

 Made in Poland. Established 1990.



20¹⁶/₁₇ / POL-EKO-APARATURA products



POL-EKO-APARATURA has been present in the Polish market for 26 years.

Highest quality equipment and service we provide ensures 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-APARATURA team.

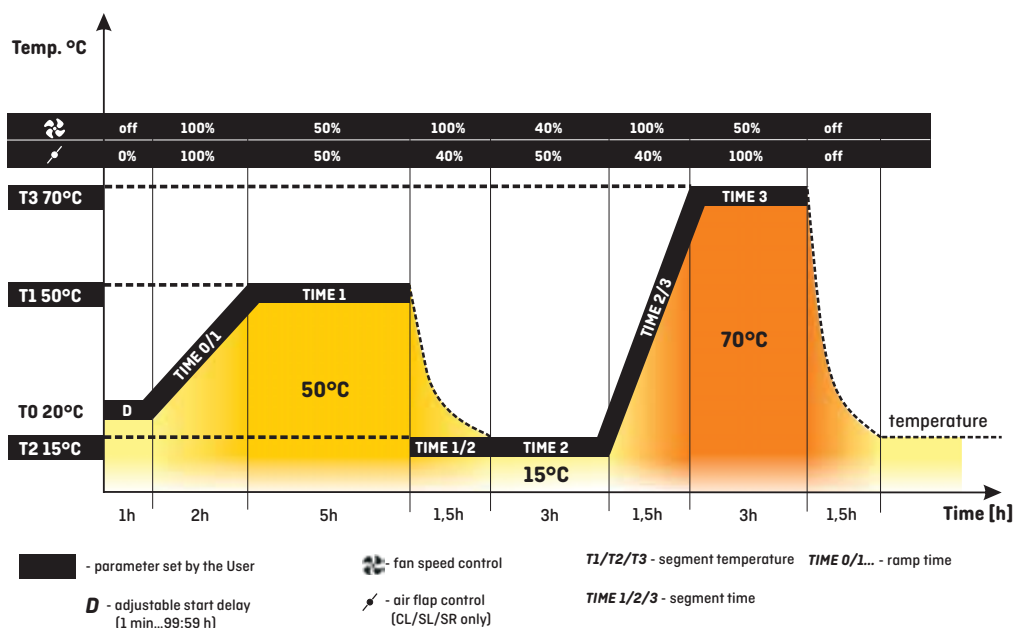


Drying ovens, incubators, cooled incubators

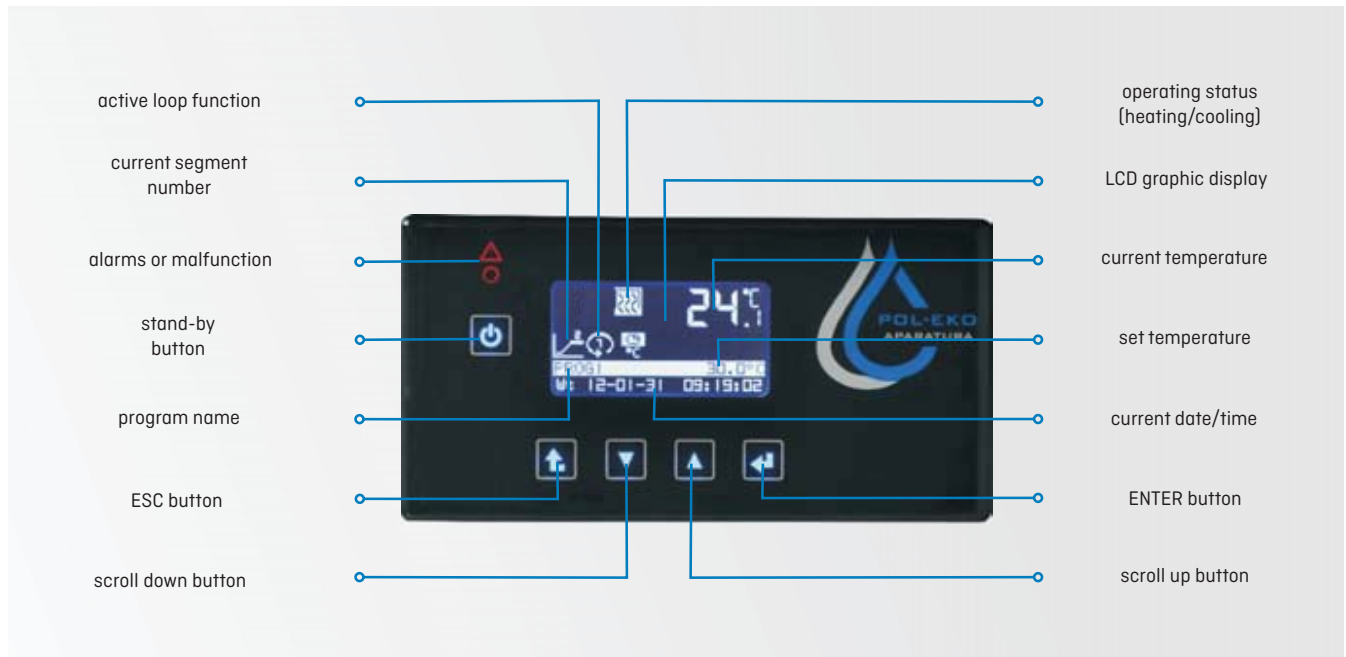
All the units in the STD version are equipped with a PID microprocessor controller with an LCD graphic display and illuminated touch buttons.

Controller advantages

- six-segment temperature-time profile
- loop function up to 99 times or endless
- 3 user programs memory
- adjustable start delay feature (from 1 min to 99:59 h)
- adjustable hold at set point time for temperature and lighting (for IL/FOT) from 1 min to 100 days, or continuous operating
- adjustable ramps
- overview of set and current parameters while operating
- recording of min, average and max temperature value for each segment
- possibility of temperature calibration by the user
- audible and visual temperature alarm
- operating with temperature priority
- temperature sensor fail alarm
- power failure control system (program continued after restoring power)
- digital timer
- real time clock
- auto-diagnostic function
- internal memory to store up to 2046 data records
- natural (SL/SR/CL) or forced (SL/SR/CL/IL) air convection with fan speed control (for CLW/SLW/SRW 15-115 0 ... 100%, CLW/SLW/SRW 180-1000 and ILW 10 ... 100%)
- automatic fan shut-down after completing the program
- automatic air-flap control (CL/SL/SR)



Control panel



Standard features

- temperature range: SL (+5°C above ambient temp. ... +300°C), SR (+5°C above ambient temp. ... +250°C), CL (+5°C above ambient temp. ... +100°C), IL (0°C up to 70°C / optionally -10°C up to 70°C)
- quality control protocol (at +37°C for CL/IL, at +105°C for SL, at +170°C for SR)
- English instruction manual
- available menu languages: Czech, English, Estonian, French, German, Italian, Polish, Portuguese, Russian, Spanish
- temperature protection class 2.0 to DIN 12880
- open door alarm
- wheels in standard for models 750, 1000, ILW 400

RS232 and USB ports for data transfer

access port: Ø30 mm for models 53-1000 or
Ø9 mm for models 15-32

wire stainless steel shelves

solid door, internal glass door for CL and IL

door lock



TOP+ version

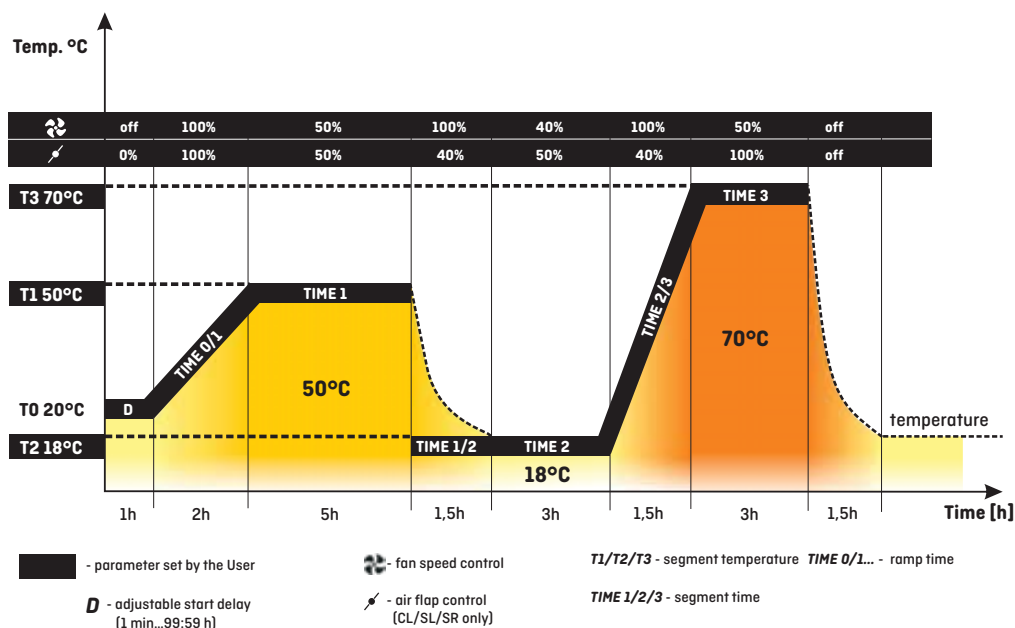
All the units in the TOP+ version are equipped with a PID microprocessor controller with a large (5,7") full colour touch screen, intuitive menu and user friendly software. They can be connected to Ethernet network for remote control from any computer, being one of the greatest advantages.

Controller advantages

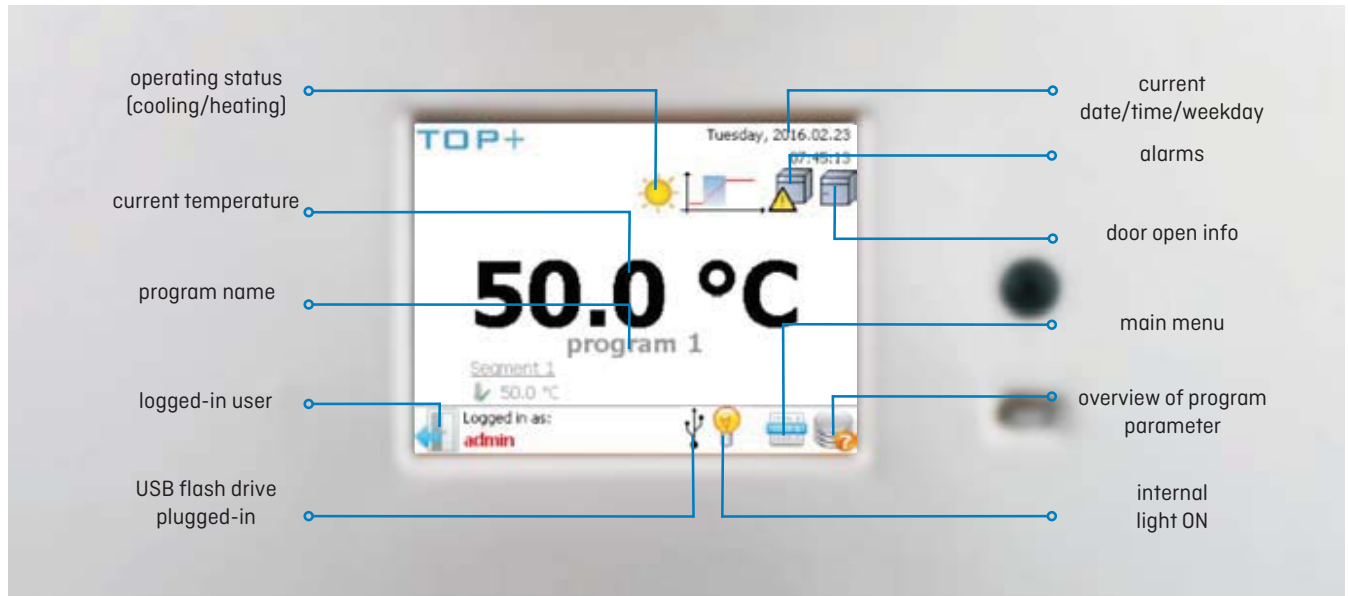
- multi-segment temperature-time profile (up to 100)
- Administrator function to manage User accounts
- adjustable start delay feature (from 1 min to 99:59 h)
- access control via login
- 7 days programming
- loop function up to 99 times or endless
- adjustable hold at set point time for temperature and lighting (for IL/FIT) from 1 min to 999:59 h, or continuous operating
- adjustable ramps
- overview of set and current parameters while operating
- recording of min, average and max temperature value for each segment
- possibility of temperature calibration by the User
- audible and visual temperature alarm
- operating in temperature or time priority mode
- temperature sensor fail alarm
- power failure control system (program continued after restoring power)
- digital timer
- real time clock
- auto-diagnostic function
- natural (SL/CL) or forced (SL/CL/IL) air convection with fan speed control for CLW/SLW 53/115 0...100%; CLW/SLW 180-1000 and ILW 10...100%
- automatic fan shut-down after completing the program
- automatic air-flap control (CL/SL)

GLP supporting functions

- password protected settings
- 20 user programs memory
- internal memory to store up to 4100 data records for each User, possibility to overview the values on the display or a PC computer in tabular or graphic form
- USB port to allow direct data recording or transfer onto a flash drive
- events registry



Control panel



Standard features

- temperature range: SL (+5°C above ambient temp. ... +300°C), CL (+5°C above ambient temp. ...+100°C), IL (0°C up to 100°C / optionally -10°C up to 100°C)
- Ethernet cable
- TOP+ Control software
- USB port to allow direct recording and data transfer onto a flash drive
- quality control protocol (at +37°C for CL/IL, at +105°C for SL)
- English instruction manual
- available menu languages: English, Estonian, French, German, Hungarian, Italian, Latvian, Polish, Portuguese, Romanian, Russian, Spanish
- temperature protection class 3.3 (IL), class 3.1 (CL/SL) to DIN 12880
- open door alarm
- wheels in standard for models 750, 1000

RS232 interface

Ethernet port for remote control

access port: Ø30 mm

wire stainless steel shelves

solid door, internal glass door for CL and IL

door lock



Cooled incubators

Application

- microbiological tests
- plant growing, microorganisms breeding at precisely controlled environment
- BOD determination
- incubation of samples at specified temperature



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

Calibration



All thermostatic equipment manufactured by POL-EKO-APARATURA can be provided with Calibration Certificate issued by accredited Measurement Laboratory. Detailed information on accreditation of POL-EKO Laboratorium Pomiarowe is available on website: www.polekolab.pl.

Cooled incubators

IL

		ILW 53	ILW 115	ILW 240	ILW 400	ILW 750
air convection		forced				
chamber capacity ¹ [l]		56	112	245	424	749
door type		double/door with viewing window (option)				
temperature range [°C]		-10 (option)/ 0...+70 (+100 for TOP+ version)				
temperature resolution [°C]		every 0,1				
controller		microprocessor with external LCD graphic display				
interior		acid-proof stainless steel to DIN 1.4301				
housing	-	powder coated sheet				
	INOX/G	stainless steel linen finish				
overall dims ² [mm]	A width	690	660	820	1040	1260
	B height	960	1080	1430	1650	1820
	C depth	600	710	760	740	860
internal dims [mm]	D width	400	460	600	800	1040
	E height	390	540	800	1040	1200
	F depth	360	450	510	510	600
max shelf workload ⁵ [kg]	-	25	25	25	25	25
	PW ³ version	50	50	100	100	100
max unit workload [kg]	-	40	60	90	120	140
	W ⁴ version	80	120	300	300	300
nominal power [W]		400	400	800	1200	1800
weight [kg]		69	90	140	185	275
over temperature protection		class 2.0 according to DIN 12880 / class 3.3 (option) / 3.3 in TOP+				
power supply*		230 V 50 Hz				
shelves fitted		2/5	2/7	3/10	3/14	5/16
warranty		24 months				
manufacturer		POL-EKO-APARATURA				

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

* - 230V 60Hz, 115V 60Hz also available

1 - working capacity of chamber can be smaller

2 - depth doesn't include 50 mm of power cable

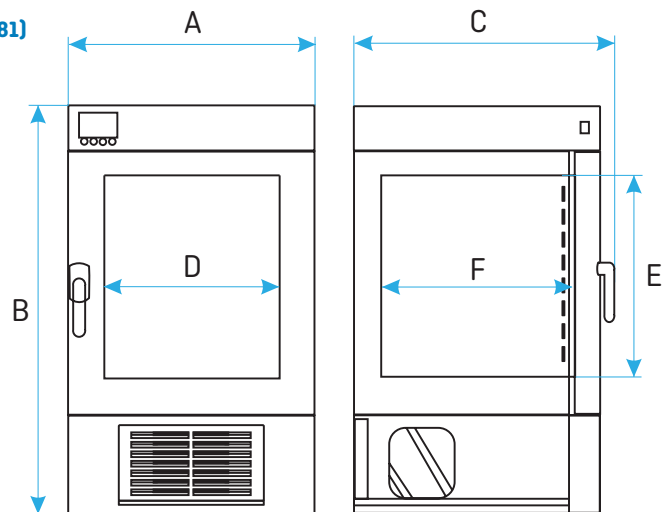
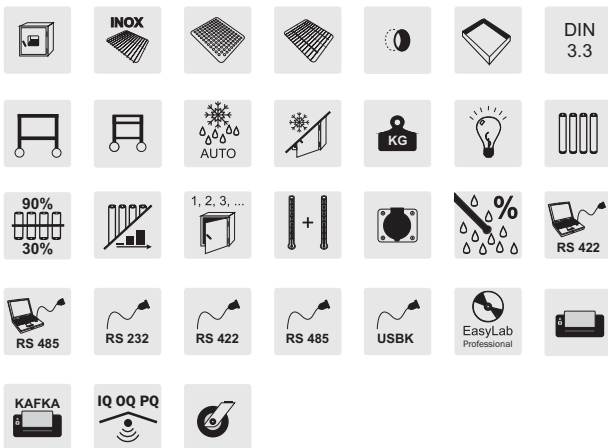
3 - reinforced shelf

4 - reinforced version

5 - on uniformly loaded surface

All data on temperature stability and uniformity available on www.pol-eko.eu.

Options and accessories (icon description see pages 80-81)





Innovative and ecological ILP Peltier-cooled incubators

Advantages over compressor-cooled incubators



Quiet operation

The noise generated by the unit has been limited significantly to create more comfortable working conditions in the laboratory.



Environmentally friendly

Elimination of compressor and refrigerants ensures environmental protection.



Lighter and smaller

The Peltier-element system has reduced the size and weight of the unit.



Vibration-free

With the introduction of the Peltier-element system, vibrations previously generated by the compressor have been eliminated.



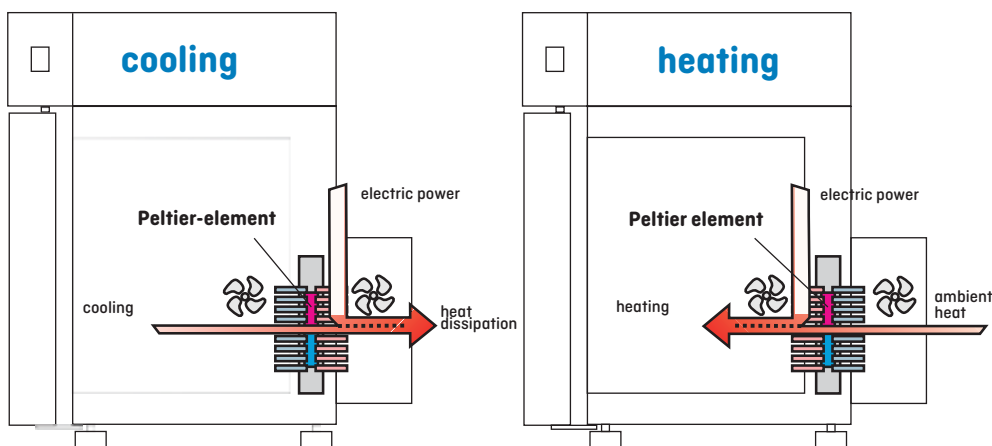
Energy-saving

The Peltier technology has reduced the power consumption considerably to make the ILP incubators even more energy-efficient.



Perfect performance

The cooling system based on the Peltier-element features excellent temperature stability and uniformity. It also improves the temperature recovery time (e.g. after door opening).



Calibration



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		ILP 53	ILP 115	ILP 240	ILP 400
air convection		forced			
chamber capacity [l]		56	112	245	424
door type		double / door with viewing window (option)			
temperature range [°C]		+15...+70 (+100 for TOP+ version)			
temperature resolution [°C]		every 0,1			
controller		microprocessor with external LCD graphic display			
interior		stainless steel to DIN 1.4301			
housing	-	powder coated sheet			
	INOX/G	stainless steel linen finish			
overall dims [mm]	A width	600	660	820	1040
	B height	710	850	1140	1380
	C depth	660	770	810	840
	D width	400	460	600	800
internal dims [mm]	E height	390	540	800	1040
	F depth	360	450	510	510
	-	25	25	25	25
max shelf workload ² [kg]	PW ¹ version	50	50	100	100
max unit workload [kg]		40	60	90	90
nominal power [W]		400	400	800	800
weight [kg]		69	90	140	190
over temperature protection		class 2.0 to DIN 12880 / class 3.3 (option) / class 3.3 in TOP+			
power supply*		230 V 50 Hz			
shelves fitted/max		2/5	2/7	3/10	3/14
warranty		24 months			
manufacturer		POL-EKO-APARATURA			

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

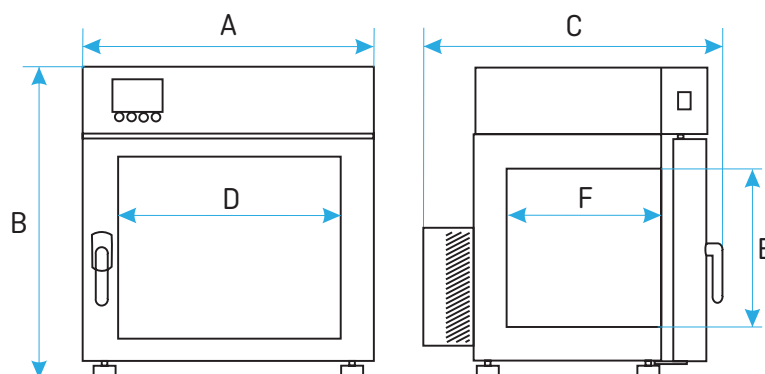
* - 230V 60Hz, 115V 60Hz also available

1 - reinforced shelf

2 - on uniformly loaded surface

All data on temperature stability and uniformity available on www.pol-eko.eu.

Options and accessories (icon description see pages 80-81)

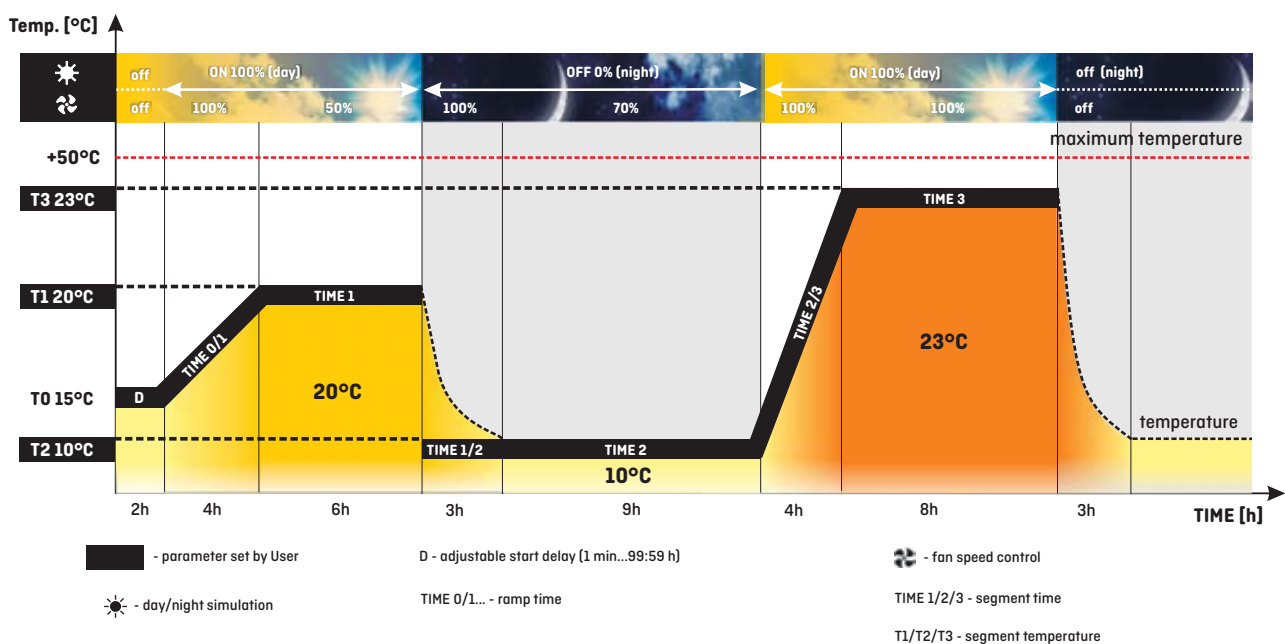


Cooled incubators (IL) with photoperiodic system

The photoperiodic (FOT) and phytotron (FIT) systems allow day and night simulation. While the FOT option enables to turn the light on and off in a program, the FIT option can additionally control the light intensity. The photoperiodic system is designed for cooled incubators in the STD version and the phytotron system for the TOP+ version.

Program possibilities with FOT option

- day and night simulation software to control light (on/off), time and temperature separately for each segment
- temperature range for "night": -10°C up to +60°C (with IL/T option)
- temperature range for "day": +10°C up to +50°C
- lamps installed in the door or ceiling
- fluorescent lamp 840 type (daylight) used as standard
- operating with time priority (see page 82)



Photoperiodic system (* /FOT option) for cooled incubators (IL)**

	IL/FOT2S	IL/FOT3S	IL/FOT5D	IL/FOT6D	ST/FOT8D	ST/FOT10D
available for models	ILW 53	ILW 115	ILW 53	ILW 115 ILW 240	ILW 240 ILW 400 ILW 750	ILW 750
temperature range with photoperiod [°C]	+10... +50°C					
number of lamps in door	-	-	5	6	8	10
number of lamps in ceiling	2	3	-	-	-	-
adjustable illumination intensity	no	no	no	no	no	no

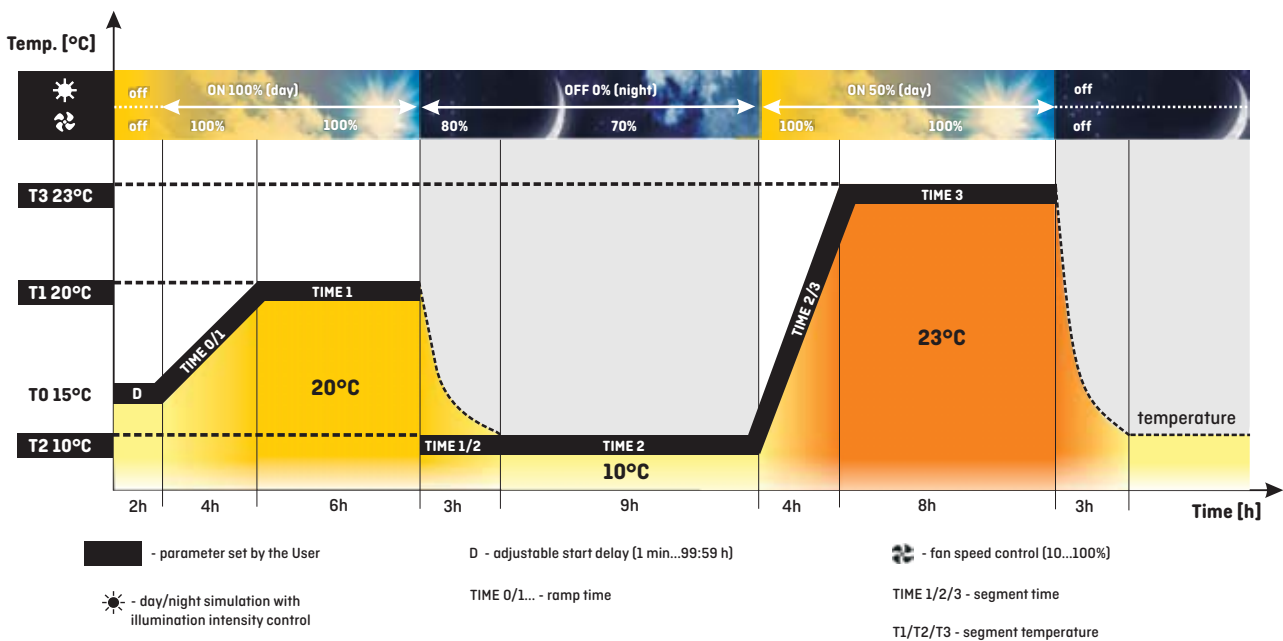
** FOT option is factory preinstalled. There is no possibility to order it separately.

Cooled incubators with phytotron system

The TOP+ version of cooled incubators (models ILW 115, 240, 400,750) can be equipped with the FIT system.

Program possibilities with FIT option

- day and night simulation software to control light intensity [%], time, temperature and fan speed separately for each segment
- temperature range for "night": -10°C up to +60°C (with IL/T option)
- temperature range for "day": +10°C up to + 50°C
- lamps installed in over-shelf panels
- fluorescent lamp 840 type (daylight) used as standard
- operating with temperature or time priority (see page 82)



Phytotron system (* /FIT option) for cooled incubators in TOP+ version.

	IL/115/FIT P	IL/240/FIT P	IL/400/FIT P	IL/750/FIT P
temperature range with phytotron ON [°C]	+10 ... +50°C			
number of over-shelf panels with illumination std/max	1/1	1/2	1/2	1/3
adjustable illumination intensity	yes	yes	yes	yes

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**DISTRIBUIDOR EXCLUSIVO EN ESPAÑA
DE LA MARCA:**

20¹⁶₁₇

POL-EKO-APARATURA

*manufacturer of controlled environment
equipment for laboratory analysis
and technological processes,
distributor in Poland of:
KNICK, THERMO SCIENTIFIC, WTW.*

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