

VORT ARIASALUS RANGE

It sanitises, purifies
and ventilates the air.



PVI centralised unit to purify,
sanitise and ventilate.

Able to eliminate:
MITES, POLLEN, DROPLETS,
BACTERIA AND VIRUSES.





VORTICE S.p.A. is now part of a multinational group, **the 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).



The VORTICE GROUP also includes:

[1] **VORTICE LIMITED**, the UK subsidiary of VORTICE S.p.A founded in 1977 with headquarters in Burton upon Trent.

[2] **VORTICE INDUSTRIAL**, created in 2010 through the acquisition of Loran srl, based in Isola della Scala (VR - Italy).

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

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

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



PURIFIED
AIR



FILTERED
AIR



SANITISATION



SILENT



LOW
CONSUMPTION

AIR PURIFIERS AND SANITISERS

The quality of indoor air has never been as crucial for a healthy life and for the people's well-being as it is today. Air quality technologies represent essential solutions to reduce the risk of the spread of pathogens such as viruses, bacteria and moulds, but also dust, mites, seasonal pollen and fine dust.

In order to improve the air quality, it is fundamental to focus on air exchange, purification and sanitisation. Combining these three processes, it is possible to act on the pathogens, so to neutralise them and consequently to ensure the health and safety of the people in the rooms.

Regulatory standards

The products of the VORT ARIASALUS range comply with the following European Norms, Directives and Regulations:

- Electrical Safety Regulations: EN 60335-1; EN 60335-2-65; EN 60529; EN 62233;
- Aerodynamic Performances Regulations: UNI EN ISO 5801;
- Electromagnetic Compatibility Regulations: EN 55014-1; EN 55014-2; EN 61000-3-2; EN 61000-3-3;
- European Directives for EC marking
 - Low Voltage Directive (2006/95/EC)
 - Electromagnetic Compatibility Directive (2004/108/EC)

VORT ARIASALUS RANGE
PVI CENTRALISED UNIT TO PURIFY,
SANITISE AND VENTILATE.

VORT ARIASALUS

RANGE

**PVI centralised unit to purify,
sanitise and ventilate.**

Installed in a false ceiling or in the attic, VORT ARIASALUS extracts the air from rooms, passing it through the filtering system that retains the impurities. The VORT ARIASALUS sanitisation (photocatalysis) device eliminates bacterial and viral pathogens, so ensures a healthy environment. In ventilation mode, VORT ARIASALUS provides the required air exchange, so to restore the ideal oxygen concentration and to reduce the relative humidity and carbon dioxide rates.

4



VORT ARIASALUS 100 code 25043 / VORT ARIASALUS 200 code 25044



BENEFITS FOR THE INSTALLER

01

Easy installation

Low weight:
VORT ARIASALUS 100 - 6.3 kg
VORT ARIASALUS 200 - 8 kg
and reduced dimensions.
Universal duct
connection Ø 100-150 mm

02

Easy maintenance

Easily accessible
inner components.

BENEFITS FOR THE USER

01

Excellent quality of ambient air guaranteed by 4 filters and the photocatalysis module:

- the **washable pre-filter** retains the macro impurities (fluff, animal hair, etc.);
- the **ISO COARSE 90% (G4) filter** retains up to 90% of PM10 microparticles along with pollen, spores and mites;
- the **EPA E11 absolute filter** retains almost all the micro-dust, the most harmful to health, given their ability to get to our respiratory system, reaching the pulmonary alveoli;
- the **anti-TVOC filter** removes the Volatile Organic Compounds released by paints, sealants, covering panels and produced by organic material combustion;
- the **photocatalysis module** exerts an important sanitising action, so to reduce the pathogenic load linked to fungi, bacteria and viruses.

02

Low running costs

- Energy efficient motors are ideal for continuous operation;
- The washable pre-filter, protects the G4 and E11 filters from risk of quick clogging, so prolongs their duration and reduces replacement costs;
- the UV lamp, integrated in the photocatalysis module, lasts for at least 2 years.

03

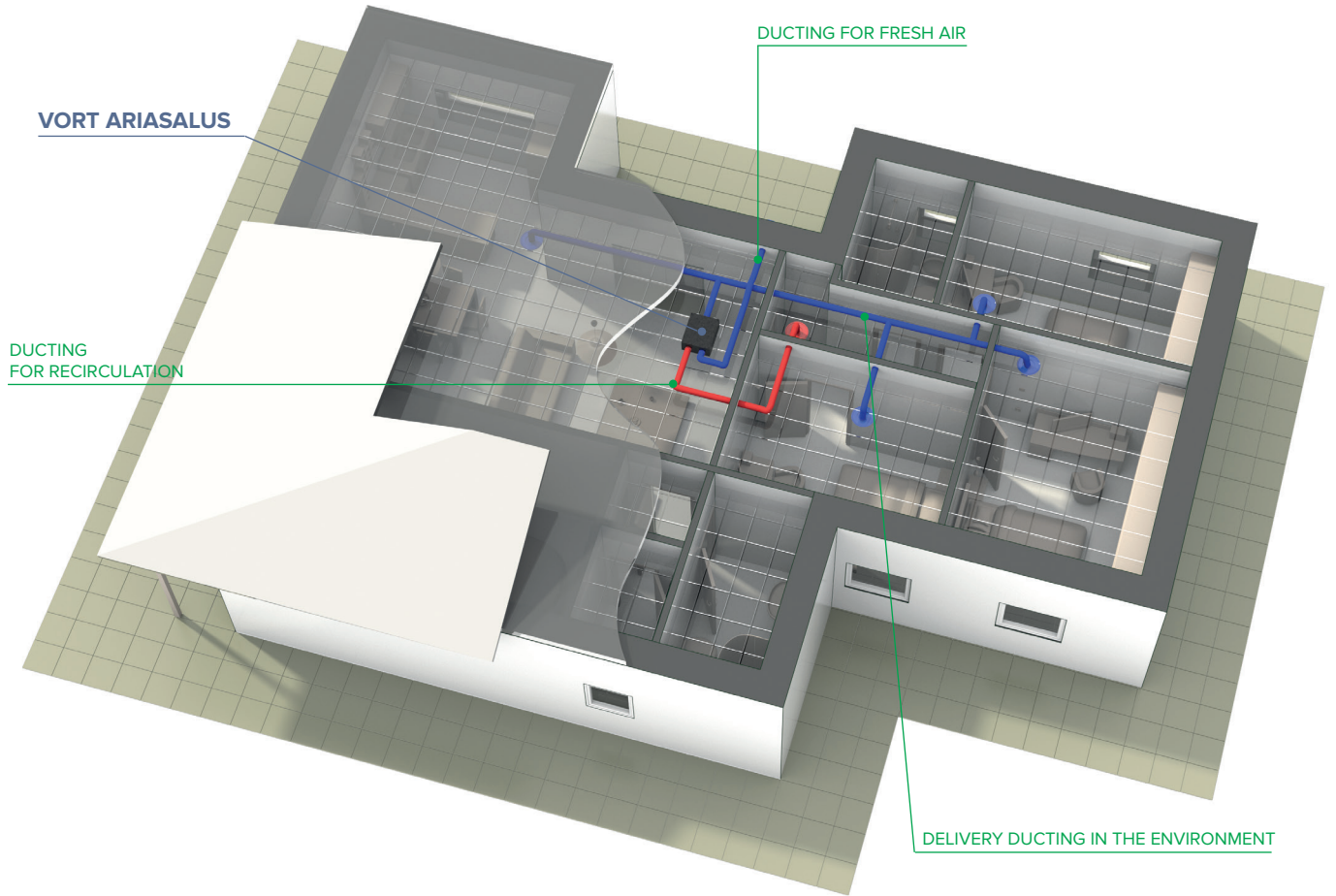
Performs

Possible to choose operation mode depending on requirements: purification or ventilation.

VORT ARIASALUS RANGE
PVI CENTRALISED UNIT TO PURIFY,
SANITISE AND VENTILATE.

INSTALLATIONS

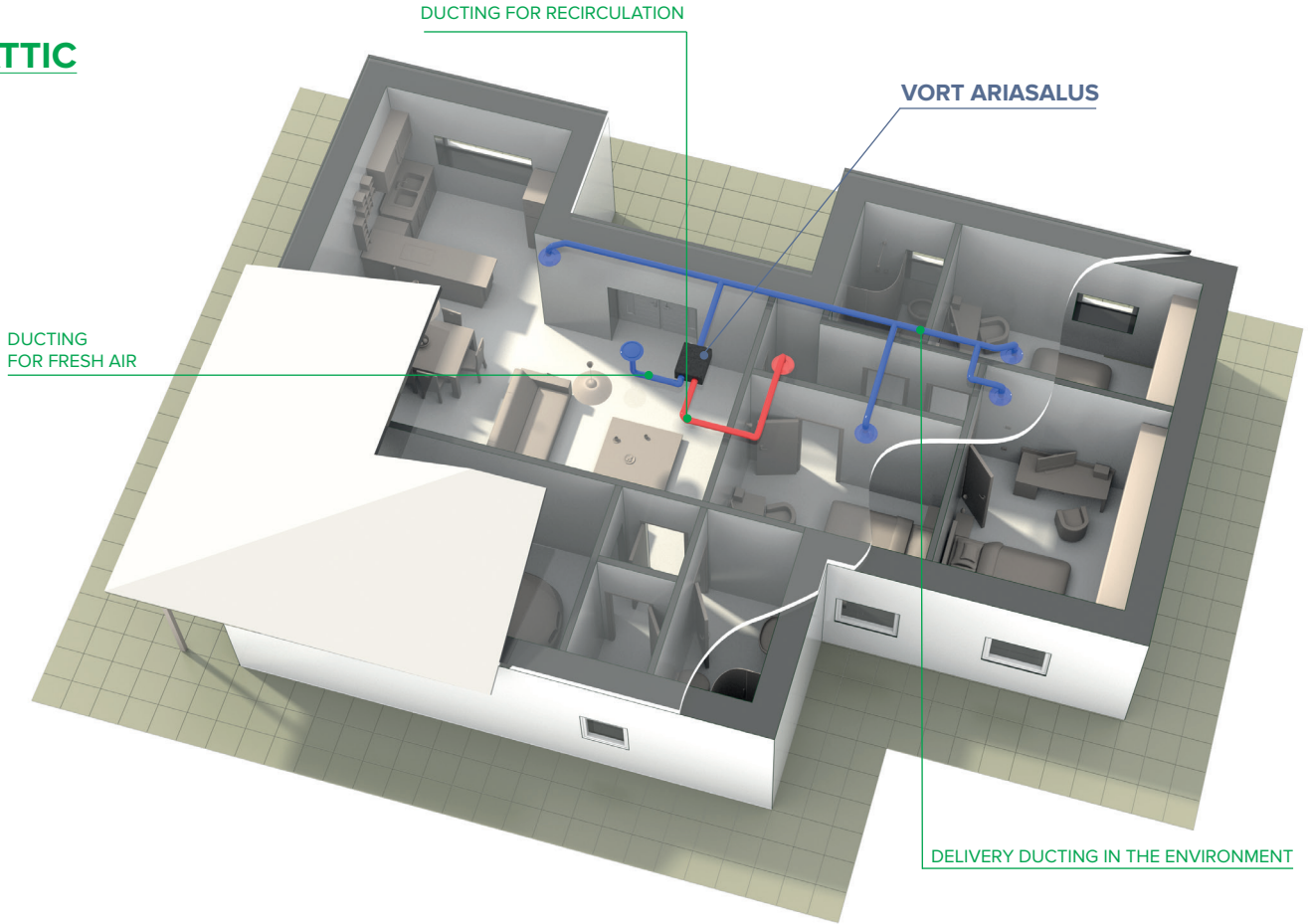
FALSE CEILING



6



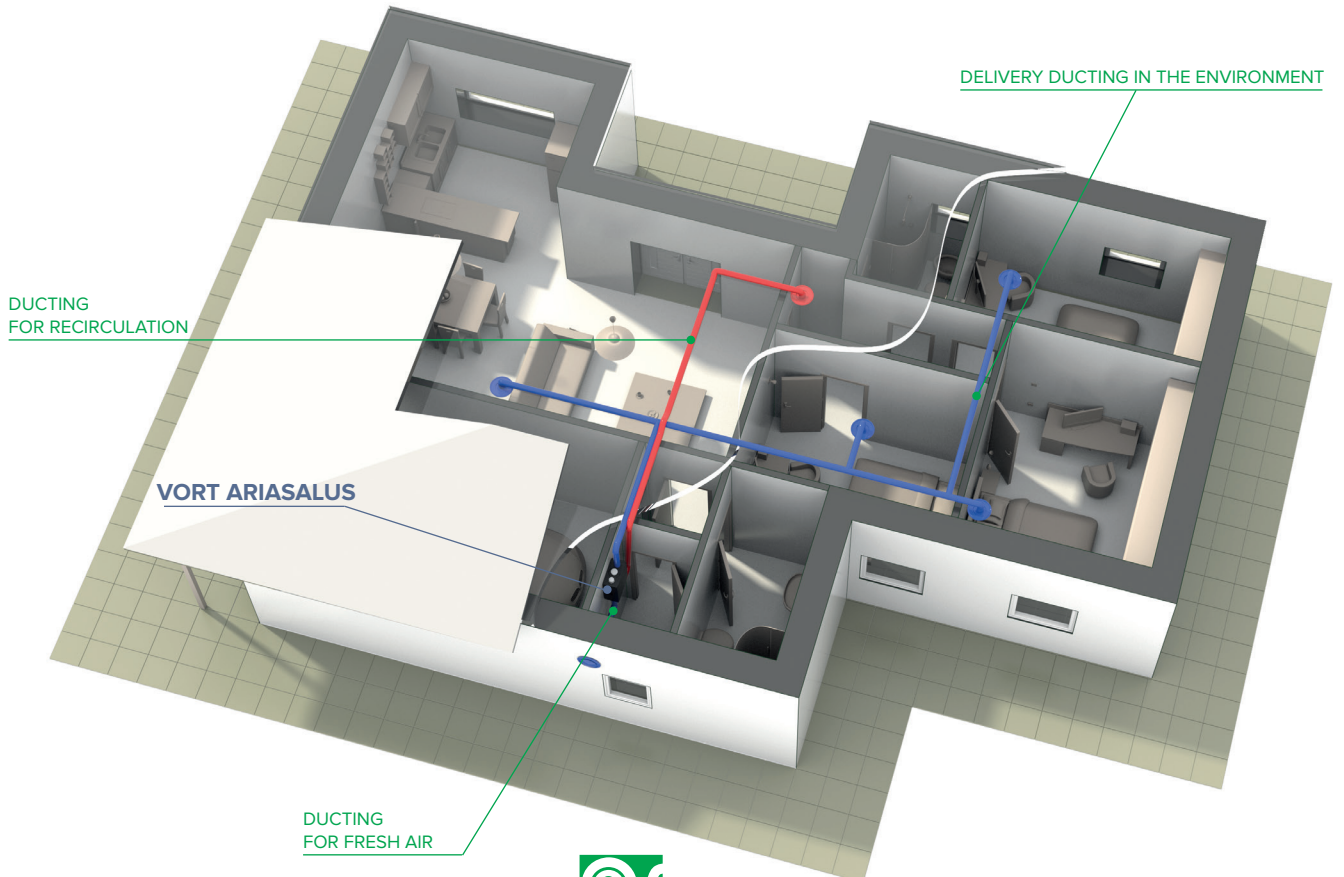
ATTIC



7

WALL MOUNTED

(Installation in the technical compartment)



VORT ARIASALUS RANGE
PVI CENTRALISED UNIT TO PURIFY,
SANITISE AND VENTILATE.

APPLICATIONS



Doctor/dentist's
waiting rooms, clinics,
veterinarians.

8



Hair salons, beauty centres, shops.



Schools, universities.



Retirement and nursing homes.



TECHNICAL **CHARACTERISTICS**

Available models

2 models, different in size and filtering capacity:

VORT ARIASALUS 100

(code 25043)

suitable for environments up to 65 m²,

VORT ARIASALUS 200

(code 25044)

suitable for environments up to 120 m².

Filters

5-stage filtering section formed by:

- plastic resin (nylon) dust filter;
- ISO COARSE 90% (G4) filter;
- absolute filter EPA E11, able to retain up to 95% of microparticles (PM) $\leq 3.0 \mu\text{m}$ in size, corresponding to 0.3 thousandths of mm, i.e. 160 times smaller than the average thickness of a hair;
- anti-TVOC (Volatile Organic Compounds) filter;
- photocatalysis unit, effective against bacteria, viruses, bad smells.

Casing

Plastic resin (PPE) housing, which is accompanied by circular ports for connection to the return and delivery piping. To better suit installation needs, the main delivery port, with a nominal diameter of 100 mm for **VORT ARIASALUS 100** and of 150 mm for **VORT ARIASALUS 200**, is flanked by two additional ports with a nominal diameter of 80 mm, usable in addition or as an alternative to the main one.

DESCRIPTION	CODE	DIMENSIONS
2 ISO COARSE 90% (G4) FILTERS	13044	418x209x20 mm
EPA E11 ABSOLUTE FILTER	13045	418x209x48 mm
2 TVOC FILTERS	13046	418x209x7 mm

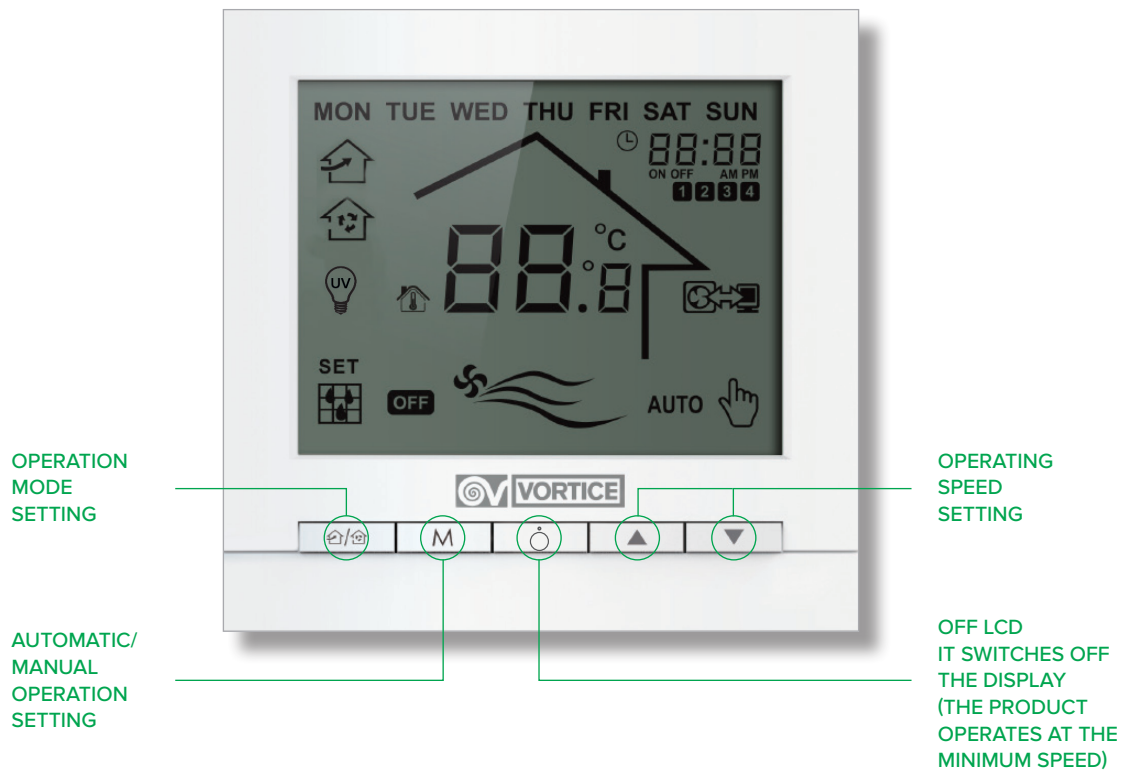
Dampers

Non-return dampers that determine the operation in ventilation or purification mode.

Fan

Centrifugal fan with self-cleaning backward curved blades, directly couple to a 3-speed ball motor external rota type, with thermal overloaded protection and class B insulation.

Control panel

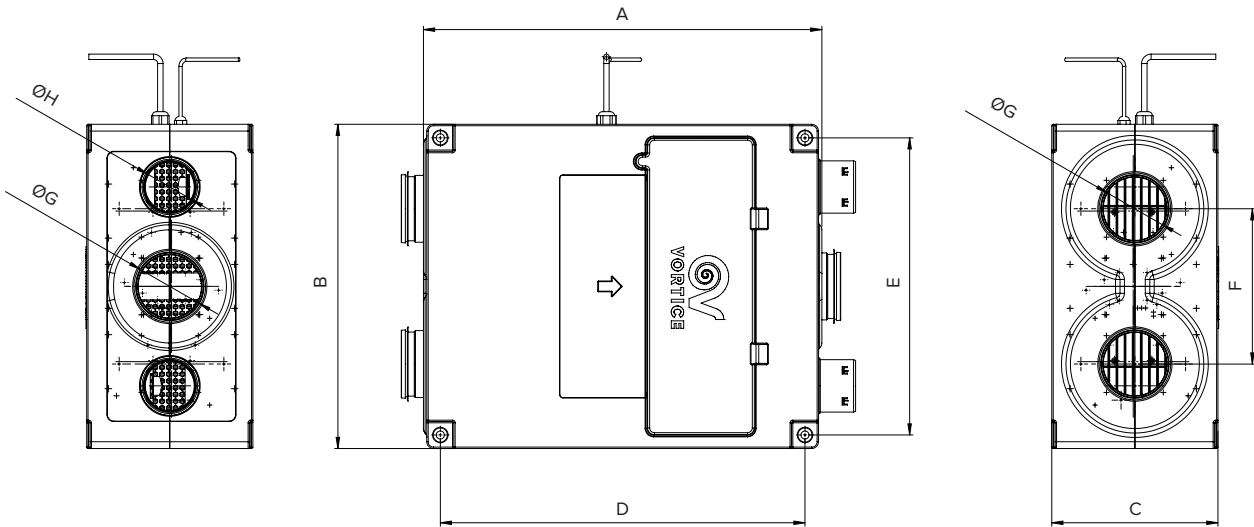


Remote control panel with wired LCD display for:

- setting the operating speed;
- setting the operation mode (positive ventilation or purification);
- weekly setting: it is possible to set, for every day of the week, up to 4 operating ranges of the product, each one characterised by a specific performance value among those available;
- displaying the time/day of the week;
- signalling the need to clean/replace the filters;
- signalling the periodic need to replace the UV lamp of the photocatalysis module (approximately every 2 years).

VORT ARIASALUS RANGE
PVI CENTRALISED UNIT TO PURIFY,
SANITISE AND VENTILATE.

Dimensions



Dimensions in mm

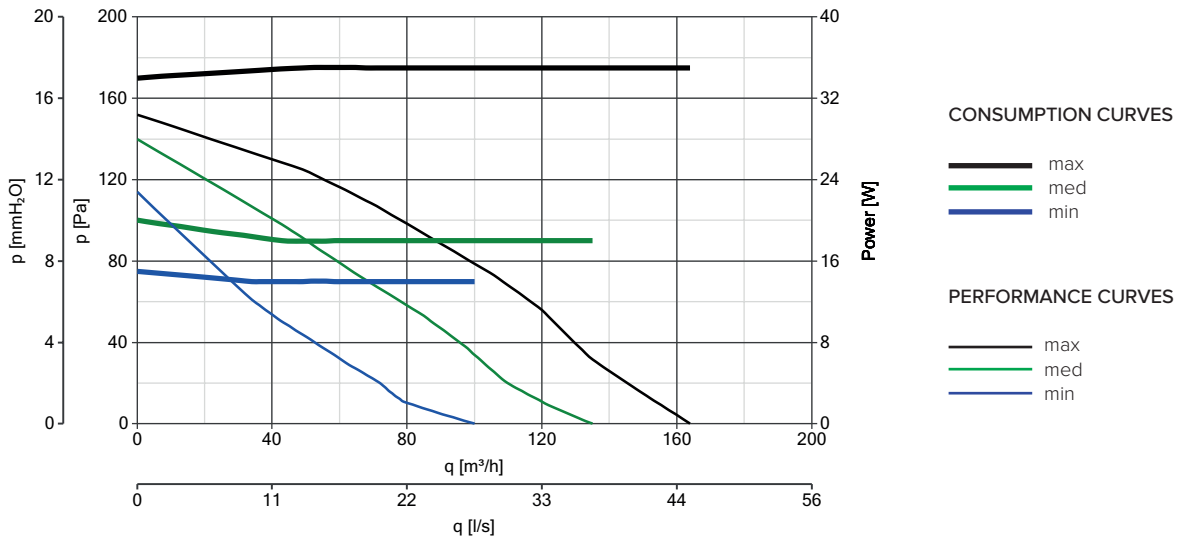
PRODUCTS	A	B	C	D	E	F	ØG	ØH
VORT ARIASALUS 100	590	480	246	540	440	230	100	77.5
VORT ARIASALUS 200	590	480	246	540	440	230	150	77.5

Technical data

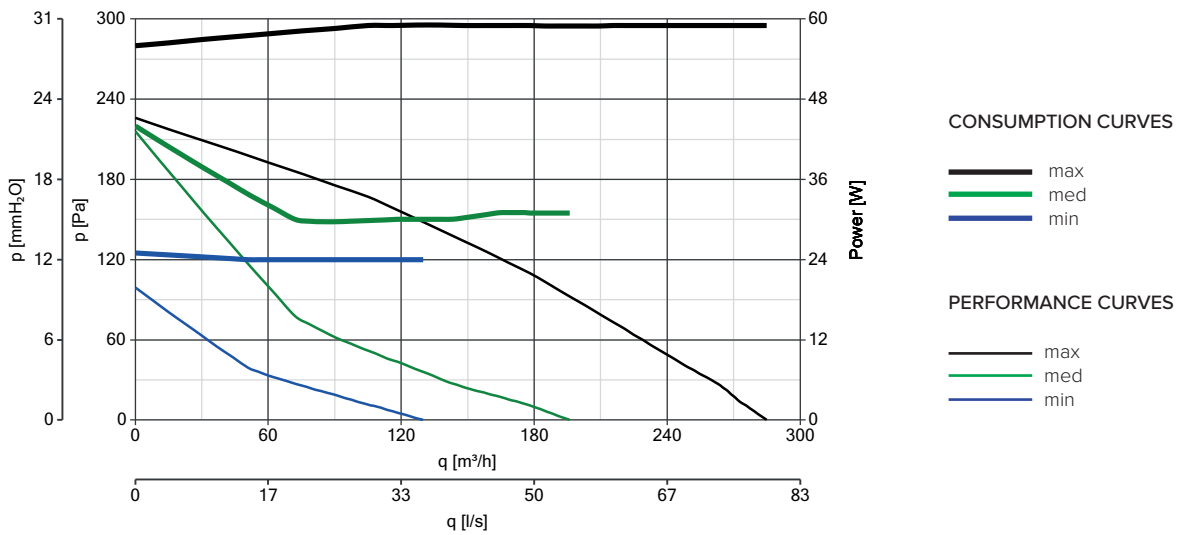
PRODUCTS	CODE	V~50 HZ	NOISE LEVEL Lw [dB(A)] min/med/ max	ACOUSTIC PRESSURE Lp [dB(A)] 3m min/med/max	W max	MAX FLOW RATE		MAX PRESSURE		IP	KG
						m³/h min/med/ max	l/s min/med/ max	mmH ₂ O min/med/ max	Pa min/med/ max		
VORT ARIASALUS 100	25043	220-230	42/47/51	24/30/33	35	100/135/164	28/38/46	12/14/16	114/140/152	X2	6.3
VORT ARIASALUS 200	25044	220-230	42/53/61	25/36/44	59	130/196/285	36/54/79	10/22/23	99/216/226	X2	8

Performance and consumption

VORT ARIASALUS 100 CODE 25043



VORT ARIASALUS 200 CODE 25044



VORT ARIASALUS RANGE
PVI CENTRALISED UNIT TO PURIFY,
SANITISE AND VENTILATE.

14





FILTERING SYSTEM



01 Photocatalysis module

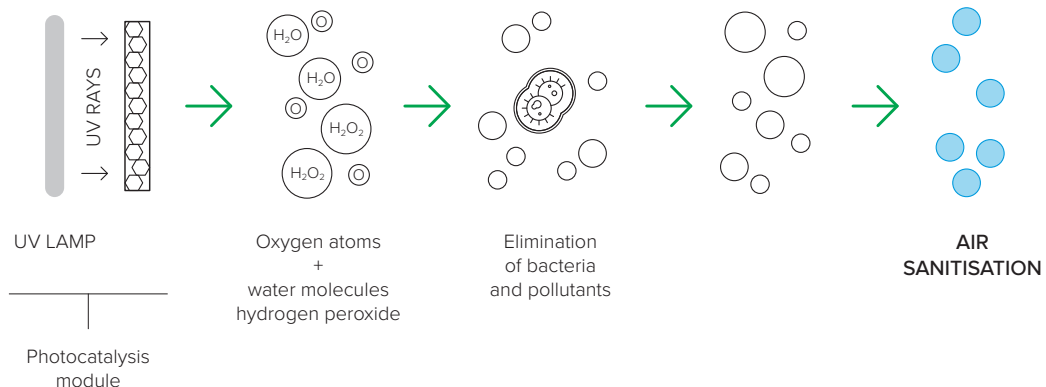
16

The photocatalysis unit used is based on the photocatalytic oxidation process (used in hospitals and in the aerospace, medical and food industries), which is a natural phenomenon that occurs in the presence of ultraviolet rays from the sun, air humidity and some noble metals. The combination of these three factors triggers the release of oxidising ions capable of neutralising the majority of pathogens in the air, which are potentially dangerous to our health.

The VORT ARIASALUS ultraviolet (UV) lamp illuminates a catalyst made from a special alloy based on titanium dioxide (TiO_2), which causes a photochemical reaction where oxygen (O) atoms bind with molecules of water (H_2O) dissolved in the air in the form of vapour.

The hydrogen peroxide molecules (H_2O_2) generated from this reaction are sufficient to eliminate most of the bad odours, mould, bacteria, viruses and allergens present both in the air and on the surfaces, SANITISING THEM.

HOW THE PHOTOCATALYTIC SYSTEM WORKS



02 Pre-filter

Washable, plastic resin (nylon) dust pre-filter. It eliminates large impurities present in the air, i.e. it captures threads, dust, hair, etc.

03 G4 ISO COARSE filter

It is effective up to 90%, it retains pollen, spores, microparticles, etc.

04 EPA E11 absolute filter

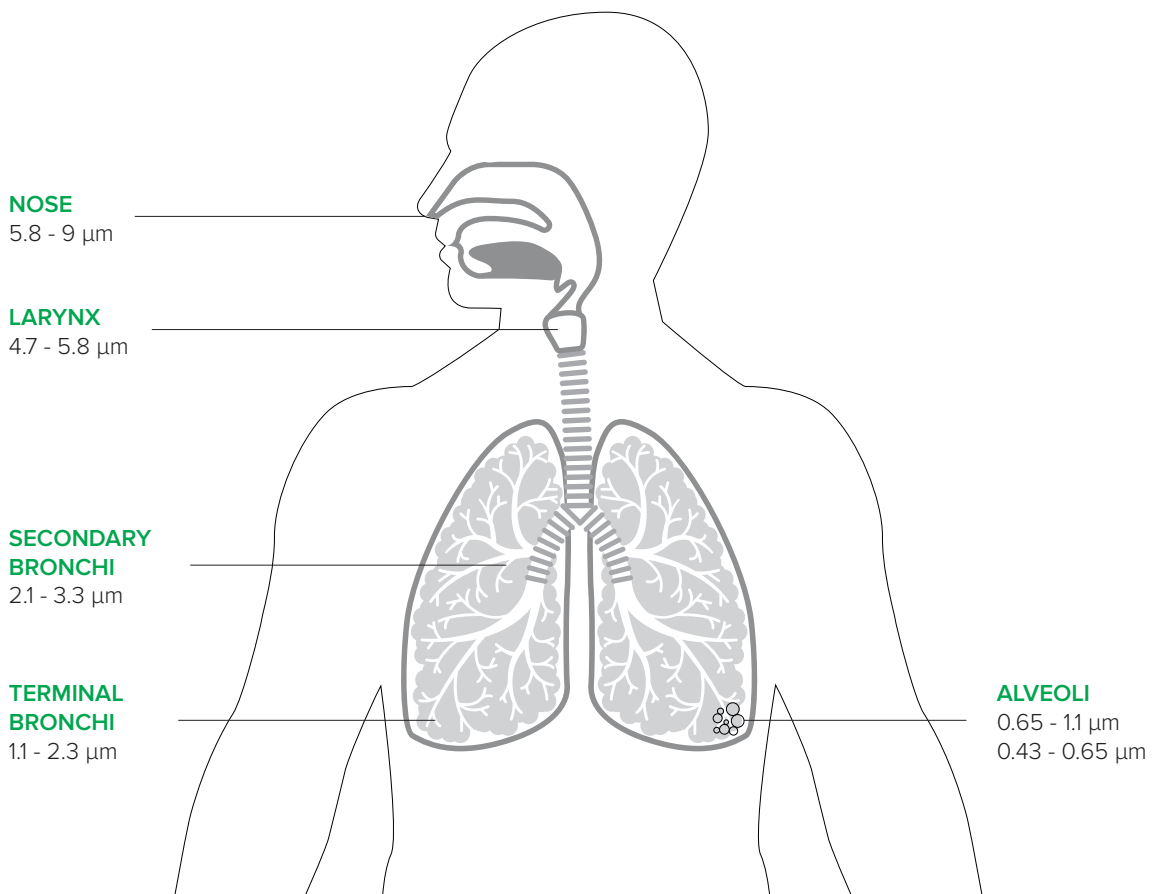
It retains up to 95% of microparticles (PM) $\leq 0.3 \mu\text{m}$ in size, corresponding to 0.3 thousandths of mm, i.e. 160 times smaller than the average thickness of a hair.

05 TVOC

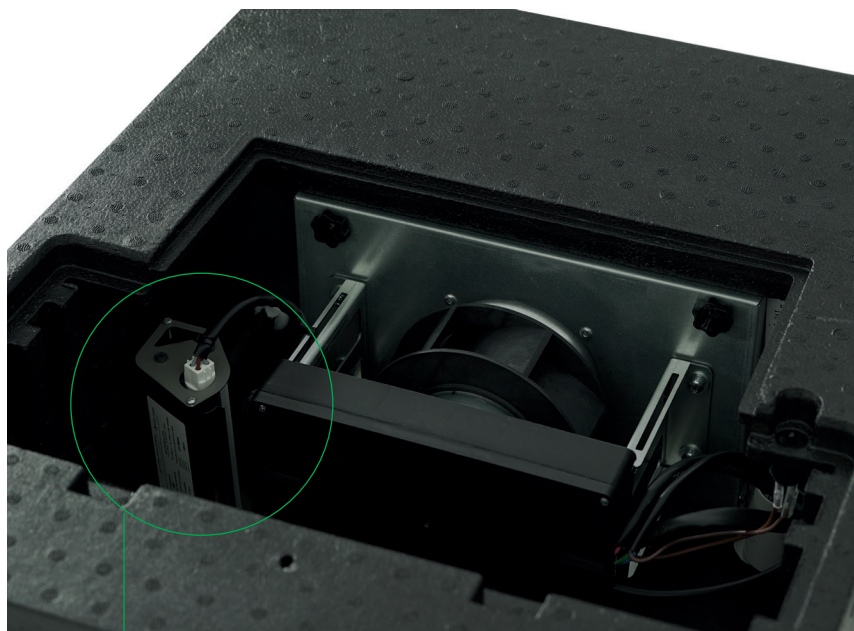
It retains the volatile organic compounds present in the indoor air that are released by the occupants through breathing/sweating, by cosmetic products, by heating systems, by cleaning products, etc.

DUSTS IN OUR RESPIRATORY SYSTEM

Size in micrometres (μm)

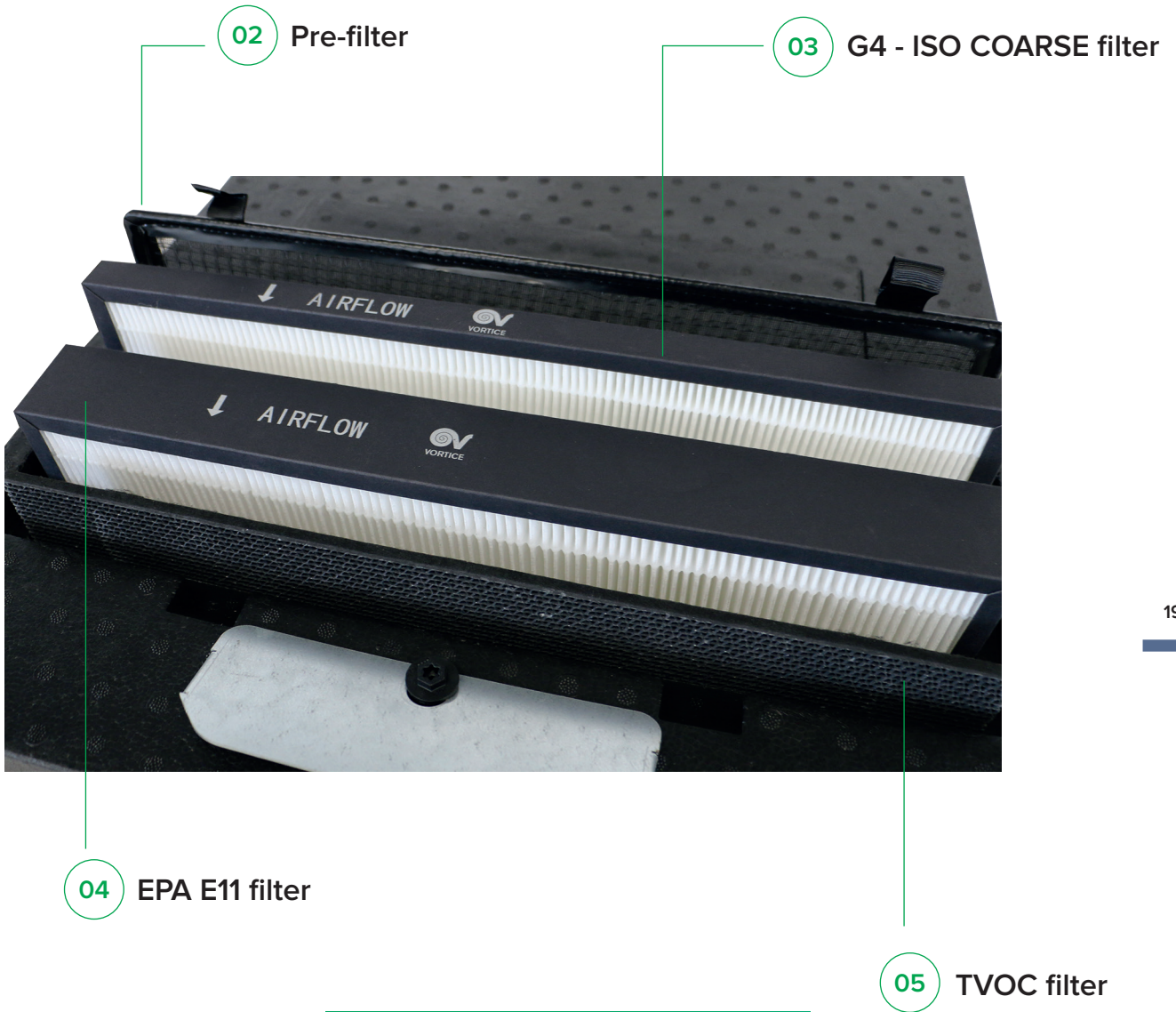


01 **Photocatalysis module**



Photocatalysis module, effective against bad smells, bacteria and viruses, especially SARS-CoV-2, causing the COVID-19 pandemic. The effectiveness of the Dust Free technology used in **VORT ARIASALUS** has been proven by tests performed at the **Biomedical and Clinical Sciences Department 'Luigi Sacco' of the University of the Studies of Milan** using a fan with the air flow rate of 35 m³/h. These tests showed the product 'ability to reduce the SARS-CoV-2 viral load inoculated as a liquid both on a surface and on a fabric. The abatement verified on the inoculated Petri dish of SARS-CoV-2, exposed to treated air for 20 minutes in a volume of 2.13 m³, showed a reduction of 1.0 log (90.0%) greater than the natural decay of the virus verified in the control test, performed under the same conditions, but without the Dust Free technology. The abatement verified on the cloth consisting of 45% polyether and 55% cellulose, inoculated with SARS-CoV-2, exposed to treated air for 20 minutes in a volume of 2.13 m³, showed a reduction of 2.5 log (99.7%) higher than the natural decay of the virus verified in the control test, performed under the same conditions, but without the Dust Free technology'.

Filters



Filter maintenance

ATTENTION!

Given the high retention capacity of polluting agents dangerous for health, such as pollen, 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.

FAQ

What are the VORT ARIASALUS products?

They are PIV centralised units that are able to:

- purify and sanitise the air in the rooms, so to reduce allergens, polluting agents (microparticles, mites, pollen, spores, etc.) and pathogens (bacteria, viruses, etc.) that may be present.
- ventilate rooms by extracting stale air, characterised by high levels of CO₂ and relative humidity, and replacing it with fresh air, rich in oxygen and adequately filtered, so to restore the conditions that are the most appropriate for human metabolism.

How do the VORT ARIASALUS products work?

Every VORT ARIASALUS product has a remote control panel that allows to set the operation mode—Purification or Ventilation—and the air flow rate. It is also possible to set 4 sequences throughout the day, each with the desired duration, during which the product will switch between the Purification and the Ventilation mode. The user will also be able to set a specific flow rate among the 3 available options. The set operation mode is always visible on the LCD display of the control panel.

Why to install VORT ARIASALUS?

- It is an effective purifier, equipped with a set of filters that are able to remove the concentration of pollutants, so to ensure an excellent quality of ambient air.
- It is a powerful sanitisation device due to its photocatalysis module, effective against fungi, bacteria and viruses, including the SARS-CoV-2 virus responsible for the COVID-19 pandemic, as proven by the tests performed at the Biomedical and Clinical Sciences Department 'Luigi Sacco' of the University of the Studies of Milan.
- It is an effective device for ventilation, able to always ensure the proper air exchange in the rooms, so to restore ideal oxygen and relative humidity levels.
- It has flexibility of use, enabling the choice of operation to meet requirements.
- It has low operating costs.
- The washable pre-filter protects other filters from the risk of quick clogging, so to prolong their duration.
- The UV lamp lasts for 2 years.

Where to install the VORT ARIASALUS products?

They are ideal for residential buildings, analysis laboratories, medical and dental offices, professional offices, pharmacies, RC, schools and kindergartens, etc.

What is the sanitising efficacy of the VORT ARIASALUS products?

The VORT ARIASALUS products are equipped with a washable pre-filter, whose aim is to retain macro pollutants (human or animal hair, fluff, etc.); with an ISO COARSE 90% (G4 according to the old classification) filter, able to reduce up to 90% of PM10 and intended to retain dust and micro impurities; with an EPA E11 filter, able to retain almost all the particles <= 0.3 microns in size, the most dangerous for health, given their ability to reach the pulmonary alveoli.

Are the VORT ARIASALUS products 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 microparticles (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*. 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.

The EPA E11 filter of VORT ARIASALUS is able to retain 95% 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, so to limit the risks of infection.

Another barrier against microorganisms causes of infections is formed by the VORT ARIASALUS

photocatalysis module, due to the action of an ultraviolet (UV) lamp which illuminates a catalyst made from a special alloy based on titanium dioxide (TiO₂), and this triggers a photochemical reaction where oxygen (O) atoms bind with molecules of water (H₂O) dissolved in the air in the form of vapour. The hydrogen peroxide molecules (H₂O₂) from this reaction are sufficient to eliminate most of the bad odours, mould, allergens, bacteria and viruses present both in the air and on the surfaces, sanitising them.

The effectiveness of the Dust Free technology used in the VORT ARIASALUS photocatalysis module has been proven by tests performed at the Biomedical and Clinical Sciences Department 'Luigi Sacco' of the University of the Studies of Milan using a fan with the air flow rate of 35 m³/h. These tests showed the product 'ability to reduce the SARS-CoV-2 viral load inoculated as a liquid both on a surface and on a fabric. The abatement verified on the inoculated petri dish of SARS-CoV-2, exposed to treated air for 20 minutes in a volume of 2.13 m³, showed a reduction of 1.0 log (90.0%) greater than the natural decay of the virus verified in the control test, performed under the same conditions, but without the Dust Free technology. The abatement verified on the cloth consisting of 45% polyether and 55% cellulose, inoculated with SARS-CoV-2, exposed to treated air for 20 minutes in a volume of 2.13 m³, showed a reduction of 2.5 log (99.7%) higher than the natural decay of the virus verified in the control test, performed under the same conditions, but without the Dust Free technology'.

* 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.

What are the benefits of VORT ARIASALUS positive ventilation?

Positive ventilation is an efficient and cost-effective system aimed at ensuring proper air exchange in the rooms. Normally installed in the attic or in an area inside the house, thus at a temperature higher than the outdoor temperature, it injects fresh air, properly filtered, in the environments. It sucks in the air from the place where it is installed and consequently, due to the overpressure, it expels it, through grilles for stale air. The benefits are:

- a higher fresh air temperature, that limits energy consumption related to heating
- the possibility to filter fresh air, that enters the environment free of impurities (pollen, particles, etc.) normally present in the atmosphere.

For which surfaces are the VORT

ARIASALUS products suitable?

VORT ARIASALUS 100 up to 65 m²;
VORT ARIASALUS 200 up to 100 m². These values decrease with regard to the crowd index (number of people simultaneously present in the rooms), according to the existing legal provisions.

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

Do the VORT ARIASALUS products produce ozone?

Ozone (O₃) is an oxidising agent produced by the transformation, induced by high voltage electrical discharges, typical of lightning during a storm, of oxygen molecules.

The effectiveness of ozone against spores, fungi, bacteria and viruses has long been known.

In Italy, the Ministry of Health, with protocol no. 24482 of July 1996, recognised ozone as a Natural Aid for the Sterilisation of Environments.

If inhaled in high quantities, ozone can cause negative health effects. To avoid these risks, the regulations indicate in 0.06 ppm (parts per million) the limit value of the ozone rate to which a human being can be exposed without danger for an extended period, set at 8 h/day for 5 days/week. For exposures reduced to 15 minutes, the limit is set to 0.3 ppm.

The VORT ARIASALUS products amply comply with these limits.

Where to place the VORT ARIASALUS products?

It is advisable to install VORT ARIASALUS in the attic or in an uninhabited area inside the building, thus not being subject to emission of pollutants by occupants. In this way, it will be possible to inject fresh air in the environment, being this air at a temperature slightly higher than the outdoor temperature (in the cold months).

How to best use the VORT ARIASALUS products?

The best performance of VORT ARIASALUS is obtained when its fan operates at the highest speed among those available, compatibly with the acoustic comfort of those present. To ensure adequate levels of environmental comfort and healthiness,

VORT ARIASALUS RANGE
PVI CENTRALISED UNIT TO PURIFY,
SANITISE AND VENTILATE.

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 keeping the air clean.

CAN the operation of the VORT ARIASALUS products be set?

The VORT ARIASALUS products are equipped with an electronic programmer that allows to set, in an easy and quick way through the control panel, the operation mode and the air flow rate delivered in different moments of the day (up to 4 possible ranges).

How long do the VORT ARIASALUS filters last?

The life of the filters in a purifier depends on three factors:

- the hours of use;
- the flow rate of treated air, in turn according to the rotation speed of the fan;
- the concentration of pollutants in the room.

The VORT ARIASALUS products integrate a system to monitor the status of the filters that indicates the need to replace them on the control panel.

All this being said, in general it is possible to replace the VORT ARIASALUS filters on average every 6 months.

What is the duration of the UV lamp, part of the photocatalysis module of VORT ARIASALUS?

The service life of the UV lamp of the photocatalysis module is about 17,500 h (2 years).

However, the need to replace it is indicated by a specific notice on the LCD display of the control panel.

What measures must be taken to replace the VORT ARIASALUS filters in total safety?

The high retention capacity of the VORT ARIASALUS filters ensures that they can retain and contain pollen, spores and microorganisms, such as bacteria and viruses, potentially dangerous for health. Therefore, before replacing them, it is recommended to wear appropriate individual protective equipment (masks, gloves and glasses), designed to prevent inhalation and, more generally, direct contact.

replacement filters be found?

Filters, as well as all spare parts for VORTICE products, can be purchased from authorised VORTICE service centres. You can find the one closest to you or more easily accessible from a list that can be obtained:

- by downloading it from:
https://www.vortice.it/it/trova_centro_assistenza
- by calling toll-free: 800555777
- by writing to the email address:
postvendita@vortice-italy.com

How long will the VORT ARIASALUS filters be available on the market?

Similarly to the other products in the VORTICE range, the availability of spare parts, as well as consumables, is guaranteed for 10 years from the end of production.

VORTICE GROUP COMPANIES

VORTICE S.P.A

Strada Cerca, 2
Frazione di Zoate
20067 Tribiano
(Milan) Italy
Tel. (+39) 02 906991
Fax (+39) 02 90699625
vortice.com

VORTICE LIMITED

Beeches House
Eastern Avenue
Burton upon Trent
DE13 0BB United Kingdom
Tel. (+44) 1283 492949
Fax (+44) 1283 544121
vortice.ltd.uk

VORTICE INDUSTRIAL S.R.L.

Via B. Brugnoli 3,
37063 Isola della Scala
(Verona) Italy
Tel. (+39) 045 6631042
Fax (+39) 045 6631039
vorticeindustrial.com

CASALS VENTILACIÓN AIR INDUSTRIAL S.L.

Ctra. Camprodon, s/n 17860
Sant Joan de les Abadesses
(Girona) Spain
Tel. (+34) 972720150
casals.com

VORTICE LATAM S.A.

Bodega #6
Zona Franca Este Alajuela,
Alajuela 20101
Costa Rica
Tel. (+506) 2201.6934
vortice-latam.com

VORTICE VENTILATION SYSTEM

(Changzhou) Co.LTD
No. 388 West Huanghe Road
Building 19, Changzhou
Post Code: 213000 China
Tel. (+86) 0519 88990150
Fax (+86) 0519 88990151
vortice-china.com

TOLL-FREE NUMBER

800 555 777

The descriptions and illustrations in this catalogue are intended to be indicative and not binding. Without prejudice to the essential characteristics of the products described and illustrated here, VORTICE reserves the right to make, at any time and without notice, any changes to parts, aesthetic details or supply of accessories to its products that are deemed to be appropriate for improvement or for any construction or commercial requirement.
This printout completely cancels and replaces all previous ones.

