



Instruction manual SIMPLE

Drying ovens

models: SLN 53 SIMPLE, SLN 115 SIMPLE
SLW 53 SIMPLE, SLW 115 SIMPLE

Before using the device first read carefully this manual!

Version 1.12




Issued 5.01.2023



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1 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>
	<p>When the device is working on 200 °C or higher temperature, the housing and door can be hot.</p>
	<p>This symbol indicates helpful tips.</p>

To guarantee your security and the longest efficiency of the unit, please comply with the following rules:

<p>1.</p>	<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.
<p>2.</p>	<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, • touch the compressor and condenser while the unit is connected to the mains.
<p>3.</p>	<p><u>You should:</u></p> <ul style="list-style-type: none"> • 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.

1.1 Personal protective equipment

Danger: risk of burns



Inside the chamber there is high temperature up to 250°C. Do not touch the samples, interior of the chamber, door and housing without suitable protective gloves!

2 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

3 PRODUCT DESCRIPTION

The device is designed to work in laboratory conditions. The interior, heating chamber and inner side of the door are made of stainless steel (according to DIN 1.4016). The housing is made of galvanized, powder-coated sheet. The temperature control in the device is provided by a microprocessor controller (PID) equipped with LCD display. The controller has only a possibility to program the temperature only in the continuous operation mode.

Standard equipment:

- temperature range + 5°C above ambient temperature (not less than + 20°C) ... + 250°C,
- quality control protocol (at + 105 ° C),
- user manual,
- protection class 1.0 according to DIN 12880,
- access port for external sensor (Ø 30 mm) in the right wall of the device,
- stainless steel INOX wire shelves with a set of guides,
- external solid door.

4 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.



Once you receive the unit, please check its 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.

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

Non-compliance with the above recommendations may result in damage to the unit.

Failure to comply with the installation site recommendations may result in the loss of warranty.



On the back of the unit, there is an air-flap through which the hot air is extracted. The manufacturer recommends using a non-flammable insulation screen on the wall or increasing the distance from the wall. Failure to do so may result in permanent damage to the wall and in extreme cases, to a fire.

The electric installation should meet the following conditions:



The device is powered by AC 230V/50Hz. The single-phase socket must be grounded.

The electric installation should be secured by a 16 A anti-surge fuse.

4.1 Placement of the samples

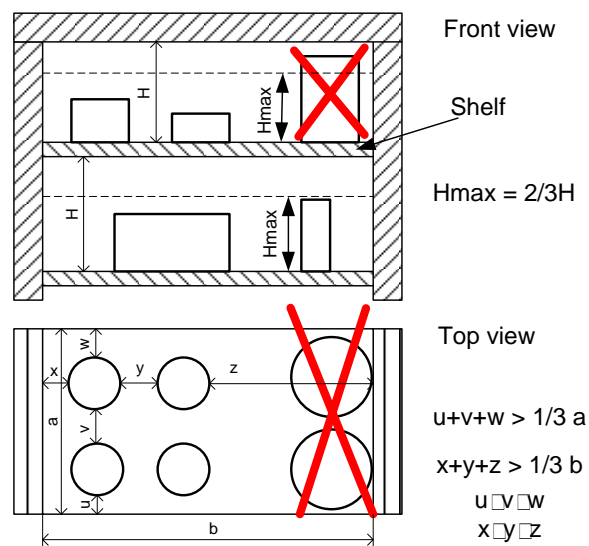
To provide proper air circulation and stable conditions in which the samples are stored in the chamber, it is necessary to keep the following rules:

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

4.2 Closing the door

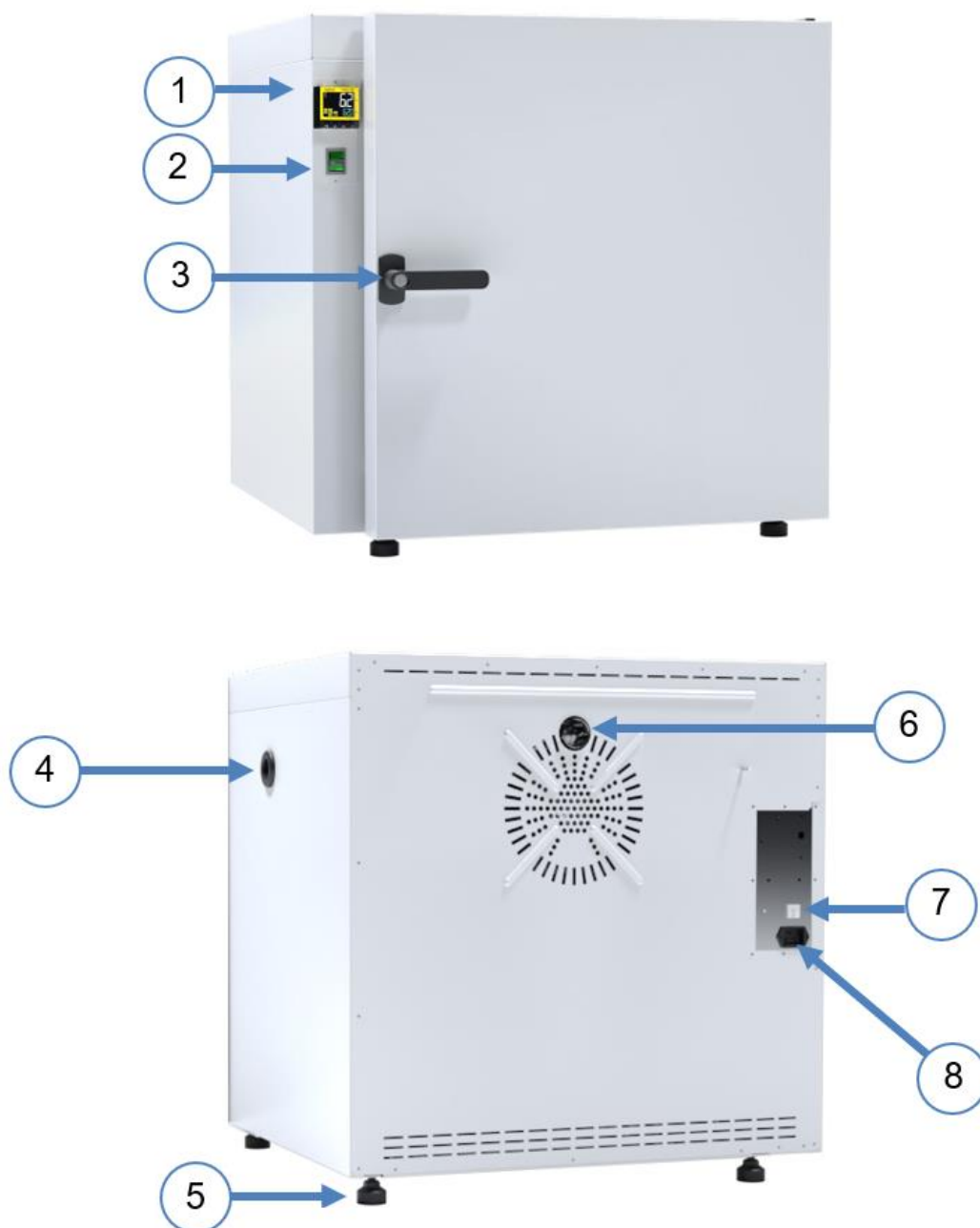
The door has been equipped with a handle and locking mechanism. To close, put the handle in a horizontal position, gently push the door wing and turn the handle into a vertical position.



Proper door closing reduces energy consumption and assures correct temperature uniformity and stability.

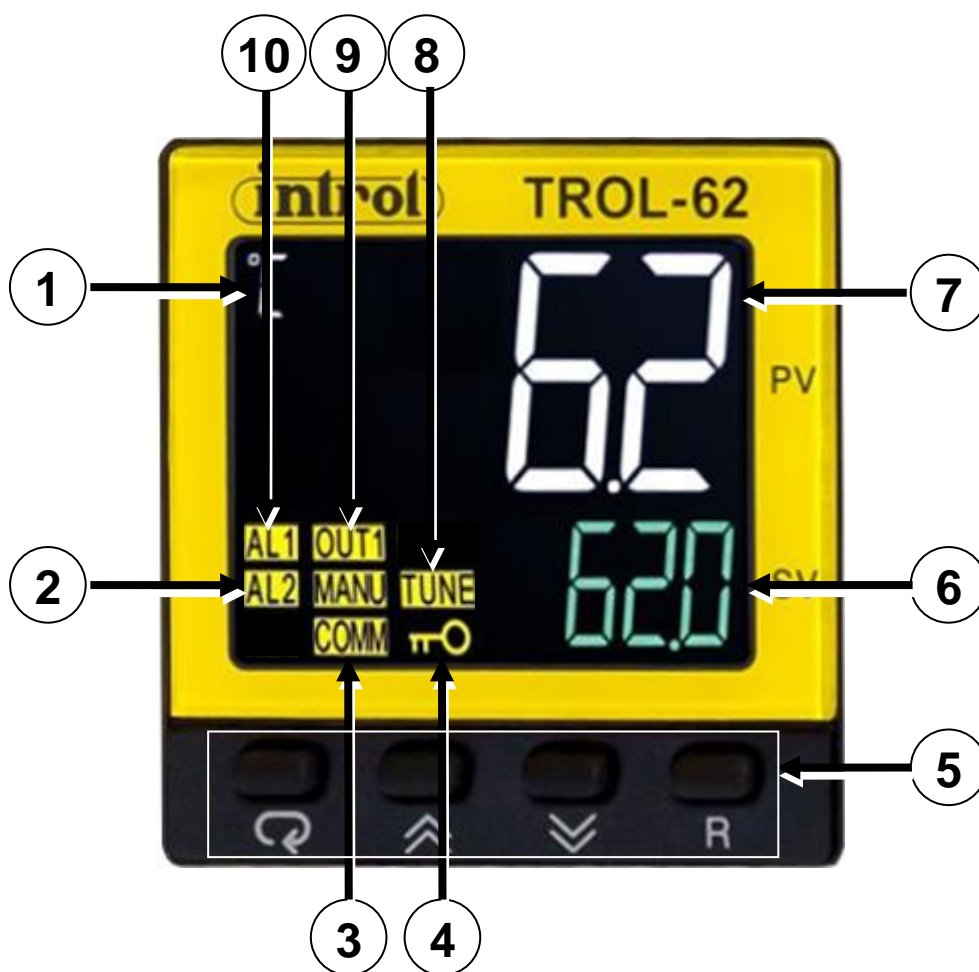
5 DESCRIPTION OF THE UNIT

5.1 Appearance



1. Controller,
2. Main power switch,
3. Handle with lock,
4. Access port Ø30mm for external sensor,
5. Adjustable feet,
6. Air-flap without throttle, permanently open,
7. Automatic fuse,
8. Power socket C20.

5.2 Control panel



1. Temperature unit
2. Alarm indicator
3. Communication indicator
4. Lock indicator

5. 4 function buttons:  ,  ,  ,  .

6. Set temperature
7. Current temperature
8. Auto tuning indicator
9. OUT1 active indicator
10. Work indicator (for time work mode)

6 OPERATION AND MAINTENANCE

6.1 Turning the unit on/off



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.

Once the device is turned on with the main switch, the display will show the code of the product. Current temperature in the chamber will appear. The unit has been calibrated, the displayed temperature corresponds to the temperature in the centre of chamber.



After launching a program, the unit will start reaching the set temperature immediately. Make sure the set temperature is the one you require and check if there are no items inside the chamber that might get damaged due to high temperature.





It is not possible to stop the program using the control panel (display). To stop heating, set the min temperature or turn of the unit using the main switch.

6.2 Navigating between windows - work in continuous/endless mode

6.2.1 Changing the set temperature

In order to change the temperature, in the main window use function buttons:

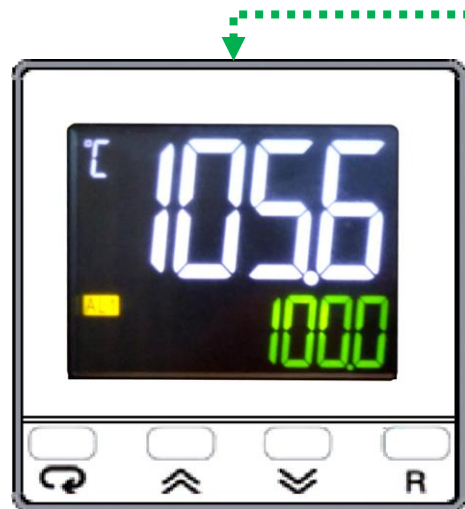
 - increasing the set temperature

 - decreasing the set temperature

Example:

Current temperature – 105.6°C

Set temperature – 100.0°C

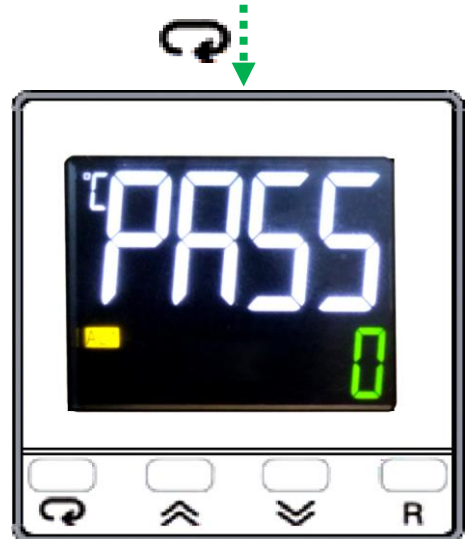


6.2.2 Advanced parameters

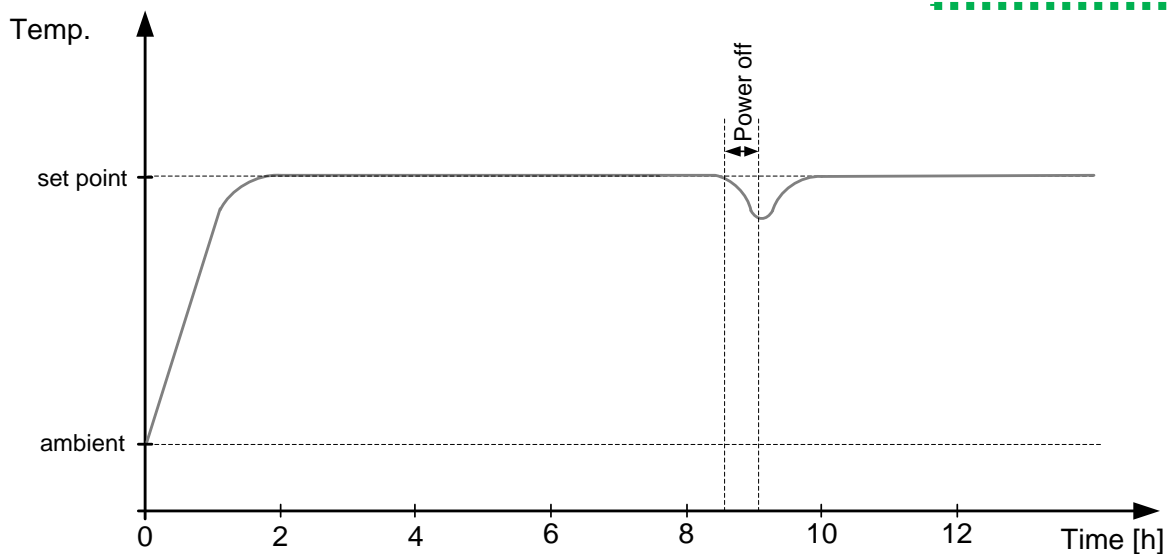
Access to advanced parameters is password protected.





Changing advanced parameters is not recommended due to the correct and stable operation of the device.




An example of operation process of the device:



7 CLEANING AND MAINTENANCE OF THE DEVICE

	Before cleaning the device, it has to be disconnected from the electrical supply!
	Use rubber gloves while cleaning to protect yourself from injuries.

On the internal walls of the device (especially of the new one), made of stainless steel, discoloration (stains) may appear - which are not caused by factory defects, but only by the steel production process. They can be cleaned by using extraction gasoline.

	When cleaning stainless steel surface 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.
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7.1 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.

7.2 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.

7.3 Wear parts

During normal work the following parts could be worn:

- silicone gasket door,
- chamber air fan – only in devices with forced air circulation (SLW).

8 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%.

9 TROUBLESHOOTING

9.1 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?

9.2 Inefficient heating

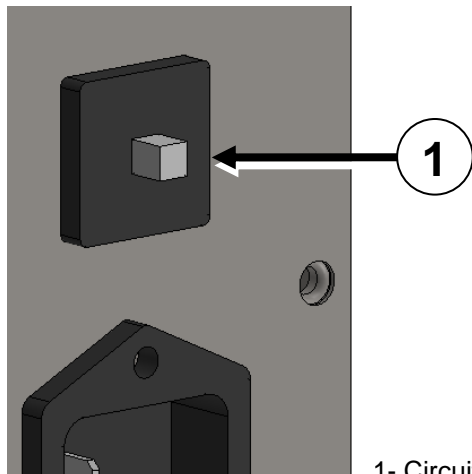
1.	Check did a time work mode has not ended in a device ? (chapter 6.4)
2.	What is the ambient temperature?
3.	Is the door shut tight?

9.3 The device is operating too loud

1.	Is the device not leaning against furniture or other objects?
2.	Is the device levelled properly?

9.4 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.



1- Circuit breaker

10 PLATE

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



- 1) Name and address of manufacturer
- 2) Type of device
- 3) Serial number
- 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
- 9) Maximum power consumption, fuse and capacity of device
- 10) Voltage and Frequency of mains

11 TECHNICAL DATA

Parameter	SLN 53 SIMPLE	SLW 53 SIMPLE	SLN 115 SIMPLE	SLW 115 SIMPLE	
air convection	natural	forced	natural	forced	
chamber capacity [l]	56	56	112	112	
door type	solid				
temperature range	5°C above ambient temperature ...+250°C				
temperature resolution [°C]	every 0,1				
controller	microprocessor with external LCD graphic display				
interior	stainless steel to DIN 1.4016				
housing	powder coated sheet				
overall dims [mm]	A width	660	660	720	720
	B height	590	590	730	730
	C depth	620	620	710	710
internal dims [mm]	D width	390	390	460	460
	E height	390	390	540	540
	F depth	350	350	440	440
max shelf workload [kg]	10	10	10	10	
max unit workload [kg]	40	40	60	60	
nominal power [W]	1700	1700	2500	2500	
weight [kg]	50	50	60	60	
over temperature protection	class 1.0 to DIN 12880				
power supply	230 V 50 Hz				
shelves fitted/max	2/5	2/7	2/7	2/7	
warranty	24 months				
manufacturer	POL-EKO A.Polok-Kowalska sp.k.				

the above parameters apply to standard devices (without optional equipment)

Technical data are given with a tolerance of $\pm 5\%$, working capacity of the chamber can be smaller.

12 WARRANTY

POL-EKO warrants that this product will be free from defects in material and workmanship for a period of two (2) years from date of the invoice. If a defect is present, POL-EKO will, at its option and cost, repair, replace, or refund the purchase price of this product to the customer, provided it is returned during the warranty period. This warranty does not apply if the product has been damaged by accident, abuse, misuse, or misapplication, or from ordinary wear and tear. If the required maintenance and inspection services are not performed according to the manuals and any local regulations, such warranty turns invalid.

The device that is being returned must be secured by the customer in the event of any damage or loss. The warranty will be only limited to the situations listed above. IT IS EXPRESSLY AGREED THAT THIS WARRANTY WILL BE IN LIEU OF ALL WARRANTIES OF FITNESS AND IN LIEU OF THE WARRANTY OF MERCHANTABILITY.

All complaints should be reported using the form available on the website <http://www.pol-eko.com.pl/en/service>

Compliance with local laws and regulations

The user is responsible for obtaining any approvals or authorizations required to launch and use the product. POL-EKO shall not be liable for any negligence in the above matter except when the refusal to obtain authorization is caused by a product defect.

13 MAINTENANCE AND INSPECTION REGISTER




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

13.1 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				

14 DECLARATION OF CONFORMITY

	DEKLARACJA ZGODNOŚCI UE		
	EU DECLARATION OF CONFORMITY		
Produkt:	Suszarka laboratoryjna SIMPLE	Product:	Drying oven SIMPLE
Model:	SLW 53 SIMPLE; SLN 53 SIMPLE; SLW 115 SIMPLE; SLN 115 SIMPLE		Model:
w wersjach:	-		
Nazwa i adres producenta:	Name and address of the manufacturer:		
POL-EKO A.Polok-Kowalska sp.k. ul. Kokoszycka 172 C 44-300 Wodzisław Śląski Polska/Poland			
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 2015/863 WEEE 2012/19/UE	LVD 2014/35/EU EMC 2014/30/EU RoHS 2015/863 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 60529:2003/A2:2014-07		
EMC	PN-EN IEC 61326-1:2021-10		
RoHS	PN-EN IEC 63000:2019-01		
Wodzisław Śl. 02.01.2023	W imieniu producenta podpisał:  Małgorzata Szafarczyk Dyrektor Generalny (CEO)		

Manual instruction SL (*SIMPLE version*)

Manufacturer of control and measurement equipment
for laboratory tests and technological processes,
distributor in Poland of the following companies:
HAMILTON, NICKEL ELECTRO, RODWELL, THERMO SCIENTIFIC, WTW.

We produce:

- thermostatic cabinets
- laboratory refrigerators
- laboratory incubators
- devices with photoperiod and phytotron system
- drying ovens and sterilizers
- drying ovens with nitrogen blow
- laboratory freezers
- ultra-low freezers
- climatic chambers
- Caldera fluid and blanket warmers
- colony counters
- laboratory shakers
- stationary samplers
- Hydromat water dispensers
- Eurodrop stations
- FEKO+ waste water receipt station
- heating ovens
- cooled incubators
- fume hoods

We offer portable, laboratory and on-line equipment:

- pH-meters
- ionmeters
- dissolved oxygen meters
- conductivity meters
- photometers and spectrophotometers
- thermo reactors
- turbidity metres
- pH electrodes
- conductivity sensors
- oxygen probes
- heavy metals trace analyzers
- water baths
- autoclaves
- pH buffer solutions
- conductivity standards
- photometric tests
- laboratory accessories
- consumables

We organize:

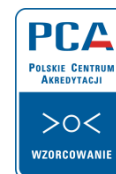
- regional trainings
- individual trainings
- seminars

We provide:

- warranty and post-warranty service
- consultancy in the selection, maintenance and operation of laboratory equipment

POL-EKO LAB is Accredited by the Polish Centre for Accreditation (a member of ILAC) and provides accredited calibration of:

- thermostatic and climatic chambers (incubators, drying ovens, thermostatic cabinets, climatic chambers, freezers)
- water baths and thermo reactors
- autoclaves
- electric and electronic thermometers
- data loggers
- high temperature laboratory furnaces
- thermohygrometers
- laboratory sieves



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Calibration is confirmed with the issue of 'Calibration Certificate'.

Services outside the scope of accreditation:

- checking equipment for physicochemical measurements (meters and probes),
- carrying out IQ, OQ, PQ qualification procedures,
- mapping of temperature and humidity in the rooms



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