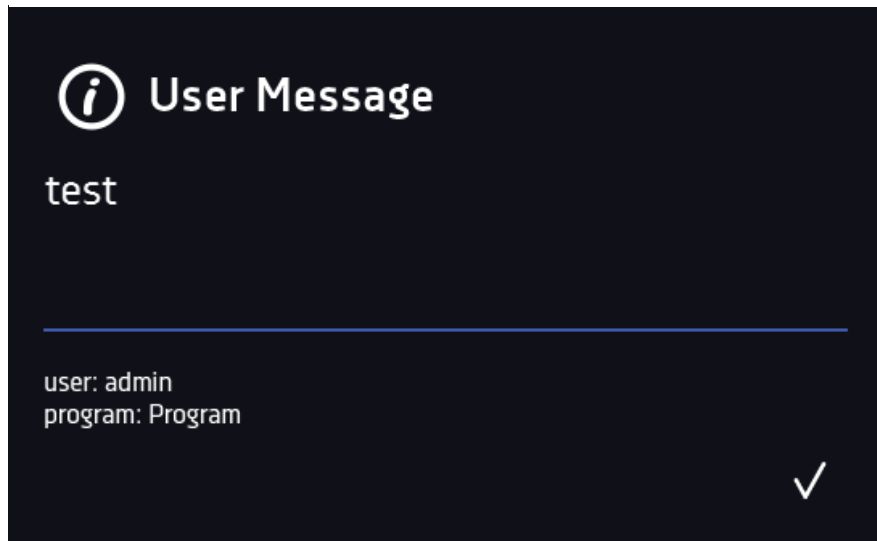


Figure 47 – Details of user message



**Possible events:**

<b>Date/time change</b>	data/time were changed
<b>DeviceOn</b>	the device is switched on (on the main switch)
<b>DeviceOff</b>	the device is switched off (on the main switch)
<b>Door closed</b>	the door is closed
<b>Door opened</b>	the door is opened
<b>Open door alarm start</b>	open door alarm has been activated
<b>Open door alarm stop</b>	open door alarm has been deactivated
<b>Over Protection Start</b>	over-temperature protection has been activated
<b>Over Protection Stop</b>	over-temperature protection has been finished
<b>Program Edit</b>	changing the program parameters
<b>Program End</b>	program is finished
<b>Program Restarted</b>	program has been restarted after power failure
<b>Program Start</b>	starting the program
<b>Program Stop</b>	stopping the program
<b>Under Protection Start</b>	sub-temperature protection has been activated
<b>Under Protection Stop</b>	sub-temperature protection has been finished
<b>Lower temp. alarm Start</b>	lower temperature alarm has been activated
<b>Lower temp. alarm End</b>	lower temperature alarm has been finished
<b>Upper temp. alarm Start</b>	upper temperature alarm has been activated
<b>Upper temp. alarm End</b>	upper temperature alarm has been finished
<b>Lower RH Alarm Start</b>	lower humidity alarm has been activated
<b>Lower RH Alarm End</b>	lower humidity alarm has been finished
<b>Upper RH Alarm Start</b>	upper humidity alarm has been activated
<b>Upper RH Alarm End</b>	upper humidity alarm has been finished
<b>Deleted Measurement</b>	user measurements have been deleted

<b>Deleted All Measurement</b>	all measurements have been deleted
<b>User added</b>	new user has been added
<b>User updated</b>	user has been changed
<b>User deleted</b>	user has been deleted
<b>Program saved</b>	new program has been saved
<b>Program deleted</b>	program has been deleted
<b>Program updated</b>	program has been updated
<b>Time Zone Changed</b>	in the time settings the time zone has been changed
<b>Temperature Correction Changed</b>	main sensor temperature correction changed
<b>Humidity Correction Changed</b>	humidity sensor correction changed
<b>Emergency stop of the program</b>	the program has been automatically stopped – there was a situation that didn't allow the program to be continued. PLEASE CONTACT THE SERVICE
<b>Defrosting Start</b>	starting the defrosting process
<b>Defrosting Stop</b>	stopping the defrosting process
<b>tank lo level Start</b>	means low water level in the tank, top up the water in the tank to ensure proper moisture retention (only KK series devices with a water level sensor)
<b>tank lo level Stop</b>	the water level in the tank has returned to the correct level (only KK series devices equipped with a water level sensor)
<b>Power Fail Start</b>	power supply failure / device fuse blown. Maintaining display operation, preset program parameters are not being maintained
<b>Power Fail Stop</b>	power return, return to maintaining program parameters


## 5.15. Info


The panel contains the following information:

- Software versions,
- name of device,
- manufacturer's address,
- manufacturer's website.

Figure 48 - Info window



Press icon  to save the "Download" folder (among others with manual instruction) on the USB memory stick.

 - write the service data on the pendrive – contact the service for more information.

If an external storage is connected to the unit, then during the entry to the Info panel, the suggestion to save the unit configuration file on the USB flashdrive appears (*Figure 49*). The file is used to create an offline program in the LabDesk application.

*Figure 49 - Saving the configuration file*



## 5.16. Users

In this panel (*Figure 50*) you can add a new user, edit an existing one or delete it.



Add a new user

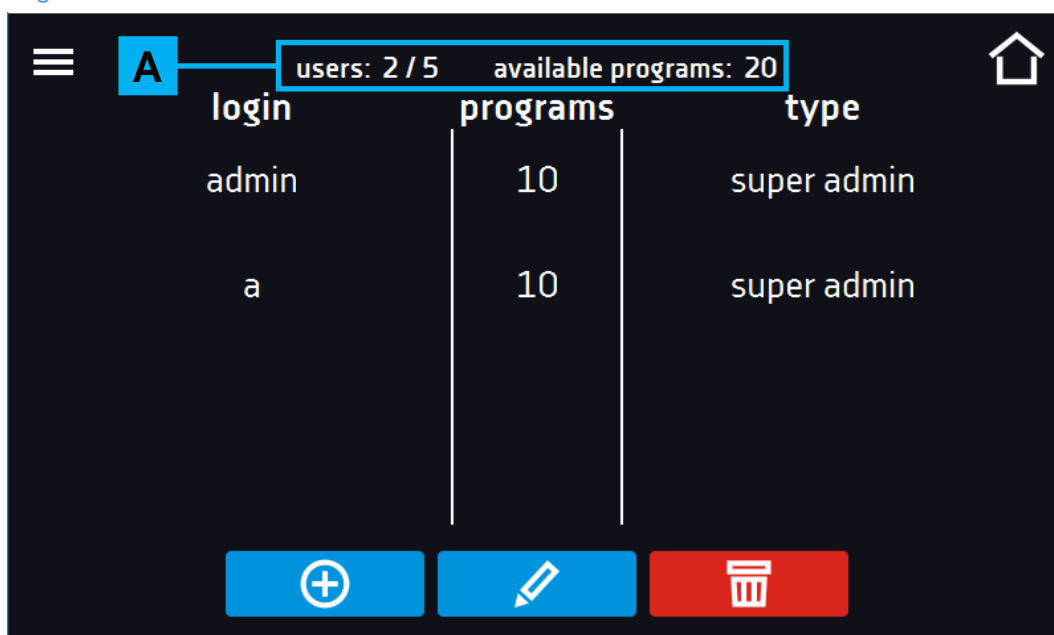


Edit the selected user



Delete the selected user, along with the user, his programs and data register will be also deleted



*Figure 50 - List of users*



At the top **A** there is information about:

- **User:** the number of created users/ the total number of users to create
- **Available programs:** the total number of available programs to be assigned to users

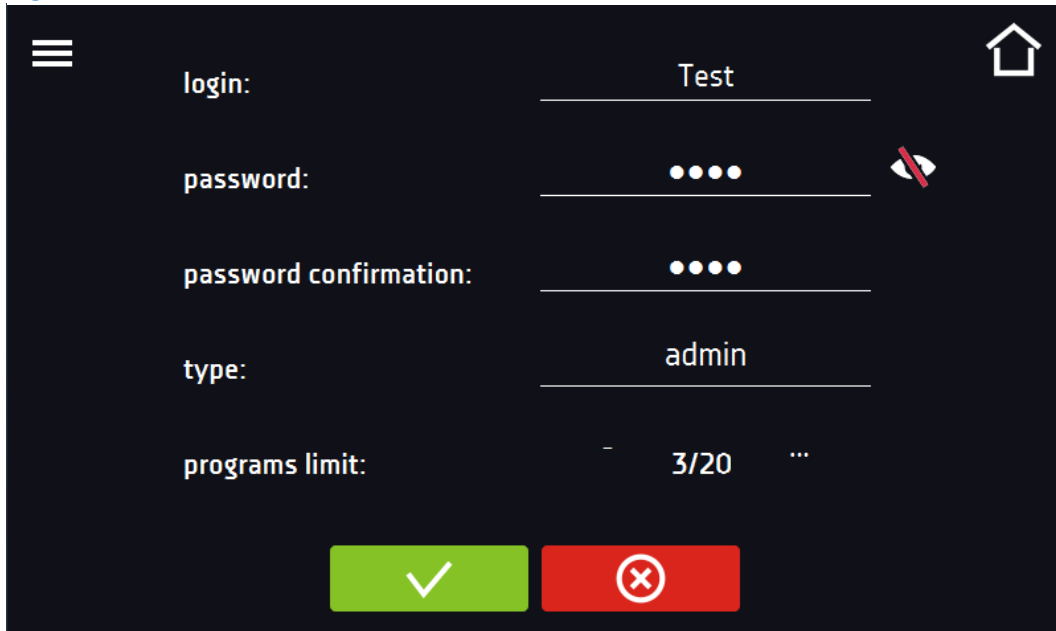
### 5.16.1. User creating / edition

Press  or  , and the panel with user data will appear (*Figure 51*).

Should be given:

- **login** – a user name,
- **password** – account password
- **password confirmation** – enter the password again to confirm it
- **type** – type of account (Super Admin , Admin, User) more information» [page 77](#),
- **Programs limit** – the number of programs that user can create/ the number of available programs (user can not set the limit).

*Figure 51 - User edition*




Confirms and saves the user



Cancels the entered data and returns to the list of users.



The device can have up to 5 users. There are 40 programs available that can be freely distributed among users.

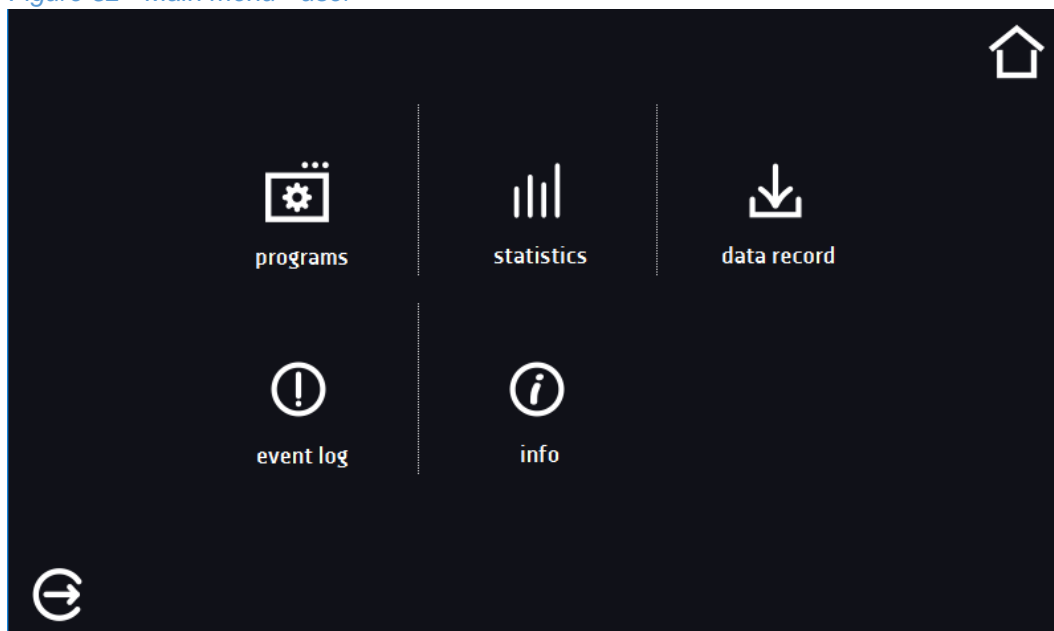
### 5.17. Types of accounts and their limits

There are three different account types available. Each has its own qualities and limits described below.

#### User account

- It has access to the **program management menu**, where you can run (**programs**), check their statistics (**statistics, data register**), check the device event history (**event log**) and system information (**info**).
- The user can not create his own programs and schedules, but only run those that have been made available to him by other users.
- The user can not stop programs and schedules that he did not start himself.
- The user do not have access to the schedules.
- The program started by the user can be stopped by a user with Super Admin privileges.

Figure 52 - Main menu - user

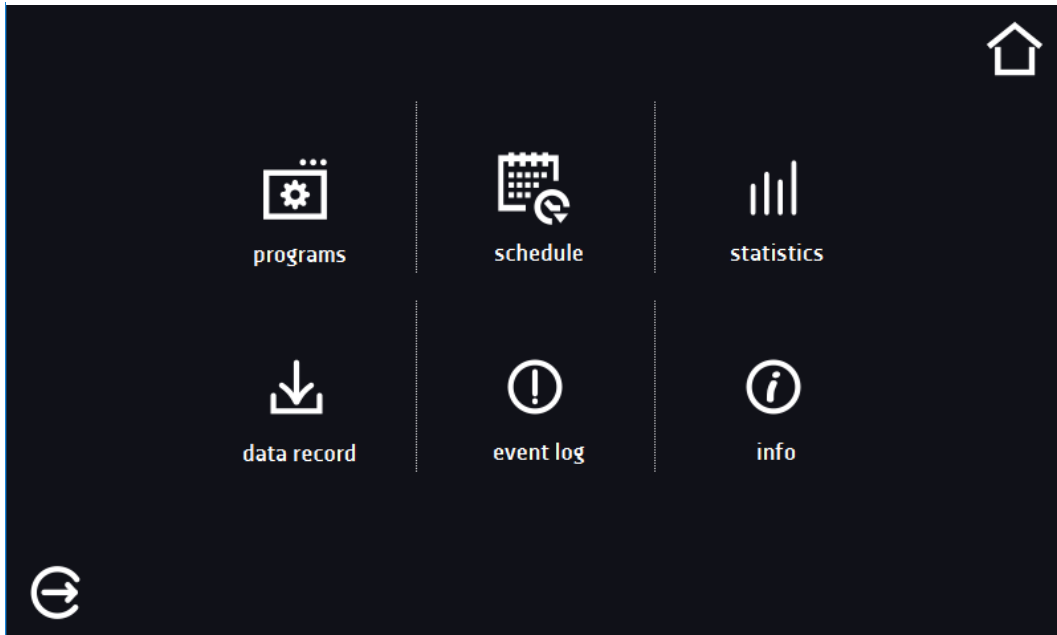


### **Admin account**

It has access to **program management menu**, where you can:

- create or edit programs (**programs**),
- check their statistics (**statistics and data register**),
- check the device event history (**event log**),
- information about the system (**info**).

*Figure 53 - Main menu – admin and super admin*





**Super Admin account**

Super Admin account has not limits. It has access to the program menu management and to the settings menu.

Figure 54 - Main menu – admin and super admin

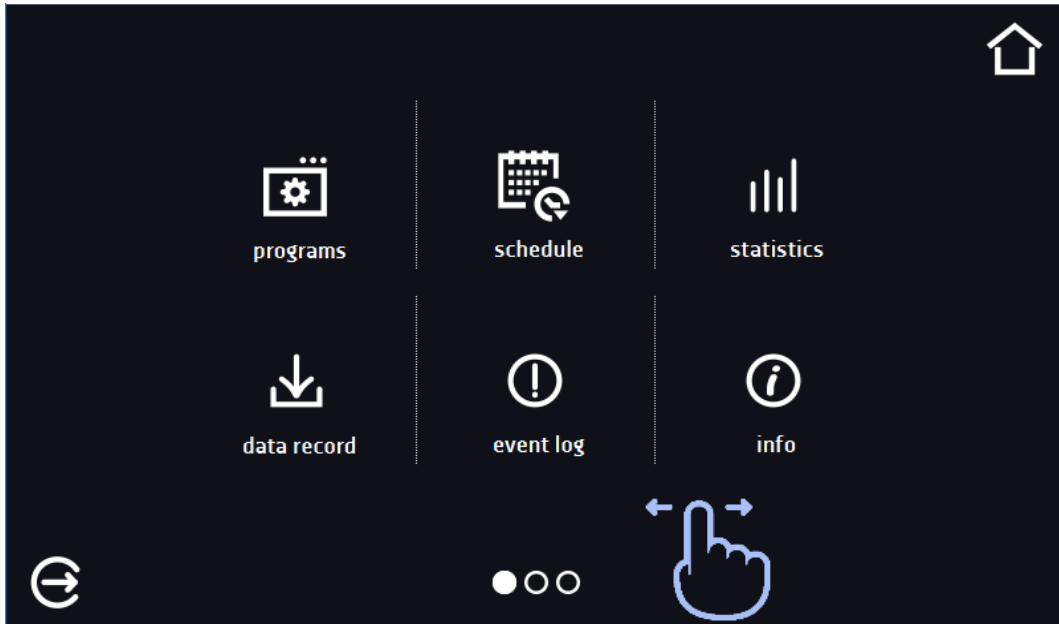
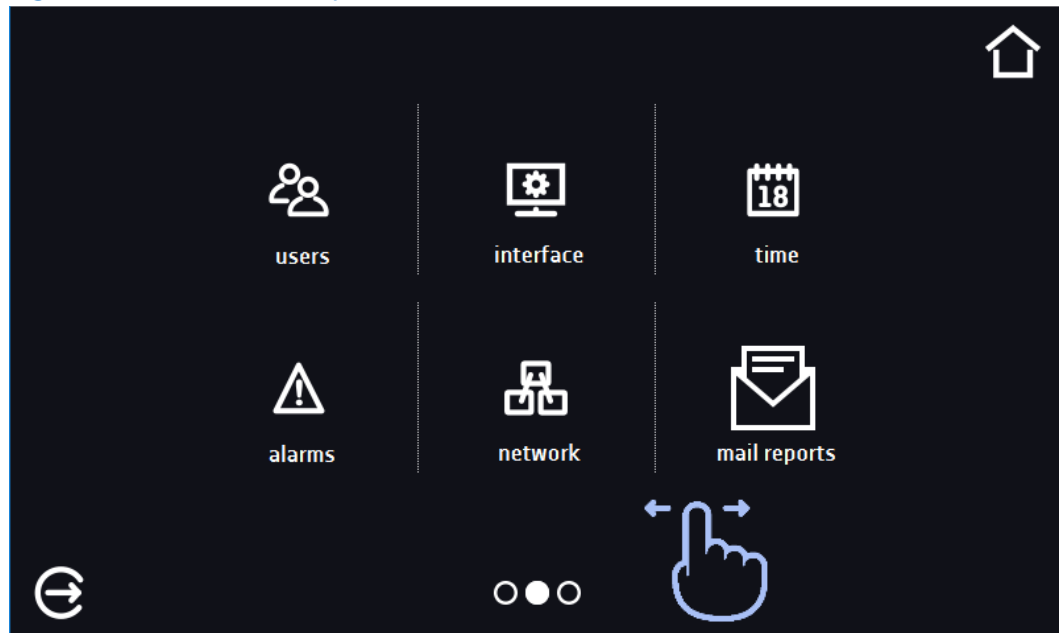


Figure 55 - Main menu - Super Admin



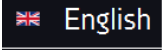
Information about which window is active indicates 

## 5.18. Interface

In this panel (*Figure 56*) you can:



Change the device name – by default, the device's serial number



Change the language of device



Set the time after which the screen will be dimmed

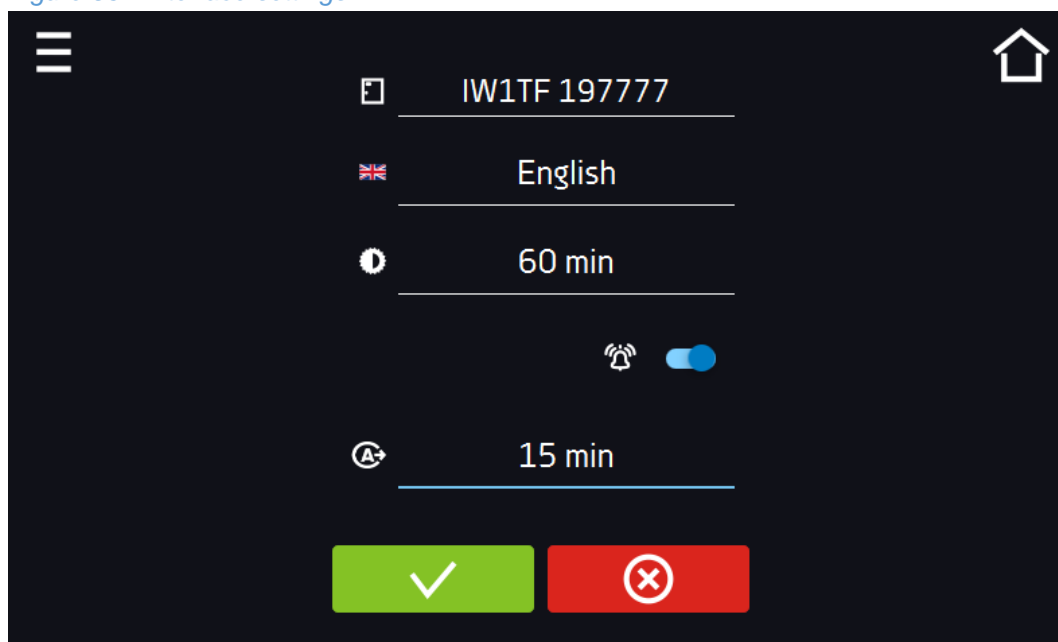


Turn on/off the sound, alarm sounds will be still emitted



Set the time after which the user will be automatically logged-out

*Figure 56 - Interface settings*



Confirms and saves changes



Cancel the entered changes

## 5.19. Time

In this panel you can:


- change date / system time,
- change time zone

### Change date / system time

Date and time cannot be changed while the program is running.

When reversing the date/time, the data and event log is transferred to the archive. Data and event files (only in the plx format) can be downloaded from the Archive menu more information » [page 94](#).

When changing the date/time forward, will not change the date/time in the data and events previously stored

To change the system date or time, press the button  [Figure 57](#). In the next window ([Figure 58](#)) you can change settings.

Approving the date / time change restarts the device.

*Figure 57 - Time settings*

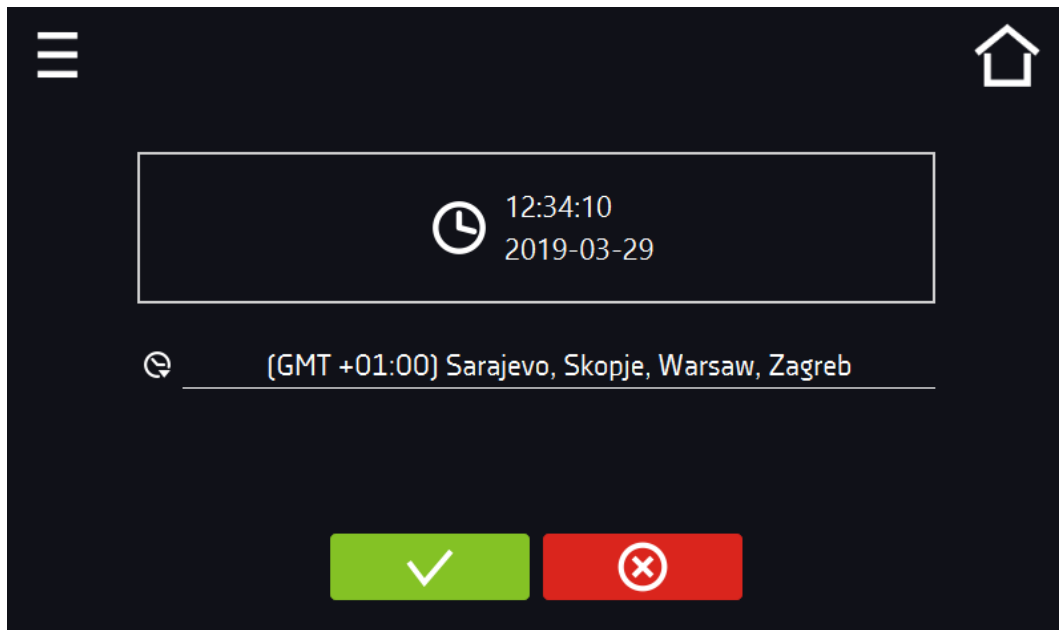
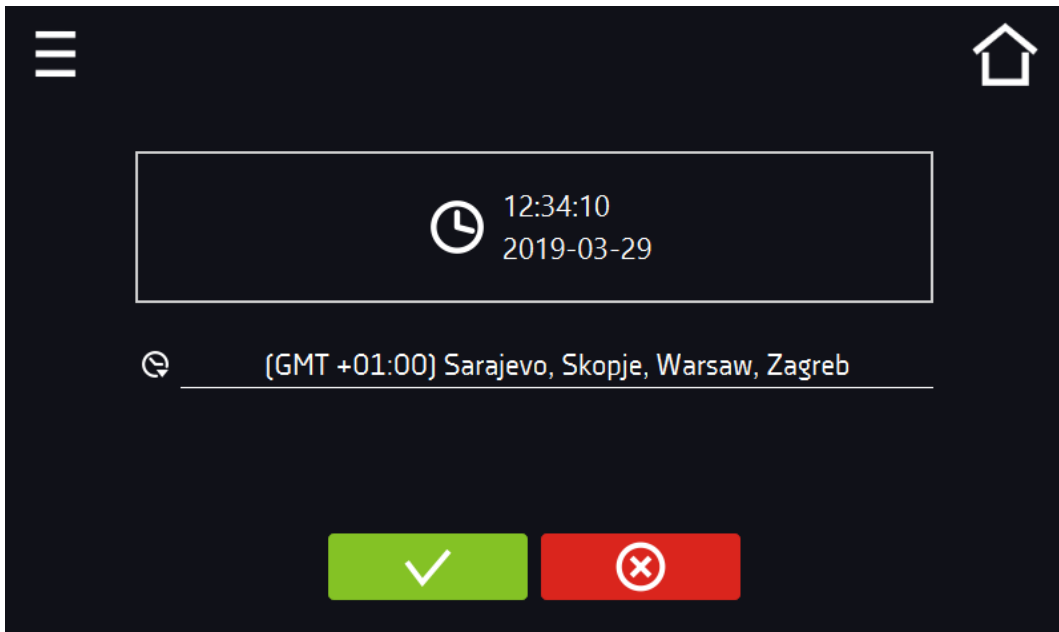



Figure 58 - Time settings



#### Change time zone

Changing the time zone will not change the date/time in the data and events previously stored.

To change the time zone, press the button  *Figure 57* Figure 57. Select a time zone from the drop-down list. After changing only the time zone, the device is not restarted.



Confirms the time changes and restart device.



Cancels the entered time changes



The same time zones are required for correct operation of programs on the device and computer.

## 5.20. Alarms

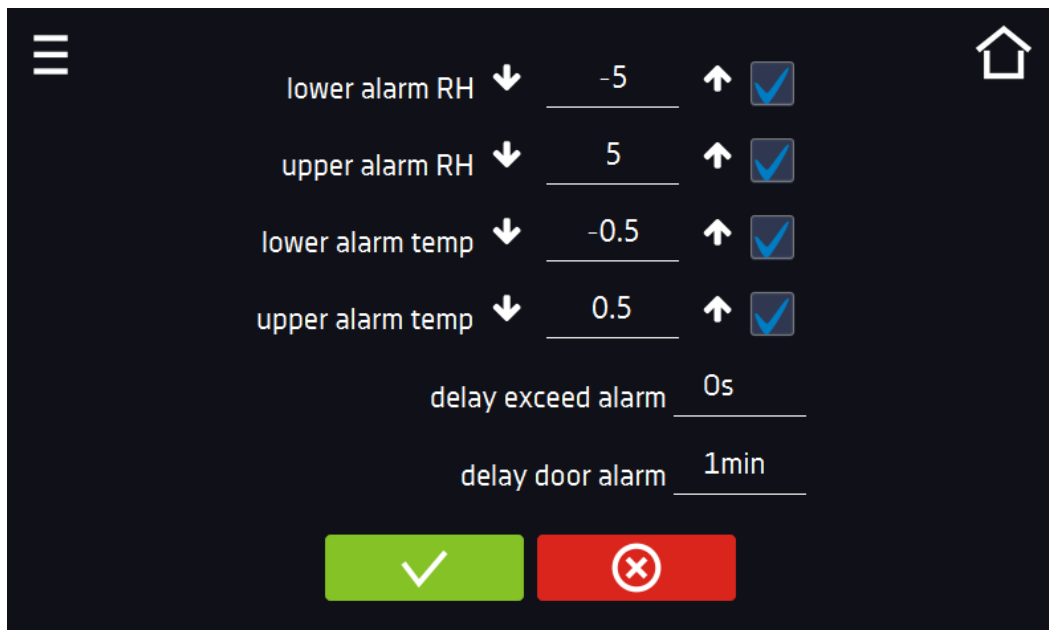
You can set parameters related to alarms.

- **lower alarm temp.** – an alarm will be generated if the temperature drops below the value given in this field (range of -0,5°C to -5°C),
- **upper alarm temp.** – an alarm will be generated if the temperature rises above the value given in this field (range of 0,5°C to 5°C),
- **lower alarm RH** – only for KK, KKS, an alarm will be generated if the humidity drops below the value given in this field (range of -5% to -30%),
- **upper alarm RH** – only for KK, KKS, an alarm will be generated if the humidity rises above the value given in this field (range of 5% to 30%).

The lower and upper alarm can only be generated after reaching the set temperature.

- **delay temp alarm** - the alarm will be activated with a delay (1 min, 2 min, 5 min, 15 min) after exceeding the permitted temperature.
- **delay door alarm** - the door alarm will be activated when the door is opened for the time selected by the user (5 s, 30 s, 1 min, 5 min, 10 min).

Figure 59 - Alarm settings



lower alarm RH ↓ -5 ↑

upper alarm RH ↓ 5 ↑

lower alarm temp ↓ -0.5 ↑

upper alarm temp ↓ 0.5 ↑

delay exceed alarm 0s

delay door alarm 1min






Confirms changes



Cancels the entered changes

## 5.21. Network

In this panel (*Figure 60*) you can change the settings for the network. Switch between the type of LAN / WiFi network, press the icon  or .



Only one type of network can be active.  
After changing the network type, it may be necessary to restart the device.

### LAN settings

(*Figure 60*)

- **IP** – the device's IP address
- **Mask** – an Ethernet network mask to which the device is connected
- **Gate** – Server's IP address or router's that manages the Ethernet network
- **DNS** – IP address of the domain name system
- **MAC** – the address of the network card, read-only
- **DHCP** – you can select if the server that allocates IP addresses is running on the local network. You can then skip setting IP, Masks, Gates

Icon **A** indicates the connection status.

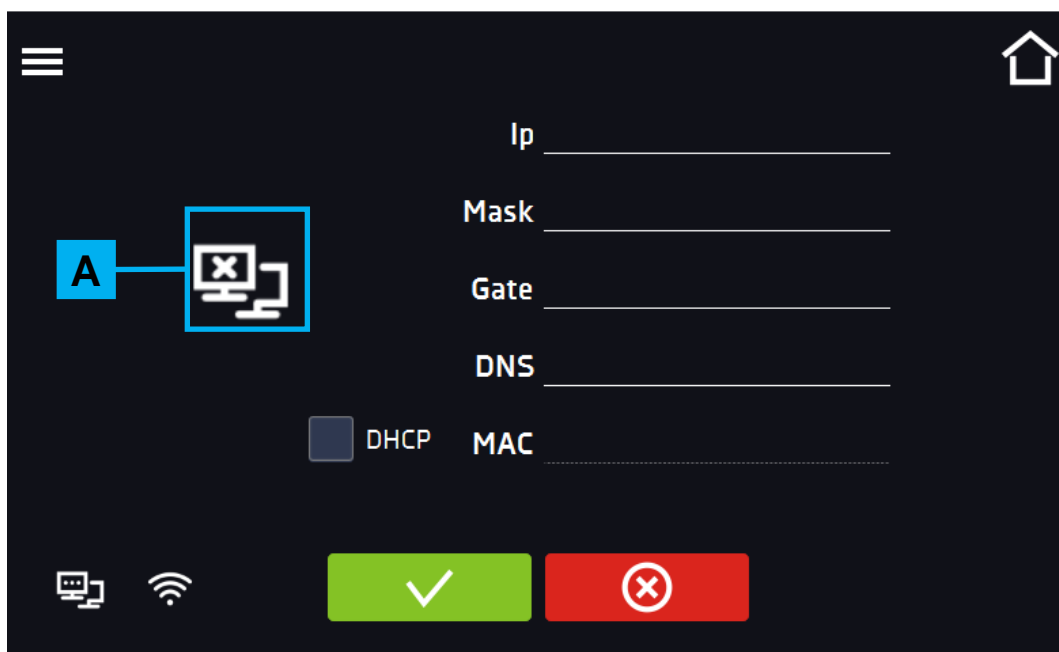


Device connect



Device disconnect

*Figure 60 - LAN settings*



## WiFi settings (Figure 61)


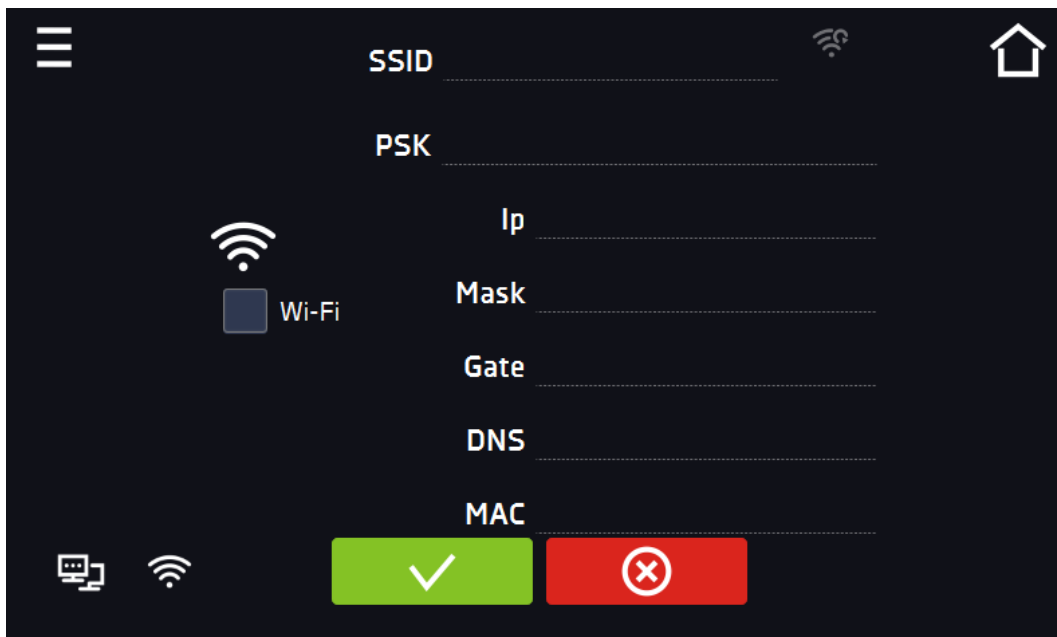
-  – press to refresh network list,
- **SSID** – press to select network from the drop down list,
- **PSK** – network password,
- **IP, Mask, Gate, DNS** – automatically completed when the network connection is correct,
- **MAC** – the address of the network card, read-only.

Figure 61 – WiFi settings



Confirms changes



Cancel the entered changes

## 5.22. Mail reports

In this window, you can set the parameters needed to activate notifications via e-mail.

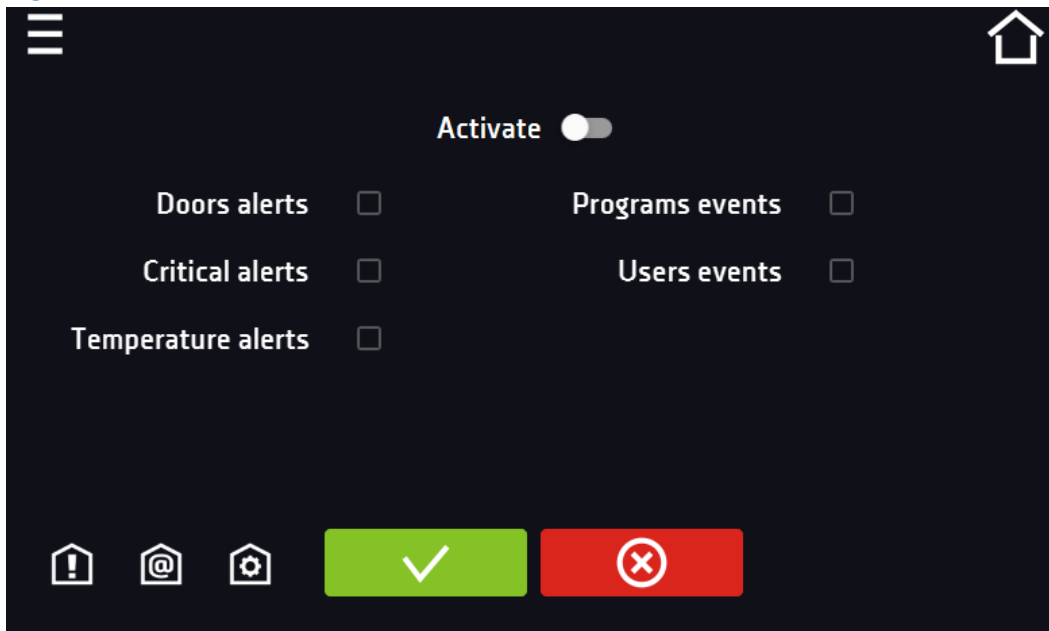
The panel is divided into three windows:



Selection of event types for which notifications should be sent: (Figure 62)

- **Activate** – activate or deactivate e-mail notifications
- **Door alerts** – alarms caused by the half-open door
- **Critical alerts** – critical alerts (eg. sensors damage)
- **Temperature alerts** – alarms caused by too high or too low temperature
- **Programs events**– events connected with programs (eg. adding, edition, delete of a program),
- **Users events** – events connected with users edition settings (adding, edition, delete of a user)

Figure 62 - E-mail events



Confirms changes



Cancel the entered changes



If you do not enable the "activate" option at the top of the panel, emails will not be sent!





Sender and recipients (*Figure 63*)

- **Sender** – sender's e-mail address
- **Recipients** – recipient's e-mail addresses (up to 3)

*Figure 63 - E-mail – sender and recipients*

The screenshot shows a dark-themed interface for configuring email settings. At the top left is a hamburger menu icon. At the top right is a home icon. The main area is divided into two sections: "Sender" and "Recipients". The "Sender" section has a single input field with an "@" symbol. The "Recipients" section has three input fields, each with an "@" symbol. At the bottom, there is a navigation bar with icons for home, email, settings, a green checkmark button, and a red cancel button with an "X".



Confirms changes



Cancel the entered changes



Configuration of the sender e-mail account (*Figure 64*)

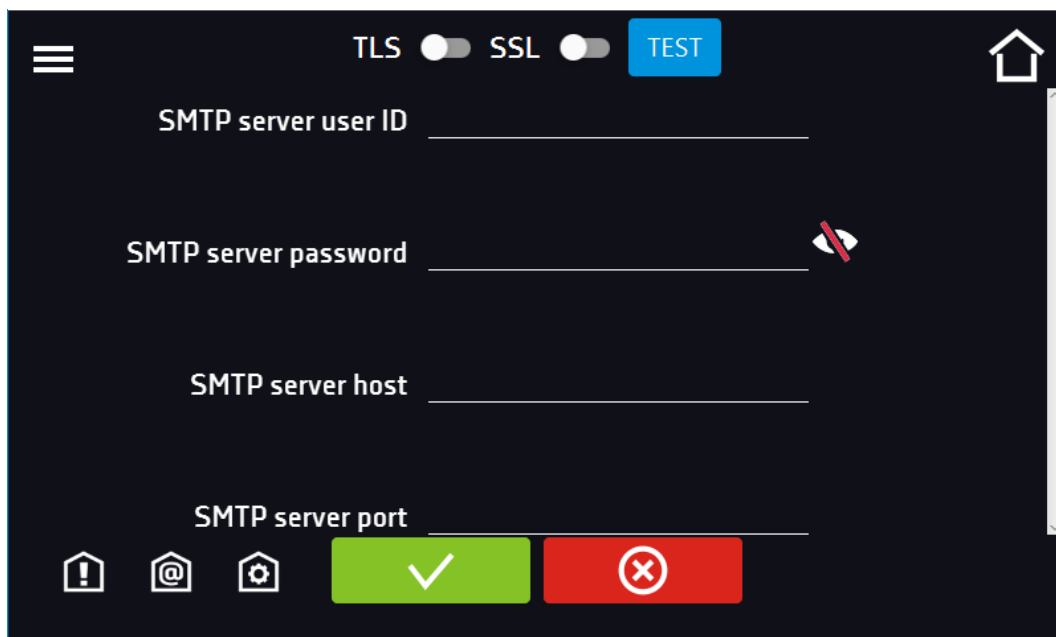
In this window you can add the details of your e-mail account.




- Server ID SMTP
- Server password SMTP
- Server Host SMTP
- Server Port SMTP

You can also select the way of encryption **TLS** or **SSL**.

The above information can be obtained from the email account provider.

*Figure 64- E-mail – configuration of the sender e-mail account*



-  Connecting test
-  Confirms changes
-  Cancels the entered changes



Before testing the connection, make sure that the device is connected to a computer network and has a properly configured network connection (*» page 84*).

### 5.23. Defrosting

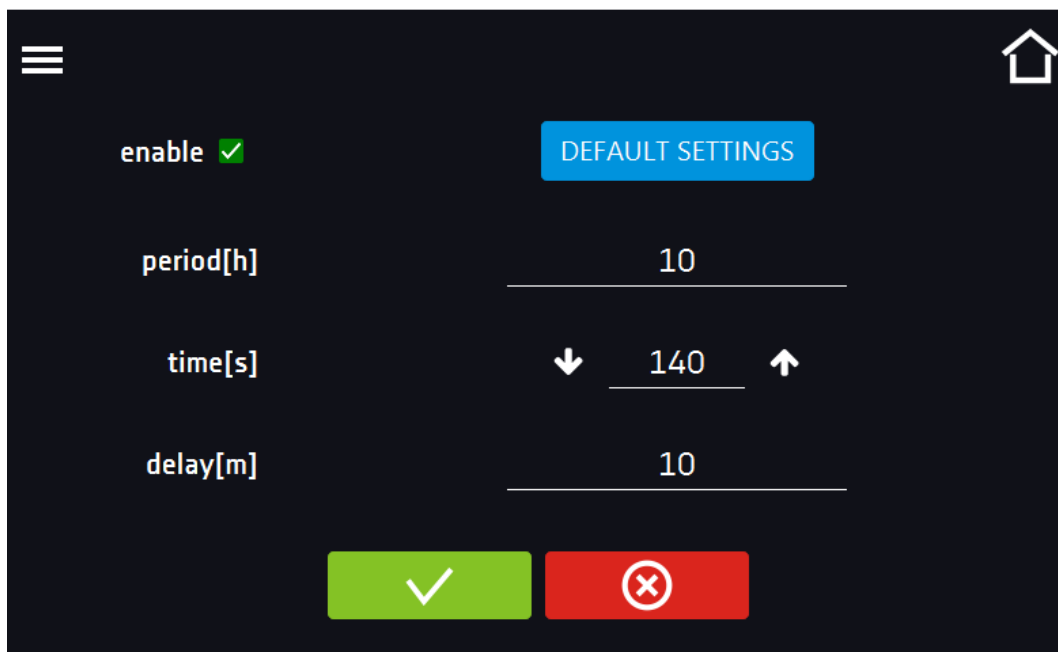
The panel ([Figure 65](#)) allows to control the defrosting of interior of the device. (Available on selected devices)

You can set:

- **Period [h]** – is counted when the temperature is:
  - In devices:
    - **CHL / ST / IL** – lower or equal to 5°C for the set temperature and lower than or equal to 7°C for the current temperature,
    - **KK** – lower or equal to 10°C or the set parameters require constant compressor operation,
- **Time[s]** – the time of defrosting
- **Delay[min]** – time after the completion of defrosting in which temperature alarms are not generated, determined in minutes,

**DEFAULT SETTINGS** – restores factory settings

*Figure 65- Defrosting settings*



Confirms changes



Cancel the entered changes

### 5.23.1. **Defrosting for ZLW devices**

ZLW units are additionally equipped with evaporator temperature measurement and heating of the condensate drain system. In “Defrost” window there are additional parameters to be set:

- **preheat time [s]** – time before defrosting is to start during which the condensate drain system is to be heated,
- **evaporator temp [°C]** – defrost stop temperature (on the evaporator). Defrosting ends when the evaporator reaches the set temperature or the time set in the Time parameter has expired. Depending on what happens sooner.



Parameters: Time, Time to preheat the tray, Evaporator temperature.

Lower values may cause that the accumulated ice will not melt in the defrost cycle and cause increased icing.

Higher values may cause an unnecessary increase in the temperature in the chamber.

## 5.24. Temperature

In this window (*Figure 66*) you can set the parameters connected with temperature measurement in the device.

### Additional sensor

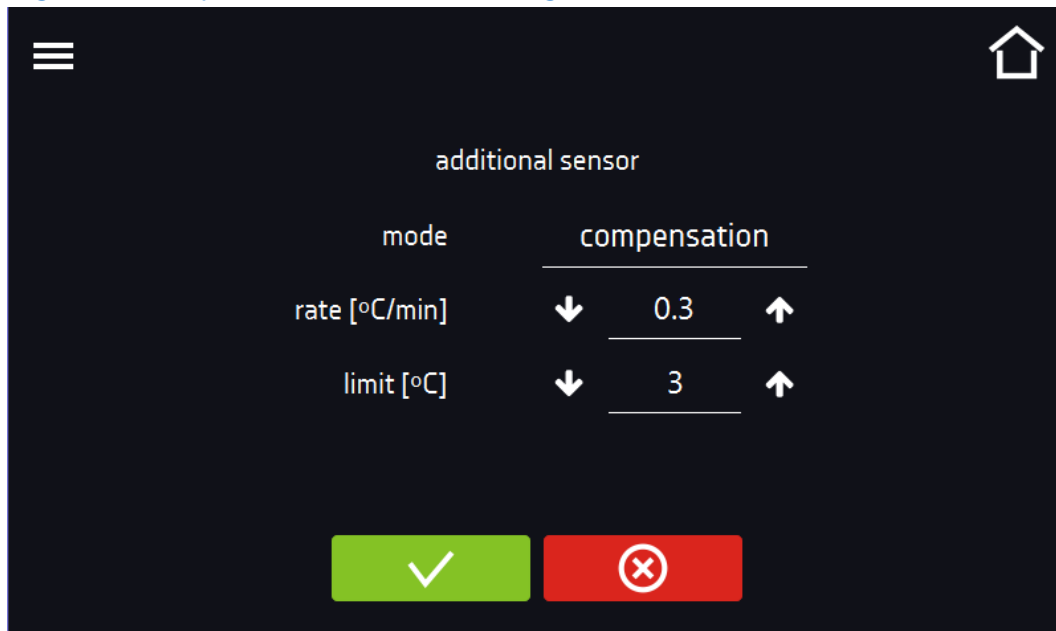
It allows to set the parameters connected with the additional sensor (option):

- **mode** – the type of sensor work
  - **disable** – the sensor is switched on
  - **measure** – display in the main window and registration of the temperature from the additional sensor
  - **compensation** – display in the main window and registration of the temperature from the additional sensor + compensation.
- **rate [°C/min]** – this parameter determines how quickly the unit will react on temperature differences between the main and additional temperature sensors (higher value = faster device response, may cause less stable temperature maintenance),
- **limit** – permitted compensation temperature difference from 2°C to 8°C.

### Compensation

The compensation value is a correction for the regulation of the main sensor so as to obtain the desired temperature at the measuring point by additional sensor. If you choose compensation, the unit will be controlled according to the additional temperature sensor. An additional temperature sensor can be used to control the temperature in the chamber relative to e.g. sample temperature.

*Figure 66 - Temperature measurement settings*



Confirms changes




Cancels the entered changes

## 5.25. Corrections

In this window (*Figure 67*) you can set correct:

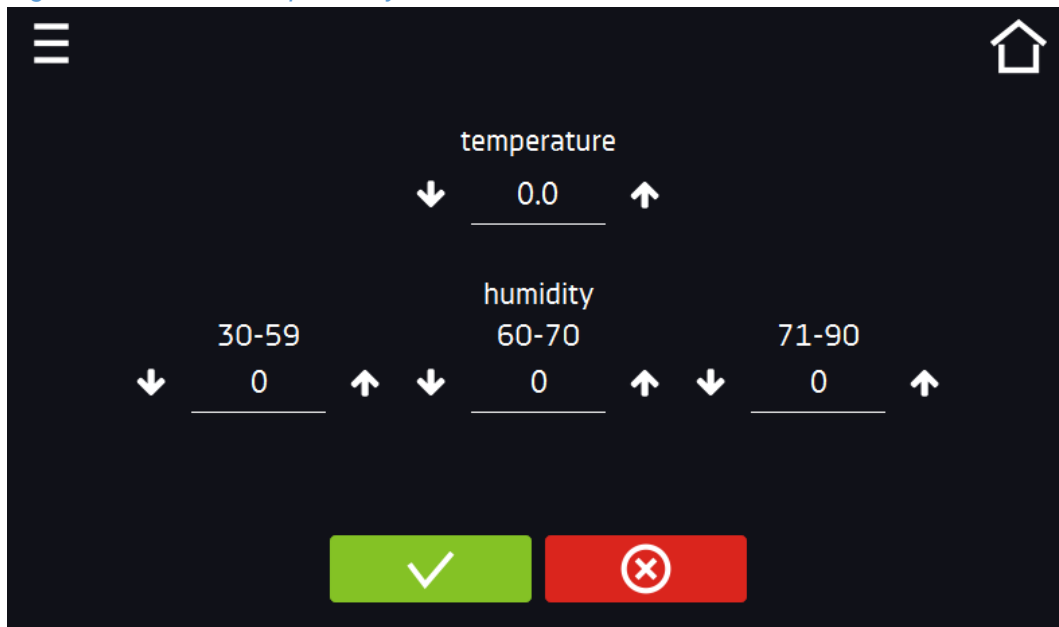
- The temperature indicated on the display by adding the correction value. The set correction value is taken in the whole temperature range operation of the device. For example, if the average temperature displayed by the device indicates 100°C and the average temperature measured by independent, external 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. The correction range of -5°C to +5°C.
- The humidity indicated on the display by adding the correction value. You can enter the corrections in 3 ranges of humidity, between the ranges, the correction is calculated linearly. The function is only available in the devices equipped with the humidity sensor.



The device has been calibrated by the manufacturer in accordance with applicable norms. The temperature shown on the display corresponds with a great accuracy to the temperature in the geometrical centre of the chamber. For the correct operation of the device it is not necessary to use User's calibration.

The user is performing temperature correction **on his own responsibility** and s/he must be aware of consequences of changing of manufacturer's settings. If the equipment was calibrated, calibration certificate loses it's validity.

*Figure 67 - correction inputted by the User*



Confirms changes



Cancels the entered changes

## 5.26. Light

In this window you can manage the light shelves in the device.

When the shelf is removed from the device and will not be used, turn it off (uncheck the box next to the shelf number).

When the shelf is inserted into the device and will be used, it should be turned on (check the box next to the shelf number)


	Not correctly marking which shelves are in the device may result in generating an alarm or not lighting the shelf.
---	--

Figure 68 – light shelves management



Confirms changes



Cancel the entered changes

## 5.27. Archives

Contains data and events transferred to the archive when changing time backwards.


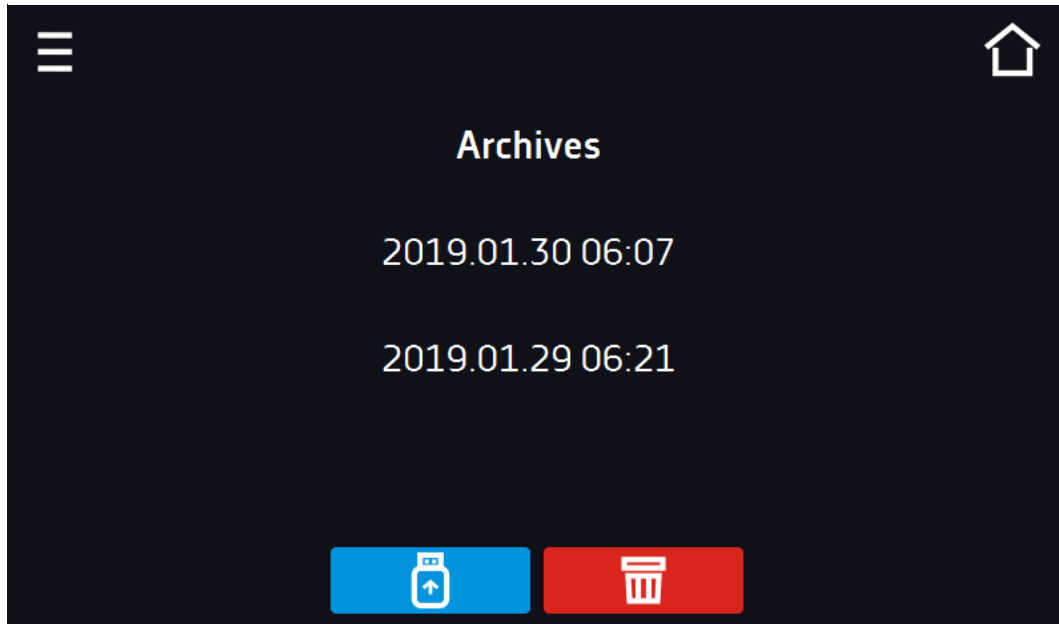
Plug in the USB drive, select the archive and press the icon . At the same time, data and event files are downloaded. Each user's data is saved to a separate file. All files are saved in the folder named archive.

Figure 69 – Archives



Saving the selected archive onto USB flash drive.



Delete the selected archive.

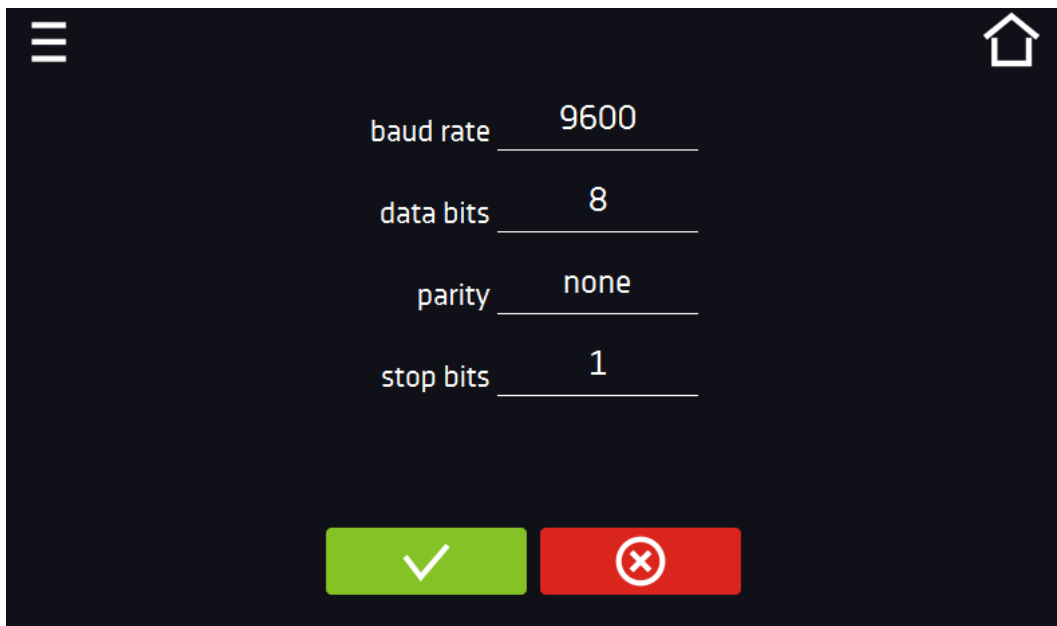


## 5.28. **Printer EPSON (option)**

The option is available on the request. The print is working only on the running program, accorded with the recording interval on the device. The interval is set up in the program » [page 44](#).

The options in the [Figure 70](#) window should not be changed. They have been installed as factory default to work properly with the EPSON printer.

*Figure 70 – Printer*



The screenshot shows a dark-themed configuration window for a printer. At the top left is a hamburger menu icon, and at the top right is a home icon. The settings are as follows:

baud rate	9600
data bits	8
parity	none
stop bits	1

At the bottom of the window, there are two buttons: a green button with a white checkmark and a red button with a white 'X'.



Confirms changes

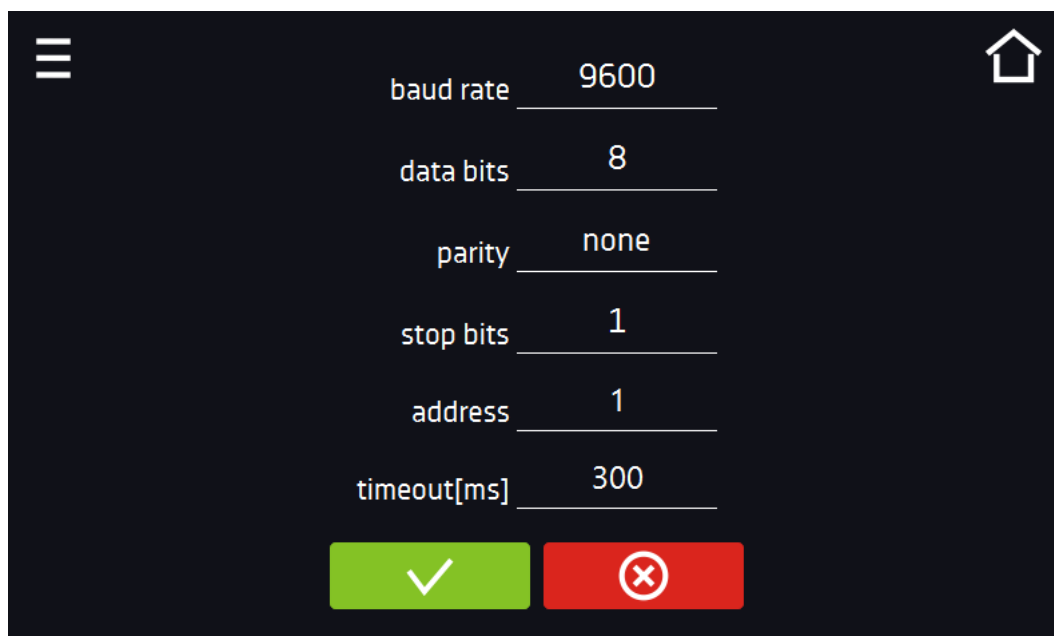


Cancel the entered changes

## 5.29. Modbus RTU interface RS 422/485 (option)

The option is available on the request. In this window (*Figure 71*) you can set interface parameters. Registers map » *page 97*.

*Figure 71 – Modbus RTU*



baud rate	9600
data bits	8
parity	none
stop bits	1
address	1
timeout[ms]	300

✓ ✕



Confirms changes



Cancels the entered changes

## 6. MODBUS TCP interface

Connection parameters:

IP address: the same as devices (set in the Network panel » [page 84](#))

port: 502

register INPUT REGISTERS				
function READ_INPUT_REGISTERS (0x04)				
Modbus address	Offset	Type	Multiplier	Description
30000	0	int	10	temperature from the main sensor
30001	1	int	10	temperature from the additional sensor (option)
30002	2	int	10	humidity (option)
30003	3	bool	-	door open
30004	4	bit	-	b0 – door alarm b1 - upper temperature alarm b2 - lower temperature alarm b3 - over Protection b4 - under Protection b5 – main sensor error b6 – additional sensor error b7 – protection sensor error b8 – temperature sensors error b9 – humidity sensor error b10 – hardware error b11 - MRW error
30050	50	int	-	Settings for each light point can be read at a separate address. The amount depends on the device configuration.
...	...	int	-	
30068	68	int	-	
				FOT version: 0-off, 1-on FIT version: value in percentage of light (0-100)

## **7. COMPONENTS OF THE DEVICE**

### **7.1. Internal glass door**

To open or close the internal glass door use the plastic handle installed on the glass. While operating the unit at high temperatures, do not touch the glass door or inner parts of the chamber. Always use safety gloves to protect yourself and minimise the risk of getting burnt.

### **7.2. Door lock**

All ILP units have been equipped with a door lock located in the door handle.

Two keys are attached on the backside of the device.



### **7.3. Access port**

A Ø30 mm access port can be used to insert an external temperature sensor, which has been secured with a silicon plug. The plug should cover the access port while the unit is operating. If multiple cables have been inserted through the access port and if it is not possible to use the plug, secure the access port with adhesive tape. If you leave the access port open, it may affect temperature stability and uniformity within the chamber.



### 7.4. Open door alarm

All incubators have been equipped with an open door sensor. If you open the door, icon:



appear on the display.

If you leave the door open for more than 60 seconds, an alarm will sound and the control bar will be red. The alarm event "door open" is displayed in the list, with the status alarm active.



Open door sensor

### 7.5. Internal LED light

Internal lighting is switched on automatically when the outside door is open. Once the light has been switch

on, a bulb icon  will appear on the display.



## 7.6. USB port

To transfer data from the unit's memory to the USB memory stick, connect the memory stick to the USB slot on the device.

Go to Main Menu → Data record, press the button



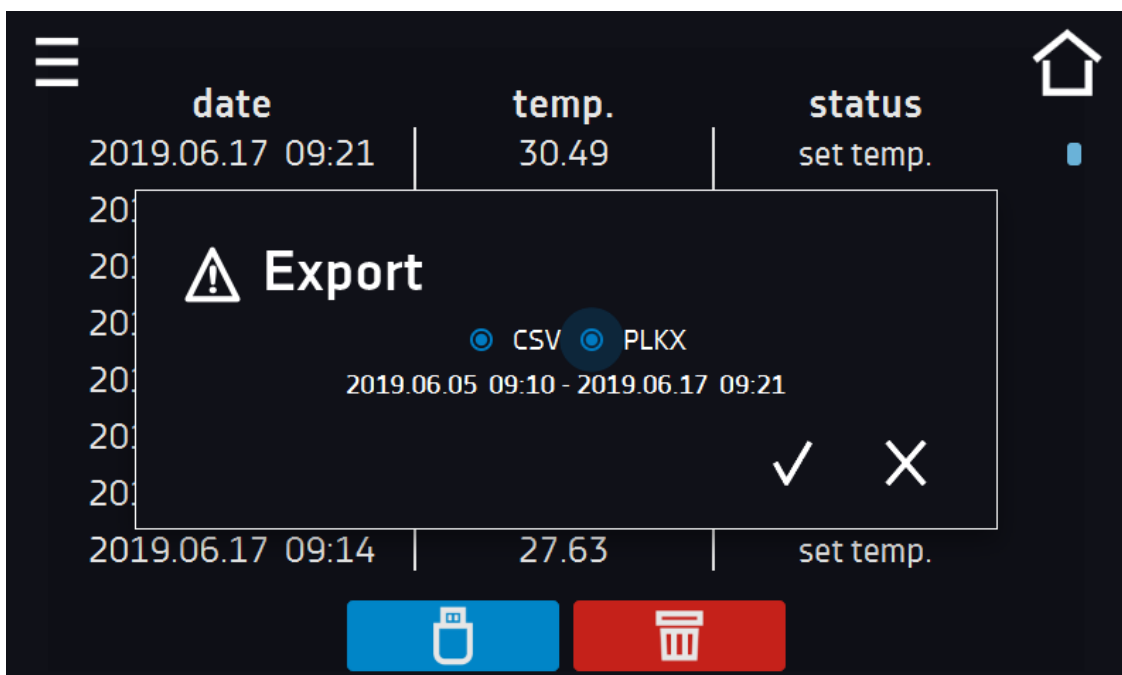
Select file type \*.csv, \*.plx.

Press:



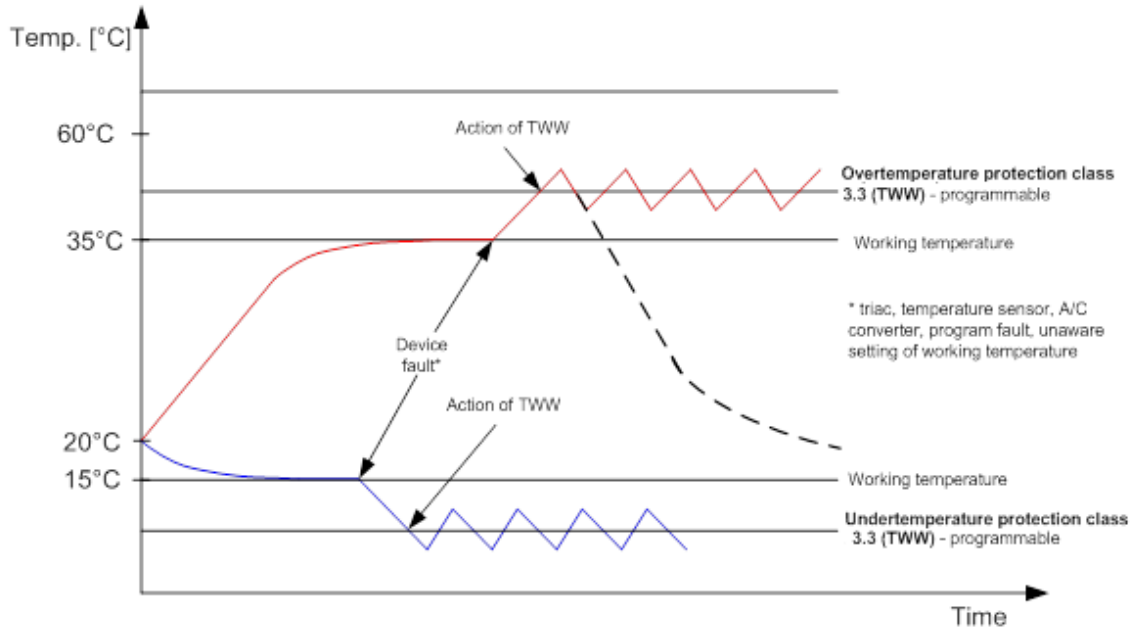
Data is copied.

Data saved as \*.csv file can be opened in the Notepad. Data saved as \*.plx file can be opened only by LabDesk. This program allows you f. ex. to view the data in the table as a graph. It allows you to make a report of selected data range.



## 8. TEMPERATURE PROTECTION

Temperature protection is included as standard, if damage occurs to the temperature controller or the user changes the temperature settings outside of the upper and lower limits, temperature protection will activate. Protection class 3.3 is a standard. The figure below shows how this works.



Protection Class 3.3. according to DIN 12880 norm is called protecting sample function. The User can set the temperature protection lower / upper by himself. When the set temperature falls outside of this range, the power of cooling system or heating system is switched off. In the ILP devices, the power supply of the peltier module responsible for heating and cooling is switched off. When the temperature returns to within normal parameters, the device continues to work normally.

## 9. OPERATION OF THE COOLING SYSTEM (only ILP devices)

The thermoelectric incubator relies on Peltier effect. Cooling elements are Peltier Modules which act as a heat pump transporting heat / cold in the direction of the flow current. The cooling system is constructed of Peltier modules, fans and radiators. Contrary to refrigerated units, it has a long operating life, no moving parts, the ability of reverse operation i.e., the quick and easy transition from cooling to heating and vice versa, quiet operation and the absence of harmful environmental and flammable refrigerants.

## 10. CLEANING AND MAINTENANCE OF THE DEVICE



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

Maintenance (cleaning of the housing and the chamber) should be carried out at least once a week (depending on the environmental conditions in the workplace).

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 retains aesthetic appearance of the product.

INOX products are made of 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.






When cleaning stainless steel products 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.

### 10.1. Exterior cleaning

1.	Clean the housing of the unit at least once a week or even more often depending on the conditions in the place the unit works.
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.	<p><b>Unit with cooling system: laboratory refrigerators (CHL), thermostatic cabinet (ST), cooled Incubator (IL), climatic chamber (KK, KKS)</b></p> <p>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 upper part of the unit (models:500, 700, 1200, 1450) or bottom part (models:53, 115, 240, 350, 400, 750)..</p> <p>In KK 115/240/350, pull out the cover to get to the evaporator. After cleaning, mount it. again.</p>



		
<p>KK 115, 240, 350, 400, 750 KKS 115, 240, 400, 750 IL – All models</p>	<p>ST 1, 2, 3, 4, 5, 6, CHL 1, 2, 3, 4, 5, 6,</p>	<p>KK 500 700 1200 1450 ST 500, 700, 1200, 1450 CHL 500, 700, 1200, 1450</p>
<p><b>If you do not do this, you may break the compressor and lose the warranty rights!</b></p>		
<p>4.</p>	<p>Electrical parts should not be in contact with water or detergent.</p>	
<p>5.</p>	<p>Clean the touch screen using a soft cloth for touch screens, or it is possible to use foam for cleaning touch screens.</p>	
<p>6.</p>	<p><b>USB port</b> can be cleaned with a vacuum cleaner to prevent accumulation of dirt inside the socket.</p>	

## 10.2. 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, take out the shelves and start cleaning the device.
3.	Only water or 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 pay attention not to damage the temperature sensor in the chamber.
6.	In drying oven (SL) could happened the internal bottom metal part becomes discolored. It is caused by very high heaters temperature which are placed just under bottom metal part. Change of color of the sheet does not cause any malfunction.

## 11. ADVICE ON HOW TO SAFELY STORE THE DEVICE

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 allow adequate ventilation.
5.	Store in temperatures between 0°C and 50°C and relative humidity maximum 70%.
6.	For KK, KKS and KK FIT spin off the water supply.

## 12. TROUBLESHOOTING

Before you contact POL-EKO Aparatura Service Department:

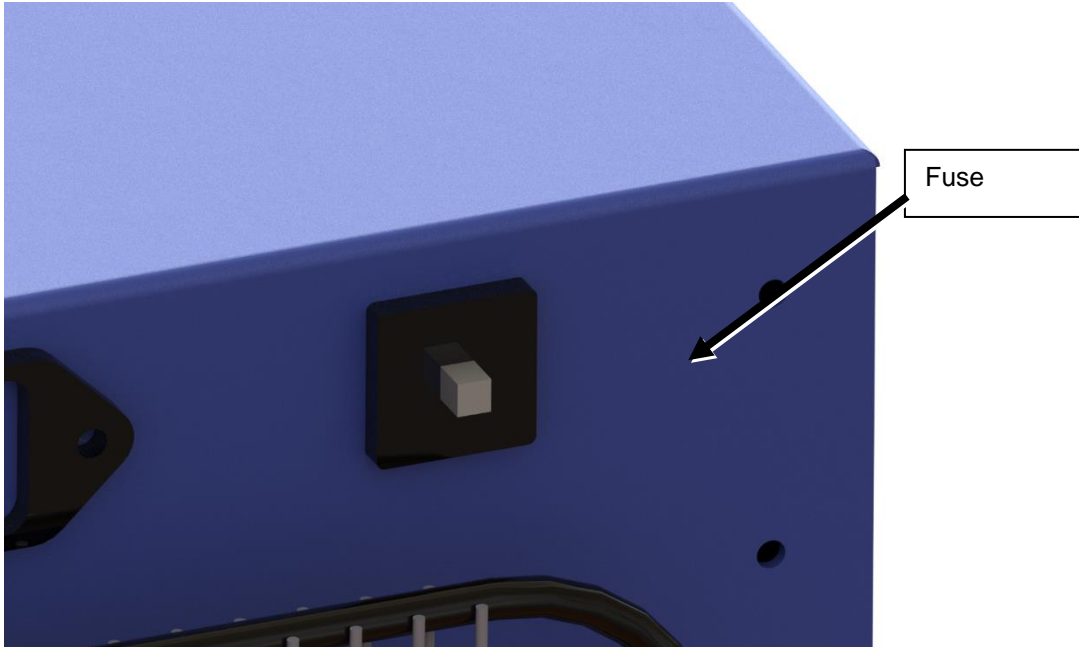
1.	Make sure that the operation complies with the instruction manual of the device.
2.	Restart the device to make sure that the unit is not functioning properly. If it still does not work, disconnect the unit again from the mains and repeat the operation after one hour.

### 12.1. Possible defects


Malfunction	What to check	What to do
The unit is not working	Check the voltage in the socket	Measure the voltage in the socket; if necessary, change the fuses in the electric installation in the building
	Check if the unit is plugged in	Plug in the unit
	Check the status of a circuit-breaker on the back of the device	Press the circuit breaker on the back of the device.
	Check if the power cable is broken	Change the cable
The unit is not cooling down	Check if the unit is exposed to direct sunlight	Change the location of the unit
	Check if the unit is located near a radiator	Change the location of the unit
	Check if the door of the unit is closed properly	Clean the gasket
	Does the installation site meet the installation conditions?	Adapt to the installation requirements on site (according to point 3)
The unit is not heating up	Check if the door of the unit is closed properly	Clean the gasket
	Check if the fan is turned on	If not please contact service
	Does the installation site meet the installation conditions?	Adapt to the installation requirements on site (according to point 3)
The unit is working too loudly	Check if the unit is not touching other objects (e.g. furniture etc.)	Remove other objects
Sagging or tilted doors	Check if the doors are properly leveled. (see chapter 3).	If the doors are correctly leveled and still are sagging, please contact service.
Humidifier does not make steam (for KK and KKS units)	Adjustment of steam is off.	Switch on the humidity adjustment
	The water supply is closed.	Open the water valve
	No water in the container (for KK)	Refill the container

## 12.2. Circuit breaker

The device is equipped with an automatic circuit breaker and does not require its replacement in case of failure. Switching on the circuit-breaker is done by pressing it. If the device turns off the protection every time, call an authorized service center.



## 12.3. Declared runtime of humidifier components UCAN

	For KKS the cylinder of humidifier has to be exchanged once a year. This is a component of humidifier – a wear part and is not a subject to warranty replacement. Below is the description for KK with ultrasonic humidifier.
---	---

UCAN Manufacturer declares failure-free work of components located in humidifier for a specified period of time.

Subgroup	Component	Type	Declared runtime
1	Electronicboard for oscillator	UP-015A	2 years or 5000 h
1	Oscillator	UO-30	2 years or 5000 h
1	Set of oscillators	UP-015A/UO	2 years or 5000 h
2	UV Lamp Power Supply	UV-INV/ER	3-4 years or 10000 h
2	UV Lamp	UV-L01	2 years or 10000 h
2	UV Lamp set	UV-UNT	2 years or 10000 h
1	Power controlboard	UP-003D	3 years or 10000 h
1	Electronics board of DC power supply	UP-032(8A)	5 years or 10000 h
1	Waterlevel sensor	FS-0684A, FS-0683A	4-5 years or 10000 h
1	Electrovalves	VCW21-8G AC48V VCW32-8G AC48V	3 years or 10000 h

## 13. 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>

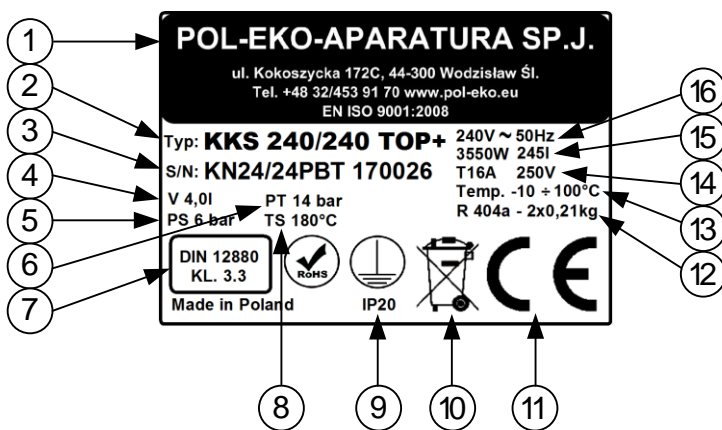
Warranty repairs have to be reported to:



## 14. RATING PLATE

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

An example of the rating plate:



Legend:

1. Name and address of the manufacturer
2. Type of the unit
3. Serial number(2 indicated numbers state the year of production of the device)
4. Furnace capacity (only for KKS)
5. Maximum allowable pressure furnace (only for KKS)
6. Test pressure(only for KKS)
7. Safety class according to DIN12880
8. Maximum allowable temperature(only for KKS)
9. Electric shock protection: protection against indirect contact and housing protection level
10. Disposal of the unit according to WEE2
11. CE mark
12. Quantity and type of gas in the cooling system
13. Temperature range
14. Type and weight of refrigerant
15. Power consumption, Weight of the unit and Chamber capacity
16. Voltage and Frequency of mains

Under the rating plate there is a label with the license number for the controller's software. A license is assigned to a given instrument.

## 15. TECHNICAL DATA

The technical data allows for ± 5% tolerance. Usable capacity is always less.

### 15.1. ILP

		ILP 53	ILP 115	ILP 240
air convection		forced		
chamber capacity <sup>1)</sup> [l]		56	112	245
door type		solid + internal glass door		
temperature range [°C]		0...+70 (max 20°C below ambient temp.)		
temperature variation (spatial) at 37°C <sup>2)</sup>		+/- 0,2	+/- 0,2	+/- 0,3
temperature fluctuation (time) at 37°C		+/- 0,1	+/- 0,1	+/- 0,1
controller		microprocessor with external touch screen		
interior		stainless steel		
housing		stainless steel (linen finished)		
overall dims [mm]	width	590	650	810
	height	710	850	1140
	depth	690	780	840
internal dims [mm]	width	400	460	600
	height	390	540	800
	depth	350	440	510
weight (kg)		52	70	115
shelves fitted/max <sup>3)</sup>		2/5	2/7	3/10
max shelf workload [kg]		25	25	25
max unit workload [kg]		50	50	90
voltage 50/60 Hz [V]		220-240		
nominal power [W]		500	600	1000
warranty		24 months		

1) – working capacity of chamber can be smaller

2) – variation (K) calculated for chamber as  $K = +/- \frac{T_{maks} - T_{min}}{2}$

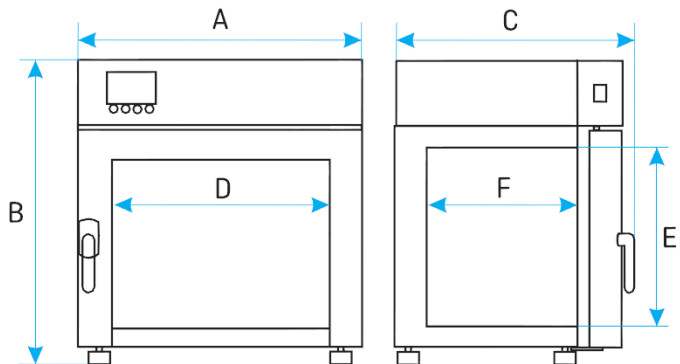
3) – "fitted" number of shelves included in price, "max" number of shelves which can be fitted

**15.2. SL, CL, IL**

Parametr		SL15 CL15	SL32 CL32	SL53 CL53	SL115 CL115	SL180 CL180	SL240 CL240	SL400 CL400	SL750 CL750	SL1000 CL1000	
air convection		natural (N)/forced (W)						forced (W)			
chamber capacity <sup>1</sup> [l]		15	32	56	112	180	245	424	749	1005	
door type		solid		solid/door with viewing window(option)							
temperature range	SL	+ 5°C above ambient temperature...+300°C 41°F above ambient temperature...572°F									
	CL	+5°C above ambient temperature...+100°C +41°F above ambient temperature... 212°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 <sup>2</sup> [mm]	A width	510	590	590	650	650	810	1010	1260	1260	
	B height	550	630	700	850	1030	1200	1430	1600	2000	
	C depth	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 depth	200	250	360	450	560	510	510	600	600	
max shelf workload <sup>5</sup> [kg]	-	10	10	25	25	25	25	25	-	-	
	PW <sup>3</sup> version	-	-	50	50	50	100	100	100	100	
max unit workload [kg]	-	20	30	40	60	75	90	120	140	-	
	W <sup>4</sup> version	-	-	80	120	120	300	300	300	300	
nominal power[W]		See rating plate									
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	SL	230 [V] ±10% / 50 [Hz]						400 [V] ±10% / 50 [Hz] 3P+N+PE			
	CL	230 [V] ±10% / 50 [Hz]									
shelvesfitted/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

All the above technical data refer to standard units  
(without optional accessories)

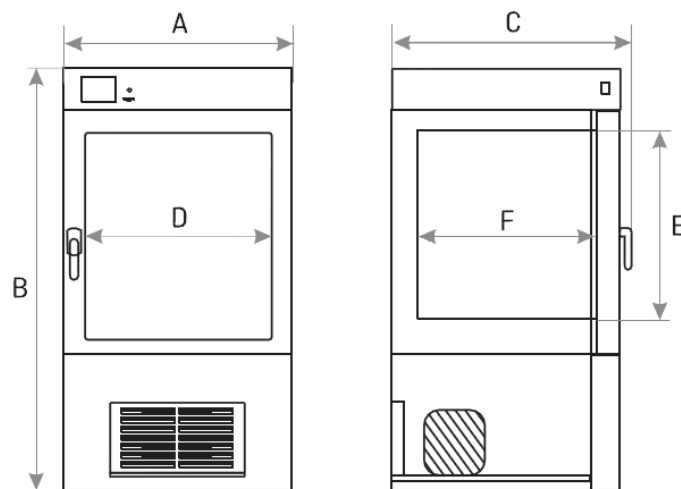


**SL CL 15-1000**

Parametr	ILW 53	ILW 115	ILW 240	ILW 400	ILW 750	
air convection	forced					
chamber capacity <sup>1</sup> [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 range[°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				
overall dims <sup>2</sup> [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 <sup>5</sup> [kg]	-	25	25	25	25	-
	PW <sup>3</sup> ver- sion	50	50	90	120	140
max unit workload[kg]	-	40	60	90	120	140
	W <sup>4</sup> version	80	120	300	300	300
nominal power[W]	See rating plate					
weight[kg]	69	90	140	185	275	
over temperature protection	class3.3 according to DIN 12880					
power supply	230 V 50 Hz					
shelves fitted/max	2/5	2/7	3/10	3/14	5/16	
warranty	24months					
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

All the above technical data refer to standard units (without optional accessories)



**ILW 53 - 750**



### 15.3. KK, KKS

Parametr	KK115	KK240	KK350	KK400	KK500	KK700	KK750	KK1200	KK1450	
air convection	forced									
chamber capacity[l]	112	245	335	424	493	625	749	1365	1467	
working capacity[l]	112	245	335	424	386	450	749	1229	1307	
door type	double(external solid ,internal glass)/external glass (option)									
temperature range[°C]	-10...+60									
FIT version	-10...+60°C(with light on +10...+50°C)									
temperature range[°F]	14...140									
FIT version	14...140°F(with light on 50...122°F)									
temperature resolution[°C]	every 0,1									
relative humidity range[%]	30...90 (see working temperature and humidity chart on page 55)									
humidity resolution [%]	every 1									
controller	microprocessor with external LCD graphic display									
interior	acid –proof stainless steel to DIN 1.4301									
housing	-	powder coated sheet								
	INOX/G	stainless stell linen finish								
overall dims¹[mm]	A width	650	810	640	1020	630	730	1250	1460	1440
	B height	1160	1600	2000	1840	1990	2000	2000	1990	1970
	C depth	960	1000	980	1000	1040	1070	1100	1070	1170
internal dims[mm]	D width	460	600	500	800	510	600	1040	1310	1340
	D´ width	-	-	-	-	510	600	-	1360	1300
	E height	540	800	1340	1040	1510	1510	1200	1510	1460
	F depth	450	510	500	510	640	690	600	690	750
	I height	-	-	1270	-	1380	1360	-	1360	1300
max shelf work-load²[kg]	-	10	10	10	10	20	30	-	30	30
	PW³version	50	100	100	100	100	100	100	100	100
max unit workload[kg]	60	90	100	120	100	150	140	300	300	
nominal power [W]	See rating plate									
total maximum power of electrical outlets (optional)	$\Sigma_{max}$ 200 [W]									
weight [kg]	90	140	125	185	130	170	275	220	230	
over temperature protection	class 3.3									
power supply	230 [V] ±10% / 50 [Hz]									
shelves fitted/max	2/7	3/10	3/11	3/14	3/11	3/11	5/16	2x3/11	2x3/11	
warranty	24 months									
manufacturer	POL-EKO-APARATURA									

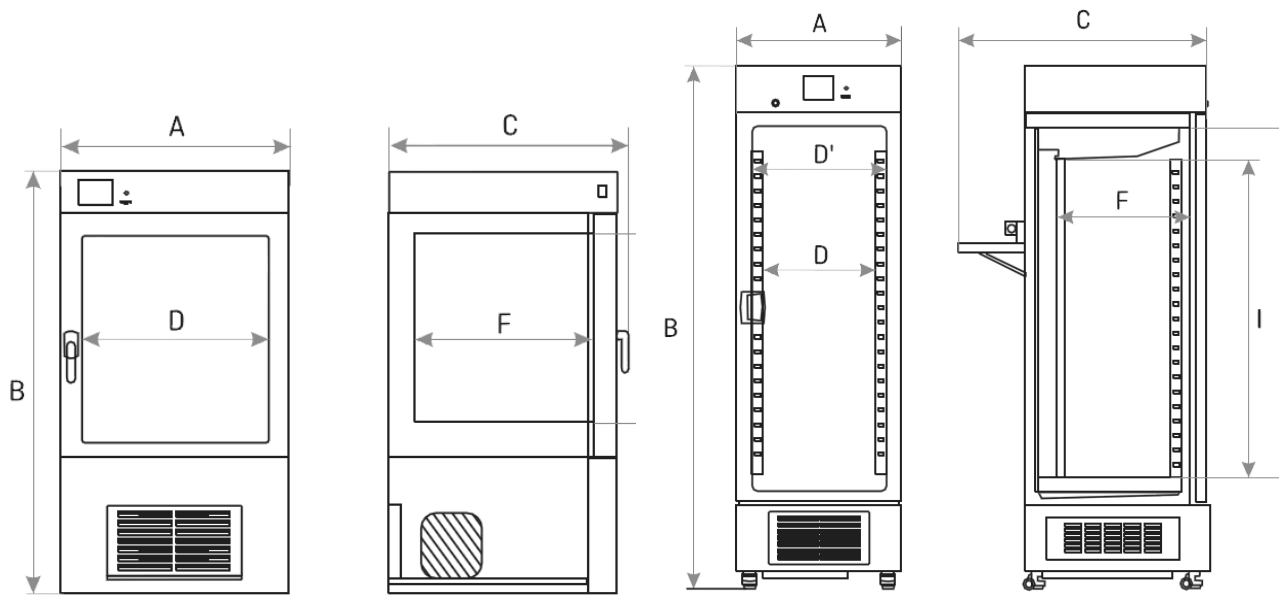
1. external dimensions for units without FIT option, depth does not include 50mm of power cable
2. on uniformly loaded surface,
3. reinforced shelf.

All the above technical data refer to standard units (without optional accessories)

Parametr		KKS 115	KKS 240	KKS 400	KKS 750
air convection		forced			
chamber capacity[l]		112	245	424	749
working capacity[l]		112	245	424	749
door type		double (external solid , internal glass)/external glass (option)			
temperature range[°C]	-	-10...+100			
	FIT version	-10...+60(with light on +10...+50)			
temperature range[°F]	-	14 ...212			
	FIT version	...14...+140 (with light on 50...122)			
temperature resolution[°C]		every 0,1			
relative humidity range[%]		30...90 (see working temperature and humidity chart for details on page 55)			
humidity resolution [%]		every 1,0			
controller		microprocessor with external LCD graphic display			
interior		acid – proof stainless steel to DIN 1.4301			
housing	-	powder coated sheet			
	INOX/G	stainless stell linen finish			
overall dims <sup>1</sup> [mm]	A width	650	810	1020	1250
	B height	1160	1600	1840	2000
	C depth	960	1000	1000	1100
internal dims[mm]	D width	460	600	800	1040
	E height	540	800	1040	1200
	F depth	450	510	510	600
max shelf workload <sup>2</sup> [kg]	-	10	10	10	-
	PW <sup>3</sup> version	50	100	100	100
max unit workload [kg]		60	90	120	140
nominal power [W]		See rating plate			
Total maximum power of electrical outlets (optional)		$\Sigma_{max.} 200 [W]$			
weight [kg]		103	140	185	275
over temperature protection		klasy 3.3			
power supply		400 [V] ±10% / 50 [Hz] 3P+N+PE			
shelves fitted/max		2/7	3/10	3/14	5/16
warranty		24 months			
manufacturer		POL-EKO-APARATURA			

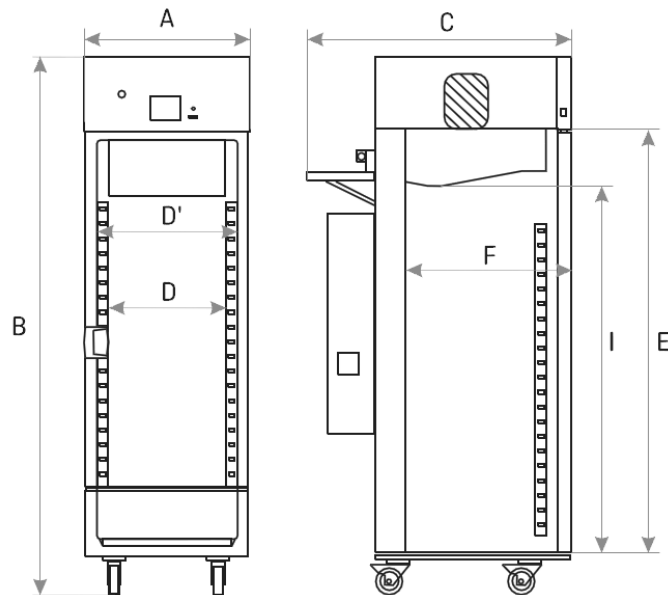
1. external dimensions for units without FIT option, depth does not include 50mm of power cable
2. on uniformy loaded surface,
3. reinforced shelf.

All the above technical data refer to standard units (without optional accessories)



**KK KKS: 115, 240, 400, 750**

**KK: 350**



**KK: 500, 700, 1200, 1450**

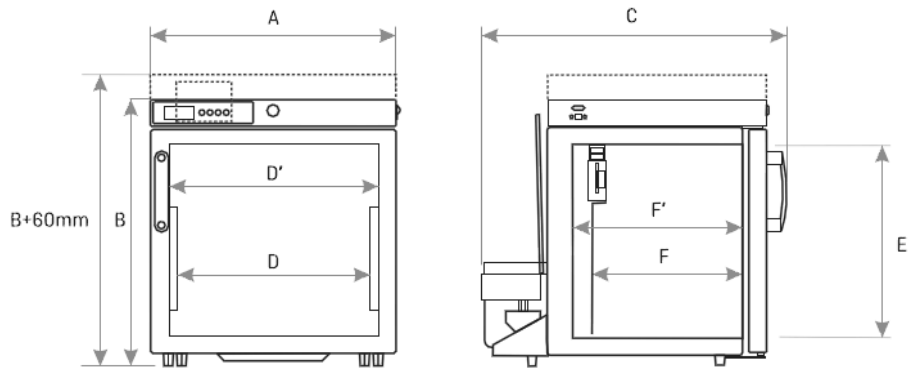
### 15.4. ST, CHL

Parametr		ST1 CHL1	ST2 CHL2	ST3 CHL3	ST4 CHL4	ST5 CHL5	ST6 CHL6	ST500 CHL500	ST700 CHL700	ST1200 CHL1200	ST1450 CHL1450	
air convection		forced										
chamber capacity[l]	[l]	70	150	200	250	300	400	500	625	1365	1460	
working capacity[l]	[l]	55	122	163	203	243	324	386	450	1229	1307	
door type		solid / glass of double <sup>1</sup> (option)										
temperature range[°C]	CHL	[°C]	0...+15					0...+15 / -10...+15 (option)				
		[°F]	32...+59					32...+59/14...+59 (option)				
	ST	[°C]	+3...+40/ do + 70(option)/+3...+70 w PREM TOP+									
		[°F]	+37...+104 / do +158 (option)/ +37...+158 w PRM TOP+									
temperature resolution[°C]		every 0,1										
controller		microprocessor with external LCD graphic display										
interior	BASIC	aluminium										
	COMF	stainless steel to. DIN 1.4016										
	COMF/S	stainless steel to. DIN 1.4016										
	PREM (TOP+)	stal stainless steel to. DIN 1.4016DIN 1.4301										
	PREM/S (TOP+)	stainless steel to DIN 1.4016DIN 1.4301										
housing	BASIC	powder coated sheet										
	COMF	powder coated sheet										
	COMF/S	polished stainless steel										
	PREM (TOP+)	powder coated sheet										
	PREM/S (TOP+)	polished stainless steel										
overall dims <sup>2</sup> [mm]	A width	570	620	620	620	620	620	660	750	1480	1450	
	B height	600	860	1060	1260	1460	1860	1990	1990	1990	1970	
	C depth	680	650	650	650	650	650	810	860	860	950	
internal dims[mm]	D width	430	480	480	480	480	480	480	480	2x480	2x480	
	D' width	470	520	520	520	520	520	510	600	1310	1340	
	E height	430	660	860	1060	1260	1660	1510	1510	1510	1460	
	F depth	300	420	420	420	420	420	650	690	690	750	
	F' depth	360	480	480	480	480	480	-	-	-	-	
	G depth	-	320	320	320	320	320	-	-	-	-	
	H height	-	440	640	840	1050	1440	-	-	-	-	
	I height	-	-	-	-	-	-	1380	1360	1360	1300	
max shelf workload <sup>2</sup> [kg]	-	10	10	10	10	10	10	20	30	30	30	
	PW <sup>5</sup> version	On request						100	150	300	300	
max unit workload [kg]	-	20	30	40	50	60	60	100	150	300	300	
	W <sup>6</sup> version	On request										
Nominal Power [W]		See rating plate										
Total maximum power of electrical outlets (optional)		$\Sigma_{max.} 200 [W]$										
weight <sup>8</sup> [kg]		32	54	59	69	75	90	105	115	185	200	
over temperature protection		Class 1.0 to DIN 12880/ klasa 3.3 (option) / class 3.3 in PREM TOP+										
power supply*		230 [V] ±10% / 50 [Hz]										
shelvesfitted/max		2/2	3/4	3/4	4/6	4/7	4/10	3/11	3/11	2x3/11 <sup>9</sup>	2x3/11 <sup>9</sup>	
cooling agent		R134a										
warranty		24 months										
manufacturer		POL-KO APARATURA										

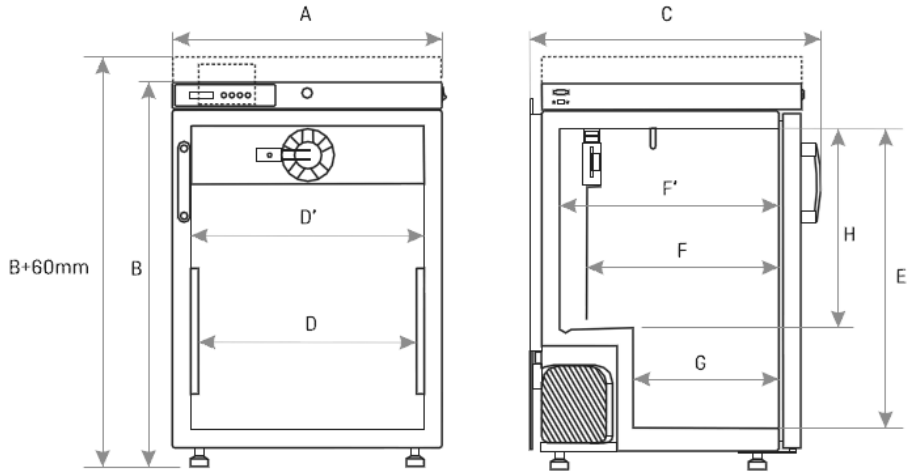
Parametr			CHL1/1	CHL1/1/1	CHL2/2	CHL2/3	CHL2/4	CHL3/3
air convection			forced					
chamber capacity[l]			70/70	70/70/70	150/150	150/200	150/250	200/200
working capacity[l]			55/55	55/55/55	122/122	122/163	123/203	163/163
door type			solid / glass of double <sup>1</sup> (option)					
temperaturerange[°C]	CHL	[°C]	0...+15					
		[°F]	32...+59					
	ST	[°C]	+3...+40/ do + 70(option) /+3...+70 w PREM TOP+					
		[°F]	+37...+104 / do +158 (option) / +37...+158 w PRM TOP+					
temperature resolution[°C]			every 0,1					
controller			microprocessor with external LCD graphic display					
interior	BASIC		aluminium					
	COMF		stainless steel to. DIN 1.4016					
	COMF/S		stainless steel to. DIN 1.4016					
	PREM (TOP+)		stal stainless steel to. DIN 1.4016DIN 1.4301					
	PREM/S (TOP+)		stainless steel to DIN 1.4016DIN 1.4301					
housing	BASIC		powder coated sheet					
	COMF		powder coated sheet					
	COMF/S		polished stainless steel					
	PREM (TOP+)		powder coated sheet					
	PREM/S (TOP+)		polished stainless steel					
overall dims <sup>2</sup> [mm]	A width		570	570	620	620	620	620
	B height		1170	1740	1680	1880	2080	2080
	C depth		680	680	650	650	650	650
internal dims <sup>3</sup> [mm]	D width		430	480	480	480	480	480
	D' width		470	520	520	520	520	520
	E height		430	430	660	660/860	660/1060	860
	F depth		300	420	420	420	420	420
	F' depth		360	480	480	480	480	480
	G depth		-	320	320	320	320	320
	H height		-	440	640	840	1050	1440
	max shelf workload <sup>4</sup> [kg]	-		10	10	10	10	10
PW <sup>5</sup> version		On request						
max unit workload [kg]	-		20	30	40	50	60	60
	W <sup>6</sup> version		On request					
nominalpower <sup>7</sup> [W]			See rating plate					
weight [kg]			65	98	109	114	124	119
over temperature protection			Class 1.0 to DIN 12880/ klasa 3.3 (option) / class 3.3 in PREM TOP+					
power supply			230 [V] ±10% / 50 [Hz]					
shelves fitted/max			See table for single chamber models					
Total maximum power of electrical outlets (optional)			Σ <sub>max</sub> 200W					
cooling agent			R134a					
warranty			24 months					
manufacturer			POL-EKO APARATURA sp.j.					

1. additional internal glass door
2. depth does not include 50mm of power cable
3. dims of units with double door can be smaller
4. on uniformly loaded surface
5. reinforced shelf,
6. reinforced version,
7. for units in BASIC version solid door

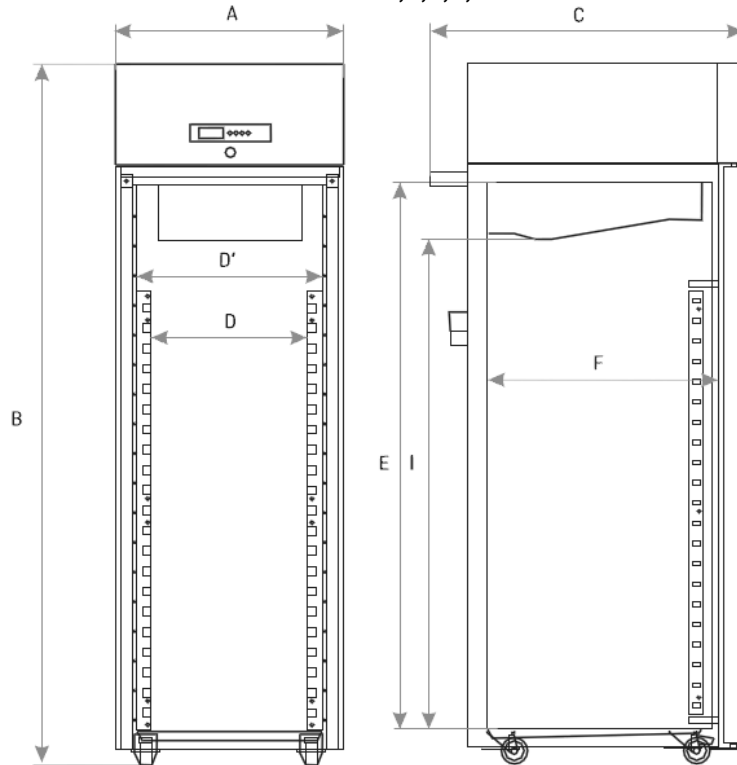
All the above technical data refer to standard units (without optional accessories)



**ST CHL: 1**



**ST CHL: 2,3,4,5,6**



**ST CHL 500, 700, 1200, 1450**

## 16. MAINTENANCE AND INSPECTION REGISTER

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

### Maintenance for ILW, CHL, ST, KKS or KK

No.	Date	Compressor and evaporator cleaning	Signature
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			

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

### 16.1. Inspection

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

No.	Date	Description	Performer	Signature
1				
2				
3				
4				
5				



# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b>	<b>Product:</b>
Inkubator z chłodzeniem Peltiera	<i>Peltier- cooled incubator</i>
<b>Model:</b>	<b>Model:</b>
ILP 53; ILP 115; ILP 240; ILP 750	
<b>w wersjach:</b>	<b>in version:</b>
SMART; IG SMART; SMART PRO; IG SMART PRO	
<b>Nazwa i adres producenta:</b>	<b>Name and address of the manufacturer:</b>
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b><i>This declaration of conformity is issued under the sole responsibility of the manufacturer.</i></b>
<b>Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:</b>	<b><i>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:</i></b>
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
<b>Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:</b>	<b><i>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</i></b>
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 IEC 63000:2019-01

Wodzisław Śl. 23.05.2017

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





# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b>	<b>Product:</b>
Suszarka laboratoryjna	Drying oven
<b>Model:</b>	<b>Model:</b>
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	
<b>w wersjach:</b>	<b>in version:</b>
SMART; IG SMART; SMART PRO; IG SMART PRO	
<b>Nazwa i adres producenta:</b>	<b>Name and address of the manufacturer:</b>
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b>This declaration of conformity is issued under the sole responsibility of the manufacturer.</b>
<b>Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:</b>	<b>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:</b>
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
<b>Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:</b>	<b>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</b>
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 IEC 63000:2019-01

Wodzisław Śl. 01.07.2019

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



# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b>	<b>Product:</b>
Cieplarka laboratoryjna	Laboratory incubator
<b>Model:</b>	<b>Model:</b>
CLW 15; CLW 32; CLW 53; CLW 115; CLW 180; CLW 240; CLW 400; CLW 750; CLW 1000 CLN 15; CLN 32; CLN 53; CLN 115; CLN 180; CLN 240	
<b>w wersjach:</b>	<b>in version:</b>
SMART; IG SMART; SMART PRO; IG SMART PRO	
<b>Nazwa i adres producenta:</b>	<b>Name and address of the manufacturer:</b>
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b>This declaration of conformity is issued under the sole responsibility of the manufacturer.</b>
<b>Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:</b>	<b>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:</b>
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
<b>Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:</b>	<b>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</b>
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EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN IEC 63000:2019-01

Wodzisław Śl. 01.07.2019

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



# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b> Inkubator z chłodzeniem	<b>Product:</b> Cooled incubator
<b>Model:</b> ILW 53; ILW 115; ILW 240; ILW 400; ILW 750	<b>Model:</b> ILW 53; ILW 115; ILW 240; ILW 400; ILW 750
<b>w wersjach:</b> SMART; IG SMART; SMART PRO; IG SMART PRO	<b>in version:</b> SMART; IG SMART; SMART PRO; IG SMART PRO
<b>Nazwa i adres producenta:</b> POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	<b>Name and address of the manufacturer:</b> POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b>This declaration of conformity is issued under the sole responsibility of the manufacturer.</b>
<b>Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:</b> LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE	<b>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:</b> LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU
<b>Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:</b>	<b>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</b>
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 IEC 63000:2019-01

Wodzisław Śl. 01.07.2019

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



# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b>	<b>Product:</b>
Komora klimatyczna	Climatic chamber
<b>Model:</b>	<b>Model:</b>
KK 115; KK 240; KK 350; KK 400; KK 500; KK 700; KK 750; KK 1200; KK 1450; KKS 115; KKS 240; KKS 400; KKS 750	
<b>w wersjach:</b>	<b>in version:</b>
IG SMART PRO; SMART PRO	
<b>Nazwa i adres producenta:</b>	<b>Name and address of the manufacturer:</b>
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b>This declaration of conformity is issued under the sole responsibility of the manufacturer.</b>
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LVD 2014/35/UE EMC 2014/30/UE RoHS 2011/65/UE WEEE 2012/19/UE PED 2014/68/UE	LVD 2014/35/EU EMC 2014/30/EU RoHS 2011/65/EU WEEE 2012/19/EU PED 2014/68/EU
<b>Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku, do których deklarowana jest zgodność:</b>	<b>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</b>
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 IEC 63000:2019-01

Wodzisław Śl. 09.07.2019

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



# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b>	<b>Product:</b>
Szafa termostatyczna	Cooled incubator (ST)
<b>Model:</b>	<b>Model:</b>
ST 1; ST 2; ST 3; ST 4; ST 5; ST 6; ST 500; ST 700; ST 1200; ST 1450; ST 1/1; ST 1/1/1; ST 2/2; ST 2/3; ST 2/4; ST 3/3; ST2/ZLN85; ST3/ZLN85	
<b>w wersjach:</b>	<b>in version:</b>
B SMART; C SMART; CS SMART; P SMART; PS SMART; P SMART PRO; PS SMART PRO	
<b>Nazwa i adres producenta:</b>	<b>Name and address of the manufacturer:</b>
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b>This declaration of conformity is issued under the sole responsibility of the manufacturer.</b>
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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
<b>Odniesienia do odnośnych norm zharmonizowanych, które zastosowano, lub do innych specyfikacji technicznych, w stosunku do których deklarowana jest zgodność:</b>	<b>References to the relevant harmonised standards used or references to the other technical specifications in relation to which conformity is declared:</b>
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RoHS	PN-EN IEC 63000:2019-01

Wodzisław Śl. 01.07.2019

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



# DEKLARACJA ZGODNOŚCI UE

## EU DECLARATION OF CONFORMITY



<b>Produkt:</b>	<b>Product:</b>
Chłodziarka laboratoryjna	Laboratory refrigerators
<b>Model:</b>	<b>Model:</b>
CHL 1; CHL 2; CHL 3; CHL 4; CHL 5; CHL 6; CHL 500; CHL 700; CHL 1200; CHL 1450; CHL 1/1; CHL 1/1/1; CHL 2/2; CHL 2/3; CHL 2/4; CHL 3/3; CHL2/ZLN85+; CHL3/ZLN85+	
<b>w wersjach:</b>	<b>in version:</b>
B SMART; C SMART; CS SMART; P SMART; PS SMART; P Smart PRO; PS SMART PRO	
<b>Nazwa i adres producenta:</b>	<b>Name and address of the manufacturer:</b>
POL-EKO-APARATURA sp.j. A. Polok-Kowalska, S. Kowalski ul. Kokoszycka 172c 44-300 Wodzisław Śl.	
<b>Niniejsza deklaracja zgodności wydana zostaje na wyłączną odpowiedzialność producenta.</b>	<b>This declaration of conformity is issued under the sole responsibility of the manufacturer.</b>
<b>Wymieniony powyżej przedmiot niniejszej deklaracji jest zgodny z odnośnymi wymaganiami unijnego prawodawstwa harmonizacyjnego:</b>	<b>The object of the declaration described above is in conformity with the relevant Union harmonisation legislation:</b>
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
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EMC	PN-EN 61326-1:2013-06
RoHS	PN-EN IEC 63000:2019-01

Wodzisław Śl. 01.07.2019

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





Producer of basic and indispensable laboratory equipment  
as well as continuous measurement equipment.

Authorized dealer of:  
Knick, Thermo Scientific, WTW



## **POL-EKO-APARATURA sp.j.**

A. Polok-Kowalska, S. Kowalski  
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e-mail: [info@pol-eko.com.pl](mailto:info@pol-eko.com.pl)

web: <https://www.pol-eko.com.pl> \* <https://www.cieplarki.pl>

### **We produce:**

- thermostatic cabinets
- refrigerators
- laboratory freezers
- heating ovens
- cooled incubators
- drying ovens
- colony counters
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### **We organize:**

- trainings
- seminars

### **We provide:**

- warranty service
- post-warranty service

### **We offer portable, laboratory and on-line equipment:**

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- ISE measuring
- dissolved oxygen meters
- conductivity meters
- photometers
- spectrophotometers
- thermo reactors
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- pH electrodes
- conductivity sensors
- D.O. sensors
- pH buffer solutions
- conductivity standards
- photometric tests
- chromatography syringes
- laboratory accessories

We advise our customers as far as the choice  
and maintenance of the equipment are concerned !