysis, give rise to the formation of flammable materials at working temperature selected.</li> </ul>                            |
| <br>  | <p><b>Danger of poisoning and Danger of death</b></p> <ul style="list-style-type: none"> <li>⊗ Never introduce materials into the instrument whose disintegration could result in the formation of poisonous gases at the selected operating temperatures.</li> </ul>   |

 **WARNING**

|   |  |
|---|--|
|  | <p><b>Fire hazard</b></p> <p>Shaking incubators must not be used if the class 3.1 safety thermostat has failed.</p> <ul style="list-style-type: none"> <li>➤ If the safety thermostat test fails, immediately stop using the shaking incubator, remove the plug from the power supply and contact your dealer for the necessary repairs.</li> <li>➤ Always place the instrument on a working surface that is resistant up to a temperature of 100 °C.</li> </ul> <p>Do not insert anything underneath the instrument (paper, plastic film, etc.).</p> <ul style="list-style-type: none"> <li>➤ Always connect the instrument only to a power supply with a fuse of at least 10A. Follow the recommendations of your local power supply company. electrical.</li> </ul> <p>⊙ SKI 8 R refrigerated shaking incubators contain pressurised refrigerant gas. Do not directly heat the compressor and its parts of the SKI 8 R refrigerated shaking incubator with an open flame.</p> |
|---|--|

 **ATTENTION**

|   |  |
|---|--|
|     | <p><b>Risk of injury and Risk of breakage</b></p> <ul style="list-style-type: none"> <li>➤ Only ever place the instrument on surfaces that can support its weight.</li> </ul>  |
|   | <p><b>Danger of tipping over and Risk of injury</b></p> <p>Do not stack incubators with shakers.</p>   |
| <br><br> | <p><b>Risk of injury, Risk of the instrument slipping or tipping and Risk of damage to the instrument</b></p> <ul style="list-style-type: none"> <li>➤ The instrument must be lifted by 2 persons.</li> <li>➤ The instrument must only be transported in its original packaging.</li> <li>➤ The instrument must always be lifted from below with mechanical tools (e.g. forklift truck) together with the support pallet.</li> </ul> <p>The instrument must not be lifted directly from below with mechanical tools without supporting pallets (e.g. forklift truck).</p> <p>The instrument must not be lifted or dragged by pulling the door.</p> |

### 3.CE marking data

ArgoLab instruments are manufactured in compliance with Directive 2006/42/EC and the relevant Community Directives applicable at the time of placing on the market (fac - simile below).

|                                     |  |   |
|-------------------------------------|--|---|
| SUZHOU BEING MEDICAL DEVICE CO.,LTD | <b>DECLARATION OF CONFORMITY UE</b><br><small>In accordance with Annex II A - Directive 2006/42/CE<br/>         Annex IV - EMC Directive<br/>         and Annex VI - Directive 2011/65/UE (RoHS)</small> |  |
|-------------------------------------|--|---|

**No.** ISETC.000420200818

Manufacturer's Name : SUZHOU BEING MEDICAL DEVICE CO., LTD  
 Manufacturer's Address : NO. 108 GONGXIANG RD QIANDENG TOWN, KUNSHAN CHINA  
 Tel : +86-21-58833709  
 Email: JILL.SHEN@BLUEPARD.COM  
 Authorised Representative :Giorgio Bormac S.r.l – Via della Meccanica, 25 41012 Carpi (MO)-ITALY

**Object of Declaration:** : SHAKING INCUBATOR

This declaration of conformity is issued under the sole responsibility of the manufacturer.

**Product names:**

Product description : SHAKING INCUBATOR  
 Model: BSI-2  
 Serial Number: from s/n 200100001 to 260100001  
 Product options: This declaration covers all options of the above products

- *The object of the declaration describe above complies with the essential requirements of the following applicable European Directives, and carries the CE marking accordingly:*

|   |  |
|---|--|
| <b>EMC directive: 2014/30/UE</b>        | <i>Directive 2014/30/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to electromagnetic compatibility.</i>   |
| <b>RoHS Directive 2011/65/EU</b>        | <i>Directive 2011/65/EU of the European Parliament and of the Council of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.</i>   |
| <b>LVD Directive: 2014/35/UE</b>        | <i>Directive 2014/35/EU of the European Parliament and of the Council of 26 February 2014 on the harmonization of the laws of the Member States relating to the making available on the market of electrical equipment designed for use within certain voltage limits Text with EEA relevance.</i> |
| <b>Machinery Directive : 2006/42/EC</b> | <i>DIRECTIVE 2006/42/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast)</i>  |

- *and conforms with the following standards:*

EN 61010-1:2010+A1:2019  
 EN 61326-1:2013  
 EN 61000-3-2:2014  
 EN 61000-3-3:2013  
 EN 60204:2018  
 EN ISO 12100:2010

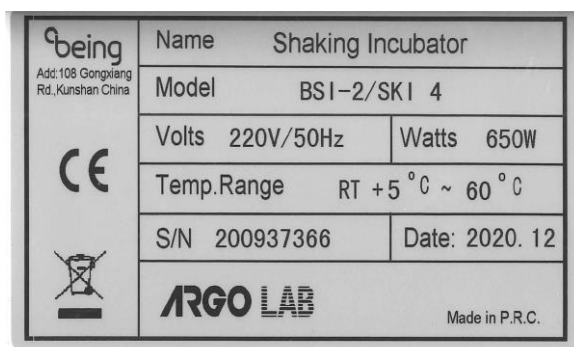


**NAME AND ADDRESS OF THE PERSON AUTHORISED TO COMPILE THE TECHNICAL FILE**

Giorgio Bormac S.r.l. - Via della Meccanica, 25 41012 Carpi (MO) - ITALY

Signed for and on behalf of **name, surname**  
 Place **gg/mm/aaaa**  
 SHANGHAI SIGNATURE \_\_\_\_\_

Facsimile of the CE marking plate:



## 4.Package contents

The instrument will be delivered complete with the following parts:

- Flexible spring platform.
- Condensate drainage insert.
- Power cable.
- Fuses.
- Instruction manual.

## 5.Transport

- **Instructions for safe transport**

| <b>ATTENTION</b> |   |
|------------------|---|
| <br><br>         | <p><b>Risk of injury, Risk of the instrument slipping or tipping and Risk of damage to the instrument</b></p> <ul style="list-style-type: none"> <li>➤ The instrument must be lifted by 2 persons.</li> <li>➤ The instrument must only be transported in its original packaging.</li> <li>➤ The instrument must always be lifted from below with mechanical tools (e.g. forklift truck) together with the support pallet.</li> </ul> <p>The instrument must not be lifted directly from below with mechanical tools (e.g. forklift truck) without the supporting pallet.</p> <p>The instrument must not be lifted or dragged by pulling the door.</p> |

- **Transporting a previously used shaking incubator**

- Switch off the ArgoLab shaking incubator by operating the main switch.
- Remove the power plug from the socket.
- Remove the platform by means of special screw supports
- Clean the shaking incubator and its platform.
- Dry the inside of the Incubator with ArgoLab shaking and the platform previously removed and cleaned.
- Re-fix the platform by means of the screw supports.
- Insert the previously removed plug between the platform springs.
- Pack the entire ArgoLab Shaking Incubator in its original packaging.
- Take care that the ArgoLab Shaking Incubator does not get wet during transport.
- During transport, maintain the permissible ambient temperature (-10 °C to 60 °C).



## 6. Conservation

- Store the ArgoLab Shaking Incubator only in closed, dry rooms.
- The permitted storage temperature is -10 °C to 60 °C. The maximum permitted storage humidity is 85% RH without condensation.







## 7. First installation

- **Preliminary operations**

The instrument must be installed under the following conditions:

- Stable work surface with a flat, horizontal, heat-resistant, dry and clean surface.
- Minimum spaces of at least 20 cm around the instrument.
- Ambient temperature between 5 °C and 40 °C and relative humidity not exceeding 85%.
- Grounded power socket.
- Power supply 220/240 V - 50 Hz.

|   |  |
|---|--|
|  <b>NOTICE</b> |  |
|                | <p><b>Danger of overheating - Damage to the appliance</b></p> <p>DO NOT install equipment in unventilated areas.</p> <p>⊘ Ensure that there is sufficient ventilation to disperse heat.</p>    |
|  <b>DANGER</b> |  |
|                | <p><b>Risk of explosion and danger to life</b></p> <p>DO NOT operate the unit in potentially explosive areas.</p> <p>DO NOT use explosive dust or air-soluble mixtures in the environment.</p> |

# 8. Instrument parts

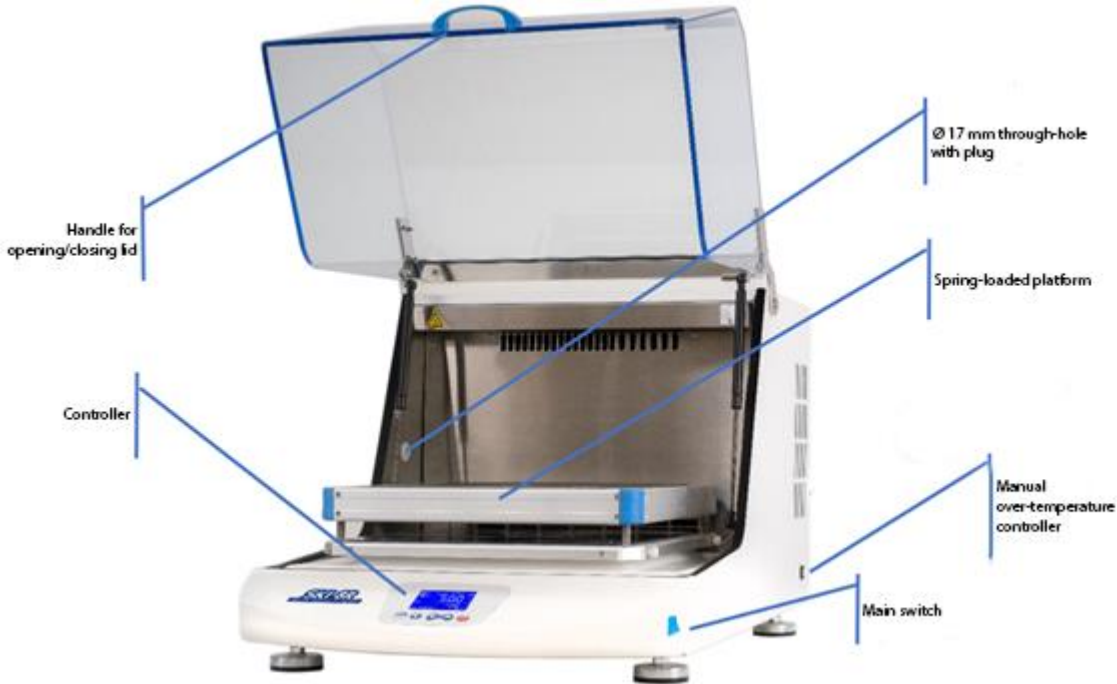


Figure 1

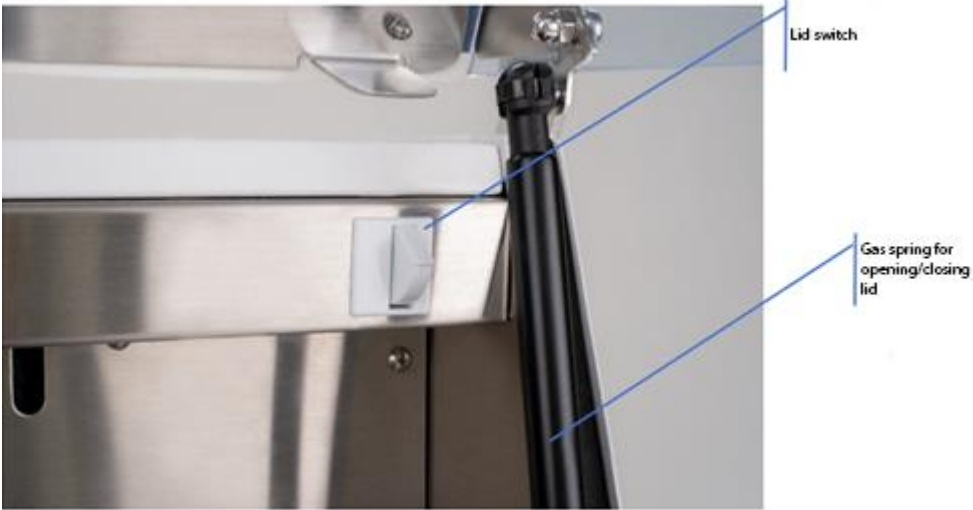








Figure 2

- **Display and controls**



*Figure 3*

| COMMAND   | DESCRIPTION   |
|---|---|
|   | The ON/OFF button is used to switch the instrument on and off.  |
|  | The SET button is used to set the operating parameters.   |
|  | The START/STOP button is used to start/stop an operating cycle.   |
|  | The adjustment keys allow you to increase and decrease the value of the parameter being edited.                             |
|  | The SHIFT key allows you to quickly change the digit (decimal, unit, ten, etc.) of the value of the parameter being edited. |
|  | The condensation water drain valve.   |

## 9. Technical specifications

| Incubator with forced ventilation shaker | SKI 4  |
|--|--|
| Max. temperature/ Resolution             | +60 / 0,1 °C   |
| Min. temperature                         | +5°C above Ambient temperature                               |
| Temperature homogeneity at 37°C          | ± 0,5 °C   |
| Temperature variation at 37°C            | ± 0,1 °C   |
| Timer                                    | 99:59 hh:min and ∞   |
| Speed                                    | 40...300 rpm   |
| Orbit width                              | 20 mm  |
| Capacity                                 | 8 x 500 ml Erlenmeyer flasks / 4 x 1000 ml Erlenmeyer flasks |
| Standard platform dimensions (W x D)     | 320 x 320 mm   |
| Safety class                             | 3.1  |
| Power supply / Power                     | 230 V / 500 W  |
| External dimensions (W x H x D)          | 500 x 470 x 610 mm   |
| Height with open lid                     | 830 mm   |
| Weight                                   | 40 Kg  |
| Over-temperature safety system           | Electrical and electromechanical                             |
| Open lid safety system                   | Yes, via lid switch  |



| Refrigerated incubator with forced ventilation shaking | SKI 8 R   |
|--|---|
| Max. temperature/ Resolution                           | +60 / 0,1 °C  |
| Min. temperature                                       | +4°C  |
| Temperature homogeneity                                | ± 0,5 °C  |
| Temperature variation                                  | ± 0,1 °C  |
| Timer  | 99:59 hh:min and ∞  |
| Speed  | 40...300 rpm  |
| Orbit width  | 20 mm   |
| Capacity   | 16 500 ml Erlenmeyer flasks / 9 1000 ml Erlenmeyer flasks / 4 2000 ml Erlenmeyer flasks |
| Standard platform dimensions (W x D)                   | 450 x 450 mm  |
| Safety class   | 3.1   |
| Power supply / Power                                   | 230 V / 1300 W  |
| External dimensions (W x H x D)                        | 610 x 540 x 950 mm  |
| Height with open lid                                   | 950 mm  |
| Weight   | 95 Kg   |
| Over-temperature safety system                         | Electrical and electromechanical  |
| Open lid safety system                                 | Yes, via lid switch   |

## 10. Operation

- **Ignition**


Connect the power cable to a grounded power outlet. Switch on the instrument using the ON/OFF button. The button and the display light up.


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

**NOTE:** each time the instrument is switched on it emits an intermittent acoustic signal; the visual alarm icon  and the word "end" appear on the display, indicating that a heating cycle had been completed before switching it off. Press any button to silence the audible signal and the icon .



## • Adjustment of working parameters


The SET button  allows you to enter the instrument's adjustment settings.



Pressing the SET button  more will allow you to scroll through the various adjustment parameters of the instrument.

**NOTE:** It is possible to change any working parameter even during an active cycle.



### • Parameter Timer


Press the SET button , the first value to the right of the TIME entry on the controller will flash.



Use the adjustment keys  to increase and decrease the working time of the cycle you want to set; you can move between the units using the SHIFT key .

**NOTE:** By setting an indefinite time such as 0:00 as the working TIME, the instrument will continue in continuous mode.



### • Parameter Shaking speed


Press the SET button , the first value to the right of the SET entry on the controller will flash.



Use the adjustment keys  to increase and decrease the shaking speed; you can move between units using the SHIFT key .

**NOTE:** The minimum shaking speed is 40 rpm. If shaking speed SET = 0, the instrument will not work in shaking mode but in incubation mode only.




### • Temperature parameter




Press the SET button , the first value to the right of the SET entry on the controller will flash.

Use the adjustment keys  to increase and decrease the incubation temperature; you can move between the units using the SHIFT key .

## • Starting/Stop a work cycle

Once the working parameters of the Shaking Incubator have been set, press the START/STOP button  for a long time (4-5 seconds) to start the instrument.


The word "end" at the top right of the display disappears; the word RUN appears at the bottom left and the display simultaneously shows: timer, set temperature, temperature measured inside the chamber, adjusted shaking speed and measured shaking speed. The cycle can be stopped manually at any time by pressing the

START/STOP button  for a long time (4-5 seconds). At the end of the set cycle or after manual stop, the instrument emits an intermittent beep while the visual alarm icon  and the word "end" appear on the controller. Pressing any button will silence the beep and the  icon will appear.

**NOTE:** The audible signal will not end until silenced by the operator, but the heating cycle has ended so the samples inside the instrument will remain exposed to the temperature inside the chamber.



## 11. Access to submenus with password



By pressing and holding the SET  buttons for a long time (4-5 seconds), it is possible to access some password-protected functions and parameters. Once this operation has been carried out, the word "Lk" (lock) appears in the top right-hand corner of the display in place of the word TIME, flanked by the digits "0000" (password). (password). Below are the passwords and the access sequence to the different parameters/functions.


| PASSWORD | FUNCTION/PARAMETER | DESCRIPTION  |
|----------|--------------------|--|
| 0000     | dy                 | Delayed start of selected programme                                    |
| 0003     | tm                 | Temperature limit for sample protection                                |
|          | Po                 | Restart mode after power failure                                       |
|          | AL                 | Temperature limit for over-temperature alarm                           |
|          | Pb                 | Temperature offset at one point  |
|          | PK                 | Temperature offset over the entire ramp                                |
|          | PA                 | Temperature offset at room temperature sensor (only for model SKI 8 R) |

### • Delayed start function Delay

The Delay start function allows the instrument to start after a defined time in minutes.

To do this, enter the first submenu with password access (0000), change the dy (Delay) parameter using the keys

 and confirm the chosen parameter by briefly pressing the SET key , The display returns to the


standby screen. By pressing the START/STOP key  for a long time (4-5 seconds) the instrument starts the working cycle, but does not start immediately: the word "end" in the top right-hand corner of the display and the delay time flash alternately, marking the wait from the set delay value until the actual start. Once the set delay time has elapsed, the instrument starts the cycle and the regular timer appears on the display.



**NOTE:** To use the delayed start function, the instrument must not be under a duty cycle.



### • Temperature limit function for sample protection (tm)

The instrument provides for the possibility of limiting the maximum working temperature in order to protect the samples from an incorrect temperature setting of the heating cycle.

To do this, enter the sub-menu with access via password (0003) and confirm with the SET key . The "tm" (max. temperature) parameter appears on the upper right-hand side of the display, along with the maximum value for that type of instrument.

Set the maximum temperature value that you do not want the instrument to exceed during operation by pressing the keys . You can move quickly between the digits using the SHIFT key .

Confirm the value by pressing SET  again, continue to press SET  briefly to scroll through the various parameters until the controller returns to the standby screen.

**NOTE:** to determine the correct "tm" value, the natural and inevitable initial temperature peak that the instrument will have during thermostating must be taken into account.








*Application example: If the temperature set for the heating cycle is 42°C and a limit temperature (tm) of 37°C is set, the instrument will attempt to reach the temperature indicated during parameter setting (42°C), even if it is higher than the limit temperature set in this submenu (tm). When 42°C is reached the instrument goes into alarm with an intermittent acoustic signal (can be silenced by pressing any key) and the heating element is no longer powered until the temperature falls below the limit temperature ("tm").*



- **Restart function after power failure (Po)**

The mode in which the instrument resumes operation after a power failure can be set:


| Po VALUE | DESCRIPTION   |
|----------|---|
| 0        | When the power supply returns, the instrument does not automatically resume the cycle. heating, but it must be restarted manually.                  |
| 1        | When the power supply returns, the instrument automatically resumes operation from the beginning of the interrupted work cycle.                     |
| 2        | When the power supply returns, the instrument automatically resumes operation from the precise point in the work cycle at which it was interrupted. |

By pressing and holding the SET  buttons for a long time (4-5 seconds), it is possible to access some password-protected functions and parameters. Once this operation has been carried out, the word "Lk" (lock) appears in the top right-hand corner of the display in place of the word TIME, flanked by the digits "0003" (password). (password). Scroll through the parameters by means of the SET  button until the display shows the Po parameter on the right; change the parameter by means of the , confirm the value by pressing SET  again, continue pressing the SET  button briefly to scroll through the various parameters until the controller returns to the standby screen.


- **Alarm function (Al)**


The incubator instrument is set with a factory temperature limit of 3°C.

The parameter that controls the alarm function is Al and is located in the password-protected submenus.

By pressing and holding the SET  buttons for a long time (4-5 seconds), it is possible to access some password-protected functions and parameters.

Once this operation has been carried out, the word "Lk" (lock) appears in the top right-hand corner of the display in place of the word TIME, flanked by the digits "0003" (password). (password).

Scroll through the parameters by means of the SET  button until the display shows the Al parameter on the right; change the parameter by means of the , confirm the value by pressing SET  again,

continue pressing the SET  button briefly to scroll through the various parameters until the controller returns to the standby screen.

**NOTE:** In the SKI 8 R refrigerated model, if the temperature inside the instrument is set below the current temperature, the instrument will emit an alarm signal until the temperature is close to the set temperature; silence this alarm by pressing a button on the controller.








- **Functions Temperature offset on one point (Pb), on the whole ramp (Pk), of the ambient sensor (PA)**

The instrument provides the possibility for the user to set offset values, i.e. calibration, on a temperature point, on the whole temperature range and on the ambient temperature range.

**NOTE:** although they can be modified by the operator, these values are already factory-set and perfectly calibrated with Accredia-certified measuring instruments. It is therefore advisable not to modify these values unless strictly necessary, for example, if checks with a certified digital thermometer reveal inconsistencies between the temperature readings of the instrument and those read by the thermometer itself.



By pressing and holding the SET  buttons for a long time (4-5 seconds), it is possible to access some password-protected functions and parameters. Once this operation has been carried out, the word "Lk" (lock) appears in the top right-hand corner of the display in place of the word TIME, flanked by the digits "0003" (password).

(password). Scroll through the parameters by means of the SET key  until the display shows the other right the parameter **Pb** or **Pk** or **PA** depending on the Offset you wish to adjust; change the parameter(s) by means of the keys , confirm the value(s) by pressing SET  again, continue pressing the SET key  briefly to scroll through the various parameters until the controller returns to the standby screen.



| PARAMETER | DESCRIPTION  |
|-----------|--|
| Pb        | By modifying this parameter it is possible to correct the reading of the PT100 temperature sensor inside the instrument to a single temperature point. The correction will therefore be referable to only one specific point.  |
| PK        | By modifying this parameter it is possible to correct the reading of the PT100 temperature sensor inside the instrument over the entire temperature ramp, i.e. to vary the inclination of the sensor's reading ramp.   |
| PA        | By modifying this parameter it is possible to correct the reading of the PT100 ambient temperature sensor installed on the instrument (refrigerated versions only) to a single temperature point. The correction will therefore be referable to only one specific point. |

**NOTE:** for a quick correction on the temperature reading on ArgoLab shaking incubator it is recommended to change the PB offset. Follow the instructions to correct the Pb offset:



1. Calculate the temperature difference

Temperature reading on thermometer - Temperature reading on incubator instrument with shaking = Temperature difference (note sign during calculation)

2. Add algebraically the value of the calculated difference to the factory offset Pb (take into account the sign)

3. Correction made

E.g.: measured temperature = 36.0°C




Incubator indicated temperature with shaking = 37.0°C

Factory offset Pb = - 5.5

Temperature difference = Temp. Temp. Indicated = 36.0 - 37.0 = - 1 °C

Correct Offset = Offset + Difference = - 5.5 + (-1) = - 6.5

## 12. Introduction of samples

|  <b>DANGER</b> |  |
|---|--|
|                | <p><b>Danger of explosion and Danger of death</b></p> <p>Never introduce materials into the instrument that are explosive or flammable at the selected operating temperature.</p> <p>Never introduce materials containing flammable or explosive solvents into the instrument.</p> <p>Never introduce materials into the instrument which by sublimation or pyrolysis give rise to the formation of flammable materials at the selected operating temperature.</p> |
|                | <p><b>Danger of poisoning and Danger of death</b></p> <p>Never introduce materials into the instrument which could result in the formation of poisonous gases.</p> <p>Never introduce materials into the instrument that can react with moisture and form explosive gases.</p>   |

- **Uploading samples**

To achieve optimal air circulation inside the ArgoLab Shaking Incubator, it is recommended to leave empty spaces between the samples.

## 13. Other alarms / functions

- **Over-temperature alarm**

In addition to the Tm parameter, which regulates the limit temperature for safeguarding the samples, the shaking incubator instrument has an electromechanical controller that is activated if the temperature is exceeded (safety class 3.1 according to DIN 12880).

Each shaking incubator instrument has an electromechanical controller with a limit temperature of 60°C. This can be modified by mechanical adjustment (Figure 4).

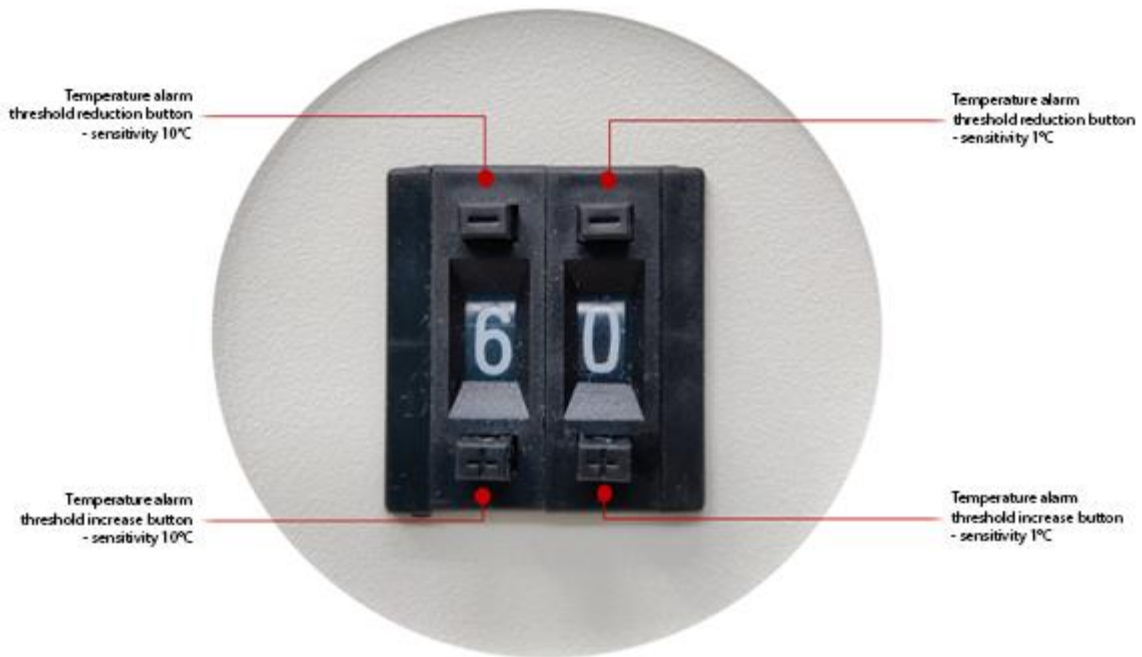


Figure 4

- **Motor overload alarm**

If the motor is overloaded for more than 10 seconds, the instrument will go into alarm.

Press a button on the controller to silence the alarm and distribute the samples more evenly over the loading platform. It may be necessary to reduce the number of samples or their weight.

- **Temperature sensor alarm**

In case of temperature sensor failure or malfunction, the controller displays message "□□□".

- **Condensate water drain**





At the back of the shaking incubator there is a condensate drain valve, which is connected by piping to the internal chamber of the instrument.

It is advisable to connect the bayonet-type insert to the rear valve so that the condensation created inside the instrument does not create small water stagnations.





It may be useful to connect the condensation water drainage insert to a pipe.

# 14. Cleaning and maintenance

Proper maintenance and cleaning of the instrument will ensure its good condition.  
 The inner chamber can be cleaned with any detergent as long as it is not aggressive and/or corrosive.

|  <b>DANGER</b>   |  |
|---|--|
| <br><br> | <p><b>Danger of electric shock and Danger of death</b><br/>                 DO NOT spray water or cleaning agents on the interior and exterior surfaces.<br/>                 Switch off the main switch and disconnect the mains plug before cleaning.</p> <ul style="list-style-type: none"> <li>➤ Dry the appliance completely before switching it on again.</li> </ul> |

It is recommended that internal and external surfaces be cleaned with a normal all-purpose cleaner sprayed onto a soft dampened cloth, so that it is not used in concentrated form. Before proceeding with cleaning or decontamination, the user must ensure that the method used does not damage the instrument.

|  <b>WARNING</b>  |  |
|--|--|
|   | <p><b>Danger of corrosion - Damage to equipment</b><br/>                 DO NOT use cleaning agents containing halogen acids.<br/>                 DO NOT use neutral detergent on other surfaces (e.g. on the galvanised parts of the hinges or on the rear wall of the housing).</p> |
| <br> | <p><b>Eye contact - Eye damage caused by chemical burns</b><br/>                 DO NOT discharge into the sewage system.</p> <ul style="list-style-type: none"> <li>➤ Wear protective goggles.</li> </ul>   |

**IMPORTANT:**

If the instrument is to be sent for service, it should be properly cleaned and possibly decontaminated from pathogens. It is also advisable to return the instrument in its original packaging to the repair service and, if this is not possible, to pack it adequately for transport. Any damage caused by incorrect shipment will not be covered by warranty.

## 15. Warranty

Under normal use this instrument is guaranteed for a period of 24 months from the date of purchase.

The warranty is only valid if the purchased product remains original. It does not apply to any product or parts thereof that have been damaged due to incorrect installation, improper connections, misuse, accident or abnormal operating conditions. No liability will be accepted for damage caused by improper use, lack of maintenance or unauthorised modifications.

## 16. Disposal of electronic equipment



This equipment is subject to the regulations for electronic devices.

Dispose of in accordance with local regulations.

