

INSTRUCTION MANUAL



Drying oven (STD version)

SLW 15, 32, 53, 75, 115, 180, 240, 400, 750, 1000
SLN 15, 32, 53, 75, 115, 180, 240

Incubator (STD version)

CLW 15, 32, 53, 75, 115, 180, 240, 400, 750, 1000
CLN 15, 32, 53, 75, 115, 180, 240

Sterilizer (STD version)

SRW 53, 115, 240, 400, 750, 1000
SRN 53, 115, 240
SRWP 115, 240

Cooled incubator (STD version)

ILW 53, 115, 240, 400, 750, 1000
ILP 53, 115, 240, 400,

Caution:

Before using the device first read carefully this manual!



Manufacturer:

POL-EKO-APARATURA

version 4.61

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1 SCOPE OF DELIVERY FOR UNITS IN STANDARD VERSION

Tabela 1 Scope of delivery for SL drying ovens and CL laboratory incubators.

Unit	SL /CL									
Type	15	32	53	75	115	180	240	400	750	1000
Shelves [pcs.]	1	1	2	2	2	3	3	3	5	6
Slides [pcs.]	2	2	4	4	4	6	6	6	10	12
Power cord [pcs]	1	1	1	1	1	1	1	1	1	1
Rubber cap for access port [pcs.]	1	1	1	1	1	1	1	1	1	1
Key for lock [pcs.]	2	2	2	2	2	2	2	2	2	2
Wrench (13mm) for wheels adjustment (where applicable) [pcs.]	x	x	x	x	x	x	x	x	1	1
Calibration certificate [pcs.]	1	1	1	1	1	1	1	1	1	1


Tabela 2 Scope of delivery for SR sterilizers.


Unit	SR					
Type	53	115	240	400	750	1000
Shelves [pcs.]	2	2	3	3	5	6
Slides [pcs.]	4	4	6	6	10	12
Power cord [pcs]	1	1	1	1	1	1
Rubber cap for access port [pcs.]	1	1	1	1	1	1
Key for lock [pcs.]	2	2	2	2	2	2
Wrench (13mm) for wheels adjustment (where applicable) [pcs.]	x	x	x	x	1	1
Calibration certificate [pcs.]	1	1	1	1	1	1


Tabela 3 Scope of delivery for ILW cooled incubators


Unit	ILW (FIT, FOT)				
Type	53	115	240	400	750
Shelves [pcs.]	2	2	3	3	5
Slides [pcs.]	4	4	6	6	10
Power cord [pcs]	1	1	1	1	1
Rubber cap for access port [pcs.]	1	1	1	1	1
Key for lock [pcs.]	2	2	2	2	2
Wrench (13mm) for wheels adjustment (where applicable) [pcs.]	x	x	x	x	1
Calibration certificate [pcs.]	1	1	1	1	1

2 SAFETY PRECAUTIONS

	<p>All warnings included in this instruction manual, especially these which appear next to the warning or informative symbols, should be obeyed at all times to ensure the safety of the user and to maintain the proper operation of the unit!</p> <p>The manufacturer does not take any responsibility for any damage which results from disobeying the instruction manual and misuse!</p>
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	<p>For SL and SR: When the device is working on 200 °C or higher temperature, the housing and door can be hot.</p>
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	<p>For units equipped with UV lamps: take necessary safety precautions. Do not expose your hands, skin and eyes to UV radiation as it may cause eyes diseases (conjunctivitis) or skin diseases (red spots or cancer). It is recommended not to open the unit while the UV lamps are on. The user should be equipped with protective gloves and glasses.</p>
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	<p>This symbol indicates helpful tips.</p>
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To guarantee your security and the longest efficiency of the unit, please comply with the following rules:

- | | |
|----|---|
| 1. | <p><u>The unit cannot be installed:</u></p> <ul style="list-style-type: none"> - outside, - in damp places or places which can be easily flooded, - near flammable or volatile substances, - near acids or in corrosive environments. |
| 2. | <p><u>It is forbidden to:</u></p> <ul style="list-style-type: none"> - store inflammable or volatile substances inside the unit, - touch live parts of the unit - operate the unit with wet hands, - put vessels containing water on the device, - climb or put any objects on the unit, - touch the compressor and condenser while the unit is connected to the mains |

3. You should:

- use only mains with earth to avoid electric shocks,
- unplug the power cable holding the protective cover and not the cable itself,
- disconnect the unit from the mains before undertaking any repairs or maintenance works,
- protect the power cable and the plug from any damage and do not use the plug if it is improperly plugged in or if the cable is laid incorrectly,
- disconnect the power plug before moving the unit,
- disconnect the power plug if you are not going to use the unit for a longer period of time,
- disconnect the unit and protect it from reconnecting if it has any visual faults.

3 ENVIRONMENTAL PROTECTION AND DISPOSAL OF THE UNIT



The packaging protects the unit from any damage during transportation. The packaging is harmless to the environment and can be recycled. Please handle it according to the environmental protection regulations or dispose it. The unit itself can be recycled in order to save the resources. The unit is marked according to European Union directives on waste electrical and electronic equipment (WEEE2). This directives determine the return and recycling conditions and are valid in all European Union member states.

PLEASE HELP US PROTECT THE ENVIRONMENT!

We would like to inform you that we have taken all the necessary steps to make sure that the unit will meet your requirements and will work reliably. Due to the fact that we constantly improve our products and extend their range, we invite you to provide us with any feedback. All opinions are welcome! Visit us at: www.polekolab.com



4 PRODUCT DESCRIPTION

The device is designed to work in laboratory environment and to use in laboratory process. The devices as drying ovens (SL), incubators (CL), sterilizers (SR) and cooled incubators (ILW) are designated to test samples in constant temperature. Interior and chamber are made of stainless steel acid proof (type 0H18N9). The housing of device can be made of stainless steel powdered coated or stainless steel linen structure (INOX version). The temperature inside chamber is controlled by multi function microprocessor which is connected to LCD display

5 BEFORE THE FIRST USE

By default, the unit is sent in a cardboard box. It is necessary to transport it in the upright position and prevent it from any unintended movements.

On the surface of unit components made of stainless steel, slight discoloration may occur. It is a result of the technologies used in the production of metal sheet in accordance with the requirements of PN-EN 10088-2 standard and it is not a defect of the unit.

	<p>Once you receive the unit, please check its the technical condition and all accessories. Any claims regarding latent defects should be reported to the manufacturer, while any damage during transport or incomplete accessories need to be passed to the entities who are responsible for the transport and unloading.</p>
	<p>Only for ILW: While carrying the unit, please do not tilt it to one side more than 45° from the upright position, as there is a high probability of the damaging the compressor. If it is necessary to tilt it to one side more than 45°, then after placing it, please wait at least 2 hours before connecting the unit to the mains.</p>

The place of installation of the unit should meet the following conditions:

- Ambient temperature +10°C...+28°C *
- Low relative humidity of the ambient air to 60% *
- The unit has not been designed to work in highly dusty environments
- The unit should be put on a hard and stable substrate
- The unit should be placed at least 100mm away from the wall
- The height of the room must be at least 300mm greater than the height of the unit
- This unit may not be exposed to direct sunlight
- The unit should be kept away from any heat sources *
- The unit is not designed to be built-in
- The place of installation of the unit should contain a mains socket.

If you don't comply with the above recommendations, it may deteriorate the following technical parameters:

- temperature stability
- temperature homogeneity
- power consumption
- frosting of evaporator (relates to ILW)

If you don't comply with the above recommendations, the unit may get broken. If you don't comply with the recommendations of place of installation, you may lose your warranty rights.

Sudden temperature changes related to e.g. opening of the door does not pose a threat to stored products (vaccines in particular) - the temperature variation is short-lived

*) If it is not possible to locate the unit in a place that fully complies with the above requirements, make sure that the following points are obeyed:

- if the room temperature is higher than recommended, monitor the temperature in the chamber using an additional independent temperature sensor; if the room temperature is equal or higher than 50°C, the compressor will not start working. It will not be possible to cool the chamber (relates to ILW).
- if the room temperature is lower than recommended, under no circumstances should you turn the cooling system on, as this may damage the compressor (relates to ILW).
- in highly humid environments, control the frosting of evaporator and walls more often than recommended. If necessary, perform the defrosting operation (relates to ILW).

The electric installation should meet the following conditions:



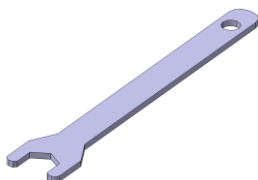
Connect device to a socket with ground (PE).

The electric installation should be secured by a 16 A antisurge fuse.



After placing the unit, please secure it by blocking the wheels (if they are provided along with it).

The unit can be equipped with leveling castors. After the unit has been placed in its destination, lock the castors and level the unit using the red screw located inside the castor's casing. You can adjust the level using fingers or a flat wrench size 13.



During operation:

- door units must be tightly closed,
 - the access ports for the introduction of an external sensors must be sealed plugs supplied.
- Failure to follow these guidelines may cause unstable operation, excessive deposition of ice, in extreme cases, can lead to damage of unit.

5.1 Wear parts

During normal work the following parts could be worn:

- silicone gasket door,
- chamber airfan – only in devices with forced air circulation
- halogen bulb of interior lighting,
- fluorescent tubes - in devices with photoperiod or fitotron option.

5.2 HEPA filter

The HEPA filter is an optional accessory for the CL/SL range. This option is factory preinstalled. The filter has H13 class to EN1822 norm. It should be located at the rear of the unit. The filter itself is delivered separately. You should place it in the cover so the black gasket is outside, then screw the cover to the rear wall of the unit. Please ensure that the distance between the filter and wall is not less than 100mm.



5.3 Placement of the samples

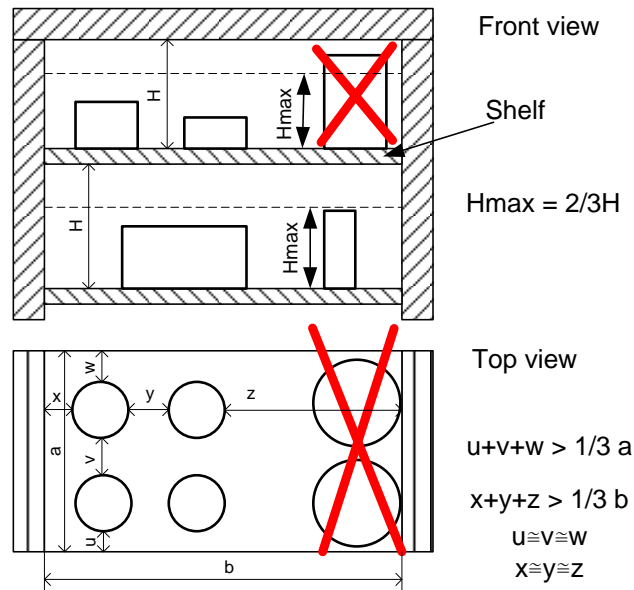
To provide proper air circulation and stable conditions in which the samples are stored in the chamber, it is necessary to keep the following rules:

the max height of the samples should not exceed 1/3 of the space below the shelves

the samples should be placed in such a way that so that the horizontal surface between the containers does not exceed 1/3 of the width and height of the empty shelf

the space between the samples and between the samples and the wall should be more or less equal

The picture below is an example of the placement of samples in the chamber:



Following the above rules will provide best temperature stability

5.4 Information on the stored samples in ILW devices

Water may gather on the bottom of the chamber. It is a result of condensation of the water vapour located in air if the set temperature is considerably lower than the ambient temperature.

The amount of water depends on the following factors:

- Differences between ambient and set temperatures
- Number and frequency of door openings
- Temperature of samples



If water gathers, use a dry cloth to wipe the bottom of the chamber.

Do not use any cardboard boxes, sponges and other hygroscopic materials for storing the samples since they may increase the relative humidity in the chamber.



Too high relative humidity in the chamber may frost the refrigerant and lower the performance of the cooling system. It may lead to higher energy consumption.



5.5 Closing the door

The door has been equipped with a handle and locking mechanism. To close, put the handle in a horizontal position, gently push the door wing and turn the handle into a vertical position.

To close the door of the 240, 400, 750 and 1000 units, pay attention to push the door gently within all the door's height, as there are 2 locking bolts.

SR device (sterilizer) is equipped with an automatic door locking mechanism. During the sterilisation program the doors are locked. Emergency door opening is available when you stop the program or when you turn off the power.

In the SRWP series, when opening both doors at the same time, closing needs to be started from the clean section.

	<p>Proper door closing reduces energy consumption, prevents frosting of the chamber (units with a cooling system) and assures correct temperature uniformity and stability.</p>
	<p>In the SRWP series, during power loss, there is a possibility of opening both doors at the same time. This procedure should be avoided because the clean zone can accidentally contact with the dirty area.</p>

5.6 Internal glass door

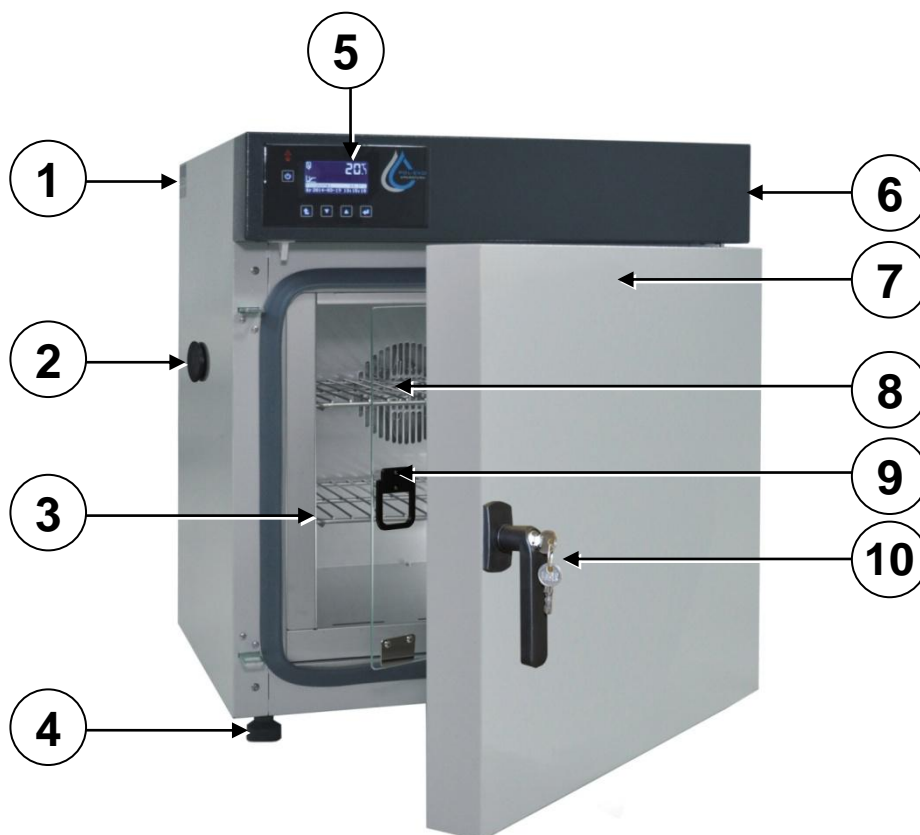
In IL, CL devices internal glass doors are standard equipment.

To open or close the door use the metal latch so the door will not fall out of the hinges. If the unit is working at high temperatures, do not touch the inner chamber or the glass door to avoid burning your skin. Use protective gloves to protect yourself.

6 APPEARANCE

The drying oven, incubator and sterilizer look very similar. In case of cooled incubator there is additional bottom part.

CLW53



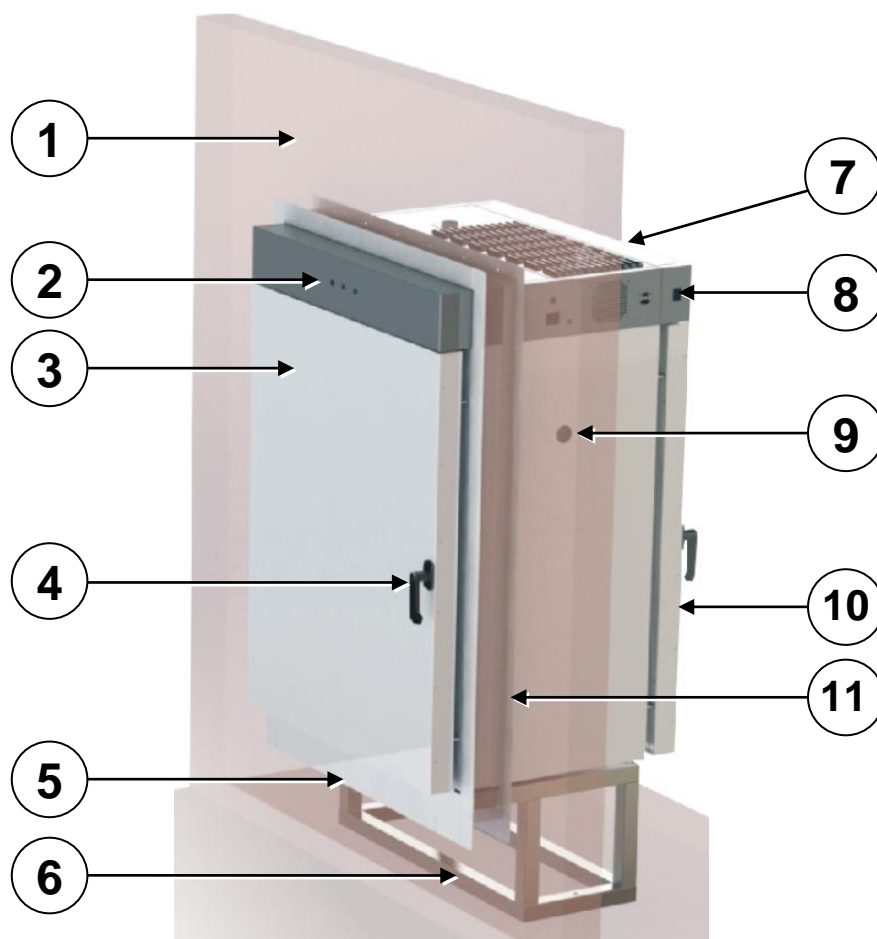
1. Name plate
2. Access port Ø30mm for external sensor
3. Slides
4. Adjustable legs
5. Control panel
6. Main switch
7. Solid door
8. Shelves
9. Internal glass door (only for CL)
10. Handle with lock

ILW 240



1. Name plate
2. Access port Ø30mm for external sensor
3. Slides
4. Control panel
5. Main switch
6. Solid door
7. Shelves
8. Handle with lock
9. Condenser

SRWP 240



1. Wall
2. Indicator lights
3. Solid door
4. Handle
5. Frame
6. Stand
7. Control panel
8. Main switch
9. Access port Ø30mm for external sensor
10. Solid door
11. Frame

Indicator lights

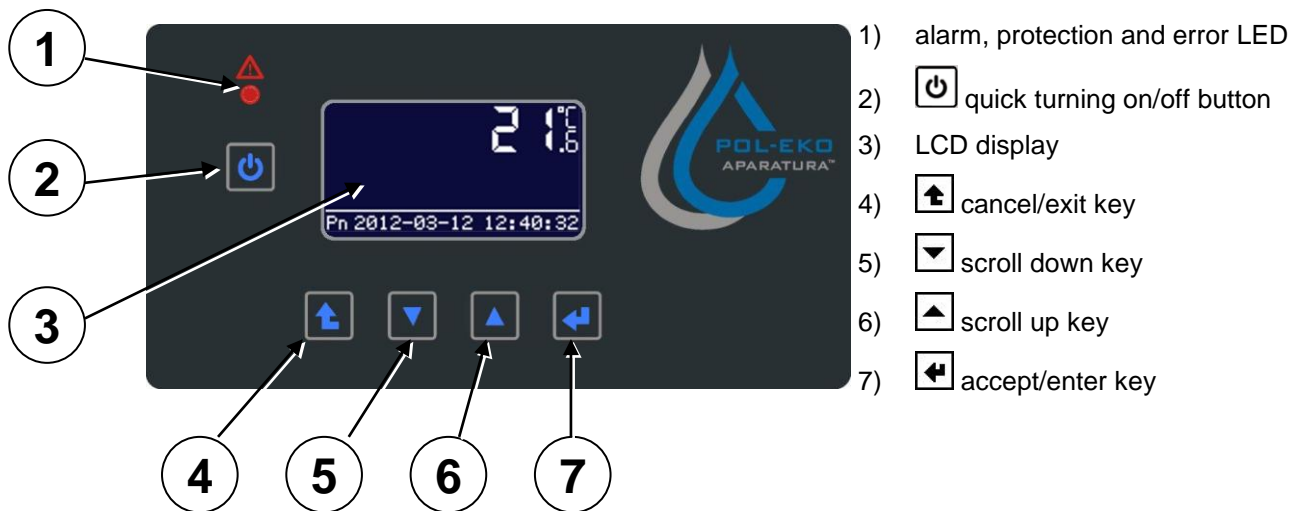
RED - alarm

YELLOW - active program

GREEN – power supply


6.1 Control panel

There is an LCD display and 5 control buttons installed on the front panel.



For units equipped with OWW internal lighting option:

To turn the lighting ON or OFF, press and hold  for about 2 seconds.

If the buttons are illuminated but the display is black, the buttons are locked. To unlock, press and hold .

7 OPERATION AND MAINTENANCE

7.1 Turning the unit on/off



SL ovens and SR sterilizers

Before using the unit, it is recommended to heat the chamber. To do this, turn on the unit and set the temperature at 250°C. Then let the unit work for 3 hours. During the heating, the unit is likely to produce a specific smell. Before the heating process, please clean the chamber in order to avoid permanent stains.



When you turn on the device with main switch and the display is unreadable (works only the backlight) turn off the device, wait for about 1 minute and turn on the unit again.

Once the device is turned on with the main switch, the display will show the driver and software versions. The next step is peripheral autodiagnosics. The messages are displayed in sequence without user action. If one of the components is damaged, the device stops or an appropriate screen is shown. Once the diagnostic procedure concludes, the display shows the type and model of the device, e.g. SLW 115, and then the temperature range in which the device can operate. Next the device operation status screen shows up. The measurement of temperature is calibrated that way it shows real temperature in geometrical midpoint of chamber.

If the buttons are illuminated and the display switched off, the key pad is locked. Press and hold the




button to onlock.

If the main switch is turned on, but the unit is not working, it is in a stand-by mode. Press and hold the



button to switch on.

7.1.1 Stand-by mode


The stand-by mode allows to turn the unit on/off quickly. To activate it, press down and hold the  button.


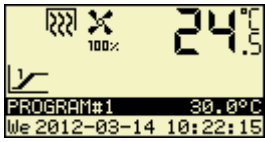
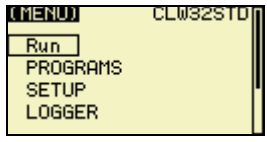
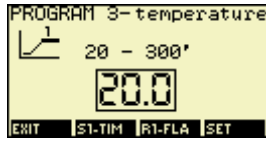



If a program is active, it will stop once in the stand-by mode.

If there is a power shortage while in the stand-by mode, the unit will turn on once the power is resumed.

7.2 Navigating between screens

Moving between screens, programming and reading the device operation parameters has been made easier and more convenient thanks to intuitive operation and clear messages.

	<p>You can control the unit by touching the buttons with your finger. It is not possible to use pens, pencils or any other tools. If you touch a button but can't hear it beep, wait 15 seconds before touching it again.</p>
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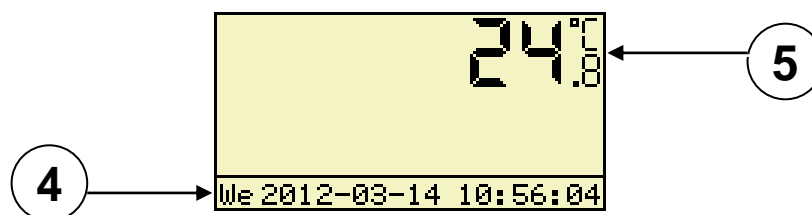
Button	Main window	MENU	Setting parameters
			
Entering the menu (double touch)	Exiting the MENU or SUB-MENU	Scrolling down	Setting a parameter or selecting a new parameter
	Setting temperature in a single segment program	Scrolling up	Setting a parameter or selecting a new parameter
	Entering Statistics window (for selected models only)	Entering a SUB-MENU	Confirming a setting
	Entering ALARMS window (after an alarm has been triggered)		

Functions of the buttons

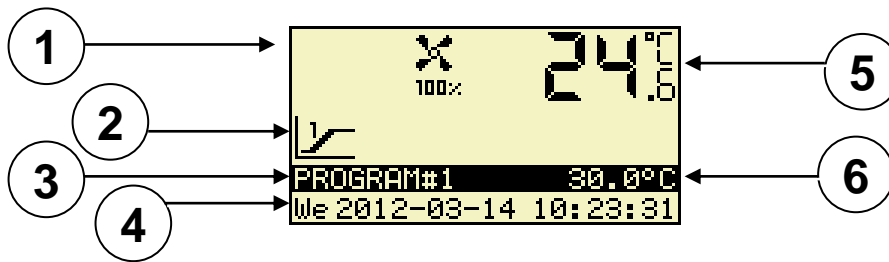
7.2.1 Main window

The main window has been described below.

Inactive program

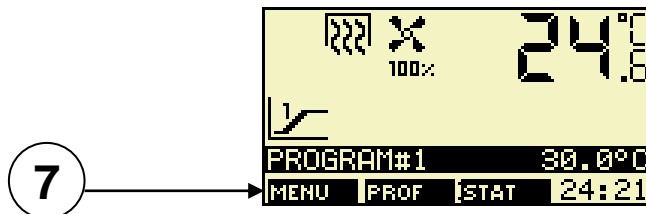


Active program




- 1) Information on status of the unit
- 2) Information on program stage
- 3) Name of active program
- 4) Current date and time
- 5) Current temperature in the chamber
- 6) Set temperature










After a button has been pressed, you can see hints corresponding to particular buttons on the bottom of the display.










- 7) Hints for buttons

	For the devices equipped with additional temperature sensor (option): temperature value measured by additional temperature sensor is visible in the display, under the temperature value of the main sensor fixed in the chamber. (see 9.2 chapter)
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7.3 List of symbols

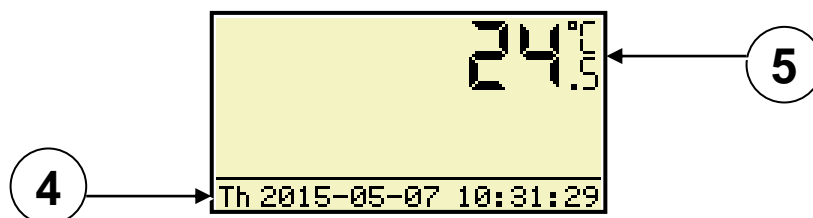
	Alarm triggered
	Active defrosting function
	Clock
	Delayed start active
	Door closed
	Internal light switched on
	Ramp
	Time priority
	Cooling active

	Night simulation (for units with photoperiodic system)
	Segment
	Heating active
	Day simulation (for units with photoperiodic system)
	Door open
	Cycle
	Fan speed (in %)

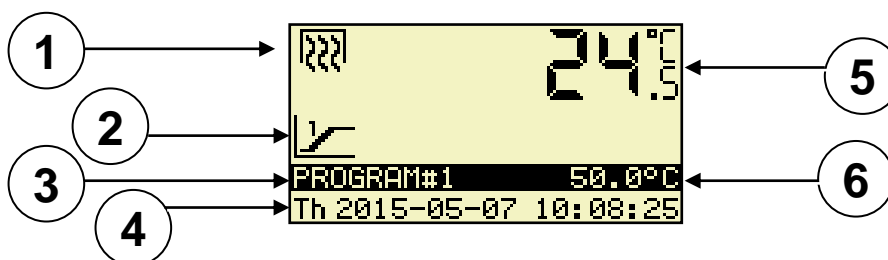
7.3.1 Main window

Overview

Unit idle:

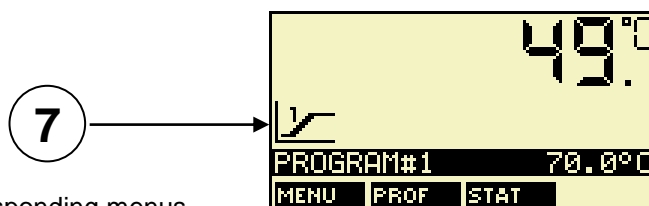


Active program:



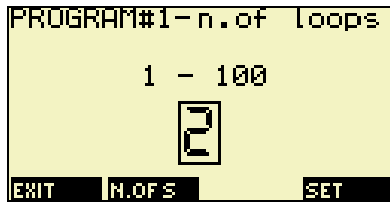
- 1) Device status
- 2) Program stage
- 3) Program name
- 4) Current date and time
- 5) Current temperature
- 6) Set temperature

After pressing any button, you are able to see what option a button corresponds to:



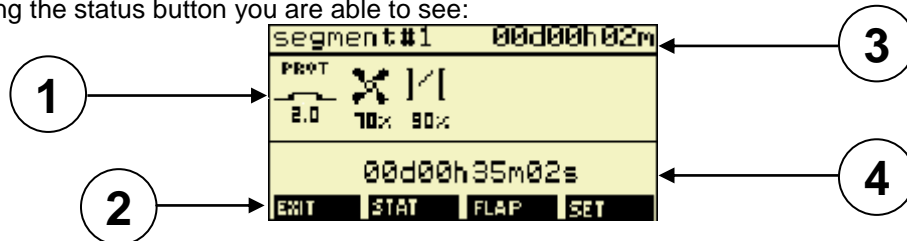
- 7) Corresponding menus

After pressing PROF (or PROFILE) window will appear:



This window allows you to change individual parameters while running if you have selected segment..

After pressing the status button you are able to see:



- 1) Current segment
- 2) Icons with current settings (temperature protection class, fan speed, air flap opening...)
- 3) Segment time
- 4) Program time since launching

All units with extra Pt100 sensor show the temperature under the current temperature in the chamber. More information, see point 9.3.

7.4 Programming the device

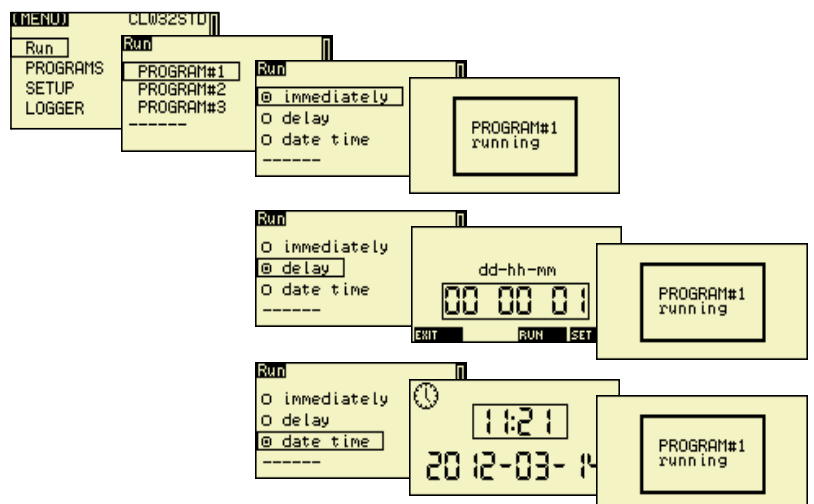
Follow the procedure to launch a pre-defined program. To add a program, see point 8.3.

In the MAIN window press twice to enter the menu. Select **Run** with .

Using and select a program and confirm with .

Using and choose start options:

- **immediately** – to start the program now
- **delay** – to delay the start; using , and enter the delay
- **date time** – using , and set the time and date you want the program to start



SR device (sterilisator) - Running the sterilization is only possible with closed door. During the program the doors are locked, until the program is finished. Emergency door opening is available when you stop the program or when you turn off the power.

7.5 Stopping a program

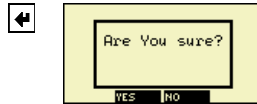
To stop the program:



Press twice



Select **Stop** and press



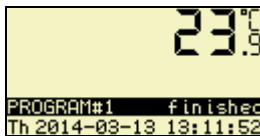
Confirm with



The program will stop.

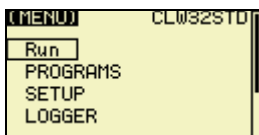
7.6 Ending of program

After finishing the program, device will emit sound alarm and will show information on display.

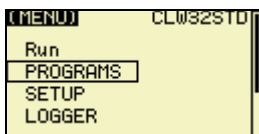


8 MENU

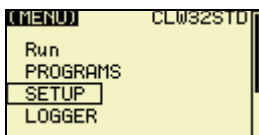
To enter the menu press twice. There are 5 sub-menus:



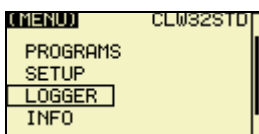
- **Run** – launching a program (see point 6.3)



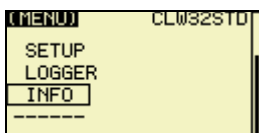
- **PROGRAMS** – adding, editing, viewing and deleting programs (see point 8)



- **SETUP** – settings (see point 9)

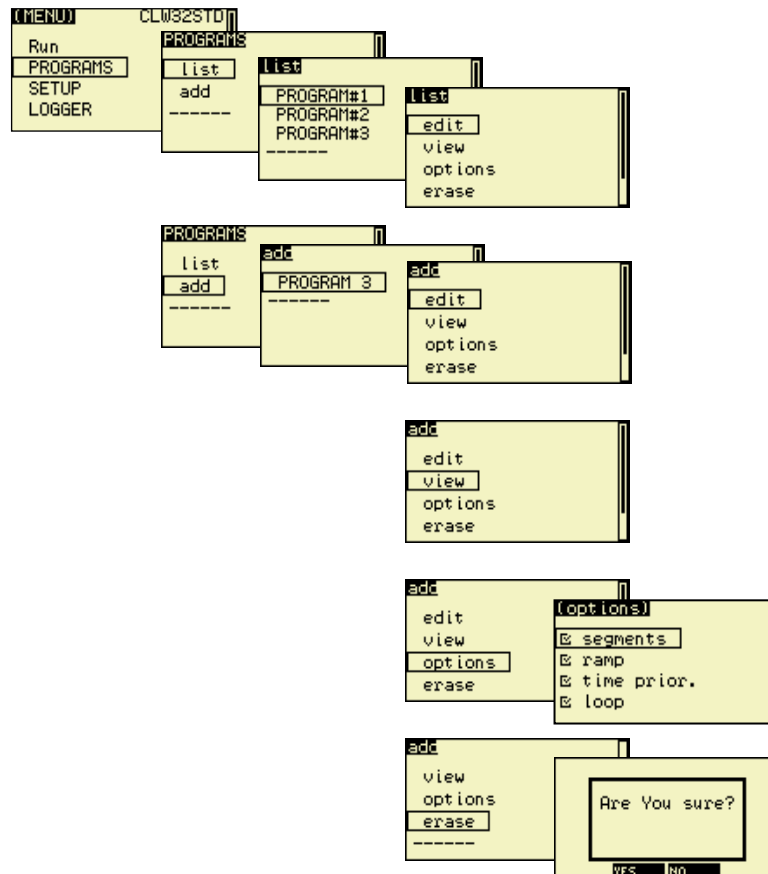


- **LOGGER** – viewing and deleting events from the registry (see point 10)



- **INFO** – information on firmware etc.

9 TO ADD, EDIT, VIEW AND DELETE A PROGRAM



9.1 Types of program

You can edit up to 3 programs (depending on the model).

A segment is a stage of the program when a set temperature is maintained in time.

A program can consist of a few segments. You can also set additional options for segments, such as air-flap opening, fan speed etc. Additionally, you can adjust ramps which are parameters of the unit while the set temperature is being achieved.

Editing a program, you can also set time priority that allows you to determine the exact duration of a program. In a standard program, the segment time starts being count when the set temperature has been achieved. See point 8.1.1 for more information.

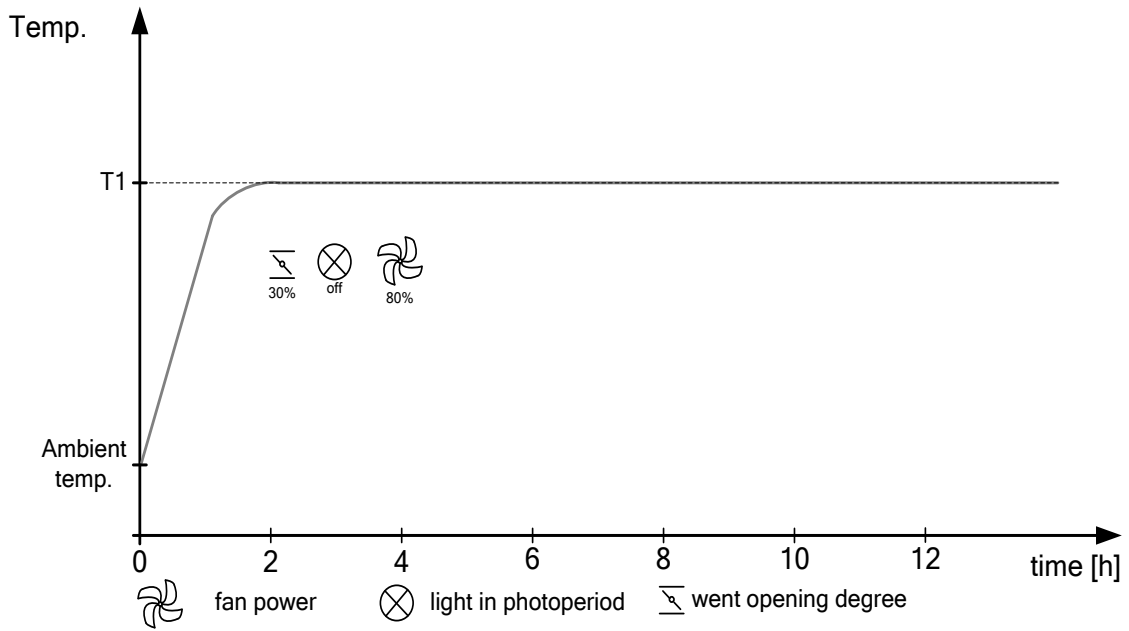
SR device (sterilisator)

In the unit you are able to program max. 20 programs. Factory setup 3 sterilization programs up as following:

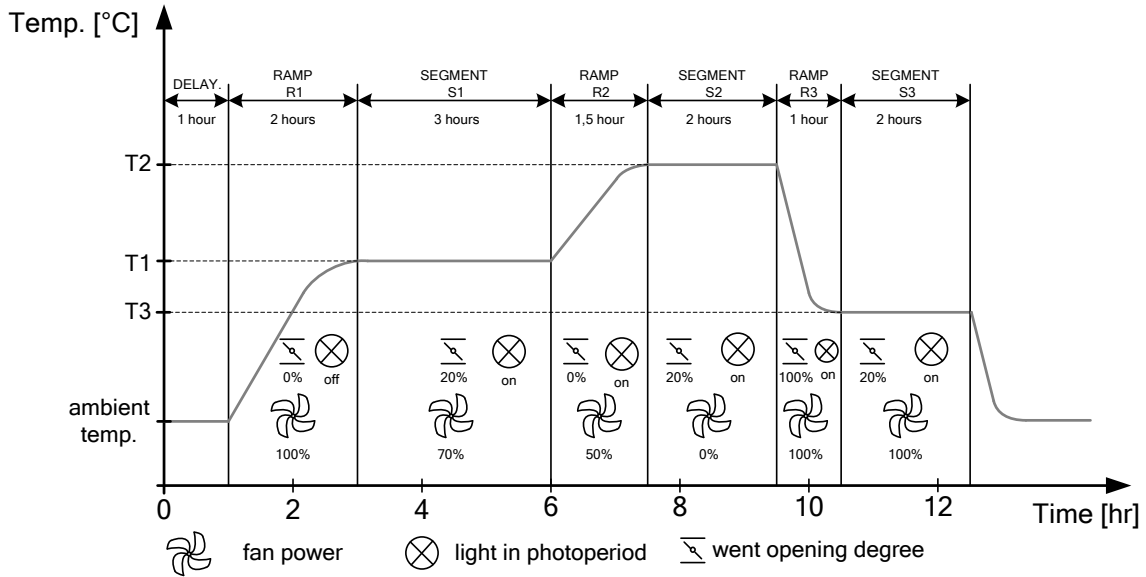
Name of program	Set temperature	Time of sterilization	Additional adjustment
PROGRAM1	160°C	120 min	Door bolted Changes to the above settings are blocked.
PROGRAM2	180°C	45 min	
PROGRAM3	200°C	30 min	

Examples of programs and settings

Single segment program

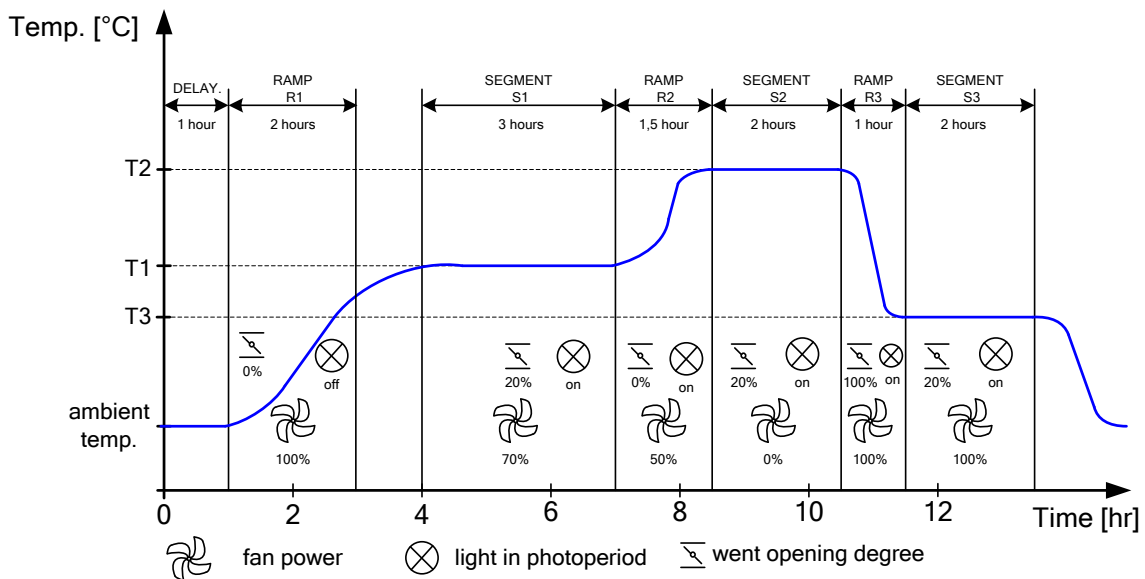
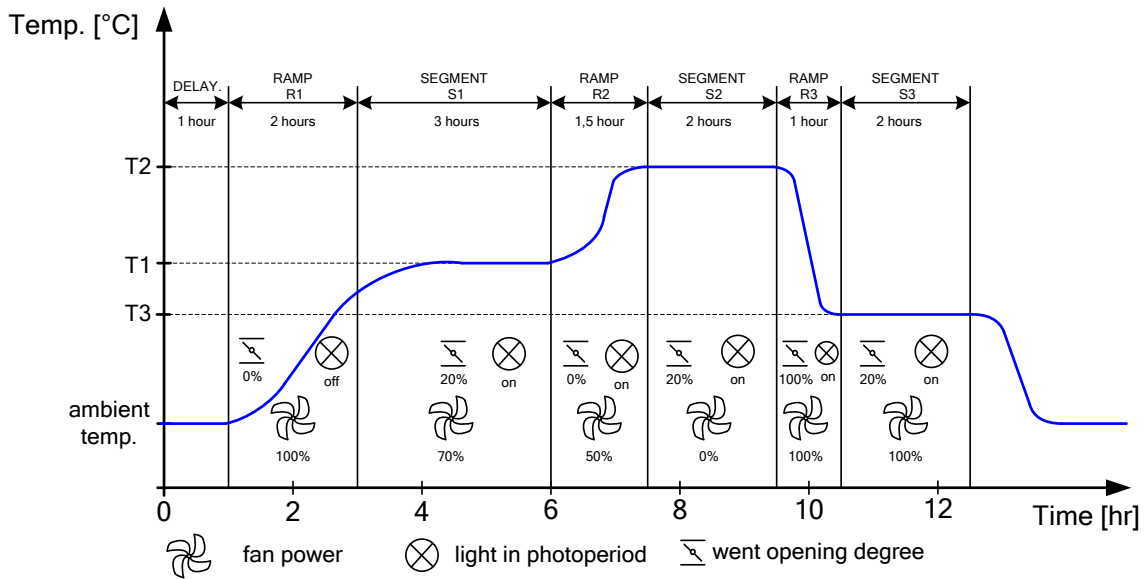


3 segment program with ramps and start delay.



9.1.1 Time priority

3 segment program with ramps and start delay for time priority:



In the above charts you can see how the time priority works.

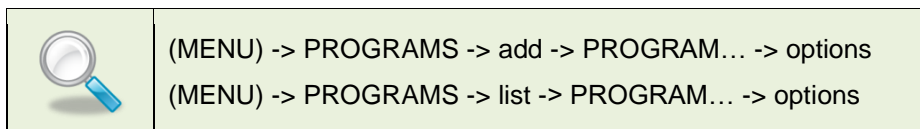
If this option is active, the segment time starts being count

9.1.2 Continuous work

In program options position SEGMENTS should be unmarked. All other parameters should be set By needs (there is no possibility to set the duration of segment). Such program when launched will work all the time (non-stop) keeping the possibility of change the set temperature from the main view.

To change set temperature from main view press button and press to confirm. Then with buttons: and change the temperature and press to confirm. To exit press .

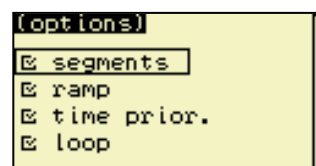
9.2 Program options



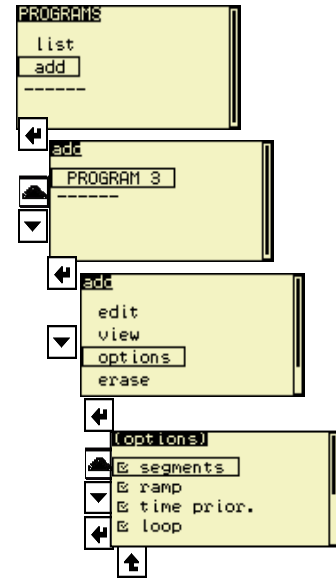
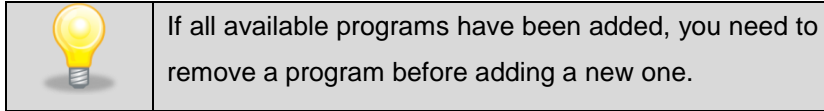
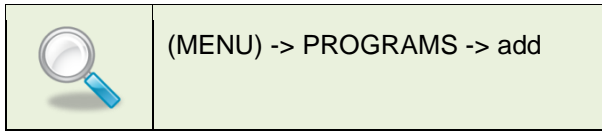
Use and to select an option and mark it with .

Available options:

- ✓ Segments – number of segments in a program
- ✓ Ramp
- ✓ Time prior. – (for units with photoperiodic system) - Sets time priority.
- ✓ Looping – cycle run of a program, number of cycles
- ✓ Fan – allows the user to set the fan speed (for units with forced air convection); default setting is 100%
- ✓ Flap – allows the user to set the air-flap opening; default setting is 0% (closed)
- ✓ Bolt - only SR sterilizers - switches automatic door locking function during active program

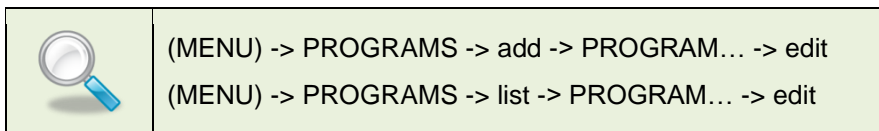


9.3 Adding program

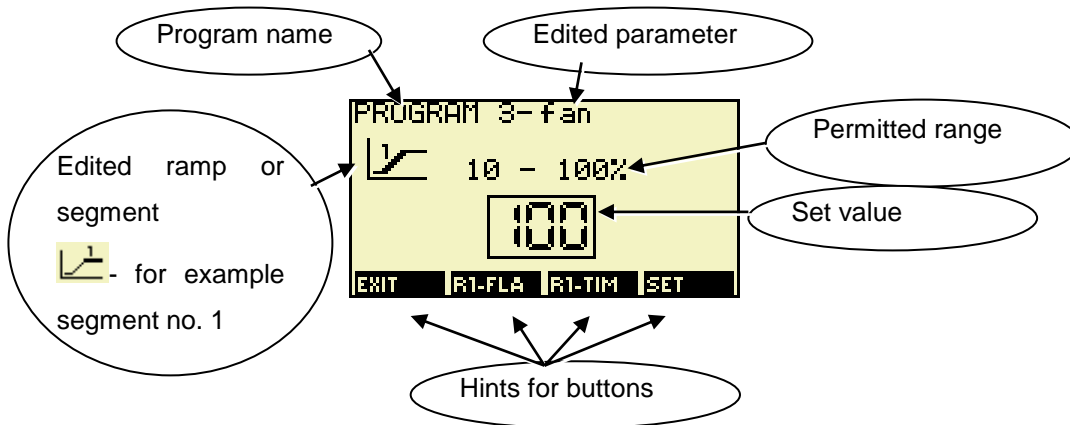


Before editing a new program you need to select the program options described below. When you press to exit the options window, the menu will switch automatically to the editing section (see point 8.4.).

9.4 Editing a program

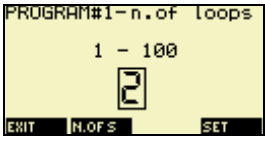
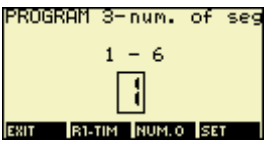

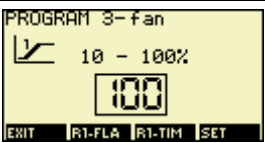
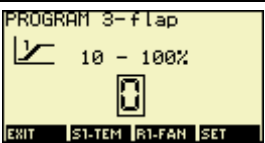

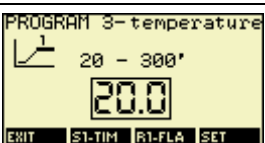
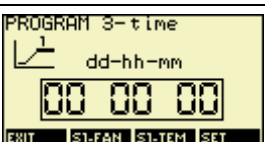
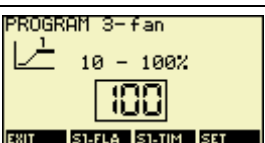
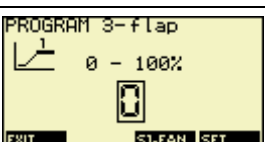
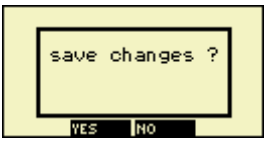
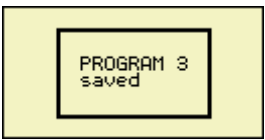


Sample window while editing a program



- > Use and to select a parameter. Confirm with . The value will flicker.
- > Use and to set the value. Confirm with . If you have entered an incorrect value, you can press down to abort.
- > After you have edited all parameters, press down . You will be asked to confirm the changes. Press down to confirm or to cancel.

Example of editing a program

Type	Messages	Description
Program parameter		Setting number of cycles - Looping option
		Setting number of Segments
Ramp parameter		Setting the achieving time – Ramp option
		Setting fan speed for stage while set point is being achieved - Ramp and Fan options
		Setting air Flap opening for stage while set point is being achieved - Ramp and Fan options
Segment parameter		If the unit has been equipped with photoperiodic system and segments option is chosen you can switch it on for each segment. 0 - light off, 1 - light on
		Setting temperature
		Setting segment time – Segments option
		Setting fan speed for a segment – Fan option
		Setting air flap opening for a segment – Flap option
You can use the above steps to edit parameters of other segments.		
Saving a program		Allows to confirm saving the changes
		Information that a program has been saved

When you quit program editing, you will see the following window where you can set the temperature protection:



The unit is factory equipped with samples protection – over/under temperature protection, which is realized on the basis of temperature value measured on the second, independent temperature sensor (protection sensor). The purpose of samples protection is to protect from uncontrolled raise or drops of the temperature. At the time of operation, the transmitter disconnects the power supply circuit.

There is 4 classes of protection:

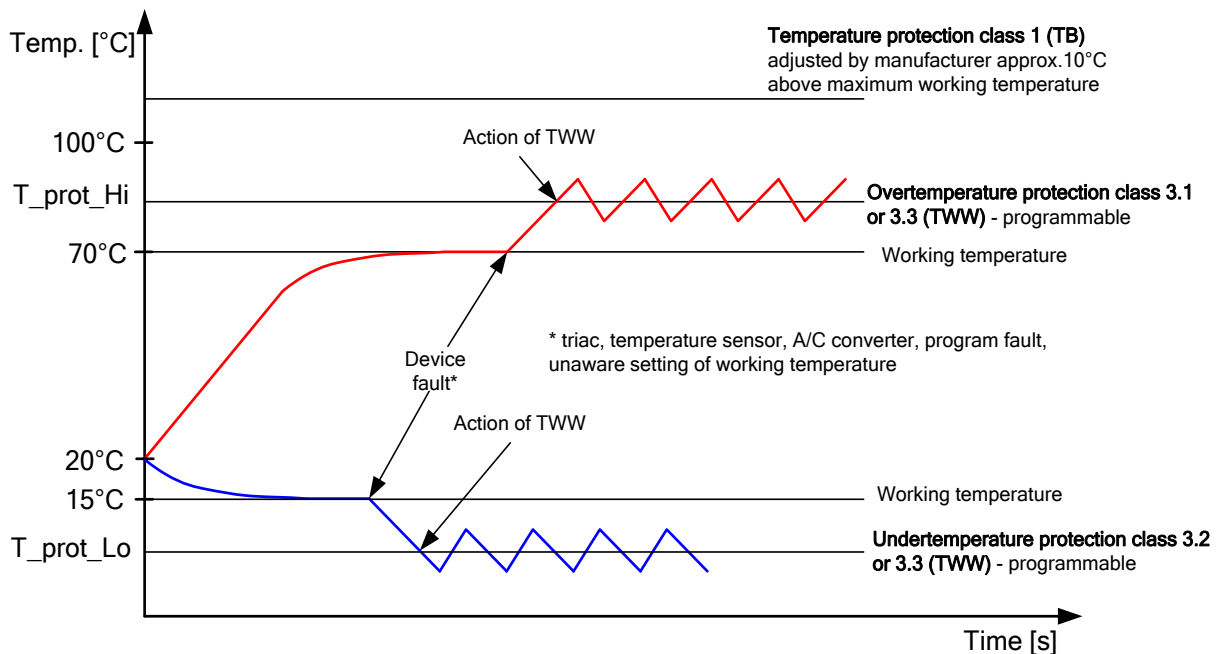
2.0 class – over temperature protection – no automatic switch on the circuit when the temperature go down below the set value protection – intervention of the user is required.

3.1 class (CL, SL) – over temperature protection – automatic switch on the circuit when the temperature go down below the set value protection

3.2 class – under temperature protection - automatic switch on the circuit when the temperature raise above the set value protection

3.3 (ST,CHL,ILW,KK) – under and over temperature protection – combination of class 3.1 and 3.2.

In class 3.x – in case of damage, the temperature will oscillate around the set temperature protection value.



During setting the value of protection, please note that when achieving the temperature and after opening the door the set temperature may exceed by 2%. If the temperature value of protection will be set to 'close' to set temperature in program, it may cause unexpected activation of the protection. It

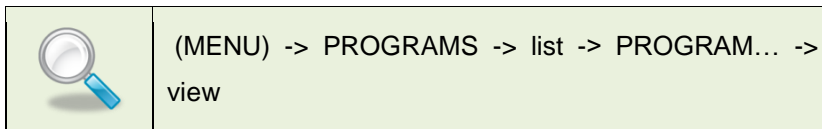
is especially important in 2.0 protection class because after activation, the intervention of the User is needed to keep the unit to maintain the set temperature.

It's recommended to set the values to:

- over temperature protection: 10°C above set temperature
- under temperature protection 10°C below set temperature

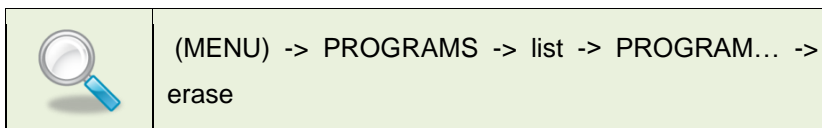
The activation of protection generates audible alarm and display the alarm icon.

9.5 Viewing a program



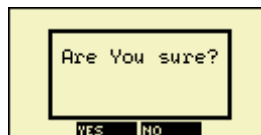
After this option has been selected, you can view all the parameters of the program.

9.6 Deleting a program

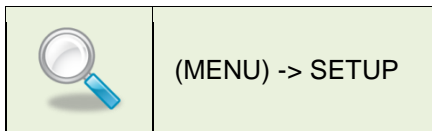


This option allows you to delete a program. If the program you are going to delete is active, you need to stop it first before deleting it.

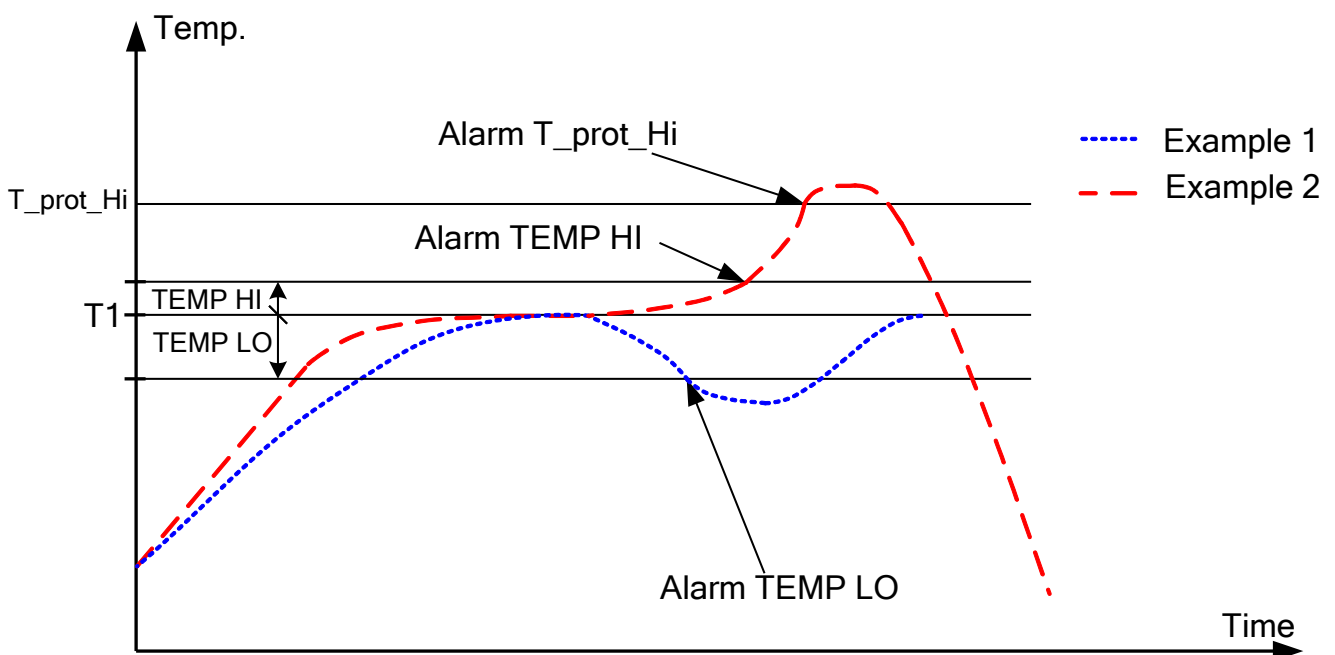
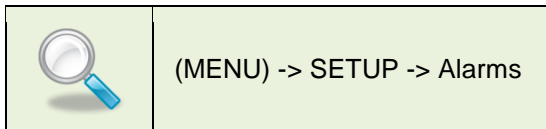
Press down  to delete or  to abort.



10 SETUP



10.1 Alarms and Protection



You can set range of low and high temperature alarms (TEMP LO and TEMP HIGH) from 0 up 5,0°C. If the device reaches set temperature and for some reason temperature inside the chamber increases or decreases beyond the set "offset_T", an audible alarm goes off and the screen shows a warning.

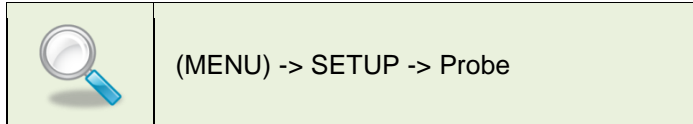
If the unit has been equipped with a door alarm, the field "door alarm" is active. You can switch this function off or choose the alarm delay in Settings / Alarms:

<off>	<1> to <5>
door alarm disabled	door alarm is activated, alarm delay in minutes

When the door has been closed, the alarm will be reset. When you confirm the alarm with a button, the door alarm will go off again after the alarm delay time has passed.



10.2 Additional temperature sensor – compensation or measurement



Additional temperature sensor, available for extra charge.

After entering the window, the following features are available: **working mode**, **compensation speed**, **limit**.

In the **work mode**, while using the additional temperature sensor, the user has to choose the **measurement** to know the temperature value in the exact location of the probe.

While choosing **compensation** the device will control the temperature in the chamber according to the additional temperature sensor. The user is required to set the **compensation speed** and **limit**.

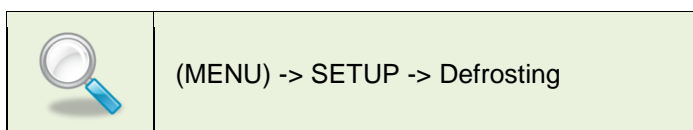
The **compensation speed** determines how quick the device has to react for different temperature values between the additional and main sensor.

Available settings:

- 0,1°C /10 seconds,
- 0,1°C /15 seconds,
- 0,1°C /30 seconds,
- 0,1°C /45 seconds,
- 0,1°C /60 seconds.

Compensation limit is a parameter that allows to set the permissible temperature difference while compensation mode is switched on. The range is 2°C to 8°C.

10.3 Defrosting



Option available for ILW.

The defrosting of the evaporator is carried out by raising the temperature inside the chamber by a few degrees and then going back to the previously defined temperature.

For this option following settings are available:

Auto – automatic mode (AUTO ON/OFF) in which the controller of the device decides about turning on the defrosting option as frequent as it needs. The defrosting is carried out by following scheme: is activated always after first reach of temperature or it is activated when the device has to work very hard to keep set temperature.

frequency – period at what time is made automatic defrosting. User can set frequency of defrosting with following scheme:

'0' – defrosting is off;

'1' – defrosting activates once a day – at midnight (00:00);

'2' – defrosting activates twice a day – at noon (12:00) and midnight (00:00);

'3' – defrosting activates three times a day – at midnight (00:00), 8 am (08:00) and 4 pm (16:00);

'4' – defrosting activates four times a day – at midnight (00:00), 6 am (06:00), at noon (12:00) and 6 pm (18:00);

time – determine the duration of defrosting. Setting range from 30 seconds to 240 seconds.

Time and frequency defrost determines the user.

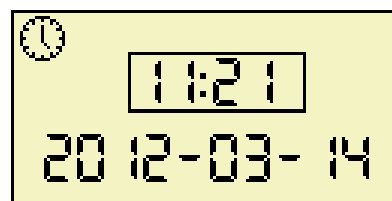
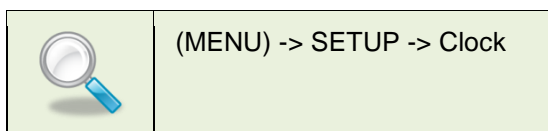
Notice:









Defrosting time should be match individually and its depends of chamber's charge.

If defrosting time is to short the ice will be not melt down. It can be cause more ice.

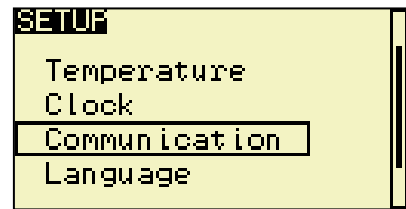
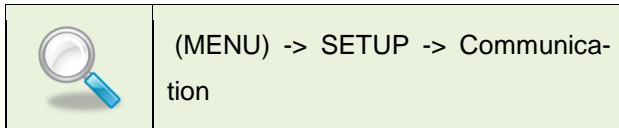
If defrosting time is to long it will cause undesirable increase of chamber temperature.

10.4 Setting date and time



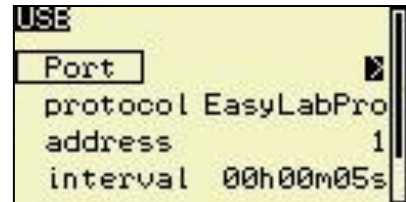
- Use  and  to switch between editing time and date. Your selection will be framed.
- Press down . The edited section will illuminate. .
- Use  and  to set the value and confirm with . You can edit the next section if you press down  again.
- Time and date settings will save automatically when you exit the window after pressing down .

10.5 RS232 and USB communication settings

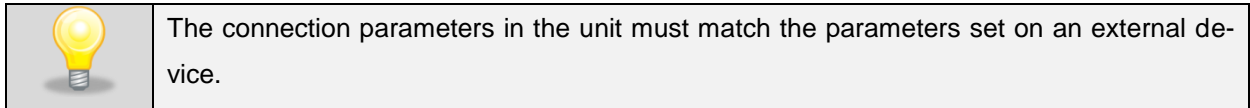
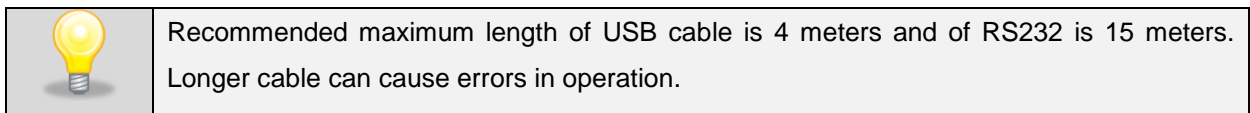


In the **Communication** menu you can set RS232 and USB transmission parameters (e.g. for connecting a PC or printer).

The following options are available:



- **Port** – the following parameters can be set:
 - Baudrate
 - **Databits** – (5-8bits)
 - **Parity**
 - **Stopbits**



- **Protocol** – type of protocol used for transmission
 - **None** – no transmission
 - **EasyLabPro** - protocol provides the communication of the unit with EasyLab Professional, EasyLab Basic
 - **Text** – data sent as text, used e.g. for printers
 - **Modbus RTU, Modbus ASCII** – allows to communicate with other devices through Modbus network
 - **Service, xmodem** – protocols used by service engineers
- **Address** – determines the unit's address when using ModbusRTU/ASCII and EasyLabT+ protocols
- **Interval** – determines how often the data is sent through the port

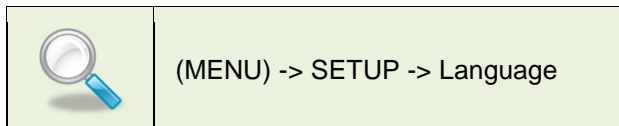
Only for MODBUS transmission:

The reading contains one register including present temperature in the chamber.

INPUT REGISTERS		
function READ_INPUT_REGISTERS (0x04)		
Address	Name	Description
0	T1	Temperature value *10

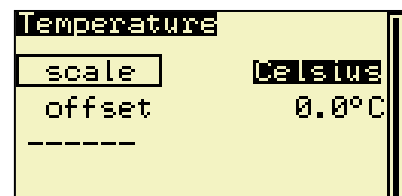
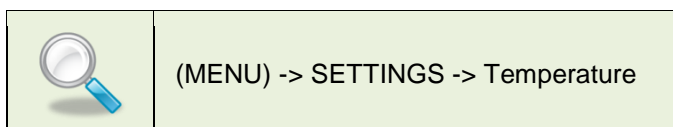
Address parameter determines unit's address when using Modbus, RTU/ASCII and EasyLabT+ protocols.

10.6 Language settings



Choosing the language in which all the messages are presented.

10.7 Temperature



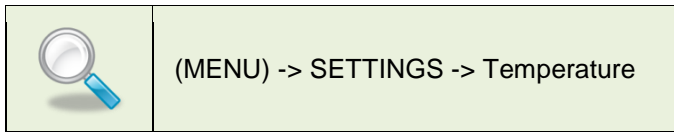
Scale

You can display temperature at °C or °F.

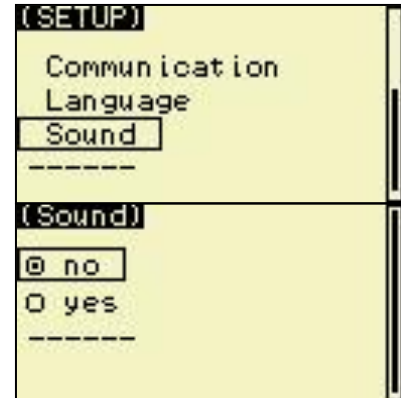
Offset

It allows you to correct the temperature indicated on the display by adding the correction value. The set correction value is taken in the whole temperature range operation of the device. For example, if the average temperature displayed by the device indicates 100°C and the average temperature measured by independent, external sensor indicates 100,5°C, the correction should be set on +0,5°C. The average temperature should be calculated from chosen period of time e.g 30min.

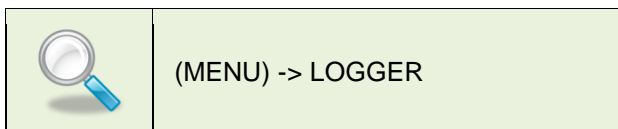
10.8 Sound



Allows you to completely turn off all the acoustic alarms. NOTE: Alarm signals are also disabled

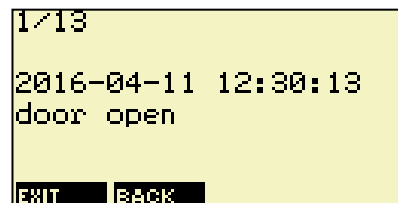




11 LOGGER





The following events are registered:

- starting a programme,
- stopping a programme,
- end of a programme,
- turning on power,
- door open,
- door closed,
- turning off power.

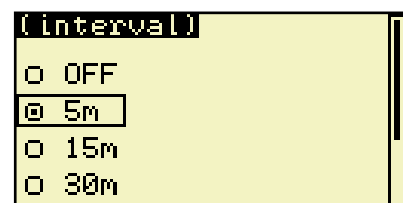



Events are registered chronologically and you can view them using the **view** option. In the top left corner on the display, there is the event's number, as well as the total number of all events. Using the  and  you can scroll the events.

Press down  to exit the registry. You can also delete events. To delete, choose the **erase** option and confirm with .

Measurement data in the registry


You can record the data at specified interval.

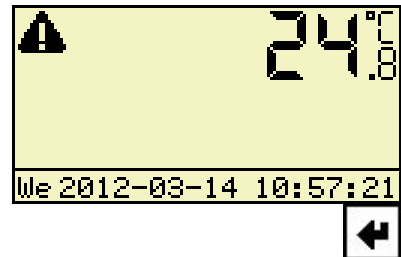



To delete all data from registry, choose **erase** and confirm with .

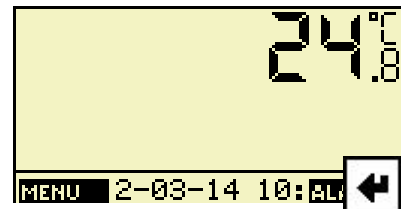
Sample temperatures stored in the internal memory can be downloaded to your computer using free program EasyLab Basic. Downloaded data can be saved in .txt or .csv format. The program is not supplied with the device, it can be downloaded from: www.polekolab.com.

12 ALARMS

If an alarm has been triggered, you will hear a sound signal, the red LED will switch on and the following icon will be displayed: .



If you press down  twice, you will be directed to the events log.



To delete the alarm message press down .

If the cause of the alarm has not gone, the alarm will be triggered again



13 CLEANING AND MAINTENANCE OF THE DEVICE



Before cleaning the device, it needs to be disconnected from the electrical supply!




Use rubber gloves while cleaning to protect yourself from injuries.

To clean products made of stainless steel (INOX) we recommend using cleaning solution dedicated particularly to stainless steel material. It preserves the steel surface from permanent stains and at the

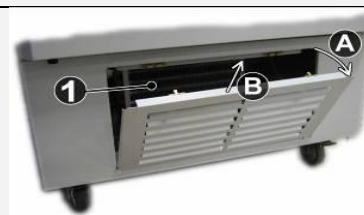
same time retains aesthetic appearance of the product. Recommended cleaning solution is in POL-EKO-APARATURA offer.

INOX products are manufactured with stainless steel. When used in standard laboratory conditions they do not rust. However it is possible that stains (which may look like rust) form on the steel surface (e.g. due to the kind of samples that are incubated in the chamber). In such case we recommend using cleaning solution (to clean the stains) which is dedicated to this particular application, e.g. Pelox.

	<p>When cleaning stainless steel product with dedicated cleaning solution, one should pay attention to the suggestions and recommendations given in the user manual (or in the safety data sheet) of the cleaning solution.</p>
---	--

13.1 Housing cleaning

1.	The housing of the device should be cleaned at least once a week, depending on the working conditions.
2.	The housing and door should be cleaned with caution using a soft cloth dampened with water.
3.	Only mild cleaning products should be used to clean the device.
4.	Electrical parts should not get in contact with water or detergent.
5.	<p>Units with cooling system (IL) Clean the compressor and the evaporator with a vacuum cleaner, dry cloth or a brush at least once a month! The compressor and the evaporator are located in the bottom part of the unit. Pull out the cover (A) to get to the evaporator. After cleaning, mount it again. If you do not do this, you may break the compressor and lose the warranty rights</p>



13.2 Interior cleaning

1.	The chamber should be emptied of any samples before cleaning.
2.	Open the door of the device and wait for the frost to melt (in case of working in low temperatures), take out the shelves and start cleaning the device,
3.	Only water or water with mild detergent should be used.
4.	Having finished cleaning, you should allow the device to dry fully and fit all parts removed before cleaning.
5.	During cleaning you should make sure not to damage the temperature sensor built in on the top of the chamber.
6.	In drying oven could happened the internal bottom metal part becomes discoloured. It is caused be very high heaters temperature which are placed just under bottom metal part.

14 TAKING CARE OF THE DEVICE IN CASE OF LONGER ABSENCE

1.	Remove all objects from the chamber.
2.	Disconnect the device from the mains
3.	Clean and dry the chamber.
4.	Leave the door open to avoid nasty smells.
5.	Store in temperature between 0°C and 50°C and relative humidity maximum 70%.

15 TROUBLESHOOTING

15.1 The device is not working

You should check if:

1.	There is not an electrical supply failure?
2.	The power cord is plugged in the mains socket properly?
3.	The fuse has not been blown?
4.	The power cord has not been damaged?
5.	When you turn on the device with main switch and the display is unreadable (works only the backlight) turn off the device, wait for about 1 minute and turn on the unit again.


15.2 Inefficient cooling (only for cooled incubator)

1.	What is the temperature outside the device?
2.	Is the door shut tight? Is access ports for external sensors is sealed?
3.	Is the condenser clean?
4.	Is the device placed in direct sunlight?
5.	Is there any heat source near the device?
6.	Are there too many objects inside the device that are not cool enough?

15.3 Inefficient heating

1.	Is the door shut tight? Is access ports for external sensors is sealed?
2.	Is the air fan switched on?
3.	What is the ambient temperature?

15.4 The device is operating too loud

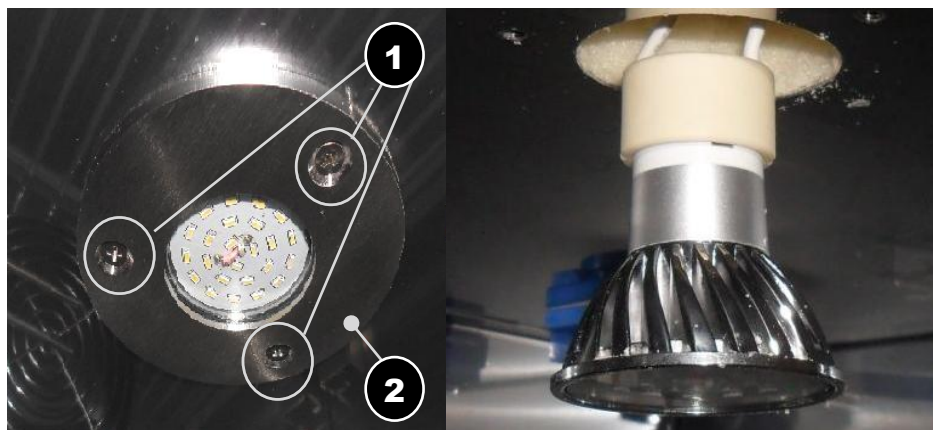
1.	Is the device not leaning against furniture or other objects?
2.	Is the device levelled properly?
	CAUTION for ILP: Buzz and noise from decompression coming from the cooling circuit are normal noises.

15.5 Internal LED lighting replacement

Halogen light is consumable part

Type of halogen bulb: GU10 230V 50Hz 3,7W LED

1.	Disconnect the unit from the power supply and the computer.
2.	Unscrew light fixing (1) screws and remove the light support (2).(Pic. 1.)
3.	Pull out the halogen bulb and replace it with a new one. (Pic. 1.)
4.	Insert the light socket and mount the support.
5.	Reconnect the unit to the power supply and check if it works properly.



Pic. 1.

15.6 Sagging or tilted doors

1.	Check if the doors are properly leveled. (see chapter 4).
2.	If the doors are correctly leveled and still are sagging, please contact service.

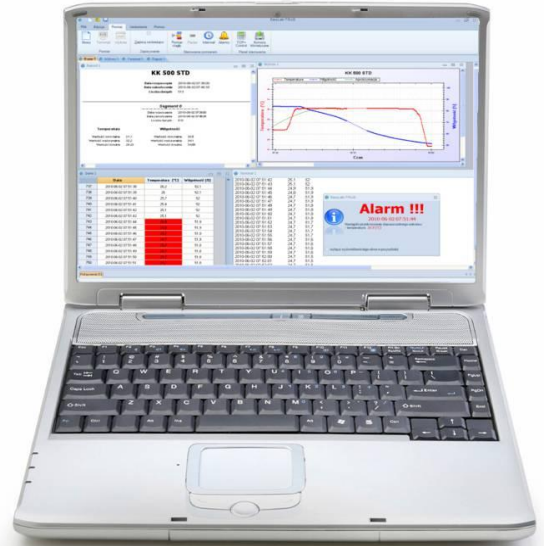
16 EXTERNAL REGISTRATION TEMPERATURE

EasyLab Professional program enables to register the temperature and humidity in thermostatic devices manufactured by POL-EKO-APARATURA.

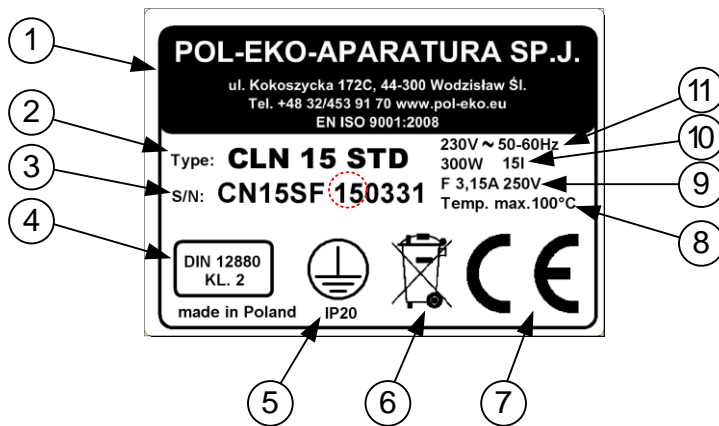
By this program the User is able to register test results (continous, single) as well as store this data and browse in tabelar or graphic form. Registering is made through RS 232 or USB cable (cables to be ordered separately). Recommended maximum length of USB cable is 4 meters and of RS232 is 15 meters. Longer cable can cause errors in operation. In case ordering device with additional temperature Pt 100, in EasyLab Professional you can parallelly register data from both sensors. Additionally, EasyLab Professional allows to program devices in TOP+ version, thanks to integrated application TOP+ Control.

EasyLab Professional is equipped with quality tools for creation of charts and approximation. By the program User is able to:

- generate raports,
- import of data stored on external memory,
- 12 languages as option.



17 RATING PLATE



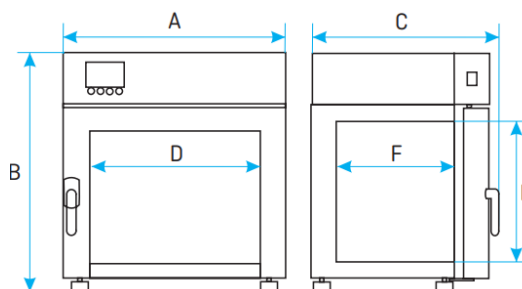
1. Name and address of manufacturer
2. Type of device
3. Serial number (2 indicated numbers state the year of production of the device)
4. Temperature safety device according with DIN12880
5. Electric shock protection: protection against indirect contact and IP code
6. Disposal of used device according with WEEE2
7. CE sign
8. Temperature range (max)
9. Type of fuse
10. Maximum power consumption, and capacity of device
11. Voltage and Frequency of mains

The rating plate is located on the left wall of the unit, in the upper left corner. Below there is a example of rating plate

18 TECHNICAL DATA

Parametr	CL 15	CL 32	CL 53	CL 115	CL 180	CL 240	CL 400	CL 750	CL1000	
air convection	natural (CLN)/forced (CLW)						forced (CLW)			
chamber capacity ¹ [l]	15	32	56	112	180	245	424	749	1005	
door type	double		double/door with viewing window (option)							
temperature range [°C]	+5°C above ambient temperature ... +100°C									
Temperature resolution [°F]	41 above ambient temperature...212									
Temperature resolution [°C]	every 0,1									
controller	microprocessor with external LCD graphic display									
interior	acid – proof stainless steel to DIN 1.4301									
housing	-	powder coated sheet								
	INOX/G	stainless steel linen finish								
overall dims ² [mm]	A width	510	590	650	650	650	810	1010	1260	1260
	B height	550	630	700	850	1030	1200	1430	1600	2000
	C depht	440	500	600	700	760	760	750	850	850
internal dims [mm]	D width	320	400	400	460	470	600	800	1040	1040
	E height	230	320	390	540	720	800	1040	1200	1610
	F depht	200	250	360	450	560	510	510	600	600
max shelf workload ⁵ [kg]	-	10	10	25	25	25	25	25	25	-
	PW ³ version	-	-	50	50	50	100	100	100	100
max unit workload [kg]	-	20	30	40	60	75	90	120	140	-
	W ⁴ version	-	-	80	120	120	300	300	300	300
nominal power [W]	350	350	450	450	650	850	1300	1900	1900	
weight[kg]	27	35	50	65	94	126	174	260	330	
over temperature protection	class 2.0 according to DIN 128880 /class 3.1(option)/3.1 in TOP+									
power supply*	230 V 50 Hz									
shelves fitted/max	1/2	1/3	2/5	2/7	3/9	3/10	3/14	5/16	6/22	
warranty	24 months									
manufacturer	POL – EKO - APARATURA									

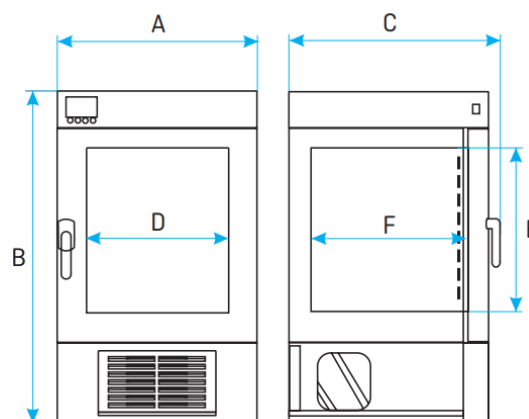
1. working capacity of chamber can be smaller,
2. depth does not include 50mm of power cable
3. reinforced shelf,
4. reinforced version,
5. on uniformly loaded surface



Manual instruction SL, CL, SR, IL

Parametr	ILW 53	ILW 115	ILW 240	ILW 400	ILW 750	
air convection	forced					
chamber capacity [l]	56	112	245	424	749	
door type	double/ door with viewing window (option)					
temperature range [°C]	-10(option) / 0...+70(+100 for TOP+ version)					
temperature resolution [°F]	14(option)/32...158(212 for TOP+ version)					
temperature resolution [°C]	every 0,1					
controller	microprocessor with external LCD graphic display					
interior	acid-proof stainless steel to DIN 1.4301					
housing	-	powder coated sheet				
	INOX/G	stainless steel linen finish				
internal dims ² [mm]	A width	690	660	820	1040	1260
	B height	960	1080	1430	1650	1820
	C depth	600	710	760	740	860
internal dims[mm]	D width	400	460	600	800	1040
	E height	390	540	800	1040	1200
	F depth	360	450	510	510	600
max shelf workload ⁵ [kg]	-	25	25	25	25	25
	PW ³ version	50	50	100	100	100
max unit workload[kg]	-	40	60	90	120	140
	W ⁴ version	80	120	300	300	300
nominal power[W]	450	450	900	1300	1900	
weight[kg]	69	90	140	185	275	
over temperature protection	class 2.0 according to DIN 12880/class 3.3(option)/3.3 in TOP +					
power supply*	230 V 50 Hz					
shelves fitted	2/5	2/7	3/10	3/14	5/16	
warranty	24 months					
manufacturer	POL – EKO - APARATURA					

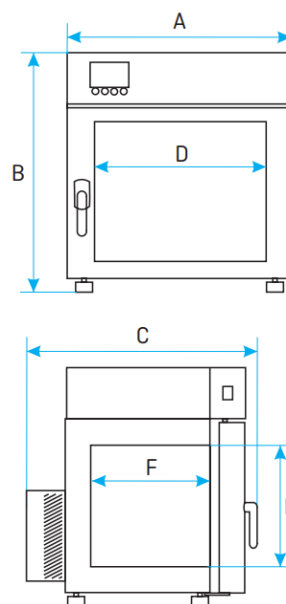
1. working capacity of chamber can be smaller,
2. depth does not include 50mm of power cable
3. reinforced shelf,
4. reinforced version,
5. on uniformly loaded surface



Manual instruction SL, CL, SR, IL

Parametr	ILP 53	ILP 115	ILP240	ILP400
air convection	Forced			
chamber capacity[l]	56	112	245	424
door type	double/door with viewing window(option)			
temperature range[°C]	+15...+70 (+100 for TOP+ version)			
temperature resolution[°F]	59...158(212 for TOP+ version)			
temperature resolution[°C]	every 0,1			
controller	microprocessor with external LCD graphic display			
interior	stainless steel to DIN.1.4301			
housing	-	powder coated sheet		
	INOX/G	stainless steel linen finish		
overall dims[mm]	A width	600	660	820
	B height	710	850	1140
	C depth	660	770	810
internal dims[mm]	D width	400	460	600
	E height	390	540	800
	F depth	360	450	510
max shelf workload ² [kg]	-	25	25	25
	PW ¹ version	50	50	100
max unit workload[kg]	40	60	90	90
nominal power[W]	400	400	800	800
weight[kg]	69	90	140	190
over temperature protection	class 2.0 to DIN 12880/class 3.3(option)/class 3.3 in TOP+			
power supply*	230 V 50 Hz			
shelves fitted/max	2/5	2/7	3/10	3/14
warranty	24 months			
manufacturer	POL – EKO – APARATURA			

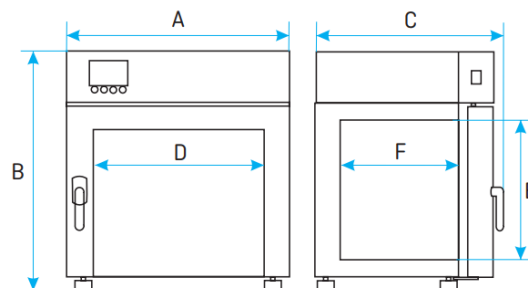
1. working capacity of chamber can be smaller,
2. depth does not include 50mm of power cable
3. reinforced shelf,
4. on uniformly loaded surface



Manual instruction SL, CL, SR, IL

Parametr	SL 15	SL 32	SL 53	SL 75	SL 115	SL 180	SL 240	SL 400	SL 750	SL 1000	
air convection	natural (SLN)/forced (SLW)							forced (SLW)			
chamber capacity [l]	15	32	56		112	180	245	424	749	1005	
door type	solid		solid/door with viewing window(option)								
temperature range	+5°C above ambient temperature... +300°C										
Temperature resolution[°F]	41°F above ambient temperature...572°F										
Temperature resolution[°C]	every 0,1										
controller	microprocessor with external LCD graphic display										
interior	acid- proof stainless stell to DIN 1.4301										
housing	-	powder coated sheet									
	INOX/g	stainless stell linen finish									
overall dims ² [mm]	A width	510	590	590	590	650	650	810	1010	1260	1260
	B height	550	630	700	840	850	1030	1200	1430	1600	2000
	C depth	440	500	600	600	700	760	760	750	850	850
internal dims [mm]	D width	320	400	400	400	460	470	600	800	1040	1040
	E height	230	320	390	530	540	720	800	1040	1200	1610
	F depth	200	250	360	350	450	560	510	510	600	600
max shelf workload ⁵ [kg]	-	10	10	25	25	25	25	25	25	-	-
	PW ³ version	-	-	50	50	50	50	50	100	100	100
max unit workload [kg]	-	20	30	40	40	60	75	90	120	140	-
	W ⁴ ver- sion	-	-	80	80	120	120	300	300	300	300
nominal power[W]	700	1200	1700	1700	2500	SLW 2500 SLN 2400	3100	4000	5500	5400	
weight [kg]	27	35		50	65	94	126	174	260	330	
over temperature protection	class 2.0 according to DIN 12880/class 3.1(option)/3.1 in TOP+										
power supply*	230 V 50 Hz							400 3/N			
shelves fitted/max	1/2	1/3	2/5	2/5	2/7	3/9	3/10	3/14	5/16	6/22	
warranty	24 months										
manufacturer	POL- EKO- APARATURA										

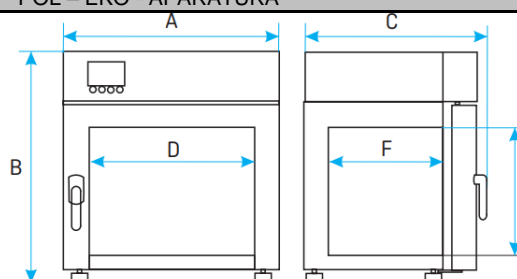
1. working capacity of chamber can be smaller,
2. depth does not include 50mm of power cable
3. reinforced shelf,
4. reinforced version,
5. on uniformly loaded surface



Manual instruction SL, CL, SR, IL

Parametr	SR 53	SR 115	SR 240	SR 400	SR 750	SR 1000
air convection ¹ [I]	natural (SRN)/forced (SRW)			forced (SRW)		
chamber capacity ¹ [l]	56	112	245	424	749	1005
door type	solid/ door with viewing window(option)					
temperature range	5°C above ambient temperature ...+250°C					
temperature resolution ⁰ [F]	41°F above ambient temperature...482°F					
temperature resolution ⁰ [C]	every 0,1					
controller	microprocessor with external LCD graphic display					
interior	acid – proof stainless steel to DIN 1.4301					
housing	-	powder coated sheet				
	INOX/G	stainless steel linen finish				
overall dims ² [mm]	A width	590	650	810	1010	1260
	B height	700	850	1200	1430	2000
	C depth	600	700	760	750	850
internal dims[mm]	D width	400	460	600	800	1040
	E height	390	540	800	1040	1610
	F depth	360	450	510	510	600
max shelf workload ⁴ [kg]	-	25	25	25	25	-
	PW ³ version	50	50	100	100	100
nominal power[W]	1700	2500	3100	4000	5500	5500
weight[kg]	50	65	126	174	260	330
over temperature protection	class 2.0 to DIN 12880/class 3.1 (option)					
power supply*	230 V 50 Hz			400 3/N		
shelves fitted/max	2/5	2/7	3/10	3/14	5/16	6/22
warranty	24 months					
manufacturer	POL – EKO - APARATURA					

1. working capacity of chamber can be smaller,
2. depth does not include 50mm of power cable
3. reinforced shelf,
4. reinforced version,
5. on uniformly loaded surface



Parametr	SRWP 115	SRWP 240
air convection	forced	
chamber capacity ¹ [l]	112	245
door type	solid/ door with viewing window (option)	
temperature range ⁰ [C]	5°C above ambient temperature ...+250°C	
temperature resolution ⁰ [F]	41°F above ambient temperature...482°F	
temperature resolution ⁰ [C]	every 0,1	
controller	microprocessor with external LCD graphic display	
interior	acid – proof stainless steel to DIN 1.4301	
housing	-	powder coated sheet
	INOX/G	stainless steel linen finish
overall dims ² [mm]	width	680
	height	900
	depth	700
internal dims[mm]	width	460
	height	530
	depth	460
max shelf workload ⁵ [kg]	-	10
	PW ³ version	50
max unit workload[kg]	-	60
	W ⁴ version	120
nominal power [W]	2500	3100
weight [kg]	65	126
over temperature protection	class 2.0 to DIN 12880/class 3.1 (option)	
power supply*	230 V 50 Hz	
shelves fitted/max	2/7	3/10
warranty	24 months	
manufacturer	POL – EKO - APARATURA	

1. working capacity of chamber can be smaller,
2. depth does not include 50mm of power cable
3. reinforced shelf,
4. reinforced version,
5. on uniformly loaded surface

19 WARRANTY

Warranty conditions shall be subject to Polish law

Support form and warranty conditions are specified on the manufacturer's website:

<http://www.pol-eko.com.pl/en/service>

Warranty repairs have to be reported to:

POL-EKO-APARATURA Sp.j.
ul. Kokoszycka 172 C
44-300 Wodzisław Śl.

Tel:

+48 32 453 91 96

+48 32 453 91 70

+48 32 453 90 30

E-mail:

export.service@pol-eko.com.pl

20 MAINTENANCE AND INSPECTION REGISTER

Type of the unit:..... Serial no:

20.1 Maintenance for cooled incubator

No.	Date	Evaporator cleaning	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
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28			
29			
30			
31			
32			
33			
34			
35			
36			

* every month; every week in case of high dust occurrence

20.2 Inspection

Technical inspection performed by POL-EKO-APARATURA's service:

No.	Date	Description	Performer	Signature
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				



DEKLARACJA ZGODNOŚCI UE

EU DECLARATION OF CONFORMITY



Produkt: Cieplarka laboratoryjna	Product: <i>Laboratory incubator</i>
Model: CLW 15; CLW 32; CLW 53; CLW 75; CLW 115; CLW 180; CLW 240; CLW 400; CLW 750; CLW 1000 CLN 15; CLN 32; CLN 53; CLN 75; CLN 115; CLN 180; CLN 240	Model:
w wersjach: STD, STD INOX/G, TOP+, TOP+ INOX/G	in version:
Nazwa i adres producenta: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	Name and address of the manufacturer:
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:	The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
LVD	PN-EN 61010-1:2011 PN-EN 61010-2-010:2015-01 PN-EN 60519-1:2015-10 PN-EN 60529:2003/A2:2014-07
EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN 50581:2013-03

Wodzisław Śl. 26.07.2017

POL-EKO-APARATURA sp.j.
DYREKTOR
Sebastian Kowalski
(Director)



DEKLARACJA ZGODNOŚCI UE

EU DECLARATION OF CONFORMITY



Produkt: Sterylizator laboratoryjny	Product: Laboratory sterilizer
Model:	Model:
SRW 53; SRW 115; SRW 240; SRW 400; SRW 750; SRW 1000 SRN 53; SRN 115; SRN 240	
w wersjach:	in version:
STD, STD INOX/G	
Nazwa i adres producenta:	Name and address of the manufacturer:
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
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LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
LVD	PN-EN 61010-1:2011 PN-EN 61010-2-010:2015-01 PN-EN 60519-1:2015-10 PN-EN 60529:2003/A2:2014-07
EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN 50581:2013-03

Wodzisław Śl. 23.05.2017

POL-EKO-APARATURA sp.j.
DYREKTOR
Sebastian Kowalski
(Director)



DEKLARACJA ZGODNOŚCI UE

EU DECLARATION OF CONFORMITY



Produkt:	Product:
Suszarka laboratoryjna	Drying oven
Model:	Model:
SLW 15; SLW 32; SLW 53; SLW 75; SLW 115; SLW 180; SLW 240; SLW 400; SLW 750; SLW 1000 SLN 15; SLN 32; SLN 53; SLN 75; SLN 115; SLN 180; SLN 240	
w wersjach:	in version:
STD, STD INOX/G, TOP+, TOP+ INOX/G	
Nazwa i adres producenta:	Name and address of the manufacturer:
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:	The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku do których deklarowana jest zgodność:	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
LVD	PN-EN 61010-1:2011 PN-EN 61010-2-010:2015-01 PN-EN 60519-1:2015-10 PN-EN 60529:2003/A2:2014-07
EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN 50581:2013-03

Wodzisław Śl. 26.07.2017

POL-EKO-APARATURA sp.j.

DYREKTOR

(Director)



DEKLARACJA ZGODNOŚCI UE

EU DECLARATION OF CONFORMITY



Produkt: Inkubator z chłodzeniem Peltiera	Product: <i>Peltier- cooled incubator</i>
Model: ILP 53; ILP 115; ILP 240; ILP 400	Model: ILP 53; ILP 115; ILP 240; ILP 400
w wersjach: STD, STD INOX/G, TOP+, TOP+ INOX/G	in version: STD, STD INOX/G, TOP+, TOP+ INOX/G
Nazwa i adres producenta: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	Name and address of the manufacturer: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:	The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:
LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
LVD	PN-EN 61010-1:2011 PN-EN 61010-2-010:2015-01 PN-EN 60519-1:2015-10 PN-EN 60529:2003/A2:2014-07
EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN 50581:2013-03

Wodzisław Śl. 23.05.2017

POL-EKO-APARATURA sp.j.
DYREKTOR
Sebastian Kowalski
(Director)



DEKLARACJA ZGODNOŚCI UE

EU DECLARATION OF CONFORMITY



Produkt: Inkubator z chłodzeniem	Product: Cooled incubator
Model: ILW 53; ILW 115; ILW 240; ILW 400; ILW 750	Model:
w wersjach: STD, STD INOX/G, TOP+, TOP+ INOX/G Z opcją (with option) FOT, FIT	in version:
Nazwa i adres producenta: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	Name and address of the manufacturer:
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego: LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	The object of the declaration described above is in conformity with the relevant Union harmonisation legislation: LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:
LVD	PN-EN 61010-1:2011 PN-EN 61010-2-010:2015-01 PN-EN 60519-1:2015-10 PN-EN 60529:2003/A2:2014-07
EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN 50581:2013-03

Wodzisław Śl. 23.05.2017

POL-EKO-APARATURA sp.j.

DYREKTOR

(Director)



DEKLARACJA ZGODNOŚCI UE

EU DECLARATION OF CONFORMITY

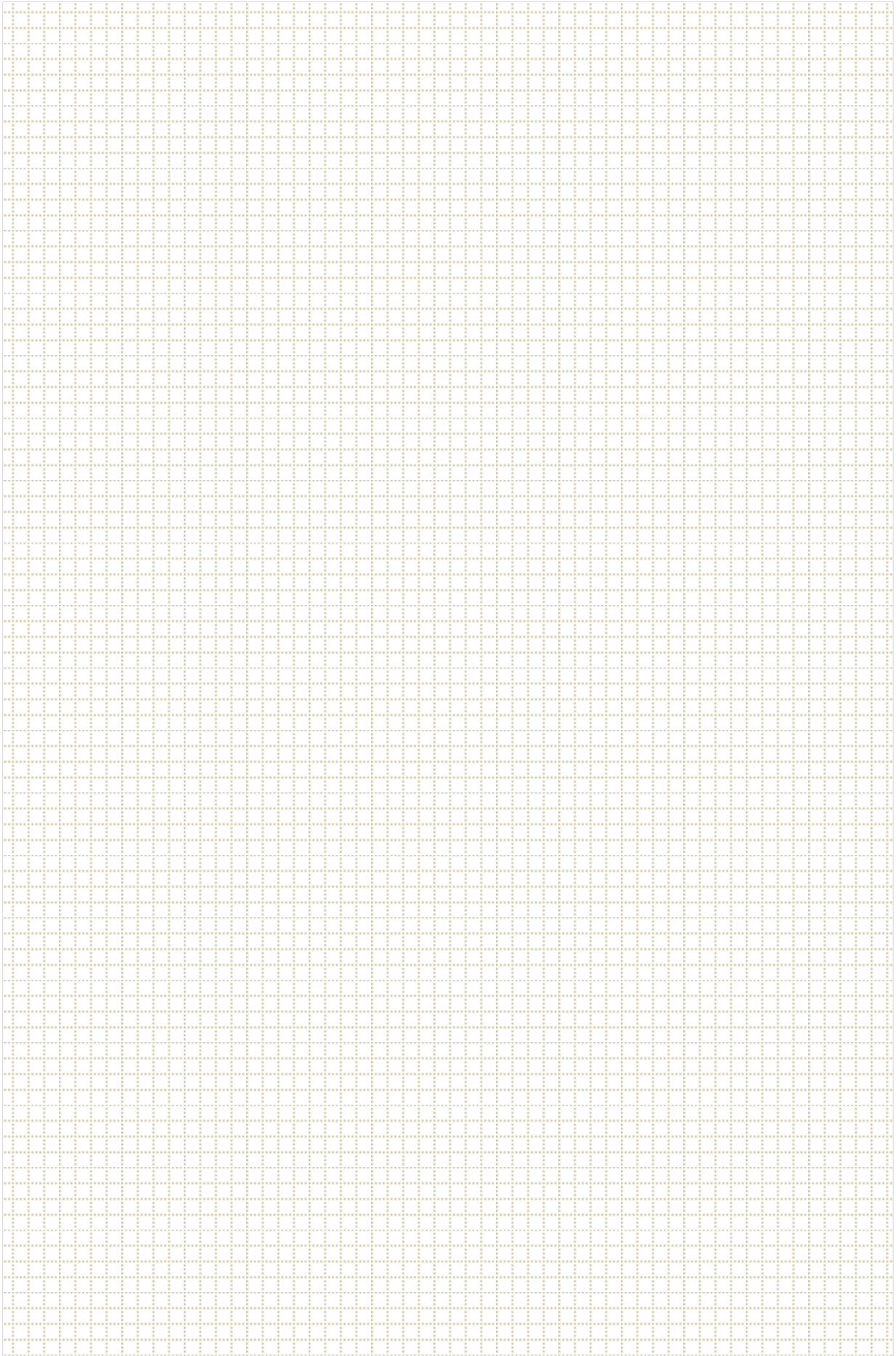


Produkt: Sterylizator przelotowy	Product: Pass-through sterilizer
Model: SRWP 115; SRWP 240;	Model: SRWP 115; SRWP 240;
w wersjach: STD, STD INOX/G, TOP+, TOP+ INOX/G	in version: STD, STD INOX/G, TOP+, TOP+ INOX/G
Nazwa i adres producenta: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	Name and address of the manufacturer: POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.
Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.	This declaration of conformity is issued under the sole responsibility of the manufacturer.
Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego: LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	The object of the declaration described above is in conformity with the relevant Union harmonisation legislation: LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku do których deklarowana jest zgodność: LVD EMC RoHS	References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared: PN-EN 61010-1:2011 PN-EN 61010-2-010:2015-01 PN-EN 60519-1:2015-10 PN-EN 60529:2003/A2:2014-07 PN-EN 61326-1:2013-06 PN-EN 50581:2013-03

Wodzisław Śl. 23.05.2017

POL-EKO-APARATURA sp.j.
DYREKTOR
Sebastian Kowalski
(Director)

Notes

A large rectangular area filled with a fine grid of small squares, intended for taking notes. The grid is composed of many small, light-colored squares arranged in a regular pattern.



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