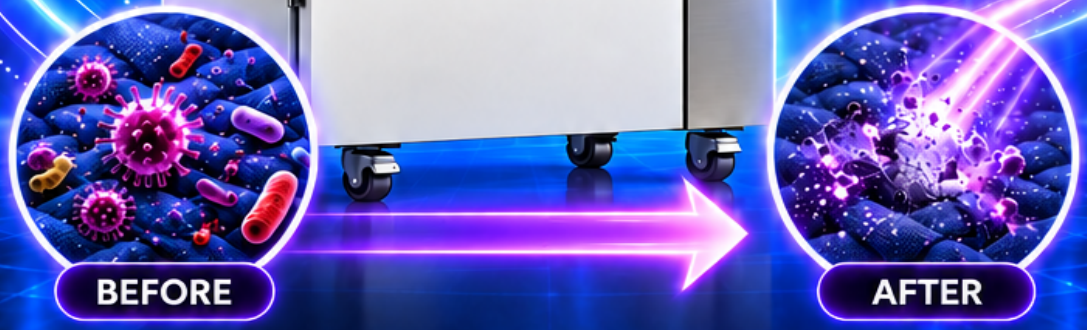
OLEY® | MRT

WHO CLEANS WHAT PROTECTS YOU?

Specialized hygiene cabinet for lead aprons & radiation protection equipment



Inside the cabinet



Hygiene for your protective equipment

Illustrative visualization

Discover a new standard of equipment hygiene.

oleymrt.com
oleytibbiurunler.com
info@oleymrt.com
info@oleytibbiurunler.com
Tel: +90 216 611 93 33 / 34
WhatsApp: +90 (544) 718 84 40

OLEY® | MRT

COMPLETE HYGIENE FOR RADIATION PROTECTION EQUIPMENT

Purpose-built for lead aprons and protective accessories



15-MINUTE CYCLE
Load, secure, start — automated cycle.

CHEMICAL-FREE PROCESS
Designed for daily lead-apron hygiene.

EQUIPMENT CAPACITY
4 aprons, 4 glasses and 4 thyroid collars.

FILTERED AIRFLOW
1 HEPA filter + 2 activated carbon filters.

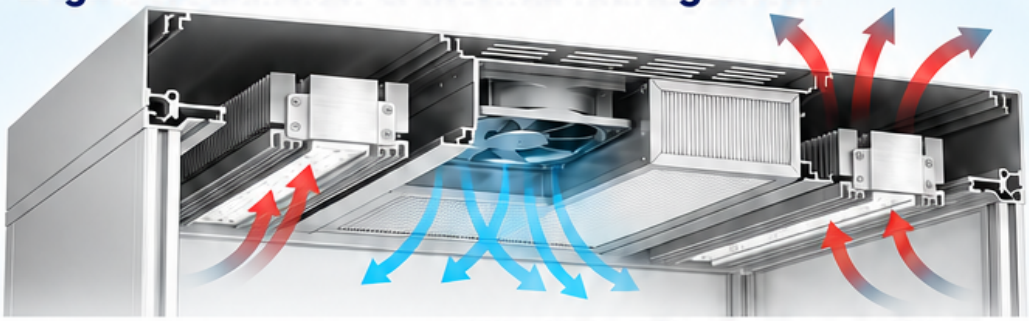
ADVANCED COOLING
Dedicated heat sinks and air circulation fan.

CONTROLLED INTERNAL COVERAGE
Reflective interior with distributed light sources.

SECURE ACCESS
RFID or password access and door safety switch.

SMART CONTROL & MEMORY
Digital control and 1,500-use memory.

Engineered airflow & thermal management



1700 × 950 × 750 mm | Approx. 110 kg

1. **LOAD** — Place lead aprons and accessories inside.
2. **SECURE & START** — Close the door and start the automated cycle.
3. **CYCLE COMPLETE** — Equipment is ready for use.

oleymrt.com | oleytibbiurunler.com | info@oleymrt.com | info@oleytibbiurunler.com
WhatsApp: +90 (544) 718 84 40

What is the OLEY MRT UVC Disinfection Cabinet?

A hygiene system combining light, air management and control technologies in one enclosed cabinet.



Designed for radiation protective equipment

OLEY MRT is designed to support the surface hygiene of lead aprons, thyroid shields and radiation protective eyewear. Equipment is suspended inside the cabinet, where UV-C LEDs, reflective interior surfaces, air circulation and electronic controls work together.

Advanced technology through integrated design

Equipment geometry, heat dissipation, door safety, access authorization and cycle tracking are designed as an integrated system. OLEY MRT brings a continuously evolving engineering approach to controlled equipment hygiene.

Why is it needed?

Shared equipment needs a planned, repeatable hygiene workflow.



Visible cleanliness alone does not establish microbiological status. Care of shared protective equipment should be a planned part of the clinical workflow.

Need	OLEY MRT approach
Multiple users	Supports a defined cabinet process between uses.
Surface accessibility	Dedicated internal layout for separated hanging and multidirectional light distribution.
Process tracking	Authorized access and digital cycle tracking.
Standardized equipment care	Consistent loading, program selection, monitoring and release steps.

Where is it used?

Radiology and fluoroscopy departments, angiography laboratories, operating rooms and other clinical areas using radiation protective equipment. Implementation should be planned with the infection control team and the equipment manufacturer’s care instructions.

Mechanical features

A robust enclosure, ergonomic equipment layout and mobility for clinical workflows.



1700 × 950 × 750 mm

Height × width × depth.

110 kg ±2 kg

A stable, robust industrial structure.

4 + 4 + 4 capacity

4 aprons, 4 thyroid shields and 4 glasses.

220 mm hanger spacing

Ergonomic spacing between items.

Lockable castors

Easy movement and secure positioning.

Reflective interior

Polished aluminium and a coated steel body.

Enclosure • Dedicated hangers • Reflective interior • Mobility

Optics, power and control

System parameters at a glance.

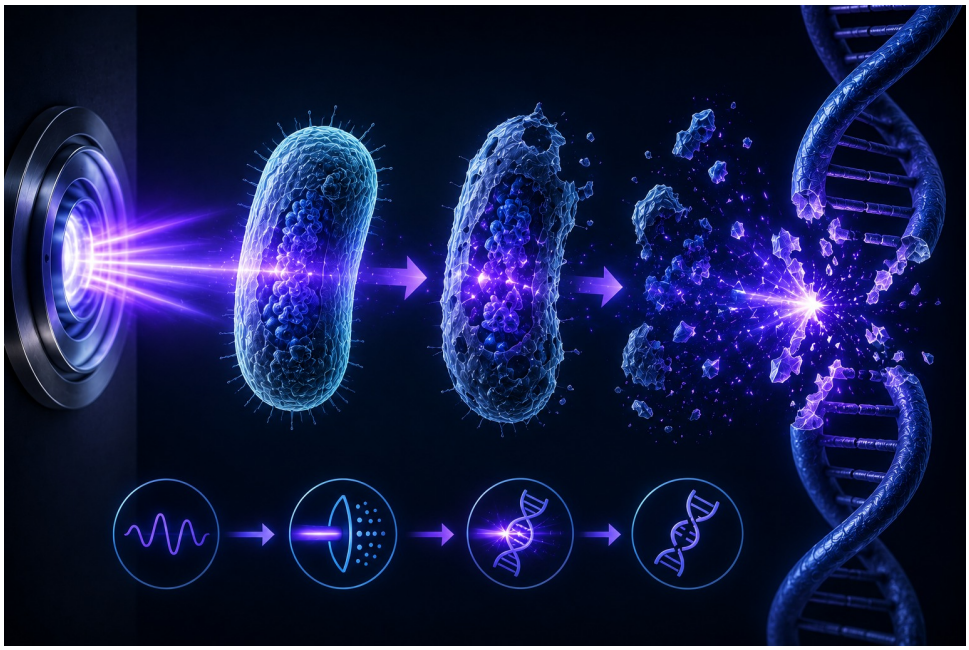
Parameter	Specification
Light source	40 UV-C LEDs
Typical wavelength	275 nm
LED layout	8 top + 8 bottom + 24 rear LEDs
Total optical output	At least 600 mW
Interior optical surface	Highly reflective polished aluminium
Programs	5 / 10 / 15 minutes
Power supply	220-230 V AC
Access and control	RFID / password; digital panel and mechanical controls
Cycle memory	1,500 records
Filtration and cooling	1 HEPA + 2 activated carbon filters; brushless fan and heat sinks

Technologies working together

Optical distribution, electronic control and thermal management bring equipment hygiene into one controlled workflow.

How does 275 nm UV-C work?

From photons to biological effects.



Targeting microbial replication

UV-C energy can cause photochemical damage to microbial nucleic acids. Disruption of DNA/RNA function can reduce or stop the ability to replicate. The effect depends on wavelength, the dose reaching the surface and the properties of the microorganism.

Surface dose is decisive

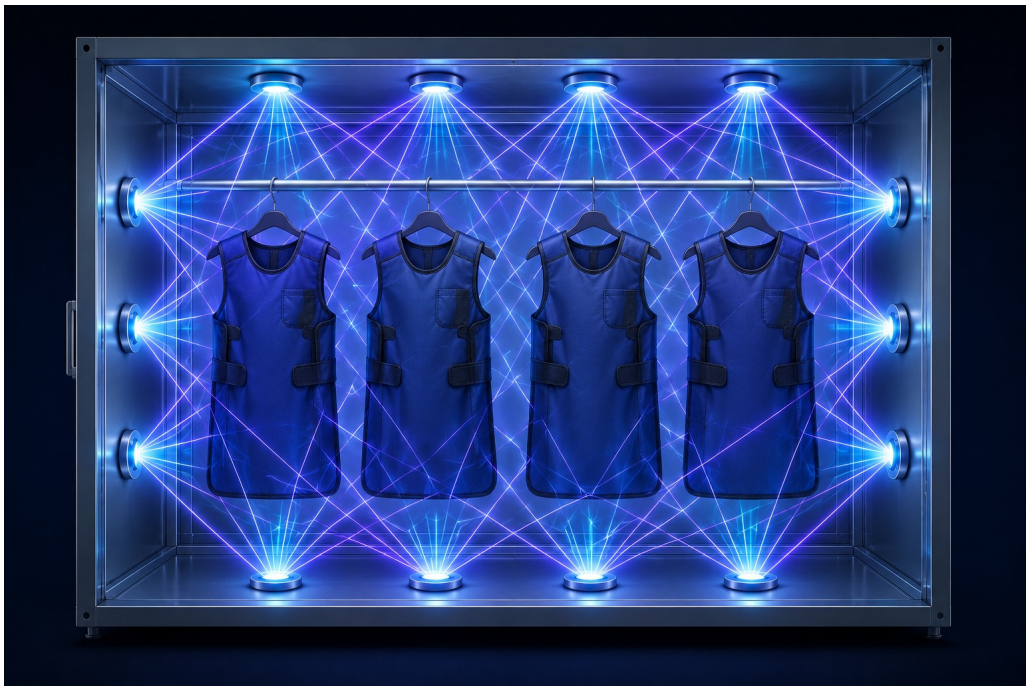
Simply leaving an LED on is not sufficient. Source-to-surface distance, direction, reflections, folds, soil and overlap affect the result. Visible blood and organic soil must first be removed using equipment-compatible methods.

Light-based surface disinfection

275 nm UV-C LED technology provides a surface disinfection approach aimed at microbial inactivation, without adding liquid during the UV-C stage.

360° zero-shadow principle

Multidirectional light distribution inside the cabinet.



Access from several directions

Top, bottom and rear LEDs direct light toward different equipment surfaces. Reflective panels create indirect light paths alongside direct illumination. Separated hanging is an integral part of this design.

The zero-shadow approach

Multidirectional LED placement and reflective internal panels help reduce shadowing around equipment. Keeping surfaces exposed and items separated supports the optical architecture.

360° optical design

Direct and reflected light paths create multidirectional treatment within the cabinet. Dedicated hangers complement the optical design through controlled equipment placement.

LED matrix and dose

Optical regions working together around the equipment.

Optical region	LED layout	Design purpose
Top panel	8 LEDs	Access to upper surfaces and shoulder areas
Bottom panel	8 LEDs	Light directed toward lower surfaces
Rear panel	24 LEDs / 5 corridors	Light distribution over the cabinet height
Reflective interior	Polished aluminium	Supporting indirect light paths

The basis of dose calculation

Dose (mJ/cm²) = surface irradiance (mW/cm²) × time (s). With varying irradiance, dose is the energy accumulated over time. Calculation uses measurement at the target surface, rather than total LED output.

Why measure inside the cabinet?

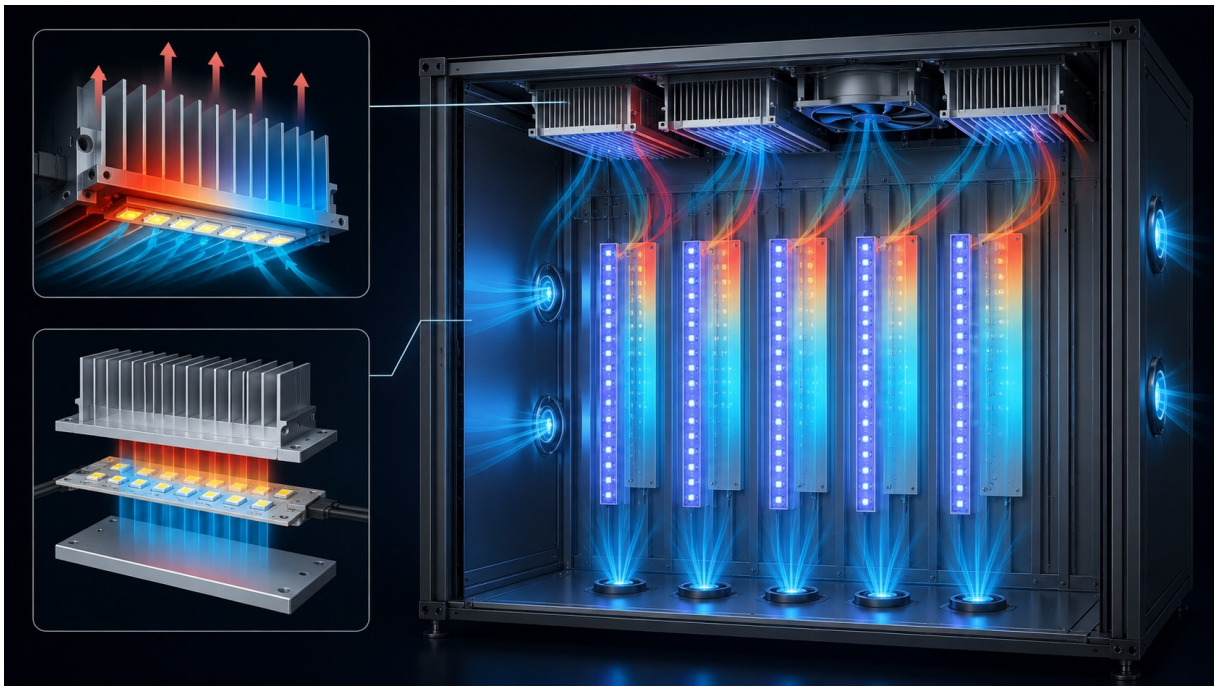
Different layouts can produce different surface doses with the same LED power. Low-dose critical points should be identified in a loaded cabinet; measurement, sample positioning and microbiological validation should be evaluated together.

Geometry and equipment layout

LED zones, hanger spacing and internal geometry work together. Their integration forms the basis of the cabinet’s optical distribution.

Cooling and thermal management

Supporting stable operating conditions.



Heat sinks

Heat generated by the LEDs is transferred through thermal interfaces to aluminium heat sinks. Controlling component temperature helps maintain stable optical output and electronic operation.

Brushless fan support

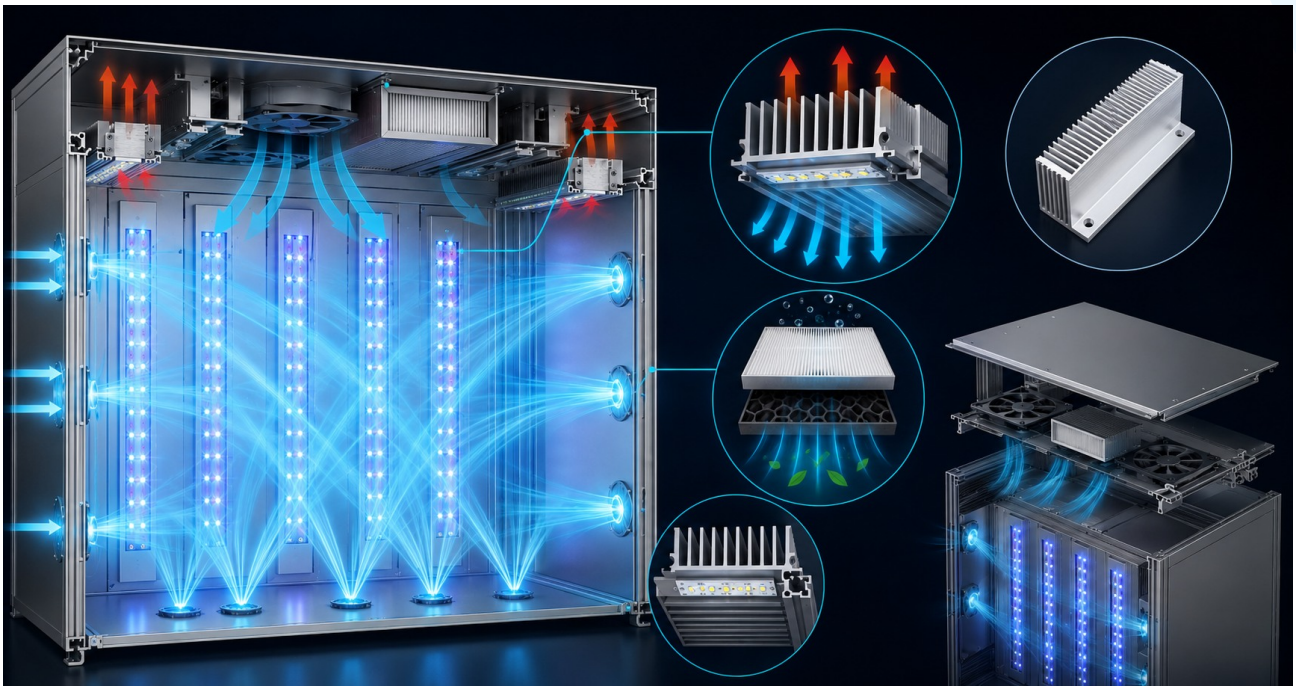
Fan-driven airflow helps remove heat and circulate air inside the cabinet. Fans, air paths and filters work as a system; a blocked filter or grille can alter thermal behaviour.

Active temperature control

NTC temperature sensors, electronic controls and cooling work together. Thermal monitoring supports the management of component operating conditions.

Fans and filtration

Particle and odour management within one system.



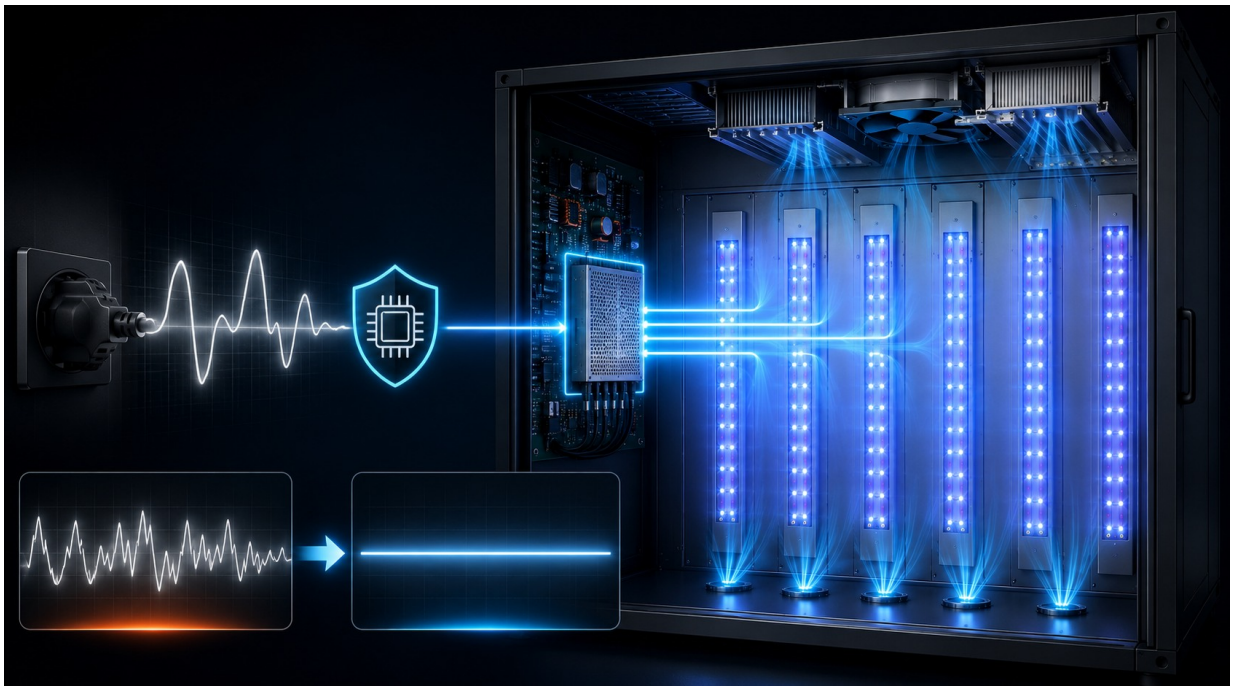
Component	Function
Brushless fan	Supports air circulation and heat removal.
HEPA filter	Helps capture particles in the airflow.
2 activated carbon filters	Support adsorption of odour components.
Air paths	Maintain airflow inside the cabinet.

Integrated air management

The circulation fan, HEPA filter and activated carbon filters work together. Air movement, particle capture and odour control are considered within the same cabinet architecture.

Power control

Controlled supply and electronic monitoring.



Constant-current LED driver

Constant-current driver architecture supports stable LED operation. Electrical supply and thermal management are considered together as key elements of controlled optical treatment.

Electrical protection

Protective earthing, fusing and controlled power supply complement the system’s electrical safety approach. Short-circuit and overload protection help protect the electronics.

Programmed energy use

Timed programs manage light treatment within a defined cycle. At the end of the selected time, UV-C treatment stops and the cycle concludes in a controlled manner.

UV-C safety chain

An enclosed cabinet, controlled access and an automatic door interlock.



DOOR CLOSED

Controlled UV-C cycle

IF THE DOOR OPENS

UV-C switches off automatically

Enclosed process

Light treatment takes place inside the cabinet.

Protected viewing window

A UV-C protective window in an enclosed space.

Magnetic door control

UV-C cuts off when the door opens.

Authorized access

Access by RFID card or password.

Timed control

Light treatment ends with the program.

Electronic monitoring

Cycle status is monitored on the panel.

Never bypass the door sensor. Never look directly at UV-C.

RFID, records and correct loading

An organized workflow from authorized access to equipment placement.



Card or password

Secure access for authorized users.

1,500-cycle memory

Digital memory for cycle tracking.

Dedicated hangers

Hang aprons separately, without folding.

Exposed surfaces

Reduce overlap and contact between items.

BEFORE LOADING

Remove visible soil using a method compatible with the equipment. Place eyewear and thyroid shields in their dedicated holders; keep LEDs and air paths unobstructed.

Step-by-step operation

Load. Start securely. Monitor completion.

1



AUTHORIZED ACCESS

Present your RFID card or enter your password.

2



LOAD THE EQUIPMENT

Hang aprons separately and place accessories in their dedicated holders.

3



CLOSE THE DOOR

Check the door and lock status. Select the appropriate program.

4



START THE CYCLE

Choose 5, 10 or 15 minutes according to your approved application plan.

5



CHECK COMPLETION

Remove equipment after UV-C has switched off. Store it to prevent recontamination.

OLEY MRT advantages

Light, air management and smart control work together for equipment hygiene.



275 nm UV-C LED

Targeted light treatment for surface hygiene.

No added liquid

No additional liquid during the UV-C stage.

Suspended equipment

Organized treatment without folding aprons.

Air and cooling

Filtration, circulation and thermal management.

Controlled access

Authorized use through RFID and password.

Programmed process

Easy monitoring of time and completion.

User-friendly equipment hygiene designed for clinical routines.

Before / after

Visual communication and microbiological verification.



What the visual communicates

The aim is to reduce microbial load that may develop on shared equipment surfaces through a controlled process. UV-C effects are not visible; colour, odour and fabric appearance cannot establish microbiological results.

How is it verified?

Appropriate sampling and microbiological methods compare the initial and post-process conditions. Organism, starting load, surface material, distance, dose, cycle, control samples and detection limit should be stated.

Blood and visible soil

UV-C does not physically remove visible soil. Blood and other organic material can reduce light access. Compatible pre-cleaning should therefore precede cabinet treatment.

Test data overview

In-vitro microbiological evaluation.

The in-vitro effect of 275-278 nm UV-C on bacteria and yeast was evaluated at different doses and exposure times.

Test parameter	Experimental information
Radiation	275-278 nm UV-C
Method	In vitro; 0.5 McFarland; suspension test
Replicates	3 parallel replicates; arithmetic mean
Bacterium 1	Escherichia coli / ATCC 25922
Bacterium 2	Staphylococcus epidermidis / ATCC 12228
Yeast	Candida albicans
Incubation	Bacteria: Nutrient Agar, 37°C / 24 h; yeast: Sabouraud Agar, 30 ±2°C / 48 h

Dose-response approach

Microbial responses measured at different doses and exposure times support evaluation of UV-C treatment. The following pages present two separate experimental series.

Low-dose results

Table 1 - in-vitro microbial inactivation.

Inactivation percentages measured by time and dose during 275-278 nm UV-C LED exposure.

Time (s)	Dose (mJ/cm²)	E. coli (%)	S. epidermidis (%)	C. albicans (%)
0	0.00	0.0	0.0	0.0
15	0.09	25.4	22.6	39.1
30	0.18	41.7	40.3	51.5
45	0.27	52.2	59.4	59.4
60	0.36	71.8	82.8	78.7
75	0.45	77.4	95.7	86.9
90	0.54	91.9	98.1	96.0
105	0.63	98.8	99.5	97.4
120	0.72	100.0	99.84	98.23

Results at 120 seconds

At 0.72 mJ/cm², reported inactivation is 100.0% for E. coli, 99.84% for S. epidermidis and 98.23% for C. albicans. Different organism responses show why one percentage should not represent all microorganisms.

Results within the experimental conditions

Percentages describe inactivation under the stated suspension-test conditions. A 100% result is interpreted within the measurement and detection limits of the experiment.

High-dose results

Table 2 - in-vitro microbial inactivation.

The high-dose experimental series evaluates the response of three microorganisms at different doses and exposure times.

Time (s)	Dose (mJ/cm²)	E. coli (%)	S. epidermidis (%)	C. albicans (%)
0	0.00	0.0	0.0	0.0
3	0.40	34.1	49.7	-
6	0.80	54.8	74.3	-
9	1.20	78.0	83.6	-
12	1.59	98.1	87.7	-
15	1.99	100.0	96.6	94.2
20	2.66	100.0	100.0	99.6
25	3.32	100.0	100.0	100.0
30	3.98	100.0	100.0	100.0

Read dose and time together

In this series, 100% is reported for E. coli at 1.99 mJ/cm², S. epidermidis at 2.66 mJ/cm² and C. albicans at 3.32 mJ/cm². These values apply only to the stated experimental series.

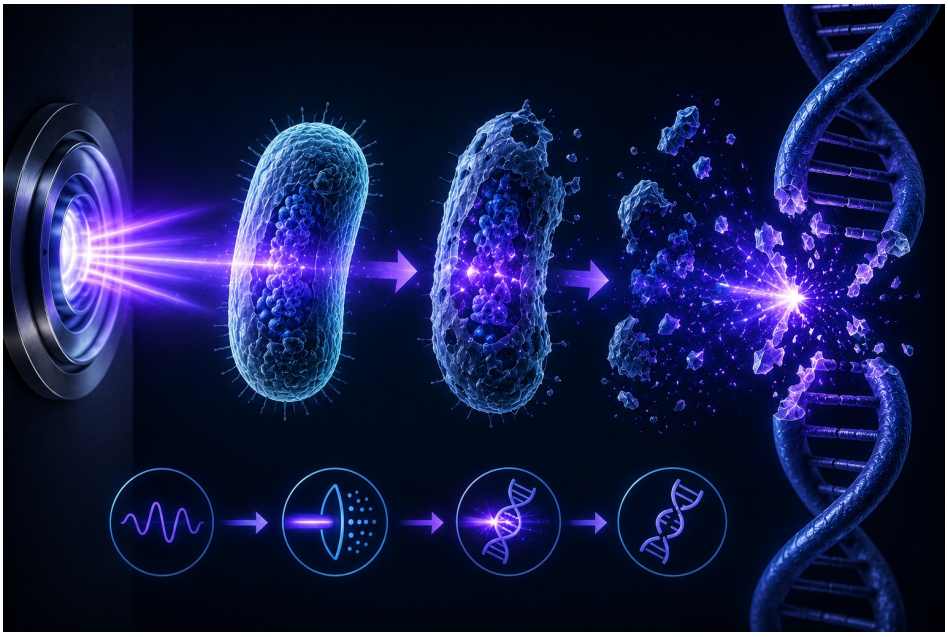
Dose and time work together

This table describes an in-vitro experimental series. In daily use, follow the recommended equipment layout and select the cabinet program appropriate to the application plan.

Inactivation and process control

A scientific approach to light-based treatment.

UV-C effects relate to the energy reaching a microorganism. Dose, exposure time and correct placement are evaluated together.



Key element	Role in the process
Wavelength	Targeted treatment using 275 nm UV-C LEDs.
Dose	Light energy accumulated at the surface over time.
Placement	Separated hanging supports light access.
Cycle control	Program time and completion monitored on the panel.

Technology and application together

Optical distribution, correct loading and controlled cycles help organize equipment hygiene within a consistent workflow.

Documents and certificates

CE conformity, quality management and medical product documentation.



CE DOCUMENTS

CE CONFORMITY

Product conformity documents and related documentation.



ISO 13485

MEDICAL QUALITY

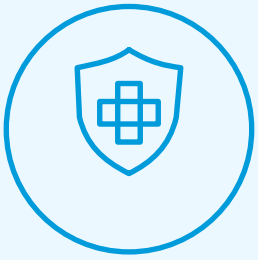
Quality management for medical products.



ISO 9001

QUALITY MANAGEMENT

Organizational quality management system certification.



MEDICAL

PRODUCT DOCUMENTS

Medical product certificates and technical documentation.

Quality • Conformity • Test reports • Medical documentation

Continuously evolving technology

An engineering approach spanning photonic design and smart control.



Optical engineering

LED layout and reflective interior surfaces.

Thermal management

Heat sinks and fan support.

Smart control

Authorization, timing and cycle management.

Continuous improvement

Field experience and engineering development.

ADVANCED TECHNOLOGY, INTEGRATED DESIGN

OLEY MRT brings light, airflow, cooling and safety together in one platform. Continuous improvement is at the heart of its product engineering.

OEM manufacturing available

Bring OLEY MRT engineering to your brand and product portfolio.



OEM production

The cabinet can be manufactured on an OEM basis.

Branding discussions

Discuss brand identity and product labelling.

Project specification

Define the technical configuration together.

International partners

Explore supply and distribution opportunities.

LET’S DISCUSS YOUR OEM PROJECT

Share your target market, branding needs and expected volumes. OEM scope, configuration, documentation and commercial terms are agreed for each project.

OLEY® | MRT

LET'S BUILD BETTER EQUIPMENT HYGIENE

Product enquiries • OEM manufacturing • International partnerships



Illustrative visualization

DISCOVER OLEY MRT

Contact us for product information and OEM opportunities.

oleymrt.com
oleytibbiurunler.com

info@oleymrt.com
info@oleytibbiurunler.com

Tel: +90 216 611 93 33 / 34

WhatsApp: +90 544 718 84 40

Meclis Mah. Aktürk Sok. No:4/A
Sancaktepe / Istanbul / Türkiye