

Anexa 24, cabinet PCR

Model: UVT-S-AR PCR cabinet, Biosan, Letonia

Parametri solicitati	Parametri oferiti
Descriere: stație de lucru de laborator cu curățare UV ADN/ARN, concepută pentru a crea un mediu curat și fără contaminare pentru configurarea PCR și alte fluxuri de lucru legate de acidul nucleic. Tipul cabinetului – benchtop (de masă) Materialul pereților: Spate: oțel inoxidabil. Laterale și față: sticlă Materialul suprafeței de lucru: Oțel inoxidabil Lampă UV deschisă: Da Nivelul radiațiilor UV: ~ 18 mW / cm² / sec Setare digitală a orei pentru expunerea directă la UV: 1 minut–24 ore / non-stop (increment 1 minut). Recirculator UV: Da Lampă de zi (pentru iluminarea zonei de lucru): Da Protecție UV: >96%, folie de protecție UV Zona de lucru: 1200 ±50 mm × 550±50 mm Caracteristici de siguranță: Oprește automată a lămpii UV atunci când ecranul este deschis Dimensiuni totale (W×D×H): 1230-1270 mm × 580-650 mm × 570-700 mm Cerințe generale: Anul producerii minim 2025 Garanție minim 24 luni Ghid rapid de utilizare laminat Servicii de mentenanță preventivă pe perioada de garanție Manuale de utilizare limba romana Manual de service limba engleza, romana Training pentru utilizatori Da, pregătire de lucru, mod de utilizare a dispozitivului, întreținerea zilnică. Training pentru personal tehnic Ajustarea, calibrarea, înlăturarea defecțiunilor minore, parole de acces după caz.	Descriere: stație de lucru de laborator cu curățare UV ADN/ARN, concepută pentru a crea un mediu curat și fără contaminare pentru configurarea PCR și alte fluxuri de lucru legate de acidul nucleic. Tipul cabinetului – benchtop (de masă) Materialul pereților: Spate: oțel inoxidabil. Laterale și față: sticlă Materialul suprafeței de lucru: Oțel inoxidabil Lampă UV deschisă: Da Nivelul radiațiilor UV: ~ 18 mW / cm² / sec Setare digitală a orei pentru expunerea directă la UV: 1 minut–24 ore / non-stop (increment 1 minut). Recirculator UV: Da, 1 x 30W (eficiența >99% per 1 ora) Lampă de zi (pentru iluminarea zonei de lucru): Da, LED-12W Protecție UV: >96%, folie de protecție UV Zona de lucru: 1210 mm × 500 mm Caracteristici de siguranță: Oprește automată a lămpii UV atunci când ecranul este deschis Dimensiuni totale (W×D×H): 1250 × 600 × 590 mm Cerințe generale: Anul producerii minim 2025 Garanție 24 luni Ghid rapid de utilizare laminat Servicii de mentenanță preventivă pe perioada de garanție Manuale de utilizare limba romana Manual de service limba engleza, romana Training pentru utilizatori Da, pregătire de lucru, mod de utilizare a dispozitivului, întreținerea zilnică. Training pentru personal tehnic Ajustarea, calibrarea, înlăturarea defecțiunilor minore, parole de acces după caz.

UVT-S-AR, PCR cabinet

DESCRIPTION

The Biosan **UVT-S-AR** is a benchtop DNA/RNA UV-cleaner workstation designed to create a clean, contamination-free environment for PCR setup and other nucleic acid-related workflows.

This model features a dual UV decontamination system: an open 254 nm UV-C lamp for surface and air disinfection, inactivating DNA/RNA contaminants, viruses, and bacteria within 15–30 minutes, and a patented UV air recirculator for continuous internal air irradiation. The recirculator processes the entire cabinet volume approximately 100 times per hour, ensuring clean working conditions without exposing users to UV light.

A touchscreen digital control panel simplifies operation by allowing intuitive programming of UV exposure cycles and real-time monitoring of lamp life. An energy-efficient 12W LED daylight lamp delivers bright workspace illumination while reducing energy consumption by ~50% compared to traditional fluorescent lighting.

Transparent glass side panels increase user comfort by improving visibility inside the cabinet.

Key Features:

- High-intensity, ozone-free UV sterilization: 25 W UV-C lamp (253.7 nm) with ~9,000 h lifespan
- Patented UV air recirculatory: processes 20 m³/h for continuous internal decontamination
- Reliable safety control: automatic UV shut-off when the protective screen is opened
- UV-blocking panels: >96% UV protection ensures operator safety
- Ergonomic, durable design: metal frame, stainless-steel interior, and UV-resistant materials
- Transparent glass side walls: for enhanced visibility and user comfort
- Digital touchscreen interface: for timer control, lamp status, and maintenance alerts
- Built-in power socket and cable inlet: for operating small lab equipment inside
- Low noise, low energy consumption: quiet fan system and efficient operation
- Compatible with mobile T-4L tables with locking wheels and integrated drawer as well as with LT-150, LT-180 height adjustable desks.



CAT. NUMBER

BS-040107-A07	100-240VAC 50/60Hz Euro socket, Euro plug
BS-040107-A08	100-240VAC 50/60Hz UK socket, UK plug
BS-040107-A10	100-240VAC 50/60Hz US socket, US plug
BS-040107-A09	100-240VAC 50/60Hz AU socket, AU plug

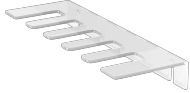
SPECIFICATIONS

Digital display & Lamp life timer	+
Display	3.5", medical glove compatible
Walls material	Rear: stainless steel Sides and front: glass (EUROGLASS, Germany)
Working surface material	Stainless steel
Open UV-lamp	2x30W built-in bactericidal UV-C, TUV 30W 1SL/25
UV radiation level	18 mW / cm ² / sec
Radiation type	UV ($\lambda = 253.7$ nm), ozone-free
Digital time setting of direct UV exposure	1 min–24 hrs / non–stop (increment 1 min)
UV-recirculator	1 x 30W (efficiency >99% per 1 hour)
Daylight lamp (for working area illumination)	1 × LED-12W
Thickness of side panels	4 mm
Thickness of upper front panel	8 mm
Thickness of screen	5 mm
Optical transmission	95%
UV protection	>96%, UV-protection film
Working area	1210 × 500 mm
Opening dimensions (fully raised protective screen)	1210 × 190 mm
Safety features	Automatic open UV-lamp switch off when screen is open
Power outlets inside the unit	3 Built-in sockets max. 1000 W and inlet for power cords
Overall dimensions (W×D×H)	1250 × 600 × 590 mm
Weight (net / gross)	51 / 62 kg
Power consumption	113 W
Nominal operating voltage	100-240 V, 50/60Hz
Optional table	T-4L (1290 × 600 × 770 mm)
Optional drawer unit	LF-1 (300 × 450 × 705 mm)



F-1
BS-040104-DK
shelf

F-1, shelf



P-5
BS-040104-CK
shelf for pipettes

P-5, shelf for pipettes



LT-150
BS-040107-JK
Height adjustable desk

Height adjustable desk
<-> 150 cm



LT-180
BS-040107-HK
Height adjustable desk

Height adjustable desk
<-> 180 cm



T-4L
BS-040107-BK
Table

New modular design of
laboratory furniture provides
flexibility and ease of use.



LF-1
BS-050101-BK
Drawer unit

New modular design of
laboratory furniture provides
flexibility and ease of use.



PDS-250
BS-040107-DK
DNA/RNA Decontamination
Solution

DNA/RNA Decontamination
Solution.



PDS-10L
BS-040107-FK
DNA/RNA Decontamination
Solution 10l

DNA/RNA Decontamination
Solution.



Dust filter (2 pcs)
BS-000000-S31



UV lamp - 30W
BS-040107-S05

EU Declaration of Conformity

Unit type PCR cabinets

Models UVC/T-AR, UVC/T-M-AR, UVT-B-AR, UVT-S-AR

Serial number 14 digits styled XXXXXYYMMZZZZ, where XXXXXX is model code, YY and MM – year and month of production, ZZZZ – unit number.

Manufacturer SIA BIOSAN
Latvia, LV-1067, Riga, Ratsupites 7 k-2

The objects of the declaration described above is in conformity with the following relevant Union harmonization legislations:

LVD 2014/35/EU	LVS EN 61010-1:2011 + A1:2019 Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements.
EMC 2014/30/EU	LVS EN 61326-1:2013 Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements.
Directive 2011/65/EU RoHS3 2015/863/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
WEEE 2012/19/EU	Directive on waste electrical and electronic equipment.

I declare that the Declaration of Conformity is issued under sole responsibility of the manufacturer and belongs to the above-mentioned objects of the declaration.

Deniss Beleckis
Manufacturing director


Signature

4.09.2025
Date

UVC/T-AR, UVC/T-M-AR, UVT-B-AR, UVT-S-AR PCR cabinets



If you have any feedback on our products or services, we would like to hear from you.
Please send all feedback to:

Manufacturer:

SIA Biosan
Ratsupites 7 k-2, Riga, LV-1067, Latvia

Phone: +371 674 261 37



<https://biosan.lv>

Marketing e-mail: sales@biosan.lv

Support e-mail: support@biosan.lv

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1. About this edition of instructions for use

1.1. The current edition of the instructions for use (IFU) applies to the following models:

Model	Version
UVC/T-AR, PCR cabinet	V.5AD, V.6AD
UVC/T-M-AR, PCR cabinet	V.7A02, V.7A03, V.7A04, V.7AI, V.7A12, V.7A21
UVT-B-AR, PCR cabinet	V.5AB, V.5AD, V.5AE, V.5AI, V.5AH, V.5A12
UVT-S-AR, PCR cabinet	V.6AA, V.6AB, V.6A7, V.6AI, V.6A04

1.1.1. Revision number: 5.-7.02.

1.1.2. Release date: April of 2026.

1.2. Symbols used in this IFU:

 **Caution!** Please pay special attention to sections marked by this symbol.

 **Caution!** Warning due to UV radiation source in the unit.

2. Safety precautions

2.1. General warnings:

- **Caution!** Make sure you have fully read and understood present instructions before using the equipment.
- **Caution!** The unit contains a source of UV radiation.

2.1. Icons used on the unit and packaging.

	CE marking, manufacturer affirms conformity with European health, safety, and environmental protection standards, see 11.1
	WEEE directive marking, see 11.1
	The front protective screen must be closed while the open UV lamp is switched on. Otherwise, the operator can be exposed to a dangerous level of UV emission.
	Overall consumed power of devices connected through internal mains sockets should not exceed 1000 W for 230V, or 600 W for 100–120 V

2.2. General safety

- **Caution!** The front protective screen must be closed while the open UV lamp is switched on. Otherwise, the operator can be exposed to a dangerous level of UV emission.
- **Caution!** Do not start the unit without the cover of the UV recirculator. Exposure to UV light is harmful and can cause damage to unprotected eyes and skin.
- **Caution!** The UV-Cleaner box contains a powerful source of UV radiation, therefore, before operating the unit, ensure all personnel working with the UV-Cleaner box are properly protected. The operator should wear a closed-front lab coat (fully buttoned), UV certified safety glasses and gloves, which should overlap the lab coat or surgical gown cuffs.
- The protection provided by the equipment may be impaired if the equipment is used with accessories (shelves, furniture) not provided or recommended by the manufacturer or used in a manner not specified by the manufacturer.
 - Save the unit from shocks and falling.
 - Do not use the unit if it has visible mechanical damage.
 - Store and transport the unit as described in the **Storage and transportation** section.
 - Before using any cleaning or decontamination methods except those recommended by the manufacturer, check with the manufacturer that the proposed method will not damage the equipment.
 - Do not make modifications to the design of the unit.
 - When handling hazardous substances, follow the instructions contained in the safety data sheets for the individual substances that are used and observe the relevant accident prevention regulations.

2.3. Electrical safety

- Connect only to the mains with voltage corresponding to that on the serial number label.
- Do not plug the unit into an ungrounded power socket, and do not use an ungrounded extension lead.
- Ensure that the power plug is easily accessible during use.
- Disconnect the unit from the mains before moving.
- If liquid penetrates into the unit, disconnect it from the mains and have it checked by a repair and maintenance technician.
- Do not operate the unit in premises where condensation can form. Operating conditions of the unit are defined in the **Specifications** section.

2.4. During operation

- Do not operate the unit in environments with aggressive or explosive chemical mixtures. Please contact manufacturer for possible operation of the unit in specific atmospheres.
- Do not operate the unit if it is faulty or has been installed incorrectly.
- Do not use outside laboratory rooms.
- Do not operate the unit without dust filters installed.
- Do not work in the box while the open UV lamp is switched on.

2.5. Biological safety

- The user is responsible to carry out appropriate decontamination if hazardous material spills on or penetrates into the equipment.
- The user is responsible for decontamination of the unit before its decommissioning and utilization.

3. General information

PCR cabinets – **UVC/T-AR**, **UVC/T-M-AR**, **UVT-B-AR** and **UVT-S-AR** – are designed for clean operations with DNA/RNA samples. They provide protection against contamination.

All models are bench-top type, with metal framework, glass or acrylic walls and working surface painted with powder enamel or made of stainless steel. Box is equipped with inlet for power cables and built-in power outlets for units inside the box. For availability of the required characteristics, please clarify for each model separately (see 7.1).

UV-Cleaner boxes are equipped with an open UV lamp installed in the upper hood. UV radiation from the open lamps disinfects the working area inactivating DNA/RNA fragments during 30 min of exposure. A digital timer controls duration of the direct UV irradiation. A daylight lamp provides proper illumination of the working surface.

UV-Cleaner box is equipped with a flowing bactericidal UV-cleaner-recirculator AR, which provides constant decontamination inside the box during operation. It is recommended for operations with DNA/RNA amplicons.

UV recirculator consists of an UV lamp (fig. 1/1), a fan and dust filters (fig. 1/2) organized in a plastic case. Operator working in a UV-Cleaner box with a switched on UV recirculator is not exposed to UV radiation. It allows continuous treatment of the airflow with UV light without interrupting working process. Air circulation at a short distance from the UV lamp combined with reflective surfaces in the air duct results in increased density of UV rays leading to higher efficiency of disinfection. UV recirculator generates 100 volumes of PCR box per one hour of airflow exchange ensuring maximally aseptic conditions inside the box.

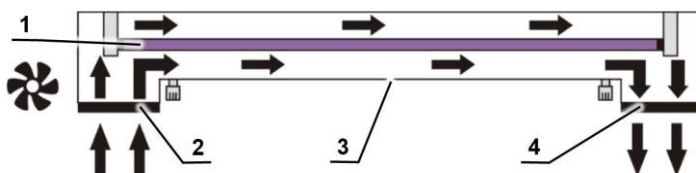


Figure 1. Recirculator scheme.

1. UV lamp. 2. Fan and input filter. 3. UV indicator. 4. Output filter

Microbiological studies at the R&D Department of Biosan led by Dr. biol. V. Bankovsky demonstrated a high level of biosafety and efficacy of UV-cleaner box (maximal level of contamination is 1-3 cfu per 100 litres of air)¹.

UV-Cleaner box is designed to biologically protect the product, but not the operator, therefore, it is not recommended to use the UV-Cleaner box for working with pathogenic microorganisms of biosafety level BSL-II and higher, without specialized protection.

¹ See <http://biosan.lv/eval-en>

Advantages:

- UV-recirculator.
- Ozone free high density UV decontamination.
- Open UV lamp is switched off automatically in case of opening the front screen.
- Long life UV lamps (9000 h).
- Low noise level and energy consumption.
- Compact tabletop model for personal laboratories.
- Shelves for pipettes and reagents (on request)
- Adjustable-height table series **LT**, tables with drawer **T-4** / **T-4L**, laboratory chest of drawers **LF-1** (on request).

4. Getting started

4.1. Unpacking. Remove packing materials carefully and retain them for future shipment or storage of the unit. Examine the unit carefully for any damage incurred during transit. The warranty does not cover in-transit damage. Warranty covers only the units transported in the original package.



Caution! Due to the high weight of the unit, its unpacking and installing must be carried out by two persons. Follow the instructions included on the packaging.

4.2. Complete set. Package contents:

4.2.1. Standard set:

- PCR cabinet 1 pce.
- Power cable (UVC/T-AR only) 1 pce.
- Spare fuse for control block (see **8.2**) 1 pce.
- Spare fuse for built-in power outlet (except UVC/T-AR) 1 pce.
- Spare dust filters 2 pcs.
- Instructions for use, declaration of conformity 1 copy

4.2.2. Optional accessories, on request:

- P-5, shelf for pipettes 1 set
- F-1, shelf for reagents and samples 1 set
- PDS-250, DNA/RNA decontamination solution spray, 250 ml 1 set
- PDS-10L, DNA/RNA decontamination solution spray, 10 L 1 set
- LT-120 / LT-150 / LT-180 height adjustable table 1 set
- T-4 / T-4L moving table for UV-Cleaner box 1 set
- LF-1, laboratory chest of drawers 1 set



P-5



F-1



PDS-250



LT-120



LT-150



LT-180



T-4



T-4L



LF-1

4.3. **Setup.**

- If the optional table is used, unpack it carefully and assemble according to the enclosed assembling scheme.



Note.

The instructions for the disassembled **UVC/T-AR** model is supplemented by additional assembly pages. Assemble the box before continuing.

- Place the unit upon stable surface. Ensure that the unit is placed on a solid, level surface not less than 720x550 mm (1290x600 mm for UVT-S-AR model), which is able to support its weight and the weight of equipment and materials inside, for instance on the **Biosan LT / T** series table.
- Position the unit with easy access to the power switch and plug.

4.4. **Shelf setup.** Refer to the instructions included with the shelf.

5. Operation

5.1. Powering up the unit.



Note. For **UVC/T-M-AR** and **UVT-B-AR** boxes, check that the short power cable (fig. 13/1) is connecting the fuse box and the controller top.

5.1.1. Connect the power plug to a grounded power socket.

5.1.2. Turn on the **Power** switch:

- **UVC/T-AR** – no switch, the unit powers up directly.
- **UVC/T-M-AR**, **UVT-B-AR** – on the right side of the unit, behind the rear wall (fig. 13/3).
- **UVT-S-AR** – on the left side of the unit, behind the rear wall (fig. 14/1).

5.1.3. **Visible light inside the box.** To toggle it on and off, use the physical **Visible light** button to the left of the display.

5.1.4. **UV-recirculator, UV-light inside the box, display.** Press the physical **UV-recirculator / UV-light** button to the left of the display. This turns on the UV-recirculator. This also turns on the display for access to UV-light inside the box, timers and other functions.



Note. To visually check the operation of the covered UV recirculator, in the centre of its cover, look for the indicator (fig. 1/3), it will be lit from inside.

5.1.5. The touch display turns on with a splash screen (fig. 2). If time and date is not set in the unit, it will prompt to do so (fig. 3). Otherwise, the main display screen is shown, see **5.2**.

- < and > buttons to select the parameter to be changed.
- - and + buttons to change the parameter.
- **OK** button to save changes and continue.



Figure 2. Turning on

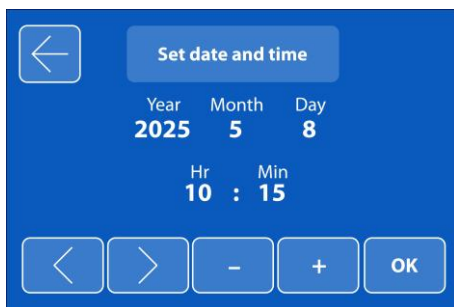


Figure 3. Date and time

5.2. Main display screen (figure 4).

- Top middle – two rows of UV exposition timer, see **5.3.1** below.
- Bottom middle – eight buttons for control of UV exposition timer.
- Top left – **Settings** button (cogwheel, see **8.1.6**) and, if present, **Alarms** button (exclamation mark, see **8.1.5**).
- Top right – current time, date, and the statistics button (circled *i*, see **8.1.4**).

5.3. Timers and UV exposition of the working place.



Caution! The open UV lamp in the cabinet works only if the protective door is fully closed. Otherwise, the operator can be exposed to a dangerous level of UV emission.

5.3.1. On the main screen (figure 4), set the timer. The buttons do the following:

Button	Short tap	Tap and hold
Start Stop	Starts and stops the UV open lamp and the timer, see 5.3.3	
–	Decreases set timer by 1 minute	Decreases faster
+	Increases set timer by 1 minute	Increases faster
+15 min	Increases set timer by 15 minutes	Increases faster
Reset	Nothing	Resets set timer to 00:00
30 min	Nothing	Sets timer for 30 minutes, starts the UV exposition and the timer
60 min	Nothing	Sets timer for 60 minutes, starts the UV exposition and the timer
Custom	Opens custom timer setup, see 5.3.2	Sets timer to the custom value, starts the UV exposition and the timer

5.3.2. To set and save a custom timer for UV exposition, short tap the **Custom** button on the main display screen. Set the timer with **–** and **+** buttons, then press **Save**. To return without saving, press the **←** button.

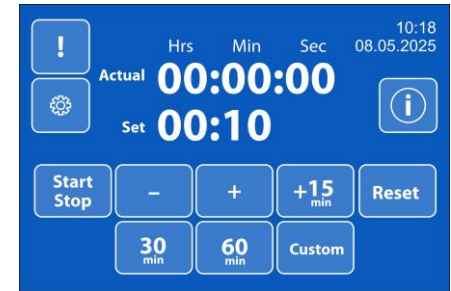


Figure 4. Main display screen

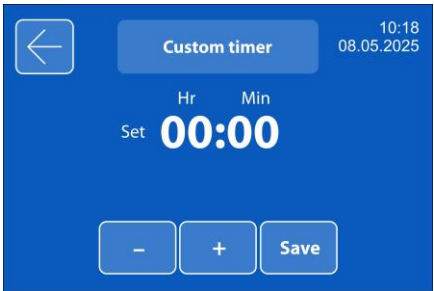


Figure 5. Custom timer

5.3.3. To start the UV exposition and the timer, press any of the following:

- The **Start Stop** button, timer starts with set values. If the timer is set to zero, the started UV exposition will run until it is stopped manually.
- The long press of **30 min** or **60 min** buttons, timer starts with 30 or 60 minutes, respectively.
- The long press of the **Custom** button, timer starts with the custom set values. If the custom timer is set to zero, the started UV exposition will run until it is stopped manually.

5.3.4. On display, the **Actual** timer starts. After reaching the set time, the timer will automatically turn off the open UV lamp.



Note. The recommended time for the exposition is two sessions of 30 minutes, once after switching on the box, once before operations inside. When using the **P-5** and **F-1** shelves, extend the exposition time to two sessions of 45 minutes.

5.3.5. The open UV lamp (and the timer) can be switched off by pressing the **Start Stop** button or by pressing the physical **UV-recirculator / UV-light button** to the left of the display.



Note. During the UV exposition, all screen buttons are locked, except for **Start Stop** and **Statistics**.



Note. Statistics, Settings and Alarms are described in section **Care and Maintenance**.

5.4. The box is ready for operations. Work in the box.



Note. Opening the front protective screen will switch off the open UV lamp automatically, but the timer will continue counting the exposition time.

5.4.1. Lift the front protective screen (fig. 6/5) up for work in the box. Models have different maximum opening heights (fig. 6/8), as listed in the **Specifications** section, and may be raised to the following positions:

- Model **UVC/T-AR** has a single opening height.
- Models **UVC/T-M-AR**, **UVT-B-AR** and **UVT-S-AR** has three protective screen positions – one-third, two-thirds and full opening height.



Note. Do not block the recirculator openings (fig. 6/2)!

5.4.2. To use electric devices inside the box, pull their power cable through the inlet and close the flap (fig. 6/6) or connect the power cable to a built-in mains socket (fig. 6/7, models with mains socket).



Caution! Overall consumed power of devices connected through internal mains sockets should not exceed 1000 W for 230V, or 600 W for 100–120 V.

5.5. After the task is done, close the front protective screen.

5.6. After finishing the operation press physical keys for UV and visible lights. Turn off the **Power** switch, if present. Disconnect the power cable from the mains.

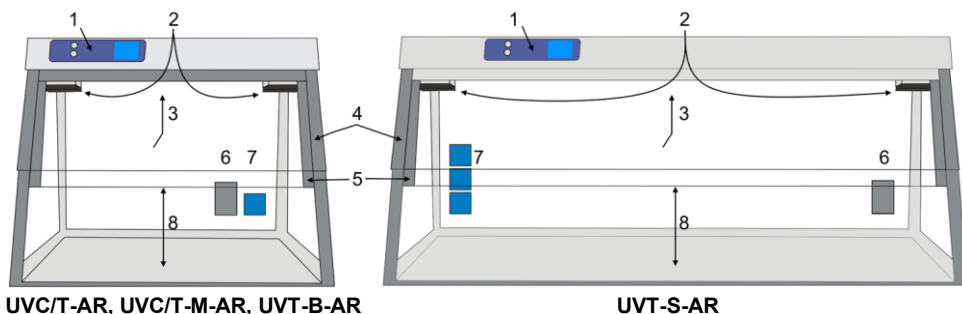


Figure 6. PCR cabinet, frontal view:

1. Control panel. 2. Recirculator openings. 3. Daylight lamp and open UV lamp(s).
4. Upper front panel. 5. Movable front protective screen (opened). 6. Cable inlet.
7. Power outlet(s) (not in UVC/T-AR). 8. Opening height.

6. Specifications

6.1. Biosan is committed to a continuous programme of improvement and reserves the right to alter design and specifications of the equipment without additional notice.

6.2. General specifications

Model		UVC/T-AR Compact	UVC/T-M-AR Compact	UVT-B-AR Compact	UVT-S-AR Double
Back panel		PMMA	Steel		
Side panels			Glass	Coated steel	Glass
Front panel and screen			Glass		
Working surface		Coated steel	Steel		
Open UV lamp		1x TUV 25W G13 UV-C			2x TUV 30W G13 UV-C
UV intensity		18 mW/cm ² /s			
Radiation type		Ultraviolet light (λ=253.7 nm), no ozone			
Time setting of direct UV exposure		Digital timer, 1 minute - 24 hours / non-stop (increment 1 minute)			
UV recirculator lamp		1x TUV 25W G13 UV-C			1x TUV 30W G13 UV-C
Visible light lamp		1x LED 8W			1x LED 12W
Thickness	side panels	4 mm	4 mm	2 mm	4 mm
	upper front panel	8 mm			
	protective screen	8 mm	4 mm	4 mm	5 mm
Optical transparency		92%	95%		
UV protection		> 99.90%	> 96%		
Noise level		< 45 dBA			< 47 dBA
Working surface		490x645 mm			500x1210 mm
Opening height		165 mm	190 mm (max 210 mm)		190 mm (max 220 mm)
Opening levels		Full height	1/3, 2/3 and full height		
Dimensions, WxDxH, mm		720x535x555	700x580x555		1250 x 600 x 590
Weight, accurate within ±10%	Net	21.4 kg	27.4 kg	28.8 kg	51 kg
	Gross	30 kg	36 kg	37.5 kg	62 kg
Laboratory table		All T & LT models			T-4L, LT-150, LT-180

6.3. Electrical specifications.

Model	UVC/T-AR	UVC/T-M-AR	UVT-B-AR	UVT-S-AR
Power supply inside (see 7.1)	Cable inlet	Cable inlet, 1 socket		Cable inlet, 3 sockets
Operating voltage, frequency	100–240 V, 50–60 Hz			
Power consumption	64 W			113 W
Fuse specifications (see 8.2)	Size Ø5 x 20 mm			
	For control box: M 3.15 A			
	–	For sockets: M 5 A		

6.4. Workroom requirements

Workroom description	Indoors, cold rooms and closed laboratory rooms
Temperature range	+4 °C ... +40 °C
Humidity requirements	Maximum of 80% RH at 31 °C, decreasing linearly to 50% RH at 40 °C. Non-condensing atmosphere.
Operating height, maximum	2000 m ASL
Overvoltage category	II
Pollution degree	2

6.5. Used materials.

- PMMA – polymethylmethacrylate (acrylic) glass, Altuglas® EX.
- Glass – clear film (0.1 mm) coated glass, Euroglas®.
- Steel – stainless polished steel.
- Coated steel – white enamel powder coated steel.

6.6. Box dimensions (figure 7). Outer and inner dimensions, opening heights.

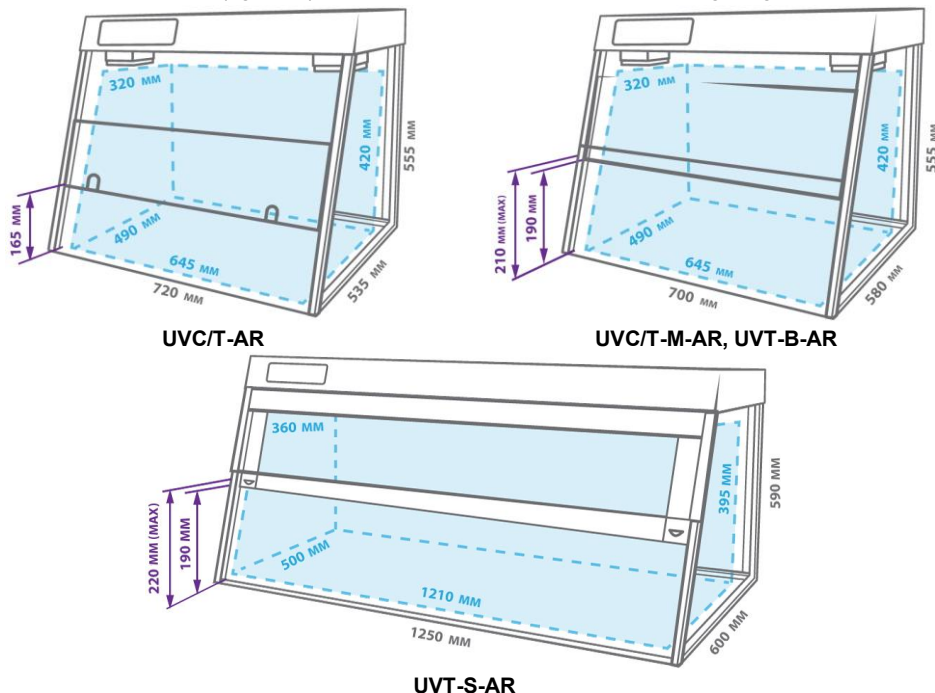


Figure 7. Box dimensions

7. Ordering information

7.1. Models and versions available:

Model	Version	Power cable plug and in-box socket(s)	Catalogue number
UVC/T-AR	V.5AD (assembled); V.6AD (disassembled)	EU (type E/F)	BS-040102-A13 (V.5AD); BS-040102-A22 (V.6AD)
		UK (type G)	BS-040102-A14 (V.5AD); BS-040102-A23 (V.6AD)
		US (type B)	BS-040102-A16 (V.5AD); BS-040102-A24 (V.6AD)
		AU (type I)	BS-040102-A15 (V.5AD)
UVC/T-M-AR	V.7A02	EU (type E/F)	BS-040104-A30
	V.7A03	UK (type G)	BS-040104-A31
	V.7A04	US (type B)	BS-040104-A32
	V.7AI	IL (type H)	On request
	V.7A12	AU (type I)	BS-040104-A33
	V.7A21	CH (type J)	On request
UVT-B-AR	V.5AD	EU (type E/F)	BS-040109-A20
	V.5AB	UK (type G)	BS-040109-A21
	V.5AE	US (type B)	BS-040109-A23
	V.5AH	AU (type I)	On request
	V.5AI	IL (type H)	On request
	V.5A12	AU (type I)	BS-040109-A24
UVT-S-AR	V.6AA	EU (type E/F)	BS-040107-A07
	V.6AB	UK (type G)	BS-040107-A08
	V.6A7	US (type B)	BS-040107-A10
	V.6A04	AU (type I)	BS-040107-A11



Note. All devices have 1 inlet for cables.

Number of power sockets in the box depends on the model: none in **UVC/T-AR**, 1 in **UVC/T-M-AR** & **UVT-B-AR**, 3 in **UVT-S-AR**. By default, power cables and in-box sockets match.



Caution! Overall consumed power of devices connected through internal mains sockets should not exceed 1000 W for 230V~, or 600 W for 100–120 V~.

7.2. To inquire about or order the optional accessories, contact Biosan or your local Biosan representative.

7.2.1. Optional accessories:

Optional accessories	Catalogue number
PDS-250 , DNA/RNA decontamination solution spray, 250 ml	BS-040107-DK
PDS-10L , DNA/RNA decontamination solution spray, 10 L	BS-040107-FK
P-5 , shelf for 5 pipettes	BS-040104-CK
F-1 , shelf for samples and reagents, work area 400x140 mm	BS-040104-DK

Optional accessories	Catalogue number
LT-120 , height adjustable desk, dimensions 1200x600x(625–1280) mm	BS-040107-EK
LT-150 , height adjustable desk, dimensions 1500x600x(625–1280) mm	BS-040107-JK
LT-180 , height adjustable desk, dimensions 1800x600x(625–1280) mm	BS-040107-HK
T-4 , movable table with a drawer and wheel locks, dimensions 800x600x770 mm	BS-040101-BK
T-4L , movable table with a drawer and wheel locks, dimensions 1290x600x770 mm	BS-040107-BK
LF-1 , laboratory chest of drawers with 5 drawers	BS-050101-BK



Note. **P-5 & F-1** shelves are not available for **UVC/T-AR**.

UVT-S-AR is not compatible with **LT-120** and **T-4** tables.

8. Care and maintenance

8.1. Service.

8.1.1. If the unit is disabled (e.g., lamps not working, no reaction on key and switch presses) or requires maintenance, disconnect the unit from the mains and contact Biosan or your local Biosan representative.

8.1.2. All maintenance and repair operations (except listed below) must be performed only by qualified and specially trained personnel.

8.1.3. Operating integrity check. If the unit follows the procedure described in section **Operation**, then no additional checks are required.

8.1.4. **UV lamp statistics.** Information is available by pressing the **Statistics** button (the circled *i*, figure 4). In this separate screen (figure 8), usage is shown in hours and minutes. Two buttons below lead to screens with QR codes: **User manual** links to this manual, **Consumables** – to available consumable resources. Press the  button to return to the previous screen.

8.1.5. **Alarms** raised by the unit are available by pressing the **Alarm** button (exclamation mark, figure 4). Alarms notify that UV lamp useful time is nearing its end (see **8.3**) and dust filters need replacement or cleaning (see **8.4**). Press the **OK** button to return to the previous screen. Sample alarms can be seen in figure 9.

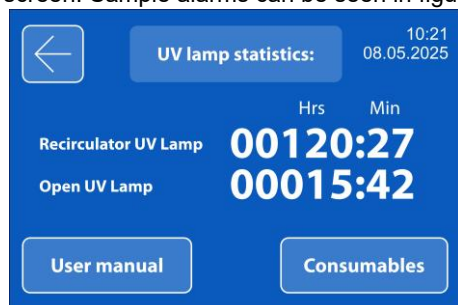


Figure 8. UV lamp statistics



Figure 9. Sample alarms

8.1.6. **Settings menu** (figure 10) can be accessed by pressing the **Settings** button (cog-wheel, figure 4). Available options are:

- **Date and Time** button, for setting correct date and time, see 5.1.5.
- **Service menu** button, accessed by pressing and holding for 8 seconds. In this submenu (figure 11), there are buttons for resetting UV lamp life timers, also activated by pressing and holding for 8 seconds. These actions reset statistics and relevant alarms.

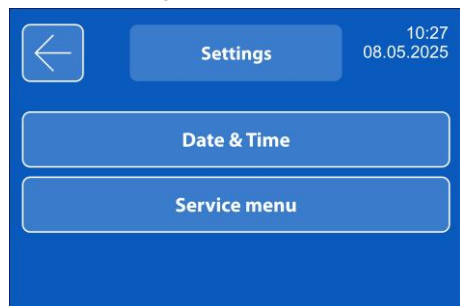


Figure 10. Settings menu

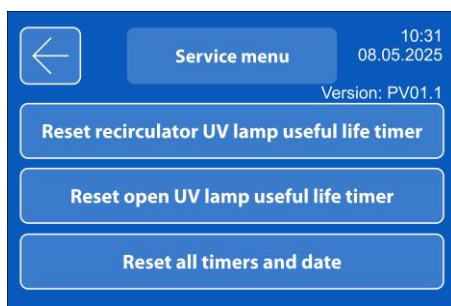


Figure 11. Service menu

8.2. Fuse replacement.

8.2.1. Fuse for the control box. Disconnect the unit from the electric circuit. Remove the power cable from its socket on the rear side of the unit. Open the fuse holder by pulling out the holder (fig. 12, compact models) or by screwing off the holder lid marked FU2 (fig. 14, model **UVT-S-AR**). Check the fuse and replace, if necessary, see 6.3.

8.2.2. Fuse for the mains outlets (for models with built-in mains outlets). Disconnect the unit from the electric circuit. Open the fuse holder by screwing off the holder lid (fig. 13/2 or 14/FU1). Check the fuse and replace, if necessary, see 6.3.

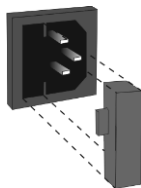


Figure 12.

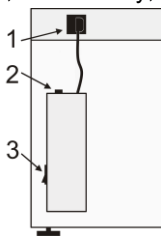


Figure 13.

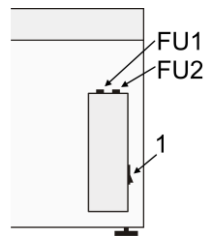


Figure 14.

8.3. **UV lamp replacement.** The average lifetime of UV lamps supplied is 9000 hrs. Replacement is necessary after the lamp stops functioning or at the end of manufacturer specified lifetime.



Note.

To visually check the operation of the covered UV recirculator, in the centre of its cover, look for the indicator (fig. 1/3), it will be lit from inside.

8.4. **Dust filter replacement.** The dust filters (fig. 6/2) on either end of the UV recirculator with the hidden UV lamp should be checked monthly and cleaned or replaced when they become clogged. To check, replace or clean the filters, simply unclip the covers, fit a new filter if necessary or rinse current filters in water, dry and place back. Clip covers back in place.

8.5. Cleaning and decontamination. Disconnect from the mains before cleaning.



Caution! Do not let liquid get into the control box.

8.5.1. Touchscreens have a soft membrane. Do not use organic or abrasive cleaners. Wipe dry the excess water with clean, soft cloth or sponge.

8.5.2. Model **UVC/T-AR** and shelves **P-5** and **F-1**, full cleaning. Transparent panels and shelves are made of acrylic glass (polymethylmethacrylate Altuglas® EX) and are prone to scratches and optical transmission capacity decrease if improperly cleaned. Use mild soap and water with a soft cloth or sponge for cleaning the panels. Rinse the remaining washing solution with distilled water. Wipe dry the excess water with clean, soft cloth or sponge.

8.5.3. For decontamination, we recommend a special DNA/RNA removing solution (e.g. Biosan **PDS-250**). After washing the inside parts of the box, it is necessary to rub them dry.



Caution! Never use organic solvent-based compounds, pure alcohol, alcohol-containing cleaners (more than 20%) or ammonia containing cleaners for acrylic glass. Do not use abrasives. The table below shows the interaction of acrylic glass with ethyl alcohol and other solutions.

Solution	Interaction with acrylic glass
Biosan PDS-250	No effect
DNA-Exitus Plus™	No effect
RNase-Exitus Plus™	No effect
Hydrogen peroxide H ₂ O ₂ 6%	No effect
Ethanol C ₂ H ₅ OH ≤ 20%	No effect
Ethanol C ₂ H ₅ OH > 20%	Increasing effect. Do not use.



Note. Crazing is a normal process for acrylic glass panels exposed to open UV light. Crazing will occur over time. Crazing may occur within the warranty period and is regarded as normal wear and not covered by the warranty. Acrylic glass panels can be replaced.

8.5.4. Models **UVC/T-M-AR**, **UVT-B-AR** and **UVT-S-AR**, external cleaning. Glass panels on the outside are coated in 0.1 mm (4 mil) clear film for UV protection. Use mild soap and water with a soft cloth or sponge for cleaning the panels. Rinse the remaining washing solution with distilled water. Wipe dry the excess water with clean, soft cloth or sponge. Do not use ethanol or other organic solvents.

8.5.5. Models **UVC/T-M-AR**, **UVT-B-AR** and **UVT-S-AR**, internal cleaning and decontamination. The following substances are recommended to use for decontamination: 75% ethanol, sodium hypochlorite solution, DNA/RNA removing solution (e.g. Biosan **PDS-250**). After washing the inside parts of the box, it is necessary to wipe them dry.

8.5.6. **Autoclaving.** The unit and its accessories are not autoclavable.

8.6. **Disposal of the unit.** The user is responsible for decontaminating the unit when it is taken out of service. Dispose of the unit as electronic equipment in accordance with the relevant national laws.

9. Storage and transportation

- 9.1. Store and transport the unit in a horizontal position (see package label) at ambient temperatures between -20°C and +60°C and maximum relative humidity of 80%.
- 9.2. After transportation or storage and before connecting it to the electric circuit, keep the unit under room temperature for 2-3 hrs.
- 9.3. Extended storage of the unit does not require special procedures.

10. Warranty

- 10.1. The Manufacturer guarantees the compliance of the unit with the requirements of Specifications, provided the Customer follows the operation, storage and transportation instructions.
- 10.2. The warranted service life of the unit from the date of its delivery to the Customer is 24 months. For extended warranty, see **10.5**.
- 10.3. Warranty covers only the units transported in the original package.
- 10.4. If any manufacturing defects are discovered by the Customer, an unsatisfactory equipment report shall be compiled, certified and sent to the local distributor address. To obtain the claim form, visit **Technical support** page on our website at link below.
- 10.5. Extended warranty.
- For **UVC/T-M-AR & UVT-S-AR**, the *Premium* class model, one year of extended warranty is available free of charge after registration, during 6 months from the date of sale. Online registration form can be found in section **Warranty registration** on our website at the link below.
 - For **UVC/T-AR & UVT-B-AR**, the *Basic Plus* class model, extended warranty is a paid service. Contact your local Biosan representative or our service department through the **Technical support** section on our website at the link below.
- 10.6. Description of the classes of our products is available in the **Product class description** section on our website at the link below.

Technical support



biosan.lv/en/support

Registration



biosan.lv/register-en

Product class description



biosan.lv/classes-en

- 10.7. The following information will be required in the event that warranty or post-warranty service comes necessary. Complete the table below and retain for your records.

Model	Serial number	Date of sale
UVC/T-AR, UVT-B-AR, UVC/T-M-AR, UVT-S-AR, PCR cabinet		

- 10.8. **Production date.** Production date is placed in the serial number, on the label of the unit. Serial number consists of 14 digits styled XXXXXYYMMZZZZ, where XXXXXX is model code, YY and MM – year and month of production, ZZZZ – unit number.

11. EU Declaration of conformity

11.1. PCR cabinets **UVC/T-AR**, **UVC/T-M-AR**, **UVT-B-AR** and **UVT-S-AR** are in conformity with the following relevant Union legislations:

LVD 2014/35/EU	LVS EN 61010-1:2011 + A1:2019 Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements.
EMC 2014/30/EU	LVS EN 61326-1:2021 Electrical equipment for measurement, control and laboratory use. EMC requirements. General requirements.
Directive 2011/65/EU RoHS3 2015/863/EU	Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
WEEE 2012/19/EU	Directive on waste electrical and electronic equipment.

11.2. Declaration of Conformity is available for download on the page for the relevant model on our website by links below, in the **Downloads** section:



[UVC/T-AR](#)



[UVC/T-M-AR](#)



[UVT-B-AR](#)



[UVT-S-AR](#)



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