

INTER medic

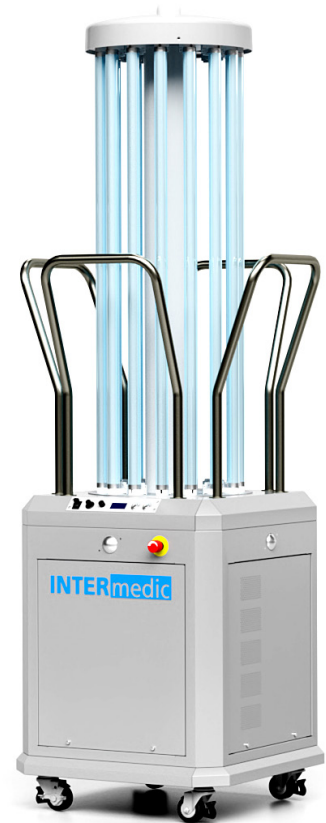
LASER & LIGHT SOLUTIONS



COMBAT
AIR
Airborne & Surface Disinfection

Versatile floor-based UVC disinfectant.
Inactivation of viruses, bacteria and fungi from surfaces and environments

COMVAT AIR is the newest version of COMVAT DUO₃, a high power UVC light disinfection system for **healthcare facilities** that need to strengthen its disinfection processes. A unique and versatile device for daily use in-office or in operating theaters as a **powerful surface disinfector** or as a **single air pass system** capable to deactivate airborne viruses and bacteria while in presence of people.



AIRBORNE

While the infection and spread of viruses and bacteria through surfaces becomes an issue of vital importance in healthcare facilities, the overwhelming evidence supporting the airborne transmission of the coronavirus has made the air a key enemy to fight.

- Viruses in aerosols are small enough that they can remain suspended in the air for minutes to hours.¹
- The contagion of covid is 20 times easier indoors than outdoors.²
- Traditional **personal protective equipment (PPE)** designed to protect against droplet but not aerosol exposure, may not be enough to prevent infection through the air.³
- Reducing airborne transmission of virus requires measures to avoid inhalation of infectious aerosols, including **ventilation and air filtration**.⁴

POORLY VENTILATED SPACES

The use of UCV single air pass disinfection systems in spaces with low or poor ventilation helps in the reduction of airborne cross infections. COMVAT AIR has been designed to disinfect large amounts of air during long periods of time, creating an **environment free of pathogens**.

UVC SURFACE DISINFECTION

The use of UVC surface disinfection systems have been shown their effectiveness in hospital facilities, in fact, nosocomial infections (HAIs) remain as a permanent problem for healthcare.

- Several studies show that the risk of contracting MRSA, VRE, Acinetobacter, *Pseudomonas* or *C. difficile* is increased when a new hospital admission occurs in a room previously occupied by a patient infected with one of these pathogens. Such pathogens can survive on surfaces for days, which increases the risk of infection for patients, **unless the cleaning process eliminates them**.⁵
- The **European Centre for Disease Control** estimates that **3.8 million people** acquire a healthcare-associated infection each year in acute care hospitals in EU countries.⁶
- On average across EU countries (weighted), **5.5% of patients** acquired an infection during their hospital stay in 2016-17.⁶

5,5% EUROPEAN AVERAGE





INTERmedic introduces its new **COMVAT AIR** for a total disinfection approach

COMVAT AIR is mainly equipped with high power UVC lamps and ozone generator for non-contact disinfection. These modes can be used independently or sequentially for the inactivation of viruses, bacteria and fungi from both environments and surfaces.

The introduction of the high capacity air chamber converts COMVAT AiR in a powerful device for the indoor air safety able to use in presence of people.

Triple disinfection system

COMVAT AIR allows the user to choose up to 3 disinfection modes based on the existing level of contamination, time available and presence of people. With the **360 Shadowless**, a sequential combination of UVC and ozone, the user obtains a full disinfection process of the most difficult spaces, compensating for any small shadow or low exposure area to the UVC light. **AIR mode** allows the user to maintain indoor air safety during **long periods of time in occupied rooms**.

	 UVC mode Light disinfection	Disinfection for frequent use between patients. For use in unoccupied rooms	3-12 min
	 O₃ mode Ozone disinfection	Thorough disinfection of the most hidden areas. For use in unoccupied rooms	40 min*
	 AIR mode UVC Air disinfection	Constant disinfection For use in occupied rooms	Unlimited time of use

*Additional 50 minutes are needed for air recombination

COMVAT AIR and its versatile configuration allows its use for the following applications:

OPERATING ROOMS

It prevents patients from acquiring healthcare-associated infections. Reinforces and complements existing cleaning and space disinfection procedures.



CARE & RETIREMENT HOMES

System fit for care and nursing homes that require a profound level of disinfection and air management.



WAITING ROOMS

Preventing infections by airborne and contact with surfaces in waiting rooms.



BOXES

Ideal for disinfection between patients. Reinforce and complement usual daily cleaning and preventing from airborne infections.

LOCKER ROOMS

Suitable for areas with a high turnout of people. COMVAT AIR is effective on all type of surfaces, including metallic, wooden, plastic, among others.



BATHROOMS

The design of COMVAT AIR makes it accessible to bathrooms and other patient service spaces. It is effective throughout all type of surfaces, including metallic, ceramic, plastic, among others.



Two AIR inlets generates air streams that lead air pathogens over the 15 ultraviolet lamps of 254nm and 255W, inactivating all microorganisms before going out the AIR outlet.

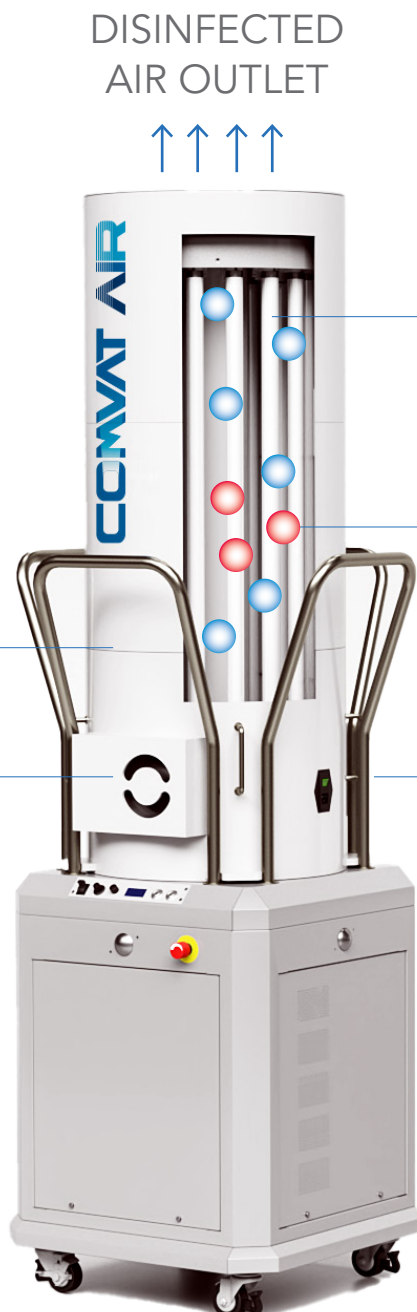
Indoor air is forced through the unit and ventilated through the air chamber.

**COMVAT AIR chamber allows to move large air streams such 108m³ / hour.
In a room of 20 m² COMVAT AIR would completely renew the air in 25 minutes.**

Allows its use in occupied rooms

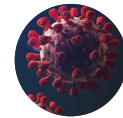
Maximum security locking system

Front AIR inlet



Unmatched 255W of effective power

High power UVC germicidal lamps



Pathogen

Back AIR inlet



Removable and easy to mount chamber .



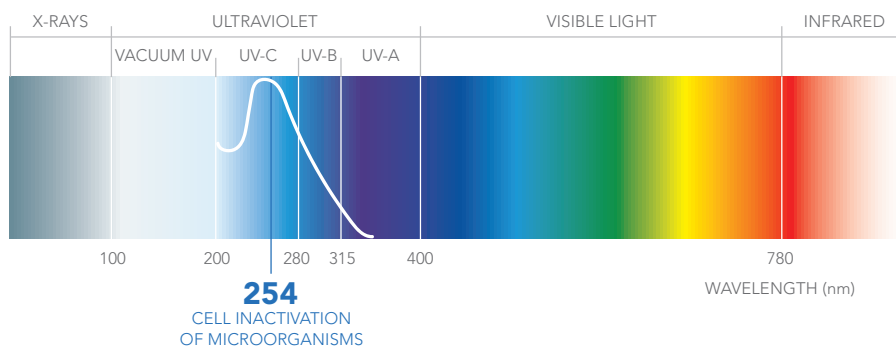
UVC MODE

255W effective power at 254nm

Ultraviolet germicidal irradiation, at a wavelength of **254nm**, inactivates microorganisms.

Ultraviolet germicidal irradiation (UVGI) is an electromagnetic radiation that destroys the ability of microorganisms to reproduce by causing photochemical changes in their nucleic acids (DNA and RNA).⁴

Electromagnetic spectrum of light radiation (nm) 254



UVC equipment without enough power does not guarantee effective disinfection, leaving the user notably exposed by reducing contagion precautions and increasing exposure level.



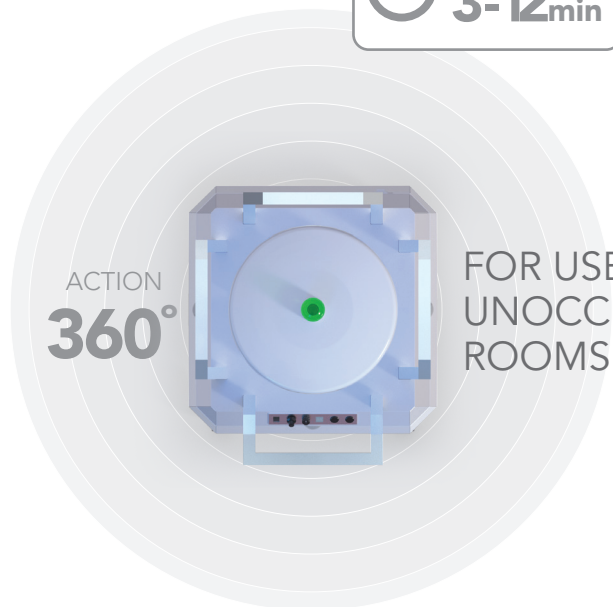
CYCLES
DISINFECTION
3-12min

The **15 high-performance lamps** with a power of 55W each, guarantee a **high-power density** capable of eradicating any microorganism in **6 minutes** in a space of up to **60m²**.

Its real time UVC radiation monitoring system will ensure that it remains on the threshold of efficacy.

ACTION
360°

FOR USE IN
UNOCCUPIED
ROOMS



UV light, specifically between 200-280 nm⁵ inactivates two other coronaviruses:

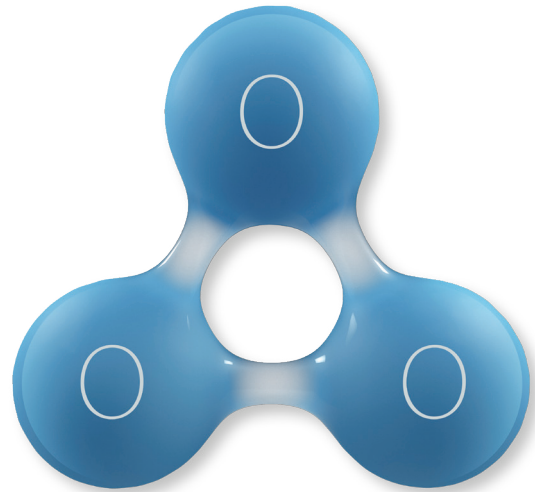
- SARS-CoV⁶
- MERS-CoV^{7,8}

COVID-19 infections can be caused by **contact with contaminated surfaces** followed by facial self-touch⁴. Minimizing this risk is key as the COVID-19 virus can live in plastic and steel surfaces for **up to 3 days**.⁹



Ozone used in low concentrations is a **powerful disinfectant** against pathogens in the air.¹⁰

FOR USE IN
UNOCCUPIED ROOMS



Ozonation phases with COMVAT AIR

- 1** **DISINFECTION** of contaminants and pollutants through the oxidation process of microorganisms suspended in the air or in surfaces.
- 2** **DEODORIZATION** by destroying all microorganism by oxidation, ozone makes their smells disappear turning the rarefied air into perfectly healthy, with a deodorization process taking place.
- 3** **RECOMBINATION** of air after the disinfection phase O₃ molecules must be left to naturally recombine for about 50 minutes until they descend to a user-safe level.

The new global surface disinfection process
a combination of different techniques



360 Mode
UVC + O₃ disinfection



REGULAR METHODS

UVC

OZONE

With the application of ozone, a 360 disinfection process is achieved, covering any area where light and manual processes have not disinfected.

“COMVAT AIR supplies up to 15g/h O₃ ensuring efficient decontamination of rooms.”

1. https://www.cdc.gov/coronavirus/2019-ncov/science/science-briefs/sars-cov-2-transmission.html#anchor_1619805150492. 2. Muge Cevik, Julia L Marcus, Caroline Buckee, Tara C Smith, Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2) Transmission Dynamics Should Inform Policy, Clinical Infectious Diseases, 2020; ciaa1442, <https://doi.org/10.1093/cid/ciaa1442>. 3. Klompas M, Baker MA, Rhee C, et al. A SARS-CoV-2 cluster in an acute care hospital. Ann Intern Med 2021; published online Feb 9. <https://doi.org/10.7326/M20-567>. 4. Prather KA, Wang CC, Schooley RT. Reducing transmission of SARS-CoV-2. Science 2020; 6498:1422-24. 5. <https://wiki.ecdc.europa.eu/fem/Pages/Hospital%20cleaning%20and%20decontamination.aspx>. 6. https://www.oecdilibrary.org/docserver/health_glance_eur_201845en.pdf?expires=1588527173&id=id&acname=guest&checksum=2AC9E407DBFF879E901A1A8C9654EEF. 7. Kowalski, Wladyslaw. (2009). Ultraviolet Germicidal Irradiation Handbook. 10.1007/978-3-642-01999-9_2. 8. "Miscellaneous Inactivating Agents -Guideline for Disinfection and Sterilization in Healthcare Facilities (2008);" Centers for Disease Control and Prevention, National Center for Emerging and Zoonotic Infectious Diseases (NCEZID), Division of Healthcare Quality Promotion (DHQP) (<https://www.cdc.gov/infectioncontrol/guidelines/disinfection/disinfection-methods/miscellaneous.html>). 9. "Large-scale preparation of UV-inactivated SARS coronavirus virions for vaccine antigen," Tsunetsugu-Yokota Y et al. Methods Mol Biol. 2008;454:119-26. doi: 10.1007/978-1-59745-181-9_11. 10. "Efficacy of an Automated Multiple Emitter Whole-Room Ultraviolet-C Disinfection System Against Coronaviruses MHV and MERS-CoV," Bedell K et al. ICHS 2016 May;37(5):598-9. doi:10.1017/ice.2015.348. Epub 2016 Jan 28. 11. "Focus on Surface Disinfection When Fighting COVID-19"; William A. Rutala, PhD, MPH, CIC, David J. Weber, MD, MPH; Infection Control Today, March 20, 2020 (<https://www.infectioncontrolday.com/covid-19/focus-surface-disinfection-when-fighting-covid-19>). 12. "Preventing the Spread of Coronavirus Disease 2019 in Homes and Residential Communities"; National Center for Immunization and Respiratory Diseases (NCIRD), Div. of Viral Diseases (<https://www.cdc.gov/coronavirus/2019-ncov/hcp/guidance-prevent-spread.html>). 13. Marie-Eve Dubuis, et Al. Ozone efficacy for the control of airborne viruses: Bacteriophage and norovirus models. April, 10. (2020)

Technical characteristics



SOFTWARE

- The software calculates the **necessary dose** of light subject to the dimensions of the room to treat.
- If necessary, the software will suggest **splitting the room** in two or more treatment areas.
- Reports the remaining **application time**.
- **Pre-set room maps** specifically tailored for each center.



SECURITY

- **Presence sensors.** COMVAT DUO₃ interrupts the treatment immediately if it detects movement in its surroundings.
- **Ozone sensors.** Detector of O₃ ppm in the environment. Control ozone levels at all times to enable the safe entry of health and cleaning professionals after the treatment.
- **Tricolor Traffic Light.** COMVAT DUO₃ reports on the status of using a red, amber and green light.
- **Delayed activation.** Allowing staff to leave the area before the start of the procedure.



Benefits of COMVAT AIR



- ✓ Professional **surface disinfectant and air purifier** in one device.
- ✓ **Triple-layer of security:** presence detection, ozone sensor and alarm (acoustic and optical)
- ✓ **Highly profitable.** Allows 24 hours performance
- ✓ **Automatically** calculates UVC doses subject to room size
- ✓ **Easy-to-move** system, with 4 multi-directional wheels

COMVAT AIR is a product manufactured by INTERmedic, a company with **ISO13485**, (standard for the applicable quality management system for devices) and under **EN60204** and **EN61000** electric and electromagnetic compatibility that allow for use in environments Hospital.



INTERmedic

LASER & LIGHT SOLUTIONS

Valles Technology Park, Boters 8-10
08290 Cerdanyola del Vallès (Barcelona) Spain

Tel.: (+34) 932 656 661
Fax: (+34) 932 454 806
intermedic@inter-medice.net

www.inter-medice.net



Follow us on:

@IntermedicTweet

www.linkedin.com/company/intermedic-arfran-s.a.

www.youtube.com/user/IntermedicSpain



INNOVATIVE SME
Valid until Dec 21st 2021



Company accredited as an innovative SME by the Ministry of Economy, Industry and Competitiveness