Made in Poland. Established 1990.

POL-EKO®
Perfect Environment

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 łetters **P** ąnd **E** ąre 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.

Małgorzata Szafarczyk
CEO

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MILESTONES

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
POL-EKO-APARATURA company established

2006
Measurement Laboratory founded

2004
ISO 9001 and 18001 certification

2008
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

2021
4th production hall completed

2018
Global export to over 90 countries

2022
the ownership structure of POL-EKO was changed

2023
POL-EKO® rebranding

DEVELOPMENT

1996 Start of production

1996 thermostatic cabinets and laboratory refrigerators

1997 waste water receipt station

2000 colony counter

2001 stationary sampler

2002 pH and dissolved oxygen on-line meters

2003 homogenizer

2004 drying ovens, incubators and cooled incubators

2005 stainless steel drying ovens, incubators and cooled incubators

2006 laboratory sterilizers

2006 units in TOP+ version with Ethernet connection

2008 climatic chambers and climatic chambers with phytotron system

2009 laboratory shakers

2010 laboratory furniture and fume hoods

2010 pass through drying ovens

2011 warmer chamber CALDERA

2012 “graphite revolution” - new design of POL-EKO-APARATURA units

2014 temperature and humidity data logger RT 2014

2015 SIMPLE drying ovens

2015 climatic chambers KKS 155/240/400/750

2015 cooled incubators with Peltier elements ILP

2015 hydromat

2015 ultra-low freezers ZLN-UT

2017 RT2014 data logger with WI-FI

2017 EuroDrop station

2018 pass through sterilizers

2018 dry-aging chambers

2019 technological revolution SMART & SMART PRO

2020 ozone generators

2022 CO_2 incubators Peltier climatic chambers KKP

2024 safety shower test units

2024 Peltier-cooled incubators STP

2024 ductless fume hoods

2025 climatic chambers KKS 500/700/1200/1450

QUALITY POLICY

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.

P	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.
O	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.
L	LUDZIE PEOPLE	A team of excellent **professionals** driving innovation in products and processes and nurturing excellent relationships with customers and business partners.
E	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.
K	KREATYWNOŚĆ CREATIVITY	A leader in **creating** new technologies, products and services that transform the industry, tailored to the specific needs of each customer.
O	ODPOWIEDZIALNOŚĆ RESPONSIBILITY	An engineering company taking **responsibility** for its solutions and products, offering professional post-sales service.

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.

EMPLOYER TOLERANCE

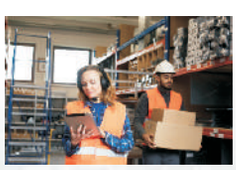
At POL-EKO®, we believe that diversity and equality are the foundations of our success. As an employer, we are committed to treating all our employees equally, regardless of gender, belief, religion, nationality, skin color, sexual orientation and disability.

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.

POL-EKO® IN NUMBERS

4th production hall
1 678 m²



2nd production hall
1 632 m²

3rd production hall
1 948 m²

1st production hall
712 m²

Administrative building
1 564 m²

building area 7 534 m²

4 assembly halls with warehouses

1 administrative building

more than 200 employees

over 35 years of experience

partners in more than 90 countries

state-of-the-art almost 400 different types of units

1 Accredited Measurement Laboratory POL-EKO LAB

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.

PEOPLE TEAM

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 ŚLĄSKI 2024

ECOLOGY
SUSTAINABILITY

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.

CREATIVITY
INNOVATIVE

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.

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.

- 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.

ST2 P SMART with SMART WINDOW OPTION

ST2 P SMART with SMART WINDOW OPTION

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.

STP4 PS SMART

STP4 PS SMART

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.

01 UNIT SPECIAL FEATURES

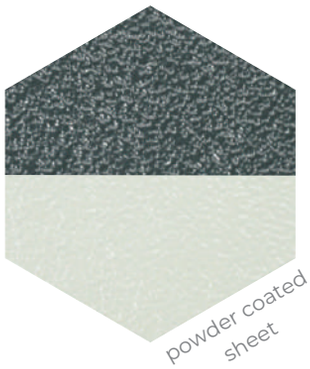
Material characteristics
Units with photoperiod FOT
Units with phytotron FIT
Units with Peltier cooling-heating system
LabDesk and LabDesk Cloud
SMART and SMART PRO controllers

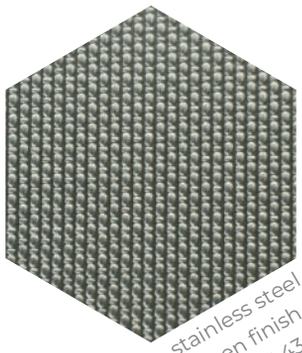
scan me

MATERIAL CHARACTERISTICS

INTERIOR

HOUSING





MODEL **CHARACTERISTICS**

	interior	housing	temperature 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).

UNITS **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. Thąnks 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 bąsic difference between the FOT ąnd FIT functions is thąt in the first cąse, the łight cąn onły be turned on ąnd off in the progrąm, ąnd in the second, you cąn ądditionąłły controł its intensity.


ST3 P FOT6 SMART


ILW 115 IG FOT3S SMART

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 FOT10	ST FOT15	IL FOT2S	IL FOT3S	IL FOT5D	IL FOT6D	IL FOT8D	IL FOT10D
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 łight ON [°C]	+10 ... +50											
number of LED łighting tubes in door	-	-	-	-	-	-	-	-	5	6	8	10
number of LED łighting tubes in ceiling	2	-	-	-	-	-	2	3	-	-	-	-
number of LED łighting tubes in side walls	-	4	6	8	10	15	-	-	-	-	-	-
adjustable illumination intensity	no											

* onły version of ŚT cooled incubątors with compressor cooling system (with FOT option, monobłock (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.

KK 350 SMART PRO FIT DS LED MULTI

MAIN STANDARD **BENEFITS**

- for eąch segment, it is possibłe to progrąm the temperąture, time, fąn efficiency łeveł ąnd łighting intensity (every 1%). Additionąłły, in the cąse of cłimątic chąmbers (KK, KKP), the humidity cąn ąłso be progrąmmed
- chamber with FIT option can operąte with priority of time or parameters (temperature or temperature and humidity)
- automatic defrosting function
- thąnks to forced ąir convection, the vąriątion 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

LIGHT SOURCE

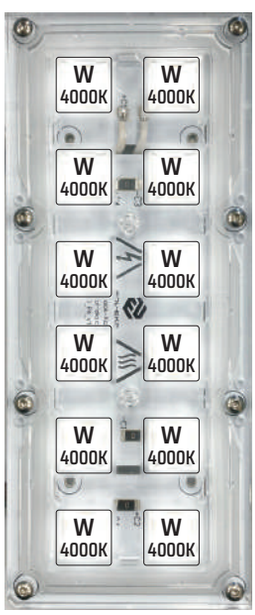
Phytotron chambers are equipped with advanced LED modules, offering users the flexibility to customize light color and intensity for each program segment. These modules can be combined, for example, far-red with blue, to create tailored lighting conditions. Adjustable dimming further ensures precise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

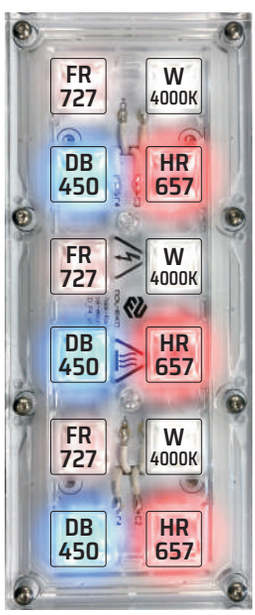
There are two standard LED modules: white (WHITE) and colored (MULTI) - 4 colors (far red, deep blue, white and hyper red) and additional custom LED module. The colors of the CUSTOM LED module and their wavelengths in the phytotron units can be tailored to the individual needs of the customer. It is 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



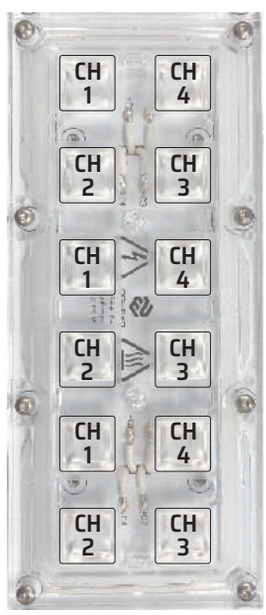
W 4000K — White (colour temperature 4000K)

FIT LED MULTI



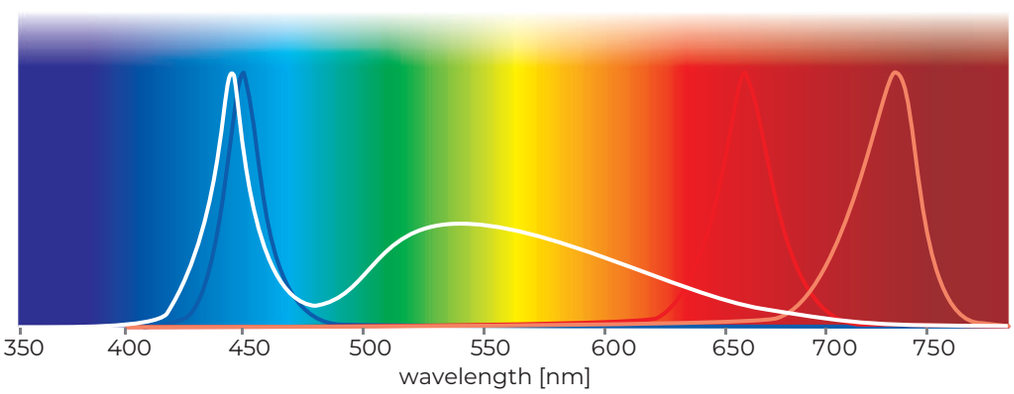
W 4000K — White (colour temperature 4000K)
HR 657 — Hyper red (wavelength 657 nm)
FR 727 — Far red (wavelength 727 nm)
DB 450 — Deep blue (wavelength 450 nm)

FIT LED CUSTOM



CH 1 / CH 2 / CH 3 / CH 4 — All four channels as custom colours.

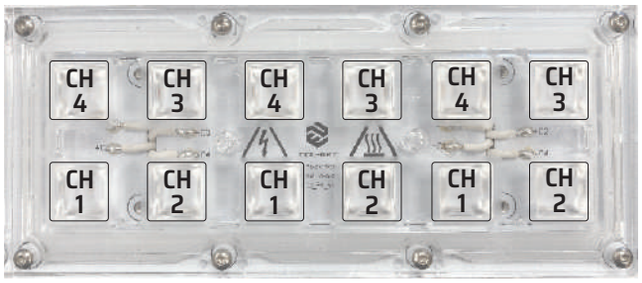
Detailed configuration see page 21.



- 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

1 COLOUR		2 COLOURS		3 COLOURS		4 COLOURS	
CH 1	colour 1	CH 1	colour 1	CH 1	colour 1	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

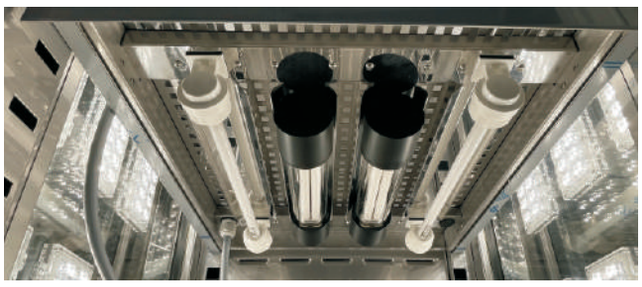
ADDITIONAL LIGHT SOURCE (OPTIONAL)

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

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

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

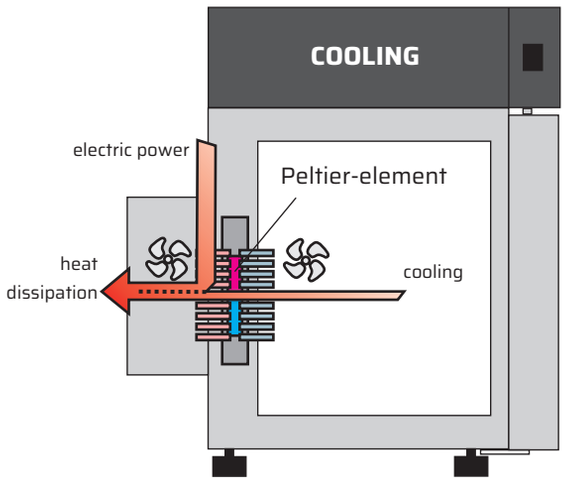
	ST 500/700	ST 1200	ST 1450	IL 115	IL 240	IL 400	IL 750	KK 115	KK 240	KKP 240	KK 400	KK 500	KK 700	KK 750	KK 1200	KK 1450
standard	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
max*	3	3	3	1	2	2	3	1	2	2	2	3	3	3	3	3

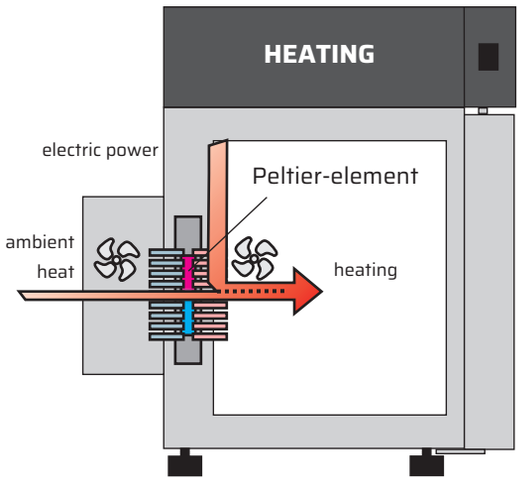
*max number of over-shelf panels with illumination inside the chamber

PELTIER COOLING-HEATING **SYSTEM**

Peltier technology allows for a stable 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. Peltier-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.

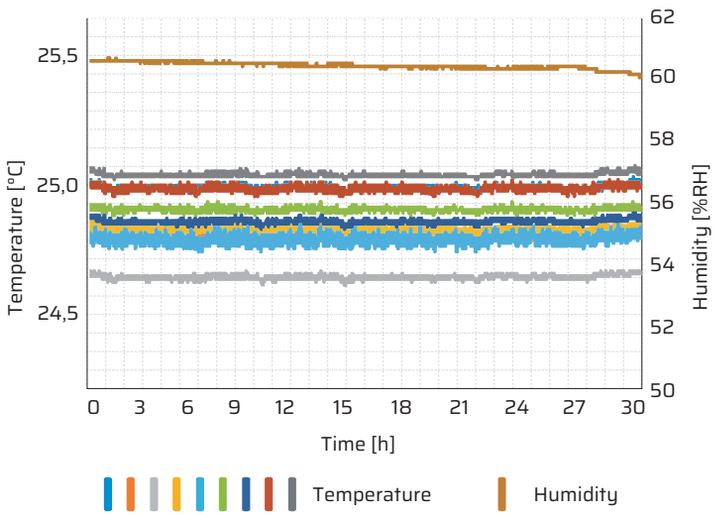
Peltier technology are applied in ILP cooled incubators (page 57), STP cooled incubators (page 15) and KKP climatic chambers (page 107).





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 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, CO_2 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
	X	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
	X	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."

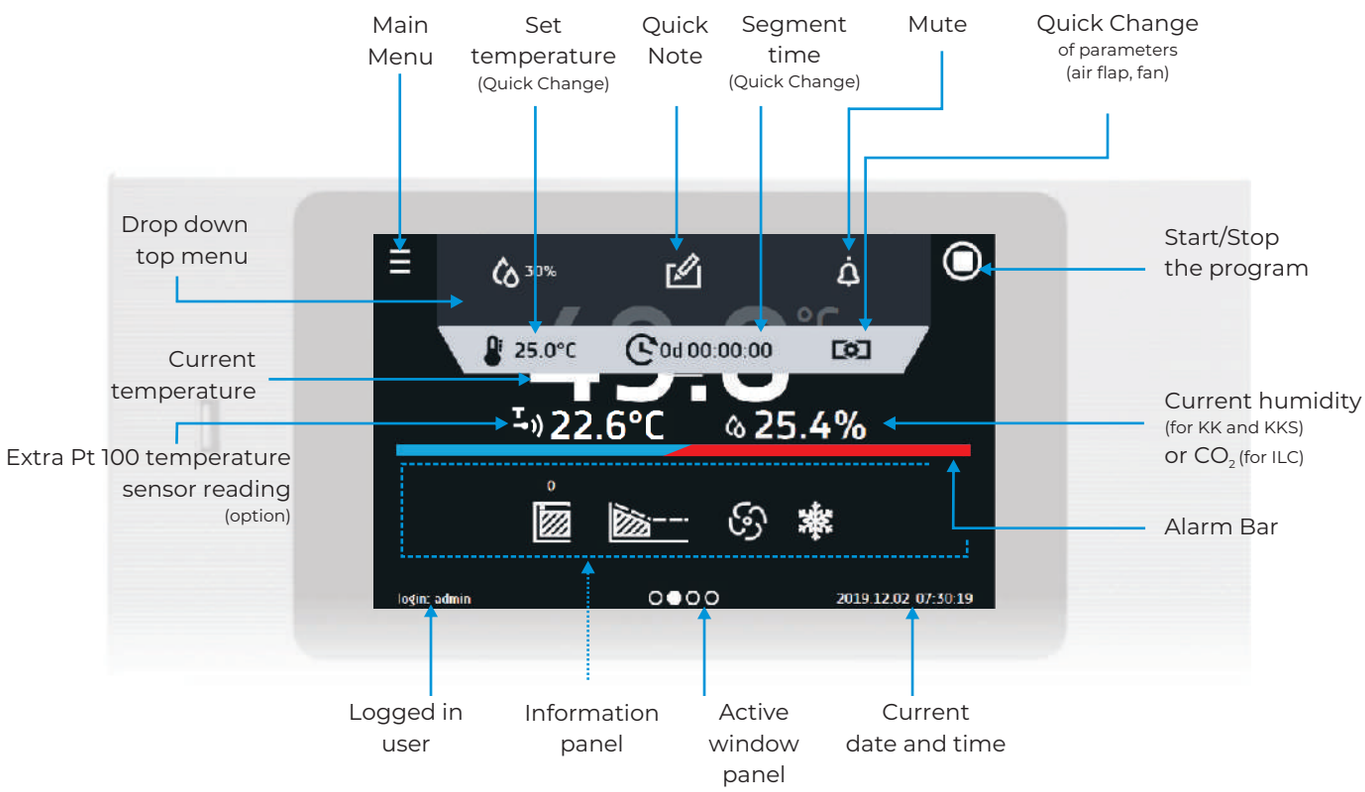
Lab Desk

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

scan me

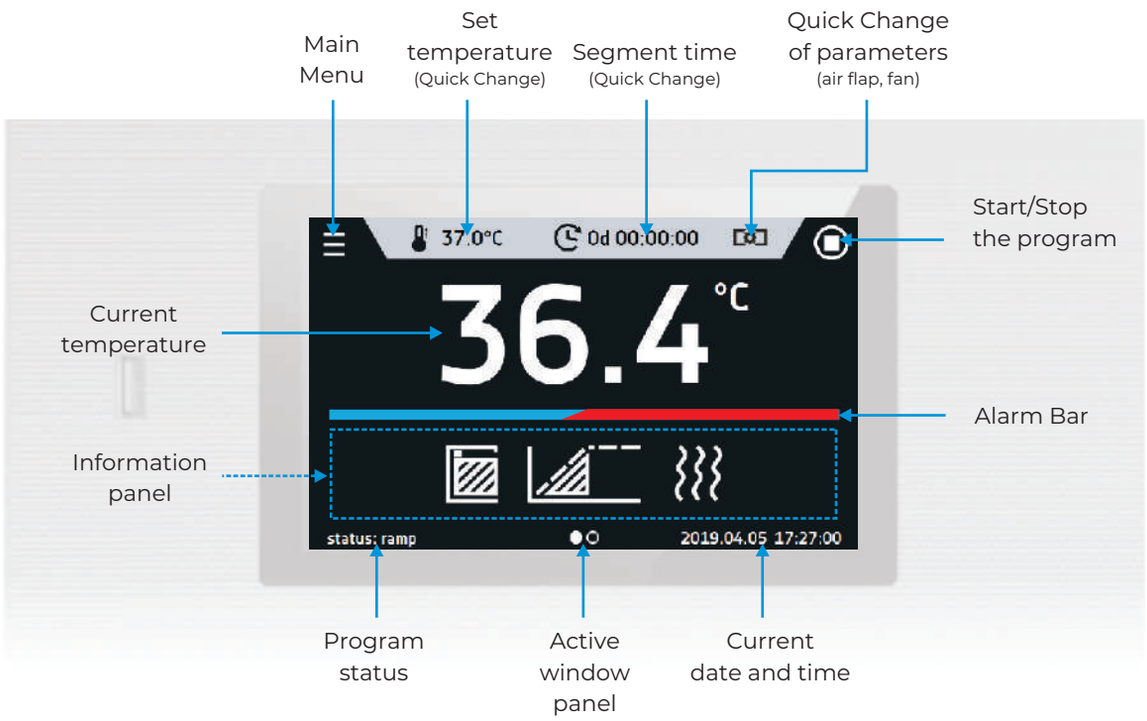
SMART PRO - ADVANCED CONTROLLER
7" COLOUR TOUCH PANEL GUARANTEEŚ INTUITIVE AND COMFORTABLE OPERATION



ADVANTAGES OF THE **SMART PRO** CONTROLLER

- large (7”), clear, fułł-cołour 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 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
X		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		multi-segment time-temperature profile (up to 6 segments)
	X	multi-segment time-temperature profile (up to 100 segments)
X		light time control (FOT)
	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
X		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 with user message support
X	X	user manual to download from the unit's internal memory
	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 efficiency
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
X	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
X	X	continuation of the program after turning on the power
X	X	real time clock
X	X	time zone selection
	X	Ethernet output for data and event register, programming and unit operation control
X		Ethernet output for data and event register

02

COOLING EQUIPMENT

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

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LABORATORY REFRIGERATORS

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

SMART/SMART PRO controller with USB port

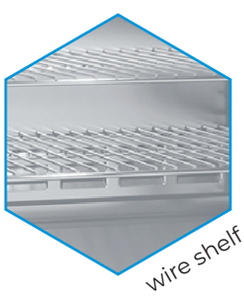
access port (Ø30 mm)

Laboratory refrigerator CHL 2 P SMART PRO

door lock and door lock sensor with alarm

glass door (option)

internal LED lighting, temperature sensors and fan



wire shelf

ACCREDITED ISO/IEC 17025 CALIBRATION

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**

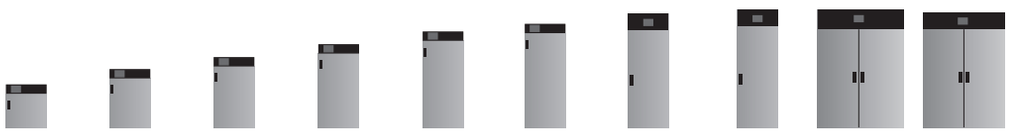
- SMART
- SMART PRO
- TR tropic (on request) for higher ambient temperatures
- double/triple chamber units
- combined with ZLN 85 or ST

SOFTWARE

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

scan me

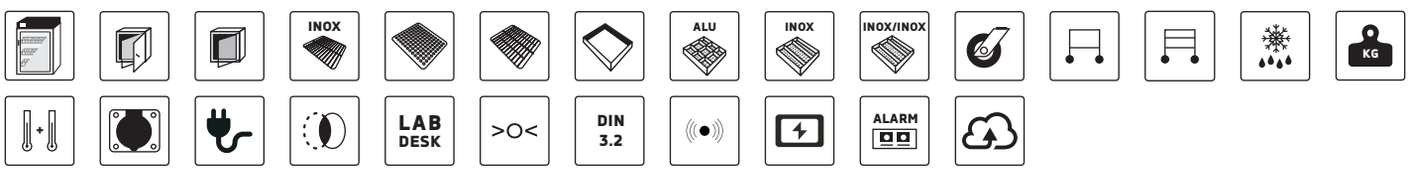
TECHNICAL **DATA**



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									
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		solid / glass (option) or double[1] (option) or SMART window (option)									
temperature range [°C]		0...+15									
temperature resolution [°C]		every 0,1									
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen									
interior	C (comfort)	stainless steel to DIN 1.4016									
	CS (comfort/S)	stainless steel to DIN 1.4016									
	P (premium)	acid-proof stainless steel to DIN 1.4301									
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301									
housing	C (comfort)	powder coated sheet									
	CS (comfort/S)	polished stainless steel to DIN 1.4301									
	P (premium)	powder coated sheet									
	PS (premium/S)	polished stainless steel to DIN 1.4301									
max shelf workload[2] [kg]	-	10	10	10	10	10	10	20	30	30	30
	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		option								yes	
temperature fluctuation[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[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 protection		class 1.0 to DIN 12880 / class 3.2 (option) / class 3.2 in SMART PRO									
power 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		R1234ze / GWP=7						R290 / GWP=3			
warranty		24 months									
manfacturer		POL-EKO®									

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)



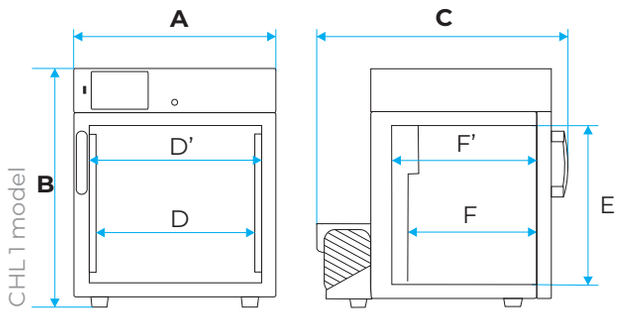
DIMENSIONS & DATA

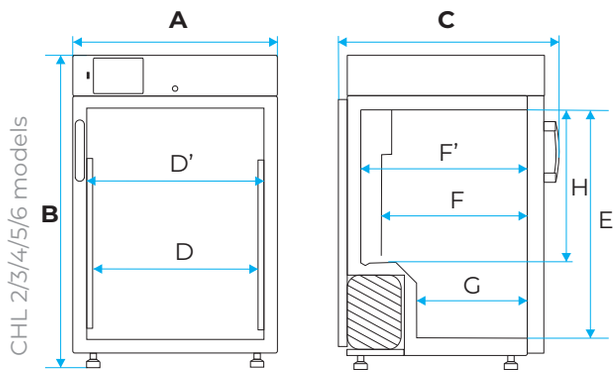
All dimensions refer to standard units
(without optional accessories).

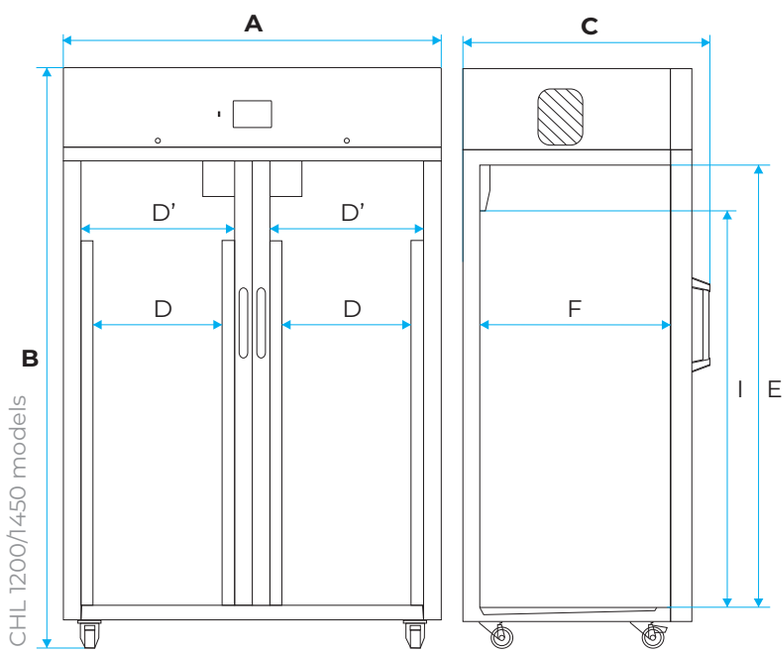
Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

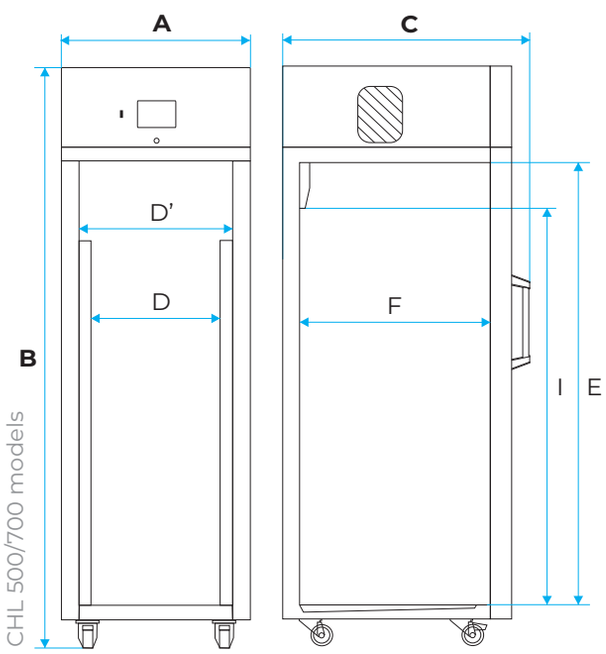
The internal depth of units with double door is smaller.

Possibility of changing the shelf position:
- CHL 1-6 every 25 mm
- CHL 500-1450 every 56 mm









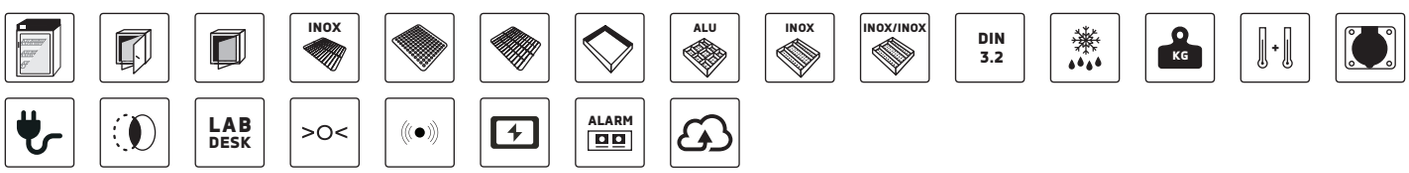
		CHL 1	CHL 2	CHL 3	CHL4	CHL 5	CHL 6	CHL 500 M	CHL 700 M	CHL 1200 M	CHL 1450 M
overall dims [mm]	A width	560	610	610	610	610	610	640	730	1470	1450
	B height	660	900	1100	1300	1500	1900	1990	1990	1990	1940
	C depth	690	650	650	650	650	650	840	900	900	990
internal dims [mm]	D width	430	480	480	480	480	480	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**

parameters		CHL 1/1	CHL 1/1/1	CHL 2/2	CHL 2/3
air convection		forced			
chamber capacity [l]		70 / 70	70 / 70 / 70	150 / 150	150 / 200
working capacity [l]		55 / 55	55 / 55 / 55	122 / 122	122 / 163
door type		solid / glass (option) or double[1] (option) or SMART window (option)			
temperature range [°C]		0...+15			
temperature resolution [°C]		every 0,1			
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen			
interior	C (comfort)	stainless steel to DIN 1.4016			
	CS (comfort/S)	stainless steel to DIN 1.4016			
	P (premium)	acid-proof stainless steel to DIN 1.4301			
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301			
housing	C (comfort)	powder coated sheet			
	CS (comfort/S)	polished stainless steel to DIN 1.4301			
	P (premium)	powder coated sheet			
	PS (premium/S)	polished stainless steel to DIN 1.4301			
max shelf workload[2] [kg]	-	10	10	10	10
	PW[3] version	on request			
max unit workload [kg]		20 / 20	20 / 20 / 20	30 / 30	30 / 40
nominal power [W]		500	750	500	500
weight[4] [kg]		76	115	128	134
temperature fluctuation[6] at +4°C [+/- °C]		0,4	0,4	0,4	0,4
temperature variation[6] at +4°C [+/- °C]		0,7	0,7	0,7	0,7
temperature protection		class 1.0 to DIN 12880 / class 3.2 (option) / class 3.2 in SMART PRO			
power supply		230V 50-60Hz / 115V 50-60Hz			
shelves fitted/max		see page 33			
refrigerant		R1234ze / GWP=7			
warranty		24 months			
manfacturer		POL-EKO®			

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)



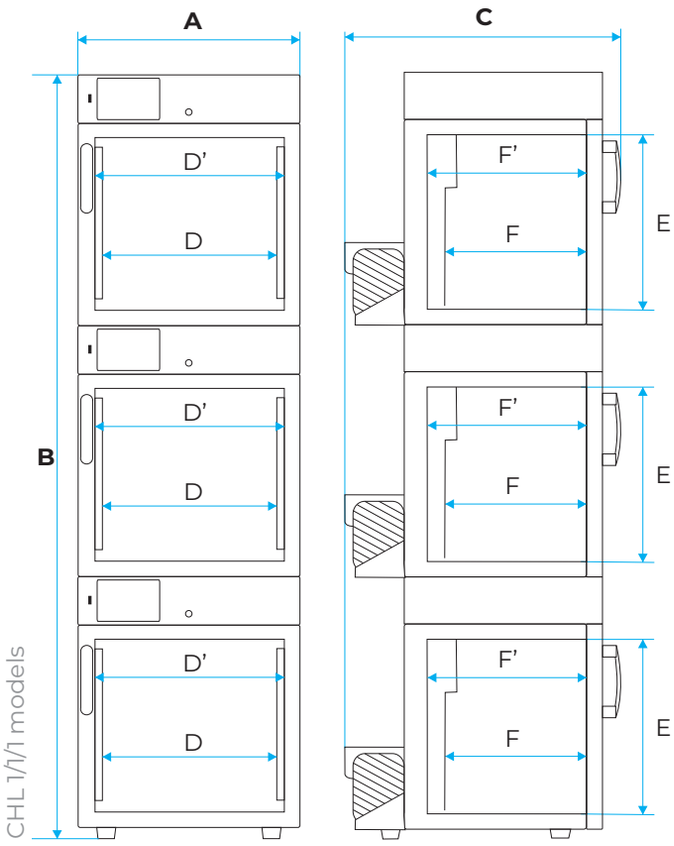
DIMENSIONS & DATA

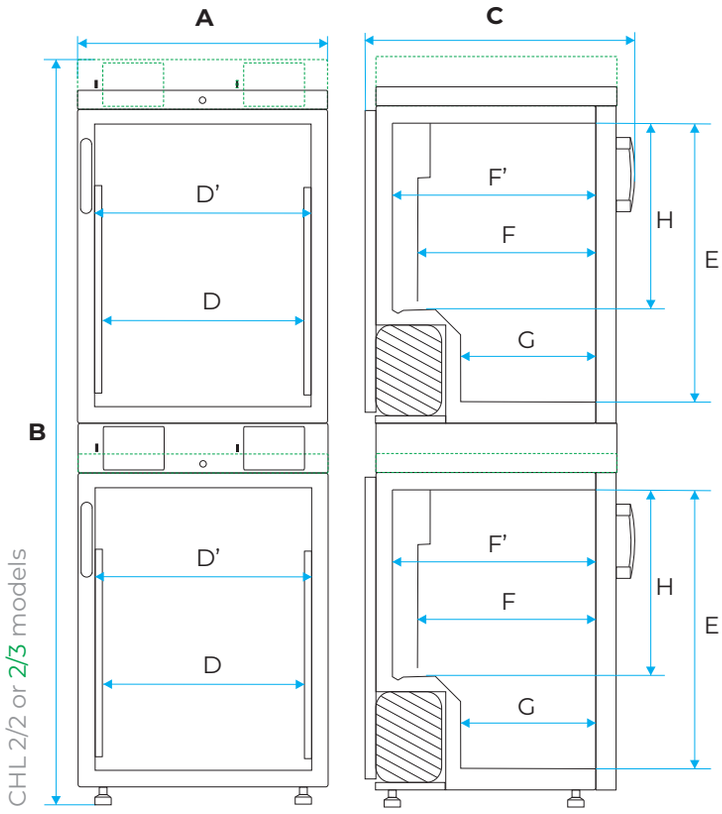
All dimensions refer to standard units
(without optional accessories).

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
internal dims [mm]	D width	430	430	480	480
	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

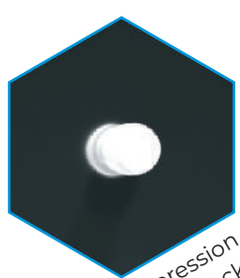
SMART/SMART PRO controller with USB port

access port (Ø20 mm)

handle with door lock

Laboratory freezer ZLN-T 200 C SMART

stainless steel shelf with hole



decompression valve (at the back)

castors with brake

ACCREDITED ISO/IEC 17025 CALIBRATION

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24 month warranty

CE

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

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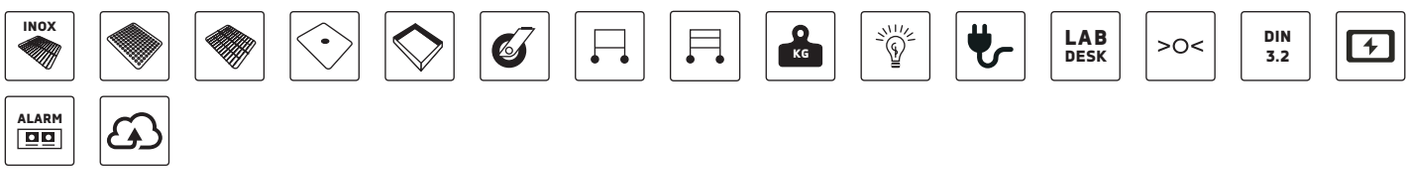
TECHNICAL **DATA**

parameters		ZLN 85	ZLN-T 125	ZLN-T 200	ZLN-T 300	ZLW-T 200	ZLW-T 300
air convection		natural				forced	
chamber capacity [l]		85	130	210	310	210	310
working capacity [l]		73	109	180	262	140	213
door type		solid					
temperature range [°C]		-25...0	-40...0				
temperature resolution [°C]		every 0,1					
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen					
interior	C (comfort)	stainless steel to DIN 1.4016					
	CS (comfort/S)	stainless steel to DIN 1.4016					
	P (premium)	acid-proof stainless steel to DIN 1.4301					
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301					
housing	C (comfort)	powder coated sheet					
	CS (comfort/S)	polished stainless steel to DIN 1.4301					
	P (premium)	powder coated sheet					
	PS (premium/S)	polished stainless steel to DIN 1.4301					
max shelf workload[1] [kg]	-	10	10	10	10	10	10
	PW[2] version	-	50	50	50	50	50
max unit workload [kg]	-	30	50	65	80	65	80
	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				
temperature fluctuation[4] at -20°C [+/- °C]		0,5	0,5	0,5	0,5	1,5	1,5
temperature variation[4] at -20°C [+/- °C]		2,0	2,0	2,5	2,5	1,8	1,8
temperature protection		class 3.2 to DIN 12880 (option) / class 3.2 to DIN 12880 (SMART PRO)					
power supply		230V 50-60Hz / 115V 50-60Hz	230V 50-60Hz/ 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 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 - 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)

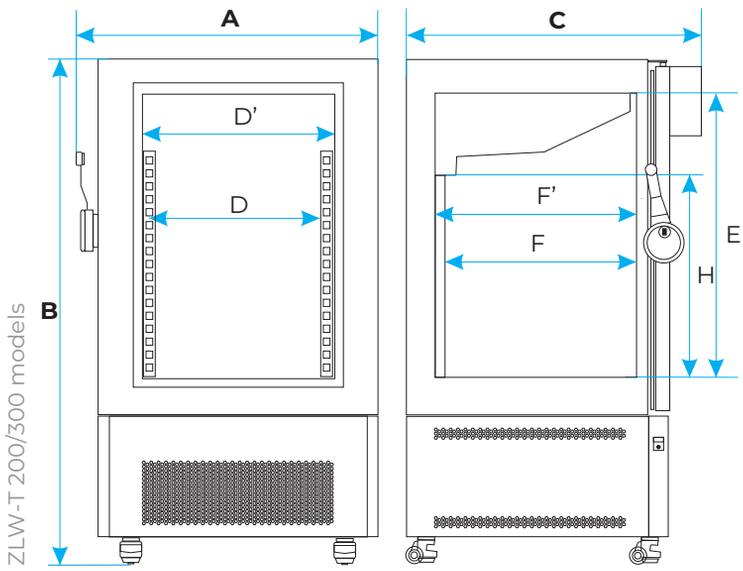


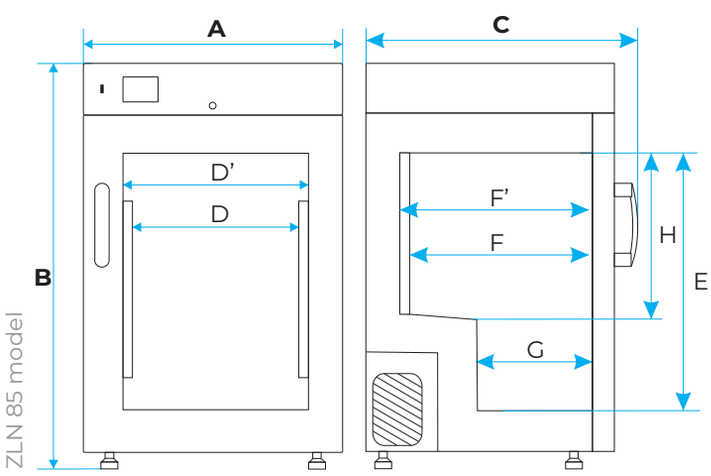
DIMENSIONS & DATA

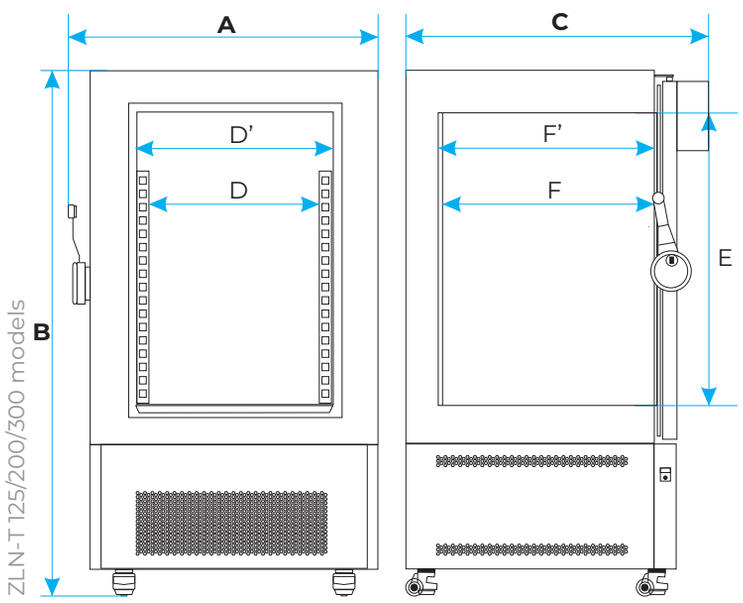
All dimensions refer to standard units (without optional accessories).

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





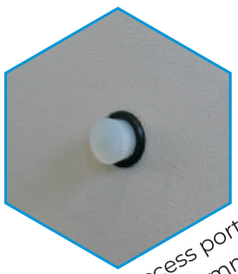


		ZLN 85	ZLN-T 125	ZLN-T 200	ZLN-T 300	ZLW-T 200	ZLW-T 300
overall dims [mm]	A width	610	720	820	820	820	820
	B height	920	1220	1390	1740	1390	1740
	C depth	650	810	810	810	810	810
internal dims [mm]	D width	410	390	460	460	460	460
	D' width	420	420	530	520	520	520
	E height	590	600	770	1120	770	1120
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

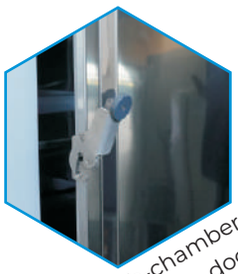
SMART/SMART PRO controller with USB port



access port (Ø20 mm)

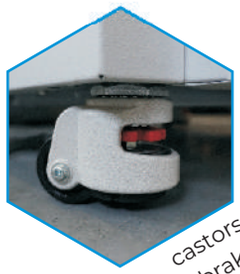
handle with door lock

Ultra-low freezer ZLN-UT 300 VIP C SMART



sub-chamber door

emergency power supply switch



castors with brake

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: -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

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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 133x133x50mm [pcs]		192	256	352
door type		double, solid		
temperature range [°C]		-86...-50		
temperature resolution [°C]		every 0,1		
cooling down time from +22°C to -80°C [min]		160	180	210
heating time in case of power failure from -80°C to -60°C [min]		50	90	90
controller		microprocessor PID, 4,3" (Smart) / 7" (Smart PRO) full colour touch screen		
interior	C (comfort)	stainless steel to DIN 1.4016		
	P (premium)	acid-proof stainless steel to DIN 1.4301		
housing	C (comfort)	powder coated sheet		
	P (premium)	powder coated sheet		
max unit workload [kg]		160	160	240
max shelf workload [kg]		40	40	40
nominal power [W]		2100	2100	2100
energy consumption 24h [kWh] at -80°C		15	15	17
weight [kg]		200	220	243
castors		yes		
temperature fluctuation[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 chambers		2	2	2
refrigerant		R290 / GWP=3 | R170 / GWP=6		
warranty		24 months		
manufacturer		POL-EKO®		

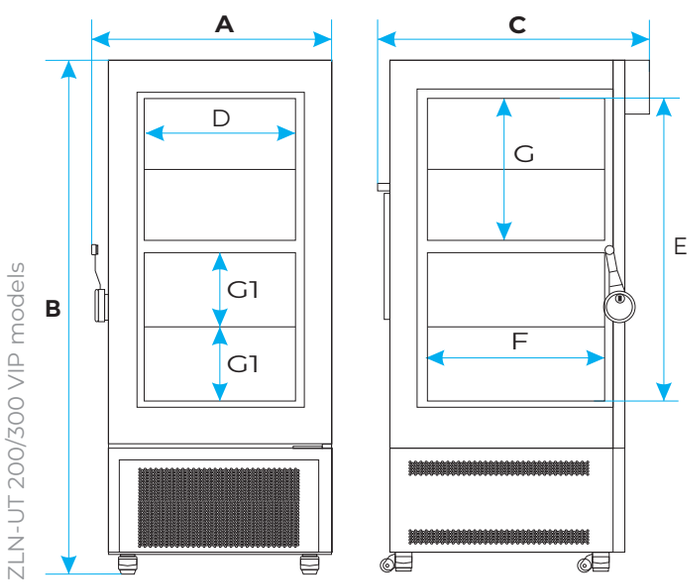
all the above technical data refer to standard units (without optional accessories)
1 - fluctuation measured in centre of chamber; in space, variation (K) calculated for chamber as: K= +/- (T avg max - T avg min) / 2

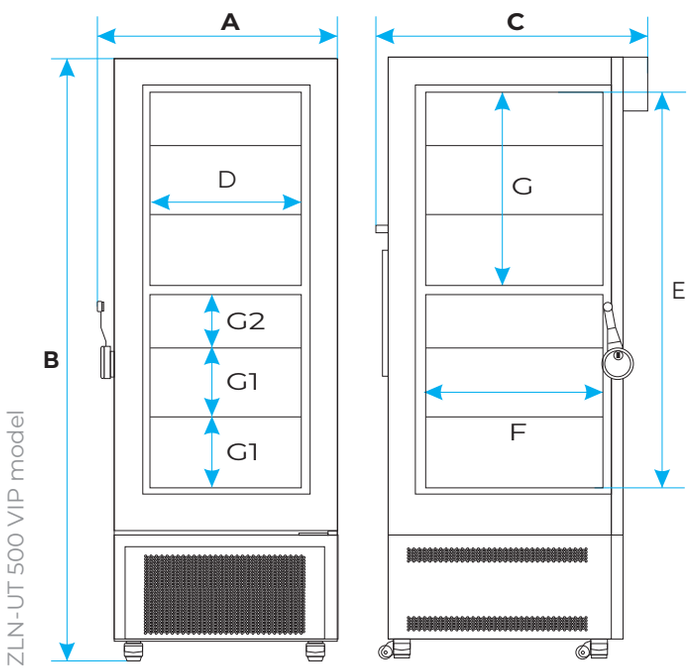
OPTIONS & **ACCESSORIES** (icon description see pages 117-124)

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
overall dims [mm]	A width	880	880	880
	B height	1390	1620	2000
	C depth	960	960	960
internal dims [mm]	D width	620	620	620
	E height	770	1000	1380
	F depth	580	580	580
	G height	360	480	670
	G 1 height	178	235	235
	G 2 height	-	-	178

OPTIONS FOR ULTRA-LOW FREEZERS

ZLN-UT 500 VIP P SMART

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.

CO_2 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

03

COOLING AND HEATING EQUIPMENT

Cooled incubators ST
Cooled incubators ILW
Peltier-cooled incubators ILP

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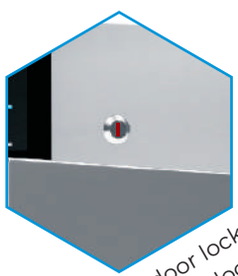
ST COOLED INCUBATORS

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

SMART/SMART PRO controller with USB port

access port (Ø30 mm)

Cooled incubator ST 2 PS Smart PRO



door lock and door lock sensor

glass door (option)

internal LED lighting, temperature sensors and fan

wire shelf

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ST 1200 P SMART


ST 6 CS SMART with glass door


ST 1/1/1 C SMART PRO

24 month warranty

CE

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
- 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

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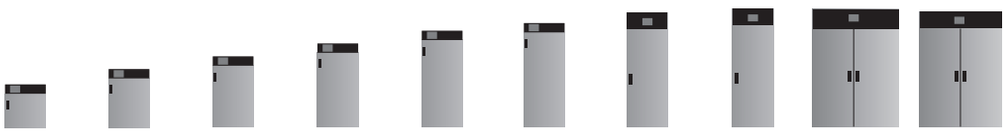
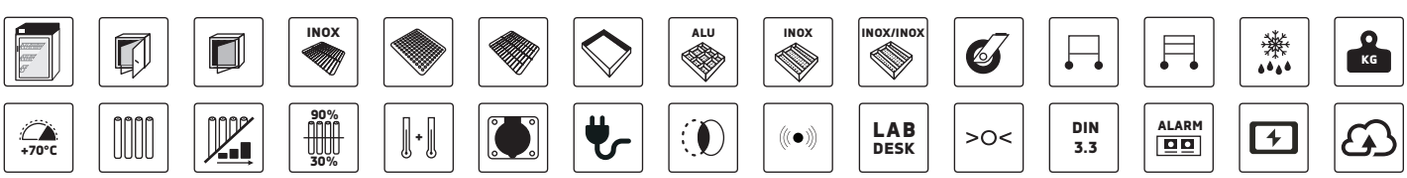
TECHNICAL **DATA**



parameters		ST 1	ST 2	ST 3	ST 4	ST 5	ST 6	ST 500 M	ST 700 M	ST 1200 M	ST 1450 M
air convection		forced									
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		solid / glass (option) / double[1] (option) / SMART window (option)									
temperature range [°C]		+3...+40 in SMART / up to +70 (option) / +3...+70 in SMART PRO									
temperature resolution [°C]		every 0,1									
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen									
interior	C (comfort)	stainless steel to DIN 1.4016									
	CS (comfort/S)	stainless steel to DIN 1.4016									
	P (premium)	acid-proof stainless steel to DIN 1.4301									
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301									
housing	C (comfort)	powder coated sheet									
	CS (comfort/S)	polished stainless steel to DIN 1.4301									
	P (premium)	powder coated sheet									
	PS (premium/S)	polished stainless steel to DIN 1.4301									
max shelf workload[2] [kg]	-	10	10	10	10	10	10	20	30	30	30
	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		option								yes	
temperature fluctuation[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
temperature variation[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
temperature protection		class 1.0 to DIN 12880 / class 3.3 (option) / class 2.0 in P version / class 3.3 in SMART PRO									
power 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		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 - 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)



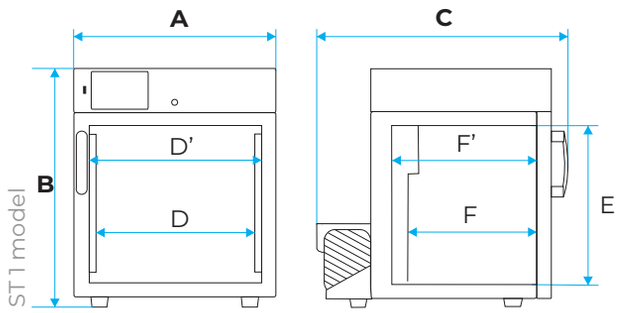
DIMENSIONS & DATA

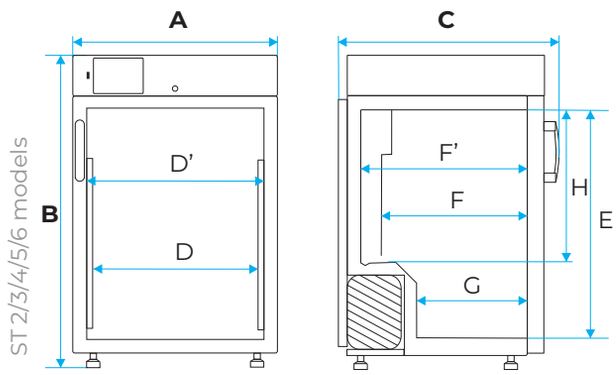
All dimensions refer to standard units
(without optional accessories).

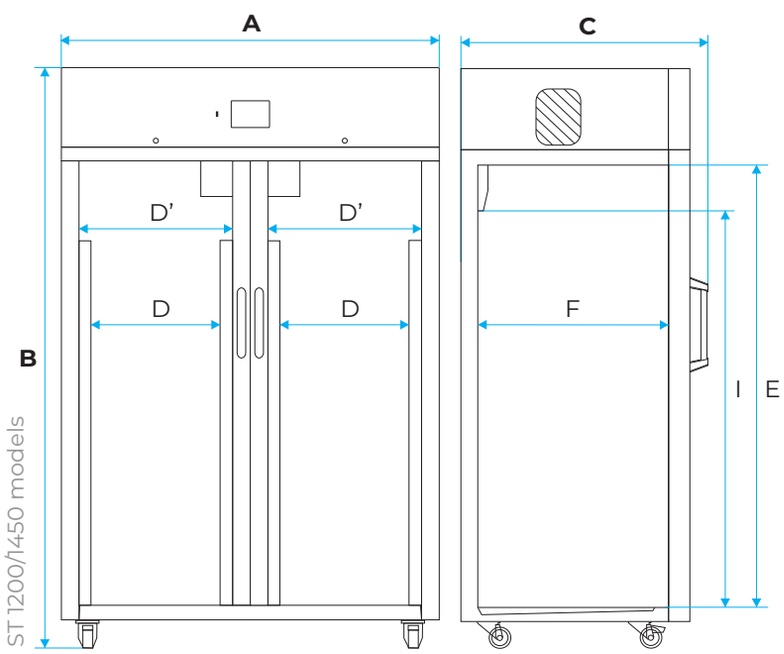
Overall depth doesn't include 50 mm of power cable, the width does not include the 20 mm of access port's silicone plug.

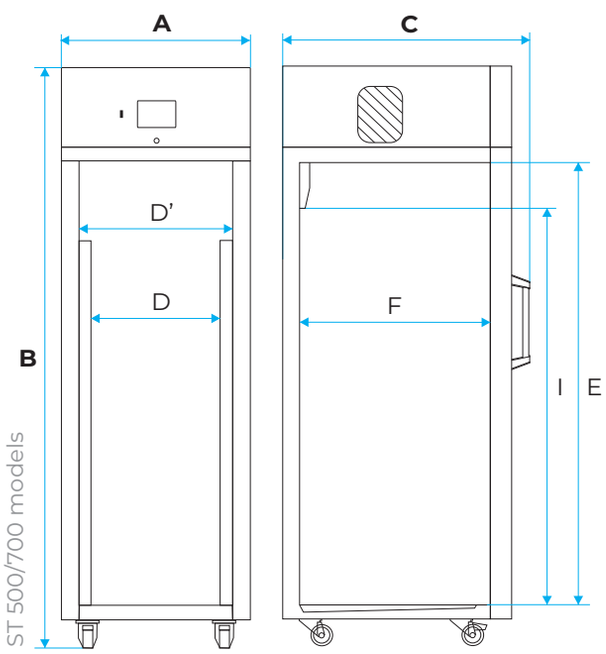
The internal depth of units with double door is smaller.

Possibility of changing the shelf position:
- ST 1-6 every 25 mm
- ST 500-1450 every 56 mm









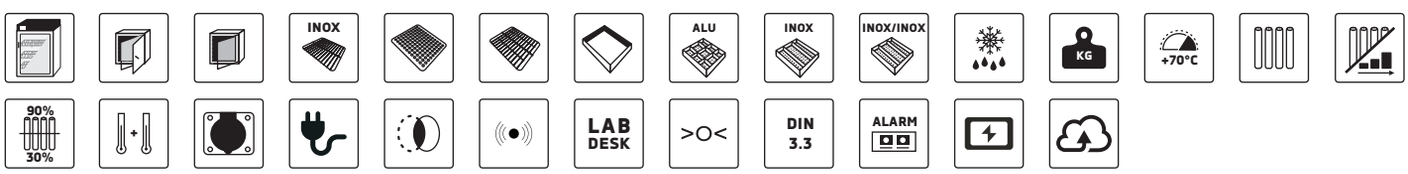
		ST 1	ST 2	ST 3	ST 4	ST 5	ST 6	ST 500 M	ST 700 M	ST 1200 M	ST 1450 M
overall dims [mm]	A width	560	610	610	610	610	610	640	730	1470	1450
	B height	660	900	1100	1300	1500	1900	1990	1990	1990	1940
	C depth	690	650	650	650	650	650	840	900	900	990
internal dims [mm]	D width	430	480	480	480	480	480	470	530	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
	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**

parameters		ST 1/1	ST 1/1/1	ST 2/2	ST 2/3
air convection		forced			
chamber capacity [l]		70 / 70	70 / 70 / 70	150 / 150	150 / 200
working capacity [l]		55 / 55	55 / 55 / 55	122 / 122	122 / 163
door type		solid / glass (option) / double[1] (option) / SMART window (option)			
temperature range [°C]		+3...+40 in SMART / up to +70 (option) / +3...+70 in SMART PRO			
temperature resolution [°C]		every 0,1			
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen			
interior	C (comfort)	stainless steel to DIN 1.4016			
	CS (comfort/S)	stainless steel to DIN 1.4016			
	P (premium)	acid-proof stainless steel to DIN 1.4301			
	PS (premium/S)	acid-proof stainless steel to DIN 1.4301			
housing	C (comfort)	powder coated sheet			
	CS (comfort/S)	polished stainless steel to DIN 1.4301			
	P (premium)	powder coated sheet			
	PS (premium/S)	polished stainless steel to DIN 1.4301			
max shelf workload[2] [kg]	-	10	10	10	10
	PW[3] version	on request			
max unit workload [kg]		20 / 20	20 / 20 / 20	30 / 30	30 / 40
nominal power [W]		500	750	500	500
weight[4] [kg]		65	98	109	114
temperature fluctuation[5] at +37°C [+/- °C]		0,3	0,3	0,3	0,3
temperature variation[5] at +37°C [+/- °C]		0,5	0,5	0,5	0,5
temperature protection		class 1.0 to DIN 12880 / class 3.3 (option) / class 2.0 in P version / class 3.3 in SMART PRO			
power supply		230V 50-60Hz / 115V 50-60Hz			
shelves fitted/max		see page 49			
refrigerant		R1234ze / GWP=7			
warranty		24 months			
manufacturer		POL-EKO®			

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)



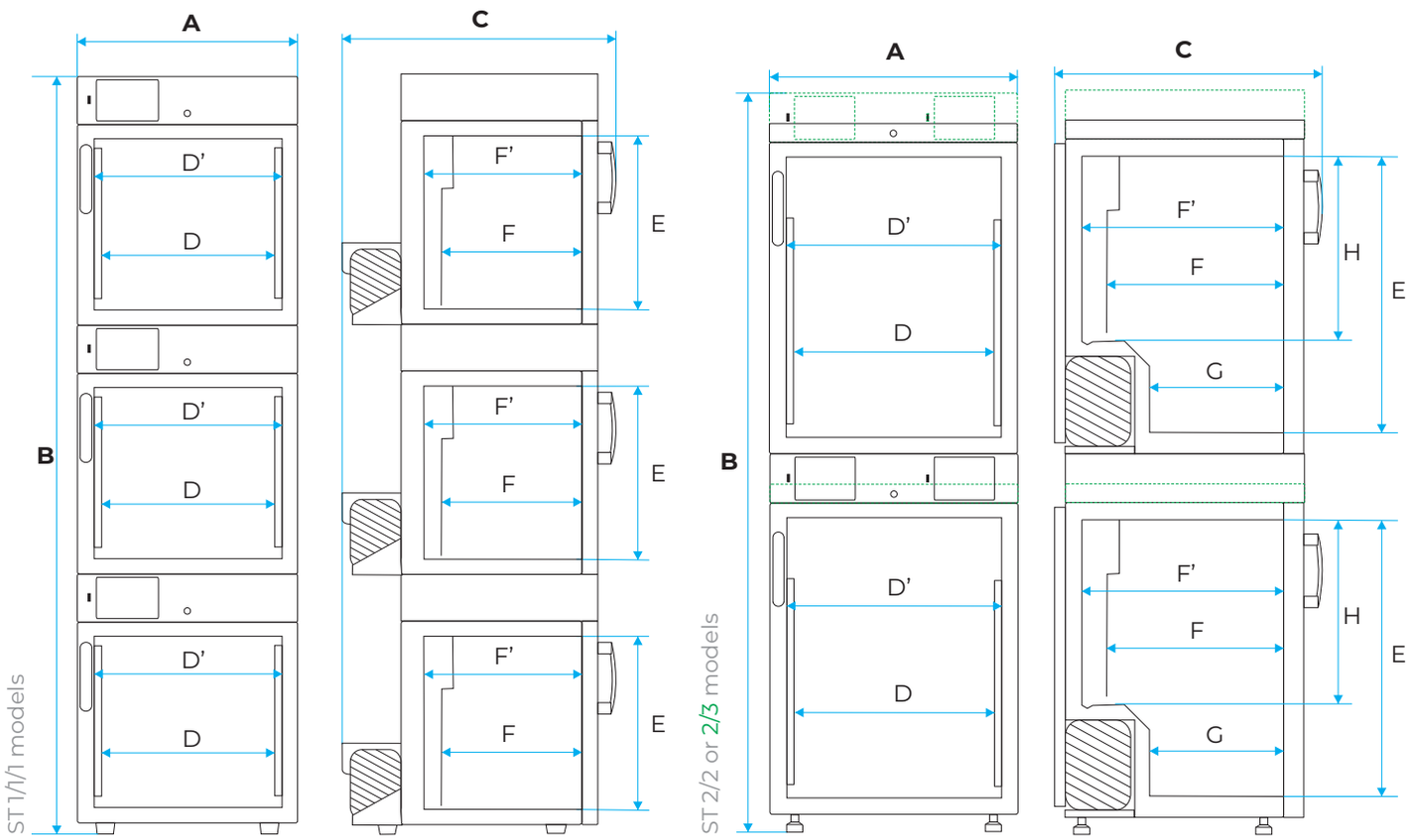
DIMENSIONS & DATA

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
overall dims [mm]	A width	580	580	630	630
	B height	1290	1920	1720	1920
	C depth	690	690	650	650
internal dims [mm]	D width	430	430	480	480
	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

ILW COOLED INCUBATORS

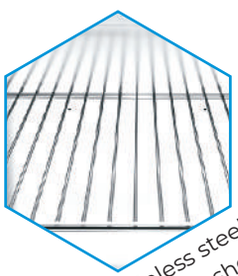
are perfect for incubation of samples in a stable environment, regardless of ambient conditions, at temperatures from -10 up to +100°C

SMART/SMART PRO controller with USB port

access port (Ø30 mm)

temperature sensors and fan

Cooled incubator ILW 115 IG SMART



stainless steel wire shelf

handle with door lock

internal 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.

ILW 750 IG SMART PRO with viewing window

ILW 115 IG SMART PRO with viewing window

ILW 240 SMART PRO

24 month warranty

CE

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

AVAILABLE **VERSIONS**

- SMART
- SMART PRO
- FOT photoperiod (see page 18)
- FIT phytotron (see pages 19-22)
- 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**

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

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TECHNICAL **DATA**

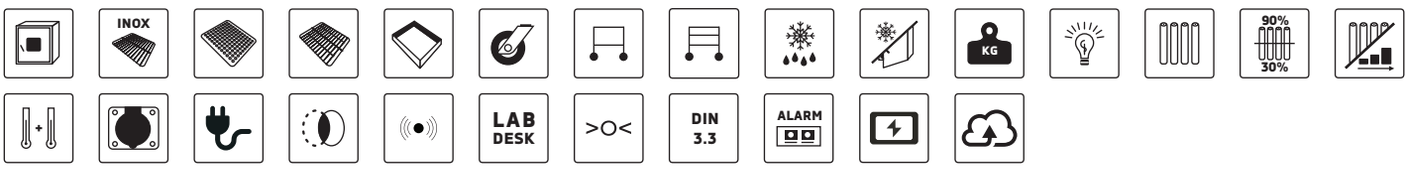




parameters		ILW 53	ILW 115	ILW 240	ILW 400	ILW 750
air convection		forced				
fan speed control [%]		10...100				
chamber capacity [l]		56	112	245	424	749
door type		double[1] / door with viewing window (option)				
temperature range [°C]		-10 (option)/ 0...+70 (+100 in SMART PRO version)				
temperature resolution [°C]		every 0,1				
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) 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[4] [kg]	-	25	25	25	25	-
	PW[2] version	50	50	100	100	100
max unit workload [kg]	-	40	60	90	120	140
	W[3] version	80	120	300	300	300
nominal power [W]		450	500	900	1300	1900
weight [kg]		69	90	140	185	256
castors		option		yes		
temperature fluctuation[5] at +37°C [+/- °C]		0,2	0,2	0,2	0,2	0,2
temperature variation[5] at +37°C [+/- °C]		0,3	0,3	0,3	0,3	0,3
temperature protection		class 2.0 to DIN 12880 / class 3.3 (option) / class 3.3 in SMART PRO				
power supply		230V 50-60Hz / 115V 50-60Hz				230V 50-60Hz/ 3P + PE 230V 50-60Hz
shelves fitted/max		2/5	2/7	3/10	3/14	5/16
refrigerant		1234ze / GWP=7		R290 / GWP=3		
warranty		24 months				
manufacturer		POL-EKO®				

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)

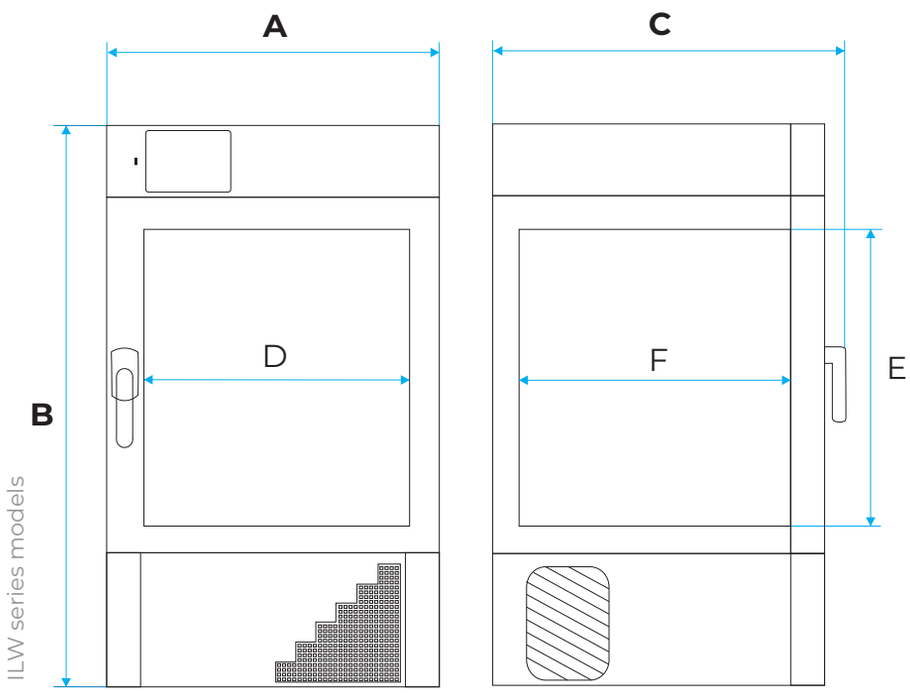


DIMENSIONS & DATA

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

PELTIER COOLED INCUBATORS

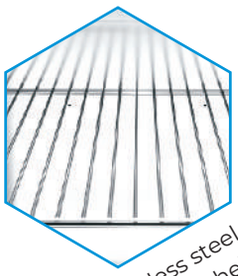
ecological incubators ILP
with cooling system based on
the Peltier cell technology

SMART/SMART PRO controller with USB port

access port (Ø30 mm)

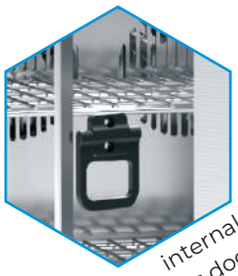
Peltier element at the back

Peltier cooled incubator ILP 240 IG SMART



stainless steel wire shelf

handle with door lock



internal 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.

24 month warranty

CE

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

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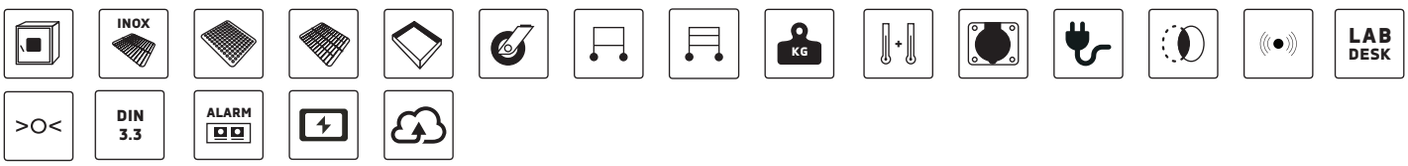
TECHNICAL **DATA**




parameters		ILP 53	ILP 115	ILP 240	ILP 750
air convection		forced			
chamber capacity [l]		56	112	245	749
door type		double[1] / door with viewing window (option)			
temperature range [°C]		0...+70 (max 20°C below ambient temperature)			
temperature resolution [°C]		every 0,1			
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen			
interior		acid-proof stainless steel to DIN 1.4301			
housing	-	powder coated sheet			
	IG	stainless steel linen finish			
max shelf workload[2] [kg]		25	25	25	-
max reinforced shelf workload (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] at +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 PRO			
power supply		230V 50-60Hz / 115V 50-60Hz			230V 50-60Hz/ 3P + PE 230V 50-60Hz
shelves fitted/max		2 / 5	2 / 7	3 / 10	5 / 16
warranty		24 months			
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)

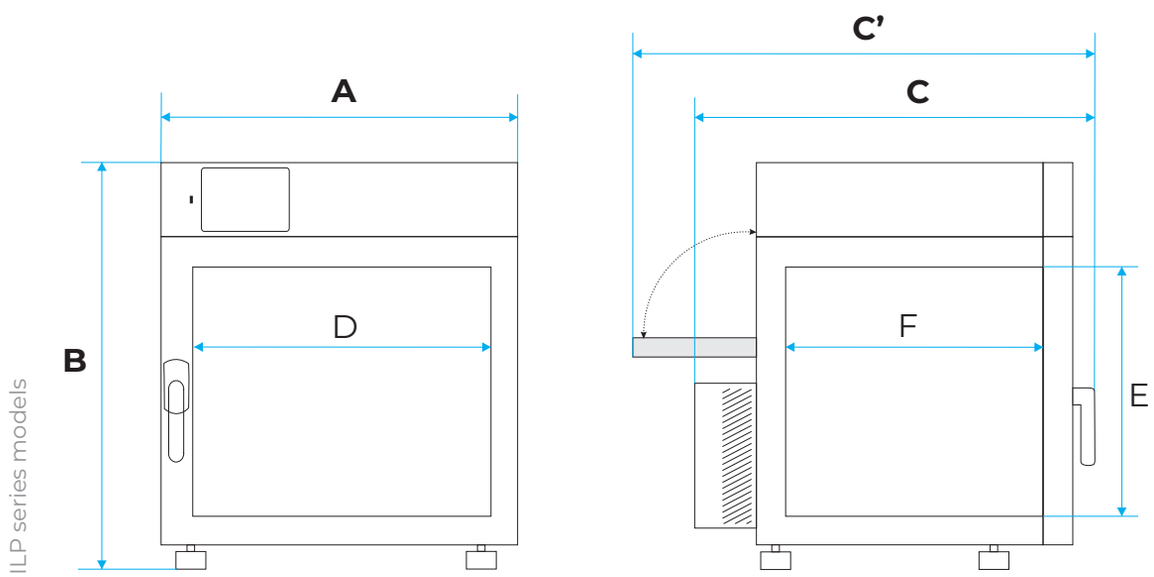


DIMENSIONS & DATA

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

04

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

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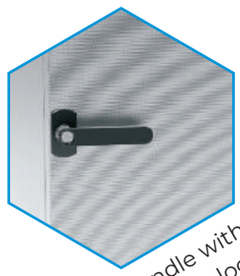
LABORATORY INCUBATORS

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

SMART/SMART PRO controller with USB port

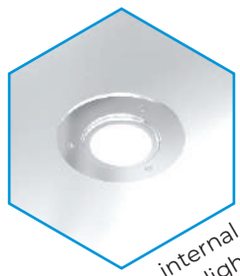
access port (Ø30 mm)



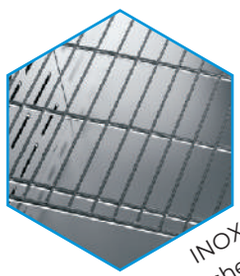
handle with door lock

Laboratory incubator CLN 180 IG SMART PRO

internal glass door



internal LED light (option)



INOX wire shelf

ACCREDITED ISO/IEC 17025 CALIBRATION

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: 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

EXTRA FOR **SMART PRO**

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

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

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TECHNICAL **DATA**

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 [%]		0...100 (CLW)				10...100 (CLW)				
chamber capacity [l]		15	32	56	112	180	245	424	749	1005
door type		double[1]		double[1] / door with viewing window (option)						
temperature range		+5°C above ambient temperature ...+100°C								
temperature resolution [°C]		every 0,1								
controller		microprocessor PID, 4,3" (Smart) / 7" (SMART PRO) 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[4] [kg]	-	10	10	25	25	25	25	25	-	-
	PW[2] version	-	-	50	50	50	100	100	100	100
max unit workload [kg]	-	20	30	40	60	75	90	120	140	-
	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		no		option				yes		
temperature fluctuation[5] at +37°C [+/- °C]	CLN	0,2	0,2	0,2	0,2	0,2	0,3	-	-	-
	CLW	0,2	0,2	0,1	0,1	0,1	0,1	0,1	0,1	0,2
temperature variation[5] at +37°C [+/- °C]	CLN	0,7	0,7	0,7	0,8	0,8	0,8	-	-	-
	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 / class 3.1 (option) / class 3.1 in SMART PRO								
power supply		230V 50-60Hz / 115V 50-60Hz							230V 50-60Hz/ 3P + PE 230V 50-60Hz	
shelves fitted/max		1 / 2	1 / 3	3 / 9	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 - 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

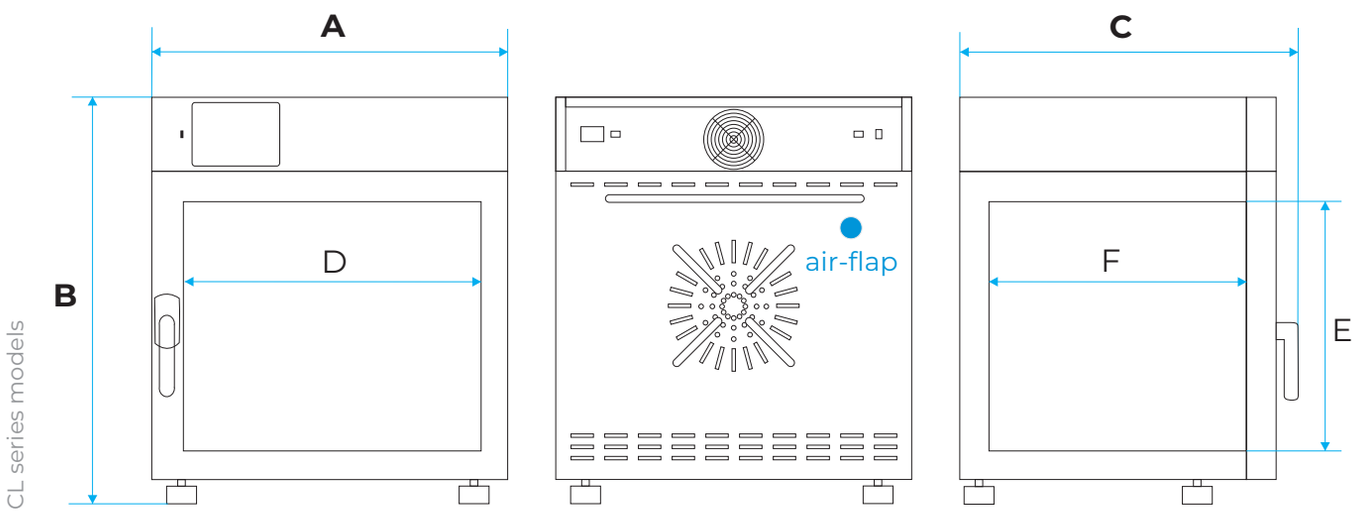
OPTIONS & **ACCESSORIES** (icon description see pages 117-124)

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			

Drying ovens

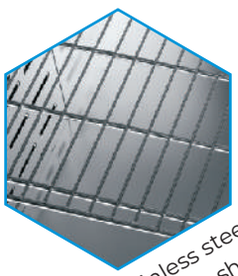
are designed to provide
high temperatures up to 300°C

SMART/SMART PRO controller with USB port

access port

air-flap (at the back)

Drying oven SLW 1000 IG SMART PRO with door with viewing window (option)



stainless steel wire shelf

handle with door lock

door with viewing window (option)

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: 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

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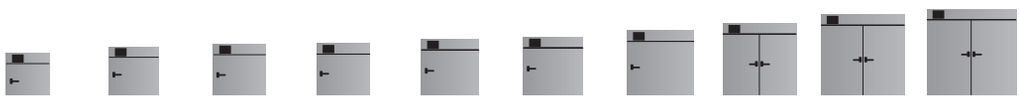
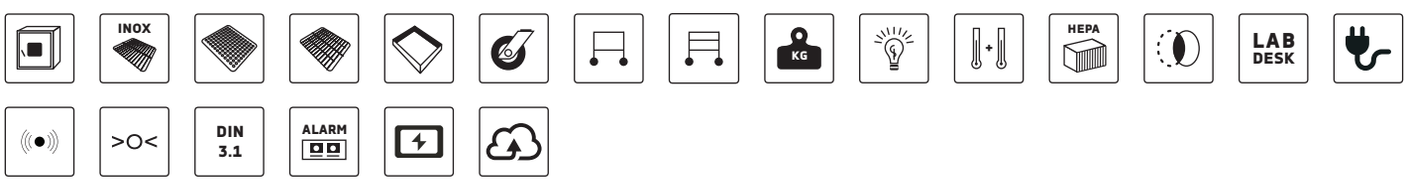
TECHNICAL **DATA**



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) / forced (SLW)							forced (SLW)		
fan speed control [%]		0...100 (SLW)					10...100 (SLW)				
chamber capacity [l]		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]		every 0,1									
controller		microprocessor PID, 4,3" (SMART) / 7" (SMART PRO) full-colour touch screen									
interior		acid-proof stainless steel to DIN 1.4301									
housing	-	powder coated sheet									
	IG (Inox/G)	stainless steel linen finish to DIN 1.4301									
max shelf workload[3] [kg]	-	10	10	25	25	25	25	25	25	-	-
	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		no		option					yes		
temperature fluctuation[4] at +105°C [+/- °C]	SLN	0,4	0,4	0,4	0,4	0,4	0,4	0,6	-	-	-
	SLW	0,3	0,3	0,2	0,2	0,2	0,2	0,4	0,4	0,6	0,6
temperature variation[4] at +105°C [+/- °C]	SLN	2,5	2,5	2,0	2,2	2,2	2,3	2,5	-	-	-
	SLW	2,0	2,0	2,0	2,0	2,0	2,0	2,0	2,5	2,5	3,0
over temperature protection		class 2.0 to DIN 12880 / class 3.1 (option) / class 3.1 in SMART PRO									
power supply		230v 50-60Hz /115V 50-60Hz				230V 50-60Hz / 3P + PE 230V 50-60Hz			3P PE+N 400V 50-60Hz / 3P + 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)

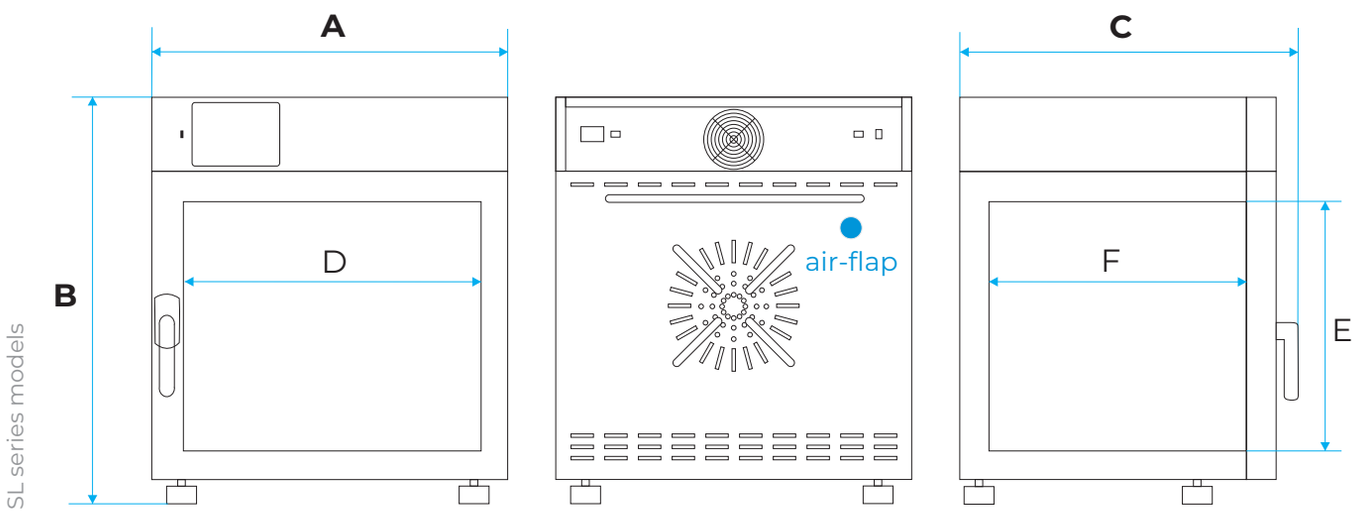


DIMENSIONS & DATA

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



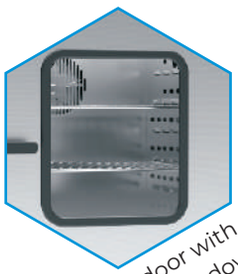
		SL 15	SL 32	SL 53	SL 75	SL 115	SL 180	SL 240	SL 400	SL 750	SL 1000
overall dims [mm]	A width	520	600	600	600	660	660	820	1020	1260	1260
	B height	560	640	710	850	850	1040	1140	1440	1600	2000
	C depth	470	520	620	620	710	820	770	770	880	880
internal dims [mm]	D width	320	400	400	400	460	460	600	800	1040	1040
	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

SMART controller with USB port

access port (Ø30 mm)



door with viewing window (option)

shut-off solenoid valve for gas supply (option)

dry nitrogen blow system (at the back)

handle with door lock

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.

24 month warranty

CE

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

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.

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'.

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TECHNICAL **DATA**

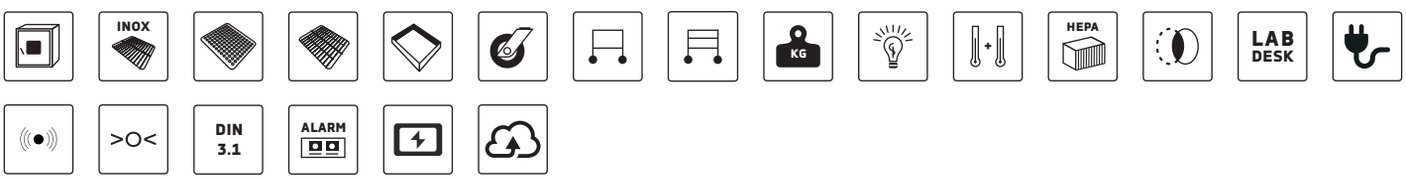




parameters		SLWN1 15 SLWN2 15	SLWN1 32 SLWN2 32	SLWN1 53 SLWN2 53	SLWN1 115 SLWN2 115	SLWN1 240 SLWN2 240
air convection		forced				
fan speed control [%]		0...100				10...100
chamber capacity [l]		15	32	56	112	245
door type		solid		solid/door with viewing window (option)		
temperature range		+5°C above ambient temperature ...+300°C				
temperature resolution [°C]		every 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[3] [kg]	-	10	10	25	25	25
	PW[1] version	-	-	50	50	100
max unit workload [kg]	-	20	30	40	60	90
	W[2] version	-	-	80	120	300
nominal power [W]		700	1200	1700	2500	3100
weight [kg]		31	35	48	65	114
castors		no		option		
temperature fluctuation[4] at +105°C [+/- °C]	SLN	0,4	0,4	0,4	0,4	0,6
	SLW	0,3	0,3	0,2	0,2	0,4
temperature variation[4] at +105°C [+/- °C]	SLN	2,5	2,5	2,0	2,2	2,5
	SLW	2,0	2,0	2,0	2,0	2,0
over temperature protection		class 2.0 to DIN 12880 / class 3.1 (option)				
power supply		230V 50-60Hz / 115V 50-60Hz			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)

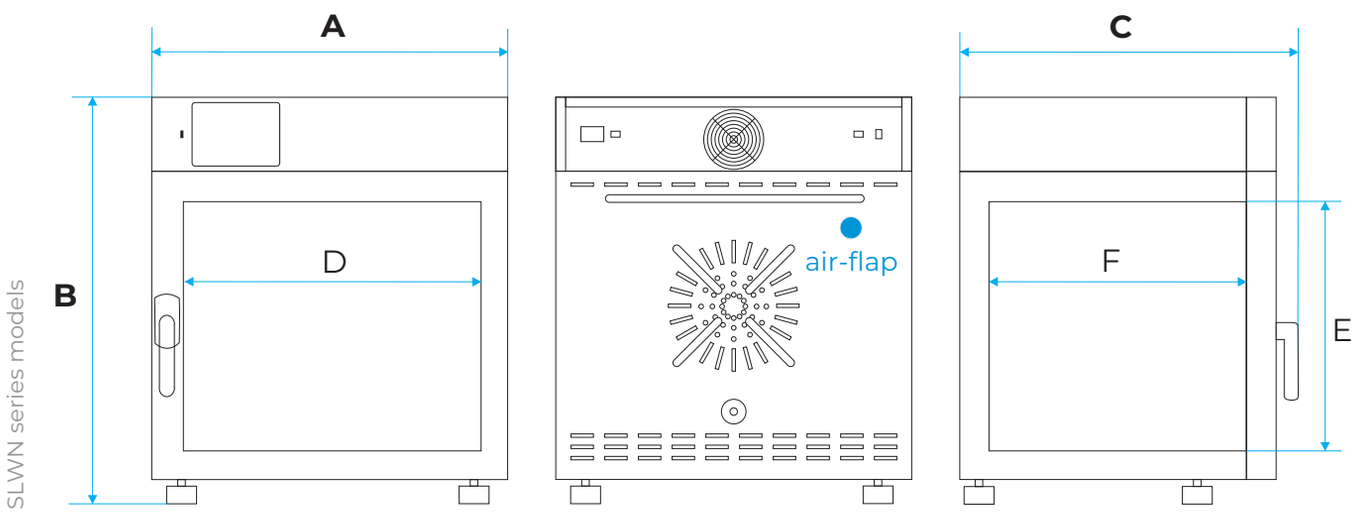


DIMENSIONS & DATA

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



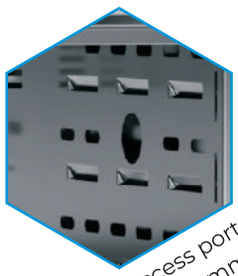
		SLWN1 15 SLWN2 15	SLWN1 32 SLWN2 32	SLWN1 53 SLWN2 53	SLWN1 115 SLWN2 115	SLWN1 240 SLWN2 240
overall dims [mm]	A width	510	590	590	650	820
	B height	550	640	710	860	1140
	C depth	470	520	630	730	770
internal dims [mm]	D width	320	400	400	460	600
	E height	240	320	390	530	800
	F depth	200	250	350	440	500
air-flap ext. diameter [mm]		40				60

SIMPLE DRYING OVEN

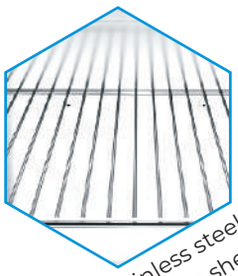
Simple in operation laboratory drying oven – convenient unit for customers who do not require advanced programming.
The equipment is based on a simple controller that allows you to set only the temperature.

SIMPLE controller


air-flap at the back


access port (Ø30 mm) on the right wall


SIMPLE drying oven SLW 115 SIMPLE


stainless steel wire shelf


ergonomic handle


solid 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.

SLN 53 SIMPLE

SLW 115 SIMPLE

MAIN STANDARD **BENEFITS**

- 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

24 month warranty

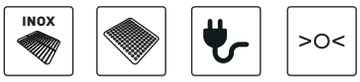
CE

TECHNICAL **DATA**

parameters	SLN 53 SIMPLE	SLW 53 SIMPLE	SLN 115 SIMPLE	SLW 115 SIMPLE
air convection	natural		forced	
chamber capacity [l]	56		109	
door type	solid			
temperature range	+5°C above ambient temperature ...+250°C			
temperature resolution [°C]	every 0,1			
controller	SIMPLE controller with external LED display			
interior	stainless steel to DIN 1.4016			
housing	powder coated sheet			
max shelf workload [kg]	10		10	
max unit workload [kg]	40		60	
nominal power [W]	1700		2500	
weight [kg]	46		64	
temperature fluctuation[1] at +105°C [+/- °C]	0,3		0,3	
temperature variation[1] 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 / 115V 50-60Hz		230V 50-60Hz	
shelves fitted/max	2/5		2/7	
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)



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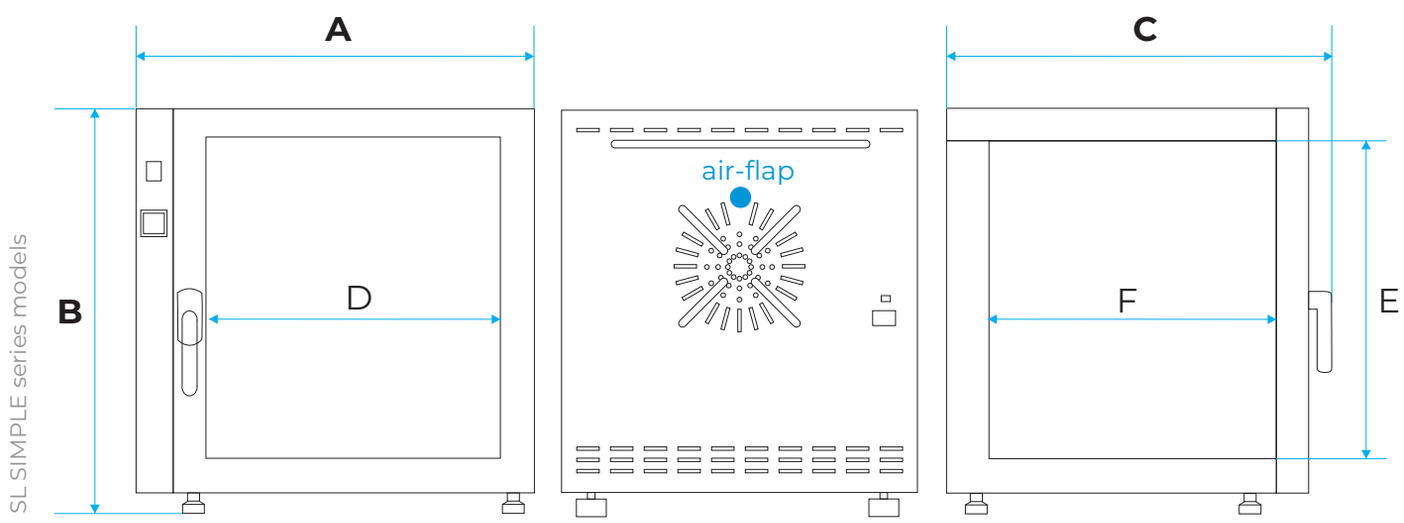
DIMENSIONS & DATA

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



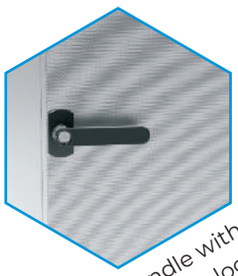
		SLN 53 SIMPLE	SLN 115 SIMPLE	SLW 53 SIMPLE	SLW 115 SIMPLE
overall dims [mm]	A width	660	720	660	720
	B height	590	730	590	730
	C depth	620	710	620	710
internal dims [mm]	D width	400	460	400	460
	E height	390	530	390	530
	F depth	350	440	350	440
air-flap ext. diameter [mm]		40			

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.

SMART controller with USB port

access port

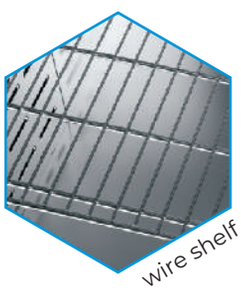


handle with door lock

Sterilizer SRW 240 IG SMART

solid door

electromagnetic lock



wire shelf

ACCREDITED ISO/IEC 17025 CALIBRATION

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: 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

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

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

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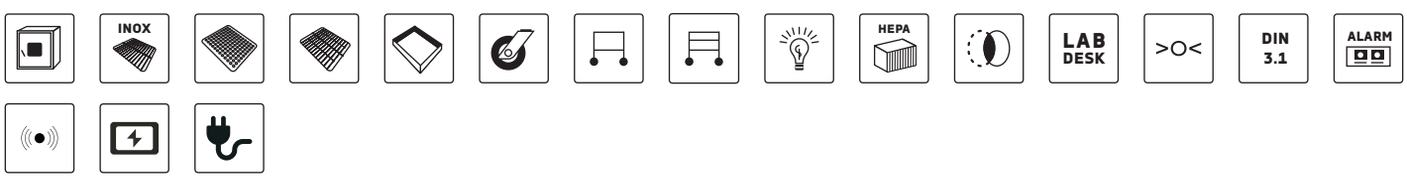
TECHNICAL **DATA**

parameters		SR 53	SR 115	SR 240	SR 400	SR 750	SR 1000
air convection		natural (SRN) / forced (SRW)			forced (SRW)		
fan speed control [%]		0...100 (SRW)		10...100 (SRW)			
chamber capacity [l]		56	112	245	424	749	1005
door type		solid/door with viewing window (option)					
temperature range		+5°C above ambient temperature ...+250°C					
temperature resolution [°C]		every 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[2] [kg]	-	25	25	25	25	-	-
	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	-	-	-
	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	-	-	-
	SRW	2,0	2,0	2,0	2,5	2,5	3,0
over temperature protection		class 2.0 to DIN 12880 / class 3.1 (option)					
power supply		230V 50-60Hz / 115V 50-60Hz	230V 50-60Hz / 3P + PE 230V 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		POL-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)

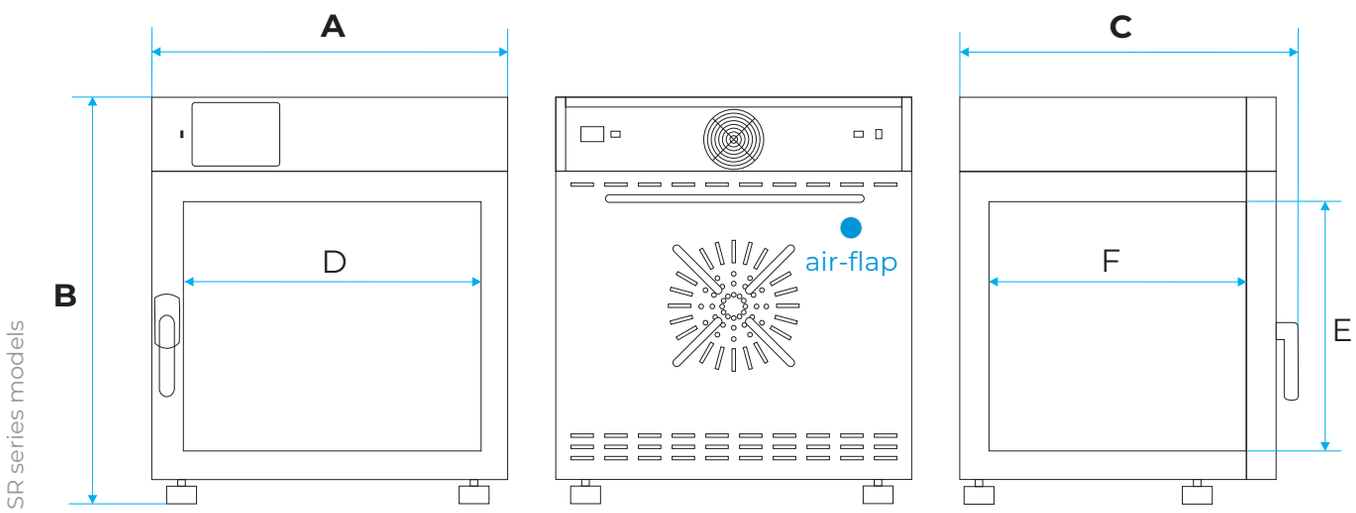


DIMENSIONS & DATA

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 ports'
silicone plug.

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



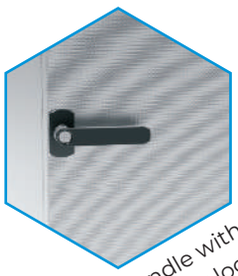
		SR 53	SR 115	SR 240	SR 400	SR 750	SR 1000
overall dims [mm]	A width	600	660	820	1020	1260	1260
	B height	710	850	1140	1440	1600	2000
	C depth	620	710	770	770	880	880
internal dims [mm]	D width	400	460	600	800	1040	1040
	E height	390	530	800	1040	1200	1610
	F depth	350	440	500	500	600	600
air-flap ext.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

SMART controller with USB port

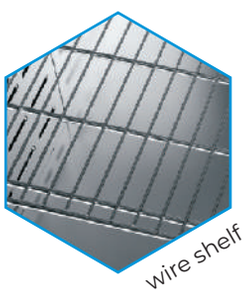

access port


handle with door lock

Pass-through sterilizer SRWP 240 SMART


solid door, front and back


sterilization status indicator lights


wire shelf

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24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

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TECHNICAL **DATA**

parameters		 SRWP 115	 SRWP 240
air convection		forced	
fan speed control [%]		0...100	10...100
chamber capacity [l]		105	240
door type		solid	
temperature range		+5°C above ambient temperature ...+250°C	
temperature resolution [°C]		every 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)

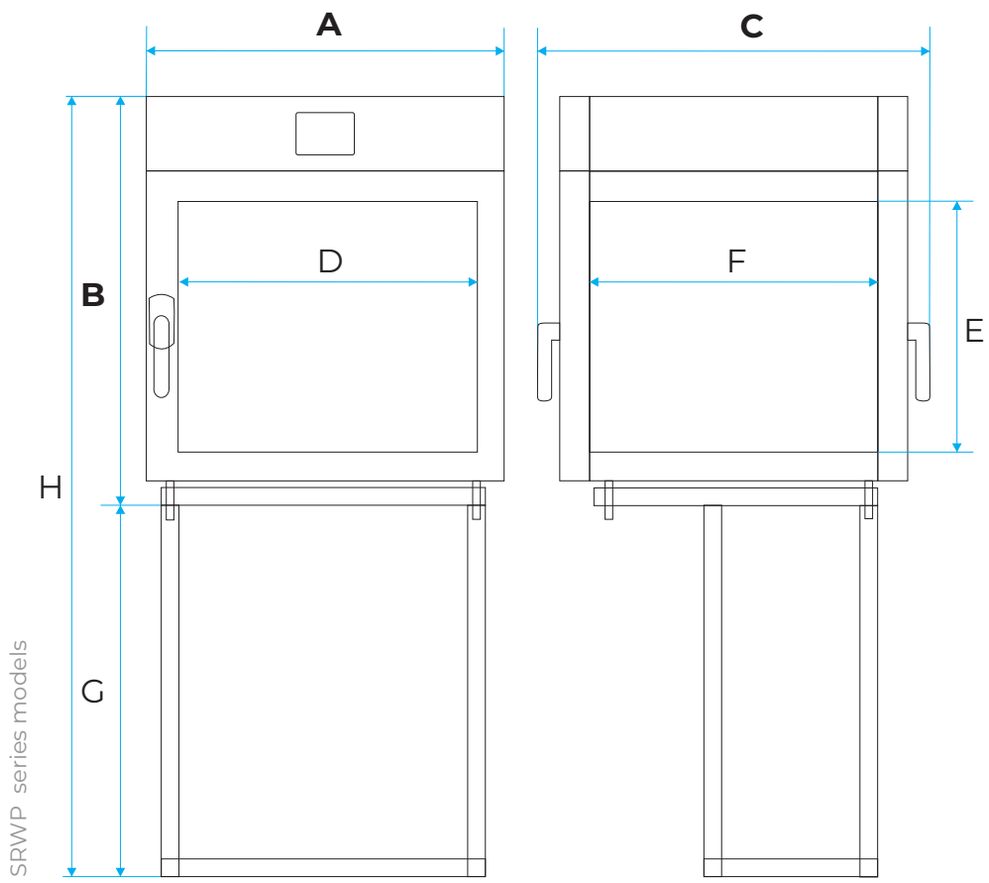
OPTIONS & **ACCESSORIES** (icon description see pages 117-124)

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



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

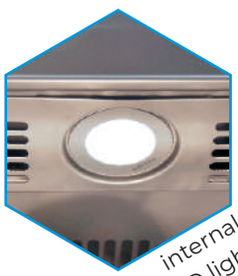
CALDERA

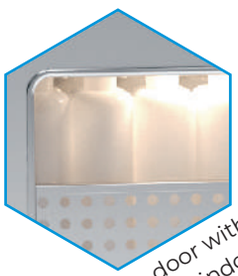
is a warming chamber
for fluids and blankets


door lock

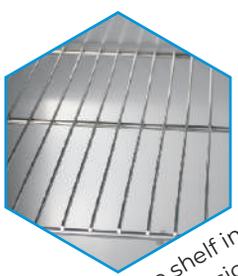

service key


CALDERA 250


internal
LED light


door with
viewing window


stainless steel
telescopic drawer


wire shelf in
TERM version

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24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

EXTRA FOR **CALDERA TERM**

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

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).

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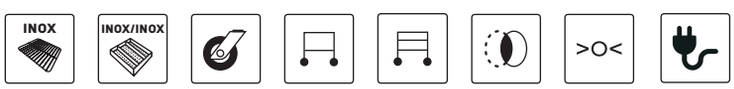
TECHNICAL **DATA**

parametrs	CALDERA 70	CALDERA 150	CALDERA 200	CALDERA 250	CALDERA 300
air convection	forced				
chamber capacity[1] [l]	70	150	200	250	300
door type	door with viewing window				
temperature range [°C]	+35...+42 (+35...+70 in TERM version)				
temperature resolution [°C]	every 1,0				
controller	microprocessor with external LED display				
interior	acid-proof stainless steel to DIN 1.4301				
housing	polished stainless steel to DIN 1.4301				
examples of fluid bags configurations bottle x bottle capacity [l] (per drawer)	20 x 1 or 30 x 0,5 or 4 x 3				
alarm	visual and sound after exceeding the set temperature by 2°C				
lighting	energy-saving LED chamber lighting				
maximum drawer load [kg]	20	20	20	20	20
maximum shelf load in TERM version [kg]	10	10	10	10	10
max unit workload [kg]	20	40	40	60	80
nominal power [W]	250	250	250	250	250
weight [kg]	32	54	59	69	75
castors	option				
temperature fluctuation[2] at +37°C [+/- °C]	0,3	0,3	0,3	0,3	0,3
temperature variation[2] at +37°C [+/- °C]	0,5	0,5	0,5	0,5	0,5
time required to achieve 37°C of the load, at set 37°C (40% load)	4,5 ... 6 h				
time required to achieve 37°C of the load, at set 37°C (70% load)	10 ... 15 h				
over temperature protection	temperature protection over 45°C (class 3.1 to DIN 12880)				
power supply	230V 50-60Hz / 115V 50-60Hz				
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
warranty	24 months				
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

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



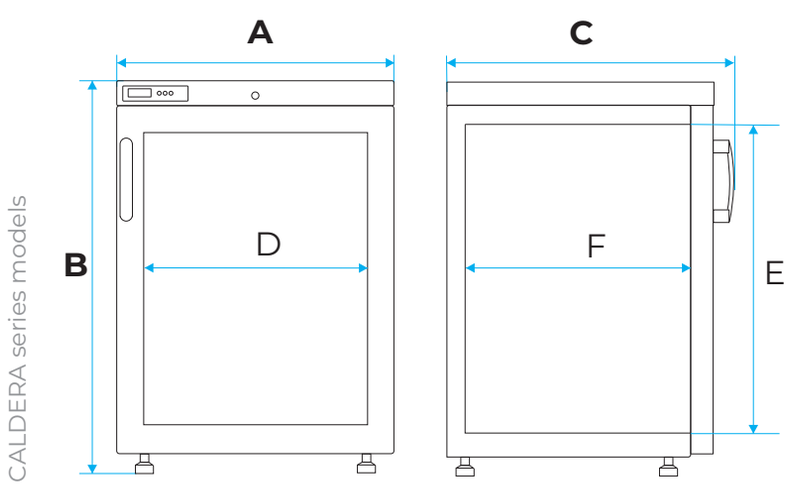
DIMENSIONS & DATA

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

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

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

05

CO_2 INCUBATORS

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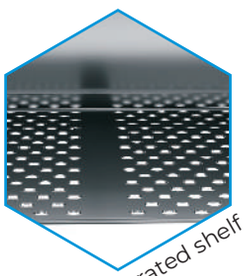
CO_2 Incubators ILC

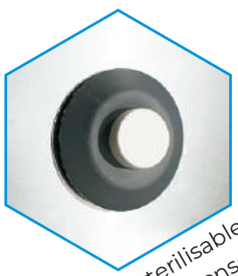
CO_2 INCUBATORS

offers optimum growth conditions for cell cultures. Very precise temperature control, optimal humidity and CO_2 concentration are undeniable advantages of this product

smooth rounded corners

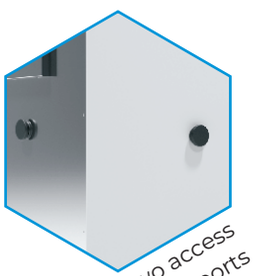


perforated shelf



sterilisable IR CO_2 sensor

CO_2 Incubator ILC 180 SMART PRO



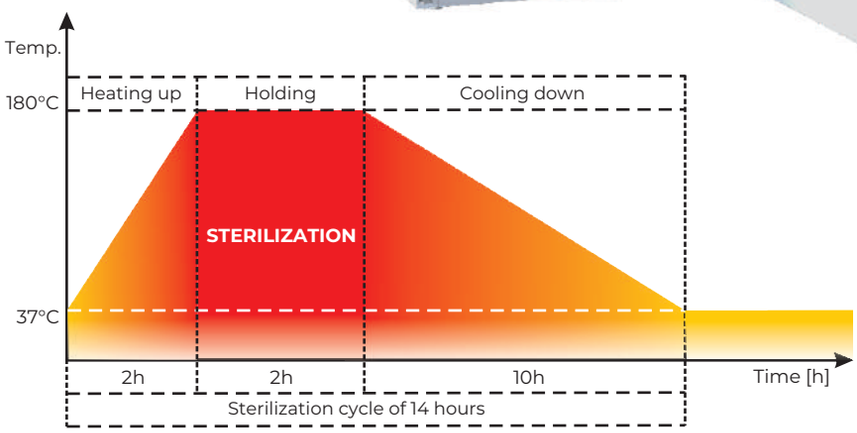
two access ports

water pan (passive humidifying)

stacking adaptor (option)

ACCREDITED ISO/IEC 17025 CALIBRATION

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.



24 month warranty

CE

MAIN STANDARD **BENEFITS**

- temperature range: +5°C above ambient temp...+50°C
- quality control certificate (at +37°C, 5% CO_2)
- 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
- CO_2 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 CO_2 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

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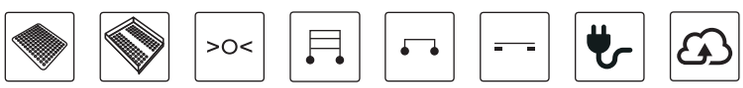
TECHNICAL **DATA**


parametrs	**ILC 180**	**ILC 260**
air convection	natural (fanless)	
chamber capacity[1] [l]	182	262
working capacity[1] [l]	135	205
door type	double (external solid, internal glass)	
temperature range [°C]	+5°C above ambient temperature...+50	
temperature resolution [°C]	every 0,1	
humidity range [% rH]	90-95	
CO_2 range[%]	0-20	
CO_2 resolution [%]	every 0,1	
CO_2 measurement	IR	
controller	microprocessor with a large 7“ full-colour touch screen	
interior	acid-proof stainless steel to DIN 1.4301	
housing	powder coated 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 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 months	
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)

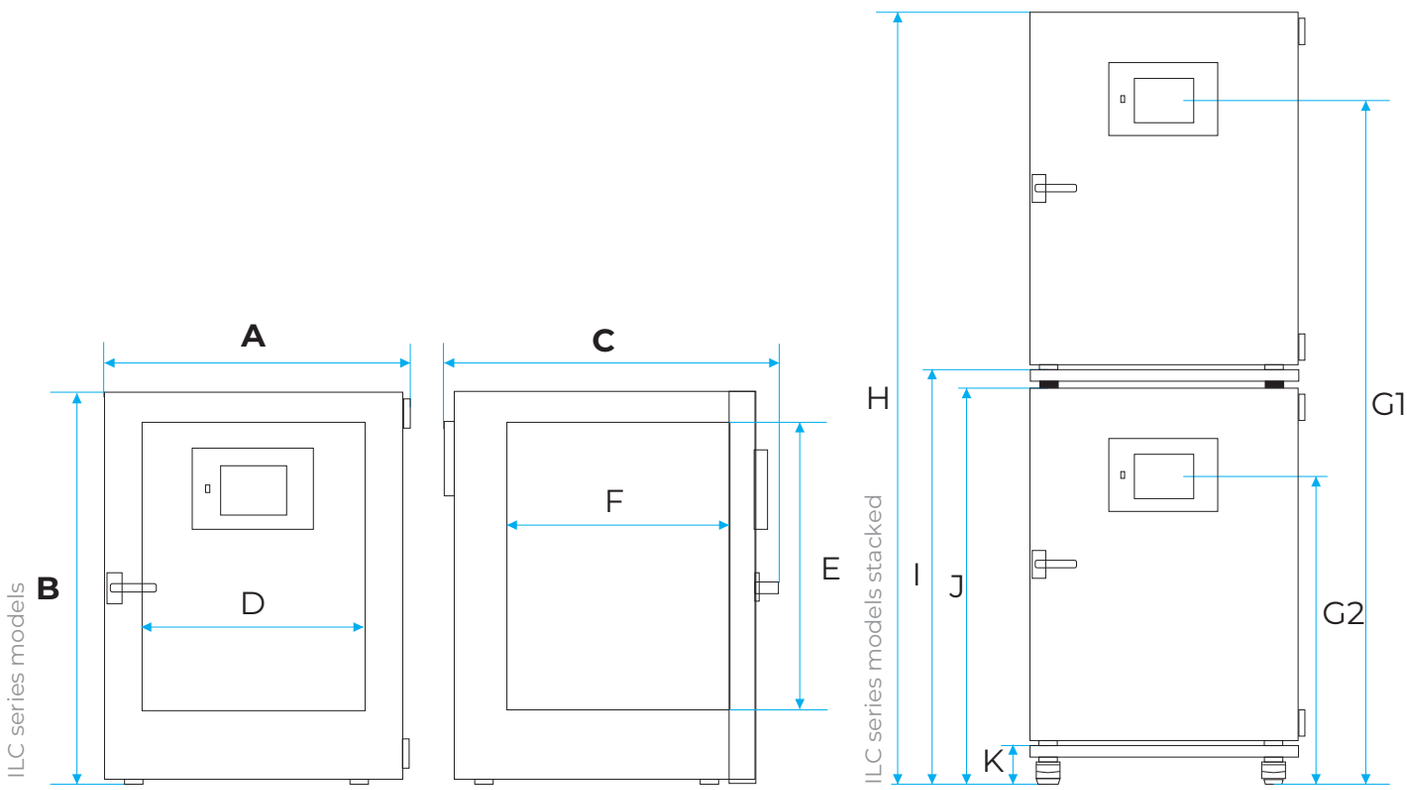


DIMENSIONS & DATA

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 to change the position of shelf:
- ILC 180 - every 87mm
- ILC 260 - every 84 mm



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

06

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

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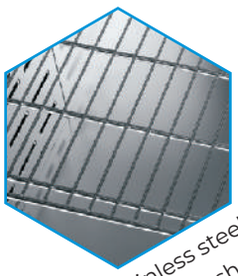
CLIMATIC CHAMBERS

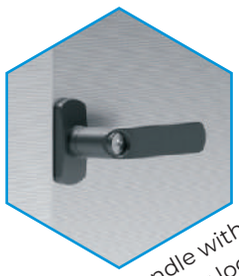
with an ultrasonic humidifier
can control temperature and humidity
to create stable conditions

SMART PRO controller with USB port



stainless steel wire shelf

Climatic chamber KK 750 IG SMART PRO



handle with door lock

access port

double door (external solid, internal glass)

ultrasonic humidifier

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KK 400 SMART PRO


KK 115 SMART PRO


KK 350 SMART PRO

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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 (20l) 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

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TECHNICAL **DATA**

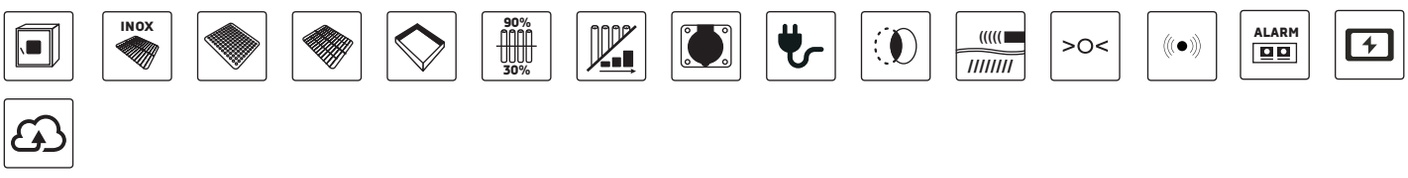




Parameter		KK 115	KK 240	KK 350	KK 400	KK 750
air convection		forced				
fan speed control [%]		10...100				
chamber capacity [l]		109	240	322	416	749
working capacity [l]		109	240	283	416	749
door type		double (external solid, internal glass) / external glass (option)				
temperature range [°C]		0...+60				
temperature resolution [°C]		every 0,1				
relative humidity range [%]		30...90 (see working temperature and humidity chart on page 115)				
humidity resolution [%]		every 0,1				
controller		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	10	-
	PW[2] version	50	100	100	100	100
max unit workload [kg]		60	90	100	120	140
nominal power [W]		1350	1550	1850	2250	2850
weight [kg]		90	170	125	185	275
castors		yes				
temperature variation[3] at +25°C and 60%rH [+/- °C]		2,0	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	5,0
temperature protection		class 3.3 to DIN 12880				
power supply		230V 50-60Hz / 115V 50-60Hz		230V 50-60Hz / 3P+PE 230V 50-60Hz		
shelves fitted/max		2 / 7	3 / 10	3 / 11	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 - variation (K) calculated for chamber as: K= +/- (T avg max - T avg min) / 2

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

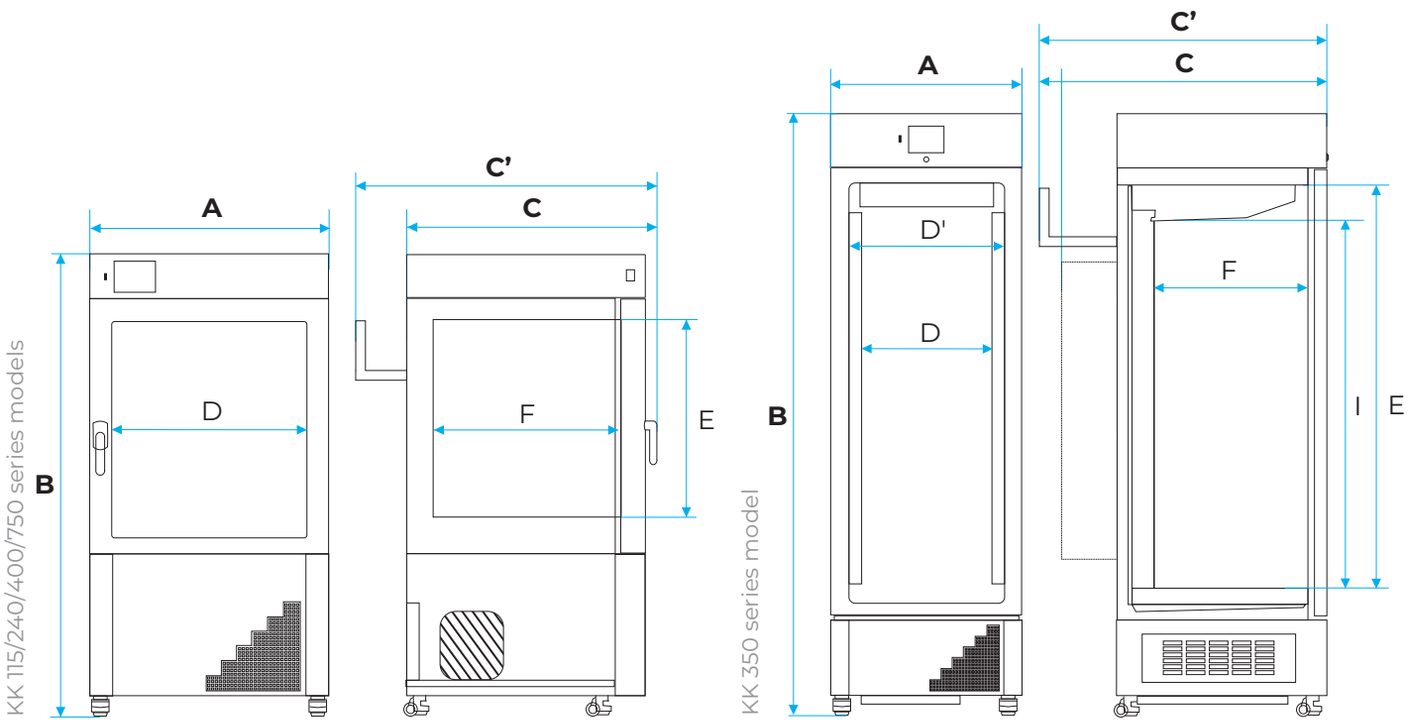


DIMENSIONS & DATA

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

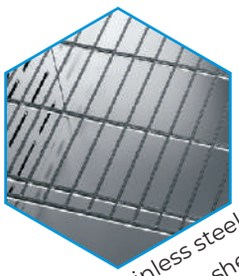


		KK 115	KK 240	KK 350	KK 400	KK 750
overall dims [mm]	A width	660	820	640	1020	1270
	B height	1330	1590	2010	1830	1990
	C depth	730	790	900	790	890
	C' depth	950	1010	990	1010	1120
internal dims [mm]	D width	460	600	470	800	1040
	D' width	-	-	510	-	-
	E height	530	800	1340	1040	1200
	F depth	440	500	500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

SMART PRO controller with USB port


stainless steel wire shelf


reverse osmosis system included

Climatic chamber KKS 115 IG SMART PRO


access port


double door (external solid, internal glass)


steam humidifier

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.

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

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TECHNICAL **DATA**




Parameter		KKS 115	KKS 240	KKS 400	KKS 750
air convection		forced			
fan speed control [%]		10...100			
chamber capacity [l]		109	240	416	749
working capacity [l]		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 [%]		10...90 (see working temperature and humidity chart for details on page 104)			
humidity resolution [%]		every 0,1			
controller		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	
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)

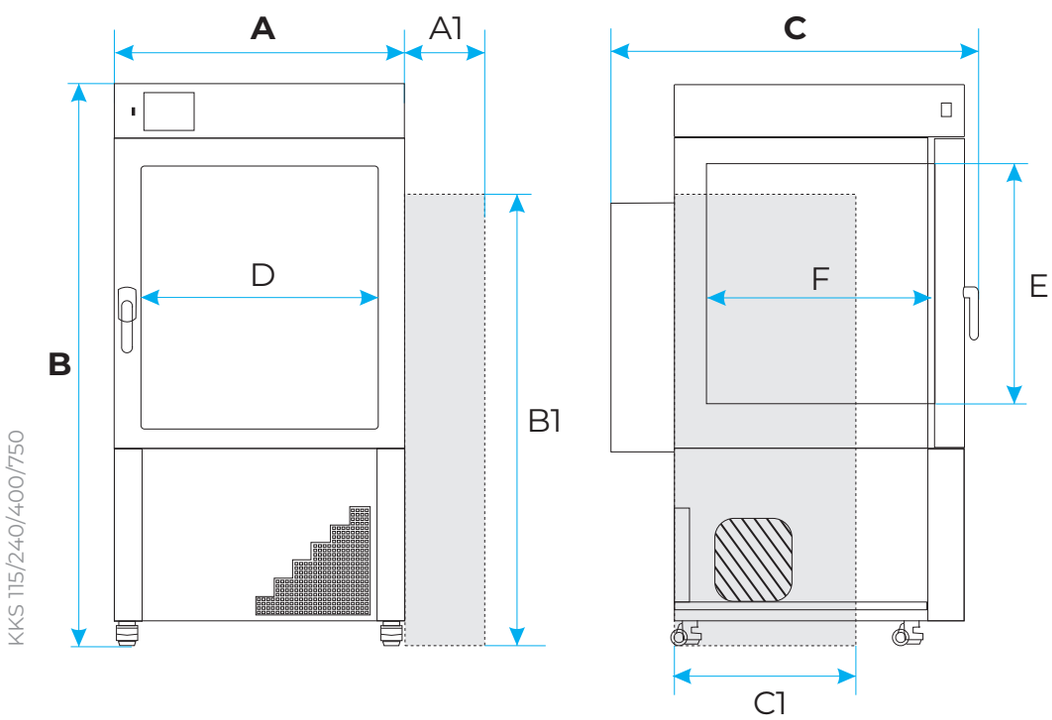
DIMENSIONS & DATA

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.

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

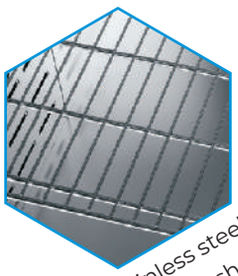


		KKS 115	KKS 240	KKS 400	KKS 750
overall dims [mm]	A width	660	820	1020	1270
	B height	1330	1590	1830	1990
	C depth	820	880	880	980
reverse osmosis system overall dims [mm]	A1 depth	280			
	B1 height	990			
	C1 width	380			
internal dims [mm]	D width	460	600	800	1040
	E height	530	800	1040	1200
	F depth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

CLIMATIC CHAMBERS
KKS 500/700/1200/1450

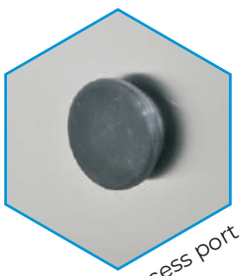
with a steam humidifier
can control temperature and humidity
to create stable conditions

SMART PRO controller with USB port


stainless steel wire shelf

Climatic chamber KKS 500 SMART PRO


door lock


access port


double door (external solid, internal glass)


steam humidifier

ACCREDITED ISO/IEC 17025 CALIBRATION

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KKS 1200 SMART PRO


KKS 700 SMART PRO


KKS 500 SMART PRO

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

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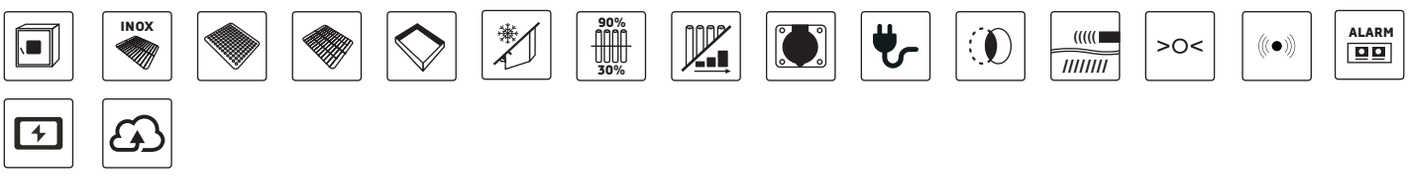
TECHNICAL **DATA**




Parameter		KKS 500	KKS 700	KKS 1200	KKS 1450
air convection		forced			
fan speed control [%]		10...100			
chamber capacity [l]		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)			
temperature resolution [°C]		every 0,1			
relative humidity range [%]		10...90 (see working temperature and humidity chart on page 115)			
humidity resolution [%]		every 0,1			
controller		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]	-	20	30	30	30
	PW[2] version	100	100	100	100
max unit workload [kg]		100	150	300	300
nominal power [W]		2000	2000	2800	2800
weight [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 x 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)

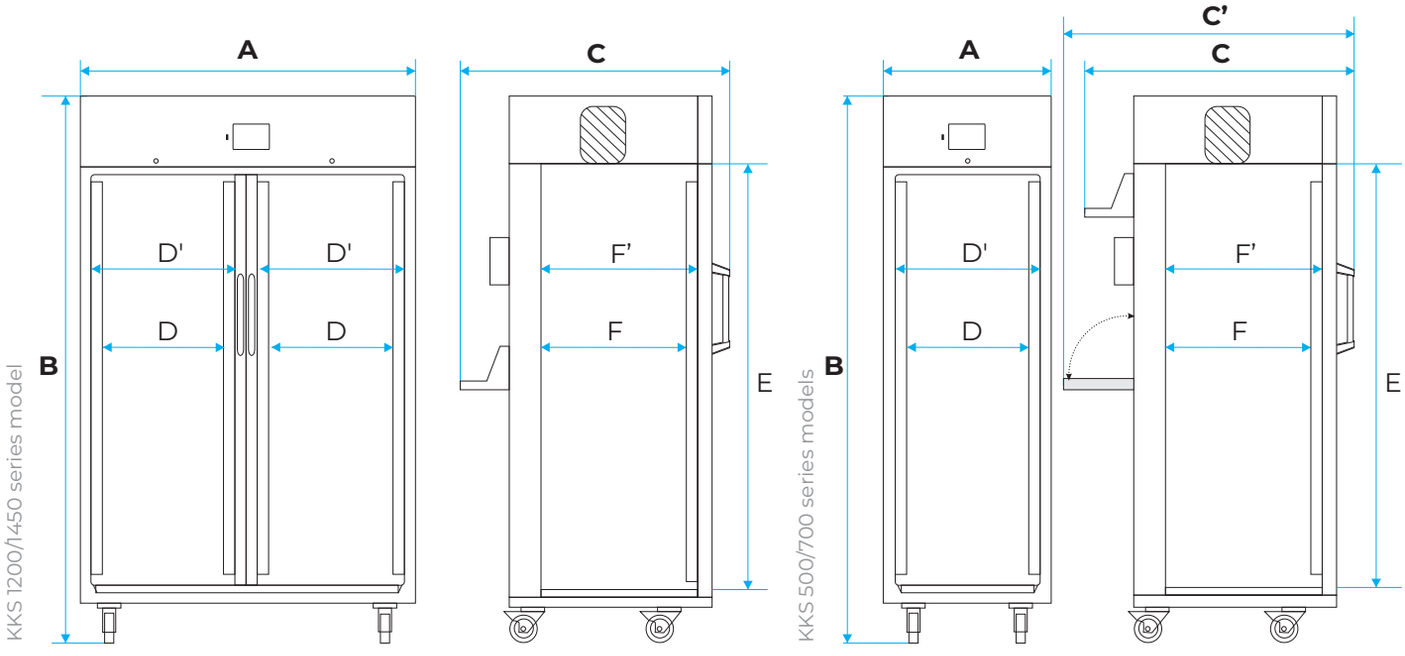


DIMENSIONS & DATA

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:
- KKS 500/700/1200/1450 – every 56 mm



		KKS 500	KKS 700	KKS 1200	KKS 1450
overall dims [mm]	A width	640	730	1460	1440
	B height	1970	1970	1970	1920
	C depth	980	1100	1140	1240
	C' depth	990	1110	-	-
internal dims [mm]	D width	470	535	535	545
	D' width	510	600	600	600
	E height	1510	1510	1510	1410
	F depth	520	550	550	650
	F' depth	545	595	595	695

CONSTANT CLIMATIC CHAMBERS

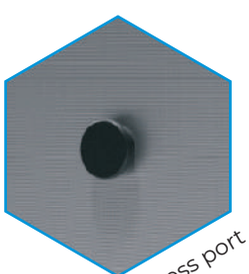
with Peltier cooling system designed for long-term stability tests. They feature very low electricity and water consumption, and excellent parameter performance

SMART PRO controller with USB port

6-liter deionised water tank

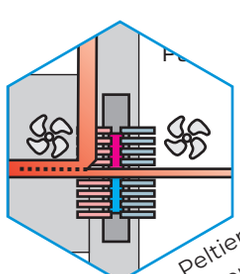
handle with door lock

Constant climatic chamber KKP 240 IG SMART PRO



access port

double door (external solid, internal glass)



Peltier element

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.

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

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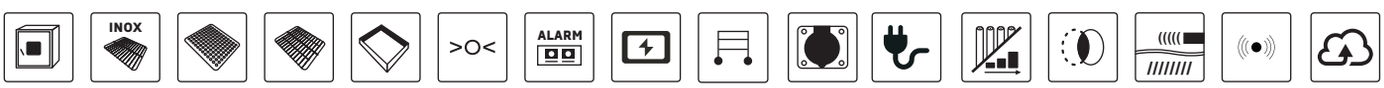
TECHNICAL **DATA**


Parameter		KKP 240	KKP 750
air convection		forced	
chamber capacity [l]		245	749
door type		double door[1]	
controller		microprocessor with a large 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	
working temperature range without humidity [°C]		0...+70 (max 20°C below ambient temp.)	
temperature variation (spatial) at 40°C [°C]		±0,3	±0,2
temperature fluctuation (time) at 40°C [°C]		±0,1	±0,1
working temperature range with humidity [°C]		+5...+70 (max 20°C below ambient temp.)	
temperature resolution [°C]		every 0,1	
temperature variation[2] (spatial) at 40°C, 75% RH [°C]		±0,3	±0,2
temperature fluctuation[2] (time) at 40°C, 75% RH [°C]		±0,1	±0,1
temperature variation[2] (spatial) at 25°C, 60% RH [°C]		±0,2	±0,2
temperature fluctuation[2](time) at 25°C, 60% RH [°C]		±0,1	±0,1
humidity range [%]		10...90 (see working temperature and humidity chart on page 115)	
humidity resolution [%]		every 0,1	
humidity variation[2](spatial) at 40°C, 75% RH [%RH]		<±1,0	<±1,0
humidity fluctuation[2] (time) at 40°C, 75% RH [%RH]		±0,3	±0,3
humidity variation[2] (spatial) at 25°C, 60% RH [%RH]		±0,8	±0,8
humidity fluctuation[2] (time) at 25°C, 60% RH [%RH]		±0,2	±0,4
recovery time humidity[2] (min) after 30 sec door open at 40°C, 75% RH		10	23
external water tank [l]		6	6
max shelf workload[3] [kg]		25	100
max unit workload [kg]		90	140
nominal power [W]		2300	2700
weight [kg]		117	233
castors		no	yes
temperature protection		class 3.3 to DIN 12880	
power supply		230V 50-60Hz / 3P+PE 230V 50-60Hz	400V 50-60Hz / 3P+PE 230V 50-60Hz
shelves (fitted/max)		3/10	3/16
warranty		24 months	
manufacturer		POL-EKO®	

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



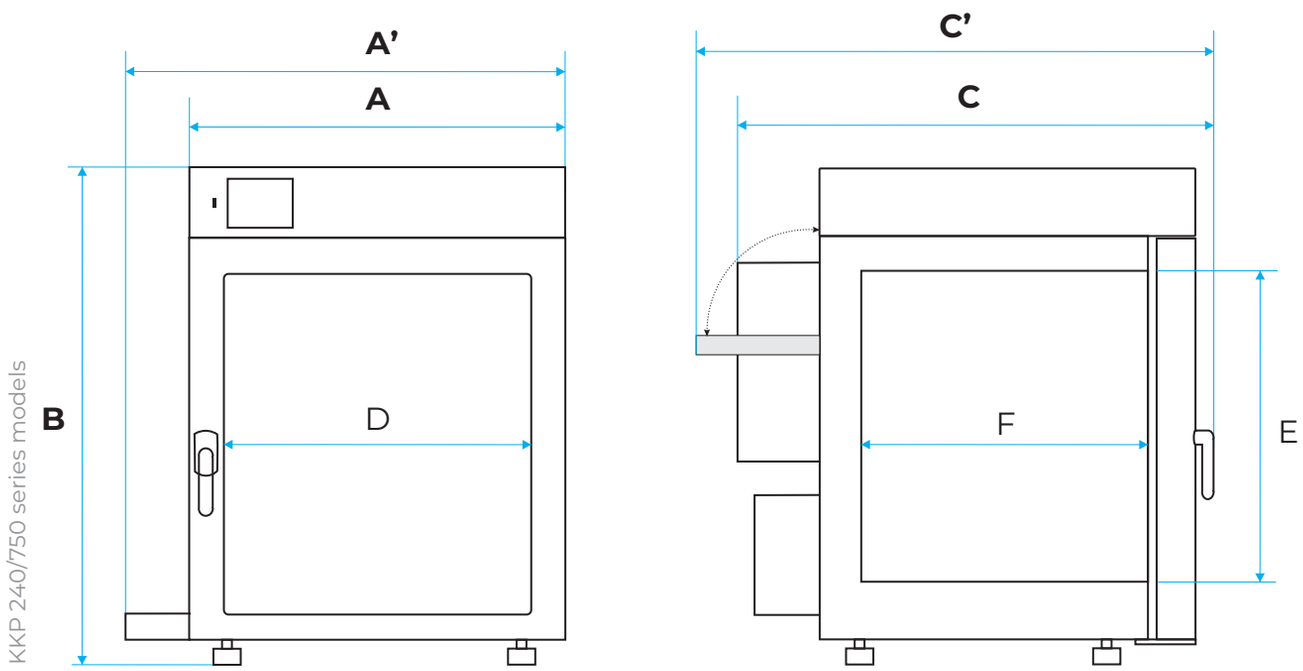
DIMENSIONS & DATA

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

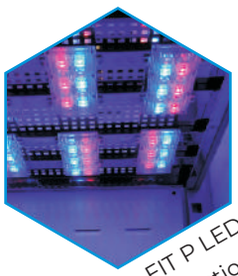


		KKP 240	KKP 750
overall dims [mm]	A width	820	1260
	A' width	960	1400
	B height	1140	1580
	C depth	840	940
	C' depth	940	1040
internal dims [mm]	D width	600	1040
	E height	800	1200
	F depth	510	600

PHYTOTRON CHAMBERS

can control temperature, humidity and light to create stable conditions

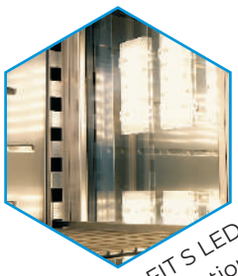
SMART PRO controller with USB port



FIT P LED (option)

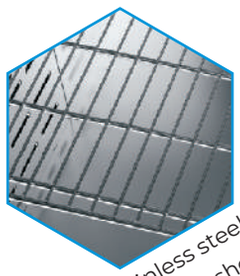
Phytotron chamber KK 700 FIT DS SMART PRO

FIT DS LED (option)



FIT S LED (option)

FIT D LED (option)



stainless steel wire shelf

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.

24 month warranty

CE

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

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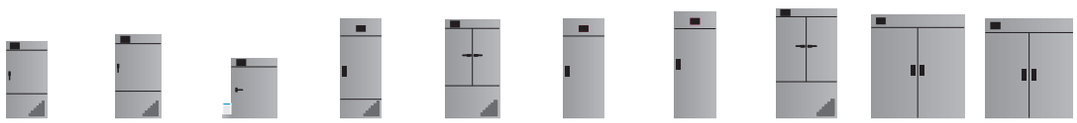
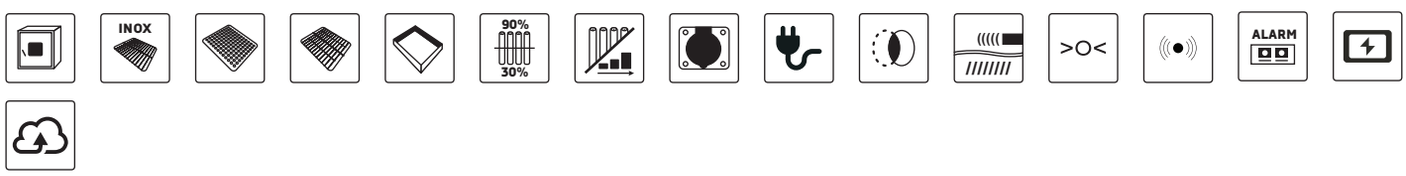
TECHNICAL **DATA**



Parameter		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
air convection		forced									
chamber capacity [l]		109	240	245	322	416	508	643	749	1412	1565
working capacity [l]		109	240	245	283	416	334	418	749	836	963
door type		double (external solid, internal glass) / external glass (option)									
temperature range[1] [°C]	light OFF	0...+60		0...+70	0...+60						
	light ON	+10...+50									
temperature resolution [°C]		every 0,1									
relative humidity range[2] [%]		30...90		10...90	30...90		10...90		30...90	10...90	
humidity resolution [%]		every 0,1									
controller		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[3] [kg]	-	10	10	25	10	10	20	30	-	30	30
	PW[4] version	50	100	-	100	100	100	100	100	100	100
max unit workload [kg]		60	90	90	100	120	100	150	140	300	300
nominal power [W]		1350	1550	2300	1850	2250	2000	2800	2850	2800	2800
weight [kg]		90	170	117	125	185	135	170	275	220	230
castors		yes									
temperature variation[5] at +25°C and 60%rH [+/- °C]		2,0	2,0	0,2	2,0	2,0	2,0	2,0	2,0	2,0	2,0
relative humidity variation[5] at +25°C and 60%rH [+/- %rH]		5,0	5,0	0,8	5,0	5,0	5,0	5,0	5,0	5,0	5,0
temperature protection		class 3.3 to DIN 12880									
power supply		230V 50-60Hz / 3P+PE 230V 50-60Hz									
shelves fitted/max		2 / 7	3 / 10	3 / 10	3 / 11	3 / 14	3 / 11	3 / 11	5 / 16	2 x 3 / 11	2 x 3 / 11
refrigerant		R1234ze GWP=7	R290 GWP=3	-	R290 / GWP=3						
warranty		24 months									
manufacturer		POL-EKO®									

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 avg max - T avg min) / 2

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

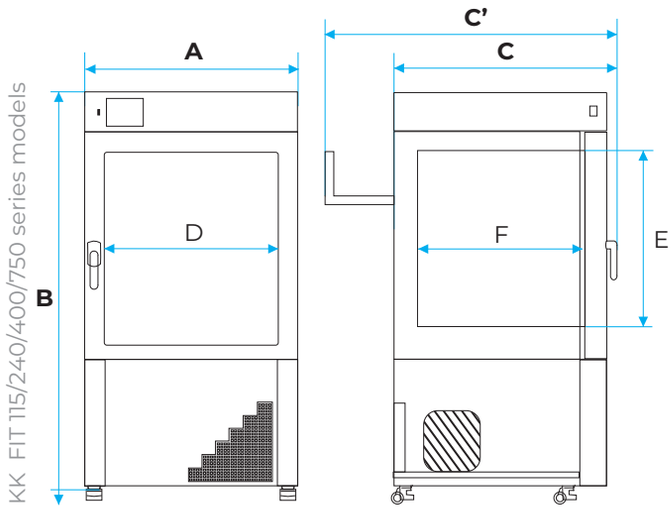


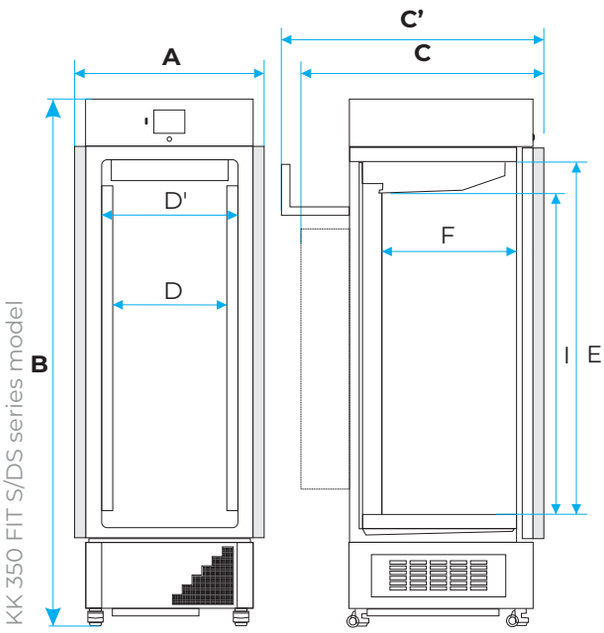
DIMENSIONS & DATA

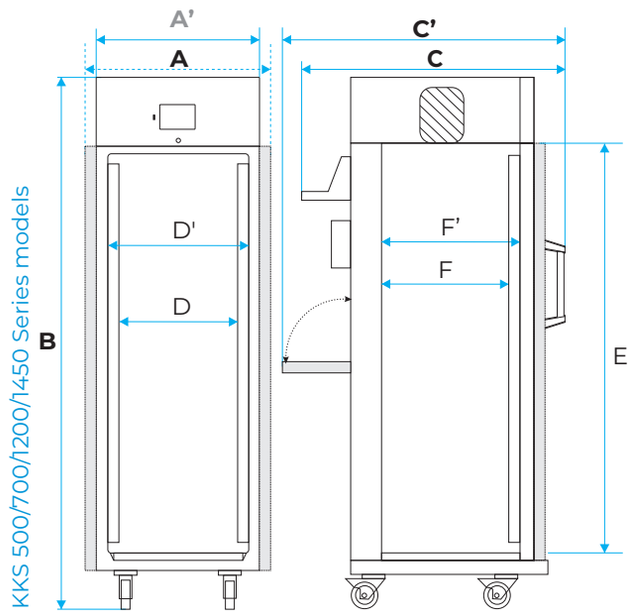
All dimensions refer to standard units (without optional accessories).

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







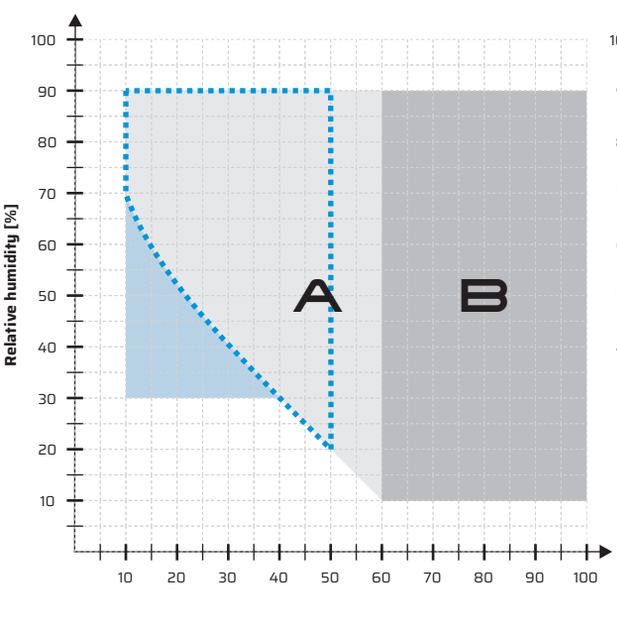
		KK 115 FIT	KK 240 FIT	KKP 240 FIT	KK 350 FIT	KK 400 FIT	KKS 500 FIT	KKS 700 FIT	KK 750 FIT	KKS 1200 FIT	KKS 1450 FIT
overall dims [mm] **FIT P models**	**A'** width	660	820	960	-	1020	640	730	1270	1460	1440
	B height	1340	1590	1140	-	1830	1970	1970	1990	1970	1920
	C depth	730	790	840	-	790	980	1100	920	1140	1240
	C' depth	950	1010	940	-	1010	990	1110	1140	-	-
overall dims [mm] **FIT D models**	A width	660	820	-	-	-	-	-	1270	-	-
	B height	1340	1590	-	-	-	-	-	1990	-	-
	C depth	750	810	-	-	-	-	-	920	-	-
	C' depth	970	1030	-	-	-	-	-	1140	-	-
overall dims [mm] **FIT S models**	A width	-	-	-	-	-	720	810	-	-	-
	B height	-	-	-	-	-	1960	1970	-	-	-
	C depth	-	-	-	-	-	980	1100	-	-	-
	C' depth	-	-	-	-	-	990	1110	-	-	-
overall dims [mm] **FIT DS models**	A width	-	-	-	720	-	720	810	-	-	-
	B height	-	-	-	2000	-	1960	1970	-	-	-
	C depth	-	-	-	920	-	980	1100	-	-	-
	C' depth	-	-	-	1010	-	990	1110	-	-	-
internal dims [mm]	D width	460	600	600	470	800	470	535	1040	2 x 535	2 x 545
	D' width	-	-	-	510	-	510	600	-	2 x 600	2 x 695
	E height	530	800	800	1340	1040	1510	1510	1200	1510	1410
	F depth	440	500	510	500	500	520	550	600	2 x 550	2 x 650
	F' depth	-	-	-	-	-	545	595	600	2 x 595	2 x 695
	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	30...90%	10...90%	10...90%	10...90%
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) 20l - internal deionized water network - deionizer	container for deionized water (included) 6l	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)

KK/KKS(115/240/400/750)/KK FIT

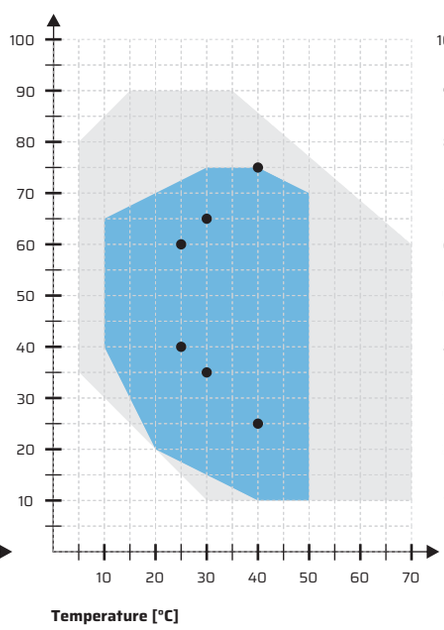


KK: field A; **KKS (115,240,400,750)**: field A+B

short-term work area (max 24h)*

KK FIT

KKP/KKP 240 FIT

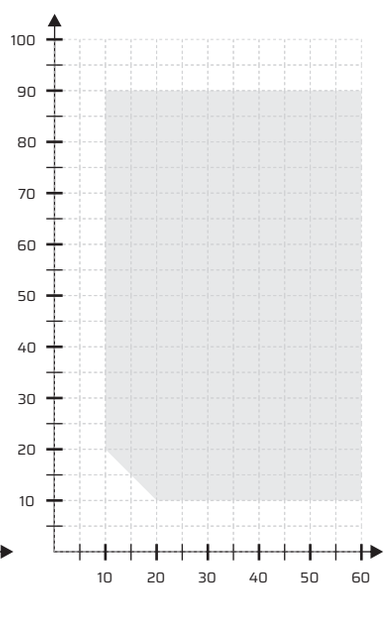


without light

with two WHITE LED over-shelf panels set to 100%

testing points according to ICH Q1 A (R2) guidelines

KKS(500/700/1200/1450)



without light

* temperature and humidity range in which the chamber is able to operate properly for no longer than 24 hours

07

OPTIONS AND ACCESSORIES

Options and accessories
Features
Temperature protection

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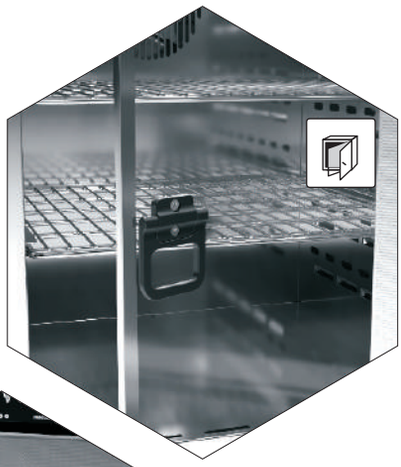
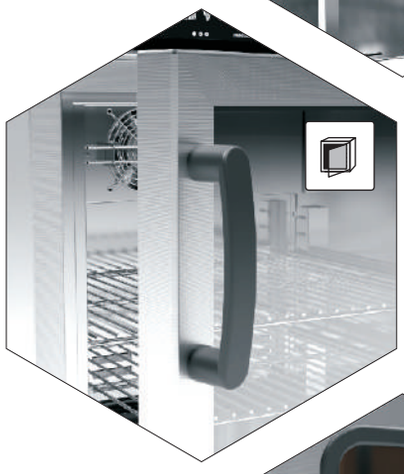
Internal glass door

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.



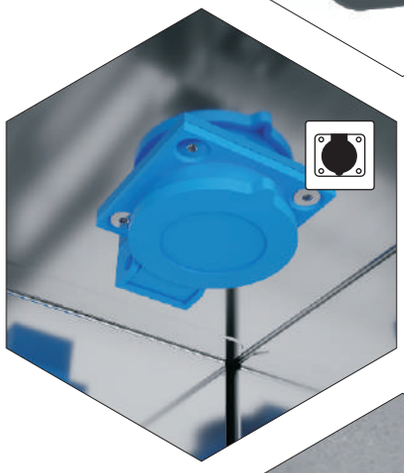
Door with viewing window

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

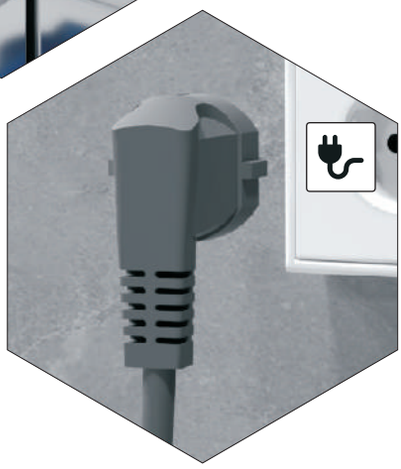
In this additional option we distinguish sockets with IP54 and IP66.
Sockets with grounding IP54: option available only for ST, CHL, ILW;
option NOT available for ZL, CL, SL, SR, KK, KKS, KKP, ILC,
on request: ILP.
Sockets with grounding IP66: option available only
for KK, KKS; option NOT available for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

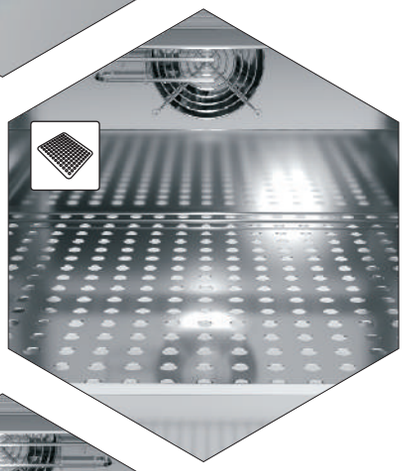
For the units with power supply 230V 50-60Hz,
standard plug: (type E/F) Uni-Schuko.
Other plugs: on request
The units with power supply 115V 50-60Hz
are delivered as standard with plug B.
Order number: PLG/* (factory fitted)
(not possible to choose other plug)



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

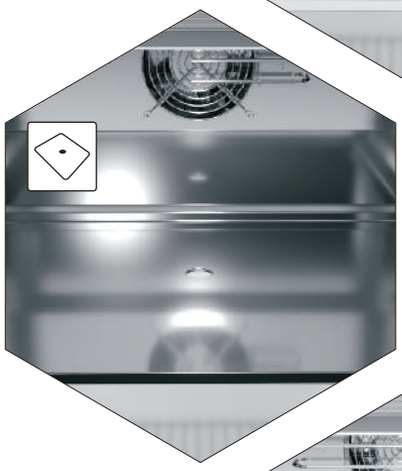
Interior lighting

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.



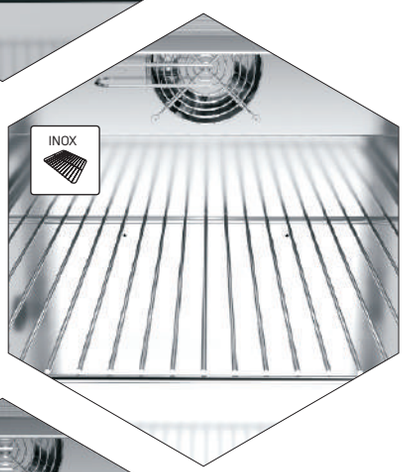
Perforated shelf

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.



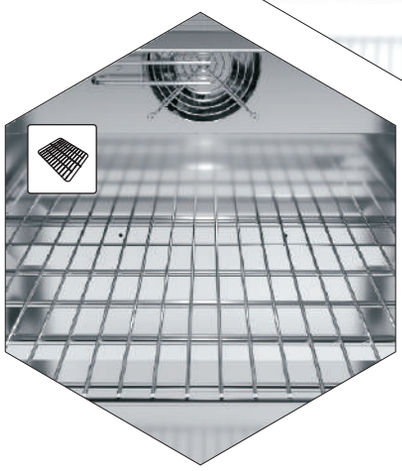
Full shelf with hole

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.

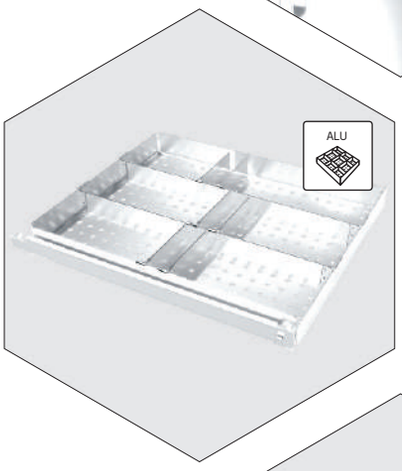
*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented.

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.

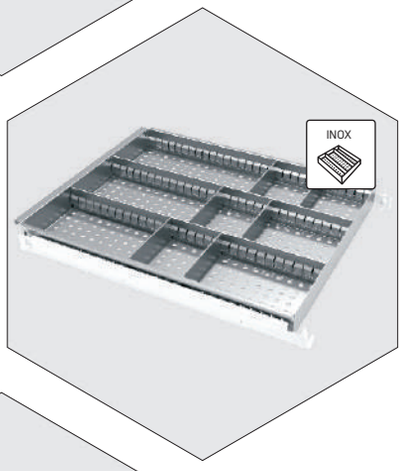
Aluminum drawer with powder coated slides

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.



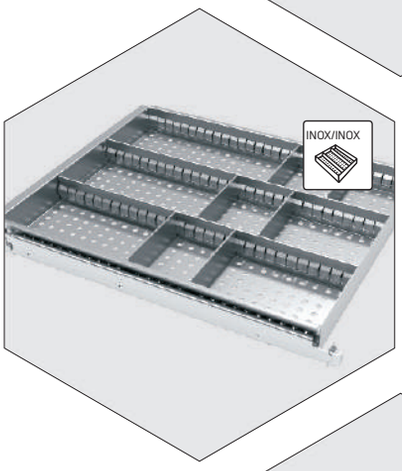
Stainless steel drawer with powder coated slides

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.



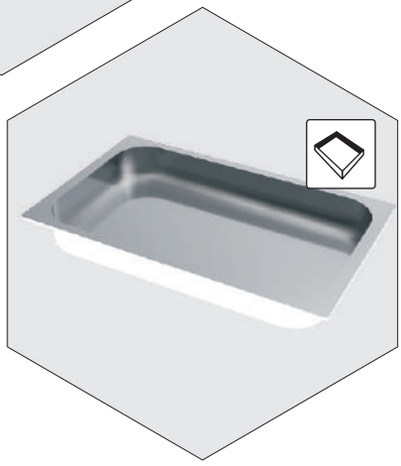
Stainless steel drawer with stainless steel slides

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.

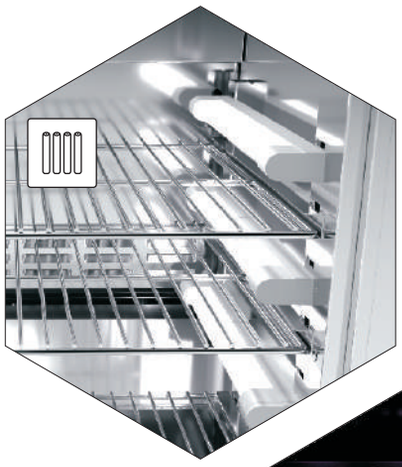


Stainless steel cuvettes

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.



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

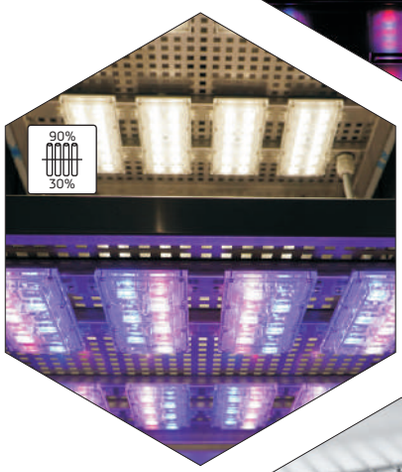


Photoperiodic system

This is an additional option for ST and ILW in SMART version
Order number: */FOT (factory fitted).
Photoperiodic system allows day and night simulation.
See page 18 for more details.

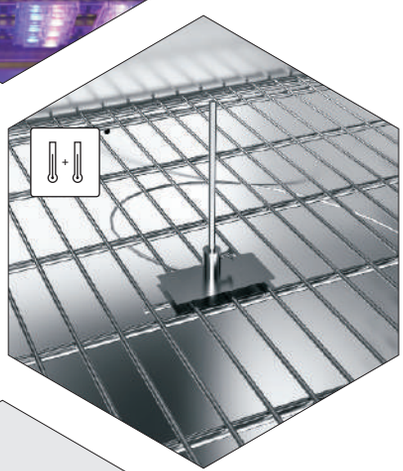
Phytotron system

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 deionized 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.

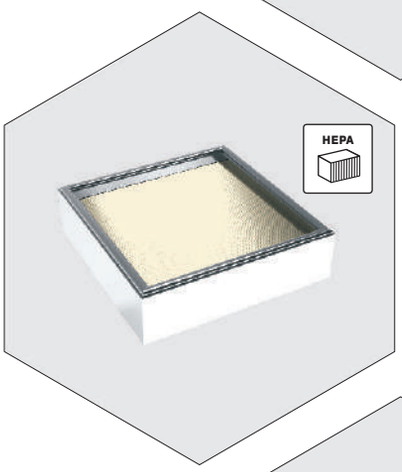
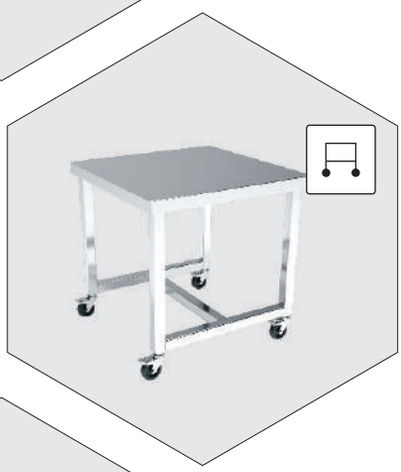


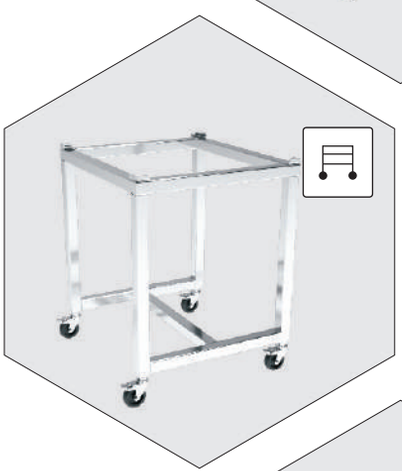
Table on castors

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.



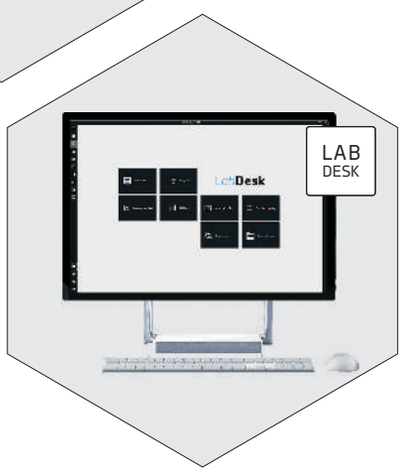
Base on castors

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.

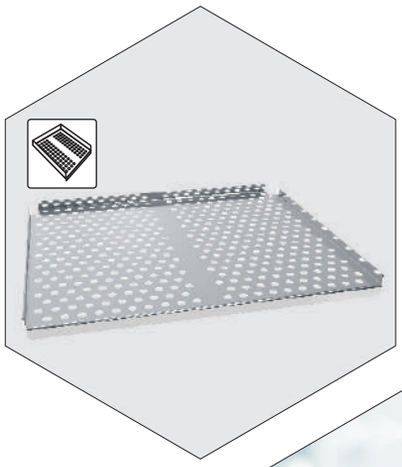


LabDesk software

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.



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



Reinforced perforated shelf

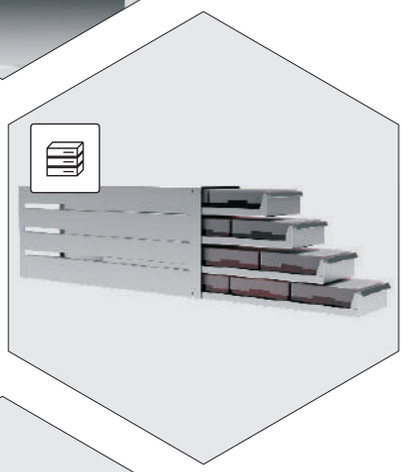
This is an additional option available for ILC range.
Order number: */PPW

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.

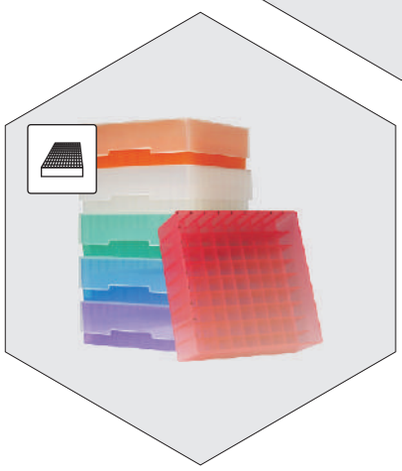
CO_2 back up system

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.

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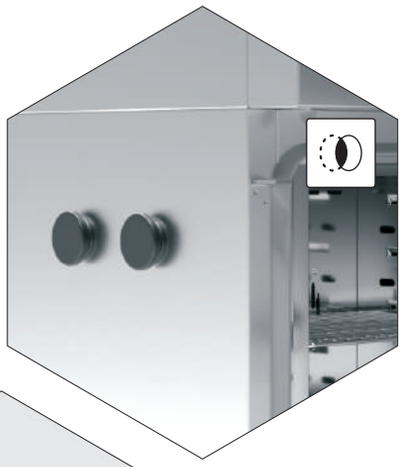
Non-standard access port

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.

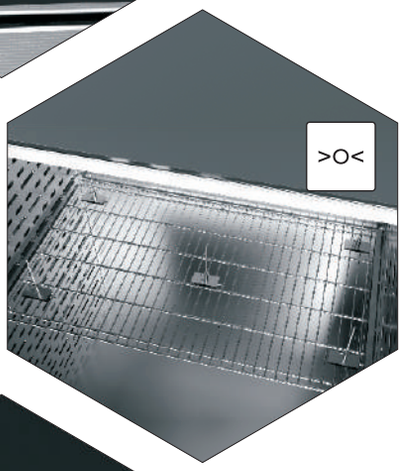


Low temperature version

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).

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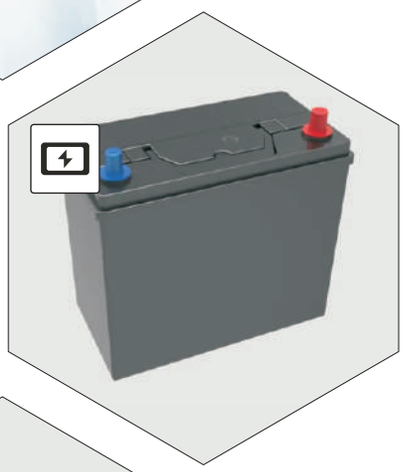
Automatic defrosting function

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.

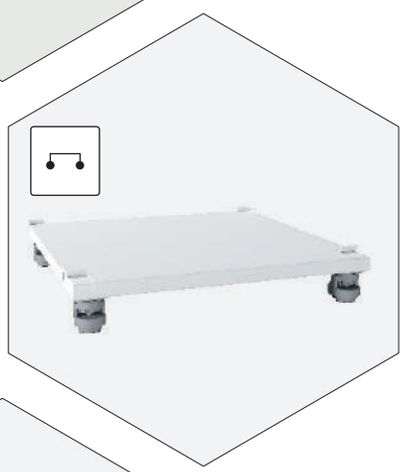


Display battery backup 12h

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).

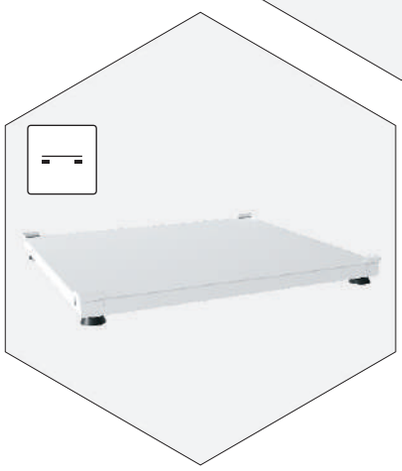
Low water level sensor

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 created.

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.

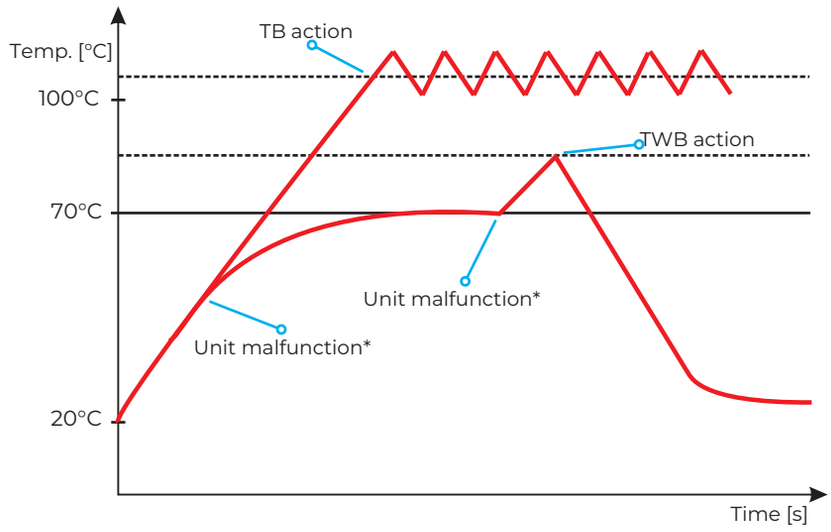
USB port

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.

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



Temperature protection class 1.0 (TB)
factory set at 10°C above
the max temperature

Over temperature protection class 2.0 (TWB)
- programmable

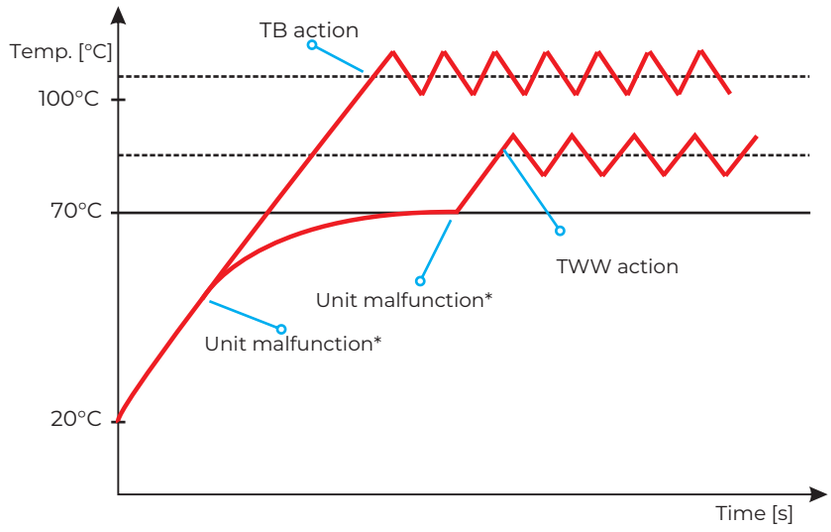
set temperature

* temperature sensor, measuring circuit, program failure, unintentional change of set parameters

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

DIN 3.1

Over temperature protection class 3.1 according to DIN 12880



Temperature protection class 1.0 (TB)
factory set at 10°C above
the max temperature

Over temperature protection class 3.1 (TWW)
- programmable

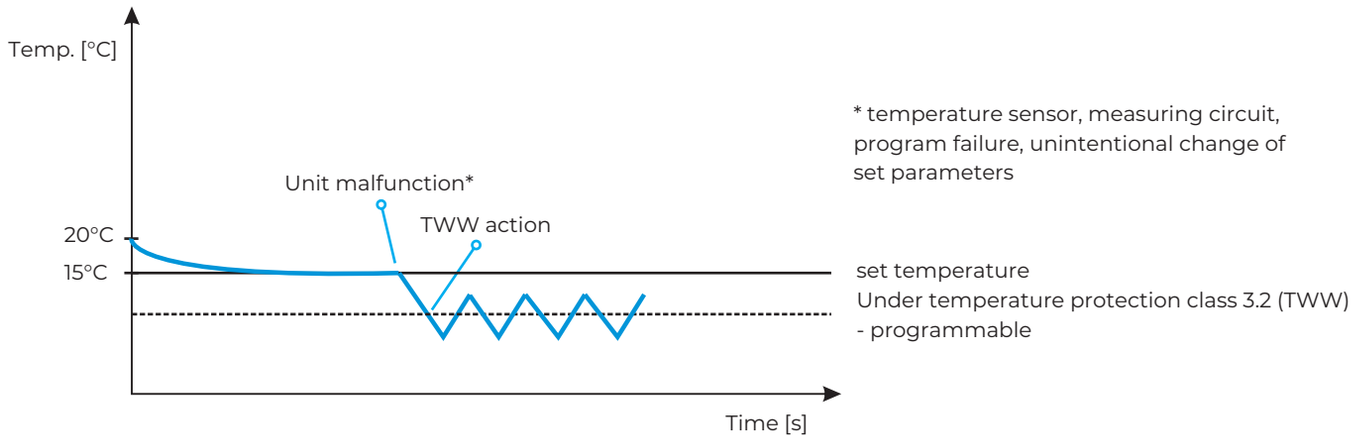
set temperature

* temperature sensor, measuring circuit, program failure, unintentional change of set parameters

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.

DIN 3.2

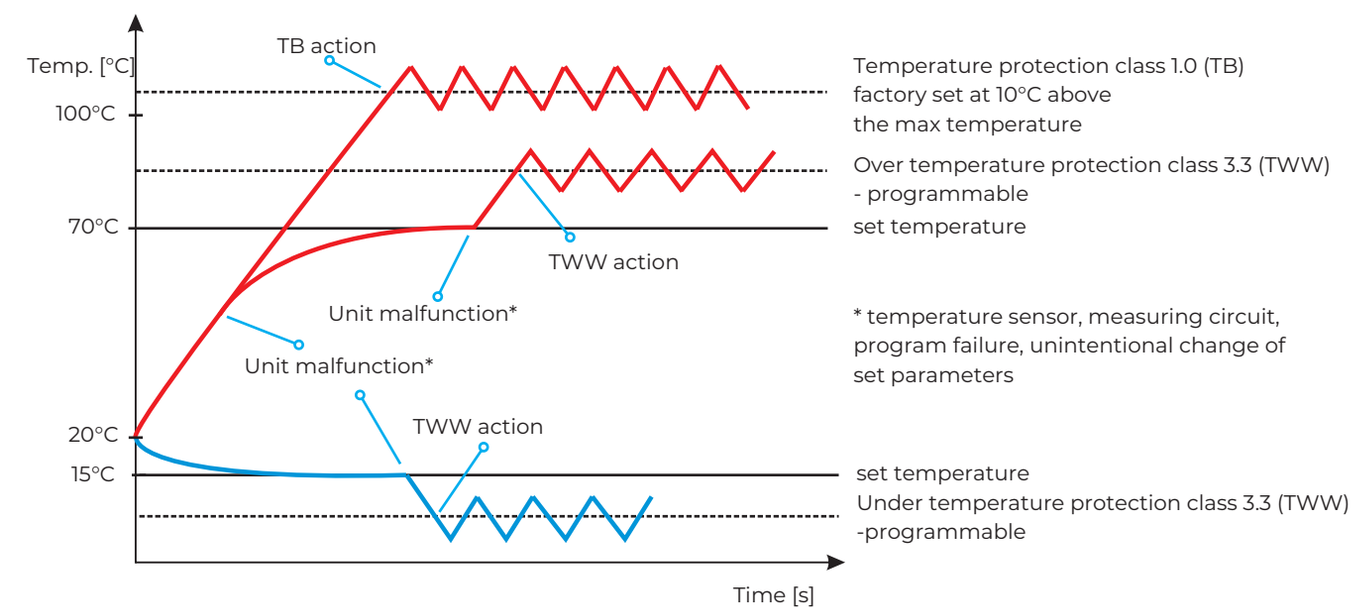
Under temperature protection class 3.2 according to DIN 12880



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).
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.

DIN 3.3

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.

08

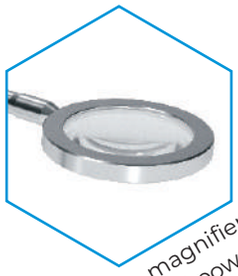
ADDITIONAL EQUIPMENT

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

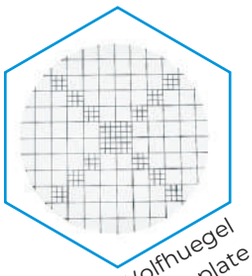
scan me

COLONY COUNTER LKB 2002

A colony counter is a device helpful in a microbiological laboratory that allows for easy, quick and accurate counting of bacteria on Petri dishes.



magnifier optical power 3.25 diopters



Wolfhuegel scale plate

Colony Counter LKB 2002

standard marker

counting glass plate

ZM external counting marker (option)

cartridge for ZM marker (option)

LKB 2002

MAIN STANDARD **BENEFITS**

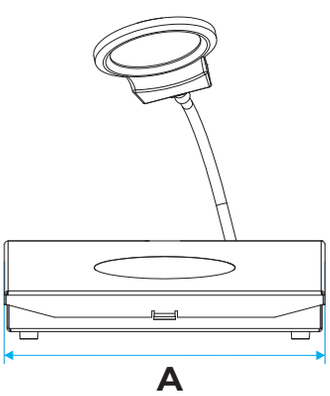
- automatic weight compensation of Petri dishes
- anti-shock counting technology
- ringlight technology enables even illumination of the counting field
- bright or dark background selection
- mean value calculation function
- standard marker included
- Petri dishes adapters (diameter < 120 mm) - 3 pcs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

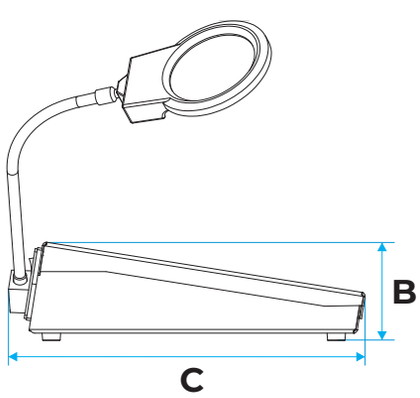
24 month warranty

CE

TECHNICAL **DATA**

parameters		**LKB 2002**
counting field diameter [mm]		120
display		LED (0...999)
magnifying glass optical power		3.25 diopters
illumination		20 W ringlight
dims [mm]	A width	300
	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®





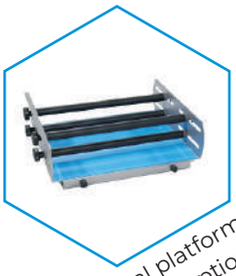
OPTIONS & **ACCESSORIES**

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

scan me

LABORATORY SHAKERS

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

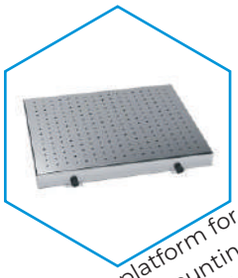


universal platform (option)

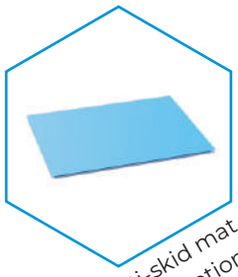
shaking platform (option)

platform for separatory funnels (option)

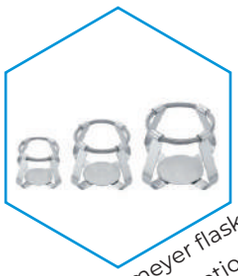
Laboratory Shaker LS 280 with universal platform



platform for mounting flasks holders (option)



anti-skid mat (option)



Erlenmeyer flask holder (option)


LS 350 with PL.1


LS 350 with PL.2


LS 350 with PL.3


LS 350 with PL.4

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

24 month warranty

CE

TECHNICAL **DATA**



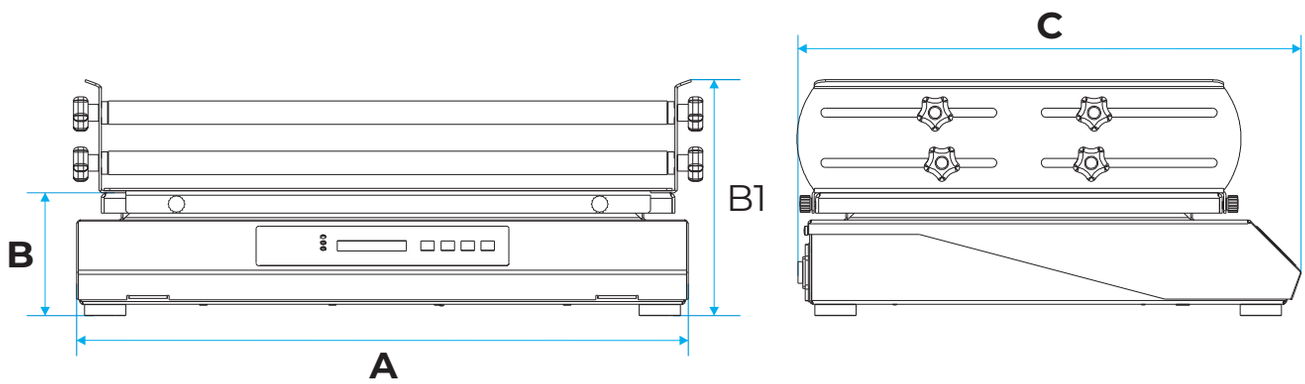

parameters	LS 280	LS 350	LS 500	LS 700
movement	orbital			
controller	microprocessor			
display	LCD display			
speed range [rpm]	30 ... 500		30 ... 300	
accuracy [rpm]	10			
amplitude [mm]	5	5 or 12,5 (optional when placing an order)		
max load capacity [kg]	10			
shaking mode	1min. ... 99h or continuous operation			
fits to cooled incubator	ILW 53	ILW 115	ILW 240	ILW 400
nominal power [W]	60			
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 months			
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

scan me

DIMENSIONS & DATA



		LS 280	LS 350	LS 500	LS 700
overall dims [mm]	A width	320	390	550	700
	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.

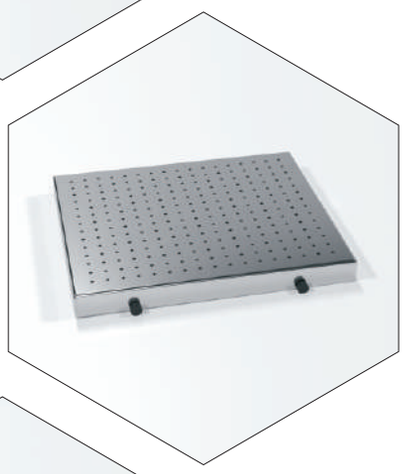
Depending on the size, the LS shaker is placed in the incubator, which can also be equipped with internal power sockets and FIT/FOT option (necessary for, e.g., algae cultivation).

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.

ILW 400 IG SMART PRO with LS 700 and PL1

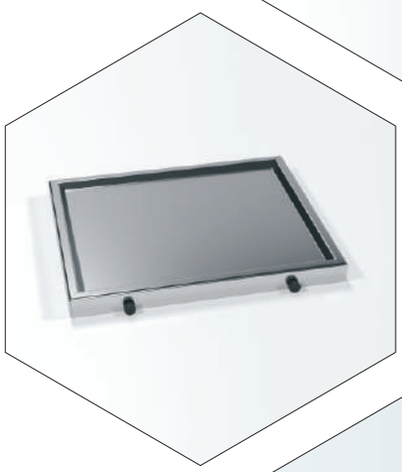
Universal platform

Universal platform for various kinds of vessels with 4 roller clamps (without anti-skid mat).
Order number: LS XXX/PL XX.1



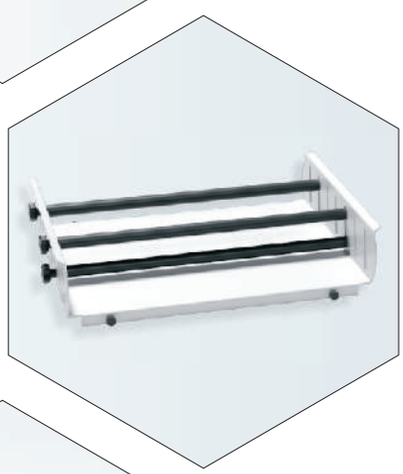
Platform for fixing flasks holders

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



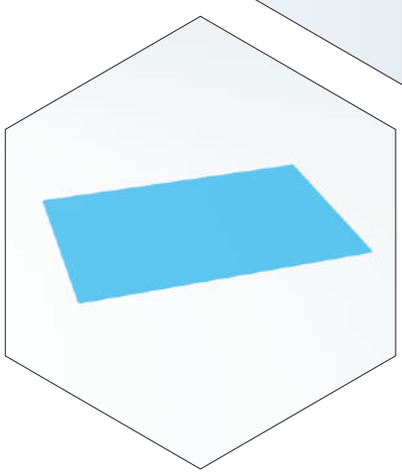
Platform for Petri dishes shaking

Platform for shaking Petri dishes, bacteria culture flasks and other vessels of low centre of gravity.
Order number: LS XXX/PL XX.3



Platform for separatory funnels

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

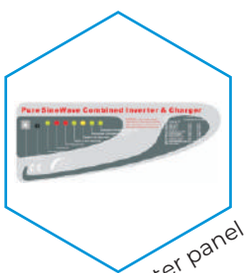
*all images are only for visual purposes and the real appearance of accessories may differ from the pictures presented

EMERGENCY POWER SUPPLY

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


control panel

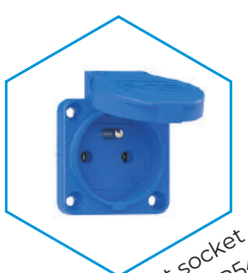

powder coated housing

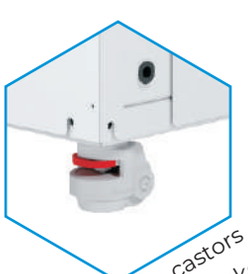


inverter panel


Emergency power supply ZA II 12H


transport handle


output socket IP54


castors with brake

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

12 month warranty

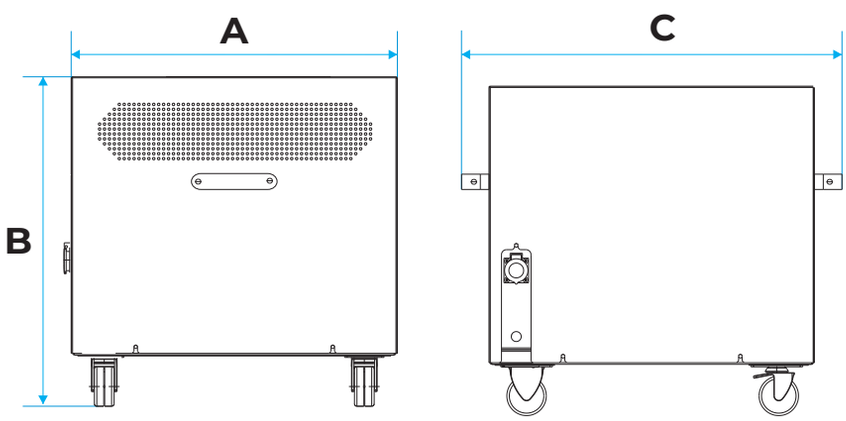
CE

TECHNICAL **DATA**

parameters		ZA I 6H	ZA I 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 dimensions [mm]	A width	380	380		660	380	660		660
	B height	620	620		620	620	620		590
	C depth	830	830		785	830	785		1020
weight [kg]		74	105		168	110	173		235
number of batteries [pcs.]		1	1		2	1	2		3
works 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 500-1450 ILW 240-750	ZL-T	CHL/ST 500-1450 ILW 240-750
housing material		powder coated sheet							
power / voltage		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



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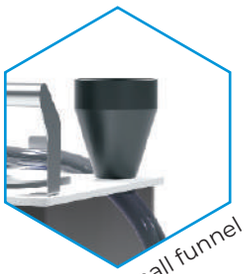
SAFETY SHOWER TEST UNIT

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

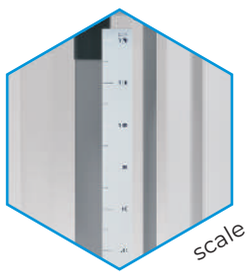

large funnel

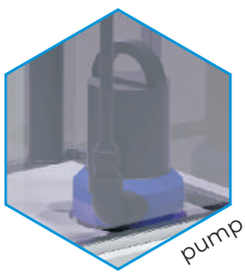

small funnel


power cable with switch


Safety shower test unit TU


drain hose


scale


pump

According to EN 15154-1,2:2006 the water flow of stationary showers shall be at least 60 l/min and 6 l/min of eye wash units.

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

24 month warranty

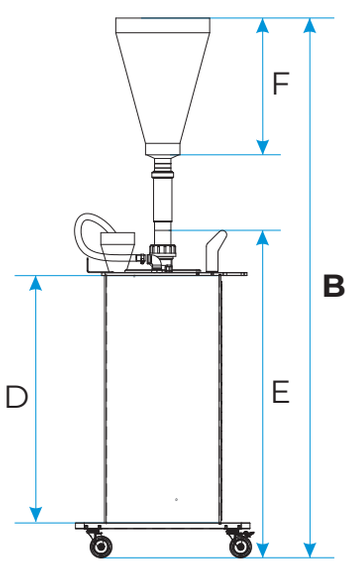
CE

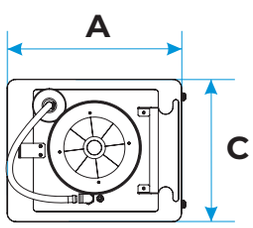
TECHNICAL **DATA**

parameters		**TU**
reservoir capacity [l]		120
water reservoir material		transparent PVC
power switch protection		IP 45
drain hose lenght [m]		2
diameter of big funnel [mm]		323
diameter of small funnel [mm]		116
max height of large funnel [mm]		2 300
overall dims [mm]	A width	600
	B height	1845...2500
	C depth	490
	D height	860
	E height	1125
	F height	470
weight [kg]		40
nominal power [W]		400
power supply		230 V 50-60 Hz
warranty		24 months
manufacturer		POL-EKO®

Safety shower test unit TU

DIMENSIONS





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09

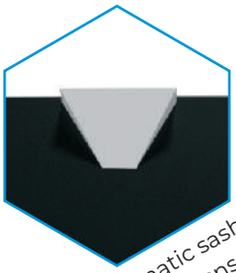
FUME HOODS

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

scan me

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.

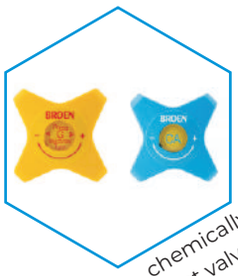


automatic sash window with IR sensor (option)

2 x electrical sockets type F (Schuko), IP54

Compact Line fume hood DCL 1500 CR with options

controller Schneider FM 550



chemically resistant valves

fume hood main switch

Asecos underbench cabinet (option)

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

DCL 1800 SS with underbench cabinet

DCL 1200 CR with underbench cabinet and scaffolding

DCL 1500 LM with underbench cabinet

24 month warranty

CE

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**

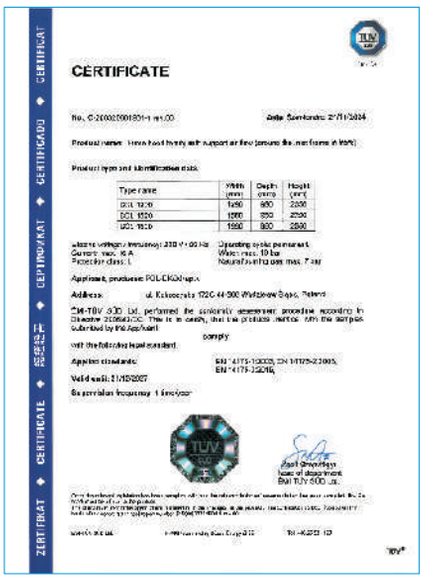
- ventilated under bench cabinet made of steel covered with chemically resistant epoxy paint, chemically resistant hinges, connected to the ventilation system of fume hood, designed for short-term storage of reagents
- under bench cabinet for acids and alkalis made of polypropylene, for long-term storage
- 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)

scan me

TECHNICAL **DATA**

Parameter	 **Compact Line DCL 12.00**	 **Compact Line DCL 15.00**	 **Compact Line DCL 18.00**
recommended airflow [m^3/h]	600...950	750...1200	900...1500
required air-flow speed m/s	0,3...0,5	0,3...0,5	0,3...0,5
nominal power [W]	46	82	82
power supply	230V 50-60Hz		
electrical insulation class	class 1		
working chamber lighting/control	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]	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	galvanized sheet frame, epoxy coated galvanized steel housing		
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)



CERTIFICATE

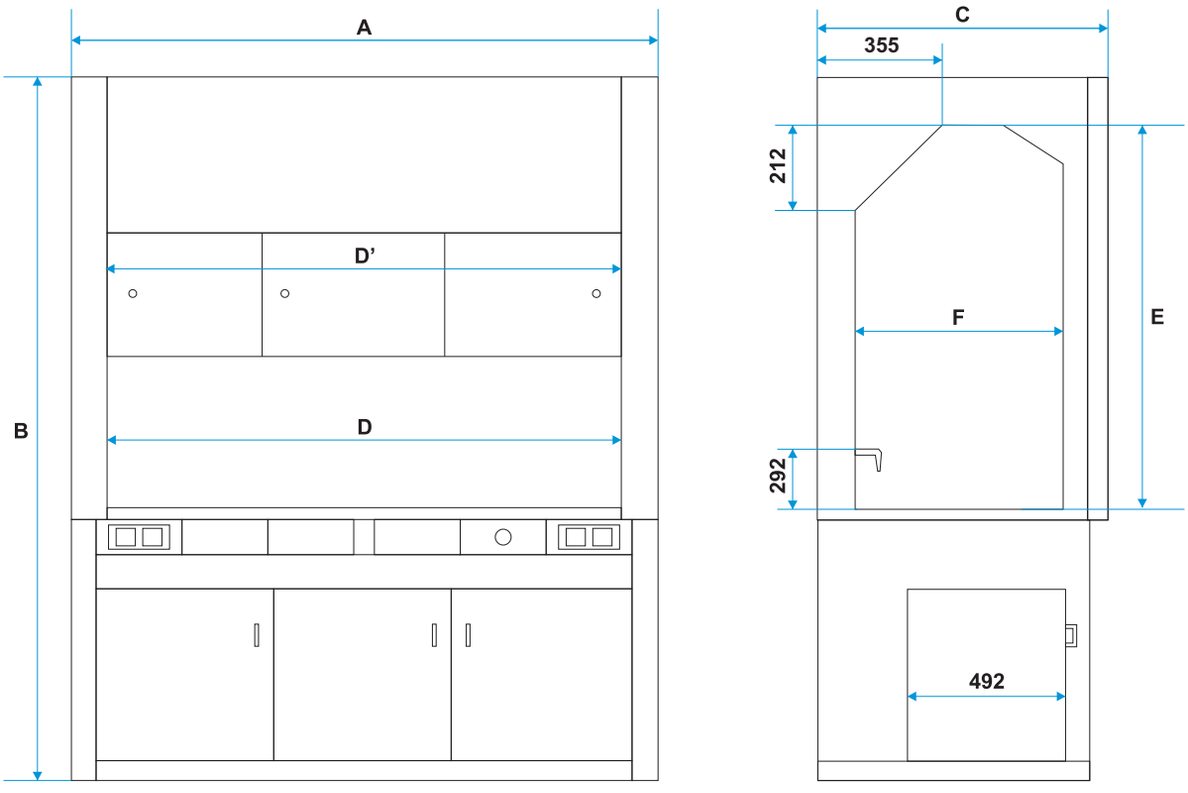
The CompactLine DCL Fume Hoods, available in models 1200, 1500, and 1800, have beencertified by TÜV, demonstrating full compliance with essential European standards: PN-EN 14175-1:2003, PN-EN 14175-2:2003, and PN-EN 14175-3:2019.

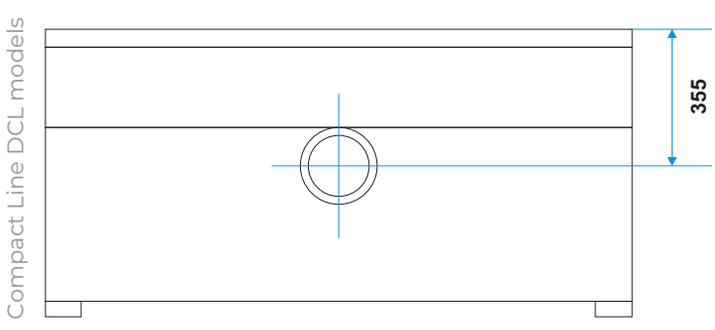
This certification highlights our commitment to providing laboratory professionals with equipment that meets the highest safety and performance benchmarks. Each model has undergone rigorous testing to ensure optimal containment of hazardous vapors, consistent and reliable airflow, and superior protection 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
overall dims [mm]	A width	1280	1580	1880
	B height	2325...2600	2325...2600	2325...2600
	C depth	960	960	960
working space dims [mm]	D width	1150	1450	1750
	D' width	965	1265	1565
	E height	1220	1220	1220
	F depth	635	635	635

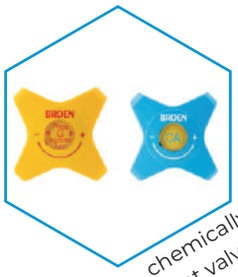
Compact Line tabletop fume hoods

side walls glazing (option)

2 x electrical sockets type F (Schuko), IP54

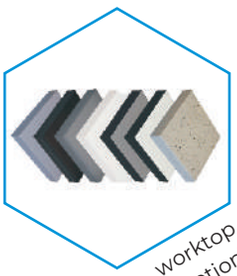
controller Schneider FM 550

Compact Line table top fume hood DCL 800



chemically resistant valves (option)

fume hood main switch



worktop (option)

DCL TABLETOP

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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)

scan me

TECHNICAL **DATA**



Parameter	Tabletop DCL 8.00	Tabletop DCL 12.00	Tabletop DCL 15.00
recommended airflow [m³/h]	400...650	600...950	750...1200
required air-flow speed m/s	0,3...0,5	0,3...0,5	0,3...0,5
nominal power [W]	46	46	46
power supply	230V 50-60Hz		
electrical insulation class	class 1		
working chamber lighting/control	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	200	200
ventilation/control system	double rear wall / control panel		
air-flow sensor	PN-EN 14175		
frame and housing	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)	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

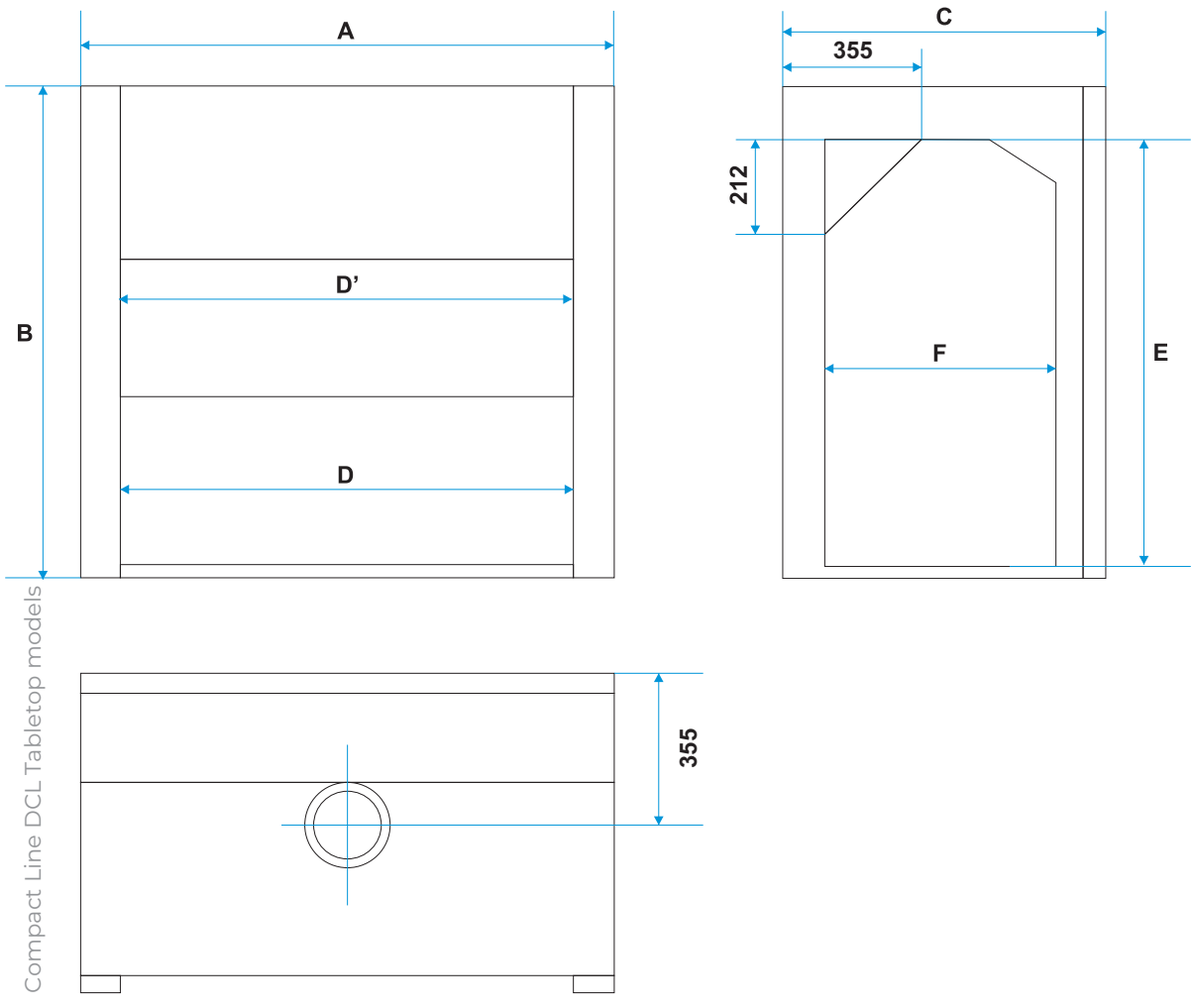
- control functions with visual and sound alarms in case of low air flow (in accordance with PN-EN 14175)
- sash window height alarm
- airflow measurement [m³/h]
- fume hood illumination control

Automatic Sash Controller SC 500

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

DIMENSIONS & DATA

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



		Tabletop DCL 8.00	Tabletop DCL 12.00	Tabletop DCL 15.00
overall dims [mm]	A width	800	1200	1500
	B height	1235...1320	1235...1320	1235...1320
	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

automatic sash window with IR sensor (option)

2 x electrical sockets type F (Schuko), IP54

controller Schneider FM 550

Compact Line Walk-in fume hood DCL 1800 with options

chemically resistant taps (option)

fume hood main switch

stainless steel scaffold (option)

DCL WALK-IN

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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)

scan me

TECHNICAL **DATA**

Parameter	 **Walk-in DCL 12.00**	 **Walk-in DCL 15.00**	 **Walk-in DCL 18.00**
recommended airflow [m^3/h]	600...950	750...1200	900...1500
required air-flow speed m/s	0,3...0,5	0,3...0,5	0,3...0,5
nominal power [W]	46	82	82
power supply	230V 50-60Hz		
electrical insulation class	class 1		
working chamber lighting/control	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	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

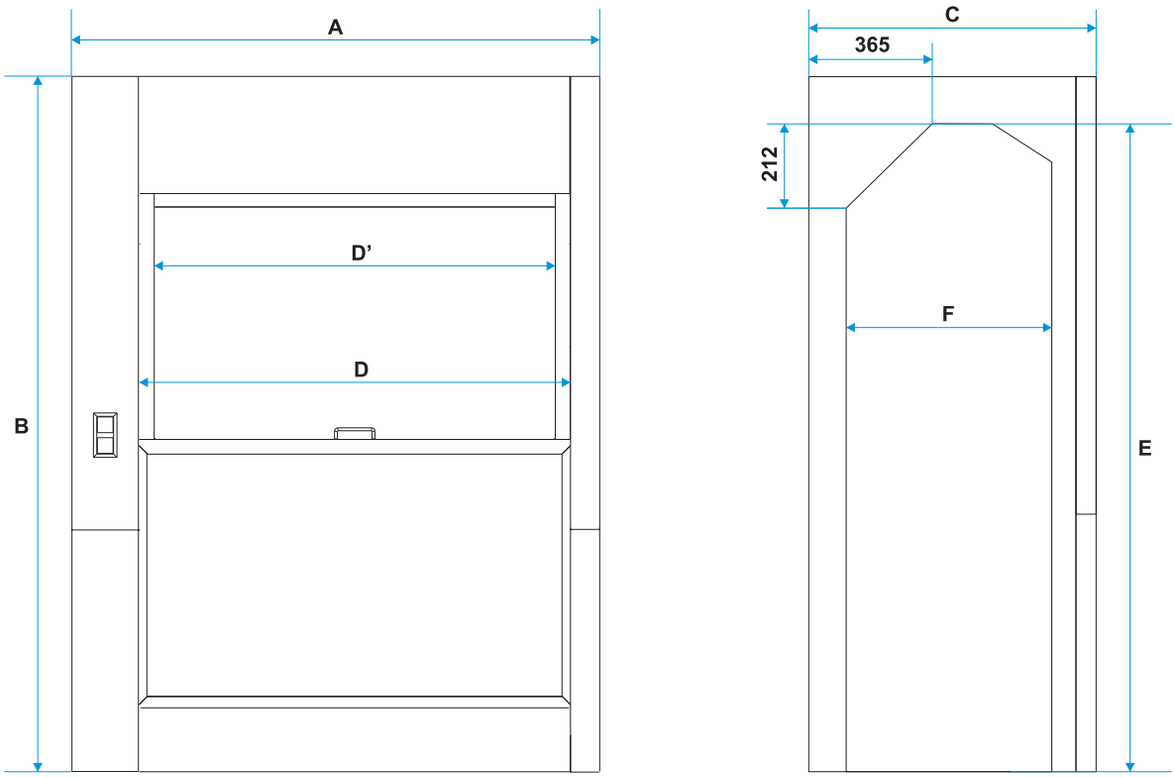
Asecos cabinet 1200

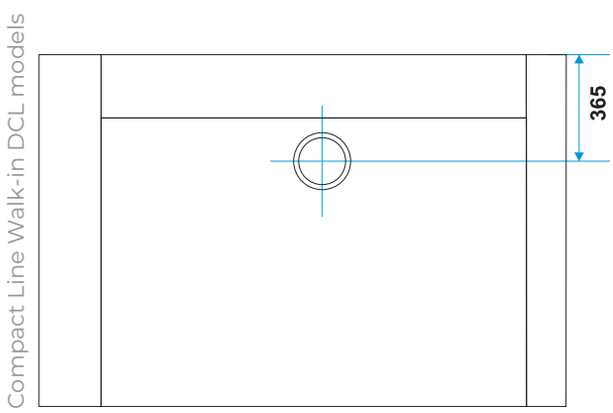
Polypropylene cabinet 1800

scan me

DIMENSIONS & DATA

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





Compact Line Walk-in DCL models

		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	2385...2850	2385...2850	2385...2850
	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

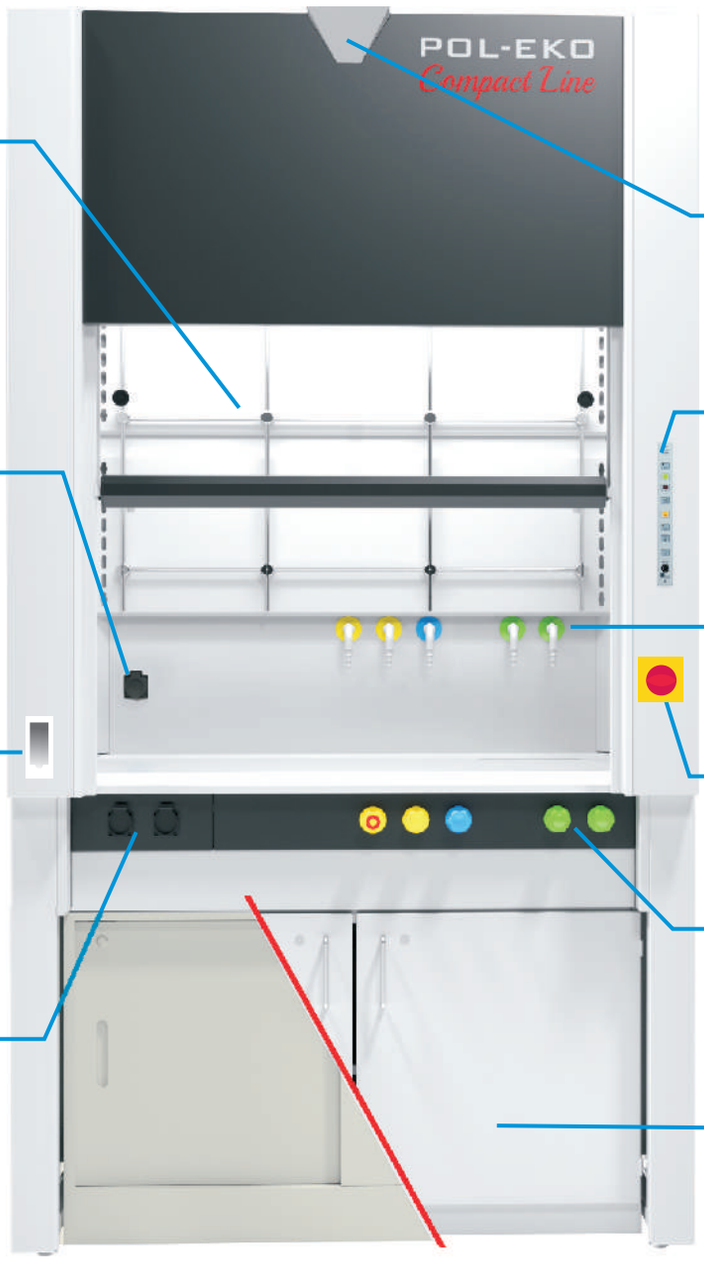
worktop – solid ceramics th. 27 - 33 mm,
with marine edge, ceramic sink (dims 280 x 80 mm)
is mounted under the worktop, internal chamber side walls
made of phenolic resin composite.

HF 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



stainless steel scaffold

automatic sash window with IR sensor

controllers (3):
- Schneider FM 550 or
- Schneider iCM 500 F/FP

electrical installation inside the chamber 230V, 400V, IP44 (1)

chemically resistant taps (4)

residual-current device (2)

emergency switch (5)

chemically resistant valves (6) (valve selection depending on needs)

external electrical installation 230V, 400V, IP44 (1)

underbench cabinets:
- epoxy coated steel cabinet
- PP cabinet with sliding doors
- Asecos

1

2

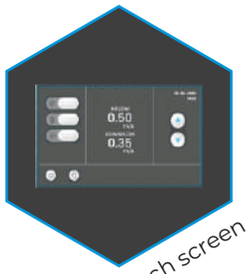
3

4

5

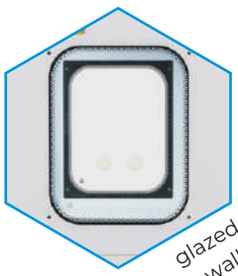
6

Compact Line Ductless fume hoods



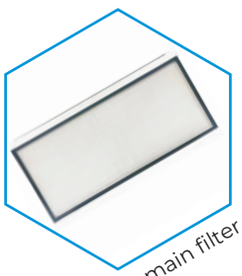
7" full touch screen

800 LUX eco-friendly LED light

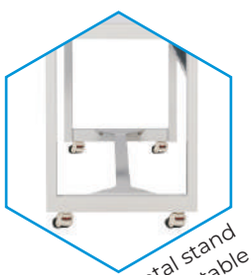


glazed side walls

Compact Line fume hood DCL 1500 Ductless



1 x main filter



metal stand with adjustable wheels (option)

welded polypropylene structure with polypropylene built-in worktop

DCL DUCTLESS

DCL -1500 Ductless

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

scan me

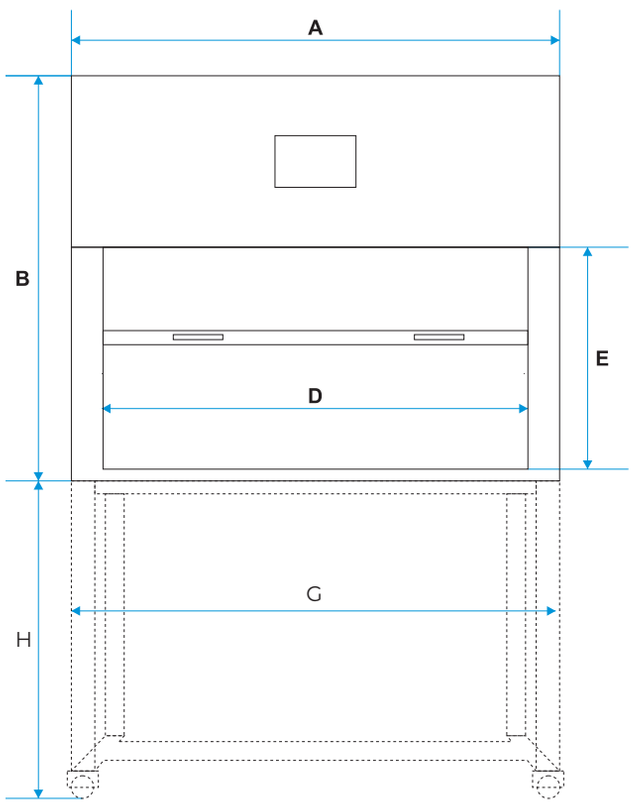
TECHNICAL **DATA**

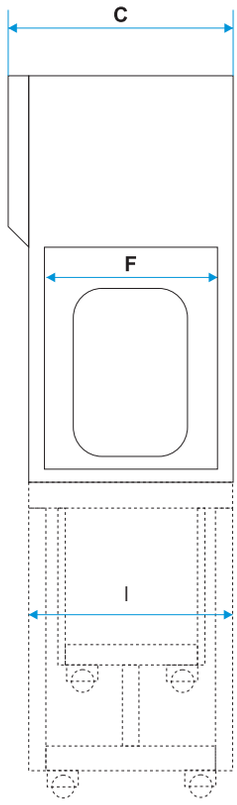

Parameter	DCL-1500 Ductless	DCL-1800 Ductless
air velocity	0,5 +/- 0,1 m/s, 100 +/- 20 FPM	
noise Level (Tested 20 cm from the worktable, 1.2m above ground)	<60dB	<62dB
filter	Carbon filters for solvents, acids, bases, formaldehyde, multi-gas (a blend of materials) /HEPA/ULPA	
power supply	110 / 220VAC, 50/60 Hz	
construction material	Welded white polypropylene structure, with built-in sealed PP worktop	
certificates	CE	
illumination installed outside the working chamber	800 LUX, Eco-friendly LED lighting	
monitoring set	7" full touch screen with Airflow alarm, 10-speed Fan control, filter timer, service timer, lights control	
raising the window	max 500 mm	
warranty	24 months	
manufacturer	POL-EKO®	

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

DIMENSIONS & DATA

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





		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

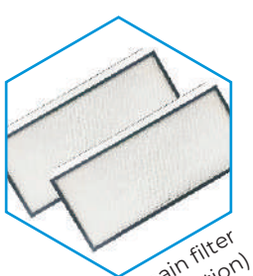
10.1" full touch screen
(in standard)

VAV - Variable Air
Volume controll
(in standard)

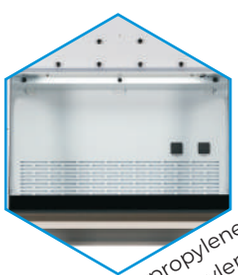
Compact Line fume hood DCL 1500 Ductless PRO

VOC counter,
Volatile Organic
Compound sensor
(in standard)

chamber RED alert
(in standard)



1 x main filter
(2 x option)
+ 1 x pre filter



8 mm welded polypropylene
structure with polypropylene
built-in worktop

DCL 1500 Ductless PRO

24 month warranty

CE

MAIN STANDARD **BENEFITS**

- 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

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TECHNICAL **DATA**



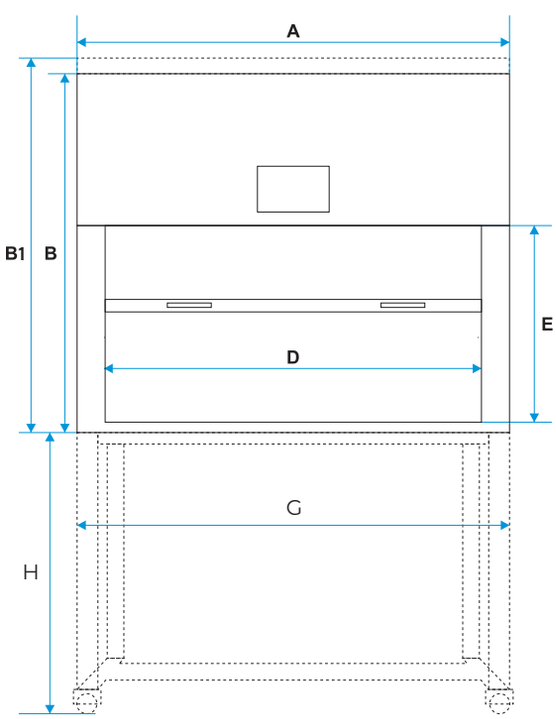


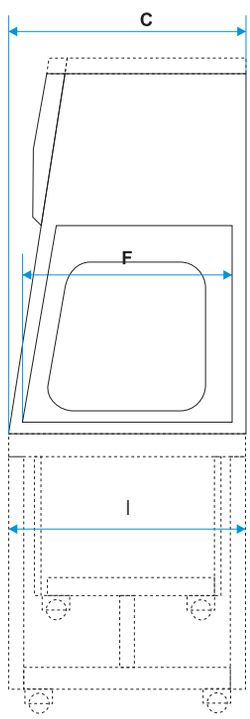
Parameter	DCL-600 Ductless PRO	DCL-900 Ductless PRO	DCL-1200 Ductless PRO	DCL-1500 Ductless PRO	DCL-1800 Ductless PRO
air velocity	0,5 +/- 0,1 m/s, 100 +/- 20 FPM				
noise Level (Tested 20 cm from the worktable, 1.2m above ground)	<52dB	<52dB	<54dB	<60dB	<62dB
filter	PRE Filter & Carbon filters for solvents, acids, bases, formaldehyde, multi gas (blend of materials) /HEPA				
power supply	110 / 220VAC, 50/60 Hz				
construction material	welded white polypropylene structure, with built-in sealed PP worktop				
certificates	EN-14175 / CE / ASHRAE 110-1995				
illumination installed outside the working chamber	800 LUX, Eco-friendly LED lighting				
monitoring set	10.1" full touch screen with Airflow alarm, 10-speed Fan control, filter timer, service timer, lights control				
raising the window	max 495 mm				
warranty	24 months				
manufacturer	POL-EKO®				

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

DIMENSIONS & DATA

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





		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

10

CALIBRATION SERVICES

Comprehensive services for the supervision of measuring equipment

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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.

AP 115

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

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POL-EKO®
Perfect Environment

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

2025

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