

PRODUCTS CATALOGUE 2025





POL-EKO® has been present on the Polish market for almost 35 years.

Highest quality equipment and service we provide ensure your satisfaction.

Our wide range of products and professional solutions will suit the most demanding customers.

We remain open to assist in choosing the right product for your needs, as well as to provide you with customized solutions.

We are your partner in lab analysis and technological processes.

Thank you for your confidence.

POL-EKO® Team

www.pol-eko.com.pl

POL-EKO® transferred From the past to the future...







2005-2022

SINCE 2023

1990-2005

The letters **P** and **E** are extremely significant for POL-EKO[®]. These letters are an abbreviation of our name, they are part of our logo and our mission "Perfect Environment" which is the extension of them.

At our company, we are dedicated to create a perfect environment not just for our products, but for everyone we interact with. This includes our employees, customers, partners and the local community. We believe that a positive and supportive atmosphere fosters innovation, collaboration and growth.

Furthermore, our equipment is meticulously designed to provide the ideal conditions for storing our clients' samples and facilitating their research. By ensuring optimal environments, we help our clients achieve accurate and reliable results in their scientific endeavours.

Through our commitment to excellence, we create the Perfect Environment.

Matgorzata Szafarczyk

CEO

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1990

Start of cooperation with WTW Germany; POL-EKO-APARATURA as general distributor in Poland

2002

Start of cooperation with measuring equipment producers: KNICK and HAMILTON 1990

MILESTONES

POL-EKO-APARATURA company established

2006

Measurement Laboratory founded 2004

ISO 9001 and 18001 certification

ISO

`2008 Measurement Labora

Measurement Laboratory receives accreditation from the Polish Centre for Accreditation

2005

Moving the company to the new headquarters in Wodzislaw Slaski

2012

Graphite revolution

2009

1st production hall completed

2013

2nd production hall completed

2011

Separation of the Measuring Laboratory as a subsidiary company.

2019

Smart & Smart PRO

2016

3rd production hall completed

2018

Global export to over 90 countries

2021

4th production hall completed

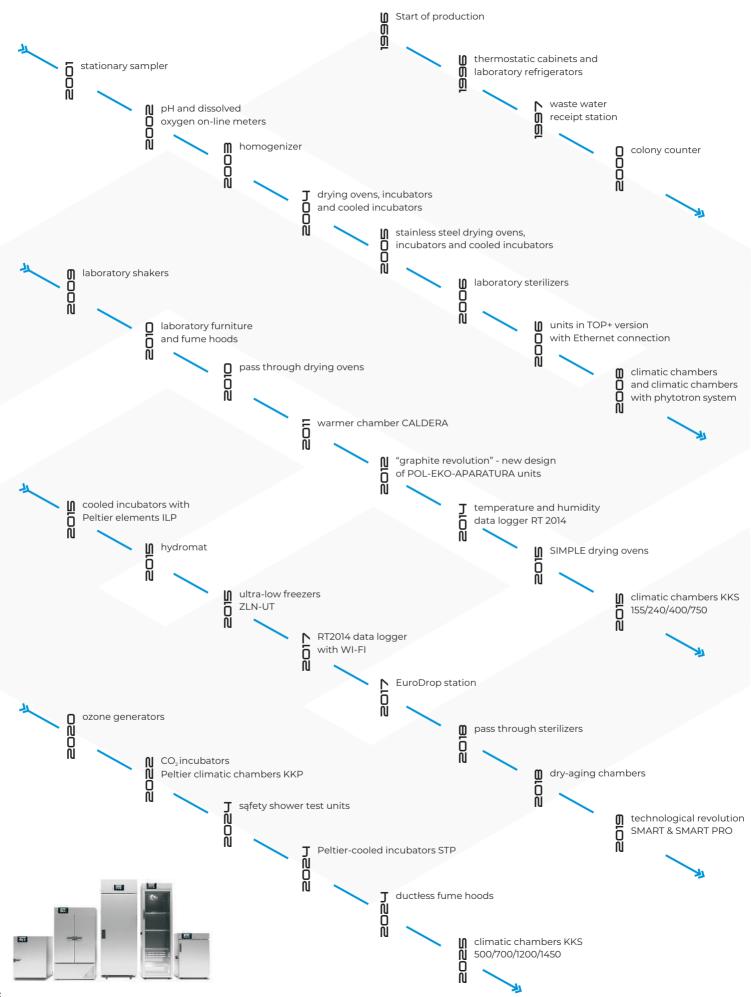
2022

the ownership structure of POL-EKO was changed

2023

POL-EKO® rebranding

DEVELOPMENT





The company is committed to maintain the highest standard of quality, encompassing not only products but also actions in the context of the global community and the natural environment. We make every effort to ensure that our products are innovative and state-of-the-art. We create an excellent working environment for our employees and in the equipment we produce, we provide ideal conditions for storing, researching and incubating our clients' materials. Every day, our partners and clients can rely on our help and support. We express this commitment in our Mission, which states:

We create the perfect environment

We believe that fulfilling this declaration and our set goals will aid us in our continued growth.

The vision of our company is contained in the six letters forming our name. The expansion of these letters defines the philosophy of POL-EKO. This is how we want to be perceived, this is what we strive for and this is our goal.

PRACODAWCA EMPLOYER	Respected in the region as an employer , valuing human rights in all areas of its operations, providing opportunities for the professional development of its employees, and fostering a friendly atmosphere in the workplace. Committed to taking decisive actions against all forms of discrimination and intolerance.
OSOBOWOŚĆ PERSONALITY	A company enjoying the reputation of a competitive firm in global markets, solid in its customer relationships, unafraid of new challenges and financially stable.
LUDZIE PEOPLE	A team of excellent professionals driving innovation in products and processes and nurturing excellent relationships with customers and business partners.
EKOLOGIA ECOLOGY	An actively engaged company in pro-environmental activities, promoting energy efficiency, supporting the development of environmentally friendly technologies, recognizing the value of water as a limited natural resource and committed to actions aimed at reducing waste.
KREATYWNOŚĆ CREATIVITY	A leader in creating new technologies, products and services that transform the industry, tailored to the specific needs of each customer.
ODPOWIEDZIALNOŚĆ	An engineering company taking responsibility for its solutions and products,

Through continuous improvement of processes and the Quality Management System, employee education, collaboration with business partners and ensuring adequate resources, the management and owners of POL-EKO commit to implementing this quality policy and sustainable development policy. Our goal is not only to achieve business success but also to create a positive impact on the world and the environment in which we live.

offering professional post-sales service.



At POL-EKO®, we believe that diversity and equality are the foundations of our success. As an employer, we are committed to treating all our employees equally, regardless of gender, belief, religion, nationality, skin color, sexual orientation and disability.

Working with POL-EKO® means more than just accessing high-quality products and maintaining a professional employer-employee relationship. We feel a deep sense of responsibility towards society, especially within our workplace and the communities where we operate.

POL-EKO® is a place where everyone can feel accepted and valued. We create a supportive atmosphere that promotes personal and professional growth, ensuring that everyone has an equal opportunity to succeed. We are proud to be a model of tolerance and inclusivity in the business world.



PERSONALITY POLAND

We are very proud to be Polish company. We have been appreciated in our country for years - we are honored by the recognition our efforts from industry representatives, city and district authorities and external institutions. In 2023, POL-EKO® was awarded the FORBES DIAMONDS 2023 by Forbes magazine, celebrating our positive credibility rating. Additionally, we have been honored three times with the prestigious District Entrepreneurship Leader Award, recognizing our innovation, economic growth and active participation in the local community.

Our collaboration with the District Continuing Education Center earned us a distinction from the Ministry of National Education, naming us a Talent Discovery Place by the Education Development in Warsaw. We have also proudly received multiple medals at the EuroLab exhibitions.

These awards are a testament to the trust placed in our brand and serve as powerful motivators for our continued efforts. At POL-EKO®, we see these recognitions as a reflection of our commitment to excellence and as an encouragement to keep striving for even greater achievements.





Our greatest strength and source of inspiration are our people. Our employees form a talented team brimming with ideas and energy, ready to tackle any challenge. We are proud to have earned the trust of our employees, customers and distributors from over 90 countries around the world.

These global partners help to promote the value of the Polish manufacturing market by delivering our products and services all over the world. In return, we show them respect, support and appreciation.

POL-EKO® is more than just a company; it is a community built on the values of teamwork, mutual respect and shared success.





WODZISŁAW ŚLASKI 2024



As a family-owned company, making sustainable, long-term decisions is our second nature. We are deeply committed to environmental protection and energy efficiency and this commitment is evident in our actions and implementations. Our energy-efficient and climate-friendly laboratory equipment plays a significant role in building the Green Laboratory. Compared to traditional compressor technology, we achieve lower energy consumption with maximum environmental benefits by utilizing Peltier elements in our incubators and climate chambers. Key sustainability initiatives at POL-EKO® include:

- **Eco-friendly Refrigerants**: we use low Global Warming Potential (GWP) refrigerants to minimize environmental impact,
- Recyclable Materials: most materials used for our production are recyclable,
- Sustainable Packaging: we use wooden pallets and cardboard packaging elements that carry FSC Certification,
- REACH/RoHS Compliance: all our products meet the REACH and RoHS regulations,
- Renewable Energy: electricity for production we obtain from photovoltaic panels mounted on the assembly hall roofs,
- Heat Recovery: we recover production heat for heating purposes, optimizing energy use,
- Heat Pumps: we use heat pumps for heating our buildings efficiently,
- Wastewater Treatment: we have our wastewater treatment plant to ensure responsible water management,

At POL-EKO®, sustainability is not just a goal but a fundamental aspect of our operations. Our commitment to eco-friendly practices and energy efficiency reflects dedication to preserving the environment for future generations. We believe that by integrating these principles into our daily operations, we can make a significant positive impact on the world around us.



RESPONSIBILITY QUALITY

We enjoy tradition and modernity in one. Professionalism, functionality, comfort and aesthetics are values that the modern market and the customer value and that we have been building for over 30 years. Tradition is our strength, experience our ally, development our future.

One of our goals is to take care of the quality of the products we offer. All our products are subjected to absolute quality control. We have implemented a Quality Management System that meets the requirements of the ISO 9001:2015 standard.

Setting quality requirements and consistently meeting them is not only a conscious responsibility for the product and customer satisfaction in the pre- and post-sale lifecycle of the product but also savings in the production process as well as brand development and building its reputation which benefits everyone.





We play a leading role in the ever-growing laboratory equipment industry, consistently delivering state-of-the-art products to meet the unique needs of our customers. Our creativity is driven by an insatiable curiosity and a positive, enthusiastic approach.

Our goal is to continue evolving as a company, expanding into new markets, and attracting new customers. We understand that creativity is synonymous with development, and development is the key to securing a prosperous future. We are committed to innovation, ensuring that our solutions are not only effective but also forward-thinking.

As we look to the future, we remain focused on our mission to "create Perfect Environment" now and in the future.



NEW SMART WINDOW

SMART WINDOW OPTION

The modern refrigerator with glass doors, equipped with advanced Smart Window technology are perfect for medical facilities. Thanks to this technology, your products will be safe and well-visible whenever you need them.

ST2 P SMART with SMART WINDOW OPTION

- The Smart Window doors change their transparency according to your needs.
 With just the press of a button, the glass can become transparent or non-transparent.
- When turned off, the Smart Window glass provides full privacy, ideal for storing medications and medical materials that should not be visible.
- Smart Window is a laminated glass, meeting the highest safety standards (EN 14449), ensuring durability and resistance to damage.
- Even in the transparent state, Smart Window glass offers a light fogging effect, minimizing light reflections and creating an aesthetically pleasing finish.
- Low energy consumption and a long lifespan (over 3 million on/off cycles) make this technology environmentally friendly and economical to use.





APPLICATIONS IN MEDICAL FACILITIES

- **Clinics:** Efficient organization and storage of medications and medical materials with the ability to instantly check the refrigerator's contents.
- **Hospitals:** Secure storage of medications and laboratory materials with the option for quick visual access without opening the doors.
- Pharmacies: Elegant presentation of medications and supplements, while ensuring privacy and security of stored products.

By choosing cooled incubator (ST) or laboratory refrigerator (CHL) with Smart Window technology, you invest in unparalleled quality, innovation and functionality.

COOLED INCUBATOR STP 4 WITH PELTIER COOLING-HEATING SYSTEM

The STP 4 Peltier-Cooled Incubator from POL-EKO® is designed for precise and efficient temperature control, using an eco-friendly Peltier cooling-heating system. This system eliminates the need for compressors and refrigerants, reducing both environmental impact and operational noise. Ideal for labs prioritizing quiet and vibration-free equipment, the STP 4 ensures stable temperature conditions with excellent temperature variation and fast recovery after door openings.





MAIN STANDARD BENEFITS

- temperature range: +3°C to +70°C (up to 15°C below ambient)
- capacity: 250 liters
- user interface: SMART or SMART PRO full-color touch screen
- construction: durable stainless steel with easy-to-clean polished finish or powder coated sheet
- energy efficiency: low power consumption due to the Peltier technology, optimal for prolonged use in laboratory environments
- adjustable shelving: customizable shelf positions for flexible storage

This model is ideal for applications requiring controlled temperature without the disadvantages of traditional compressor systems, providing reliability, efficiency, and ease of use for modern laboratories.





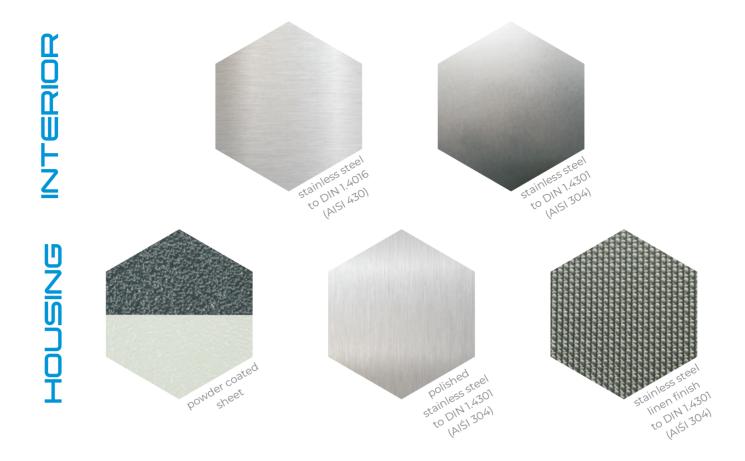
UNIT SPECIAL FEATURES



Material characteristics
Units with photoperiod FOT
Units with phytotron FIT
Units with Peltier cooling-heating system
LabDesk and LabDesk Cloud
SMART and SMART PRO controllers



MATERIAL CHARACTERISTICS



MODEL CHARACTERISTICS

			temperature	
	interior	housing	protection	controller
SMART	stainless steel to DIN 1.4301	powder coated sheet	class 2.0	SMART
IG SMART	stainless steel to DIN 1.4301	stainless steel linen finish	class 2.0	SMART
SMART PRO	stainless steel to DIN 1.4301	powder coated sheet	class 3.1 / 3.3*	SMART PRO
IG SMART PRO	stainless steel to DIN 1.4301	stainless steel linen finish	class 3.1 / 3.3*	SMART PRO
C (comfort) SMART	stainless steel to DIN 1.4016	powder coated sheet	class 1.0	SMART
CS (comfort/S) SMART	stainless steel to DIN 1.4016	polished stainless steel	class 1.0	SMART
C (comfort) SMART PRO	stainless steel to DIN 1.4016	powder coated sheet	class 3.2 / 3.3*	SMART PRO
CS (comfort/S) SMART PRO	stainless steel to DIN 1.4016	polished stainless steel	class 3.2 / 3.3*	SMART PRO
P (premium) SMART	stainless steel to DIN 1.4301	powder coated sheet	class 2.0*	SMART
PS (premium/S) SMART	stainless steel to DIN 1.4301	polished stainless steel	class 2.0*	SMART
P (premium) SMART PRO	stainless steel to DIN 1.4301	powder coated sheet	class 3.2 / 3.3*	SMART PRO
PS (premium/S) SMART PRO	stainless steel to DIN 1.4301	polished stainless steel	class 3.2 / 3.3*	SMART PRO
CALDERA	stainless steel to DIN 1.4301	polished stainless steel	class 3.1	CALDERA
SIMPLE	stainless steel to DIN 1.4016	powder coated sheet	class 1.0	SIMPLE

^{*} depending on the model

Refrigerators and ST cooled incubators CHL/ST 500, 700, 1200, 1450 (except models with FIT/FOT option) are equipped with M- monoblock cooling system. It provides more space in the upper part of the chamber and eliminates condensate tray on the unit's back. Automatic defrosting function is supplied in standard. They are "no frost" units.

Letter "M" appears in the model name eg. ST 500 CM SMART (C-comfort, M-monoblock).

PHOTOPERIOD FOT

WITH PHOTOPERIOD

Most areas on Earth, apart from around the equator, are characterised by varying lengths of day and night which has a bearing on how organisms respond to changing amounts of light. There is, for example, a close relationship between the flowering of certain plants, the development of microorganisms and the length of day and night. This phenomenon is called photoperiod. Thanks to our units with the photoperiod option (only available for ST cooled incubators and IL cooled incubators in the ŚMART version), it is possible to simulate day and night. The basic difference between the FOT and FIT functions is that in the first case, the light can only be turned on and off in the program, and in the second, you can additionally control its intensity.





MAIN STANDARD BENEFITS

- for each segment it is possible to program temperature, duration time, fan and light efficiency (ON / OFF)
- temperature range with light OFF: +3°C... +50°C and -10°C... +50°C (for IL with ILW/T option)
- temperature range with light ON: +10°C...+50°C
- 4000K neutral white LED lighting installed in side walls or ceiling in ST cooled incubators;
 in door or ceiling in ILW cooled incubators
- with FOT option the equipment operates with time priority (see page 125)
- automatic defrosting function

PHOTOPERIOD (FOT) OPTION

	ST FOT2	ST FOT4	ST FOT6	ST FOT8	ST FOTI0	ST FOTI5	IL FOT2S	IL FOT3S	IL FOT5D	IL FOT6D	IL FOT8D	IL FOTIOD
available for models	ST 1 ST 1/1 ST 1/1/1	ST 2 ST 2/2	ST 2 ST 3 ST 2/3	ST 4 ST 5	ST 500* ST 700*	ST 1200* ST 1450*	ILW 53	ILW 115	ILW 53	ILW 115 ILW 240	ILW 240 ILW 400 ILW 750	ILW 750
temperature range with light ON [°C]	+10 +50											
number of LED lighting tubes in door	-	-	-	-	-	-	-	-	5	6	8	10
number of LED lighting tubes in ceiling	2	-	-	-	-	-	2	3	-	-	-	-
number of LED lighting tubes in side walls	-	4	6	8	10	15	-	-	-	-	-	-
adjustable illumination intensity						ı	no					

^{*} only version of ŚT cooled incubątors with compressor cooling system (with FOT option, monoblock (M) units ąre not used)

UNITS WITH PHYTOTRON

Units with phytotron allow precise control of temperature, humidity (in the case of climatic chambers) and lighting, enabling the simulation of an entire day-night cycle with distinct times of the day such as dawn, midday, evening and night. This is achieved by adjusting the duration and intensity of light, creating optimal environmental conditions. These devices are used in studies on plant growth and development and find broad applications in the pharmaceutical, food, cosmetic and electronics industries, as well as many other fields where maintaining stable and repeatable testing conditions is crucial.

Available with lighting and humidity:

- KK climatic chambers
- KKP constant climatic chambers
- KKS 500/700/1200/1450

Available with lighting:

- ST 500/700/1200/1450 cooled incubators (ST) in SMART PRO version*
- ILW 115/240/400/750 cooled incubators in (ILW) SMART PRO version
- * with the FIT version, we use only ST cooled incubators with a compressor cooling system C, CS, P, PS versions.

 Units with a monoblock cooling system (CM, CMS, PM, PMS versions) are not applied here.



- for each segment, it is possible to program the temperature, time, fan efficiency level and lighting intensity (every 1%).
 Additionally, in the case of climatic chambers (KK, KKP), the humidity can also be programmed
- chamber with FIT option can operate with priority of time or parameters (temperature or temperature and humidity)
- automatic defrosting function
- thanks to forced air convection, the variation and fluctuation of temperature and humidity are very low



OPERATING TEMPERATURE RANGE OF UNITS WITH PHYTOTRON

	KKS* FIT	KK FIT	KKP FIT	ST with FIT	ILW with FIT
temperature range with light ON	+10°C+50°C	+10°C+50°C	+10°C+50°C (10°C below ambient temp., but not less than +10°C)	+10°C+50°C	+10°C+50°C
temperature range with light OFF	+10°C+60°C with humidity -10°C+60°C without humidity	0°C+60°C	+5°C+70°C with humidity 0°C+70°C without humidity (max 20°C below ambient temp.)	+3°C+60°C	0°C+60°C (for ILW with ILW/T option -10°C+60°C)

^{*} KKS 500/700/1200/1450

PHYTOTRON FIT

LIGHT SOURCE

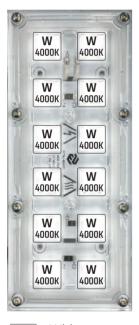
Phytotron chambers are equipped with advanced LED modules, offering users the flexibility to customize light color and intensity for each program segment. These modules can be combined, for example, far-red with blue, to create tailored lighting conditions. Adjustable dimming further ensures precise intensity control to meet the unique requirements of each sample.

The LED modules are designed for long-term reliability, while their innovative optics deliver uniform light distribution across all types of loads. Additionally, the low-heat emission of LED technology helps maintain precise temperature control within the chamber, ensuring optimal performance for your research and tests.

AVAILABLE LED MODULES

There are two standard LED modules: white (WHITE) and colored (MULTI) - 4 colors (far red, deep blue, white and hyper red) and additional custom LED module. The colors of the CUSTOM LED module and their wavelengths in the phytotron units can be tailored to the individual needs of the customer. It is important to note that the maximum number of custom colors that can be used in these units is four. Thanks to such solutions, our phytotron devices meet even the most demanding requirements of our customers.

FIT LED WHITE



White W 4000K (colour temperature 4000K)

FIT LED MULTI



White W 4000K (colour temperature 4000K)

Hyper red (wavelength 657 nm)

Far red FR 727 (wavelength 727 nm)

Deep blue (wavelength 450 nm)

FIT LED CUSTOM



CH 1 All four channels CH 2 as custom colours.

Detailed СН configuration 3 see page 21.

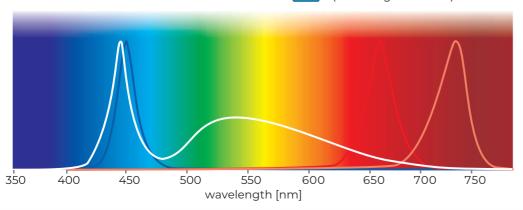
CH

- far red LED (727 nm)

- hyper red LED (657 nm)

- deep blue LED (450 nm)

- white LED (4000 K)



CUSTOM LED MODULE CONFIGURATIONS

FIT LED CUSTOM

NON-STANDARD COLOURS CONFIGURATIONS

3 COLOURS

2 COLOURS

1 COLOUR

0,	0	(0)	(0)
CH 4	CH CH	CH CH	CH
	4120 1 2000 /4\	\$ 1	20-12 1076
CH 1	CH CH 1	CH CH 1	CH 2
6	(9)	6	

CH 1	colour 1						
CH 2	colour 1	CH 2	colour 2	CH 2	colour 2	CH 2	colour 2
CH 3	colour 1	CH 3	colour 1	CH 3	colour 3	CH 3	colour 3
CH 4	colour 1	CH 4	colour 2	CH 4	blank	CH 4	colour 4

ADDITIONAL LIGHT SOURCE (OPTIONAL)

In the phytotron units, there is also the option to use UV-A, UV-B and UV-C fluorescent lamps.

The UV lamp(s) can be mounted:

- in the ceiling of the working chamber
- as an over-shelf lighting panels

also combinated with FIT LED modules.



Example of UV-A and UV-B lamps mounted as an over-shelf panel KK 500 SMART PRO with FIT S 500 LED WH and FIT P 500 UVA+UVB

uv-B

4 COLOURS

LED LIGHT TUBES

LED tubes as an alternative to LED modules are available only in phytotron units with light sources placed:

- in the side walls (FIT S)
- in the side walls and doors (FIT DS)
- in the doors (FIT D)

Temperature control range with lighting: from +10°C to +45°C.



KK 350 SMART PRO FIT DS with LED tubes

PHYTOTRON FIT

CHOOSING THE RIGHT LIGHT PLACEMENT

The light sources, depending on the choice of unit, can be mounted in the side walls (FIT S LED), door (FIT D LED), in the walls and door (FIT DS LED) or as the over-shelf panels (FIT P LED/PANEL LED):



LIGHT IN SIDE WALLS FIT S LED



LIGHT IN DOOR FIT D



LIGHT IN SIDE WALLS AND DOOR FIT DS



OVERSHELF PANEL FIT P

FIT OVER-SHELF PANELS IN CHAMBER

LED over-shelf panels with adjustable intensity can be equipped with several independently controlled light colors.

Depending on the model, 1 to 3 lighting panels can be placed in the chamber. The FIT P LED version includes 1 over-shelf panel and sockets to allow installation of extra panels if required (to be ordered separately).

The FIT/R3 option allows to control the light intensity separately for each panel.



KK 500 SMART PRO with FIT P 500 LED WH and FIT P 500 MULTI

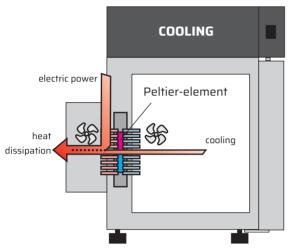
	ST 500/700	ST 1200	ST 1450	IL 115	IL 240	IL 400	IL 750	KK 115	KK 240	KKP 240	KK 400	KK 500	KK 700	KK 750	KK 1200	KK 1450
standard	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
max*	3	3	3	1	2	2	3	1	2	2	2	3	3	3	3	3

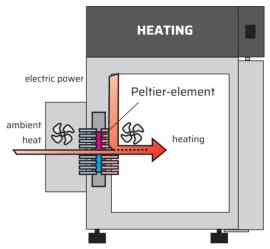
^{*}max number of over-shelf panels with illumination inside the chamber

PELTIER COOLING-HEATING SYSTEM

Pełtier technology ąłłows for ą stąbłe and precise temperature inside the incubator, which is crucial to the success of the incubation process. With this solution, users can maintain optimal conditions for research. Pełtier-cooled incubators and climatic chambers are solution that stands out from traditional models. Efficient cooling, energy savings, intuitive operation make these products popular around the world.

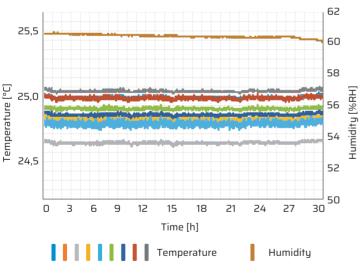
Peltier technology are applied in ILP cooled incubators (page 57), STP cooled incubators (page 15) and KKP climatic chambers (page 107).





MAIN STANDARD BENEFITS

Excellent performance - boosted with Peltier element heating-cooling system



example for KKP

Lighter and smaller

The cooling system based on Peltier modules allows reducing dimensions and weight of the unit (compared to compressor-cooled chambers).

No vibration and more quiet operation

Compared to compressor-cooled units, Peltier units do not vibrate, and the noise level is significantly lower.

Environmentally friendly

The elimination of compressor, and thus refrigerants, ensures a reduced environmental impact, including the prevention of ozone layer depletion and global warming.

Energy saving

The tests performed at a temperature close to ambient temperature show impressive savings. The energy cost is reduced on average by 40% compared to compressor-cooled chambers.

Perfect performance

The cooling system based on Peltier elements features excellent temperature variation and fluctuation. The humidity inside the chamber is extremely stable.





LabDesk SOFTWARE

LABDESK SOFTWARE

LabDesk advanced laboratory management software for POL-EKO® SMART and SMART PRO Units

Elevate your laboratory management with LabDesk, the comprehensive software solution designed for seamless control and monitoring of POL-EKO® SMART and SMART PRO units.

Powerful connectivity:

- direct ethernet network integration
- simultaneous connection of multiple SMART PRO units
- complete remote management capabilities

Comprehensive monitoring features:

- real-time temperature, CO₂ and humidity monitoring
- detailed program status tracking
- instant alarm notifications
- comprehensive data logging

Advanced data management:

- easy data download and event tracking
- automatic report generation
- professional chart creation
- intuitive remote control interface

Whether you're managing research, scientific or industrial environments, LabDesk provides unparalleled control and insight into your laboratory equipment. Stay informed, connected and in control with just a few clicks.





Experience the future of laboratory management with LabDesk – where technology meets scientific excellence.

MAIN FEATURES

SMART	SMART PRO	
X		dongle required
	×	control unit remotely
X	x	monitor unit remotely
10	infinity	max number of connected units
	x	save real-time running program data to the file
	x	create programs and upload them remotely
	×	start / stop programs
	x	modify existing programs
	x	create programs offline
	x	set a delayed start for a program
X	x	overview of current data statistics
X	x	generate reports from current statistics
X	x	generate reports/ charts from registry or events data file
	x	option to create schedules and upload them remotely
X	x	open registry data file / events downloaded from the unit
X	x	user management panel
	x	change time zone
	x	unit interface settings
	X	change temperature correction
	X	set alarms
	X	edit users

LABDESK CLOUD PLATFORM & APPLICATION

LabDesk Cloud - your laboratory management cloud solution at your fingertips

Introducing LabDesk Cloud, the cutting-edge platform designed to revolutionize laboratory management for SMART and SMART PRO units. Our innovative cloud software brings unprecedented flexibility and convenience to your scientific workflow.

- access your laboratory data anytime, anywhere
- view status and measurements on smartphones, tablets, laptops, and PCs
- simple sign-in process for your SMART and SMART PRO units
- stay connected to your lab's critical information 24/7

New application for youe smartphone, download the LabDesk Cloud mobile application now available on:

- Apple App Store
- Google Play Store

Stay connected, stay informed.

LabDesk Cloud puts your laboratory data in the palm of your hand.



"A modern approach to data is to store in the cloud and use advanced technologies to process it as we need it."





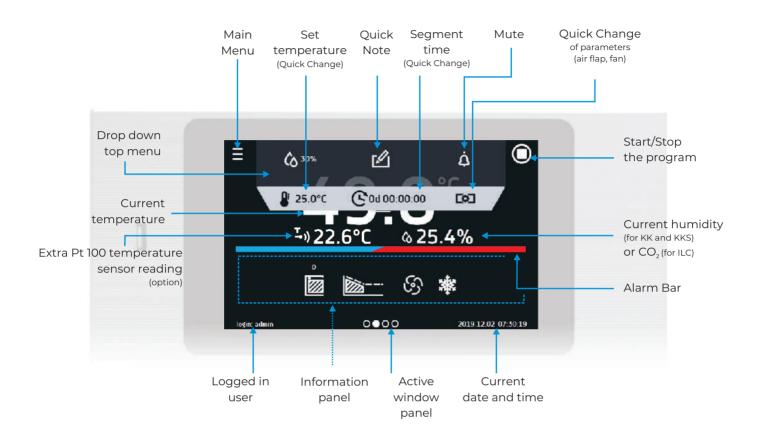
LABDESK CLOUD FEATURES

- simultaneous connection of several SMART and/or SMART PRO units
- current measured values preview in the form of a table and chart
- unit status preview with events history and data export possibility



SMART and SMART PRO

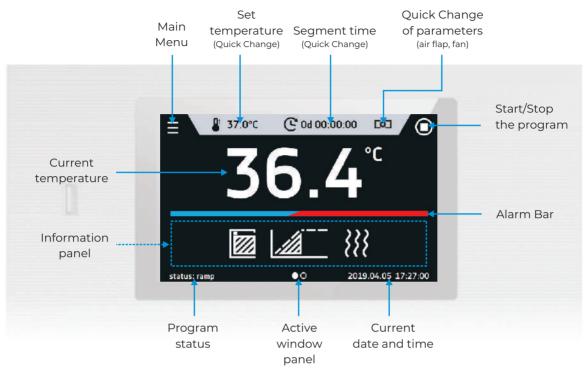
SMART PRO - ADVANCED CONTROLLER 7" COLOUR TOUCH PANEL GUARANTEES INTUITIVE AND COMFORTABLE OPERATION



advantages of the smart pro controller

- large (7"), clear, full-colour touch screen
- LAN, USB ports, Wi-Fi for communication and data transfer
- multi-segment time and temperature programs
- overview of data in tabular and graphic form
- visual and audible alarm
- administration functions for easy management
- password protected log-in
- internal memory for programs and data storage
- operating with gloves on
- event registry with user notifications
- LabDesk software and instruction manual for direct download
- Alarm Bar instant visual information about chamber status
- Quick Note user can save text notes (50 characters) in Smart PRO controller memory
- Quick Change of parameters: temperature, humidity, time, air flap and fan (according to model)

SMART - ŚTANDARD CONTROLLER 4.3" COLOUR TOUCH PANEL



Touch screens of the SMART and SMART PRO controllers can be operated with latex gloves!



♠ ADVANTAGES OF THE **SMART** CONTROLLER

- 4,3" clear, fułł-cołour touch screen
- USB and LAN ports for data download
- multi-segment time and temperature programs
- internal memory for programs and data storage
- operating with gloves on
- event registry
- visual and audible alarm
- instruction manual for direct download
- Quick Change of program parameters: temperature, time, fan, air flap (according to model)
- Alarm Bar instant visual information about chamber status

SMART and SMART PRO

■ SMART VS SMART PRO **COMPARISON**





controller	SMART	SMART PRO
display	4.3" touch screen	7" touch screen
network	LAN	LAN and Wi-Fi
USB	YES saving registration data saving events	YES saving registration data saving events uploading programs
keypad	Numeric	Ałphąnumeric
languages	PL, EN, RU, CZ, IT, PT, UA, FR, ES	PL, EN, RU, CZ, IT, PT, UA, FR, ES
main screen	Dąshboąrd (all relevant data visible from one main window)	Dąshboąrd (all relevant data visible from one main window)
users	-	5
users account types	-	User / Admin / Śuper Admin
progrąms	5	40
program name	Free number assigned	User editable
priority	Parameters	Parameters, time
segments	6	100
light control	Only ON/OFF (FOT)	YES (FIT)
schedule	-	10 schedules
data registry	max. 10,000 measurement data stored for a maximum of 6 months	max. 10,000 measurement data stored for a maximum of 12 months
events registry	YES	YES
statistics	YES - only the current cycle	YES - from every segment and program cycle
temp. protection class	1.0 or 2.0 (3.1, 3.2, 3.3 - option)	3.1 or 3.2 or 3.3
Quick Note	-	Ability to enter user text notes
graph	-	YES
mail notifications	-	Alarm notifications
unit name	Fixed (serial number)	Editable
Alarm Bar	YES	YES
Quick Change	YES	YES
software for PC	LabDesk (option)	LabDesk

SMART AND **SMART PRO** FEATURES **COMPARISON**

SMART	SMART PRO	
	X	large (7"), full colour touch screen
X		4.3", full colour touch screen
X	X	energy-saving screen mode
	X	alphanumeric keypad
X		numeric keypad
Х		communication and data transfer via: LAN and USB
	X	communication and data transfer via: LAN, USB, Wi-Fi
X	X	saving measurement data on external memory via USB port
X	X	multi-segment time-temperature profile (up to 6 segments)
	X	multi-segment time-temperature profile (up to 0 segments)
	^	light time control (FOT)
X		
	X	control of lighting duration and intensity (FIT)
	X	displaying data as a graph or table
X	X	visual and audible alarm
	X	Administrator function to manage User accounts
	X	login secured with a password or pattern (Smart Lock)
X	X	internal memory for measurement data and programs
X		5 programs
	X	40 programs
Х		max. 10 000 data records stored for a maximum of 6 months
	X	max. 10 000 data records stored for a maximum of 12 months
X	X	unit name – serial number
	X	unit name – editable
X	X	ability to operate the screen with latex gloves
X	X	event log
	X	event log event log with user message support
X	X	user manual to download from the unit's internal memory
^		<u>-</u>
	X	LabDesk software available in the unit's internal memory
X		LąbDesk softwąre – option
X	X	Alarm Bar – quick visualization of unit status
	X	Quick Note – User can write and save message in unit's internal memory
X	X	Quick Change – quick change of parameters: temperature, humidity, time, air flap opening, fan efficienc
X	X	Quick Program – quick launch of the program from the main screen
X	X	Mute – temporąriły turns off sound signąłs
	X	automatic logout
X	X	automatic screen lock
X	X	unit automatic self-diagnosis
X	X	malfunctions displayed as error codes (explanations of error codes: smart4lab.eu)
	X	reports sent by e-mail
X	X	cyclical program repetition (up to 255 cycles or indefinitely)
X	X	program start delay
	X	schedules (max 10)
X	X	working time adjustment (1 min to 365 days or continuous operation)
X	X	setting up the ramp
X	X	preview of set and current parameters while the program is running
X	X	registration average, min. and max. temperature values for each segment and cycle
X	X	temperature/humidity calibration by the user
X	X	operating mode with time or parameter priority
X	X	temperature sensor damage alarm
Х	X	alarm of exceeded set parameters
X	X	open door alarm
X	X	open door alarm delay
X	X	open door counter
X	X	power outage alarm
Х	X	continuation of the program after turning on the power
Х	X	real time clock
X	X	time zone selection
	X	Ethernet output for data and event register, programming and unit operation control



COOLING EQUIPMENT



Laboratory Refrigerators CHL Laboratory Freezers ZL Ultra-Low Freezers ZLN-UT





LABORATORY REFRIGERATORS

are equipped with a cooling system and can provide a stable temperature between 0°C ... +15°C

















All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: www.polekolab.pl and on page 161.





MAIN STANDARD BENEFITS

- temperature range: 0...+15°C
- quality control protocol (at +4°C)
- English instruction manual
- temperature protection class 1.0 to DIN 12880
- open door alarm
- castors for CHL 1200 and 1450
- LAN and USB ports
- internal LED lighting
- height adjustable feet for CHL 1, 2, 3, 4, 5, 6, 500, 700
- access port (Ø30 mm) with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- solid door
- main power switch flush with housing prevents unintentional switch off
- anchoring kit for CHL 500, 700, 1200, 1450 and double/triple chamber units
- automatic defrosting function for CHL 500, 700, 1200, 1450

EXTRA FOR SMART PRO

- Wi-Fi
- LAN cable
- LabDesk
- fan speed control in the range 50...100% for CHL 1-6
- temperature protection class 3.2 to DIN 12880

AVAILABLE VERSIONS

- SMART
- SMART PRO
- TR tropic (on request) for higher ambient temperatures
- double/triple chamber units
- combined with ZLN 85 or ST

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA

							_	-	-	:			
			_				•						
parameters		CHL 1	CHL 2	CHL 3	CHL4	CHL 5	CHL 6	CHL 500 M	CHL 700 M	CHL 1200 M	CHL 1450 M		
air convection						forced	i						
chamber capacity [l]]	70	150	200	250	300	400	500	625	1365	1540		
working capacity [I]		55	122	163	203	243	324	469	611	1355	1525		
door type		solid / glass (option) or double ¹ (option) or SMART window (option)											
temperature range	[°C]					0+15	5						
temperature resolut	tion [°C]					every	T,C						
controller				microprocess	or PID, 4,3" (S	MART) / 7" (SI	MART PRO)	full-colour tou	ich screen				
	C (comfort)		stainless steel to DIN 1.4016										
	CS (comfort/S)	stainless steel to DIN 1.4016											
interior	P (premium)	acid-proof stainless steel to DIN 1.4301											
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301											
	C (comfort)	powder coated sheet											
	CS (comfort/S)	polished stainless steel to DIN 1.4301											
housing	P (premium)	powder coated sheet											
	PS (premium/S)				polishe	d stainless st	eel to DIN 1.4	4 301					
max shelf	-	10	10	10	10	10	10	20	30	30	30		
workload ² [kg]	PW ³ version			on rec	uest			100	100	100	100		
max unit workload [kg]	20	30	40	50	60	60	100	150	300	300		
nominal power [W]		250	250	250	250	350	350	650	650	650	950		
weight ⁴ [kg]		43	63	72	82	89	107	125	145	221	239		
castors					opt	tion		1		3	'es		
temperature fluctua	ation ⁵ at +4°C [+/- °C]	0,4	0,4	0,4	0,4	0,4	0,6	0,6	0,8	1,0	1,0		
temperature variation	on ⁵ at +4°C [+/- °C]	0,7	0,7	0,7	0,8	0,9	0,9	1,0	1,0	1,2	1,2		
temperature protec	tion		1	class 1	.0 to DIN 1288	30 / class 3.2 (option) / clas	ss 3.2 in SMAR	T PRO	1	1		
power supply					2	30V 50-60Hz	/ 115V 50-60H	Hz					
shelves fitted/max		2/2	3/4	3/4	4/6	4/7	4/10	3/11	3/11	2 x 3/11 ⁶	2 x 3/11 ⁶		
refrigerant			1	R1234ze	/GWP=7	I .	I.		R290 /	GWP=3	1		
warranty						24 mc	onths	1					
manfacturer						POL-	EKO [®]						
	cal data refer to standard												

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

- 1 additional internal glass door
- 2 on uniformly loaded surface
- 3 reinforced shelf
- 4 for units with solid door, in version C (comfort)
- 5 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2 for CHL 2-6 parameters given for the chamber above the bottom step
- 6 two columns with 3 shelves each

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)

























































DIMENSIONS & DATA

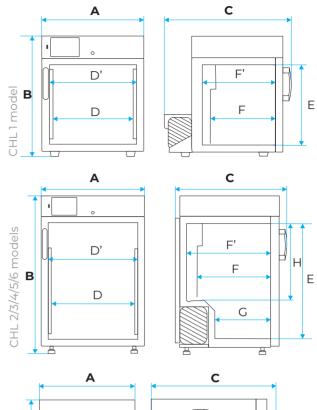
All dimensions refer to standard units (without optional accessories).

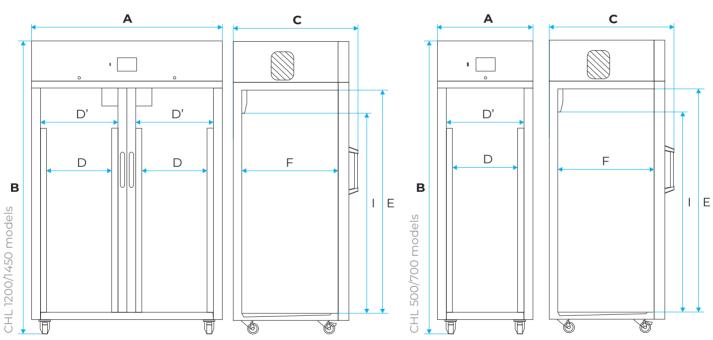
Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

The internal depth of units with double door is smaller.

Possibility of changing the shelf position:

- CHL 1-6 every 25 mm
- CHL 500-1450 every 56 mm

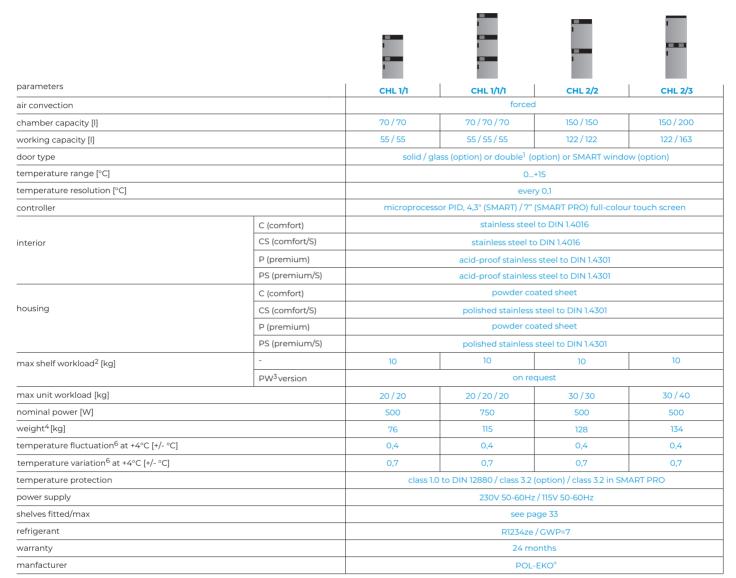




		CHL1	CHL 2	CHL 3	CHL4	CHL 5	CHL 6	CHL 500 M	CHL 700 M	CHL 1200 M	CHL 1450 M
overall dims [mm]	A width	560	610	610	610	610	610	640	730	1470	1450
	B height	660	900	1100	1300	1500	1900	1990	1990	1990	1940
	C depth	690	650	650	650	650	650	840	900	900	990
internal dims [mm]	D width	430	480	480	480	480	480	470	540	2 x 540	2 x 550
	D' width	470	520	520	520	520	520	510	600	2 x 600	2 x 615
	E height	430	660	860	1060	1260	1660	1510	1510	1510	1450
	F depth	300	420	420	420	420	420	610	680	680	790
	F' depth	360	480	480	480	480	480	-	-	-	-
	G depth	-	320	320	320	320	320	-	-	-	-
	H height	-	440	640	840	1040	1440	-	-	-	-
	I height	-	-	-	-	-	-	1380	1380	1380	1320



TECHNICAL DATA



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

- 1 additional internal glass door
- 2 on uniformly loaded surface
- 3 reinforced shelf
- 4 for units with solid door, in version C (comfort)
- 5 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2 for CHL 2-6 parameters given for the chamber above the bottom step $\,$

OPTIONS & ACCESSORIES (icon description see pages 117-124)















































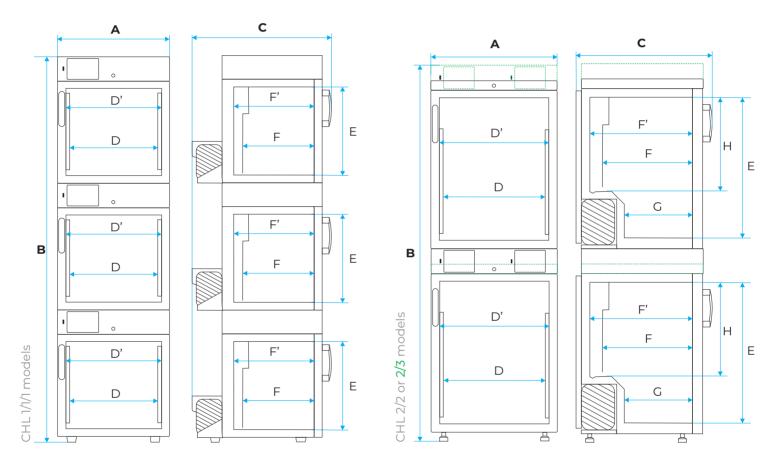
DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

The internal depth of units with double door is smaller.

Possibility of changing the shelf position every 25 mm.



----- Control panel for ST 2/2 and ST 2/ZLN85 models is located between chambers, while for ST 2/3, ST 2/ZLN 85 and ST 3/ZLN 85 at the top

		CHL 1/1	CHL 1/1/1	CHL 2/2	CHL 2/3
overall dims [mm]	A width	580	580	630	630
	B height	1300	1920	1720	1920
	C depth	690	690	650	650
	D width	430	430	480	480
internal dims [mm]	D' width	470	470	520	520
	E height	430	430	660	660 / 860
	F depth	300	300	420	420
	F' depth	360	360	480	480
	G depth	-	-	320	320
	H height	-	-	440	440 / 640



LABORATORY FREEZERS

can freeze and store frozen samples up to -40°C





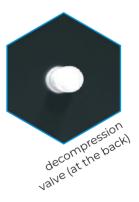














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MAIN STANDARD BENEFITS

- temperature range: -25...0°C for ZLN 85 and -40...0°C for ZL-T 125, 200, 300
- quality control protocol (at -20°C)
- English instruction manual
- open door alarm
- castors (except ZLN 85)
- LAN and USB ports
- height adjustable feet for ZLN 85
- access port (Ø20 mm) with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX) for ZLN 85
- stainless steel shelves (INOX) with hole for ZLN-T 125, 200, 300
- perforated stainless steel shelves (INOX) for ZLW-T 200, 300
- solid door
- main power switch flush with housing prevents unintentional switch off

AVAILABLE VERSIONS

- SMART
- SMART PRO
- with natural air convection
- with forced air convection
- reinforced
- ZLN 85 combined with ST/CHL 2 or 3

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring

EXTRA FOR SMART PRO

- Wi-Fi
- LAN cable
- LabDesk





● TECHNICAL **DATA**

				_	-		_			
		ı					1			
parameters		ZLN 85	ZLN-T 125	ZLN-T 200	ZLN-T 300	ZLW-T 200	ZLW-T 300			
air convection			na	tural		for	forced			
chamber capacity [I]		85	130	210	310	210	310			
working capacity [l]		73 109 180 262 140 213								
door type		solid								
temperature range [°C]		-250			-400					
temperature resolution [°C]				eve	ry 0,1					
controller			microprocessor	PID, 4,3" (SMART) / 7"	(SMART PRO) full-col	our touch screen				
	C (comfort)			stainless stee	el to DIN 1.4016					
intariar	CS (comfort/S)			stainless stee	el to DIN 1.4016					
interior	P (premium)			acid-proof stainles	s steel to DIN 1.4301					
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301								
	C (comfort)									
la accestica de	CS (comfort/S)			polished stainless	steel to DIN 1.4301					
housing	P (premium)	powder coated sheet								
	PS (premium/S)	polished stainless steel to DIN 1.4301								
	-	10	10	10	10	10	10			
max shelf workload ¹ [kg]	PW ² version	-	50	50	50	50	50			
2 11 18 1	-	30	50	65	80	65	80			
max unit workload [kg]	W ³ version	-	100	130	160	160	160			
nominal power [W]	-	200	450	450	450	450	450			
weight [kg]		62	105	120	185	120	185			
castors		option			yes	1				
temperature fluctuation ⁴ at	-20°C [+/- °C]	0,5	0,5	0,5	0,5	1,5	1,5			
temperature variation ⁴ at -2	.0°C [+/- °C]	2,0	2,0	2,5	2,5	1,8	1,8			
temperature protection			class 3.2 to	DIN 12880 (option) / cl	lass 3.2 to DIN 12880 (SMART PRO)				
power supply		230V 50-60Hz / 115V 50-60Hz		230V 50	0-60Hz/3P + PE 230V	50-60Hz				
shelves fitted/max		2/4	2/3	2/4	3/6	2/4	3/6			
refrigerant		R455A / GWP=146 R290 / GWP=3								
warranty				24 m	onths					
manufacturer				POL	-EKO [®]					
		I .								

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

- 1 on uniformly loaded surface
- 2 reinforced shelf
- 3 reinforced version
- $4-fluctuation\ measured\ in\ centre\ of\ chamber;\ in\ space,\ variation\ (K)\ calculated\ for\ chamber\ as:\ K=+/-\ (T\ avg\ max\ -T\ avg\ min)\ /\ 2$

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)







































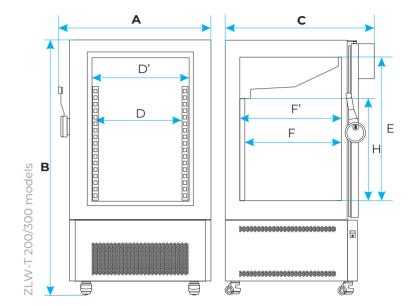
DIMENSIONS & DATA

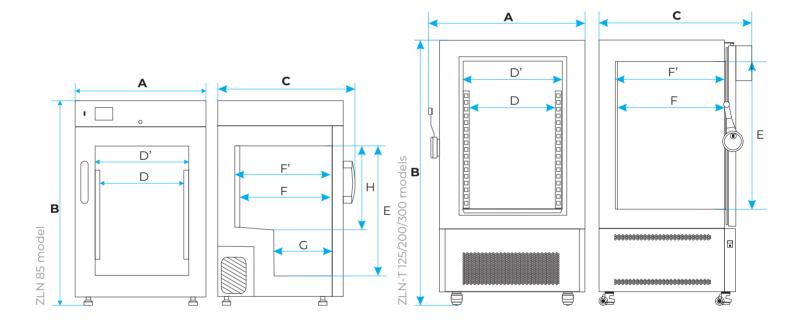
All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

- ZLN 85 every 25 mm
- ZLN/ZLW 125/200/300 every 35 mm



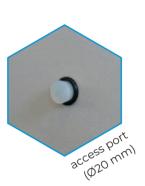


		ZLN 85	ZLN-T 125	ZLN-T 200	ZLN-T 300	ZLW-T 200	ZLW-T 300
	A width	610	720	820	820	820	820
overall dims [mm]	B height	920	1220	1390	1740	1390	1740
	C depth	650	810	810	810	810	810
	D width	410	390	460	460	460	460
	D' width	420	420	530	520	520	520
	E height	590	600	770	1120	770	1120
internal dims [mm]	F depth	400	530	530	530	530	530
internal dimis [mim]	F' depth	440	550	550	550	550	550
	G depth	230	-	-	-	-	-
	H height	380	-	-	-	550	900



ULTRA-LOW FREEZERS

are used for deep freezing of biotechnological samples and other materials which should be stored at very low temperatures up to -86°C







-86.2











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MAIN STANDARD BENEFITS

- temperature range: -86...-50°C
- quality control protocol (at -80°C)
- English instruction manual
- open door alarm
- castors
- LAN and USB ports
- height adjustable feet
- access port (Ø20 mm) with silicone plug on the left wall
- handle with door lock
- stainless steel shelves with hole
- sub-chamber door
- emergency power supply switch
- solid door
- main power switch flush with housing prevents unintentional switch off
- vacuum insulation panels (VIP)

EXTRA FOR **SMART PRO**

- Wi-Fi
- LAN cable
- LabDesk

AVAILABLE VERSIONS

- SMART
- SMART PRO

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring





● TECHNICAL **DATA**



parameters		ZLN-UT 200 VIP	ZLN-UT 300 VIP	ZLN-UT 500 VIP			
air convection			natural				
chamber capacity [l]		259	345	482			
number of boxes 133x1	33x50mm [pcs]	192	256	352			
door type			double, solid				
temperature range [°C			-8650				
temperature resolution	n [°C]		every 0,1				
cooling down time from	m +22°C to -80°C [min]	160	180	210			
heating time in case of failure from -80°C to -6		50	90	90			
controller		microprocesso	or PID, 4,3" (Smart) / 7" (Smart PRO) full coloui	r touch screen			
interior	C (comfort)	stainless steel to DIN 1.4016					
interior	P (premium)	acid-proof stainless steel to DIN 1.4301					
housing	C (comfort)		powder coated sheet				
nousing	P (premium)		powder coated sheet				
max unit workload [kg	1	160	160	240			
max shelf workload [ko	a]	40	40	40			
nominal power [W]		2100	2100	2100			
energy consumption 2	24h [kWh] at -80°C	15	15	17			
weight [kg]		200	220	243			
castors			yes				
temperature fluctuatio	on ¹ at -80°C [+/- °C]	1,5	1,4	1,4			
temperature variation	¹ at -80°C [+/- °C]	4,0	3,0	3,5			
power supply			230V 50-60Hz				
shelves fitted/max		2/2	2/2	4/4			
number of internal cha	ambers	2	2	2			
refrigerant R290 / GWP=3 R170 / GWP=6							
warranty 24 months							
manufacturer			POL-EKO®				

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

 $1-fluctuation\ measured\ in\ centre\ of\ chamber;\ in\ space,\ variation\ (K)\ calculated\ for\ chamber\ as:\ K=+/-\ (T\ avg\ max\ -\ T\ avg\ min)\ /\ 2$

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)













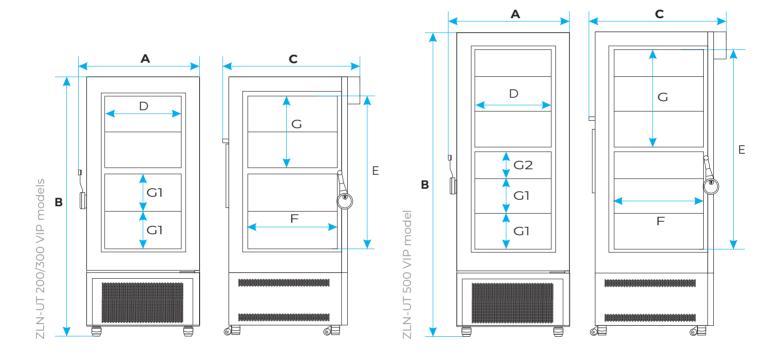




DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.



		ZLN-UT 200 VIP	ZLN-UT 300 VIP	ZLN-UT 500 VIP
	A width	880	880	880
overall dims [mm]	B height	1390	1620	2000
	C depth	960	960	960
	D width	620	620	620
	E height	770	1000	1380
internal dims [mm]	F depth	580	580	580
internal dirns [mm]	G height	360	480	670
	G1 height	178	235	235
	G 2 height	-	-	178



OPTIONS FOR ULTRA-LOW FREEZERS





ZLN-UT/ST rack with drawers

made of stainless steel, feature quick and easy access to all boxes.

Available:

- ST 12- 3 drawers,
- ST 16 4 drawers,
- 4 boxes per drawer.





Boxes

made of polypropylene or cardboard (dimensions 133x133x50mm), each box suits 81 test-tubes of Ø 12,5mm.



CO₂ back up system

enables the freezer controller to dose CO_2 in case of undesired temperature increase in the chamber. It is supplied with an internal battery. This solution is particularly useful in the event of a power outage.





model	compartments	racks per compartment (option)	boxes per rack (option)	rack set (option)	boxes per compartment (option)	boxes per unit (option)	test-tubes per unit* (option)
ZLN-UT 200 VIP	2	8	12	16 x ZLN-UT/ST12	96	192	15 552
ZLN-UT 300 VIP	2	8	16	16 x ZLN-UT/ST16	128	256	20 736
ZLN-UT 500 VIP	2	4+8	12/16	8 x ZLN-UT/ST12 + 16 x ZLN-UT/ST16	176	352	28 512

^{*} applies to 12,5 mm diameter test-tubes



COOLING AND HEATING EQUIPMENT



Cooled incubators ST
Cooled incubators ILW
Peltier-cooled incubators ILP



ST COOLED INCUBATORS

comprises both cooling and heating systems that provide stable temperature between +3...+70°C















All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: www.polekolab.pl and on page 161.

and fan











MAIN STANDARD BENEFITS

- temperature range: +3...+40°C / +70°C (option) / +3...+70°C (SMART PRO)
- quality control protocol (at +37°C)
- English instruction manual
- temperature protection class 1.0 to DIN 12880 for C (comfort) version, class 2.0 for P (premium) version
- open door alarm
- castors for ST 1200 and 1450
- LAN and USB ports
- internal LED lighting
- height adjustable feet
- access port (Ø30 mm) with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- solid door
- main power switch flush with housing prevents unintentional switch off
- anchoring kit for ST 500, 700, 1200, 1450 and double/triple chamber unit
- automatic defrosting function for ST 500, ST 700, ST 1200, ST 1450

EXTRA FOR SMART PRO

- Wi-Fi
- LAN cable
- LabDesk
- fan speed control in the range 50...100% for ST 1-6 (optional for SMART)
- temperature protection class 3.3 to DIN 12880

AVAILABLE VERSIONS

- SMART
- SMART PRO

SMART

- FOT photoperiod (see page 18)
- FIT phytotron (see pages 19-22)
- TR tropic (on request) for higher ambient temperatures
- double/triple chamber units combined with ZLN 85 or CHL

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring





● TECHNICAL **DATA**

							-	-	-	-	-
			-	-							
			•								
parameters		ST1	ST 2	ST 3	ST 4	ST 5	ST 6	ST 500 M	ST 700 M	ST 1200 M	ST 1450 M
air convection						for	ced				
chamber capacity [l]	70	150	200	250	300	400	500	625	1365	1540
working capacity [l]		55	122	163	203	243	324	469	611	1355	1525
door type				solic	d/glass (optio	n) / double ¹ (d	option)/SMA	ART window (option)		
temperature range	[°C]			+3	+40 in SMART	/ up to +70 (d	option) / +3	+70 in SMART	PRO		
temperature resolu	tion [°C]					eve	ry 0,1				
controller				microproc	essor PID, 4,3"	(SMART) / 7"	(SMART PRO) full-colour t	ouch screen		
	C (comfort)					stainless stee	l to DIN 1.401	6			
intariar	CS (comfort/S)		stainless steel to DIN 1.4016 acid-proof stainless steel to DIN 1.4301								
nterior	P (premium)										
	PS (premium/S)		acid-proof stainless steel to DIN 1.4301								
	C (comfort)					powder co	ated sheet				
	CS (comfort/S)				polis	hed stainless	steel to DIN	1.4301			
nousing	P (premium)	powder coated sheet									
	PS (premium/S)				polis	hed stainless	steel to DIN	1.4301			
max shelf	-	10	10	10	10	10	10	20	30	30	30
workload ² [kg]	PW ³ version			on request				100	100	100	100
max unit workload [kg]	20	30	40	50	60	60	100	150	300	300
nominal power [W]		250	250	250	250	350	350	650	650	650	950
weight ⁴ [kg]		43	63	72	82	89	107	125	145	221	239
castors					opt	ion				ye	es
temperature fluctua	ation ⁵ at +37°C [+/- °C]	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3	0,3
emperature variati	on ⁵ at +37°C [+/- °C]	0,5	0,5	0,5	0,6	0,6	0,6	1,0	1,0	1,0	1,0
emperature protec	tion		cla	ass 1.0 to DIN	12880 / class 3	.3 (option) / c	lass 2.0 in P v	ersion / class	3.3 in SMART	PRO	
oower supply	230V 50-60Hz / 115V 50-60Hz										
shelves fitted/max		2/2	3/4	3/4	4/6	4/7	4/10	3/11	3/11	2 x 3/11 ⁶	2 x 3/11 ⁶
refrigerant			1	R1234ze	e/GWP=7				R290 /	GWP=3	
warranty		24 months									
manufacturer		POL-EKO®									
all the above technic	cal data refer to standard	units (withou	ıt ontional ac	rcessories)							

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

- 1 additional internal glass door
- 2 on uniformly loaded surface
- 3 reinforced shelf
- 4 for equipment with solid door, in version C (comfort)
- 5 fluctuation measured in centre of chamber, in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2 for ST 2-6 parameters given for the chamber space above the bottom step
- 6 two columns with 3 shelves each

OPTIONS & **ACCESSORIES** (icon description see pages 117-124)































































Α

С

DIMENSIONS & DATA

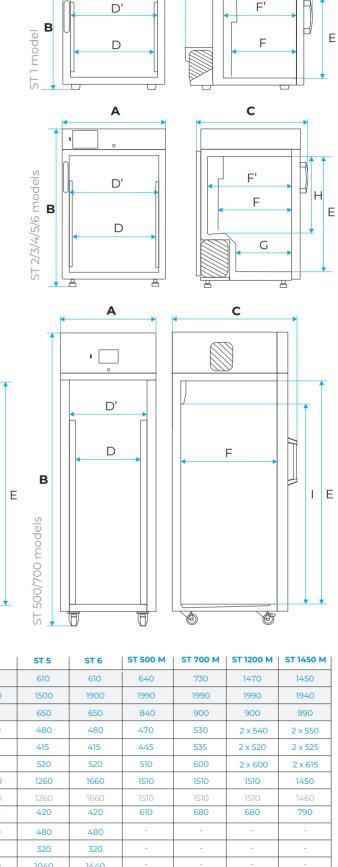
All dimensions refer to standard units (without optional accessories).

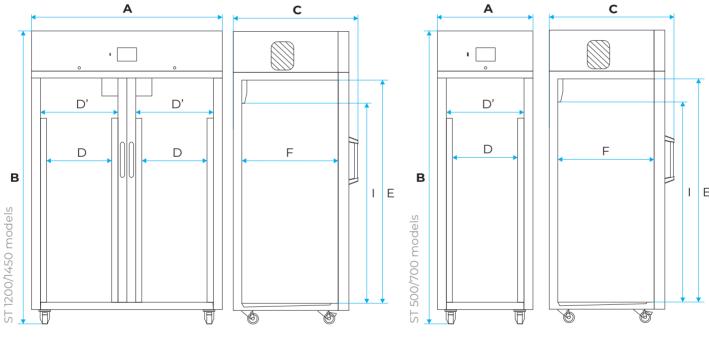
Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

The internal depth of units with double door is smaller.

Possibility of changing the shelf position:

- ST 1-6 every 25 mm
- ST 500-1450 every 56 mm

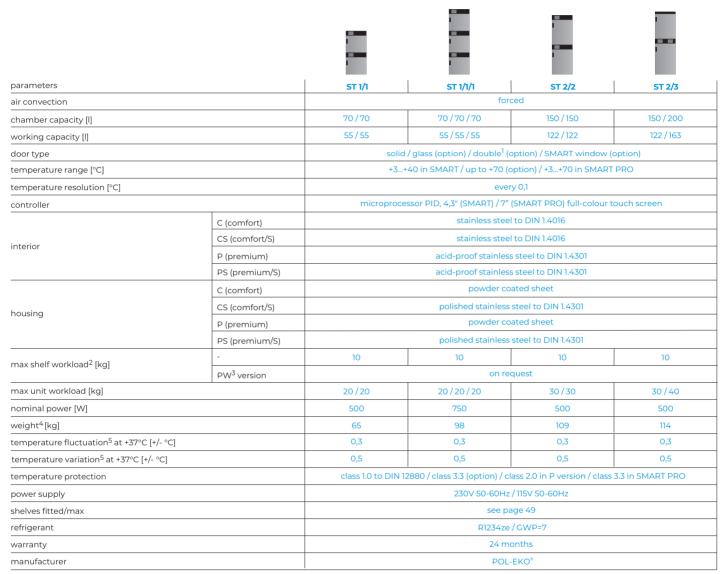




		51 1	51.2	51.3	514	51.5	51.6	31 300 M	31 700 M	31 1200 M	31 1430 M
	A width	560	610	610	610	610	610	640	730	1470	1450
overall dims [mm]	B height	660	900	1100	1300	1500	1900	1990	1990	1990	1940
	C depth	690	650	650	650	650	650	840	900	900	990
	D width	430	480	480	480	480	480	470	530	2 x 540	2 x 550
	D width (FOT/FIT)	430	415	415	415	415	415	445	535	2 x 520	2 x 525
	D' width	470	520	520	520	520	520	510	600	2 x 600	2 x 615
	E height	430	660	860	1060	1260	1660	1510	1510	1510	1450
	E height (FOT/FIT)	390	660	860	1060	1260	1660	1510	1510	1510	1460
	F depth	300	420	420	420	420	420	610	680	680	790
internal dims [mm]	F' depth	360	480	480	480	480	480	-	-	-	-
	G depth	-	320	320	320	320	320	-	-	-	-
	H height	-	440	640	840	1040	1440	-	-	-	-
	I height	-	-	-	-	-	-	1380	1380	1380	1320



TECHNICAL DATA



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

- 1 additional internal glass door
- 2 on uniformly loaded surface
- 3 reinforced shelf
- 4 for units with solid door, in version C (comfort)
- 5 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2 for ST 2-6 parameters given for the chamberspace above the bottom step

OPTIONS & ACCESSORIES (icon description see pages 117-124)

























































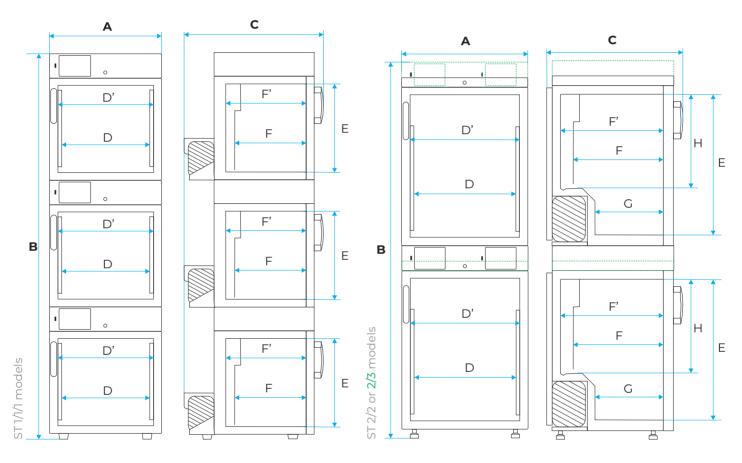
DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

The internal depth of units with double door is smaller.

Possibility of changing the shelf position every 25 mm



----- Control panel for ST 2/2 and ST 2/ZLN85 models is located between chambers, while for ST 2/3, ST 2/ZLN 85 and ST 3/ZLN 85 at the top

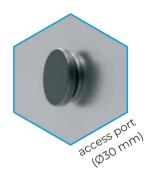
		ST 1/1	ST 1/1/1	ST 2/2	ST 2/3
	A width	580	580	630	630
overall dims [mm]	B height	1290	1920	1720	1920
	C depth	690	690	650	650
	D width	430	430	480	480
	D' width	470	470	520	520
	E height	430	430	660	660 / 860
internal dims [mm]	F depth	300	300	420	420
	F' depth	360	360	480	480
	G depth	-	-	320	320
	H height	-	-	440	440 / 640



ILW COOLED INCUBATORS

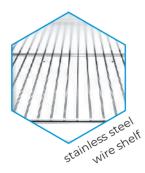
are perfect for incubation of samples in a stable environment, regardless of ambient conditions, at temperatures from -10 up to +100 °C















glass door All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: www.polekolab.pl and on page 161.

internal

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MAIN STANDARD BENEFITS

- temperature range: -10°C (option) / 0°C...+70°C
- English instruction manual
- temperature protection class 2.0 to DIN 12880
- open door alarm
- castors for ILW 240, 400, 750
- LAN and USB ports
- height adjustable feet
- access port (Ø30 mm) with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- main power switch flush with housing prevents unintentional switch off

SOFTWARE

SMART

SMART PRO

reinforced

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring

AVAILABLE VERSIONS

FOT photoperiod (see page 18)

FIT phytotron (see pages 19-22)

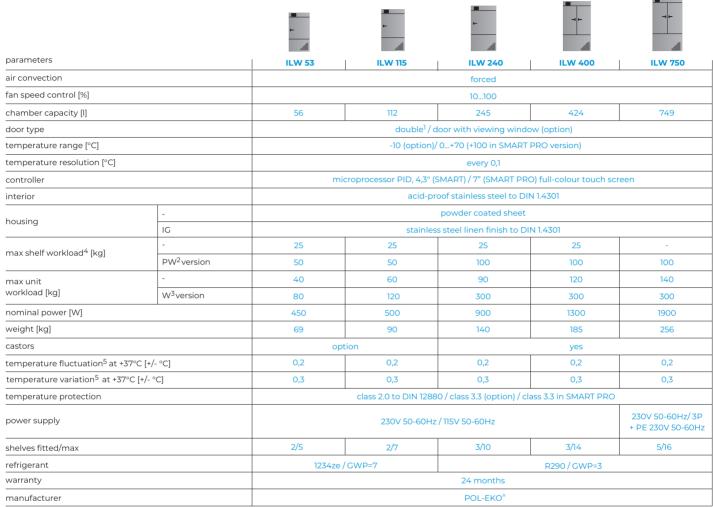
EXTRA FOR SMART PRO

- temperature range -10°C (option) / 0°C...+100°C
- Wi-Fi
- LAN cable
- LabDesk
- temperature protection class 3.3 to DIN 12880





TECHNICAL DATA



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

- 1 internal glass door, external solid
- 2 reinforced shelf
- 3 reinforced version
- 4 on uniformly loaded surface
- 5 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2

OPTIONS & ACCESSORIES (icon description see pages 117-124)





















































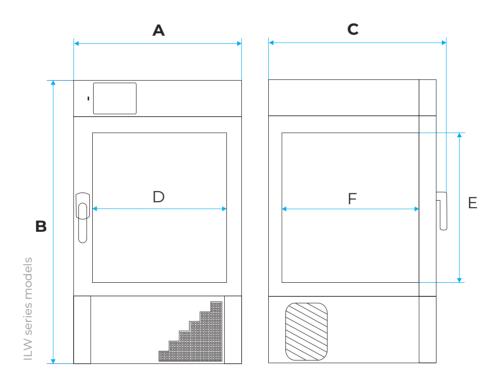


DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position ILW 53/115/240/400/750 every 70 mm



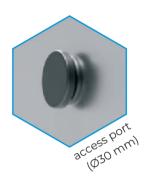
Parameter		ILW 53 ILW 115		ILW 240	ILW 400	ILW 750
	A width	600	660	820	1020	1260
overall dims [mm]	B height	1020	1160	1480	1720	1900
	C depth	640	730	790	790	890
	D width	400	460	600	800	1040
internal dims [mm]	E height	390	530	800	1040	1200
	F depth	350	440	500	500	600



PELTIER COOLED INCUBATORS

ecological incubators ILP with cooling system based on the Peltier cell technology



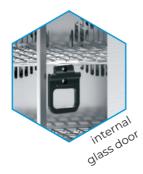














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MAIN STANDARD BENEFITS

- temperature range: 0...+70°C (max 20°C below ambient temperature)
- English instruction manual
- Peltier elements cooling system (see page 23)
- temperature protection class 2.0 to DIN 12880
- open door alarm
- castors for ILP 750
- LAN and USB ports
- height adjustable feet
- internal LED light
- access port (Ø30 mm) with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- main power switch flush with housing prevents unintentional switch off

EXTRA FOR SMART PRO

- Wi-Fi
- LAN cable
- LabDesk
- temperature protection class 3.3 to DIN 12880

AVAILABLE VERSIONS

- SMART
- SMART PRO

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring





● TECHNICAL **DATA**

				_	-				
		-	-	-	-4 0				
parameters		ILP 53	ILP 115	ILP 240	ILP 750				
air convection			for	ced					
chamber capacity [l]		56 112 245 749							
door type			double ¹ / door with vie	ewing window (option)					
temperature range [°C]			0+70 (max 20°C belov	v ambient temperature)					
temperature resolution [°C]		eve	ry 0,1					
controller		micropr	ocessor PID, 4,3" (SMART) / 7"	(SMART PRO) full-colour to	uch screen				
interior			acid-proof stainles	ess steel to DIN 1.4301					
harraina	-	powder coated sheet							
housing	IG		stainless steel linen finish						
max shelf workload ² [kg]	'	25	25	25	-				
max reinforced shelf work	load (PW) ² [kg]	-	-	-	100				
max unit workload [kg]		50	50	90	140				
nominal power [W]		500	650	800	1400				
weight [kg]		69	90	140	240				
castors			option		yes				
temperature fluctuation ³ a	nt +37°C [+/- °C]	0,1	0,1	0,1	0,1				
temperature variation ³ at -	+37°C [+/- °C]	0,2	0,2	0,3	0,3				
temperature protection			class 2.0 to DIN 12880 / class	3.3 (option) / 3.3 in SMART PI	RO				
oower supply			230V 50-60Hz / 115V 50-60Hz						
shelves fitted/max		2/5	2/7	3/10	5/16				
warranty			24 m	onths					
manufacturer			POL	-EKO [®]					

all the above technical data refer to standard units (without optional accessories) $\,$

- 1 internal glass door, external solid
- 2 on uniformly loaded surface
- $3 fluctuation \ measured \ in \ centre \ of \ chamber; \ in \ space, \ variation \ (K) \ calculated \ for \ chamber \ as: \ K= +/- \ (T \ avg \ max T \ avg \ min) \ / \ 2$

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)









































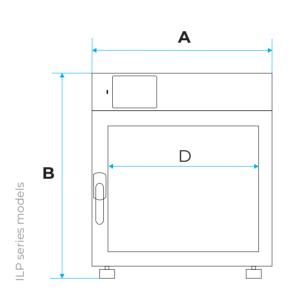


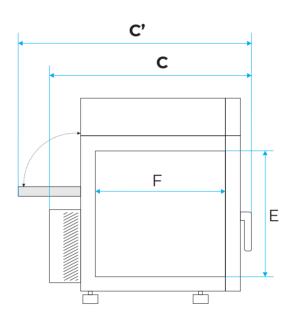
DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position ILP 53/115/240/750 - every 70 mm





		ILP 53	ILP 115	ILP 240	ILP 750
	A width	600	660	820	1270
overall dims [mm]	B height	710	860	1140	1580
C depth		690	780	840	950
	C' depth	790	880	940	1050
	D width	400	460	600	1040
internal dims [mm]	E height	390	530	790	1200
	F depth	350	440	500	600



HEATING EQUIPMENT



Laboratory incubators CL
Drying ovens SL
Drying ovens with nitrogen blow SLWN
SIMPLE drying ovens
Laboratory sterilizers SR
Pass-through sterilizers SRWP
Warming chambers CALDERA





LABORATORY INCUBATORS

are perfect for incubation of samples at temperatures above ambient up to +100°C

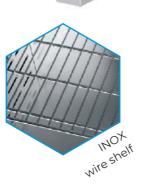
















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MAIN STANDARD BENEFITS

- temperature range: 5°C above ambient temperature...+100°C
- quality control protocol (at +37°C)
- English instruction manual
- temperature protection class 2.0 to DIN 12880
- open door alarm
- fan speed control (CLW)
- castors for CL 400, 750, 1000
- air-flap control in range 0...100%
- LAN and USB ports
- height adjustable feet
- access port: Ø30 mm for models 53-1000 or Ø9 mm for models 15, 32 with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- main power switch flush with housing prevents unintentional switch off

AVAILABLE VERSIONS

- SMART
- SMART PRO (not available for CL 15/32)
- reinforced

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring

EXTRA FOR SMART PRO

- Wi-Fi
- LAN cable
- LabDesk
- temperature protection 3.1 to DIN 12880





TECHNICAL DATA

										_
		-	-	_	-			-4-	-40-	-46-
		-	-	-	-					
parameters		CL 15	CL 32	CL 53	CL 115	CL 180	CL 240	CL 400	CL 750	CL 1000
air convection		natural (CLN) / forced (CLW) forced (CLW)								
fan speed control [%]			0100	(CLW)				10100 (CLW)		
chamber capacity [I]		15	32	56	112	180	245	424	749	1005
door type		do	uble ¹			double ¹ /d	oor with viewi	ng window (or	otion)	
temperature range					+5°C above an	nbient temper	ature+100°C			
temperature resolution [°C]						every 0,1				
controller			m	icroprocessor	PID, 4,3" (Smar	t) / 7" (SMART	PRO) full-colo	ur touch scree	n	
interior					acid-proof s	tainless steel t	o DIN 1.4301			
hausing	-				pov	vder coated sh	eet			
housing	IG				stainless ste	el linen finish t	o DIN 1.4301			
max shelf	-	10	10	25	25	25	25	25	-	-
workload ⁴ [kg]	PW ² version	-	-	50	50	50	100	100	100	100
max unit	-	20	30	40	60	75	90	120	140	-
workload [kg]	W ³ version	-	-	80	120	120	300	300	300	300
nominal power [W]		350	350	450	450	650	850	1300	1900	1900
weight [kg]		32	36,5	50	68	92	119	170	266	319
castors		1	10		ob.	tion			yes	
temperature fluctuation ⁵	CLN	0,2	0,2	0,2	0,2	0,2	0,3	-	-	-
at +37°C [+/- °C]	CLW	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,2
temperature variation ⁵	CLN	0,7	0,7	0,7	0,8	0,8	0,8	-	-	-
at +37°C [+/- °C]	CLW	0,4	0,4	0,3	0,3	0,3	0,3	0,5	0,5	1,0
over temperature protection	,			class 2.0 to	DIN 12880 / cl	ass 3.1 (option)	/ class 3.1 in S	MART PRO		_
power supply				230V 5	60-60Hz / 115V 5	60-60Hz)-60Hz/3P)V 50-60Hz
shelves fitted/max 1/2 1/3			1/3	3/9	2/7	3/9	3/10	3/14	5/16	6/22
warranty			1	L	1	24 months		1	1	
manufacturer						POL-EKO®				
		1								

all the above technical data refer to standard units (without optional accessories)
1 - internal glass, external solid
2 - reinforced shelf

- 3 reinforced version
- 4 on uniformly loaded surface
- 5 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2

OPTIONS & ACCESSORIES (icon description see pages 117-124)















































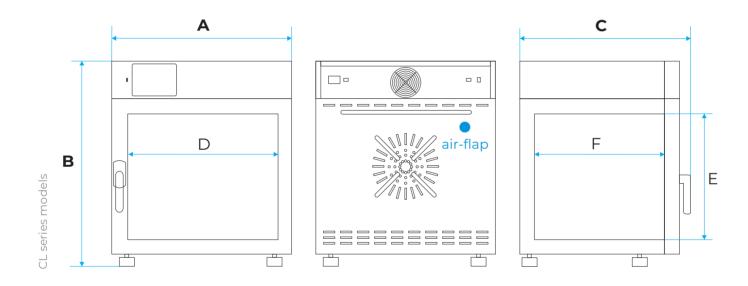
DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

- CL 15 every 50 mm
- CL 32 every 60 mm
- CL 53/115/180/240/400/750/1000 every 70 mm



		CL 15	CL 32	CL 53	CL 115	CL 180	CL 240	CL 400	CL 750	CL 1000
overall dims [mm]	A width	520	600	600	650	660	820	1020	1260	1260
	B height	560	640	710	850	1040	1140	1440	1600	2000
	C depth	470	520	620	710	820	770	770	880	880
internal dims [mm]	D width	320	400	400	460	460	600	800	1040	1040
	E height	230	320	390	530	720	800	1040	1200	1610
	F depth	200	250	350	440	550	500	500	600	600
air-flap ext. diameter [mm]		40 60					0			



Drying ovens

are designed to provide high temperatures up to 300°C









handle with

doorlock

(at the back)







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MAIN STANDARD BENEFITS

- temperature range: 5°C above ambient temperature...+300°C
- quality control protocol (at +105°C)
- English instruction manual
- temperature protection class 2.0 to DIN 12880
- open door alarm
- fan speed control (SLW)
- castors for SL 400, 750, 1000
- air-flap
- air-flap control in range 0...100%
- LAN and USB ports
- height adjustable feet
- access port: Ø30 mm for models 53-1000 or Ø9 mm for models 15, 32 with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- solid door
- main power switch flush with housing prevents unintentional switch off

EXTRA FOR SMART PRO

- Wi-Fi
- LAN cable
- LabDesk
- temperature protection class 3.1 to DIN 12880

AVAILABLE VERSIONS

- SMART
- SMART PRO (not available for SL 15/32)
- SIMPLE (see page 74)
- with nitrogen blow (see page 70)
- reinforced

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi (optional for SMART version)
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA

							_	-	-			
		-	-	-	-	-	-	-	-4-	-41-	-40-	
parameters		SL 15	SL 32	SL 53	SL 75	SL 115	SL 180	SL 240	SL 400	SL 750	SL 1000	
air convection				natural (SLN	I) / forced (SL				forced (SLW)		
fan speed control [%]				0100 (SLW	.W) 10100 (SLW)							
chamber capacity [I]		15	32	56	75	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 [°C]						eve	y 0,1					
controller				microproc	essor PID, 4,3	3" (SMART) / 7"	(SMART PRO) full-colour to	uch screen			
interior		acid-proof stainless steel to DIN 1.4301										
housing	-	powder coated sheet										
lousing	IG (Inox/G)	stainless steel linen finish to DIN 1.4301										
max shelf	-	10	10	25	25	25	25	25	25	-	-	
workload ³ [kg]	PW ¹ version	-	-	50	50	50	50	100	100	100	100	
max unit workload [kg]	-	20	30	40	40	60	75	90	120	140	-	
	W ² version	-	-	80	80	120	120	300	300	300	300	
nominal power [W]		700	1200	1700	1700	2500	2500	3100	4000	5500	5500	
weight [kg]		31	35	48	60	65	88	114	162	260	307	
castors		r	no option					yes	yes			
temperature fluctuation ⁴	SLN	0,4	0,4	0,4	0,4	0,4	0,4	0,6	-	-	-	
at +105°C [+/- °C]	SLW	0,3	0,3	0,2	0,2	0,2	0,2	0,4	0,4	0,6	0,6	
temperature variation ⁴	SLN	2,5	2,5	2,0	2,2	2,2	2,3	2,5	-	-	-	
at +105°C [+/- °C]	SLW	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,5	2,5	3,0	
over temperature protectio	n			class	2.0 to DIN 1	2880 / class 3.1	(option) / cla	ss 3.1 in SMAR1	ΓPRO			
power supply		230v 50-60Hz /115V 50-60Hz 230V 50-60Hz / 3P + PE 230V 50-60Hz 3P PE+N 400V 50-60 + PE 230V 50-60Hz										
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®										

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

- 1 reinforced shelf
- 2 reinforced version
- 3 on uniformly loaded surface
- $4-fluctuation\ measured\ in\ centre\ of\ chamber;\ in\ space,\ variation\ (K)\ calculated\ for\ chamber\ as:\ K=+/-\ (T\ avg\ max\ -\ T\ avg\ min)\ /\ 2$

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)













































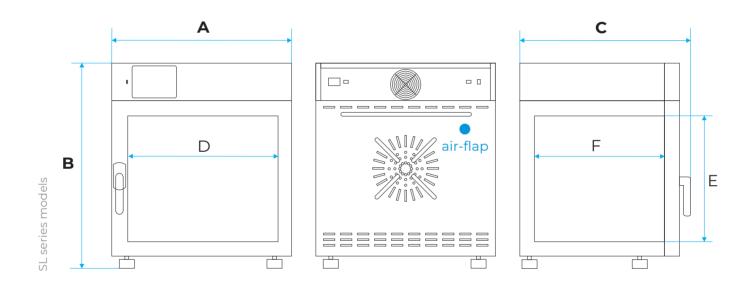
DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

- SL 15 every 50 mm
- SL 32 every 60 mm
- SL 53/75/115/180/240/400/750/1000 every 70 mm



		SL 15	SL 32	SL 53	SL 75	SL 115	SL 180	SL 240	SL 400	SL 750	SL 1000
overall dims [mm]	A width	520	600	600	600	660	660	820	1020	1260	1260
	B height	560	640	710	850	850	1040	1140	1440	1600	2000
	C depth	470	520	620	620	710	820	770	770	880	880
	D width	320	400	400	400	460	460	600	800	1040	1040
internal dims [mm]	E height	240	320	390	530	540	720	800	1040	1200	1610
	F depth	200	250	350	350	440	550	500	500	600	600
air-flap ext. diameter [mm]		40 60									

DRYING OVENS WITH NITROGEN BLOW

are laboratory ovens with dry nitrogen blow system of the chamber













All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: www.polekolab.pl and on page 161.



The PN-ISO 589:2006 standard for the determination of total moisture in hard coal requires that samples of coal subject to oxidation be dried at a temperature of +105°C in a nitrogen flow drying oven.

Detailed requirements and specification of the oven have been described in point 6 of the norm. Use a "nitrogen flow drying oven, allowing to control the temperature in the range from +105°C to +110°C with additional possibility of blowing dry nitrogen stream, at a flow rate of about 15 dryer volumes per hour".

To meet these requirements, we have developed a special version of drying ovens that can operate strictly as per the above standard.





MAIN STANDARD BENEFITS

- temperature range: 5°C above ambient temperature...+300°C
- quality control protocol (at +105°C)
- English instruction manual
- temperature protection class 2.0 to DIN 12880
- open door alarm
- fan speed control (SLWN)
- air-flap
- LAN and USB ports
- height adjustable feet
- access port: Ø30 mm for models 53-240 or
 Ø9 mm for models 15, 32 with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- solid door
- main power switch flush with housing prevents unintentional switch off

CALIBRATION

- Calibration in air in 9 points (corners + geometrical center) of the chamber at 1 selected by the customer temperature in accredited laboratory.
- Calibration in nitrogen in 9 points (corners + geometrical center) of the chamber at 1 selected by the customer temperature in accredited laboratory.
- Calibration of laboratory rotameter in accredited laboratory.

All calibrations are confirmed by 'Calibration Certificate'.

AVAILABLE MODELS

- SLWN1 laboratory oven with dry nitrogen blow system of the chamber; the kit includes connections, valves and a laboratory rotameter (which can be calibrated)
- SLWN2 laboratory oven with dry nitrogen blow system of the chamber; the kit includes connections, valves and a tech rotameter (which cannot be calibrated)

The nitrogen bottle is not supplied.





TECHNICAL DATA

		-	1		-	-				
parameters		SLWN1 15 SLWN2 15	SLWN1 32 SLWN2 32	SLWN1 53 SLWN2 53	SLWN1 115 SLWN2 115	SLWN1 240 SLWN2 240				
air convection				forced						
fan speed control [%]				10100						
chamber capacity [l]		15	32	56	112	245				
door type		solid solid/door with viewing window (o								
temperature range			+5°C abo	ove ambient temperature	.+300°C					
temperature resolution [°C]		every 0,1								
controller		microprocessor PID, 4,3" full-colour touch screen								
nterior		acid-proof stainless steel to DIN 1.4301								
la a constant de	-	powder coated sheet								
housing	IG	stainless steel linen finish to DIN 1.4301								
max shelf	-	10	10	25	25	25				
workload ³ [kg]	PW ¹ version	-	-	50	50	100				
max unit	-	20	30	40	60	90				
workload [kg]	W ² version	-	-	80	120	300				
nominal power [W]		700	1200	1700	2500	3100				
weight [kg]		31	35	48	65	114				
castors		n	0	option						
temperature fluctuation ⁴	SLN	0,4	0,4	0,4	0,4	0,6				
at +105°C [+/- °C]	SLW	0,3	0,3	0,2	0,2	0,4				
temperature variation ⁴	SLN	2,5	2,5	2,0	2,2	2,5				
at +105°C [+/- °C]	SLW	2,0	2,0	2,0	2,0	2,0				
over temperature protectio	n		class 2	2.0 to DIN 12880 / class 3.1 (d	option)					
power supply		2	30V 50-60Hz / 115V 50-60H	z	230V 50-60Hz / 3P + PE 230V 50-60Hz					
shelves fitted/max		1/2	1/3	2/5	2/7	3/10				
warranty		24 months								
manufacturer				POL-EKO®						

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

- 1 reinforced shelf
- 2 reinforced version
- 3 on uniformly loaded surface
- 4 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2

OPTIONS & ACCESSORIES (icon description see pages 117-124)













































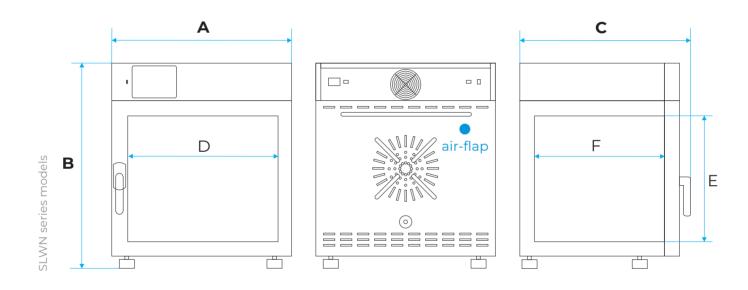


All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

- SLWN 15 every 50 mm
- SLWN 32 every 60 mm
- SLWN 53/115/240 every 70 mm



		SLWN1 15 SLWN2 15	SLWN1 32 SLWN2 32	SLWN1 53 SLWN2 53	SLWN1 115 SLWN2 115	SLWN1 240 SLWN2 240
	A width	510	590	590	650	820
overall dims [mm]	B height	550	640	710	860	1140
	C depth	470	520	630	730	770
	D width	320	400	400	460	600
internal dims [mm]	E height	240	320	390	530	800
	F depth	200	250	350	440	500
air-flap ext. diameter [mm]			60			

SIMPLE DRYING OVEN

Simple in operation laboratory drying oven - convenient unit for customers who do not require advanced programming.

The equipment is based on a simple controller that allows you to set only the temperature.



















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- temperature range: +5°C above ambient temperature... +250°C
- quality control protocol (at +105°C)
- English instruction manual
- temperature protection 1.0 class to DIN 12880
- access port (Ø30 mm) with silicone plug on the right wall
- stainless steel wire shelves (INOX)
- solid door
- fan (SLW, no control)
- open air-flap (no control)
- continuous operating
- height adjustable feets
- main power switch flush with housing prevents unintentional switch off





TECHNICAL **DATA**

TECHNO AE DATA	•	•	•	 -		
parameters	SLN 53 SIMPLE	SLW 53 SIMPLE	SLN 115 SIMPLE	SLW 115 SIMPLE		
air convection	nat	ural	for	ced		
chamber capacity [I]	5	6	10	9		
door type		SC	olid			
temperature range		+5°C above ambient	temperature+250°C			
temperature resolution [°C]		eve	ry 0,1			
controller		SIMPLE controller wit	th external LED display			
interior		stainless stee	el to DIN 1.4016			
housing		powder co	oated sheet			
max shelf workload [kg]	1	0	1	0		
max unit workload [kg]	4	.0	6	0		
nominal power [W]	170	00	25	00		
weight [kg]	4	-6	6	4		
temperature fluctuation¹ at +105°C [+/- °C]	0	,3	0	3		
temperature variation¹ at +105°C [+/- °C]	2,5	1,5	2,5	1,5		
time to reach set temperature [min]	99	19	88	23		
energy consumption at 105°C [Wh/h]	185	305	247	301		
over temperature protection		class 1.0 to DIN 12880				
power supply	230V 50-60Hz	230V 50-60Hz / 115V 50-60Hz 230V 50-60Hz				
shelves fitted/max	2,	/5	2,	7		
warranty		24 m	onths			
manufacturer		POL	-EKO			

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

1 - fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max - T avg min) / 2











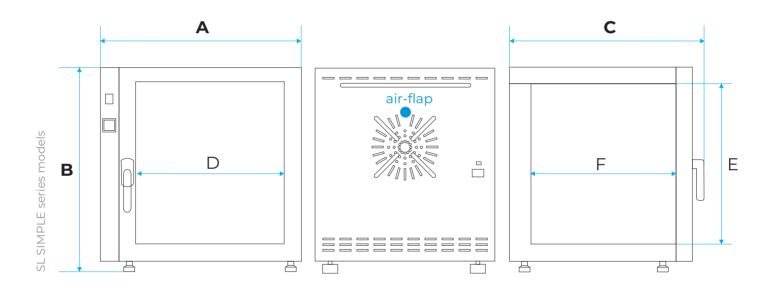




All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility to change the position of shelf SL 53/115 every 70 mm



		SLN 53 SIMPLE	SLN 115 SIMPLE	SLW 53 SIMPLE	SLW 115 SIMPLE
overall dims [mm]	A width	660	720	660	720
	B height	590	730	590	730
	C depth	620	710	620	710
internal dims [mm]	D width	400	460	400	460
	E height	390	530	390	530
	F depth	350	440	350	440
air-flap ext. diameter [mm]		40			



HOT-AIR STERILIZERS

have been equipped with a couple of additional functions that ensure effective sterilization. They can sterilize at temperatures of up to 250°C.

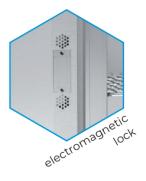
















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- temperature range: 5°C above ambient temperature...+250°C
- quality control protocol (at +170°C)
- English instruction manual
- temperature protection class 2.0 to DIN 12880
- open door alarm
- fan speed control
- castors for SR 400, 750, 1000
- air-flap
- air-flap control in range 0...100% for user programs
- LAN and USB ports
- access port (Ø30 mm) with silicone plug on the left wall
- door lock
- height adjustable feet
- stainless steel wire shelves (INOX)
- solid door
- main power switch flush with housing prevents unintentional switch off

AVAILABLE VERSIONS

- SMART
- Pass-through sterilizers

SOFTWARE (OPTIONAL)

- LabDesk for data download to a PC via LAN (option)
- LabDesk Cloud platform for remote data monitoring

ADVANTAGES OF SR HOT-AIR STERILIZERS

- factory set sterilization programs
- automatic door lock during the sterilization program
- automatically closed air-flap after starting the sterilization program
- 5 user programs and 3 factory preset programs





● TECHNICAL **DATA**

		-	-	-	-d b		-41-
parameters		SR 53	SR 115	SR 240	SR 400	SR 750	SR 1000
air convection		natura	al (SRN) / forced (SRW)		forced (SRW)	
fan speed control [%]		0100 (SRW)		10100	(SRW)	
chamber capacity [l]		56	112	245	424	749	1005
door type				solid/door with vi	iewing window (opt	tion)	
temperature range				+5°C above ambie	nt temperature+2	250°C	
temperature resolution [°C]				e	every 0,1		
controller			m	nicroprocessor PID,	4,3" full-colour toucl	h screen	
interior				acid-proof stain	less steel to DIN 1.43	301	
housing	-			powder	r coated sheet		
nousing	IG	stainless steel linen finish to DIN 1.4301					
max shelf workload ² [kg]	-	25	25	25	25	-	-
max sheli workload- [kg]	PW ¹ version	50	50	100	100	100	100
max unit workload [kg]		40	60	90	120	140	300
nominal power [W]		1700	2500	3100	4000	5500	5500
weight [kg]		48	65	114	162	260	307
castors		option			yes		
temperature fluctuation ³ at +105°C [+/- °C]	SRN	0,4	0,4	0,6	-	-	-
temperature nuctuations at +105°C [+/- °C]	SRW	0,2	0,2	0,3	0,4	0,6	0,6
temperature variation ³ at +105°C [+/- °C]	SRN	2,0	2,2	2,5	-	-	-
temperature variations at +105°C [+/- °C]	SRW	2,0	2,0	2,0	2,5	2,5	3,0
over temperature protection				class 2.0 to DIN 1	12880 / class 3.1 (opt	ion)	
power supply		230V 50-60Hz / 115V 50-60Hz		-60Hz / 3P V 50-60Hz	3P PE+N 400V 50-60Hz / 3P + PE 230V 50-60Hz		
shelves fitted/max		2/5	2/7	3/10	3/14	5/16	6/22
warranty		24 months					
manufacturer				P	OL-EKO [®]		

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

- 1 reinforced shelf
- 2 on uniformly loaded surface
- 3 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2

OPTIONS & ACCESSORIES (icon description see pages 117-124)

































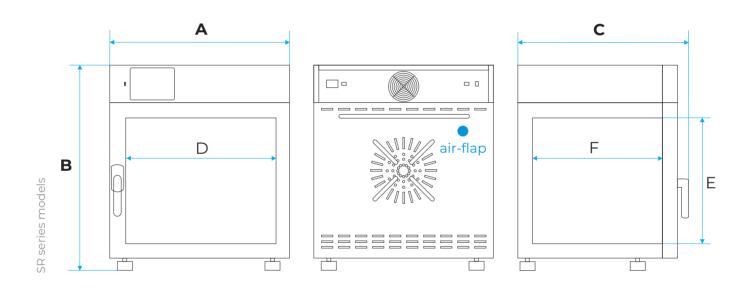




All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access ports' silicone plug.

Possibility to change the position of shelf: SLWN 53/115/240/400/750/1000 - every 70 mm



		SR 53	SR 115	SR 240	SR 400	SR 750	SR 1000
	A width	600	660	820	1020	1260	1260
overall dims[mm]	B height	710	850	1140	1440	1600	2000
	C depth	620	710	770	770	880	880
	D width	400	460	600	800	1040	1040
internal dims [mm]	E height	390	530	800	1040	1200	1610
	F depth	350	440	500	500	600	600
air-flap ext. diameter [mm]		40		60			



PASS-THROUGH STERILIZERS

are made on the basis of standard laboratory sterilizers. They are also used on production lines for sterilization between clean and dirty areas.

















All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: www.polekolab.pl and on page 161.





- temperature range: +5°C above ambient temperature... +250°C
- quality control protocol (at +105°C)
- English instruction manual
- temperature protection class 2.0, 3.1 (option) to DIN 12880
- open door alarm for both doors
- fan speed control (SRWP)
- LAN and USB ports
- access port: Ø30 mm with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- solid door on both sides
- 3 factory preset sterilization programs and 5 user programs
- automatic door lock during the sterilization program
- main power switch flush with housing prevents unintentional switch off
- trim frames and stand for SRWP mounting

AVAILABLE VERSIONS

SMART

SOFTWARE (OPTIONAL)

- LabDesk for data download to a PC via LAN (option)
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA

		-	-		
parameters		SRWP 115	SRWP 240		
air convection		fore	ced		
fan speed control [%]		0100	10100		
chamber capacity [I]		105	240		
door type		so	lid		
temperature range		+5°C above ambient	temperature+250°C		
temperature resolution [°C]		ever	ry 0,1		
controller		microprocessor PID, 4,3" full-colour touch screen			
interior		acid-proof stainless steel to DIN 1.4301			
housing	-	powder coated sheet			
	IG	stainless steel linen finish to DIN 1.4301			
max shelf workload [kg]		10	10		
PW version [kg]		50	100		
max unit worklad [kg]		60	90		
nominal power [W]		2500	3000		
weight [kg]		65	126		
over temperature protection		class 2.0 to DIN 12880 / class 3.1 (option)			
power supply		230V 50-60Hz			
shelves fitted/max		2/7 3/10			
warranty		24 months			
manufacturer		POL-	EKO [®]		

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































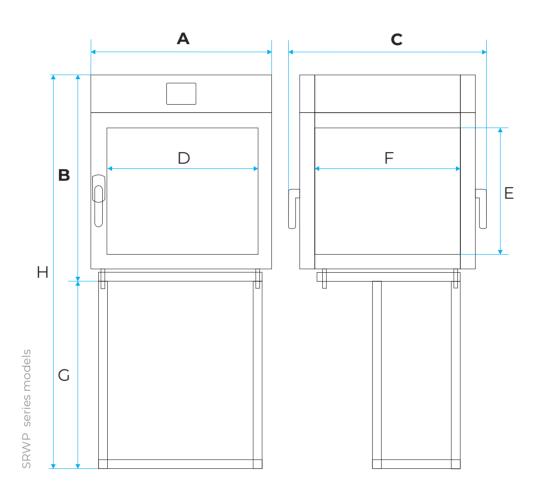




All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility to change the position of shelf: SRWP 115/240 - every 70mm



		SRWP 115	SRWP 240
	A width	680	820
	B height	950	1220
overall dims[mm]	C depth	710	780
	G height	550	290
	H height	1500	1500
	D width	460	600
internal dims [mm]	E height	540	810
	F depth	430	500



CALDERA

is a warming chamber for fluids and blankets









LED light







All thermostatic equipment manufactured by POL-EKO® can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation is available on website: www.polekolab.pl and on page 161.



- temperature range: +35°C ... +42°C
- temperature regulation every 1°C
- visual and audible alarm in case set temperature is exceeded for 2°C
- independent temperature protection class 3.1 according to DIN 12880
- open door alarm
- LED display
- door lock
- height adjustable feets
- service settings protection against unauthorized use
- internal memory for data storage
- forced air convection
- polished stainless steel housing and stainless steel interior
- LED light
- external door with viewing window
- stainless steel telescopic drawers
- main power switch flush with housing prevents unintentional switch off

AVAILABLE VERSIONS

- CALDERA warming chamber for fluids
- (with drawers)
- CALDERA TERM- warming chamber for blankets (with shelves)

CALDERA was designed according to PN-EN 60601-1-2:2002 EMC – Medical standard for electrical equipment (it does not interrupt work of the other medical instruments).

EXTRA FOR CALDERA TERM

- temperature range: +35°C ... +70°C
- stainless steel wire shelves





TECHNICAL DATA











1	_	_					
parametrs	CALDERA 70	CALDERA 150	CALDERA 200	CALDERA 250	CALDERA 300		
air convection			forced				
chamber capacity ¹ [I]	70	150	200	250	300		
loor type			door with viewing windov	V			
emperature range [°C]		+35	+42 (+35+70 in TERM ver	rsion)			
emperature resolution [°C]			every 1,0				
ontroller		micropi	rocessor with external LED) display			
nterior		acid-r	proof stainless steel to DIN	1.4301			
ousing		polis	hed stainless steel to DIN	1.4301			
examples of fluid bags configurations bottle x bottle capacity [I] (per drawer)			20 x 1 or 30 x 0,5 or 4 x 3				
larm		visual and sound	after exceeding the set te	mperature by 2°C			
ghting		energ	gy-saving LED chamber lig	ghting			
naximum drawer load [kg]	20	20	20	20	20		
naximum shelf load in TERM version [kg]	10	10	10	10	10		
nax unit workload [kg]	20	40	40	60	80		
ominal power [W]	250	250	250	250	250		
veight [kg]	32	54	59	69	75		
astors			option				
emperature fluctuation ² at +37°C [+/- °C]	0,3	0,3	0,3	0,3	0,3		
emperature variation ² at +37°C [+/- °C]	0,5	0,5	0,5	0,5	0,5		
ime required to achieve 37°C of the load, it set 37°C (40% load)			4,5 6 h				
rime required to achieve 37°C of the load, at set 37°C (70% load)	10 15 h						
over temperature protection		temperature p	rotection over 45°C (class	3.1 to DIN 12880)			
ower supply		2.	30V 50-60Hz / 115V 50-60H	z			
number of drawers (without shelves)	1	2	2	3	4		
number of shelves in TERM version (fitted/max)	1/4	2/4	2/4	3/6	4/7		
varranty		1	24 months	1	1		
manufacturer	POL-EKO [®]						

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

1 - working capacity of chamber can be smaller

 $2-fluctuation\ measured\ in\ centre\ of\ chamber;\ in\ space,\ variation\ (K)\ calculated\ for\ chamber\ as:\ K=+/-\ (T\ avg\ max\ -\ T\ avg\ min)\ /\ 2$





















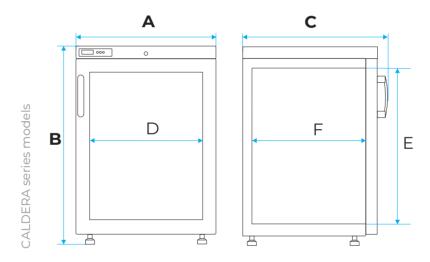
All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable.

Possibility to change the position of shelf in TERM version:

- CALDERA 70 every 80 mm
- CALDERA 150 every 145 mm
- CALDERA 200 every 193 mm
- CALDERA 250/300 every 163 mm

There is no option to change the position of the drawer.



		CALDERA 70	CALDERA 150	CALDERA 200	CALDERA 250	CALDERA 300
overall dims [mm]	A width	550	600	600	600	600
	B height	620	840	1040	1230	1440
	C depth	530	630	630	630	630
internal dims [mm]	D width	450	500	500	500	500
	E height	410	620	820	1020	1220
	F depth	370	470	470	470	470



CO₂ INCUBATORS



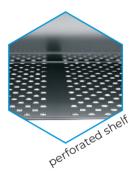




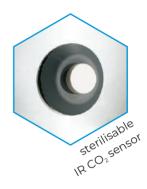
CO₂ INCUBATORS

offers optimum growth conditions for cell cultures. Very precise temperature control, optimal humidity and CO₂ concentration are undeniable advantages of this product











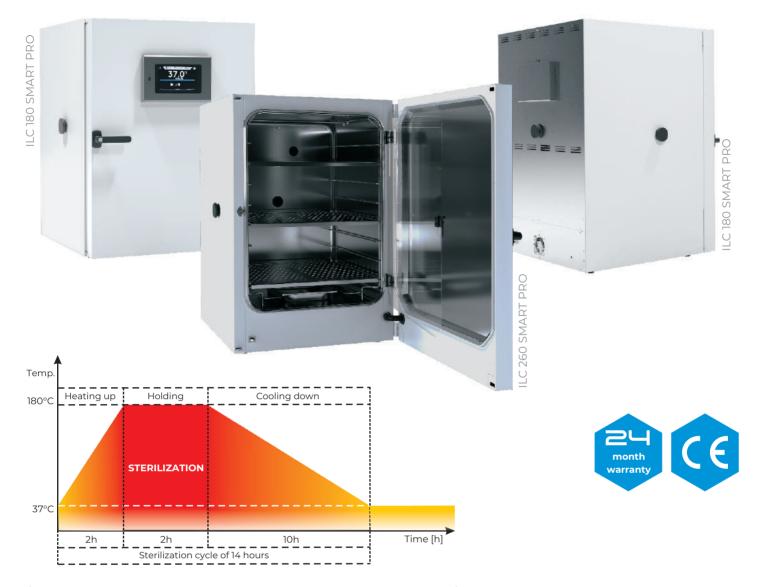






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- temperature range: +5°C above ambient temp...+50°C
- quality control certificate (at +37°C, 5% CO₂)
- English instruction manual
- temperature protection class 3.1 to DIN 12880
- open door alarm
- LAN and USB ports
- height adjustable feets
- two access ports (Ø30 mm) on the left wall and on the rear, both secured with silicone plugs
- water pan to provide optimal humidity (passive humidyfing)
- door lock
- perforated shelves and rack for them to optimal shelf positioning
- silicone gaskets
- magnetic handle for ergonomic internal door opening
- CO₂ gas-mixing jet with Venturi effect to ensure quicker atmosphere mixing and more homogeneous distribution
- multiple temperature sensors for accurate measurement
- main power switch flush with housing prevents unintentional switch off
- Wi-Fi
- LAN cable

CONTAMINATION PROTECTION

- hot-air sterilization at 180°C for 2 hours
- fanless construction
- smooth, easy to clean stainless steel interior with rounded corners
- sterilizable, drift-free infrared CO₂ sensor
- inner glass door for sample viewing without changing the conditions in the chamber
- no hidden spaces

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring





● TECHNICAL **DATA**



parametrs	ILC 180	ILC 260		
air convection	natural (fanless)			
chamber capacity ¹ [I]	182	262		
working capacity ¹ [I]	135	205		
door type	double (external so	olid, internal glass)		
temperature range [°C]	+5°C above ambient	t temperature+50		
temperature resolution [°C]	every	y 0,1		
humidity range [% rH]	90-	95		
CO ₂ range[%]	0-2	20		
CO ₂ resolution [%]	every	y 0,1		
CO ₂ measurement	IF	₹		
controller	microprocessor with a large	7" full-colour touch screen		
interior	acid-proof stainless	steel to DIN 1.4301		
housing	powder coa	ated sheet		
maximum drawer load [kg]	10	30		
max unit workload [kg]	30	50		
nominal power [W]	1700	1700		
weight [kg]	96	118		
temperature fluctuation ² at 37°C [°C]	< ± 0,1	< ± 0,1		
temperature variation ² at 37°C [°C]	< ± 0,3	± 0,4		
time required to achieve 37°C of the load, at set 37°C (40% load) [min]	6	5		
time required to achieve 37°C of the load, at set 37°C (70% load [min])	10	10		
energy consumption at 37°C [Wh/h]	66	97		
temperature protection	class 3.1 to l	DIN 12880		
power supply	230V 50-60Hz /	/ 115V 50-60Hz		
sound levels [db(A)]	42	44		
shelves (fitted/max)	3/6	3/8		
warranty	24 ma	onths		
manufacturer	POL-EKO [®]			

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

- 1 doesn't include rack for shelves space 2 fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2

OPTIONS & ACCESSORIES (icon description see pages 117-124)

















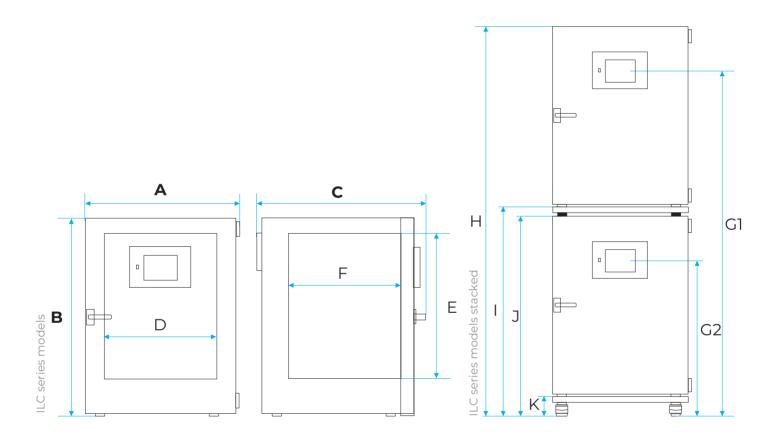


All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility to change the position of shelf:

- ILC 180 every 87mm
- ILC 260 every 84 mm



		ILC 180	ILC 260
	A width	710	750
overall dims [mm]]	B height	920	1070
	C depth	790	840
	D width	560	600
internal dims [mm]	E height	650	800
	F depth	500	550
	G1 height	1710	2070
	G2 height	800	950
stacked dims [mm]	H height	1930	2290
stacked diffis [riffi]	I height	1030	1240
	J height	1020	1170
	K height	105	105



CLIMATIC AND PHYTOTRON CHAMBERS



Climatic chambers KK
Climatic chambers KKS 115/240/400/750
Climatic chambers KKS 500/700/1200/1450
Constant climatic chambers KKP
Climatic chambers with phytotron system FIT





CLIMATIC CHAMBERS

with an ultrasonic humidifier can control temperature and humidity to create stable conditions



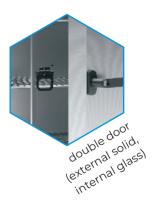














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- temperature range: 0...+60°C
- quality control protocol (at +25°C, 60%rH)
- English instruction manual
- temperature protection class 3.3 to DIN 12880
- open door alarm
- fan speed control
- castors for all models
- LAN and USB ports
- access port (Ø30 mm) with silicone plug on the left wall
- automatic defrosting function
- container (201) for deionized water
- shelf for deionised water container
- tray with pump for waste water
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- main power switch flush with housing prevents unintentional switch off
- Wi-Fi
- LAN cable

AVAILABLE VERSIONS

- SMART PRO
- KK FIT with phytotron system

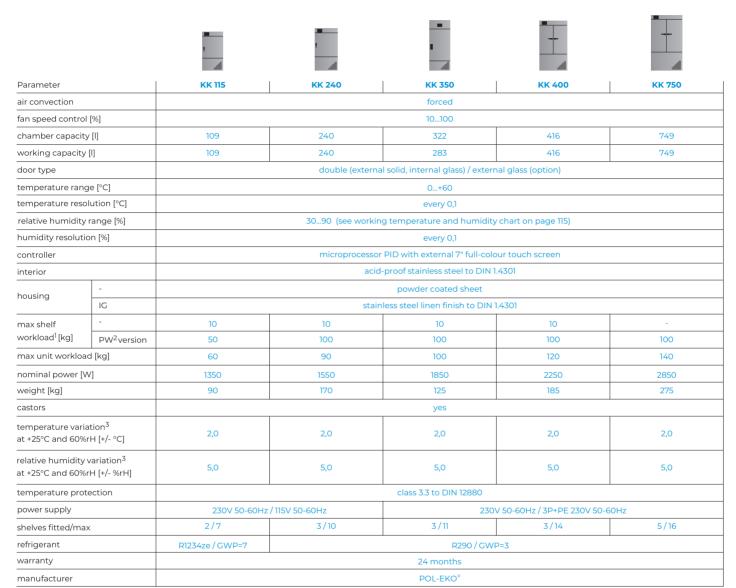
SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA



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

- 1 on uniformly loaded surface
- 2 reinforced shelf
- 3 variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2 $\,$

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)

































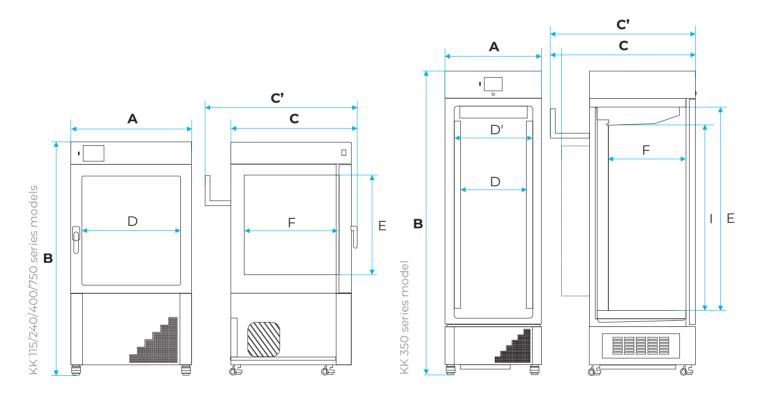


All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

- KK 115/240/400/750 every 70 mm,
- KK 350 every 56 mm



		KK 115	KK 240	KK 350	KK 400	KK 750
overall dims [mm]	A width	660	820	640	1020	1270
	B height	1330	1590	2010	1830	1990
	C depth	730	790	900	790	890
	C' depth	950	1010	990	1010	1120
	D width	460	600	470	800	1040
	D' width	-	-	510	-	-
internal dims [mm]	E height	530	800	1340	1040	1200
	F depth	440	500	500	500	600
	I height	-	-	1180	-	-



CLIMATIC CHAMBERS KKS 115/240/400/750

with a steam humidifier can control temperature and humidity to create stable conditions











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steam humidifier







- temperature range: 0...+100°C
- quality control protocol (at +25°C, 60%rH)
- English instruction manual
- temperature protection class 3.3 to DIN 12880
- open door alarm
- fan speed control
- castors
- LAN and USB ports
- access port (Ø30 mm) with silicone plug on the left wall
- automatic defrosting function
- reverse osmosis system
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- Wi-Fi
- LAN cable
- main power switch flush with housing prevents unintentional switch off

AVAILABLE VERSIONS

SMART PRO

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA









Parameter		KKS 115	KKS 240	KKS 400	KKS 750		
air convection		forced					
fan speed control [%]		10100					
chamber capacity [I]		109	240	416	749		
working capacity [I]		109	240	416	749		
door type		double (external solid, internal glass) / external glass (option)					
temperature range [°C]		0+100					
temperature resolution [[°C]	every 0,1					
relative humidity range [%]		1090 (see working temperature and humidity chart for details on page 104)					
humidity resolution [%]			every 0,1				
controller		mic	microprocessor PID with external 7" full-colour touch screen				
interior			acid-proof stainless steel to DIN 1.4301				
housing	-	powder coated sheet					
	IG	stainless steel linen finish to DIN 1.4301					
max shelf workload ¹ [kg]	-	10	10	10	-		
	PW ² version	50	100	100	100		
max unit workload [kg]		60	90	120	140		
nominal power [W]		2900	3250	3650	4250		
weight [kg]		122	140	185	275		
castors		yes					
temperature variation ³ at +25°C and 60%rH [+/- °C]		2,0	2,0	2,0	2,0		
relative humidity variation ³ at +25°C and 60%rH [+/- %rH]		5,0	5,0	5,0	5,0		
temperature protection		class 3.3 to DIN 12880					
power supply		230V 50-60Hz 400V 50-60Hz			D-60Hz		
shelves fitted/max		2/7	3/10	3/14	5/16		
refrigerant		R1234ze / GWP=7 R290 / GWP=3					
warranty		24 months					
manufacturer		POL-EKO®					

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

- 1 on uniformly loaded surface
- 2 reinforced shelf
- $3 fluctuation\ measured\ in\ centre\ of\ chamber;\ in\ space,\ variation\ (K)\ calculated\ for\ chamber\ as:\ K= +/-\ (T\ avg\ max T\ avg\ min)\ /\ 2$

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)





























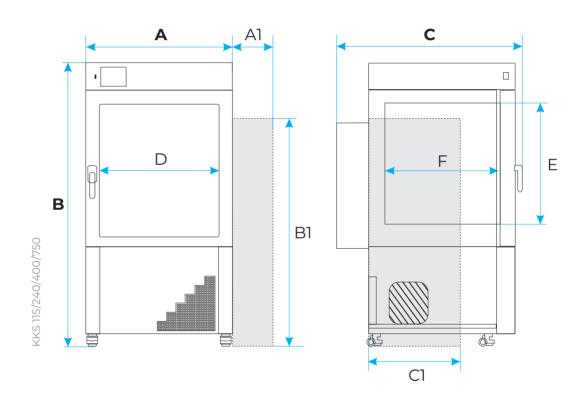


All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

External dimensions of the unit do not include the reverse osmosis system (see table below), weight of reverse osmosis system - 14kg.

Possibility of changing the shelf position: KKS 115/240/400/750 - every 70 mm



		KKS 115	KKS 240	KKS 400	KKS 750		
overall dims [mm]	A width	660	820	1020	1270		
	B height	1330	1590	1830	1990		
	C depth	820	880	880	980		
	A1 depth	280					
reverse osmosis system overall dims [mm]	B1 height	990					
,	C1 width	380					
	D width	460	600	800	1040		
internal dims [mm]	E height	530	800	1040	1200		
	F depth	440	500	500	600		



CLIMATIC CHAMBERSKKS 500/700/1200/1450

with a steam humidifier can control temperature and humidity to create stable conditions

















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- temperature range: 0...+60°C, -10...+60°C (option)
- quality control protocol (at +25°C, 60%rH)
- English instruction manual
- temperature protection class 3.3 to DIN 12880
- open door alarm
- fan speed control
- castors for all models
- LAN and USB ports
- access port (Ø30 mm) with silicone plug on the left wall
- automatic defrosting function
- container (6l) for deionized water
- shelf for deionised water container
- tray with pump for waste water
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- main power switch flush with housing prevents unintentional switch off
- Wi-Fi
- LAN cable

AVAILABLE VERSIONS

SMART PRO

SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA









Parameter		KKS 500	KKS 700	KKS 1200	KKS 1450		
air convection		forced					
fan speed control [%]		10100					
chamber capacity [I]		508	643	1412	1565		
working capacity [l]		334	418	836	963		
door type		double (external solid, internal glass) / external glass (option)					
temperature range [°C]		0+60 / +10+60°C (with humidity) / -10+60 (option)					
emperature resolution	[°C]	every 0,1					
elative humidity range	: [%]	1090 (see working temperature and humidity chart on page 115)					
numidity resolution [%]		every 0,1					
controller		microprocessor PID with external 7" full-colour touch screen					
nterior		acid-proof stainless steel to DIN 1.4301					
nousing	-	powder coated sheet					
lousing	IG	stainless steel linen finish to DIN 1.4301					
max shelf workload ¹ [kg]	-	20	30	30	30		
	PW ² version	100	100	100	100		
nax unit workload [kg]		100	150	300	300		
nominal power [W]		2000	2000	2800	2800		
veight [kg]		135	170	220	230		
castors		yes					
temperature variation ³ at +25°C and 60%rH [+/- °C]		1,0	1,0	1,0	1,0		
relative humidity variation ³ at +25°C and 60%rH [+/- %rH]		2,0	2,0	2,0	2,0		
temperature protection		class 3.3 to DIN 12880					
power supply		230V 50-60Hz / 3P+PE 230V 50-60Hz					
shelves fitted/max		3/11	3/11	2×3/11	2 x 3/11		
refrigerant		R290 / GWP=3					
warranty		24 months					
manufacturer		POL-EKO [®]					

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

- 1 on uniformly loaded surface
- 2 reinforced shelf
- 3 variation (K) calculated for chamber as: K= +/- (T avg max T avg min) / 2

• OPTIONS & **ACCESSORIES** (icon description see pages 117-124)



































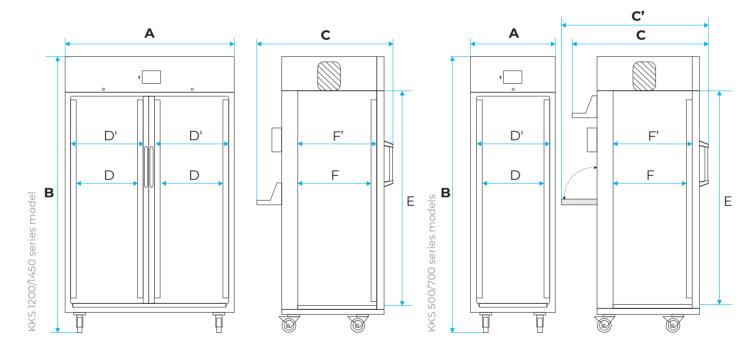


All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

KKS 500/700/1200/1450 – every 56 mm



		KKS 500	KKS 700	KKS 1200	KKS 1450
overall dims [mm]	A width	640	730	1460	1460
	B height	1970	1970	1970	1970
	C depth	980	1100	1140	1140
	C' depth	990	1110	-	-
internal dims [mm]	D width	470	535	535	535
	D' width	510	600	600	600
	E height	1510	1510	1510	1510
	F depth	520	550	550	550
	F' depth	545	595	595	595



CONSTANT CLIMATIC CHAMBERS

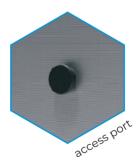
with Peltier cooling system designed for long-term stability tests. They feature very low electricity and water consumption, and excellent parameter performance

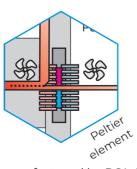
















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- temperature range:
 - without humidity: 0...+70 (max 20°C below ambient temp.)
 - with humidity: +5...+70 (max 20°C below ambient temp.)
- Peltier element cooling system (see page 23)
- quality control protocol (at +25°C, 60%rH)
- English instruction manual
- temperature protection class 3.3 to DIN 12880
- open door alarm
- castors for KKP 750
- LAN and USB ports
- height adjustable feets
- access port (Ø30 mm) with silicone plug on the left wall
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- external 6 L water tank (can be assembled on the left or right side of the unit)
- Wi-Fi
- LAN cable
- main power switch flush with housing prevents unintentional switch off

AVAILABLE VERSIONS

- SMART PRO
- KKP FIT with phytotron system (see pages 19-22)

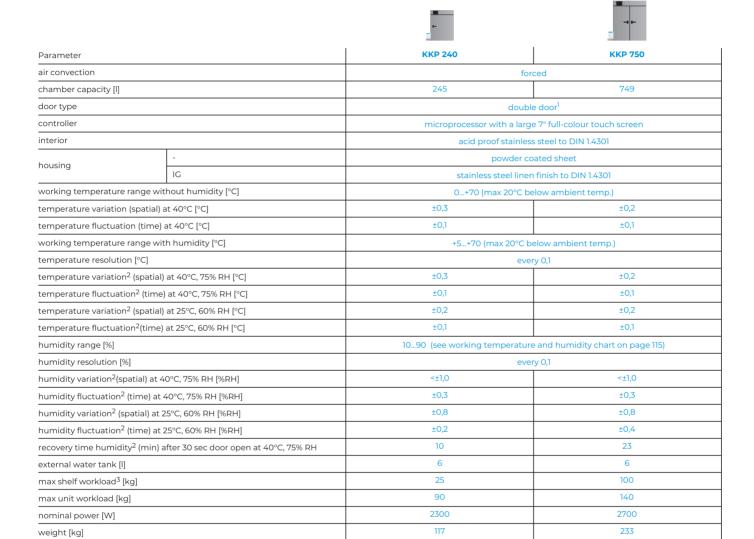
SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring





TECHNICAL DATA



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

1 - internal glass, external solid

temperature protection

shelves (fitted/max)

- $2 fluctuation \ measured \ in \ centre \ of \ chamber; \ in \ space, \ variation \ (K) \ calculated \ for \ chamber \ as: K = +/- \ (T \ avg \ max T \ avg \ min) \ / \ 2$
- 3 on uniformly loaded surface

OPTIONS & ACCESSORIES (icon description see pages 117-124)



castors

power supply

manufacturer

warranty



















230V 50-60Hz / 3P+PE 230V 50-60Hz

3/10





class 3.3 to DIN 12880

POL-EKO







400V 50-60Hz / 3P+PE 230V 50-60Hz

3/16





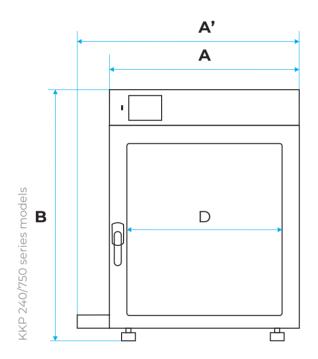
DIMENSIONS & DATA

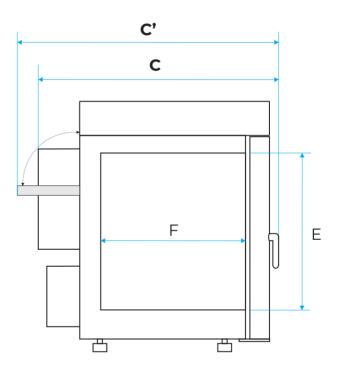
All dimensions refer to standard units (without optional accessories).

Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Width doesn't include shelf for water tank - 140mm

Possibility of changing shelf position - KKP 240/750 - every 70 mm





		KKP 240	KKP 750
overall dims [mm]	A width	820	1260
	A' width	960	1400
	B height	1140	1580
	C depth	840	940
	C' depth	940	1040
internal dims [mm]	D width	600	1040
	E height	800	1200
	F depth	510	600

PHYTOTRON CHAMBERS

can control temperature, humidity and light to create stable conditions

















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MAIN STANDARD BENEFITS

- temperature range: 0...+60°C (light OFF) / +10...+50°C (light ON)
- quality control protocol (at +25°C, 60%rH)
- English instruction manual
- temperature protection class 3.3 to DIN 12880
- open door alarm
- castors (except KKP 240)
- LAN and USB ports
- access port (Ø30 mm) with silicone plug on the left wall (at the back in FIT S/DS)
- automatic defrosting function
- container for deionised water 20l (KK), 6l (KKS/KKP)
- shelf for deionised water container (KK, KKS, KKP)
- tray with pump for waste water (KK)
- door lock
- stainless steel wire shelves (INOX)
- double door (external solid, internal glass)
- phytotron system FIT P as over-shelf panels, FIT D in door,
 FIT S in side walls or FIT DS in door and side walls
- Wi-Fi
- LAN cable
- main power switch flush with housing prevents unintentional switch off
- detailed information on Phytotron system see pages 19-22.

AVAILABLE VERSIONS

- SMART PRO
- KK/KKP FIT P phytotron system as over-shelf panels
- KK FIT D phytotron system in door
- KK FIT S phytotron system in side walls
- KK FIT DS phytotron system in door and side walls (detailed information, see pages 19-22)

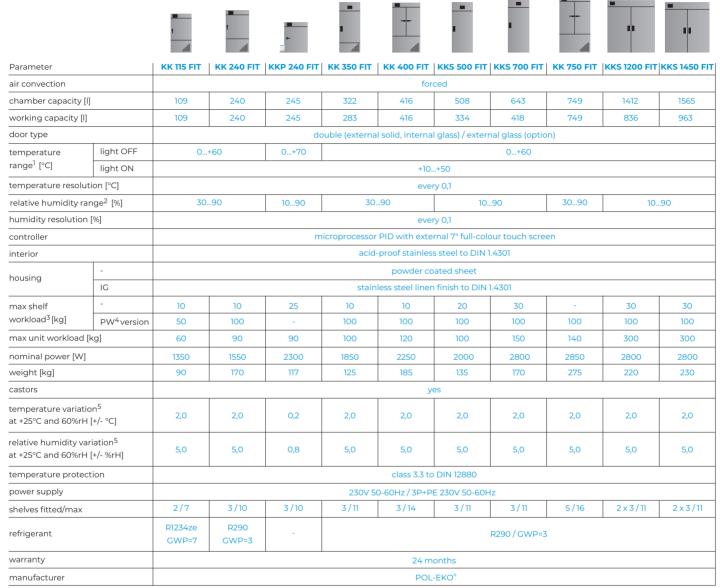
SOFTWARE

- LabDesk for data download to a PC via LAN or Wi-Fi
- LabDesk Cloud platform for remote data monitoring



KK/KKS/KKP FIT

● TECHNICAL **DATA**



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

- 1 for KKP max 20°C below ambient temperature without humidity, with humidity +5...+70 (max 20°C below ambient temperature) working temperature range with humidity and light (10°C below ambient temperature but not less than +10°C)
- 2 see working temperature and humidity chart on page 104
- 3 on uniformly loaded surface
- 4 reinforced shelf
- 5 variation (K) calculated for chamber, with light OFF as: K= +/- (T $_{\rm avg}$ $_{\rm max}$ T $_{\rm avg}$ $_{\rm min})$ / 2

OPTIONS & ACCESSORIES (icon description see pages 117-124)





































C'

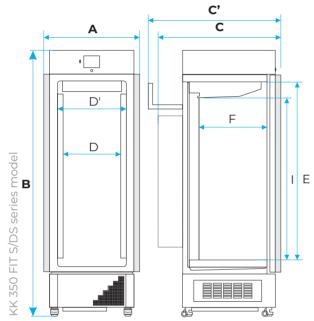
DIMENSIONS & DATA

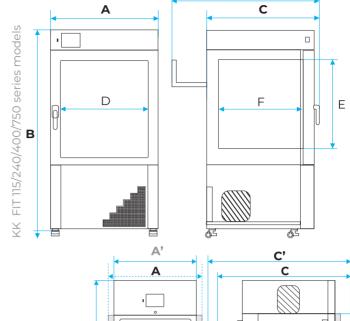
All dimensions refer to standard units (without optional accessories).

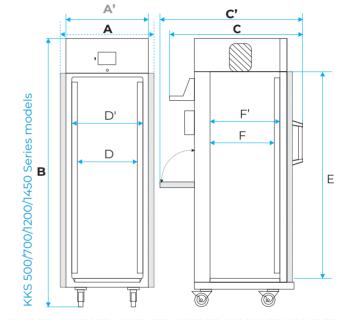
Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

Possibility of changing the shelf position:

- KK 115/240/400/750 every 70 mm
- KKP 240 every 70 mm
- KK 350, KKS 500/700/1200/1450 every 56 mm





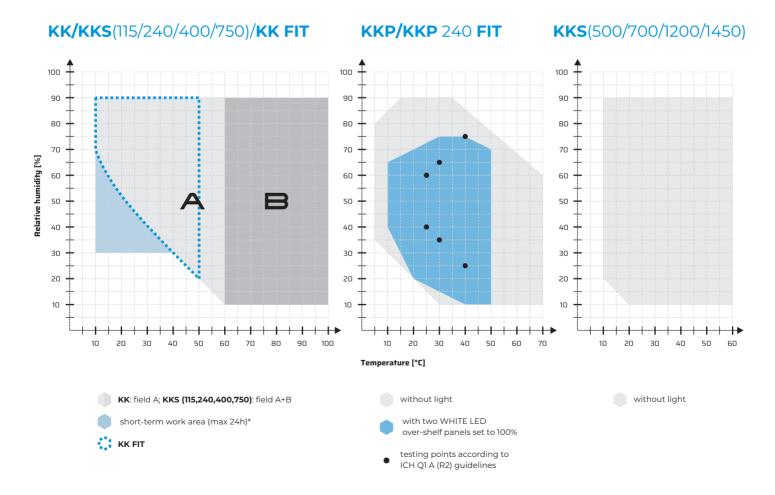


		KK 115 FIT	KK 240 FIT	KKP 240 FIT	KK 350 FIT	KK 400 FIT	KKS 500 FIT	KKS 700 FIT	KK 750 FIT	KKS 1200 FIT	KKS 1450 FIT
	A' width	660	820	960	-	1020	640	730	1270	1460	1460
overall dims [mm]	B height	1340	1590	1140	-	1830	1970	1970	1990	1970	1970
FIT P models	C depth	730	790	840	-	790	980	1100	920	1140	1140
	C' depth	950	1010	940	-	1010	990	1110	1140	-	-
	A width	660	820	-	-	-	-	-	1270	-	-
overall dims [mm]	B height	1340	1590	-	-	-	-	-	1990	-	-
FIT D models	C depth	750	810	-	-	-	-	-	920	-	-
	C' depth	970	1030	-	-	-	-	-	1140	-	-
	A width	-	-	-	-	-	720	810	-	-	-
overall dims [mm]	B height	-	-	-	-	-	1960	1970	-	-	-
FIT S models	C depth	-	-	-	-	-	980	1100	-	-	-
	C' depth	-	-	-	-	-	990	1110	-	-	-
	A width	-	-	-	720	-	720	810	-	-	-
overall dims [mm]	B height	-	-	-	2000	-	1960	1970	-	-	-
FIT DS models	C depth	-	-	-	920	-	980	1100	-	-	-
	C' depth	-	-	-	1010	-	990	1110	-	-	-
	D width	460	600	600	470	800	470	535	1040	2 x 535	2 x 535
internal dims [mm]	D' width	-	-	-	510	-	510	600	-	2 x 600	2 x 600
	E height	530	800	800	1340	1040	1510	1510	1200	1510	1510
	F depth	440	500	510	500	500	520	550	600	2 x 550	2 x 550
	F' depth	-	-	-	-	-	545	595	600	2 x 595	2 x 595
	I height	-	-	-	1180	-	-	-	-	-	-

COMPARISON OF CLIMATIC CHAMBERS

Parameter	Climatic chamber KK with ultrasonic humidifier	Constant climatic chambers KKP with Peltier cooling system	Climatic chamber KKS 115/240/400/750 with steam humidifier	Climatic chamber KKS 500/700/1200/1450 with steam humidifier
temperature range	0°C +60°C	0°C+70°C +5°C+70°C (with humidity) (max 20°C below ambient temp.)	0°C +100°C	0°C +60°C -10°C+60°C (option) +10°C+60°C (with humidity)
temperature range FIT	0°C +60°C (+10°C+50°C with light ON)	0°C +70°C (+10°C+50°C with light ON and humidity) 10°C below ambient temp. not less than +10°C	FIT not available	0°C +60°C (+10°C+50°C with light ON)
relative humidity range	3090%	1090%	1090%	1090%
water supply (conductivity)	deionized (1-20 µS/cm)	deionized (1-30 µS/cm)	tap water (125-1250 μS/cm)	tap water (125-1250 μS/cm)
water source	- container for deionized water (included) 20I - internal deionized water network - deionizer	container for deionized water (included) 6I	water supply system	water supply system
outflow	drain system	unecessary	drain system	drain system
humidifier	ultrasonic	steam	steam	steam \$\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\

WORKING TEMPERATURE-HUMIDITY RANGE (OVERVIEW DRAWINGS FOR EMPTY CHAMBERS)



 $^{^{*}\,}temperature\,and\,humidity\,range\,in\,which\,the\,chamber\,is\,able\,to\,operate\,properly\,for\,no\,longer\,than\,24\,hours$



Internal glass door

This is standard equipment of CL/IL/KK and ILC models. This is an additional option available for ST/CHL models. **Order number: */C** (factory fitted).

External glass door

This is an additional option available for ST/CHL models and for KK 350 and KKS 500, 700, 1200, 1450 models.

Order number: */A (factory fitted).

In case of ST models in SMATR PRO version, maximum temperature is reduced to 40°C.

Door with viewing window

This is an additional option available for CL/IL/SL/SR models (except CL/SL 15, 32) and for KK 115, 240, 400, 750 models.

Order number: */A (factory fitted).

In case of SL range, maximum temperature is reduced to +250°C.

Internal socket

In this additional option we distinguish sockets with IP54 and IP66. Sockets with grounding IP54: option available only for ST, CHL, ILW; option NOT available for ZL, CL, SL, SR, KK, KKS, KKP, ILC, on request: ILP.

Sockets with grounding IP66: option available only for KK, KKS; option NOT available for ZL, CL, SL, SR, ILC; option on request for ST, CHL, ILW, KKP, ILP

Order number: GNZ/* (factory fitted).

In case of power supply 115V 50-60Hz, units can be delivered with the socket GNZ/B/IP54 (NEMA 5-15 U.S. 3 pin).

In case of internal socket, temperature range is limited to +70°C, maximum permissible load of all sockets built into the unit (max. 3 pcs) is 200 W. Different sockets available depending on country and power supply.

Plug

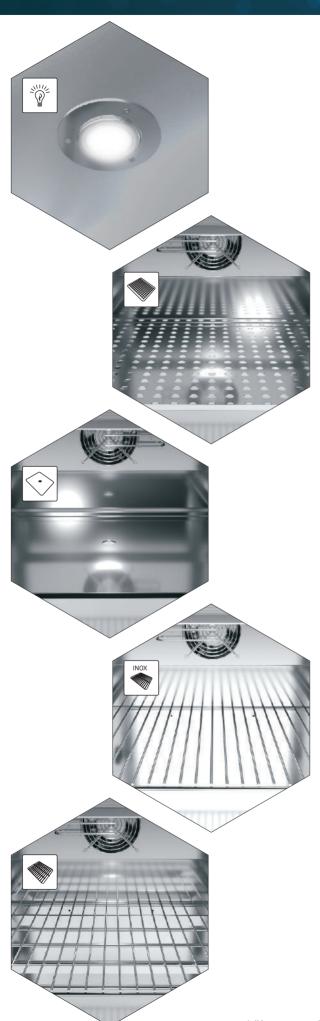
For the units with power supply 230V 50-60Hz, standard plug: (type E/F) Uni-Schuko.

Other plugs: on request

The units with power supply 115V 50-60Hz are delivered as standard with plug B.

Order number: PLG/* (factory fitted) (not possible to choose other plug)





Interior lighting

This is standard equipment of ST/CHL models.

This is an additional option available for ZL/ILW/CL/SL/SR models (except CL/SL 15, 32).

Order number: OWW/OWW LED (factory fitted).

Interior lighting features one light point. The user switches it on with pressing the button located in the front panel.

This option does not allow day/night simulation (see FIT and FOT options). Max working temperature is reduced to +70°C, for SL/SR ranges to +250°C and for ZL-T range to -35°C.

Perforated shelf

This is standard equipment in ZLW-T models. This is an additional option available for ST/CHL/ZL/CL/IL/SL/SR/KK ranges.

Order number: */PP.

Perforated shelf is made of stainless steel to DIN 1.4301 and provided with slides.

Different depths of the shelf on request.

Full shelf with hole

This is standard equipment of ZLN-T models.

Order number: */PO.

Shelf is made of stainless steel to DIN 1.4301 and provided with slides.

Stainless steel wire shelf (INOX)

This is standard equipment of CL/IL/SL/SR/KK models, ZLN 85 model and in ST/CHL C (comfort) and P (premium) models.

Order number: */P INOX.

INOX wire shelf is made of stainless steel to DIN 1.4301 and provided with slides.

Reinforced shelf

This is standard equipment of CL/IL/SL/SR/KK 750 and 1000 models and all CL/ILW/SL models in the reinforced version

(order number: */W).

This is an additional option available for CL/ILW/SL/SR/ST/CHL/KK ranges and ZL-T models.

Order number: */PW.

Reinforced shelf can be wire, perforated or with a hole. It is provided with slides.

Maximum shelf workloads and maximum unit workloads can be found in tables with parameters for certain product ranges.

*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented.



Reinforced version

This is a standard feature of CL/SL/SR 1000 models, and an additional option available for CL/ILW/SL and ZL-T 125, 200, 300 models.

Order number: */W (factory fitted).

Reinforced version of products allows to store heavy loads in chamber. It consists of reinforced construction of the chamber and reinforced shelves. In this way we prevent damage to the unit caused by heavy loads. Maximum shelf workloads and maximum unit workloads can be found in the tables with parameters for certain product ranges. If a unit in reinforced version is purchased, the reinforced shelves are supplied instead of standard shelves.

Aluminum drawer with powder coated slides

This is an additional option available for ST/CHL models.

Order number: ST/CHL SWP ALU.

The drawer is made of aluminum, 6 cm deep, provided with a pull out powder coated slides set, with 2 compartments longways + 2 across in each section.

Stainless steel drawer with powder coated slides

This is an additional option available for ST/CHL models.

Order number: ST/CHL SWP INOX.

The drawer is made of stainless steel, 6 cm deep, provided with pull out powder coated slides set, with 2 compartments longways + 2 across in each section.

Stainless steel drawer with stainless steel slides

This is an additional option available for ST/CHL models.

Order number: ST/CHL SWPN INOX.

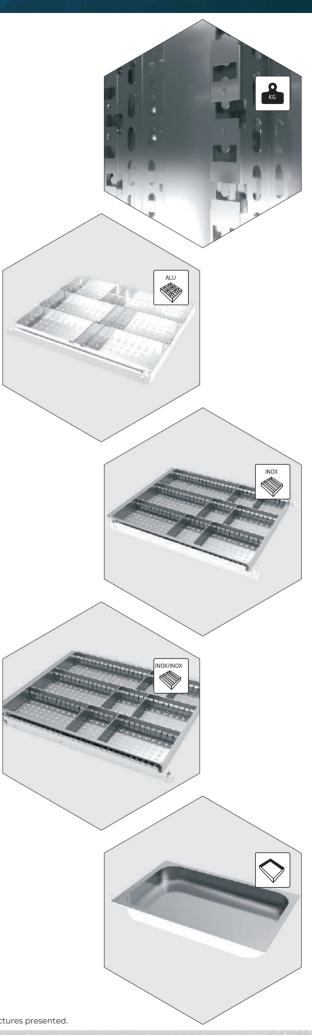
The drawer is made of stainless steel, 6 cm deep, provided with pull out stainless steel slides set, with 2 compartments longways+ 2 across in each section.

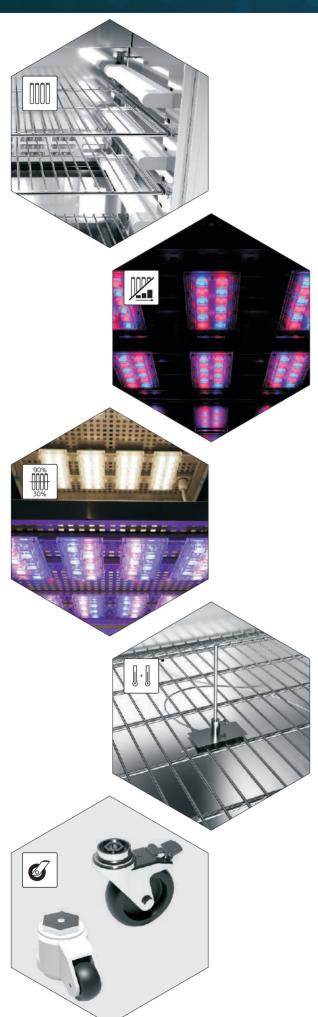
Stainless steel cuvettes

This is an additional option available for all products models.

Order number: KUW.GN */*

Stainless steel cuvettes can be placed on the shelves. Different sizes available





Photoperiodic system

This is an additional option for ST and ILW in SMART version **Order number: */FOT** (factory fitted). Photoperiodic system allows day and night simulation.

Photoperiodic system allows day and night simulation. See page 18 for more details.

Phytotron system

This is an additional option for the KK/KKS/KKP range, ILW SMART PRO version and ST 500-1450 SMART PRO models.

Order number: */FIT (factory fitted).

Phytotron LED system allows day and night simulation with smooth illumination control (each 1%). See pages 19-22 for more details.

FIT panels independent control

This is an additional option available for the units equipped with FIT option – at least two (2) over-shelf illumination panels. Possibility of independent over-shelf lighting control.

Order number: FIT/R3 (factory fitted).

It allows to control the light intensity independently for each of two or three over-shelf panels (e.g. the light intensity above one of the shelves can be set to 100%, and above the other to 50%).

Additional Pt 100 temp. sensor

This is an additional option available only for SMART PRO versions (except for KK/KKS and units equipped with automatic defrosting function PLUS or FOT/FIT option).

Order number: Pt 100 (factory fitted).

This option consists of an additional temperature sensor and a sensor's socket. The additional temperature values can be shown on the display. The user can set the main and additional sensor. This way unit can work according to the sample temperature in which additional Pt 100 sensor is placed. The sensor may be supplied with a calibration certificate.

Castors

This is a standard equipment of ST/CHL 1200, 1450, CL/SL/SR 400, 750, 1000, ILW/ILP 750, ILW 400, KK, ZLN-UT, ZL-T except for ZLN 85.

This is an additional option available for all product ranges. **Order number: QLK***(factory fitted).

Large size units have been equipped with castors as standard.

For other units castors can be fitted on request.

*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented.



Container for delonized water

This is standard equipment of KK range (except KKS). This is an additional option available for KK range.

Order number: KK/Z.

This plastic container is for deionized water which is indispensible for a proper KK performance.

The container is not necessary in case the chamber is plugged directly to a deionizer.

HEPA-Fresh air Filter

This is an additional option available for CL/SL/SR models.

Order number: HEPA (factory fitted).

HEPA filter is installed at the air inlet to the chamber.

Table on castors

This is an additional option available for ST/CHL 1-3, ZLN 85, CL/SL 15, 32, CL/IL/SL/SR 53-240 models.

Order number: */S (powder painted) or */S INOX (stainless steel).

Table with castors provides the highest comfort of using

POL-EKO® products. We offer a wide range of tables equipped with castors.

Different sizes of the tables are available on request.

Base on castors

This is an additional option for ST/CHL 1, 2, 3, ZLN 85, CL/IL/SL/SR 53-240, KKP 240 models.

Order number: */ST, */ST INOX.

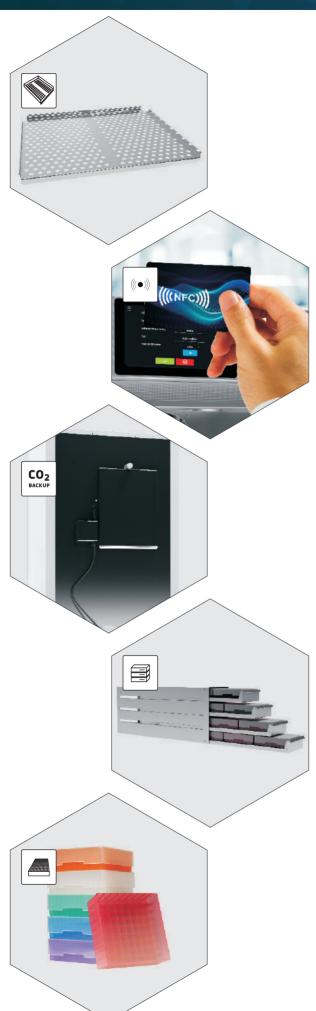
LabDesk software

This is a standard software for all SMART PRO units. This is an additional option for SMART units.

Order number: LabDesk.

See page 24 for more details.





Reinforced perforated shelf

This is an additional option available for ILC range.

Order number: */PPW

RFID LOCK

This is an additional option for equipment in SMART and SMART PRO version (except ILC, ZL-T, ZLN-UT series).

Order number: RFID LOCK (SMART) (factory fitted).

The electromagnetic lock with RFID cards for SMART - allows access to the interior of the unit (opening the door) only after tapping the RFID card/fob to the reader or using key. The option contains electromagnetic lock, RFID reader, 5 cards (increased number of cards for request).

For ST/CHL/KK 1200 and 1450 option on request.

Order number: RFID LOCK (SMART PRO) (factory fitted).

The electromagnetic with RFID cards for SMART PRO - allows to log in to the SMART PRO controller and open doors by tapping the RFID card to the reader. The option contains electromagnetic lock, RFID reader/fob, 5 cards (increasing number of users on request). For ST/CHL/KK 1200 and 1450 option on request.

CO₂ back up system

This is an additional option available for ZLN-UT models.

Order number: ZLN-UT/CO2 (factory fitted).

Enables the freezer controller to dose CO_2 in case of undesired temperature increase in the chamber. It is supplied with an internal battery. This solution is particularly recommended in the event of a power outage.

ZLN-UT/ST rack with drawers

This is an additional option available for ZLN-UT range.

Order numbers: ZLN-UT/ST12, ZLN-UT/ST16

Sturdy and heavy duty, made of stainless steel; feature quick and easy access to all boxes; 3 or 4 drawers (each for 4 boxes) per rack.

Boxes

This is an additional option available for ZLN-UT range.

Order number: ZLN-UT/STP12 ZLN-UT/STP16

Boxes set (12 or 16) made of polypropylene (dimensions 133x133x50 mm; each box suits 81 test-tubes of Ø 12,5mm) or made of cardboard.

*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented.



Non-standard access port

This is an additional option available for all product ranges.

Order number: OCZ/20, OCZ/30, OCZ/60, OCZ/100 (factory fitted).

The access port is made in addition to the standard one.

Available diameters: 20 mm, 30 mm, 60 mm, 100 mm.

The diameter of the access port and its location must be agreed with the manufacturer before placing an order.

Low temperature version

This is an additional option available for ILW range and for KKS 500/700/1200/1450.

Order number: */T (factory fitted).

It extends temperature range down to -10°C (standard temperature range starts from 0°C).

Calibration of the chamber

This is an additional option available for all product ranges.

Order numbers: BRT/9/L, BRT/1P/L, BRT/2P/L, IQ, OQ, PQ. Measurements are performed at 9 points of the chamber

(corners + geometric center) or at 5 points on the shelf (corners + geometric center) at the temperature selected by the User. Moreover, IQ, OQ, PQ documentation is available for each unit.

Alarm port - dry contact alarm

This is an additional option available for all product ranges (except SL SIMPLE and CALDERA).

Order number: PORT ALARM (factory fitted)

A potential free alarm port intended to inform on units state. It can be connected to any external monitoring system/unit with digital/binary input. The alarm port is a relay type output with NC-COM-NO contacts. They are switched when an alarm occurs or there is a power outage.

Active output: correct operation, inactive output: alarm

Extended temperature range ST/70

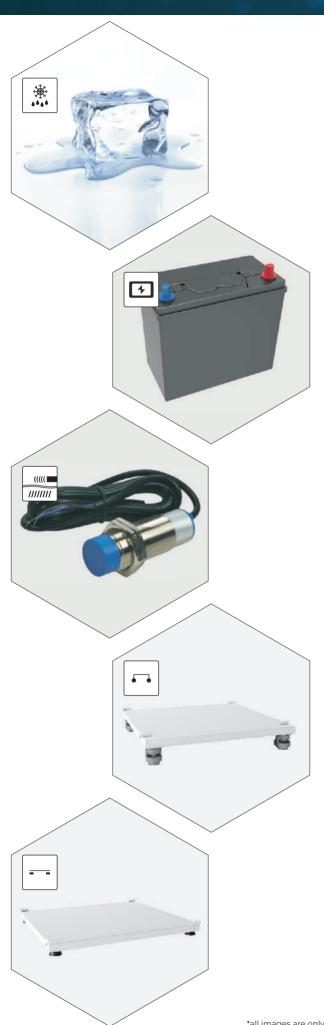
This is a standard feature of ST SMART PRO models. This is an additional option available for ST models with solid door.

Order number: ST/70 (factory fitted).

This is an extended temperature range up to +70°C (standard temperature range in ST models is +3°C...+40°C).



^{*}all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented.



Automatic defrosting function

This is a standard feature for KK, ST/ILW models with FOT and FIT illumination and CHL/ST M (monoblock). This is an additional option available for ST/CHL/ILW models.

Order number: * PLUS (factory fitted).

The automatic defrosting function is performed while the unit is running. Used technology causes only a slight increase in temperature in the chamber (slight peak). Default settings - 2 minutes defrosting every 2 hours, causes a temporary increase in temperature in the chamber by approx. 3°C. Defrosting parameters can be changed by the User depending on the application - test type (wet / dry), door opening frequency, etc.

Display battery backup 12h

This is a standard feature for ZLN-UT range.
This is an additional option available for all product ranges (except SL SIMPLE and CALDERA).

Order number: BPP 12 (factory fitted).

Battery backup for display up to 12 h
(only data registration, no parameters control).

Low water level sensor

This is an additional option available for KK range (except KKS).

Order number: KK/CP (factory fitted).

An alarm goes off when the water level is low.

Deionized water level sensor installed next to water container.

Alarm diode located on the control panel informing about refilling.

Base on castors

This is an additional option for ILC.

Order number: */STN

Base on castors for ILC, height 118 mm, powder coated.

Stacking adaptor

This is an additional option for ILC.

Order number: */AD

Stacking adaptor for ILC, height 90 mm, powder coated.

*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented.



Administrator function

This is a standard feature for all units in SMART PRO version. It allows to manage user accounts and supports GLP.

Audible alarm

This function activates an audible alarm at a time specified by the user.

Defrosting function

This is a standard feature for CHL models without automatic defrosting function. Defrosting is performed automatically but it has to be launched manually by the user at the most suitable time (e.g. when there are no samples in the chamber). Defrosting involves temporary heating inside the chamber by approx. 20-30°C. Therefore it can't be implemented during its operation (to not to disturb temperature fluctuation).

Door lock

All the units (except SL SIMPLE) are equipped with the door lock.

E-mail reports

This is a standard feature of all units in SMART PRO version. This feature involves sending e-mail messages (up to 3 addresses) in the event of alarms, events in the program or events related to editing users. The function can be configured according to individual requirements. The condition for sending the message is connection to the Ethernet network.

Ethernet connection and remote control via Internet

This is a standard feature for SMART and SMART PRO models. Each unit can be connected to the Ethernet network or directly to the computer with a LAN cable (optional for SMART and standard for SMART PRO). LabDesk software (optional for SMART and standard for SMART PRO) is needed to read data (saved data and event log). With this feature, the unit can be controlled and monitored via Internet. It is also possible to connect several units at the same time and control them from one computer.

Fan speed control

This is a standard feature for SL/CL/ILW/KK SMART, SMART PRO and ST/CHL 1-6 SMART PRO. It allows control the fan speed in the range 0/10/50 ... 100% (depending on the model). Different fan speed can be set for each program separately.

Measurement data memory

All the units (except SL SIMPLE) are equipped with the measurement data memory function as standard. It allows you to store 10,000 measurement results which are stored in the memory of SMART units for 6 months, and in SMART PRO for 12 months.

You can download them to USB flash drive or transfer them to your computer at any time. The data can be opened in LabDesk or MS Excel.

Open door alarm

All units (except SL SIMPLE) are equipped with an open door alarm. Upon opening the door the alarm goes off (sound alarm and message appears on the display) according to the set by the user alarm delay.

Over/under temperature (and humidity in KK/KKP/KKS) alarm

In the menu, you can set the permissible value of exceeding the set temperature (and humidity in KK/KKP/KKS). If the temperature or humidity in the chamber rises beyond the acceptable limit, an audible alarm will sound and the ALARM icon will appear on the display.

Parameters priority

Equipment which features parameters priority works according to the following rule: the unit achieves set parameter first (temperature, humidity) and then starts time countdown.

In this case the set parameter is more important than duration.

Power failure control

A temporary power failure during program operation would be unnoticeable to the user, as the program continues after power is restored. Therefore, if a power failure occurs while a program is running, a message appears on the display. The information also appears in the event log.

Schedules

It's possible to schedule programs for all units in SMART PRO version. This feature allows create a list of programs to be run at the set time. Several different schedules can be

Standard access port for external sensor

All the units are equipped with a standard access port. It is placed in the left side of the chamber (in case of SL SIMPLE – in the right). Access port which has been secured with a silicone plug can be used to insert an external temperature sensor.

Temperature (and humidity in KK/KKS/KKP) calibration

Each equipment is calibrated by the manufacturer in accordance with applicable standards. The temperature displayed corresponds with high accuracy to the temperature in the geometric center of the chamber. User calibration is not necessary for the correct operation of the unit. However, the user has the option of calibrating the chamber (SMART and SMART PRO) on his own responsibility and must be aware of the consequences of changing the factory parameters of the equipment. If the unit has been calibrated, the calibration certificate becomes invalid after the new correction is made.

Temperature (and humidity in KK/KKS/KKP) sensor fail alarm

When the temperature (and/or humidity in KK/KKP/KKS) sensor does not work properly, the display shows information about the error.

Time priority

Equipment operating with time priority operates according to the following principle: the unit simultaneously starts counting the time and the process of achieving the set parameters. Time is the main parameter in this case.

USB port

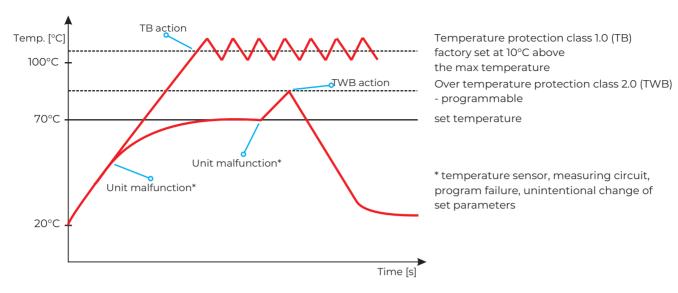
All the units (except SL SIMPLE and CALDERA) are equipped with a USB port. It 's used to transfer data from the internal memory of the unit to the flash memory. The data saved in the *.csv file can be opened in Notepad. Data saved as *.plkx can be opened in LabDesk.

Wi-Fi communication

Equipment with SMART PRO controllers are equipped with a Wi-Fi communication module. It enables wireless communication and data transfer to LabDesk software.

OPTIONS

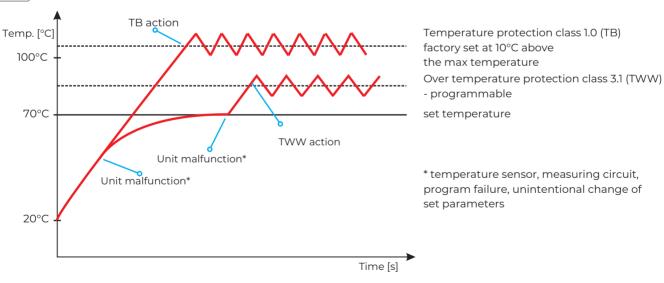
Over temperature protection class 1.0 and class 2.0 according to DIN 12880



Over temperature protection class. 1.0 to DIN 12880 is a standard function for the ST/CHL/CL/IL/SL/SR/KK/CALDERA and SIMPLE equipment. It is factory set at approx. 10°C above the max temperature. Over temperature protection class 2.0 to DIN 12880 is a standard function for the CL/IL/SL/SR equipment in the Smart version.

It features a sample protection function: the user can set the protection temperature and once it has been exceeded, the program will cut off the heaters. To resume operation, the user has to switch the unit off and turn it on again





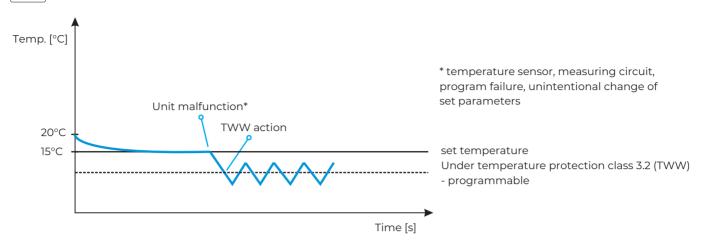
Over temperature protection class 3.1 to DIN 12880 is a standard function for the CL/SL and CALDERA equipment in the Smart PRO version, and optional for the CL/SL/SR ranges in the Smart version.

Order number: */3.1 (factory fitted).

It features a sample protection function: the user can set the protection temperature and once it has been exceeded, the program will cut off the heaters. When the temperature falls down below the set limit, the unit will resume operation automatically.







Under temperature protection class 3.2 to DIN 12880 is a standard function for CHL Smart PRO version and optional for CHL in Smart version.

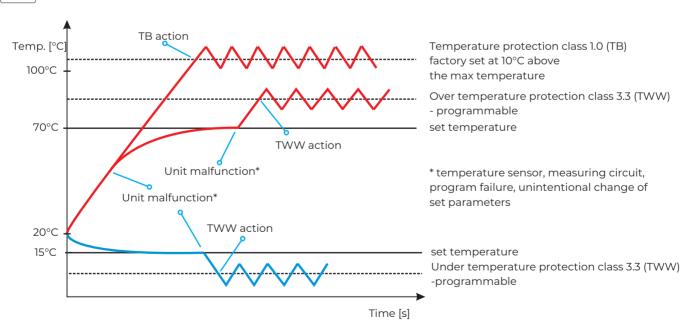
Order number: */3.2 (factory fitted).

DIN

3.3

It features a sample protection function: the user can set the protection temperature and once it has been exceeded, the program will cut off the compressor. When the temperature goes above the set limit, the unit will resume operation automatically.

Over/under temperature protection class 3.3 according to DIN 12880



Over/under temperature protection class 3.3 to DIN 12880 is a standard function for the KK, ST and IL in the Smart PRO version. It is an additional option for ST and IL in the Smart version.

Order number: */3.3 (factory fitted).

It features a sample protection function: the user can set the over/under protection temperature and once it has been exceeded, the program will cut off the heaters or the compressor. When the temperature goes back to the permitted range, the unit will resume operation automatically.



ADDITIONAL EQUIPMENT





Colony counter LKB
Laboratory shakers LS
Emergency power supply ZA
Safety shower test unit TU





COLONY COUNTER LKB 2002









MAIN STANDARD BENEFITS

- automatic weight compensation of Petri dishes
- anti-shock counting technology
- ringlight technology enables even illumination of the counting field
- bright or dark background selection
- mean value calculation function
- standard marker included
- Petri dishes adapters (diameter < 120 mm) 3 pcs
- removable Wolfhuegel counting plate
- adjustable push force
- sound and visual counting control
- adjustable position of the magnifying glass
- magnifier optical power 3.25 diopters

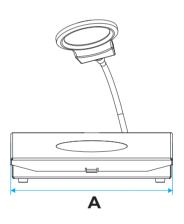
TECHNICAL DATA

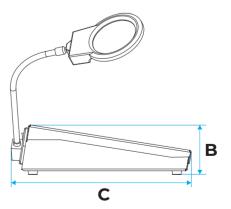


parameters		LKB 2002
counting field diamet	er [mm]	120
display		LED (0999)
magnifying glass opt	ical power	3.25 diopters
illumination		20 W ringlight
	A width	300
dims [mm]	B height (without magnifying glass)	90
	C depth	325
weight [kg]		4,9
nominal power [W]		22
power supply		230V 60Hz / 115V 60Hz
warranty		24 months
manufacturer	_	POL-EKO®

month warranty









OPTIONS & ACCESSORIES

- marker ZM 2002 for external counting
- refill for ZM 2002
- counting field plate
- Wolfhuegel counting plate
- standard pen
- standard magnifier



LABORATORY SHAKERS

Laboratory shakers LS series, have been designed to fit inside cooled incubators (ILW range).



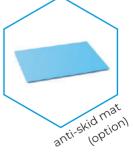














MAIN STANDARD BENEFITS

- orbital movement
- microprocessor control of rotation and time
- orbital diameter: 10...25 mm
- max load: 10 kg
- variable speed control: 30...500 rpm
- shaking mode: from 1 min to 99 h or continuous operation
- LCD digital display
- various shaking tables
- can be located inside cooled incubators





TECHNICAL DATA

parameters	LS 280	LS 350	LS 500	LS 700	
movement		orb	ital		
controller		micropr	rocessor		
display		LCD o	lisplay		
speed range [rpm]	30	. 500	30	.300	
accuracy [rpm]		1	0		
amplitude [mm]	5 5 or 12,5 (optional when placing an order)				
max load capacity [kg]		1	0		
shaking mode		1min 99h or con	tinuous operation		
fits to cooled incubator	ILW 53	ILW 115	ILW 240	ILW 400	
nominal power [W]		6	0		
weight with shaking table [kg]	10	15	22	25	
ambient temperature [°C]		+10	.+40		
humidity [%]	up to 70				
voltage		100-240V	50-60Hz		
warranty		24 m	onths		
manufacturer		POL-	EKO [®]		

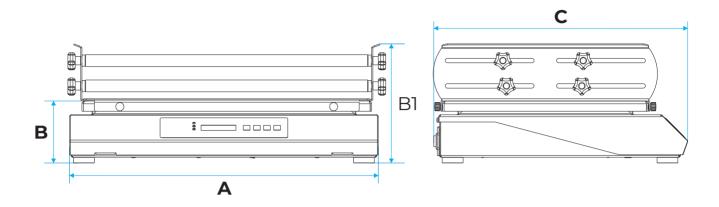
OPTIONS & ACCESSORIES

- anti-skid mat
- universal platform for various kinds of vessels
- platform for fixing flasks handles
- platform for shaking Petri plates
- platform for separator funnels
- handles for Erlenmeyer flask (25...2000 ml)
- stand for test-tubes





DIMENSIONS & DATA



		LS 280	LS 350	LS 500	LS 700
	A width	320	390	550	700
overall dims [mm]	B height	120	120	120	120
	B1 height	220	220	220	220
	C depth	330	400	440	420
fits to cooled incubator		ILW 53	ILW 115	ILW 240	ILW 400

LABORATORY SHAKER WITH COOLED INCUBATOR

Each POL-EKO® orbital laboratory shaker allows mixing substances under strictly defined thermal conditions. This is possible by placing the unit in ILW laboratory incubator.

Depending on the size, the LS shaker is placed in the incubator, which can also be equipped with internal power sockets and FIT/FOT option (necessary for, e.g., algae cultivation).

It is also worth mentioning that both the incubator and the shaker are programmable units and this basic and essential function allows users to set shaking parameters as well as temperature and light in the incubator, increasing flexibility in performing laboratory work.





Universal platform

Universal platform for various kinds of vessels with 4 roller clamps (without anti-skid mat).

Order number: LS XXX/PL XX.1

Plateorm eor eixing elasks holders

Platform for fixing flasks handles, suitable for flasks of the following capacities: 25ml, 50ml, 100ml, 250ml, 500ml, 2000ml, the handles shall be ordered separately.

Order number: LS XXX/PL XX.2

Plateorm eor Petri dishes shaking

Platform for shaking Petri dishes, bacteria culture flasks and other vessels of low centre of gravity.

Order number: LS XXX/PL XX.3

Plateorm eor separatory eunnels

Platform for separatory funnels with 3 roller clamps for shaking, salting out, extraction and concentration.

Order number: LS XXX/PL XX.4

Anti-skid mat

Anti-skid mat for LS laboratory shakers.

Order number: LS XXX/PL XX



EMERGENCY POWER SUPPLY

provides backup power to refrigerators, cooled incubators (ST, ILW) and freezers. It also protects against disturbances in the power grid.















 $ZA\,emergency\,power\,supply\,can\,work\,with\,all\,models\,of\,CHL\,laboratory\,refrigerators, ST\,cooled\,incubators,\,ZL\,freezers\,and\,ILW\,cooled\,incubators\,(ILW\,240,400,750\,models).\,Battery\,operation\,time\,depends\,on\,the\,size\,of\,the\,unit\,and\,selected\,model.$





STANDARD BENEFITS

- converter with battery charging function
- battery (ies)
- castors
- visual and sound alarm on the operating status
- electric socket type E/F (Uni-Schuko)
- English instruction manual



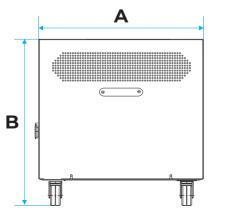


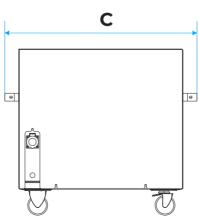
TECHNICAL DATA

parameters		ZA I 6H	ZAI	12 H	ZA I 30H	ZA II 4H	ZA II 8H ZA II 12H		
backup time*	[h]	6	12	10	30	4	8 4 12		
external	A width	380	38	30	660	380	660		660
dimensions	B height	620	62	20	620	620	62	0	590
[mm]	C depth	830	830		785	830	78	5	1020
weight [kg]		74	10	105 168 110 173				235	
number of ba	tteries [pcs.]	1 1 2 1 2				3			
works with th	orks with the model CHL/ST 1-6, ZLN 85 CHL/ST 1-6 ZLN 85		CHL/ST 1-6	CHL/ST 500-1450 ILW 240-750	CHL/ST 500-145 ILW 240-750	/ / / /	CHL/ST 500-1450 ILW 240-750		
housing mate	erial				powder co	oated sheet		·	
power / voltag	ge		230V 50-60Hz						
warranty		12 months							
manufacturer					POL-	-EKO [®]			

^{*} approximate time of maintaining the operation of the unit with ZA option, depends on the environmental parameters, the chamber load, etc.

DIMENSIONS









SAFETY SHOWER

a mobile test unit that provides a very convenient and easy solution to test body safety showers and handheld eye showers





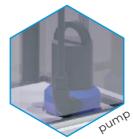




power cable

with switch







TU

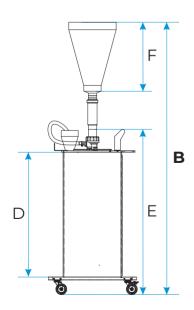
STANDARD BENEFITS

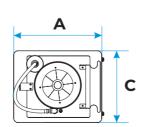
- 120 liter capacity water reservoir
- water reservoir made of transparent PVC
- castors
- built-in suction pump only for 230V
- power cable and IP 45 protected power switch
- drain hose (2 m) to empty the water reservoir
- separate mounts for drain hose and power cable
- large funne for body safety shower
- small funnel for handheld eye shower



	TU
	10
	120
ial	transparent PVC
ion	IP 45
	2
el [mm]	323
nel [mm]	116
unnel [mm]	2 300
A width	600
B height	18452500
C depth	490
D height	860
E height	1125
F height	470
	40
	400
	230 V 50-60 Hz
	24 months
	POL-EKO®
	Imm] nel [mm] Innel [mm] A width B height C depth D height E height

DIMENSIONS















Compact Line fume hoods DCL
Tabletop Compact Line fume hoods DCL
Walk-In Compact Line fume hoods DCL
Ductless fume hoods DCL





Compact Line fume hoods

ensure safe and comfortable work in the laboratory. Metal construction and a wide range of finishing elements allow the fume hood to be adapted to the needs of any laboratory. Designed according to PN-EN 14175.

















Compact Line fume hoods manufactured by POL-EKO® can be provided with ISO 14175 Certificate.













MAIN STANDARD BENEFITS

- monolithic ceramic worktop with marine edge
- 2x 230V 50-60Hz electrical sockets type F (Schuko)
- 2 x water taps with valves in the front panel
- ceramic sink 280x80mm
- LED illumination of the working chamber
- air-flow sensor (Schneider FM 550-A-0-E)
- window, opening upwards at 500 mm height (max 810 mm)
- sliding glass (right/left)
- system preventing uncontrolled window falling
- main switch with safety button

AVAILABLE VERSIONS

- Compact Line DCL 1200
- Compact Line DCL 1500
- Compact Line DCL 1800

OPTIONAL EQUIPMENT

- ventilated under bench cabinet made of steel covered with chemically resistant epoxy paint, chemically resistant hinges, connected to the ventilation system of fume hood, designed for short-term storage of reagents
- under bench cabinet for acids and alkalis made of polypropylene, for long-term storage
- fire resistant underbench cabinet ASECOS 90min, for flammable and hazardous substances storage (EN 14470-1)
- polypropylene trays
- 230V or 400V sockets and different plugs, on request
- fittings for distilled water, LPG and special gases (coloured according to EN 13782)
- automatic window
- explosion-proof equipment (illumination)
- glazed side walls 700×500 mm, made of tempered safety glass 4 mm
- scaffolding on the back wall made of stainless steel
- elements of the fume hood made of stainless steel according to DIN 1.4404 (construction, internal chamber, worktop, housing)
- air flow controller iCM 550 F or iCM 550 FP (see page 146)





TECHNICAL DATA

	Processor	POLICE OF THE PARTY OF THE PART	PD:-C400			
	Compact Line	Compact Line	Compact Line			
Parameter	DCL 12.00	DCL 15.00	DCL 18.00			
recommended airflow [m³/h]	600950	7501200	9001500			
required air-flow speed m/s	0,30,5	0,30,5	0,30,5			
nominal power [W]	46	82	82			
power supply		230V 50-60Hz				
electrical insulation class		class 1				
working chamber lighting/control	LED, class A	A++, through insulating window/c	ontrol panel			
controller		Schneider FM 550-A-0-E with speed sensor, in AFS 100 window and FA-0025-3 control panel / iCM 500 (option)				
sash window opening		manual with counterweight				
sash window blockade at working level [mm]		500				
exit air sub pipe diameter [mm]	200	200	250			
ventilation/control system		double rear wall / control panel				
air-flow sensor		PN-EN 14175				
water connection		G 1/2" external thread				
sewage connection diameter [mm]		50				
frame and housing	ga	alvanized sheet frame, epoxy coat galvanized steel housing	red			
working chamber		SS – epoxy coated galvanized steel LM – phenolic resin (option) PP / HF – polypropylene (option) CR –large-size Buchtal ceramics (option)				
worktop		monolithic ceramics with marine edge/phenolic resin, epoxy, stainless steel to DIN 1.4301 or 1.4404 (option)				
warranty		24 months				
manufacturer		POL-EKO®				

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



The CompactLine DCL Fume Hoods, available in models 1200, 1500, and 1800, have beencertified by TÜV, demonstrating full compliance with essential European standards: PN-EN 14175-1:2003, PN-EN 14175-2:2003, and PN-EN 14175-3:2019.

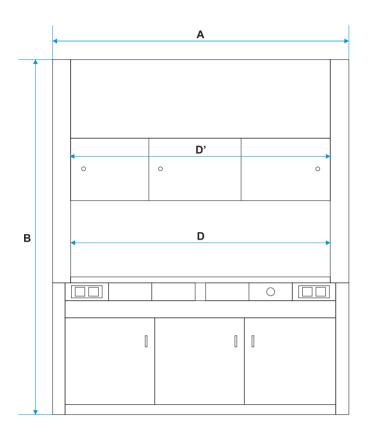
This certification highlights our commitment to providing laboratory professionals with equipment that meets the highest safety and performance benchmarks. Each model has undergone rigorous testing to ensure optimal containment of hazardous vapors, consistent and reliable airflow, and superior protection for laboratory personnel and environments.

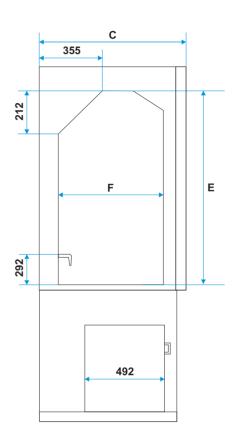
Designed to meet the diverse needs of modern laboratories, these fume hoods combine uncompromising safety and functionality while offering flexibility in various configurations. The TÜV certification serves as a testament to our dedication to quality, providing laboratory managers and researchers with dependable and efficient performance.

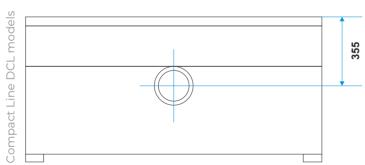


DIMENSIONS & DATA

All dimensions refer to standard units (without optional accessories).







		Compact Line DCL 12.00	Compact Line DCL 15.00	Compact Line DCL 18.00
	A width	1280	1580	1880
overall dims [mm]	B height	23252600	23252600	23252600
	C depth	960	960	960
	D width	1150	1450	1750
working space dims [mm]	D' width	965	1265	1565
	E height	1220	1220	1220
	F depth	635	635	635

Compact Line tabletop fume hoods

















- 2x 230V 50-60Hz electrical sockets type F (Schuko)
- LED illumination of the working chamber
- air-flow sensor (Schneider FM 550-A-0-E)
- window, opening upwards at 500 mm height (max 810 mm)
- system preventing uncontrolled window falling
- main switch with safety button

available versions

- Tabletop DCL 800
- Tabletop DCL 1200
- Tabletop DCL 1500

OPTIONAL EQUIPMENT

- monolithic ceramic worktop with marine edge
- 230V or 400V sockets and different plugs, on request
- fittings for distilled water, LPG and special gases (coloured according to EN 13782)
- automatic window
- explosion-proof equipment (illumination)
- glazed side walls 700×500 mm, made of tempered safety glass 4 mm
- scaffolding on the back wall made of stainless steel elements of the fume hood made of stainless steel according to DIN 1.4404
- (construction, internal chamber, worktop, housing)
- air flow controller iCM 550 F or iCM 550 FP (see page 146)



TECHNICAL DATA

	P(0, 6x0)	POL 540	*01.450		
	Tabletop	Tabletop	Tabletop		
Parameter	DCL 8.00	DCL 12.00	DCL 15.00		
recommended airflow [m³/h]	400650	600950	7501200		
required air-flow speed m/s	0,30,5	0,30,5	0,30,5		
nominal power [W]	46	46	46		
power supply		230V 50-60Hz			
electrical insulation class		class 1			
working chamber lighting/control	LED, class A	LED, class A++, through insulating window/control panel			
controller		Schneider FM 550-A-0-E with speed sensor, in AFS 100 window and FA-0025-3 control panel / iCM 500 (option)			
sash window opening		manual with counterweight			
sash window blockade at working level [mm]		500			
exit air sub pipe diameter [mm]	160	160 200 200			
ventilation/control system		double rear wall / control panel			
air-flow sensor		PN-EN 14175			
frame and housing	ga	galvanized sheet frame, epoxy coated galvanized steel housing			
working chamber		SS – epoxy coated galvanized steel LM – phenolic resin (option) PP – polypropylene (option) CR –large-size Buchtal ceramics (option)			
worktop (option)	I	monolithic ceramics with marine edge, phenolic resin, epoxy, stainless steel to DIN 1.4301 or 1.4404 (option)			
warranty		24 months			
manufacturer		POL-EKO [®]			

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

DCL FUME HOODS CONTROLLERS

iCM 500 F

- microprocessor controller for regulation and monitoring of fume hood face velocity [m/s]
- visual and sound alarm in case of emergency
- control panel with fully graphic and numerical LC-display
- throttle with high-speed actuator
- VAV (Variable Air Velocity)

iCM 500 FP

- microprocessor controller for regulation and monitoring of face volumetric air flow rate [m³/h]
- visual and sound alarm in case of emergency
- control panel with fully graphic and numerical LC-display
- works with Building Management System (BMS)
- VAV (Variable Air Velocity)



FM 550

- control functions with visual and sound alarms in case of low air flow (in accordance with PN-EN 14175)
- sash window height alarm
- airflow measurement [m³/h]
- fume hood illumination control

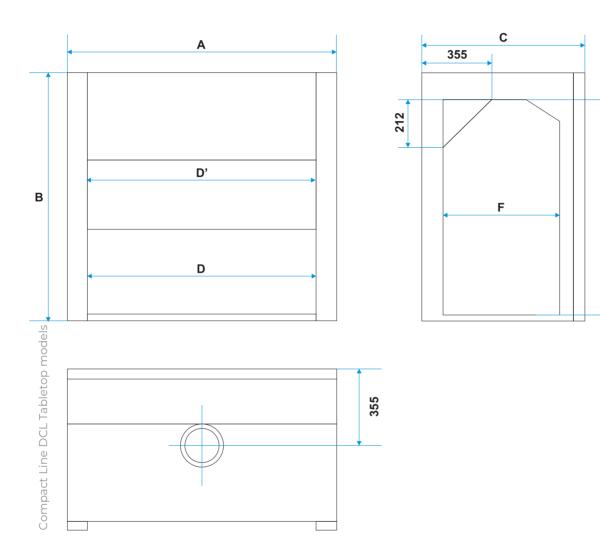
Automatic Sash Controller SC 500

Infrared light barrier transmitter/receiver for registering objects during the closing proces. Foot switch for opening the sash (option).



Ε

DIMENSIONS & DATA



		Tabletop DCL 8.00	Tabletop DCL 12.00	Tabletop DCL 15.00
overall dims [mm]	A width	800	1200	1500
	B height	12351320	12351320	12351320
	C depth	700	700	700
working space dims [mm]	D width	734	1134	1434
	D' width	654	1054	1354
	E height	1000	1000	1000
	F depth	430	430	430

Compact Line Walk-in fume hoods























- 2x 230V 50-60Hz electrical sockets type F (Schuko)
- LED illumination of the working chamber
- air-flow sensor (Schneider FM 550-A-0-E)
- window, opening upwards at 500 mm height (max 1850 mm)
- system preventing uncontrolled window falling
- main switch with safety button

AVAILABLE VERSIONS

- Walk-in DCL 1200
- Walk-in DCL 1500
- Walk-in DCL 1800

OPTIONAL EQUIPMENT

- 230V or 400V sockets and different plugs, on request
- fittings for distilled water, LPG and special gases (coloured according to EN 13782)
- automatic window
- explosion-proof equipment (illumination)
- scaffolding on the back wall made of stainless steel
- elements of the fume hood made of stainless steel according to DIN 1.4404
- (construction, internal chamber, worktop, housing)
- air flow controller iCM 550 F or iCM 550 FP (see page 146)



● TECHNICAL **DATA**

		1	B ·		
Parameter	Walk-in DCL 12.00	Walk-in DCL 15.00	Walk-in DCL 18.00		
recommended airflow [m³/h]	600950	7501200	9001500		
required air-flow speed m/s	0,30,5	0,30,5	0,30,5		
nominal power [W]	46	82	82		
power supply		230V 50-60Hz			
electrical insulation class		class l			
working chamber lighting/control	LED, class A	LED, class A++, through insulating window/control panel			
controller		Schneider FM 550-A-0-E with speed sensor, in AFS 100 window and FA-0025-3 control panel / iCM 500 (option)			
sash window opening		manual with counterweight			
sash window blockade at working level [mm]		no window blockade			
exit air sub pipe diameter [mm]	250	250 250			
ventilation/control system		double rear wall / control panel			
air-flow sensor		PN-EN 14175			
frame and housing	ga	galvanized sheet frame, epoxy coated galvanized steel housing			
working chamber		SS – epoxy coated galvanized steel LM – phenolic resin (option) PP – polypropylene (option) CR –large-size Buchtal ceramics (option)			
warranty		24 months			
manufacturer		POL-EKO [®]			

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

UNDERBENCH CABINETS FOR FUME HOODS

- steel cabinets for storing non-aggressive chemicals
- polypropylene cabinets for permanent storage of aggressive substances, acids and alkalis
- Asecos cabinets for storing flammable and explosive substances



Steel cabinet 1500



Asecos cabinet 1200

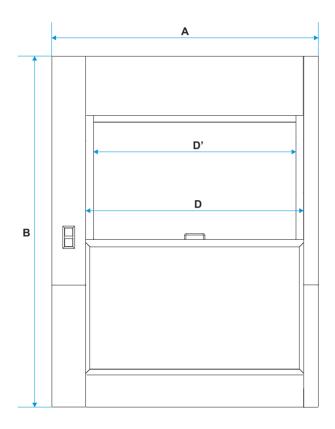


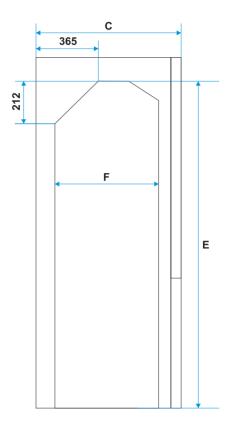
Polypropylene cabinet 1800

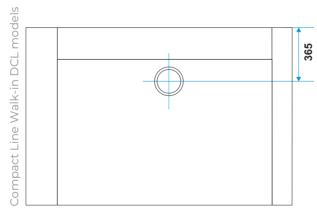




DIMENSIONS & DATA







		Walk-in DCL 12.00	Walk-in DCL 15.00	Walk-in DCL 18.00
overall dims [mm]	A width	1200	1500	1800
	B height	23852850	23852850	23852850
	C depth	1200	1200	1200
working space dims [mm]	D width	870	1170	1470
	D' width	810	1110	1410
	E height	2145	2145	2145
	F depth	845	845	845



WORKING CHAMBER FINISHING

SS VARIANT

worktop – solid ceramics th. 27 - 33 mm, with marine edge, ceramic sink (dims 280 x 80 mm) is mounted under the worktop, internal chamber side walls made of steel, covered with chemically resistant epoxy paint.

CR VARIANT

worktop – solid ceramics th. 27 - 33 mm, with marine edge, ceramic sink (dims 280 x 80 mm) is mounted under the worktop, internal chamber side walls made of ceramic Buchtal.

PP VARIANT

worktop – solid ceramics th. 27 - 33 mm, with marine edge, ceramic sink (dims 280 x 80 mm) is mounted under the worktop, internal chamber side walls made of polypropylene.

LM VARIANT

worktop – solid ceramics th. 27 - 33 mm, with marine edge, ceramic sink (dims 280 x 80 mm) is mounted under the worktop, internal chamber side walls made of phenolic resin composite.

HE VARIANT

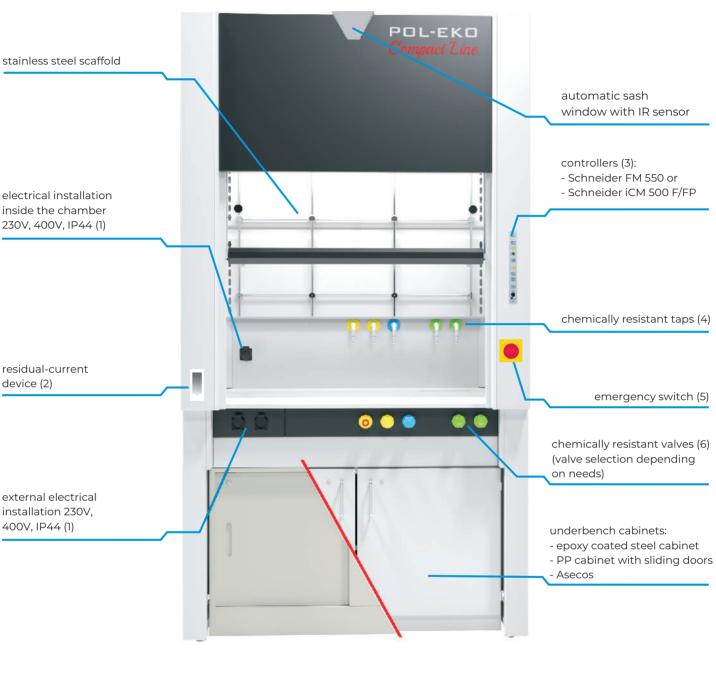
polycarbonate window glazing worktop – polypropylene with marine edge, polypropylene sink (dims 280 x 80 mm) is mounted under the worktop, internal chamber side walls made of polypropylene.



*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented



EXEMPLARY COMPACT LINE FUME HOOD WITH ADDITIONAL EQUIPMENT







3













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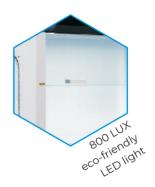






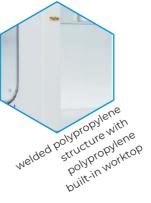
Compact Line Ductless Fume hoods

























- space-saving design, a cost-effective benchtop model that fits perfectly in any lab
- durable construction, made from high chemical-resistant polypropylene with a built-in sealed worktop
- smart controls, features a 7" touchscreen with airflow display and alarm, ensuring safe operations
- eco-friendly LED light, equipped with 800 LUX LED lighting for energy efficiency
- versatile filters, supports a variety of HEPA and carbon filters to handle different chemical fumes
- enhanced safety, includes tempered glass side windows and a sliding front sash with a counterweight for easy access

OPTIONAL EQUIPMENT

metal stand (with adjustable wheels)

available versions

- Ductless DCL 1500 / 1800
- Ductless DCL PRO 600 / 900 / 1200 / 1500 / 1800

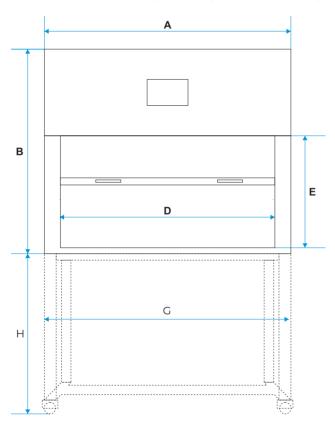


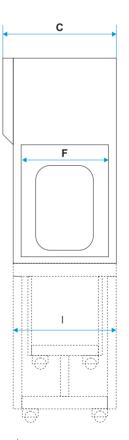
TECHNICAL DATA



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

DIMENSIONS & DATA





		DCL 1500 Ductless	DCL 1800 Ductless
overall dims [mm]	A width	1500	1800
	B height	1050	1050
	C depth	630	630
working space dims [mm]	D width	1480	1780
	E height	550	550
	F depth	450	450
optional stand (with adjustable wheels) overall dims [mm]	G width	1500	1800
	H height	800	800
	I depth	520	520

Compact Line Ductless PRO Fume hoods



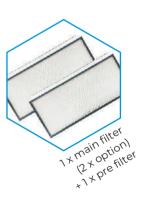






















- advanced monitoring, incorporates VAV with airflow alarm and VOC chemical sensors for real-time monitoring and alerts
- high-efficiency fan, features a quiet ECM fan with adjustable speeds to maintain optimal airflow
- superior illumination, comes with 800 LUX LED lighting, separated from the work area for enhanced safety
- enhanced access, provides convenient front access for filter replacement and supports a wide range of filters for comprehensive protection
- certifications, meets EN-14175 / CE / ASHRAE 110-1995 standards for safety and performance
- polypropylene worktop built into the fume hood as standard

OPTIONAL EQUIPMENT

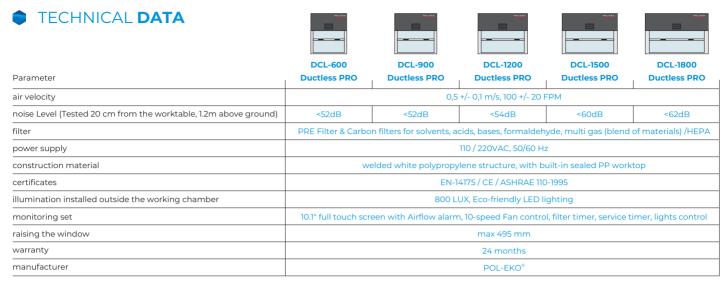
- metal stand (with adjustable wheels)
- polypropylene base cabinet
- UV light
- gas tap
- water tap
- polypropylene cup sink
- polypropylene sink 30 x 40 cm
- electric socket 230V 50Hz
- XL version for 2 full-size main filters

AVAILABLE VERSIONS

- Ductless DCL 1500 / 1800
- Ductless DCL PRO 600 / 900 / 1200 / 1500 / 1800

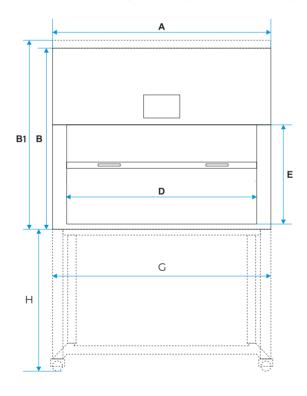


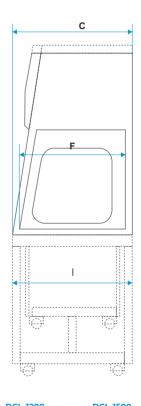
DUCTLESS PRO DCL



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

DIMENSIONS & DATA





		DCL-600 Ductless PRO	DCL-900 Ductless PRO	DCL-1200 Ductless PRO	DCL-1500 Ductless PRO	DCL-1800 Ductless PRO
overall dims [mm]	A width	600	900	1200	1500	1800
	B height	1223	1223	1223	1223	1223
	B 1 height (XL option)	1323	1323	1323	1323	1323
	C depth	750	750	750	750	750
working space dims [mm]	D width	585	885	1185	1485	1785
	E height	695	695	695	695	695
	F depth	590	590	590	690	590
optional stand (with adjustable wheels) overall dims [mm]	D width	585	885	1185	1485	1785
	E height	695	695	695	695	695
	F depth	590	590	590	690	590



Comprehensive services for the supervision of measuring equipment





POL-EKO LAB

is accredited by the Polish Centre for Accreditation (a member of ILAC) and provides accredited services



■ WE PROVIDE ACCREDITED CALIBRATION SERVICES OF:

- thermostatic and climatic chambers, in the temperature range: -80...+200°C
- climatic chambers in the range of relative humidity, in the temperature range: +10...+60°C for humidityi 20... 98%
- water baths and thermoreactors, in the temperature range: -25...+200°C
- lab furnaces, in the temperature range: +100...+1100°C
- chambers for steam sterilization (autoclaves), in the temperature range: +60...+140°C

After the service has been performed, the client receives a Calibration Certificate, in which the following information is presented: average temperature / humidity at each point, optional effect of the load, measurement uncertainty, temperature / humidity stability.

● WE ALSO PROVIDE **ACCREDITED CALIBRATION** SERVICES FOR:

- electric and electronic thermometers and data loggers with an external sensor, in the temperature range: -80...+1100°C
- electric and electronic thermometers and data loggers with an internal sensor, in the temperature range: 0...+140°C
- thermohygrometer, method temperature range: +10...+60°C, in the relative humidity range: 20...98%

After the service has been performed, the client receives a Calibration Certificate, in which the following information is presented: average value of temperature / humidity, correction of temperature / humidity value, measurement uncertainty.

CALIBRATION OF LABORATORY SIEVES

laboratory sieves, in the measuring range: 0,02... 125 mm





Detailed information about our services is available on the website of the Polish Centre for Accreditation under the accreditation number AP 115 www.pca.gov.pl and on our website www.polekolab.pl.

NON-ACCREDITED SERVICES:

qualification procedures IQ, OQ, PQ

- thermostatic and climatic chambers
- autoclaves
- high temperature furnaces

temperature and humidity mapping in rooms and cars

- temperature range: -30 ... +70°C
- relative humidity range: 10 ... 90%

Comprehensive services for the supervision of measuring equipment

POL-EKO Laboratorium Pomiarowe sp. z o.o. ul. Kokoszycka 172C | 44-300 Wodzisław Śląski tel. 32 453 91 97 | e-mail: lab@pol-eko.com.pl www.polekolab.pl



Manufacturer of laboratory equipment, fume hoods and water monitoring stations.



POL-EKO[®] sp. k. ul. Kokoszycka 172C 44 - 300 Wodzisław Śląski POLAND

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Products Catalogue version 16.1/2025.

While we make every effort to provide accurate technical data, inconsistencies may occur.

We reserve the right to change technical specifications without notice.

All dimensions are given exact to ±5 %.