VORTICE

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VORTICE

We take Air of you

AIR TREATMENT

DEPURO PRO RANGE

AIR PURIFIERS AND SANITISERS FOR COMMERCIAL USE

NEW

FILTERED AIR

PURIFIED AIR

SANITISED AIR

PLUG&PLAY

LOW CONSUMPTION

MITES

POLLEN

DROPLETS

BACTERIA

VIRUSES

VORTICE S.p.A. is part of a multinational group, **VORTICE GROUP**, which operates through its own companies or local distributors in over 90 countries worldwide and has a rich product portfolio that guarantees air quality and climate comfort. The headquarters of VORTICE S.p.A are in Tribiano (Milan).

VORTICE GROUP also includes:

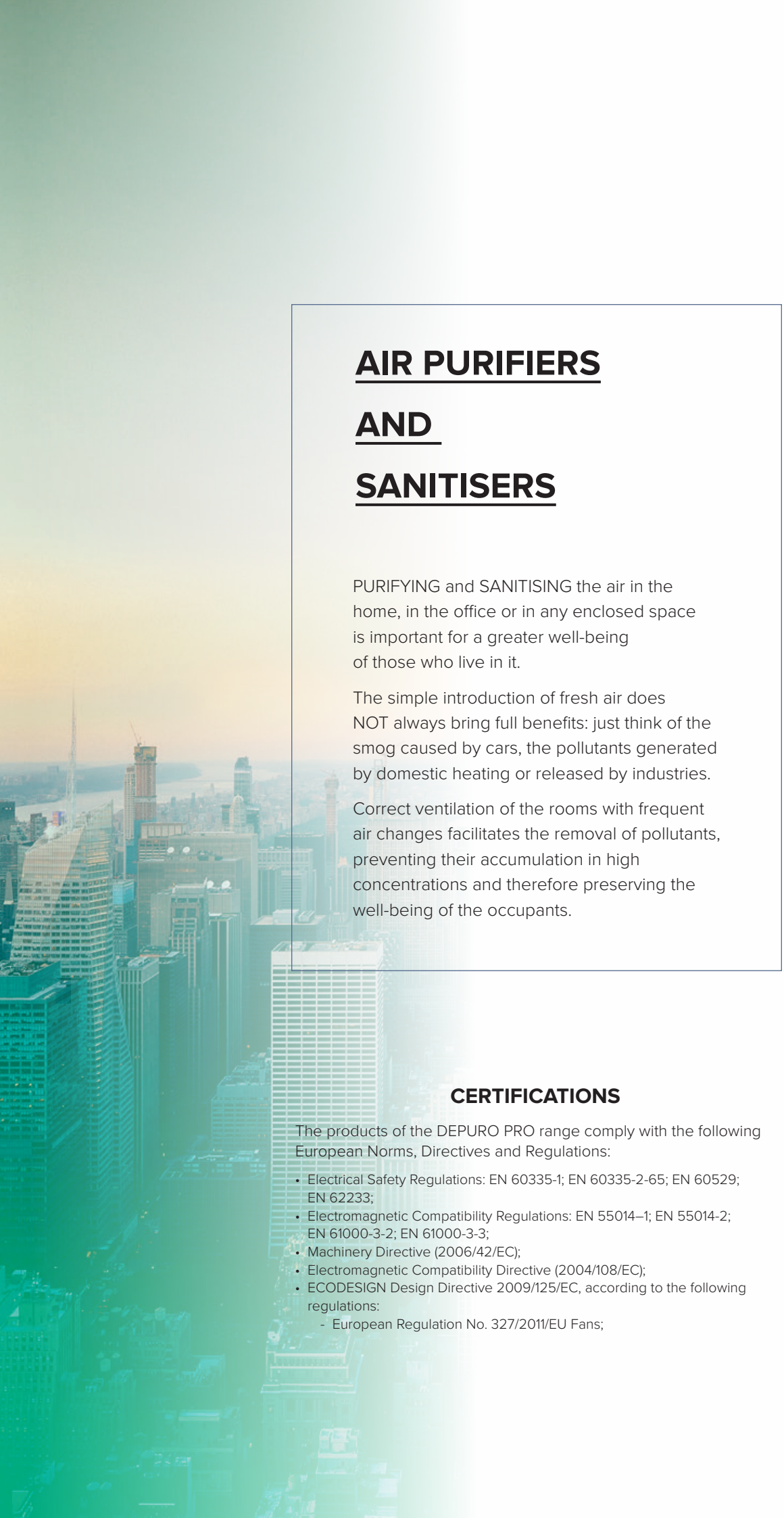
[1]
VORTICE UK Ltd, English branch of VORTICE S.p.A. established in 1977 and based in Burton on Trent.

[2]
VORTICE INDUSTRIAL, born from the acquisition in 2010 of Loran srl, based in Isola della Scala (VR).

[3]
VORTICE Ventilation System, a company inaugurated in 2013 with headquarters in Changzhou, China.

[4]
VORTICE Latam, based in Alajuela in Costa Rica, since in 2012.

[5]
CASALS VENTILACIÓN AIR INDUSTRIAL S.L. historic Spanish brand, based in Sant Joan de les Abadesses, Girona, acquired in 2019.



AIR PURIFIERS AND SANITISERS

PURIFYING and SANITISING the air in the home, in the office or in any enclosed space is important for a greater well-being of those who live in it.

The simple introduction of fresh air does NOT always bring full benefits: just think of the smog caused by cars, the pollutants generated by domestic heating or released by industries.

Correct ventilation of the rooms with frequent air changes facilitates the removal of pollutants, preventing their accumulation in high concentrations and therefore preserving the well-being of the occupants.

CERTIFICATIONS

The products of the DEPURO PRO range comply with the following European Norms, Directives and Regulations:

- Electrical Safety Regulations: EN 60335-1; EN 60335-2-65; EN 60529; EN 62233;
- Electromagnetic Compatibility Regulations: EN 55014–1; EN 55014-2; EN 61000-3-2; EN 61000-3-3;
- Machinery Directive (2006/42/EC);
- Electromagnetic Compatibility Directive (2004/108/EC);
- ECODESIGN Design Directive 2009/125/EC, according to the following regulations:
  - European Regulation No. 327/2011/EU Fans;

DEPURO PRO RANGE

AIR PURIFIERS AND SANITISERS FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS UP TO A SURFACE OF 100 M^2

BENEFITS FOR THE USER

Reduction of microorganisms in the air, thanks to the very high filtering capacity of the pair of **HEPA H14 absolute filters,** capable of retaining up to 99.995% of microparticles (equivalent diameter 0.3 µm).

Sanitasing effect of EVO models by removing pollutants, strong odours and microorganisms which are the potential cause of increased infections which are eliminated by the **photocatalysis** module.

Reduced consumption, due to high efficiency fans driven by **EC motors (brushless)**.

Ease of use: just insert the plug into the electrical outlet, **Plug and Play**.

Easy of handling thanks to the four wheels, equipped with a locking device and positioned on the base of the device for greater safety.

Simple and intuitive management: **the integrated control panel** facilitates the setting of the operating modes.

Simplicity of maintenance:

- the need to replace the filter is signaled by the control panel;
- the filters and the photocatalysis module (these only exist in the EVO models) are easily replaceable thanks to the quick release of the panels.

Great robustness, as a result of the design and construction solutions adopted, typical of the industrial sector, starting from the casing, which boasts excellent resistance to impact and corrosion.

The DEPURO PRO products have a high filtering capacity: the pair of HEPA H14 absolute filters is able to retain pollutants such as pollen, spores, droplets and microparticles, potential vectors of viruses and bacteria, thus significantly limiting the risk of contracting allergies, asthma, respiratory problems and infections. The DEPURO PRO EVO products combine mechanical filters with a photocatalysis module to sanitise the treated air flow which eliminates the majority of bacteria, viruses, bad odours, mould and allergens present both in the air and on surfaces.

DEPURO PRO RANGE

AIR PURIFIERS AND SANITISERS FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS UP TO A SURFACE OF 100 M^2

APPLICATIONS

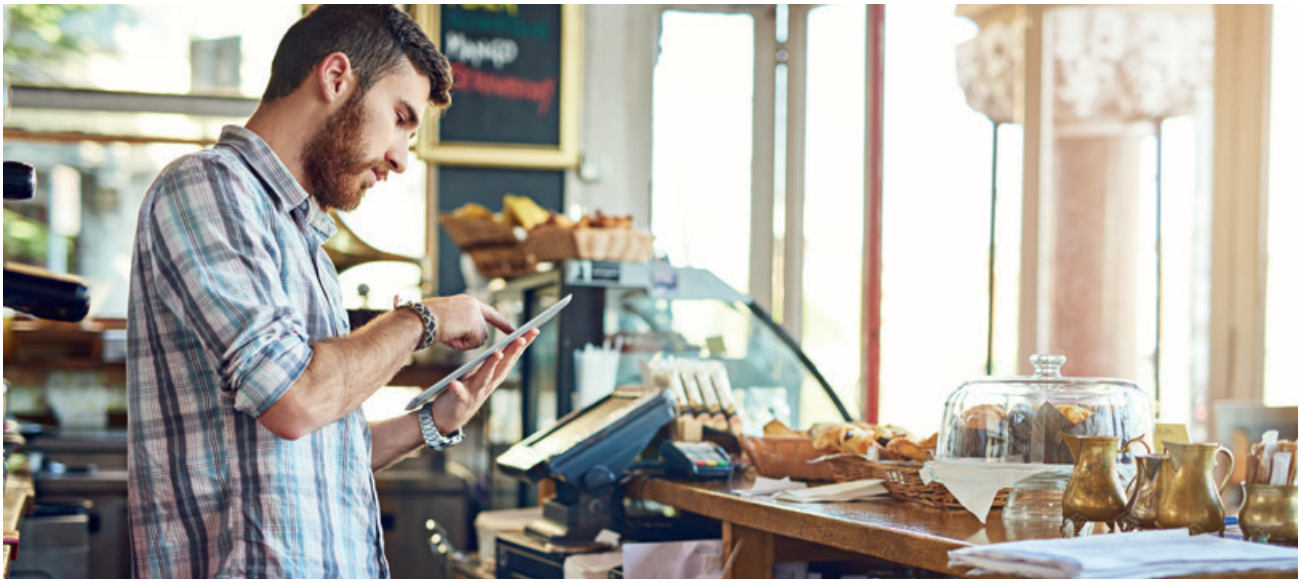
PHARMACIES

LABORATORIES

OFFICES

PROFESSIONAL OFFICES

RESTAURANTS AND BARS



BEAUTY CENTERS

GYMS

SHOPS AND WORKSHOPS

COMMON ROOMS AND WAITING ROOMS

SCHOOLS AND KINDERGARTENS

DEPURO PRO RANGE

AIR PURIFIERS AND SANITISERS FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS UP TO A SURFACE OF 100 M^2

TECHNICAL FEATURES

AVAILABLE MODELS:

Four available models, which vary according to the presence of the photocatalysis module in the EVO models. **DEPURO PRO 150** (code 25038) and **DEPURO PRO EVO 150** (code 25089) which have a maximum range of 300m^3/h for settings of up to 50 m^2 and **DEPURO PRO 300** (code 25039) and **DEPURO PRO EVO 300** (code 25090) which have a maximum rage of 600m^3/h for settings of up to 100 m^2.

CHASSIS:

- Extruded aluminium profile, 30 mm thick, with nylon corner joints.
- Sandwich panels 25 mm thick in pre-painted steel sheet, light gray, RAL 9006, class M0, with anti-corrosion finish, acoustically insulated with fire-resistant rock wool (class A1), density 90 Kg/m^3.
- Rectangular air intake and delivery ports complete with protection grilles.

FILTERS:

Dual-stage filtering system composed of:

- 2 ISO Coarse 65% (G4) class pre-filters located in correspondence of the intake ports;
- 2 HEPA H14 absolute filters, capable of retaining up to 99.995% of microparticles (equivalent diameter ≤ 0.3 µm).
- The pre-filters, placed in correspondence of the intake ports, retain the macro impurities of the air, protecting the absolute filters behind them and thus prolonging their life. The actual need for periodic replacement of the filters is indicated on the control panel on the machine.

PHOTOCATALYSIS:

A photocatalysis module available in the two EVO models, consists of:

- a titanium dioxide catalyst (TiO_2), which is effective against pollutants, strong odours and pathogenic microorganisms;
- a UV-C lamp, which is essential for initiating the process;
- a special transformer which can be managed via its electronic control unit.

FANS:

High efficiency fan, adjustable in the range 0-100% by using the buttons integrated in the control panel. The fan motor unit consists of a single-phase EC (brushless) motor of the external rotor type, IP44 protection, class B insulation, directly coupled to a centrifugal, self-cleaning impeller with reversed blades, moulded in polyamide, statically and dynamically balanced at the factory.

CONTROL PANEL:

- Control panel, located on one of the side walls of the product, for:
- turning the product on and off;
- activating/deactivating the photocatalysis module in the EVO models;
- programming, on a daily basis, the operation of the product, which will automatically switch on/off at the previously set hours;
- programming, in three time bands, the fan speed so that the ideal compromise between efficient purification, noise emissions and consumption can be reached;
- programming on a daily basis the UV-C lamp switching on/off which activates the photocatalysis process (in EVO models);
- setting the operating mode: Mmanual (switching on and off are left to the user) or Automatic (time programming previously set);
- adjustment of the treated air flow;
- indication, distinguished by type, of the occurred saturation of the filters (G4 and H14) and the consequent need for their replacement.

2 HEPA H14 FILTERS

2 HEPA H14 FILTERS, capable of retaining up to 99.995% of microparticles (equivalent diameter ≤ 0.3 µm).

Quiet operation, guaranteed by sound-absorbing sandwich panels.

Panels with quick release closure devices that provide easy access to the filters.

Plug&Play.

Photocatalysis module in the EVO models

Equipped with Brushless motors.

Control panel for the adjustment of the Depuro Pro.

Low consumption.

Easily portable, thanks to 4 wheels for easier movement of the product.

Power cable 3 meters long, complete with shuko plug.

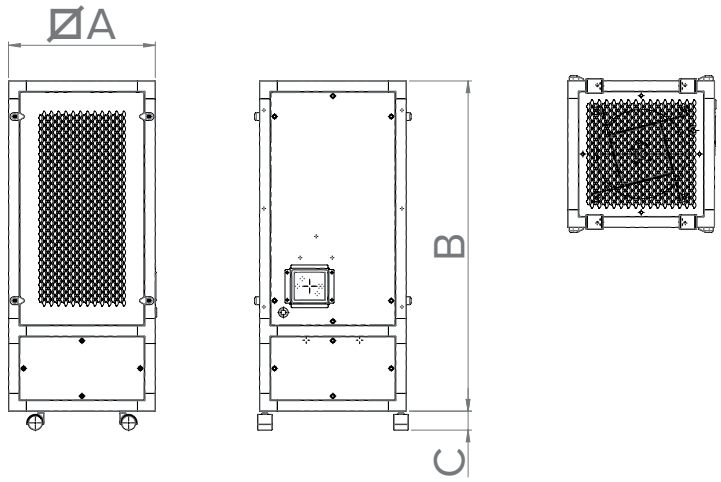
DEPURO PRO RANGE

AIR PURIFIERS AND SANITISERS FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS UP TO A SURFACE OF 100 M^2

TECHNICAL DATA

PRODUCT	CODE	V~50/60Hz	W max	A max	RPM max	MAX FLOW RATE (m^3/h)	SURFACES UP TO (m^2)	Lp dB (A) 6m	TEMP. °C min/max	WEIGHT Kg
DEPURO PRO 150	25038	220-240	34	0.40	3980	300	50	41	-25/50	30
DEPURO PRO 300	25039	220-240	78	0.70	3600	600	100	44	-25/50	50
DEPURO PRO EVO 150	25089	220-240	34	0.40	3980	300	50	41	-25/50	30
DEPURO PRO EVO 300	25090	220-240	78	0.70	3600	600	100	44	-25/50	50

DIMENSIONS



PRODUCT	ØA	B	C
DEPURO PRO 150	412	622	53
DEPURO PRO 300	412	927	53
DEPURO PRO EVO 150	412	622	53
DEPURO PRO EVO 300	412	927	53

Dimensions in mm

FILTERS REPLACEMENT

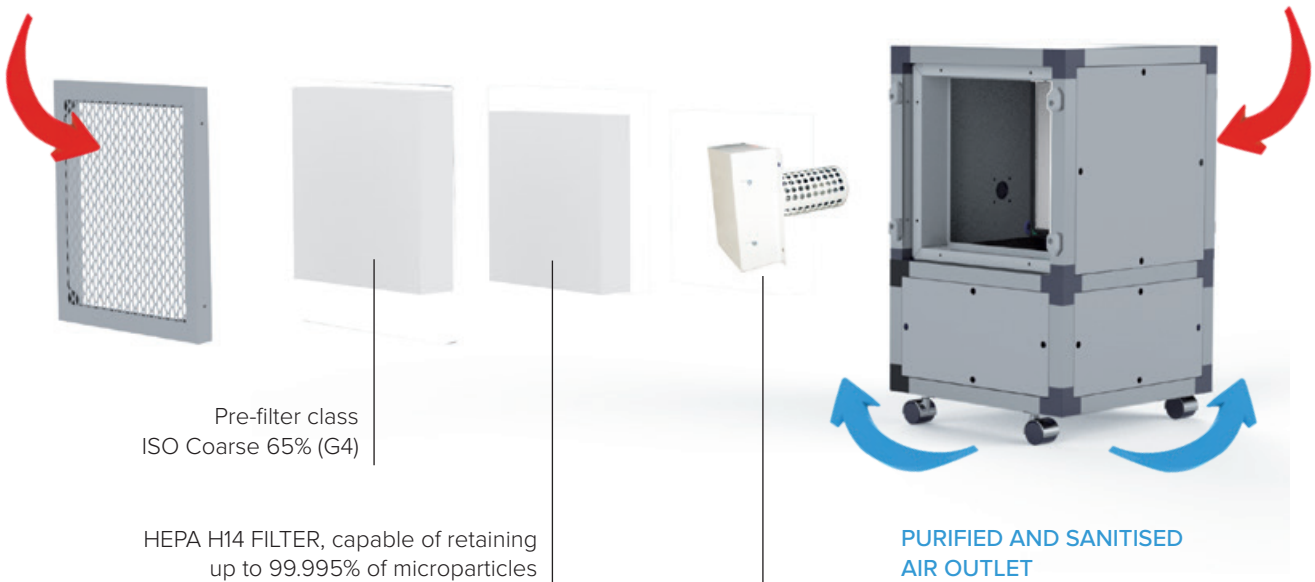
	DESCRIPTION	CODE	DEPURO PRO 150	DEPURO PRO 300	DEPURO PRO EVO 150	DEPURO PRO EVO 300
	**2FTR-ISO COARSE 65% (G4) 287x287x24** Pair of ISO Coarse 65% (G4) class filters for DEPURO PRO 150. Dimensions: 287 x 287 x 24 mm	**13040**	✓		✓	
	**2FTR-ISO COARSE 65% (G4) 287x592x24** Pair of ISO Coarse 65% (G4) class filters for DEPURO PRO 300. Dimensions: 287 x 592 x 24 mm	**13041**		✓		✓
	**2FTR-H14 305x305x66** Pair of H14 absolute filters for DEPURO PRO 150. Dimensions: 305 x 305 x 66 mm	**13042**	✓		✓	
	**2FTR-H14 305x610x66** Pair of H14 absolute filters for DEPURO PRO 300. Dimensions: 305 x 610 x 66 mm	**13043**		✓		✓

EXPLODED VIEW OF THE PRODUCT AND FILTER SYSTEM

AIR PURIFICATION AND SANITISATION IS GUARANTEED BY THE 3-STAGE FILTERING SECTION.

CONTAMINATED AIR INLET

CONTAMINATED AIR INLET

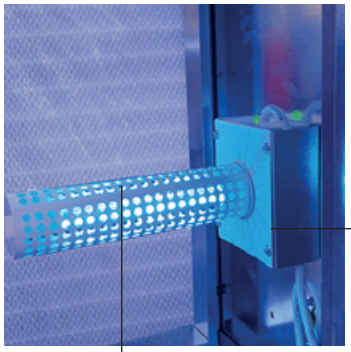


Pre-filter class
ISO Coarse 65% (G4)

HEPA H14 FILTER, capable of retaining up to 99.995% of microparticles (equivalent diameter ≤ 0.3 µm).

PURIFIED AND SANITISED AIR OUTLET

The photocatalysis module guarantees the removal of virus and bacteria vectors and ensures the treated air flow is sanitised.



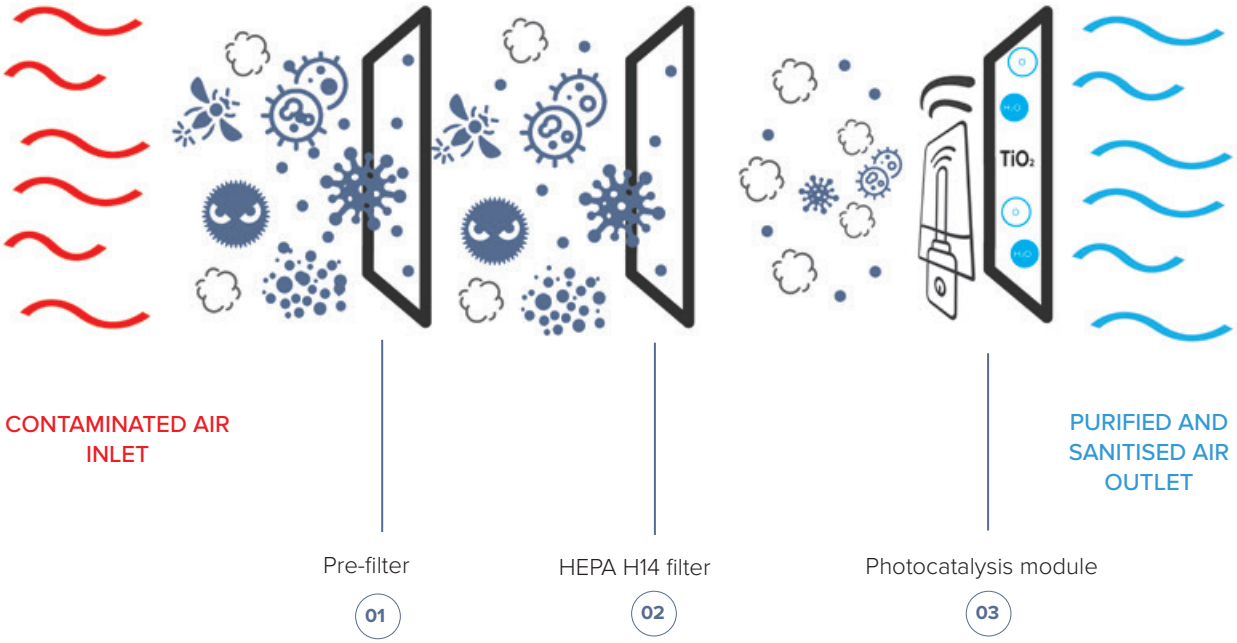
Metal housing which encloses the UV-C lamp electronic transformer.

Titanium dioxide catalyst (TiO_2) which includes the UV-C lamp inside.

DEPURO PRO RANGE

AIR PURIFIERS AND SANITISERS FOR COMMERCIAL AND INDUSTRIAL APPLICATIONS UP TO A SURFACE OF 100 M^2

FILTERING AND SANITISING PROCESS



01

ISO COARSE 65% PRE-FILTERS (G4)

2 ISO Coarse 65% (G4) class pre-filters located in correspondence of the intake ports. The pre-filters retain the macro impurities of the air, protecting the absolute filters behind them and thus prolonging their life.

02

HEPA H14 FILTERS

2 HEPA H14 absolute filters, capable of retaining up to 99.995% of microparticles (equivalent diameter ≤ 0.3 µm). HEPA filters are highly effective and guarantee the control of coarse, fine and ultra-fine dust particles, allergens and microorganisms.

FILTER MAINTENANCE

Filters are easily replaceable thanks to the quick release of the panels.

The actual need for periodic replacement of the filters is indicated on the control panel on the machine.

The duration of the filters in a purifier depends on three factors: the hours of use, the flow of treated air (in turn according to the rotation speed of the fan) and the concentration of pollutants in the room.

All this being said, in general it is possible to replace the G4 filters on average every 4/6 months in the presence of relatively clean air (offices and commercial buildings in general) or every 2/4 months if the treated air is charged with pollutants (e.g. warehouses, workshops, etc..). These intervals increase respectively to 10/12 months, or 8/10 months, for the HEPA H14 absolute filters.

ATTENTION. **Given the high retention capacity of polluting agents dangerous for health, such as pollens, spores and microorganisms (bacteria and viruses), when replacing the filters it is recommended to use appropriate individual protective equipment (mask, gloves, glasses) designed to prevent inhalation and, more generally, direct contact.**

03

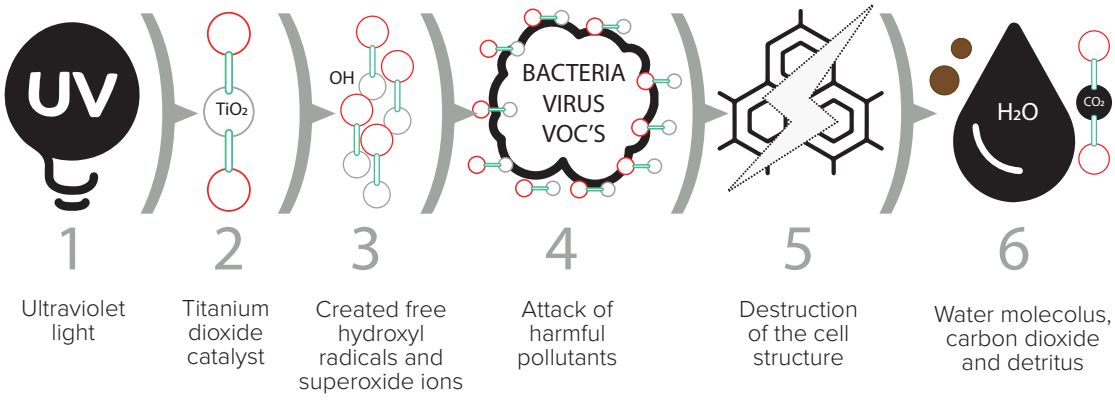
PHOTOCATALYSIS MODULE (EVO MODELS)

The irradiation of the catalyst (based on titanium dioxide, TiO_2) through a light of adequate wavelength triggers the release of free radicals OH* whose strongly oxidizing action is the basis of the purification and sanitization process: atmospheric pollutants such as carbon dioxide (CO_2), sulfur oxides (SOx), nitrogen oxides (NOx), carbon monoxide (CO) and polycyclic aromatic hydrocarbons (PAH), are transformed into compounds characterized by significantly reduced toxicity levels, as in the case of nitrogen monoxide (NO) and nitrogen dioxide (NO_2), which are converted into NO_3.

Similarly, VOCs, the category of compounds to which formaldehyde and acetone belong, among others, among the main causes of bad odors in closed environments, are decomposed and transformed into harmless substances, such as CO_2 and water.

In the case of pathogenic microorganisms such as bacteria and viruses, the effect of the oxidizing action is damage to the external protective coating, which causes its death.

ZOOM: HOW THE PHOTOCATALYTIC SYSTEM WORKS



FAQ

WHICH ARE THE BEST APPLICATIONS FOR DEPURO PRO RANGE?

The DEPURO PRO purifiers are characterized by high flow rates of treated air, suitable for large environments (150 and 300 m^3, depending on the model), and by the provision of absolute filters, capable of blocking the polluting particles present in the treated air, potentially harmful to health or such as to compromise the quality in the production processes.

Thanks to their ability to generate a high flow of sterile air, the purifiers of the DEPURO PRO range are ideal for analysis laboratories, medical and dental offices, offices, meeting rooms, bars, restaurants, gyms, fitness centers, beauty centers, shops, professional offices, pharmacies, RSA, schools and kindergartens, warehouses and logistics centers, workshops, etc.

WHAT IS THE FILTERING EFFECTIVENESS OF THE DEPURO PRO RANGE PURIFIERS?

The purifiers of the DEPURO PRO range are equipped with a two-stage filtering section, consisting of a pair of ISO Coarse 65% pre-filters (G4 according to the old classification), capable of reducing up to 65% of PM10. They retain dust and macro impurities and thus protect the underlying **pair of HEPA H14 absolute filters, capable of retaining 99.995% of particles <= 0.3 microns in size, the most dangerous for health,** given their ability to reach the pulmonary alveoli, the last offshoots of our respiratory system.

DOES DEPURO PRO HAVE HIGH PERFORMANCE HEPA 14 ABSOLUTE FILTERS?

Yes, all the filters that equip the purifiers of the DEPURO PRO range are subjected to strict laboratory tests that evaluate their effectiveness and ensure the achievement of the nominal abatement capacity. **The HEPA H14 absolute filters of each purifier of the DEPURO PRO range are supplied as fully protected and sealed units and are accompanied by a specific and unique certificate, which testifies to their effectiveness.**

ARE DEPURO PRO PURIFIERS EFFECTIVE AGAINST COVID-19?

According to the World Health Organization (WHO), most disease-causing pathogens are transmitted from person to person by air or by contact. Transmission by air is carried out through vectors such as droplets, of an average size greater than 5 microns, which can remain suspended in the air for a few minutes, and aerosols, between 2 and 5 microns, capable of floating for longer periods, according to their size and environmental conditions. Another possible vector seems to be, according to some hypotheses still under investigation, the microparticulate (PM) present in the air.

The most recent studies conducted on the coronavirus SARS-COV-2, the cause of the COVID-19 pandemic, whose average size is between 0.1 and 0.16 microns, identify the main source of infection in airborne transmission*. Droplets and aerosols produced by coughs, sneezing, breathing, as well as toilet flushes and some medical procedures, once released into the environment, before decaying, retain an infectious charge for several hours, contaminating in the meanwhile surfaces and objects and thus creating the conditions for the spread of the infection through contact with eyes, nose and mouth.

The pair of HEPA H14 absolute filters that equips each DEPURO PRO is able to retain 99.995% of the particles present in the treated air with dimensions <= 0.3 microns, erecting an effective, albeit not absolute, barrier against the vectors through which the virus partially spreads. Therefore, the use of DEPURO PRO purifiers makes it possible to reduce the concentration of the virus present in the environment, limiting the risks of infection.

The effectiveness of the DEPURO PRO EVO models against pathogenic microorganisms, including the virus causing the COVID-19 pandemic, is further highlighted by the presence of a photocatalysis module reproduction, a natural phenomenon that occurs in the presence of ultraviolet rays from the sun, humidity in the air and from some noble metals. The combination of these three factors triggers the release of oxidizing ions capable of neutralising the majority of pathogens present in the air and which are potentially dangerous to our health.

WHAT IS THE MAXIMUM VOLUME FOR WHICH THE DEPURO PRO PURIFIERS ARE EFFECTIVE?

The effectiveness of a purifier depends on the volume of the environment and the concentration of pollutants in it. The smaller the environment, and therefore the volume of air to be cleaned, and the lower the pollution rate, the faster the purifying action will be. Given the above, **the maximum volume of the target environments**

**Source: Scientific and technical information on Coronavirus disease, COVID-19 (update; 4 April 2020) of the Spanish Ministry of Health, page 11, point 2.1.*

of the DEPURO PRO range purifiers is respectively 150 m^3 for the 150 model and 300 m^3 for the 300 model, corresponding to surfaces of 50 m^2 and 100 m^2 respectively, in the hypothesis of ceilings 3 m high.

Of course, by leaving doors open, it is possible to benefit from the action of the single product in multiple rooms.

Further information can be obtained by writing to the VORTICE Presale Service at the address: prevendita@vortice-italy.com

WHERE TO PLACE THE DEPURO PRO PURIFIERS FOR BEST RESULTS?

To achieve the best results in terms of speed and purification effectiveness, it is advisable to place the product in the middle of room whose air you intend to treat. The wheels facilitate the movement of the unit.

HOW CAN I OPTIMIZE THE EFFECTIVENESS OF DEPURO PRO?

The effectiveness of a purifier depends, with the same construction and quality of the mounted filters, on the treated air flow rate: the greater the volume of air passing through the filters, the less time it takes to reduce the polluting charge present in the environment.

Therefore, **the best performance of DEPURO PRO is obtained when its fan operates at the highest speed among those available**, compatibly with the acoustic comfort of those present (see the following point in this regard). To ensure adequate levels of environmental comfort, **it is advisable not to turn off the purifier when the air quality improves or the room is not occupied, but rather to reduce the fan speed to lower consumption and noise emissions while still reducing the pollutant rate**.

The DEPURO PRO efficacy test, conducted by Eng. Benjamín Beltrán Bennasar (Senior Technical Chemical Engineer for Indoor Environmental Quality) and verified by the engineer Blai Carbonell i Rodríguez (Senior Technical Industrial Engineer for Indoor Environmental Quality) from the MON SOLAR INGENIEROS, S.L. office, is available upon request at the VORTICE Presale Service.

ARE DEPURO PRO PURIFIERS SILENT?

To be effective, a purifier must:

- be equipped with filters capable of effectively retaining pollutants;
- be designed and constructed so as to avoid leakage and thus ensure that all the treated air is effectively filtered;
- fit a fan powerful enough to treat an air flow rate suitable for the size of the environment to be purified, in order to ensure its effective purification.

All this being said, it follows that a purifier, to be truly effective, cannot be completely silent. Products advertised on the basis of this feature are often not very effective, either because they are equipped with inefficient filters, or because they are equipped with poorly performing fans.

The purifiers of the DEPURO PRO range are equipped with EC fans whose speed is adjustable ranging from 0 to 100%, so as to ensure the initial rapid reduction of the polluting charge present in the environment and the subsequent maintenance of adequate air quality levels to guarantee the health and comfort of the occupants, without causing excessive disturbance.

DO DEPURO PRO PURIFIERS NEED MAINTENANCE?

The correct use of the purifiers of the DEPURO PRO range does not require any intervention beyond the periodic replacement of the filters and the photocatalysis module.

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