

Incubators, cooled incubators, drying ovens, sterilizers, climatic chambers

Incubators, cooled incubators, drying ovens, sterilizers, climatic chambers

Laboratory incubators (**CL**) and drying ovens (**SL**) are available in 3 versions: **ECO**, **STD** and **TOP+**, cooled incubators (**IL**) and climatic chambers (**KK**) in **STD** and **TOP+** versions, and sterilizers in **STD** version only.

ECO (CL/SL 15,32)



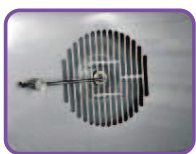
ECO, STD



TOP+



displays



fan



stainless steel interior



CLW 53 STD

ECO - basic version

Equipment available in ECO version

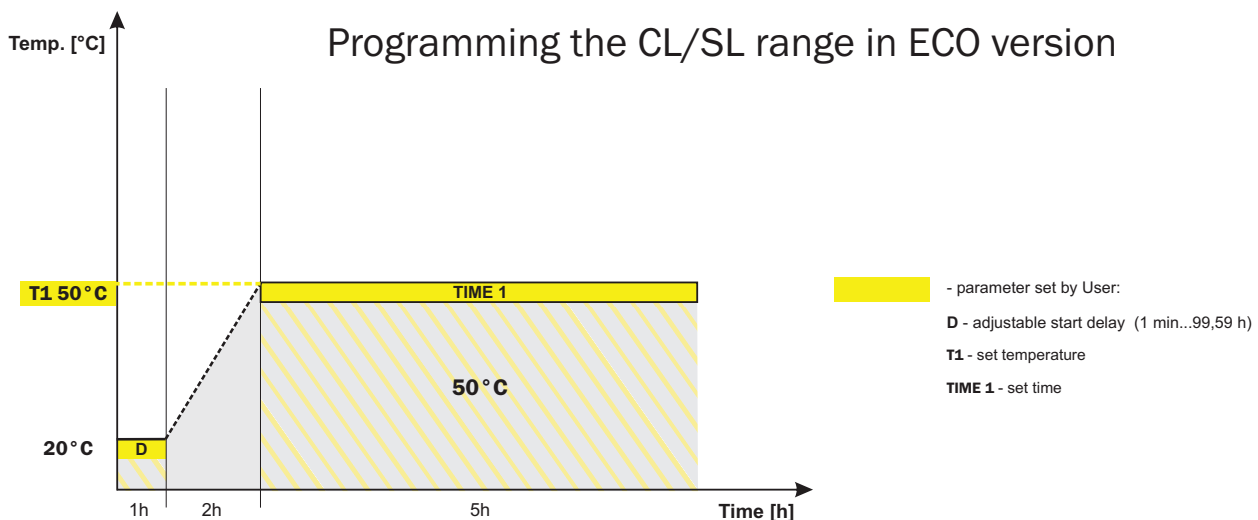
- Incubators (CL)
- Drying ovens (SL)

ECO - basic version

- combination of basic parameters and indispensable accessories
- designed for simple application
- very attractive price

Program possibilities

- single segment temperature-time profile
- temperature program priority
- adjustable start delay feature (from 1 min to 99,59 h)
- adjustable time of holding set temperature (from 1 min to 99,59 h), or continuous operating
- 1 user program memory
- overview of parameters during operating time



Standard equipment

- stainless steel interior
- housing, depending on model: powder coated sheet or stainless steel linen finish (**INOX/G**)
- forced or natural air convection (depending on model)
- automatic fan shut down after completing the program
- solid door
- manual air-flap control, adjustable
- LCD time and temperature display (except models SL/CL 15 and 32 with LED display)
- microprocessor time and temperature control
- temperature sensor fail alarm (see page 56)
- power failure control system (see page 56)
- real time clock
- sound alarm (see page 56)
- RS 232 interface
- self-check function (auto control)
- manufacturer's test certificate
- operation manual in English and English menu (other languages on request)
- stainless steel wire shelves (1-6 pieces, depending on model) with slides set
- over temperature protection according to DIN 12880: 1.0 class

Equipment available in STD version

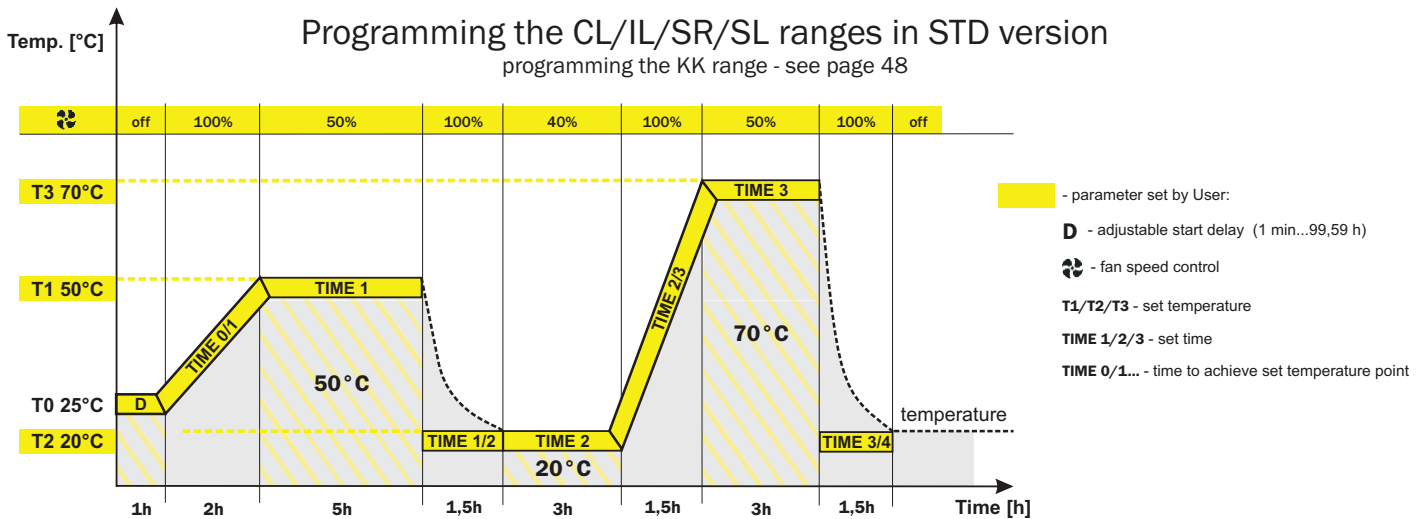
- Incubators (CL 53-1000)
- Cooled incubators (IL)
- Drying ovens (SL 53-1000)
- Sterilizers (SR)
- Climatic chambers (KK)

STD-standard version

- extended programming possibilities
- wide range of optional equipment
- affordable price

Program possibilities

- six segment temperature-time profile
- program priority: temperature for CL/IL/SL/SR and time for KK
- 3 user programs memory
- cycle run of the program
- adjustable heating up/cooling down system
- adjustable start delay feature (from 1 min to 99,59 h)
- adjustable hold at set point (from 1 min to 999 h), or continuous operating (temperature; humidity in KK; light with FOT and FIT options)
- overview of parameters during operating time
- recording min, average and max temperature (and humidity in KK) value for each segment
- over temperature (and humidity in KK) sound alarm (see page 56)
- fan speed regulation (for instruments with forced air convection)



Standard equipment

- stainless steel interior
- housing, depending on model: powder coated sheet, stainless steel linen finish (INOX/G) or polished (INOX/S)
- solid door
- forced or natural air convection (depending on model)
- automatic fan shut down after completing the program
- manual air-flap control, adjustable (CL/SL)
- automatic air-flap control in SR
- LCD time and temperature display
- microprocessor time, temperature (and humidity in KK; light with FIT option) control
- temperature (and humidity in KK) sensor fail alarm (see page 56)
- power failure control system (see page 56)
- real time clock
- sound alarm (see page 56)
- RS 232 interface
- self-check function (auto control)
- automatic defrosting in KK range
- manufacturer's test certificate
- operation manual in English and English menu (other languages on request)
- stainless steel wire shelves (2-6 pieces, depending on model) with slides set over temperature protection according to DIN 12880:
 - 1.0 class in CL/IL/SL/SR/KK;
 - 2.0 class in CL/IL/SL/SR;
 - 3.3 class in KK

TOP+ - professional version

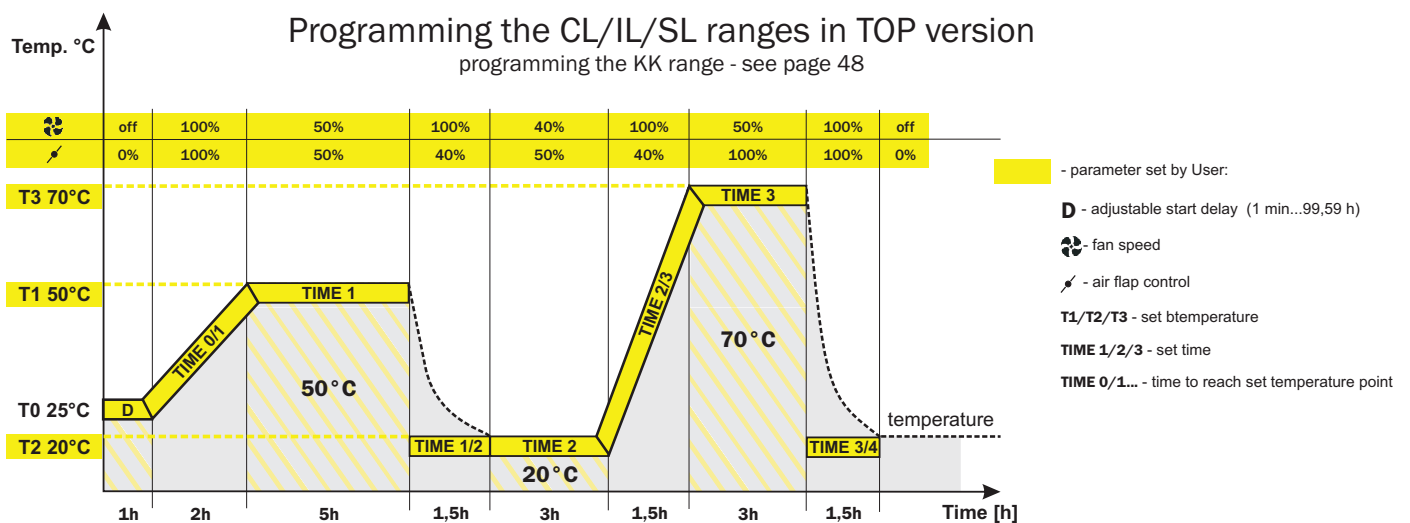
Equipment available in TOP+ version

- Incubators (CL 53-1000)
- Cooled incubators (IL)
- Drying ovens (SL 53-1000)
- Climatic chambers (KK)

TOP+ - professional version

World's first full colour touch screen thermostatic equipment with Ethernet network connection!

To meet the expectations of the most demanding customers, POL-EKO-APARATURA has introduced a new professional range of ovens, incubators, cooled incubators and climatic chambers called "TOP+". First in the market to feature Ethernet network connection which allows to connect several units and program, monitor or record their parameters on any computer inside a laboratory or remotely via internet. Equipped with a full colour, transparent 5.7" LCD touch screen, easy-to-use intuitive software, USB slot for data transfer make the operating comfortable. The large size of the display enables the user to view the unit's current parameters and program stage with only one touch of the screen.



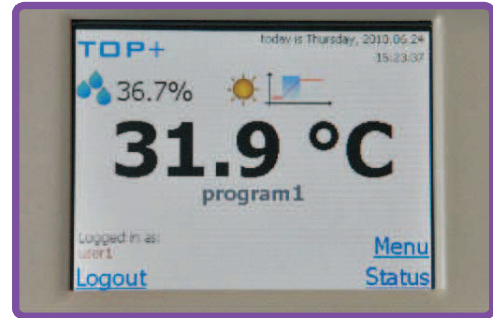
Standard equipment

- stainless steel interior
- housing, depending on model: powder coated sheet, stainless steel linen finish (**INOX/G**) or polished (**INOX/S**)
- solid door
- forced or natural air convection (depending on model)
- automatic fan shut down after completing the program
- automatic air-flap control, adjustable (CL/SL)
- full colour, transparent 5.7" LCD touch screen
- microprocessor time, temperature (and humidity in KK; light with FIT option)
- temperature (and humidity in KK) sensor fail alarm (see page 56)
- power failure control system (see page 56)
- real time clock
- sound alarm (see page 56)
- USB slot
- RS 232 interface
- self-check function (auto control)
- automatic defrosting in KK range
- manufacturer's test certificate
- operation manual in English and English menu (other languages on request)
- stainless steel wire shelves (2-6 pieces, depending on model) with slides set
- over temperature protection according to DIN 12880: 1.0 class in CL/IL/SL/KK; 3.1 class in CL/SL; 3.3 class in IL/KK
- Ethernet connection
- TOP+ Control software, temperature (and humidity in KK, light with FIT option) control and monitoring via PC

TOP+ - professional version

Advanced program possibilities of the “TOP+” range:

- administrator function that allows to manage user accounts
- access control via login
- nine segment temperature-time profile or 7 days programming
- automatic air-flap control (each 10% regulation)
- cycle run of the program
- adjustable heating up / cooling down system
- adjustable start delay feature (from 1 min to 99,59 h)
- adjustable hold at set point (from 1 min to 999 h), or continuous operating (temperature; humidity in KK; light with FOT and FIT options)
- overview of parameters during operating time
- recording min, average and max temperature (and humidity in KK) value for each segment
- over temperature (and humidity in KK) sound alarm (see page 56)
- fan speed regulation (for instruments with forced air convection)



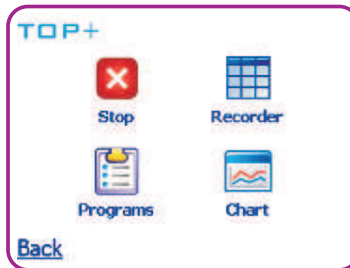
5.7" LCD touch screen panel

GLP supporting functions:

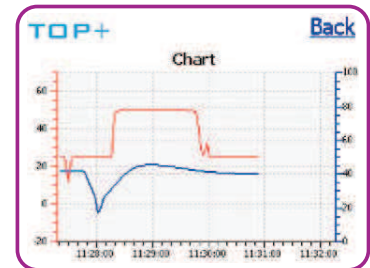
- password protected settings
- 20 user programs memory
- measurement memory with possibility of displaying the values in tabular or graphic form
- measurement data saving on external memory through the USB port



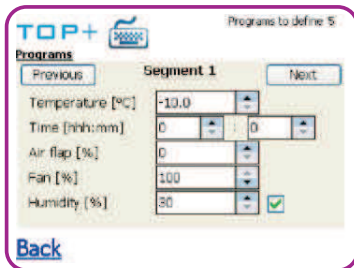
Main screen



User's menu



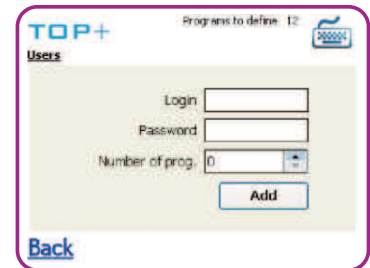
Temperature chart



Program settings



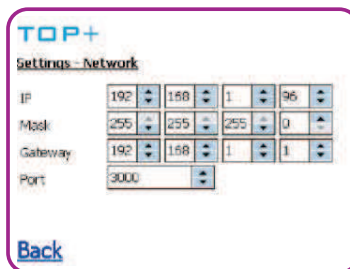
Administrator panel settings



Administrator panel settings



Administrator panel settings



Administrator panel settings

Date	Temperature	Humidity	Program
2010-05-27 11:29:01	25.3	49.3	SingleProg
2010-05-27 11:29:01	25.2	49.2	SingleProg
2010-05-27 11:40:21	25.3	49.3	SingleProg
2010-05-27 11:41:51	25.3	49.1	SingleProg
2010-05-27 11:42:31	25.3	49	SingleProg

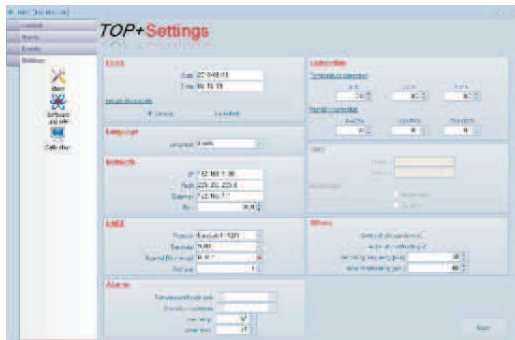
Measurement recording

professional version **TOP+**

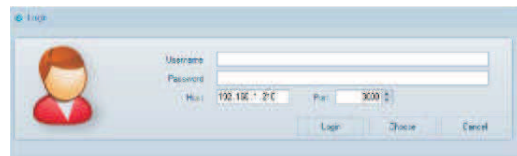
TOP+ - professional version

TOP+ Control

To facilitate the configuration of complex programs, a TOP+ Control software has been introduced. Moreover, the user is able to program and control the "TOP+" equipment with ease from any corner of the world by accessing the unit via Internet!



Device manager



Login window



Program selection



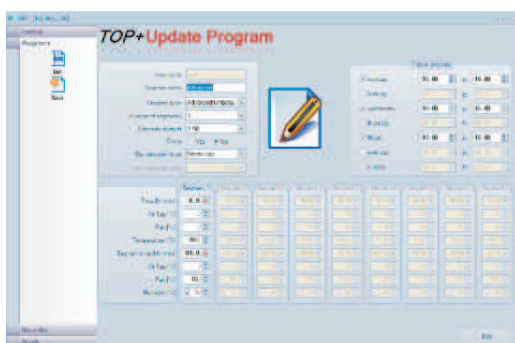
Status



Temperature and humidity chart

No.	Time	Temp	Humidity	Temp	Humidity
1	21:00:00.00	20.0	45	50	50
2	21:00:00.00	20.0	45	50	50
3	21:00:00.00	20.0	45	50	50
4	21:00:00.00	20.0	45	50	50
5	21:00:00.00	20.0	45	50	50

Measurement recording



Program settings

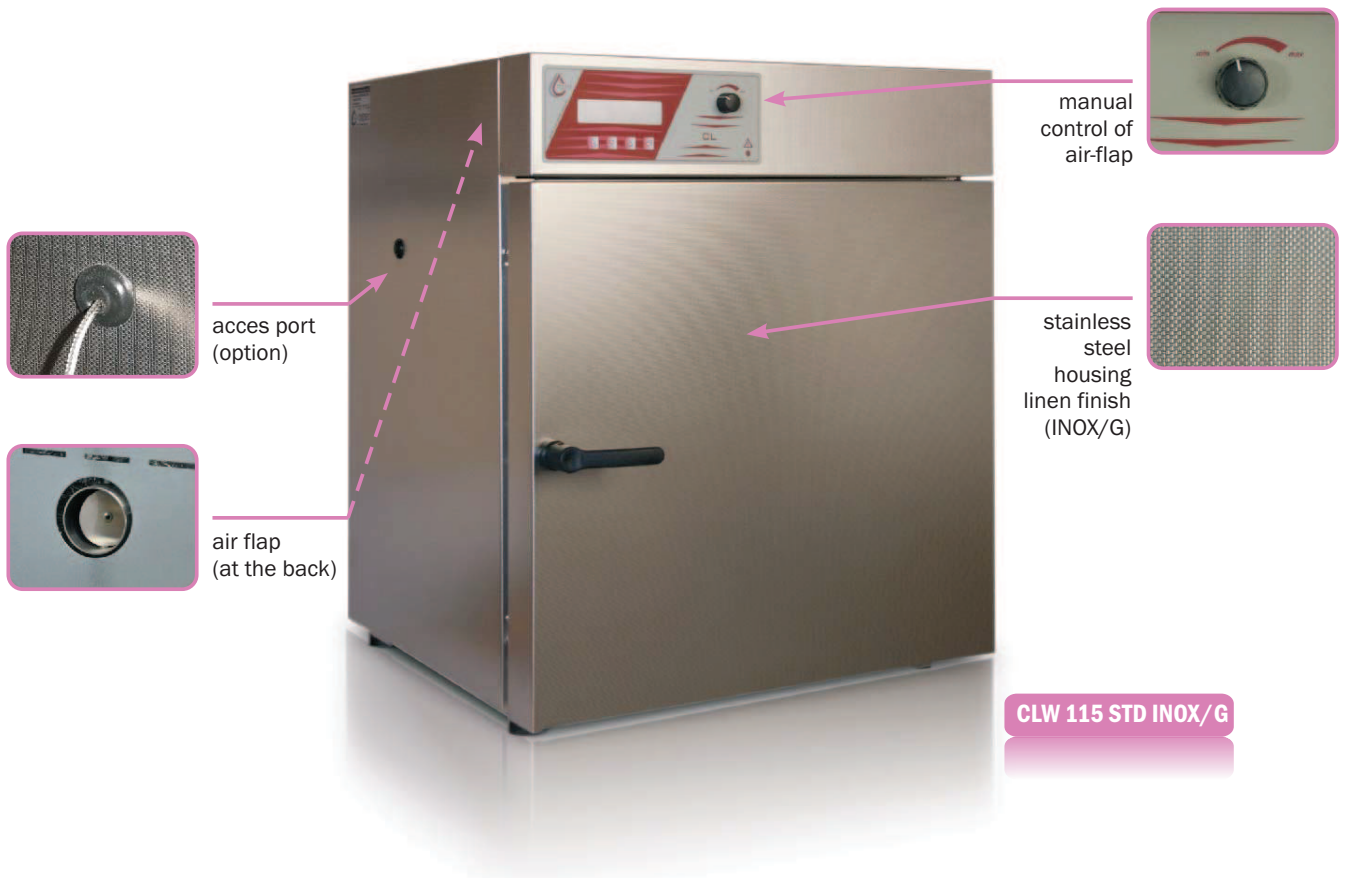
Program	Min	Max	Avg
Program 1	20.0	25.0	22.5
Program 2	21.0	26.0	23.5
Program 3	22.0	27.0	24.5
Program 4	23.0	28.0	25.5

Program statistic

Laboratory incubators

Application

- incubation of samples for microbiological examinations
- analysis of thermal resistance of samples subjected to higher temperatures (e.g. pigments and lacquers)
- antibody testing
- bacterial research
- chemical storage
- crystallization studies
- cultivating thermophilic bacteria
- denaturalizing tests for food industry
- microbiological determinations
- pharmaceutical stability testing



Laboratory incubators

Advantages

- available in ECO, STD and TOP+ versions
 - CL 15 and 32 in ECO version only
- capacity from 15 to 1005 litres
- stainless steel interior
- housing, depending on model: powder coated sheet or stainless steel linen finish (**INOX/G**)
- forced or natural air convection (depending on the model)
- fan speed regulation from 0 to 100% for CLW 53, 115 and 240; from 10 to 100% for CLW 400, 750 and 1000
- heating system (temperature in the chamber cannot be lower than ambient temperature)
- CLW 750, CLW 1000 models equipped with wheels
- LCD time and temperature display in ECO and STD version (except CL 15 and 32 with LED display); LCD touch screen in TOP+ version
- microprocessor time and temperature control
- temperature sensor fail alarm (see page 56)
- power failure control system (see page 56)
- real time clock
- sound alarm (see page 56)
- self-check function (auto control)

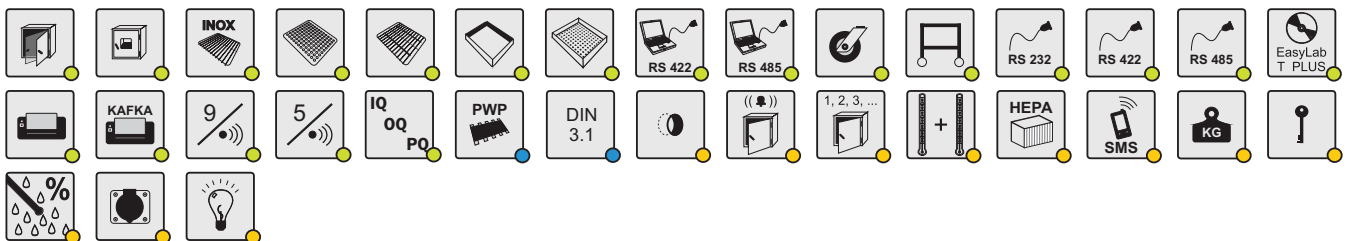
Program possibilities

- ECO version (see page 25)
- STD version (see page 26)
- TOP+ version (see page 27-28)

Standard equipment

- solid door
- RS 232 interface; RS 232 cable must be purchased additionally (RSK)
- stainless steel wire shelves (1-6 pieces, depending on the model) with slides set
- manufacturer's test certificate at +37 °C
- operation manual in English and English menu (other languages on request)
- over temperature protection according to DIN 12880: 1.0 class in ECO version, 2.0 class in STD version, 3.1 class in TOP+ version

Options and accesories (icon description see page 51)



● for ECO, STD and TOP+ ● for STD only ● for STD and TOP+



All POL-EKO-APARATURA products can be provided with IQ, OQ, PQ qualifications (see page 70)











All POL-EKO-APARATURA products can be supplied with a calibration certificate issued by an accredited Measurement Laboratory. Further information is available on pages 69-70 and our website: www.pol-eko.eu

Laboratory incubators



Available options

- CL*/A** - door with viewing window
- CL*/C** - internal glass door
- CL*/W** - reinforced version
(available for 240, 400, 750, 1000 versions)
- PW** - reinforced shelf

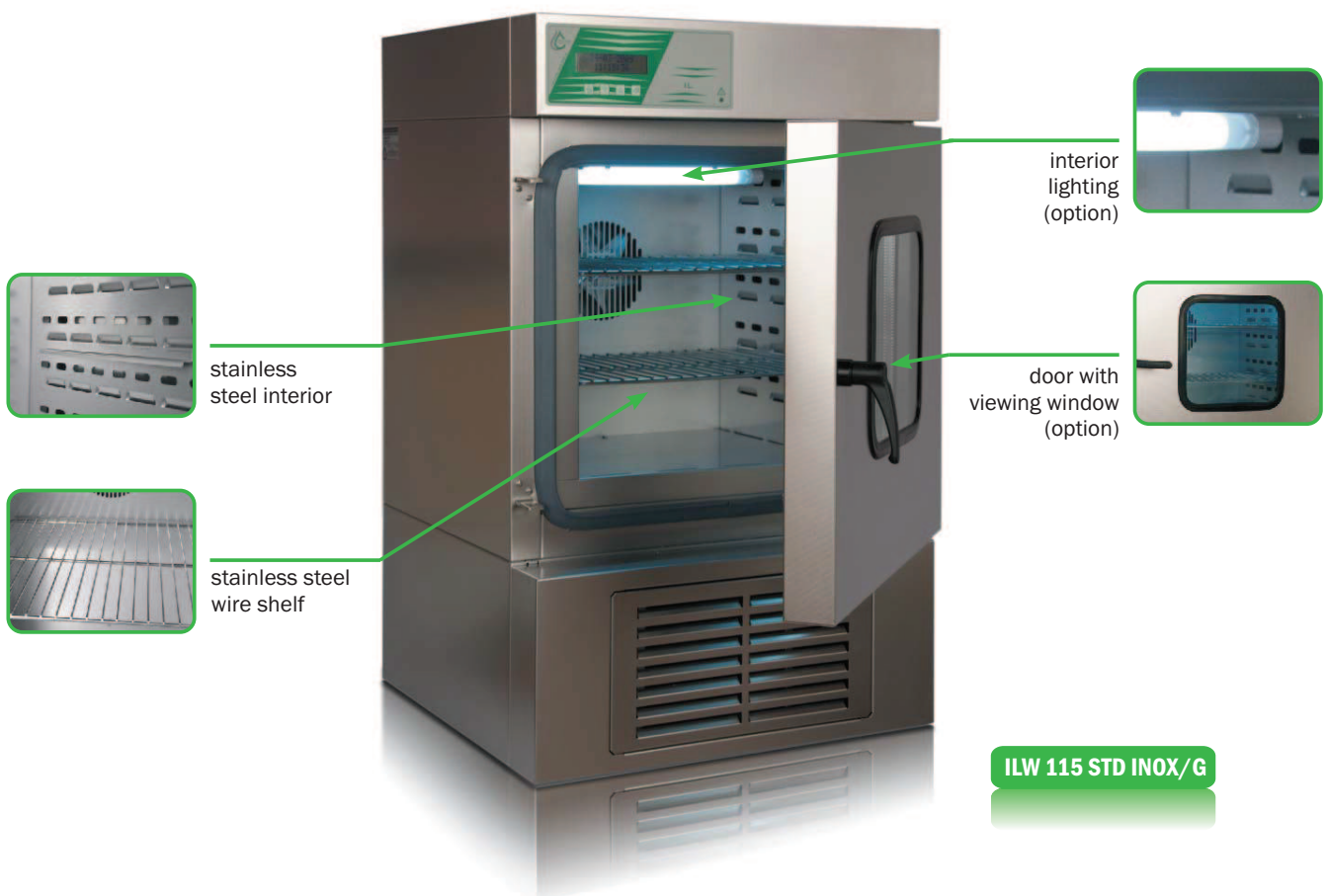
Parameter		Model	CL 15	CL 32	CL 53	CL 115	CL 240	CL 400	CL 750	CL 1000
										
air convection			natural (CLN)	natural (CLN) / forced (CLW)			forced (CLW)			
chamber capacity ¹	[l]		15	32	56	112	245	424	749	1005
	[cu ft]		0,5	1,1	2	3,9	8,6	15	26,4	35,5
door type			solid		solid / door with viewing window or double ³ (option)					
temperature range	[°C]		5° above ambient temperature...+100° (+70° for ECO version)							
	[°F]		41° above ambient temperature...+212° (+158° for ECO version)							
controller			microprocessor with external display							
interior			acid-proof stainless steel according to DIN 1.4301							
housing			powder coated sheet / stainless steel linen finish (INOX)							
overall dims [mm]	width		440	520	590	650	815	1015	1255	1255
	height		520	600	700	845	1140	1380	1620	2030
	depth		350	435	560	650	710	710	810	810
internal dims [mm]	width		320	400	395	460	600	800	1040	1040
	height		240	320	395	540	800	1040	1200	1610
	depth		180	240	360	450	510	510	600	600
max shelf workload [kg]	-		10	10	10	10	10	10	10	10
	PW shelf		-	-	50	50	100	100	100	100
max unit workload [kg]	-		20	30	40	60	90	120	140	180
	W version		-	-	80	120	300	300	300	300
nominal power [W]			300	400	400	400	800	1200	1800	1800
weight [kg]			27	35	50	65	126	174	260	330
temperature resolution [°C]			every 0,1							
temperature fluctuation ² at +37 °C [°C]	CLN		±0,5	±0,5	±0,2	±0,2	±0,2	-	-	-
	CLW		-	±0,2	±0,2	±0,2	±0,2	±0,2	±0,2	±0,2
over temperature protection			class 1.0 in ECO/2.0 in STD/3.1 in TOP+							
voltage 50 /60 Hz [V]			110-120/220-240							
shelves fitted / max			1/2	1/3	2/5	2/7	3/10	3/14	5/16	6/22
warranty			24 months							
manufacturer			POLEKO-APARATURA							

1 - working capacity of chamber can be smaller
 2 - fluctuation measured in centre of the chamber
 3 - glass inside, solid outside

Cooled incubators

Application

- microbiological research
- plant growing, microorganisms and insects breeding at specified temperature
- samples incubation



Cooled incubators

Advantages

- available in STD and TOP+ versions
- chamber capacity from 56 to 749 litres
- stainless steel interior
- housing, depending on model: powder coated sheet or stainless steel linen finish (**INOX/G**)
- forced air convection
- fan speed regulation from 10 to 100%
- heating and cooling systems to hold set temperature regardless of ambient conditions
- thermal insulation - polyurethane foam
- ILW 400 and ILW 750 models equipped with wheels
- LCD time and temperature display in STD version; LCD touch screen in TOP+ version
- microprocessor time and temperature controller
- temperature sensor fail alarm (see page 56)
- power failure control system (see page 56)
- real time clock
- sound alarm (see page 56)
- self-check function (auto control)

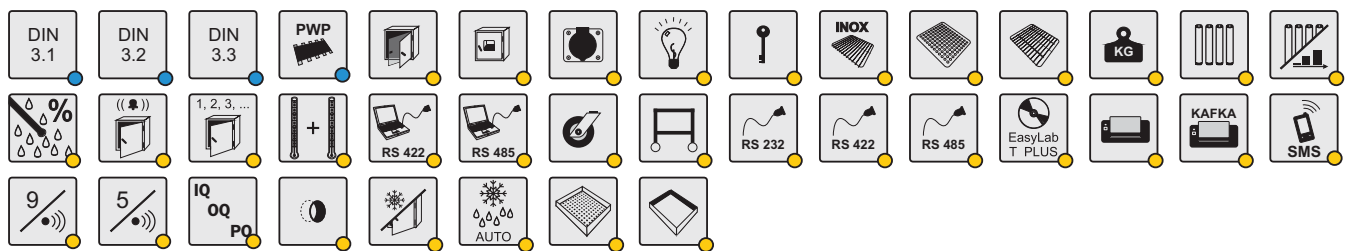
Program possibilities

- STD version (see page 26)
- TOP+ version (see page 27-28)

Standard equipment

- solid door
- RS 232 interface; RS 232 cable must be purchased additionally (RSK)
- stainless steel wire shelves (2-6 pieces, depending on model) with slides set
- manufacturer's test certificate at +37 °C
- operation manual in English and English menu (other languages on request)
- over temperature protection according to DIN 12880: 2.0 class in STD version and 3.3 class in TOP+ version

Options and accessories (icon description see page 51)



● for STD only ● for STD and TOP+



All POL-EKO-APARATURA products can be provided with IQ, OQ, PQ qualifications (see page 70)








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Cooled incubators



Available options

- IL*/A** - door with viewing window
- IL*/C** - internal glass door
- IL*/W** - reinforced version
- PW** - reinforced shelf
- IL*/T** - extended temperature range to -10 °C
- FOT** - photoperiodic system

Parameter		Model	ILW 53	ILW 115	ILW 240	ILW 400	ILW 750	
								
air convection		forced						
chamber capacity ¹	[l]	56	112	245	424	749		
	[cu ft]	2	3,9	8,6	15	26,4		
door type		solid / door with viewing window or double ³ (option)						
temperature range	[°C]	0...+70 (+100 in TOP+ version) / -10...+70 (+100 in TOP+ version) (option)						
	[°F]	+32...+158 (+212 in TOP+ version) / +14...+158 (+212 in TOP+ version) (option)						
controller		microprocessor with external display						
interior		acid-proof stainless steel according to DIN 1.4301						
housing		powder coated sheet / stainless steel linen finish (INOX/G)						
overall dims [mm]	width	590	650	815	1015	1255		
	height	950	1095	1420	1750	1900		
	depth	560	650	710	710	810		
internal dims [mm]	width	395	460	600	800	1040		
	height	395	540	800	1040	1200		
	depth	360	450	510	510	600		
max shelf workload [kg]	-	10	10	10	10	10		
	PW shelf	50	50	100	100	100		
max unit workload [kg]	-	40	60	90	120	140		
	W version	80	120	300	300	300		
nominal power [W]		400	400	800	1200	1800		
weight [kg]		69	90	140	185	275		
temperature resolution [°C]		every 0,1						
temperature fluctuation ² at +37 °C [°C]		±0,2	±0,2	±0,2	±0,2	±0,2		
over temperature protection		class 2.0 in STD/3.3 in TOP+						
voltage 50/60 Hz [V]		110-120/220-240						
shelves fitted / max		2/5	2/7	3/10	3/14	5/16		
warranty		24 months						
manufacturer		POL-EKO-APARATURA						

1 - working capacity of chamber can be smaller

2 - fluctuation measured in centre of the chamber

3 - glass inside, solid outside