DUPA® AIR

COMVAT DUO 3
Ultraviolet light & ozone treatment

UVC + O_3 Dual Disinfection System

Inactivation of viruses, bacteria and fungi from surfaces and environments

COMVAT DUO$_3$ is the new dual UVC + O_3 disinfection system for **hotels**, **restaurants**, **sport centers** and other spaces that need to strengthen its disinfection process and **COVID-19 inactivation** strategy.

Ultraviolet light, an effective ally in the prevention of transmission of COVID-19 among other bacterial infections.

All bacteria and viruses tested to date (many hundreds over the years, including other coronaviruses) respond to UV disinfection in the appropriate doses.[1]

COVID-19 infections can be caused by **contact with contaminated surfaces and then touching facial areas.**[2] Minimizing this risk is key because COVID-19 virus can live on plastic and steel surfaces for **up to 3 days**.[3]

COMVAT DUO$_3$, the equipment that cleaning and disinfection professionals were waiting for.

While interventions aimed at improving cleaning thoroughness have shown improvements, many surfaces remain inadequately cleaned and therefore **potentially contaminated.**[4]

Automated devices for the disinfection of spaces through germicidal **light and ozone** have demonstrated **superior decontamination** in surfaces and other objects.[4]

> "COMVAT DUO$_3$, the plus of tranquility that your customers expect."

DISTINCTIVE SEAL FOR YOUR BUSINESS

Dual disinfection system by **UVC light and ozone**, are two reference technologies in non-contact disinfection, that can be used independently or sequentially for the inactivation of **of viruses, bacteria and fungi** from both **environments** and **surfaces.**

Dual disinfection system

COMVAT DUO_3 allows you to choose up to **3 disinfection mode**s based on the existing level of contamination, viral load and time available. With the ***360 Shadowless*** mode, 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.

	UVC mode Light disinfection	Disinfection for frequent use between patients	**6-11 min**
	O_3 mode Ozone disinfection	Thorough disinfection on-time use	**50 min***
	360 mode UVC disinfection + ozone	Rigorous disinfection. Ideal for high risk spaces and hidden corners	**6-11 min** + **50 min***

360 SHADOWLESS

*Additional 50 minutes are needed for air recombination

COMVAT DUO_3 allows disinfection of multiple surfaces and environments

HOTELS

Prevents guests from possible infections. Reinforces and complements the usual cleaning and disinfection. Provides the tranquility and confidence that the new guest needs.

SHOPPING CENTER

System suitable for common areas in shopping centers such as public toilets, cinemas, playgrounds, etc.

WAITING ROOMS

Prevents possible infections in rooms and waiting areas with a concentration of travelers, patients and clients.

AIRPORTS OR RAIL STATIONS

COMVAT DUO_3 can be used in areas with a high concentration of people and touch surfaces.

SPORT CENTERS

COMVAT DUO_3 is the perfect ally for sports center cleaning and disinfection personnel due to its high disinfection capacity with its dual mode and its deodorizing effect.

RESTAURANTS

The COMVAT DUO_3 design allows its use in restaurants, convention halls and food facilities, where disinfection and deodorization can be key factors for the correct development of the activity.

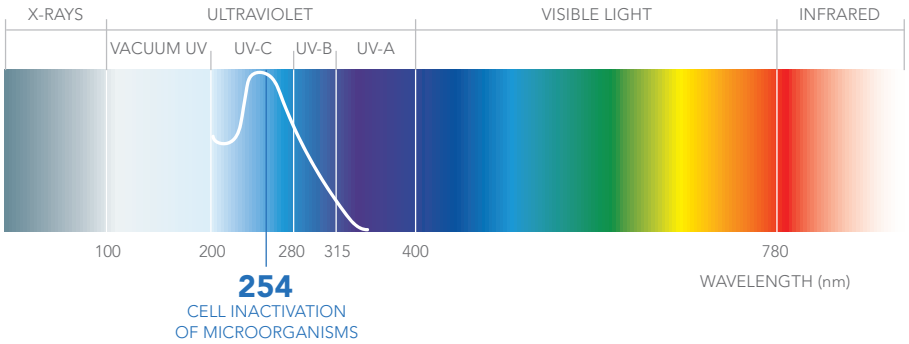
UVC MODE

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).[5]

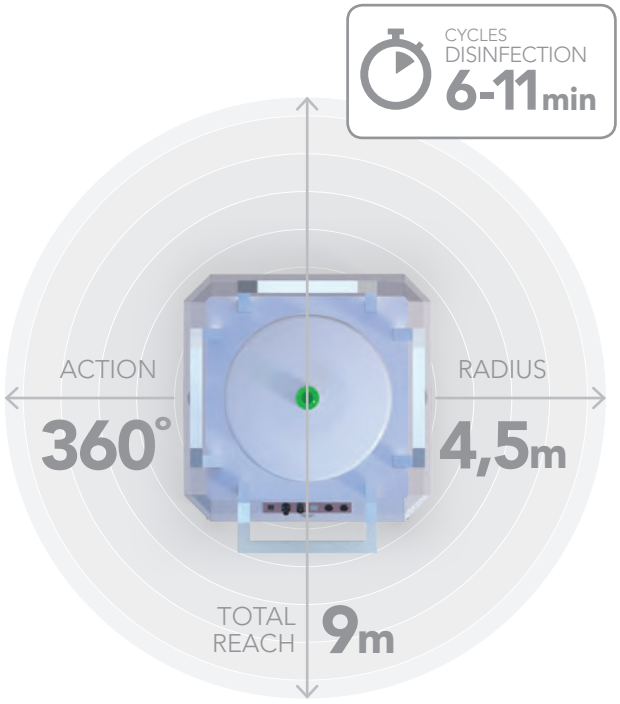
Electromagnetic spectrum of light radiation (nm) 254



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**.

INTERmedic guarantees the necessary supply of luminous energy for the eradication of microorganisms, following the power densities in **major academic studies and international publications.**

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



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

UV light, specifically between 200-280 nm[6] inactivates two other coronaviruses:

- SARS-CoV[7]
- MERS-CoV[8,9]


The union of UVC + O_3 in a safe and controlled way, acts in the virus inactivation (prevention) and limits the transmission chain.
INTERmedic
LASER & LIGHT SOLUTIONS

OZONE MODE

Up to 15g / hour

Ozone used in low concentrations is a **powerful disinfectant** against viruses in the air.[10]

Ozonation phases with COMVAT DUO$_3$

1. **DISINFECTION** of contaminants and pollutants through the oxidation process of microorganisms suspended on 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 O_3 molecules must be left to naturally recombine for about 50 minutes until they descend to a user-safe level.

Global disinfection process

360 Mode UVC + O_3 disinfection	MANUAL 50%	UVC 40%	OZONE 10%

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

360 SHADOWLESS

> "COMVAT DUO$_3$ supplies up to 15g/h O_3 ensuring efficient decontamination of rooms."

1. Weber, D., & Rutala, W. (2013). Understanding and Preventing Transmission of Healthcare-Associated Patho-gens Due to the Contaminated Hospital Environment. Infection Control & Hospital Epidemiology, 34(5), 449-452. doi:10.1086/670223. **2.** https://wiki.ecdc.europa.eu/fem/Pages/Hospital%20cleaning%20and%20decontamination.aspx. **3.** https://www.oecdilibrary.org/docserver/health_glance_eur-201845enpdf?expires=1588527173&id=id&accname=guest&checksum=2AC9E407DBFF879E901A1A8C9654EEF. **4.** Kowalski, Wladyslaw. (2009). Ultraviolet Germicidal Irradiation Handbook. 10.1007/978-3-642-01999-9_2. **5.** "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). **6.** "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. **7.** "Efficacy of an Automated Multiple Emitter Whole-Room Ultraviolet-C Disinfection System Against Coronaviruses MHV and MERS-CoV," Bedell K et al.ICHE 2016 May;37(5):598-9. doi:10.1017/ice.2015.348. Epub 2016 Jan 28. **8**. "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.infectioncontroltoday.com/covid-19/focus-surface-disinfection-when-fighting-covid-19). **9.** "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). **10.** Marie-Eve Dubuis, et All. Ozone efficacy for the control of airborne viruses: Bacteriophage and norovirus models. April, 10. (2020)

Technical characteristics

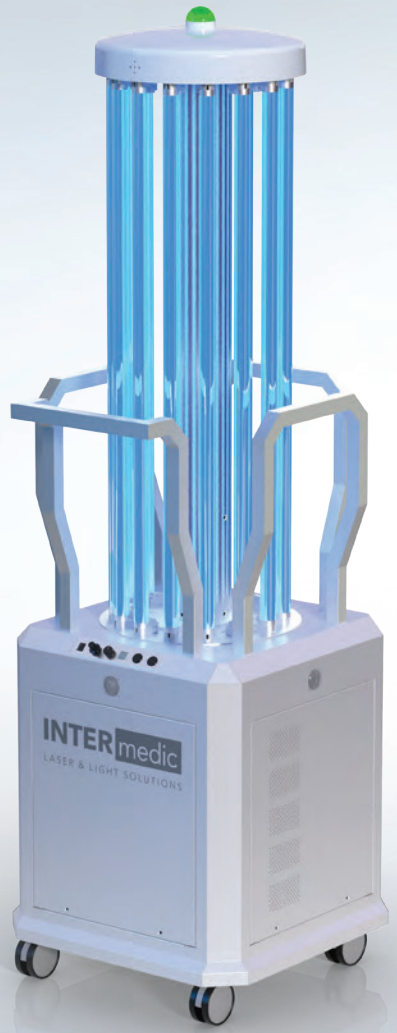
SOFTWARE

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

SECURITY

- **Presence sensors.** COMVAT DUO$_3$ interrupts the treatment immediately if it detects movement in its surroundings.
- **Ozone sensors.** Detector of O_3 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 DUO$_3$ 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.

Beneficios COMVAT DUO_3



- **The first and only** combined solution of **UVC + O_3**
- **Triple-layer of security:** presence detection, ozone sensor and alarm (acoustic and optical)
- **Immediate** integration into existing cleaning and disinfection processes
- **Modular** disinfection time subject to the room surface
- **Easy-to-move** system, with 4 multi-directional wheels

COMVAT DUO_3 is a product manufactured by INTERmedic,a company with **ISO13485**, (standard for the applicable quality management system for devices) and under **EN60204** and **EN61000** eletric and electromagnetic compatibility that allow for use in environments Hospital.

CE RoHS UNE 400-201-94 Ozone Generators

INNOVATIVE SME

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

DUPA® AIR

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Product developed and manufactured in Barcelona, Spain.All its components are manufactured in Europe.