# UV–Cabinets for PCR Operations

Medical–Biological
Research & Technologies

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

All models are bench-top type, made of metal framework, glass (or plexiglas) walls and working surface painted with powder enamel or made of stainless steel (See the specifications table on the page 82).

UV–Cabinets 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 15–30 min of exposure. A digital timer controls duration of the direct UV irradiation. A daylight lamp provides proper illumination of the working surface.

*UVC/T-M-AR*

UV–Cabinets are equipped with a flow-type bactericidal **UV cleaner–recirculator AR**, which provides constant decontamination inside the cabinet during operation. They are recommended for operations with DNA/RNA amplicons.

UV cleaner–recirculator AR consists of a UV lamp, a fan and dust filters organized in a special body so that a user working with a UV–Cabinet is protected against UV light. Recirculator increases the maximum density of UV light making it sufficiently effective for DNA/RNA inactivation. The UV–recirculator processes 100 UV–Cabinet volumes per hour, creating permanent aseptic conditions of operation inside the UV–Cabinet.

*UVC/T-AR*

Specially assigned moving tables (with wheel locks) with a drawer are available on request. Two versions:

Ⓐ **T-4,** for single size UV–Cabinets,

Ⓑ **T-4L,** for double size UV–Cabinets (on page 81).

Ⓐ *UVT-B-AR on the table T-4*

| **Advantages of Biosan UV–Cabinets:** |
|---|
| Ozone free high density UV decontamination |
| Long living UV lamps (8,000 hours average) |
| Automatic switch off of UV-lamps when the protective screen is opened |
| Bactericidal flow-type recirculator providing permanent decontamination inside UV –cabinet during operation |
| Shockproof glass walls |
| Low noise, low energy consumption |
| Tables for installation of UV–Cabinets |
| UV–Cabinets with the bactericidal **UV cleaner–recirculator AR** is the patented Biosan solution |

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**B** *UVT-S-AR on the double size table T-4L*

*UVT-S-AR*

*Product video is available on the website*

*Development and evaluation of DNA amplicon quantification video is available on the website*

**See the Development and evaluation of DNA amplicon quantification. Case study: UV–Cabinet with UV Air Recirculator UVC/T-M-AR and Class II Biological Safety Cabinets on page 110**

| Catalogue number: | |
|---|---|
| **UVC/T-AR with inlet** | BS-040102-AAA |
| **UVT-B-AR with internal socket** | BS-040109-AAA |
| **UVT-B-AR with inlet** | BS-040109-A05 |
| **UVC/T-M-AR with inlet** | BS-040104-AAA |
| **UVC/T-M-AR with internal socket** | BS-040104-A06 |

| Catalogue number: | |
|---|---|
| **UVT-S-AR with internal sockets** | BS-040107-AAA |
| **T-4** | BS-040101-BK |
| **T-4L** | BS-040107-BK |

# UV–Cabinets for PCR Operations Specifications

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| **Specifications:** |  |  |  |  |
|---|---|---|---|---|
| **Model** | **UVC/T-AR (compact)** | **UVC/T-M-AR (compact)** | **UVT-B-AR (compact)** | **UVT-S-AR (double size )** |
| Walls material | Plexiglas: Polymethyl methacrylate (ALTUGLAS EX) | Rear: stainless steel Sides and front: glass (EUROGLASS, Germany) | Rear: stainless steel, Sides: steel with chemical resistant powder coating Front: glass (EUROGLASS, Germany) | Rear: stainless steel Sides and front: glass (EUROGLASS, Germany) |
| Working surface material | Steel with chemicals resistant powder coating | Stainless steel | | |
| Open UV-lamp | 1×25W built-in bactericidal (Philips), TUV25WG13 UV-C | | | 2×30W built-in bactericidal lamps (Philips), TUV30WG13 UV-C |
| UV radiation level | 15 mW / $cm^2$ / sec | | | |
| Radiation type | UV (λ = 253.7 nm), ozone-free | | | |
| Digital time setting of direct UV exposure | 0–24 hrs / non–stop (increment 1 min) | | | |
| UV–recirculator | 1×25 W (efficiency >99% per 1 hour) | | | 1×30 W (efficiency >99% per 1 hour) |
| Daylight lamp (for working area illumination) | 1×TLD-15W | | | 1×TLD-30W |
| Thickness of side panels | 4 mm | 4 mm | 2 mm | 4 mm |
| Thickness of upper front panel | 8 mm | | | |
| Thickness of the front protective screen | 8 mm | 4 mm | 4 mm | 5 mm |
| Optical transmission | 92% | 95% | | |
| UV protection | >99.90% Polymethyl methacrylate ALTUGLAS EX | >96% UV-protection film, type 4 MIL CLEAR | | |
| Working area dimensions | 650×475 mm | 650×475 mm | 650×475 mm | 1200×520 mm |
| Safety features | Automatic open UV-lamp switch off when screen is open | | | |
| Power outlets inside the unit | Inlet for power cords | Inlet for power cords or 1 Built-in socket, max. 1,000 W (pls, order respectively) | | 3 Built-in sockets max. 1,000 W |
| Nominal operating voltage | 230 V, 50 Hz or 120 V, 60 Hz | | | |
| Power consumption (230 / 120 V) | 253 VA (1.2 A) / 372 VA (2 A) | | | 315 VA (1.4 A) / 530 VA (4.5 A) |
| Overall dimensions (W×D×H) | 690×535×555 mm | 690×535×555 mm | 690×585×555 mm | 1245×585×585 mm |
| Optional table | **T-4** (W×D×H : 800×600×750 mm) | | | **T-4L** (W×D×H : 1290×600×770 mm |
| Weight (net / gross) | 23 / 33 kg | 31 / 39 kg | 32 / 42 kg | 58 / 68.5 kg |

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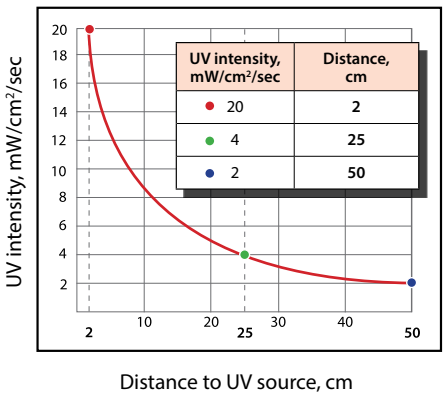
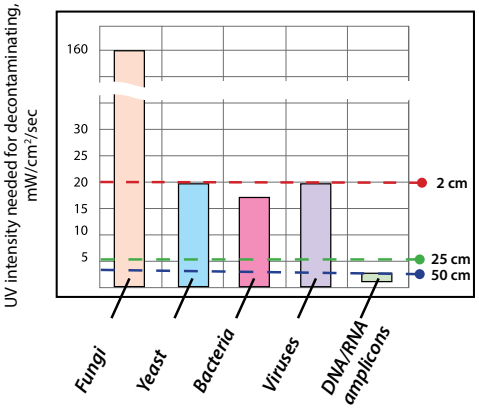
# UV–Cabinets for PCR Operations

*Germicidal, shortwave (254 nm) ultraviolet energy is used for complete destruction of various biological agents*




per 1 second




per 15-30 minutes

**Yeast**

Saccharomyces cerevisiae
Brewer's yeast

**Bacteria**

Clostridium tetani
Mycobacterium tuberculosis
Salmonella
Dysentery bacilli
Staphylococcus aureus
Streptococcus hemolyticus

**Viruses**

Bacteriophage (E. coli)
Influenza

*Average dosage for different surfaces*

| Surface | Dosage after 15 min | Dosage after 30 min |
|---|---|---|
| Working surface (40-60 cm) | 1,800-2,700 mW/cm² | 3,600-5,400 mW/cm² |
| Side walls (10-60 cm) | 1,800-5,400 mW/cm² | 3,600-9,000 mW/cm² |
| Front window (10-60 cm) | 1,800-5,400 mW/cm² | 3,600-9,000 mW/cm² |

**See the article on page 110 for full information**

***UVC/T-AR***

***UVC/T-M-AR***

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