

Air Purifiers



LIGHT *PROGRESS*

Series UV-FAN



UV-FAN SERIES

High performance professional Air Purifiers
with UV-C technology



The **UV FAN** is an air purification device consisting of a structure in extruded aluminum, coated by epoxy powder, and a front cover with small holes that allow air to enter and exit at both ends.

A quiet internal fan conveys air from the external room to the inside of the germicidal box to be purified from micro-organisms and chemical contaminants.

The germicidal box contains UV-C lamps and is made of mirror polished aluminium walls, to improve the germicidal power of the lamps by reflection. Air is sanitized by lamps and clean air is introduced again into the environment, without contaminants.

Inside the box a **TIOX** filter can be placed as an optional; Tiox stands for nanostructured titanium dioxide and it is a powerful photo-catalyst of the reactions degrading organic and inorganic pollutants and the membranes of pathogenic micro-organisms.

Another attractive option, concerning top level 55P and 95HP models, is the **ionizer**, which produces beneficial negative ions to improve

- **Ozon-free**, highly efficient selective
- UV-C tube (at 253.7 nm.), pure quartz
- Germicidal inner box in pure mirror bright aluminium.
- Extruded body made of epoxy powder coated and lacquered aluminum.
- Specific electronic ballast for UV-C rays lamps.
- Continuity of treatment 24h/24; use in the presence of people.
- Powerful UV-C lamps .
- All used materials are tested to resist to intense UV-C radiation
- **TiO2** filter to remove organic and inorganic pollutants (optional)
- Porthole to check lamps working



very significantly the functions of different organs of the human body.

The ionization of the air is a great way to precipitate microscopic pollutant particles such as PM10, and at the same time returning to the air a "vitality" of which our body needs in everyday life.

The UV-C rays can cause irritation to skin and eyes, and you should avoid being directly irradiated by the lamps. With UV-FAN, air purification can be carried out 24/24h without contraindications, since the UV-C light is completely con-fined within the device, thus ensuring the complete safety of people.

UV-FAN also comes with a special porthole to control visually the lamps correct working.



APPLICATION AND RESULTS

The air cleaners of the UV-FAN series exploit the properties of germicidal ultraviolet lamps UV-C with emission peak at 235.7 nanometers to remove bacteria and viruses from the air we breathe. This technology has a strong germicidal power against all the microorganisms that may be present in the air and airborne, including **Avian Flu Virus as H5N1, SARS, influenza, Herpes, bacteria** such as **Legionella Pneumophila, TBC but also Yeasts, Molds and Fungi**. The percentages of microbial reduction ranges from 99.99% for the bacteria and 99% for the virus, for every passage of the air inside the germicidal box.

UV-FAN can be used, always, even in the presence of people, thanks to the optical labyrinths which retain UV-C in its interior, to the silent fan and to its low energy consumption.

The possibility of continuously working, 24h/24, also allows the so called "air washing", dropping gradually the microbial residue in the air, after few minutes from the start, until it reduces to negligible proportions.

The model **UV-FAN ... BD**, with UV-C external lamp integrated, in addition to the function of purifying in the presence of persons as described heretofore (working or diurnal phase), provides the possibility of turning on an external UV-C integrated lamp, to deeply

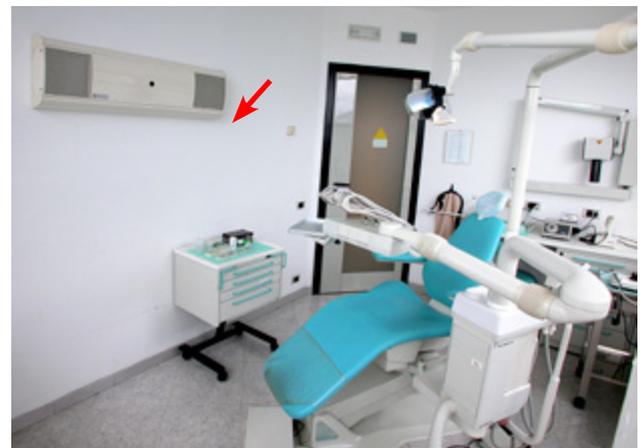
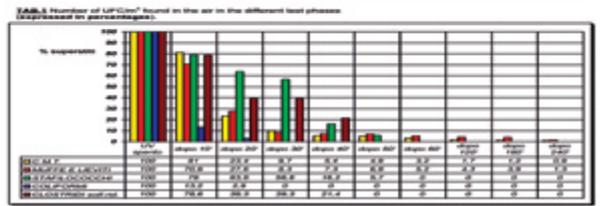
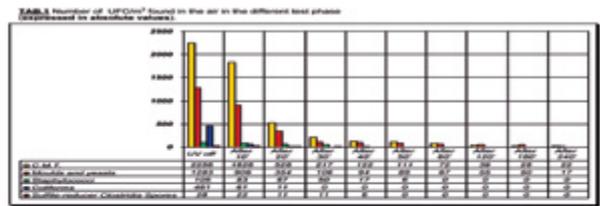




disinfect the air and the surrounding surfaces by direct irradiation (not-working or night-time phase, just before the staff access to rooms). The two switches can be managed separately, by a common timer.

The external lamp can be supplied with a UVLON-PIPE protection to retain the glass fragments in case of breakage of the tube. Thanks to its small size and design, make of FAN a UV versatile air purifier, that is used in places such as hospitals, waiting rooms, patient rooms, maternity wards, medical and dental clinics, laboratories, surgical units, etc.

UV-FAN can also be used in the food production and packaging sectors, where mold and bacteria are removed from the air, allowing a longer and healthier preservation of products, but also in the catering sector (public areas in general), and in all those environments where you need to maintain a cleaner and healthier air.



OPERATING

The device operates in a closed cycle, i.e. it takes air from environment, treats it, and then expels it, sterilized. Treatment entails the following stages:

FASE 1)- Input of air from the environment through an extremely quiet fan (with mechanical filter).

FASE 2)- Then the air passes through the germicidal chamber where the high intensity pure quartz tube destroys all the microorganisms (e.g. viruses, bacteria, moulds). The surface of this chamber is mirrored to increase UV radiation and contains staggered slats (optic labyrinths) at the air intake, and outlet points which block ultraviolet rays.

Test di abbattimento microbico nell'aria e sulle superfici, per mezzo di apparecchio modello UV-FAN 2/95P-BD germicida a tecnologia UV-C effettuato presso il laboratorio di microbiologia dell'Università di Siena (disponibile su richiesta la relazione originale).

1. Capsule petri contenenti "Plate count Agar", con sulle quali è stata saggiata la carica microbica totale dell'aria ambientale, sia ad apparecchi spenti (a sinistra), che dopo 20 minuti di funzionamento (a destra).
2. Piastre contenenti terreno di "Levine EMB Agar", con le quali è stata saggiata la carica di coliformi nell'aria in entrata ed in uscita dall'apparecchio dopo un tempo di 10 minuti di funzionamento.
3. Capsule contenenti "Sale Mannite Agar", con le quali è stata rilevata la carica di stafilococchi sulle superfici, prima dell'inizio della prova - tempo zero - (a sinistra), che dopo 10 minuti di funzionamento (a destra).
4. Piastre contenenti "SPS Agar", per il conteggio di Clostridi solito riduttori presenti sulle superfici prima dell'inizio della prova - tempo zero - (a sinistra), che dopo 10 minuti di funzionamento (a destra).



FASE 3)- Treated air is expelled. The microorganisms in the air are progressively eliminated due to the continuous flow of the air from outside to inside the device, and vice versa.



BENEFITS AND ADVANTAGES

- **PHYSICAL ACTION AND ENVIRONMENTAL PROTECTION.**

Treatment by UV-C rays is purely physical, and achieves always the same effect; also, there are no problems of over-dose. Rather, many methods of chemical treatment involve the use of dangerous products for the environment, and difficult to biodegrade, as well as the risk of contamination of foodstuffs. Also, by the use of chemicals it is likely to develop resistant microbial forms with consequent danger to human health.

- **TOTAL SAFETY**

Ultraviolet rays are confined to the inside of the device and cannot escape due to the presence of a light-absorbent optical labyrinth at the entrance and exit. Therefore, the air can be treated when operators are present, as much as they are the ones who are introducing the majority of the germs through respiration, transpiration, clothing, etc.

- **BEST QUALITY AIR**

This system can remain switched ON at all times without any contraindications for people. The level of environmental microbial load is thus maintained constantly low and the "indoor air" quality (IAQ) is improved, as prescribed and recommended by W.H.O. (World Health Organization).

- **PRACTICABILITY AND SAVINGS.**

The treatment is immediate and ready for use. The maintenance is minimal with low costs of both energy consumption and repairs.

ONLY FOR MODELS: **UV-FAN-M2/...-BD...** :

- **DEEP AND CONTINUOUS DISINFECTION**

The external tube of this device can be switched on continuously without people being present (i.e. during the night for 2-3 hours). The disinfection of the air, the machinery, and everything that is contained inside the room allows beginning the work day in ideal hygienic conditions. In this way, the level of microbial load in one site is maintained constantly low.





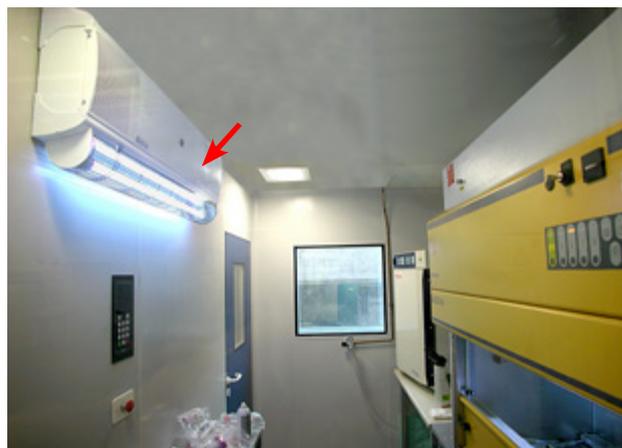
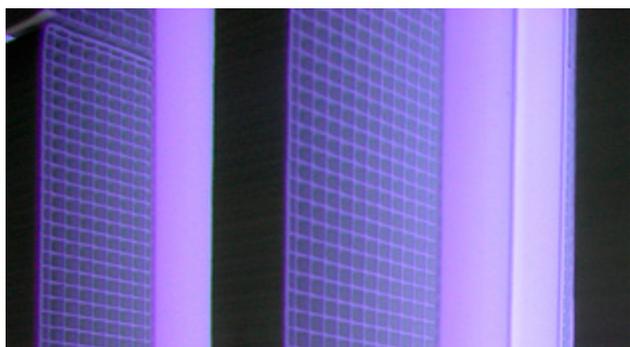
OPTIONALS

TIOX® FILTER

UV-FAN-M.../...-TX

The reduction of the environmental atmospheric pollution can be achieved by a natural reaction, called photocatalysis.

This is realized by a photocatalyst (TiOx[®]) which oxidizes, and then degrades, the pollutants. The TiOx[®] is activated by solar ultraviolet radiation (UV) or by an artificial source, such as the high emission UV-C lamps placed inside a UV-FAN device. Titanium dioxide (TiO₂) nano-structured is the active ingredient that makes up the TiOx[®]. As nano-structured, that is decomposed into a gel of particles of linear dimension comparable to one billionth of meter, TiOx[®] has a large exchange surface and thus it is an excellent photocatalyst capable of degrading organic and inorganic pollutants such as VOCs, VOC (volatile organic compounds) and NOx (nitrogen oxide) produced by human activity. Photocatalysis transforms the pollutants into salts (sodium and calcium nitrate) and carbon dioxide (CO₂). Moreover, TiOx[®], thanks to its receptive characteristics due to the fragmentation in nano particles, has the property to oxidize, or to decompose, the cells of bacteria in the presence of UV-C light, contrasting microbial growth. Finally inhibits the formation of bad odors, decomposing toxic gases and odorous compounds that are the source of these unpleasant phenomena and can cause discomfort to people living in indoor environments. Malodorous substances such as ammonia, sulfur and sulfur compounds, are indicators of anaerobic fermentation.



HOUR COUNTER

- UV-FAN .../...-H
- UV-FAN .../...BD...-2H

The hour-counter is available upon request; it is installed on one side of the device, left or right side depending on the models.

The hour-counter cannot be reset to "0", to avoid accidental erasures. Each device of UV FAN .../ ...-BD series has nr. 2 hour-counters (on left side): the first one (located on the lower part) refers to the outside tube and the other one (located on the upper part) refers to the inside tubes.

REMOTE CONTROL

- UV-FAN .../...-Rc
- UV-FAN M.../...-BD-Rc2

The remote control is useful to turn on the device without touching the on-board device switch.

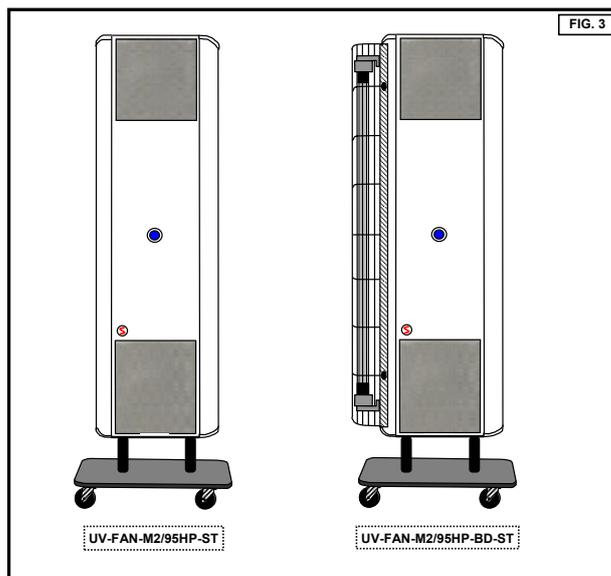
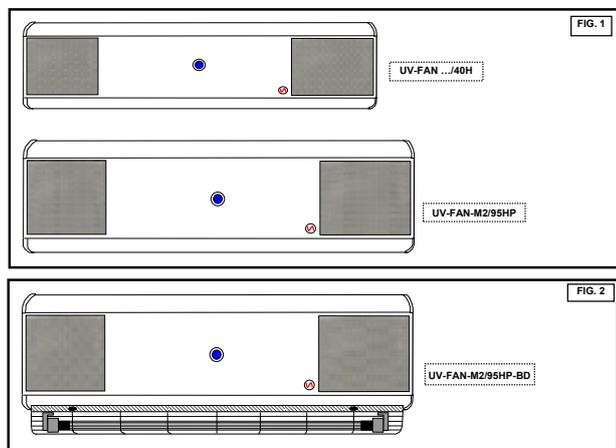
UVLON PIPE

- UV-FAN M.../...-P / -QP

UVLON PIPE is protection sleeve for the UV lamps. In case of breaking, it contains the glass pieces of the lamps. This special plastic sleeve is transparent and resistant to UV-C rays, resistant to breaks, wear and tear, and every type of chemicals. FDA Certification (Food and Drug Administration, USA).

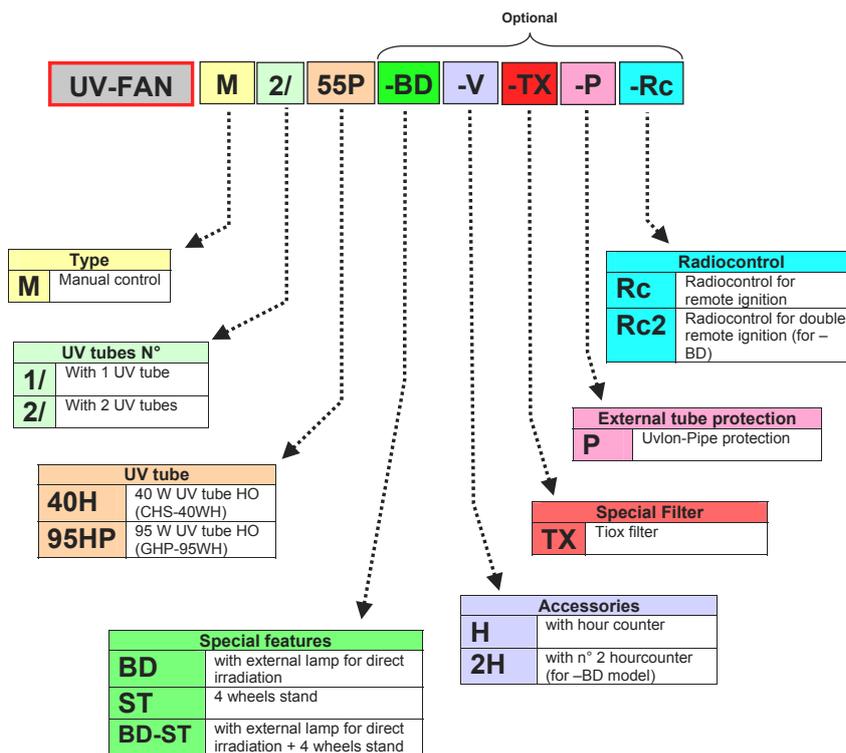


MODELS CHARACTERISTICS



MODEL	DIMENSIONS LxSxH (cm.)	AIR FLOW (m ³ /h)	UV TUBES Nr. x POWER (Watt)	CONSUMPTION (Watt)	REDUC- TION T.M.L...	IRRAD. AREA (m ²)(h=3 mt.)	IRRAD. VOLUME. (m ³)
UV-FAN-M1/40H	96x26x13	70	1x40 W	65 W	>98%	18	45
UV-FAN-M2/40H	96x26x13	70	2x40 W	105 W	>99%	20	50
UV-FAN-M2/95PH	104x32x13	150	2x95 W	220 W	>99,9%	40	100
UV-FAN-M2/95PH-ST	123x32x13	150	2x95 W	220 W	>99,9%	40	100
UV-FAN-M2/95PH-BD	104x40x13	150	2x95+55 W	220+55 W	>99,9%	40	100
UV-FAN-M2/95PH-BD-ST	123x40x13	150	2x95+55 W	220+55 W	>99,9%	40	100

MODEL CODES



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