

Air purifier for livestock farming

Cyclohnic



cyclohnic

INSTALLATION, OPERATION AND MAINTENANCE MANUAL



*Please, read these instructions carefully before attempting installation
Deliver this manual to the final user.*

SECURITY ADVISE SYMBOLS



Attention, Danger, Safety Advice!



Danger from electric current or high voltage!



Injuries risk!



Danger! Do not stay underneath: Heavy load.



Important information.



*Attention! Wear protective glasses
UV-A: Ultraviolet radiation.*

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IMPORTANT INSTRUCTIONS

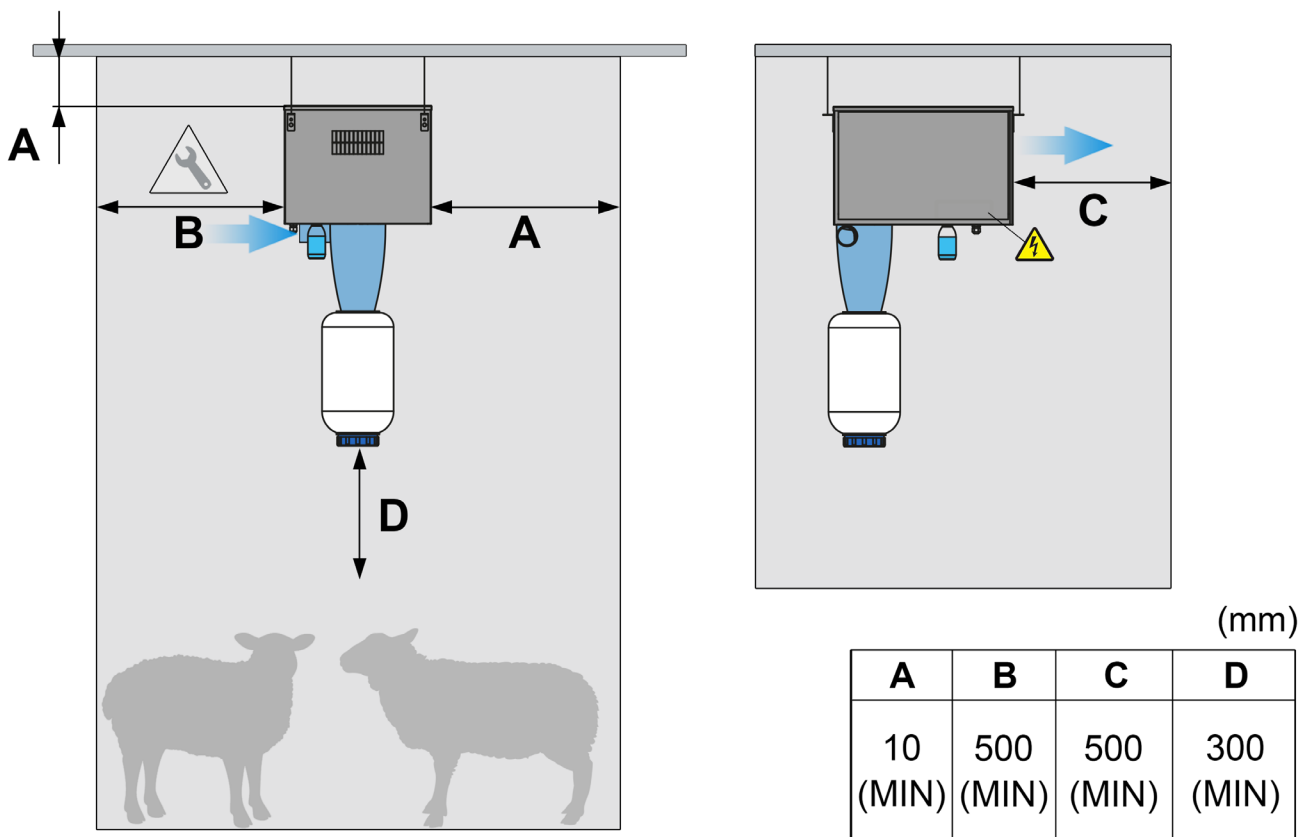
Please before installing or using the ventilation unit, read carefully all instructions and considerations to reduce the risk of fire, electric shock, injury to people or damage to the ventilation unit itself. For that is recommended to follow the next basic precautions:

1. Use the ventilation unit only in the manner intended by the manufacturer and described in this manual. Any other use not recommended may increase the risks mentioned before.
2. Installation work and electrical wiring must be done by a qualified technician. Be also carefull to not damage electrical wiring or hidden utilities when cutting or drilling into a wall or ceiling.
3. The ventilation unit is a heavy appliance and for that matter it must be elevated with proper lifting tools to prevent injuries to the people who install it.
4. Before servicing or cleaning the unit, switch power off at service pannel and lock the service disconnecting the means to prevent being switched on accidentally. When the service protection elements cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.
5. It's HIGHLY recommended to do a periodical maintenance as stated in this manual section following the instructions given to clean the inlet grille, visual inspect each part and prevent any possible malfunction or issue of the ventilation unit before it happens.
6. Do not operate any ventilation unit after it malfunctions. Disconnect power at service panel and have ventilation unit inspected by a qualified technician before reusing.
7. To disconnect the ventilation unit, unplug the power supply.
8. The optimal working temperature of the fans is between 5°C and 40°C (41°F to 104°F) to protect the electrical components and at most should not exceed 50°C (122°F).
9. This unit has an UVA led inside, do not open any panel while the cyclohnic is working/functioning.
10. Before cartridge replacement, read carefully the maintenance instructions.

SAVE THESE INSTRUCTIONS

INSTALLATION

	<p>Installation work, connection, disconnection, electrical wiring, mechanical maintenance and service must be done by qualified people observing these instructions and in accordance with all applicable norms and standards.</p> <p>If the unit is operated with additional controller, please consider its specific instructions.</p>
	<p>The electrical connection is made with a shucko connector. It is not necessary to open the service panel to connect the equipment. The equipment fixings are external (in the standard model, located at the top or rear of the purifier). To make a repair or replacement it is necessary to open the service side panel. (see repairs section).</p>
	<p>For manipulation safety, being it assembling, transport or maintenance duties it's a must to wear the correct individual protection equipment recommended. Those being gloves, insulating shoes, goggles and helmet.</p>



MIN. Recommended minimum distance.

Be careful, the more free space you give to the equipment, the better air quality you can get. For this, it is necessary to respect the following installation measures:

Suction plane: Minimum free area of 200mm (recommended to clear the maximum space to facilitate the suction of particles).

Discharge plane: Minimum free area of 500mm (it is recommended to clear as much space as possible to make it easier for the OH to spread throughout the room (Dimension C)).

Upper plane: Minimum separation with the ceiling of 10 mm (Dimension A).

Lower plane: Minimum free area of 300mm from cyclonic tank (cartridge replacement and emptying of the cyclonic tank) (Dimension D).

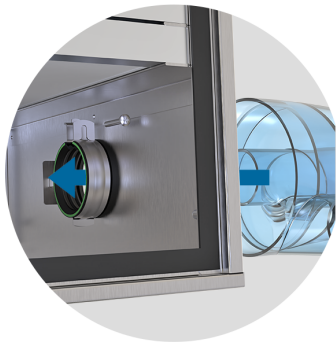
Maintenance plane: 500mm free area, recommended 1 metre.

Opposite plane to maintenance: 10mm.

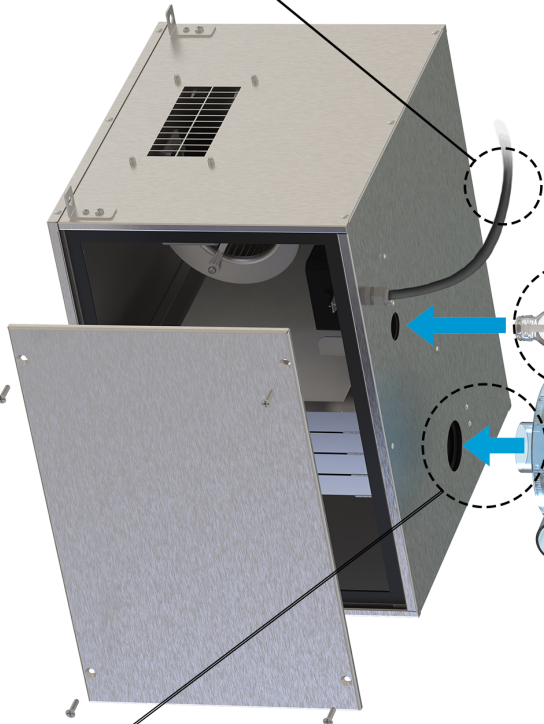
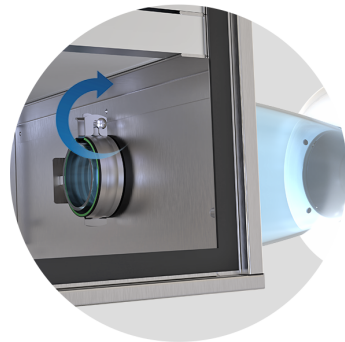
CONNECTION DIAGRAM

MOUNTING OF THE CYCLONE COLLECTOR

- 1 Open side service panel with a screwdriver.
- 2 Loosen the clamp screw that will fix the cyclone collector.



- 3 Insert the collector into the clamp and tighten the screw to secure it.



ELECTRICAL CONNECTION ON /OFF

Connect Cyclohmnic with shucko type plug to a power outlet 230V 50/60Hz



CONSUMABLE CARTRIDGE INSTALLATION

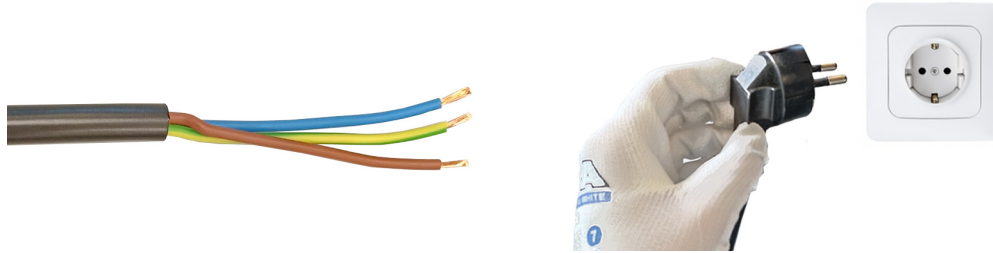


- 1 Remove the plug of the cartridge
- 2 Check that the wick is inserted
- 3 Screw on the cartridge in the reactor chamber

Power supply

The Cyclohnic air purifier has a 3-meter, 3-way cable (line, neutral and earth) that must be connected to a 230Vx1 50/60Hz power outlet with the Shuck-type plug that it incorporates.

A switch can be connected between the equipment and the power outlet. In this way, you can unplug the equipment easily.



Fixations

The equipment has four fixing angles located at each corner of the box (see location in the model characteristics section).

The anchor must be sized according to the weights of the Cyclohnic indicated on the technical data page. Installation can be done using threaded studs, turnbuckles, or other supports. See supports in accessories.

TRANSPORT AND STORAGE



ATTENTION! Heavy object.

Do not stand under the suspended load during its transport or assembly.

Store in a dry place protected from the elements. If the packaging is open, cover the purifier to protect it from dust. Do not step on or place heavy loads on it to avoid damage to the material. Storage temperature between -20°C and +40°C.

When transporting the material, you must ensure that it is not damaged by the forklift.

(possible penetration of the fork in the packaging). Observe the instructions on the packaging.

Includes a consumable with disinfectant liquid (hydrogen peroxide solution).



(EN) CAUTION: Causes skin irritation. Causes serious eye irritation. Keep away from combustible materials. Wash hands and forearms thoroughly after handling.

IN CASE OF CONTACT WITH EYES: Rinse cautiously with water for several minutes. Remove contact lenses when they are present and can be done easily. Continue with the wash.

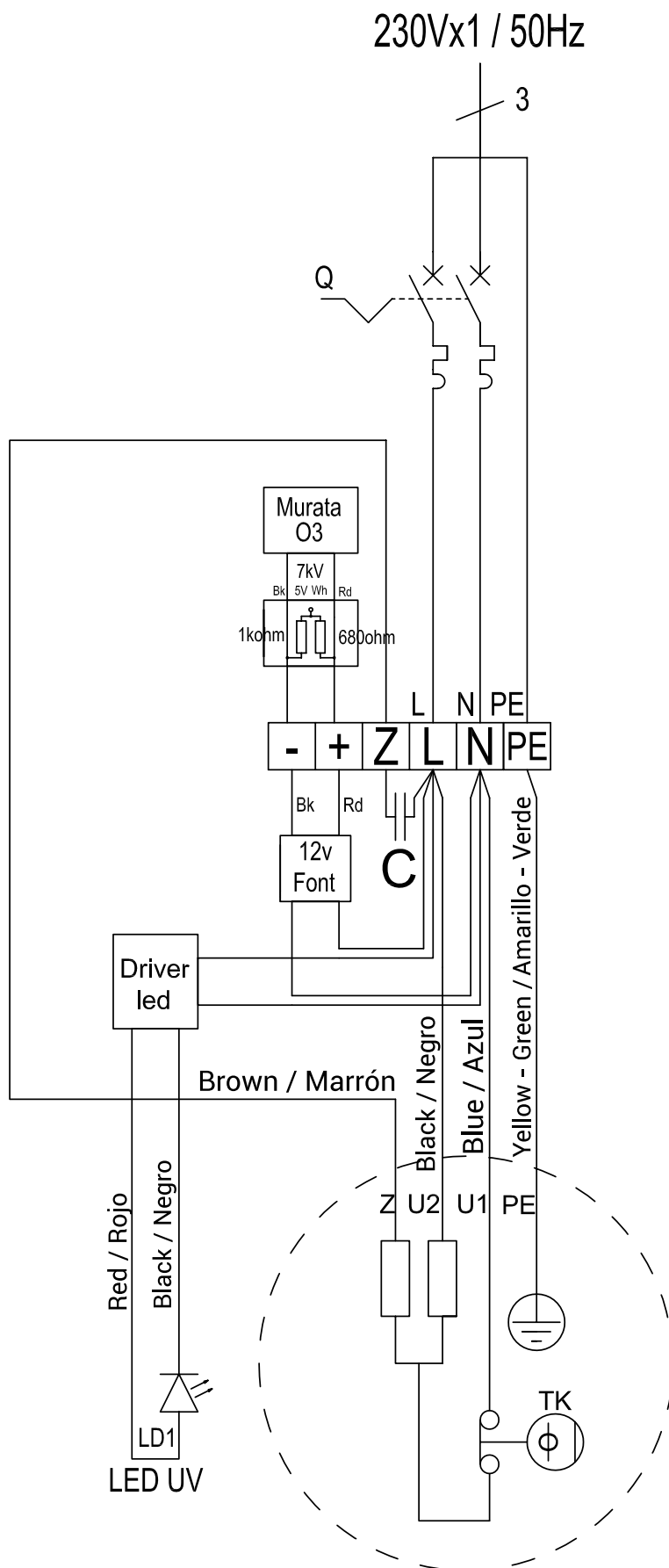
IF SWALLOWED: Rinse mouth. Call a POISON CENTER or doctor/physician if you feel unwell.

Store in a well ventilated place. Keep the recipient hermetically sealed. Keep out of the reach of children. Dispose of contents/container at an approved waste disposal facility.

OPERATING INSTRUCTIONS

To put the device into operation, it is only necessary to connect it to a voltage of 230Vx1 50/60Hz, as indicated in the electrical diagram on the next page. The operation of the equipment is without regulation. Once connected to the current, the fan will start operating at its maximum flow rate, the photocatalysis will start its function and, if the cartridge has been inserted, the device will generate OH.

WIRING DIAGRAM



DATASHEET

Cyclohnic is a purifier of environmental pollutants, especially design to substantially reduce farm animal mortality, as well as to improve their animal welfare. Cyclohnic is the alternative for the livestock and agricultural sector thanks to the combination of OH technology and the photocatalysis effect of the patented Kleenfan technology, with different stages of advanced filtering.

In spaces dedicated to the breeding of pigs, poultry, cattle or horses, large particles and polluting gases are generated. Cyclohnic inactivates a large part of pathogenic microorganisms such as viruses and bacteria, and also mineralizes a large part of the gases that are generated by the nature of livestock activity, such as carbon dioxide, ammonia or other formaldehydes, and cleans the air of particles that can cause disease in animals.

Depending on the quality of the air filtering, there are two Cyclohnic models. The **Cyclohnic Standard** model with a G4 filter stage, and **Cyclohnic Active** model with three more efficient filter stages, capable of retaining and inhibiting harmful gases.

Improves air quality by inhibiting VOCs and particles

Reduces pollutant gases

Inactivates viruses and bacteria







Eliminates odors

**Plug & Play
24/7**

Farm Types: applications

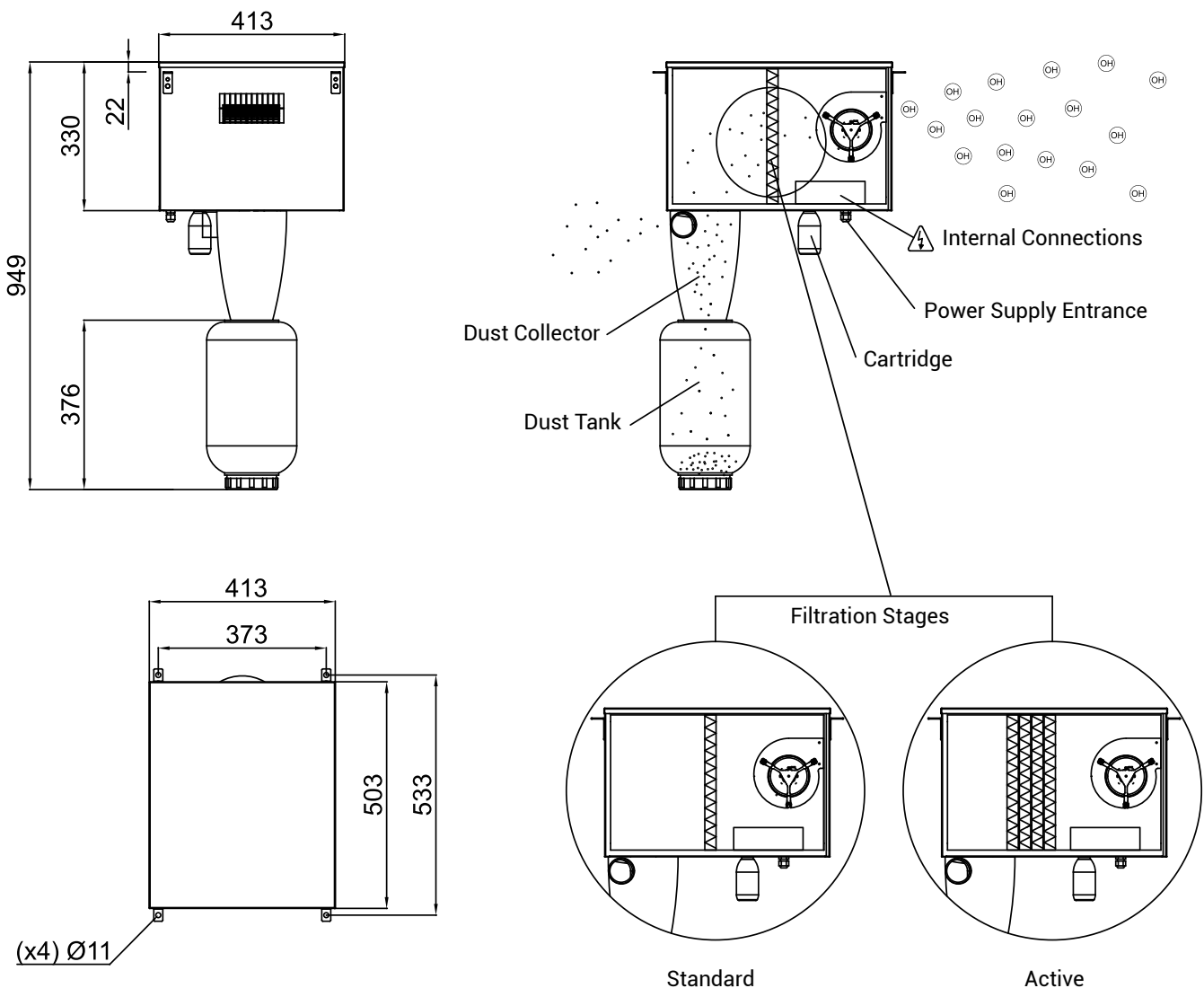
Equine (goat exotic (horses, donkeys and mules)	Porcine (pigs)	Bovine (cattle, cows...)	Ovine (sheep and lambs)	Avian (chickens, tur- keys, ducks...)	Goat (goats)	Exotic (camels, alpacas, ostriches...)

- Carcasa autoportante de acero inoxidable AISI 304, extremadamente resistente para garantizar una larga vida en ambientes corrosivos, preparada para instalación suspendida del techo.
- Ventilador centrífugo de doble aspiración con motor de rotor externo de muy bajo consumo y nivel sonoro.
- Succión a través de filtro ciclónico. El filtro incorpora un depósito con tapón de drenaje para su mantenimiento cuando está lleno.
- Equipos Plug&Play sin regulación, con funcionamiento activo 24/7.

 Air flow (m ³ /h)	 Consumption (Wh en 1h)	 Current (A a 230V-50Hz)	 Range (m ³)	 Noise level (dBA a 3m)	 Weight (Kg)
110	82	0,36	350	55	14,5

Cyclohnic complies with the exposure limits against chemical agents adopted by the National Institute of Safety and Health INSS (tests in independent laboratories validate ozone emissions <0.05ppm and hydrogen peroxide <1 ppm).

Dimensions



Functioning

1 The contaminated air is first filtered by a **cyclone separator** in which the larger and liquid compounds are precipitated: traces of food, straw or excrement.

2 The air passes through a **G4 filter** that retains other smaller particles.

In **Active** model, there are three additional stages of filtering:

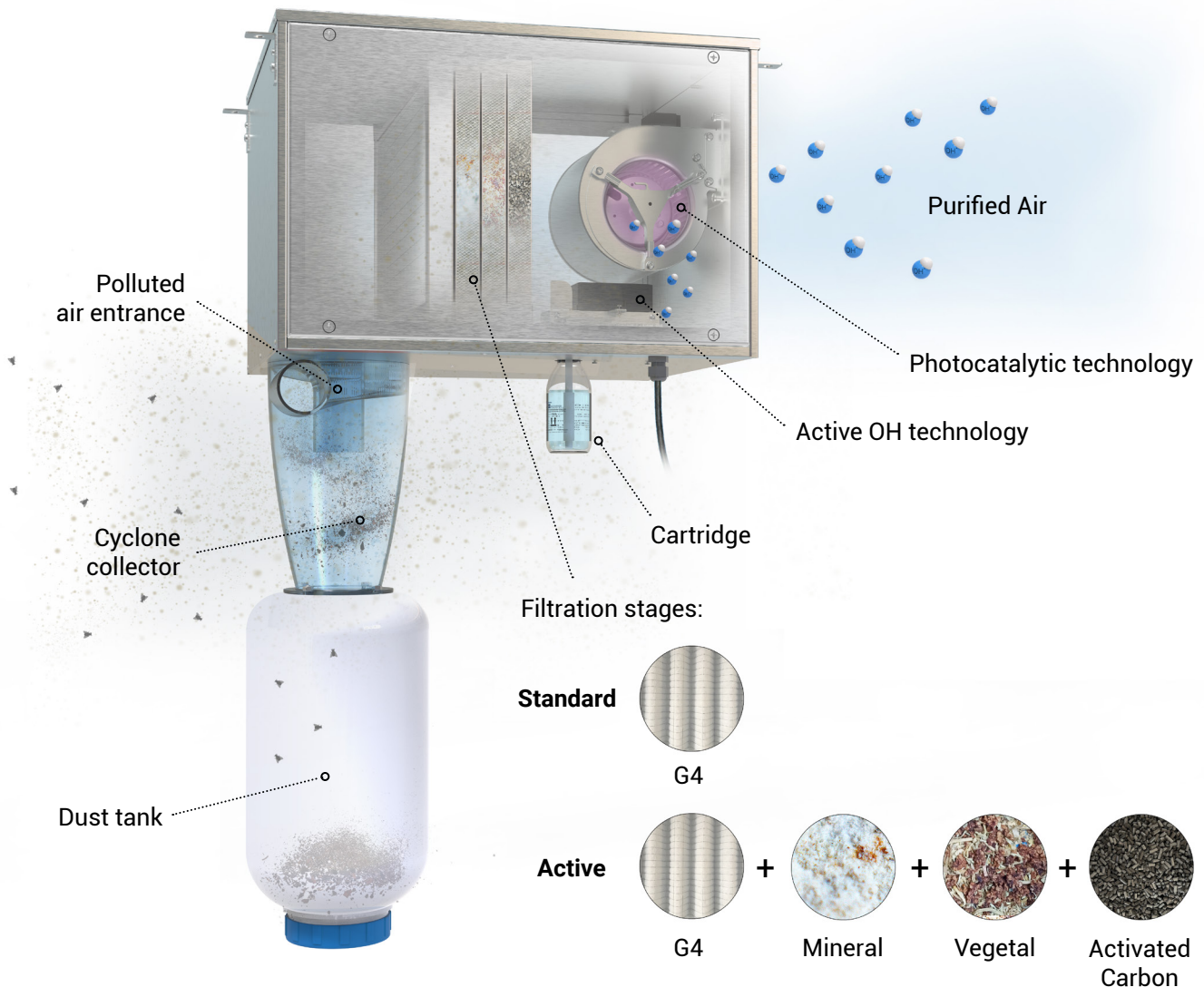
2.1 In the first stage, a molecular **mineral filter** retains moisture and captures gases, such as CO_2 .

2.2 In the second stage, an organic **vegetal filter** retains and decomposes gases (mainly ammonia) through a process of adsorption and natural chemical reaction that acts on the ammonia, neutralizing the alkalinity of the ammonia.







2.3 The third stage incorporates an **active carbon filter** that effectively retains gases and inhibits odors.

3 The action of **photocatalytic technology** activates an Advanced Oxidation Processes.

4 Hydroxyls are generated and expanded by chain reaction (**active OH technology**) to purify the air and the surfaces of the facility where the animals stay.



MAINTENANCE INSTRUCTIONS

	For safety reasons, before proceeding with cleaning, disconnect the device from the current.
  	Do not open the lateral service panel if the current is still connected (risk of electric shock, entrapment in the fans and UV-A light glare).
	Repairs must be carried out exclusively by authorized personnel.
	For manipulation safety, being it assembling, transport or maintenance duties it's a must to wear the correct individual protection equipment recommended. Those being gloves, insulating shoes, goggles and helmet.

Indicative maintenance frequency

N° Action	Action	Frequency
1	All filter replacement	Recomended at 300 h of usage
2	Tank emptying	Check level when filter G4 is replaced
3	Exterior cleaning	Bimonthly (recomended monthly)
4	Interior cleaning	Bimensual (recomended monthly)
5	Cartridge replacement	Quarterly
6	Electrical consumption and visual checking	Anual (recomended biannual)

Filter replacement

Disconnect the equipment from the current before carrying out maintenance. Remove the maintenance lateral panel and remove the dirty filter. Fit the new filter and replace the side panel.



Tank draining

Check the fill level of the tank, if it is above half, disconnect the equipment from the current, unscrew the cap and empty the content into a container for proper processing.



Exterior cleaning

The cleaning of the exterior of the equipment should be carried out with a damp cloth and a conventional detergent. Do not use caustic or acid-containing detergents.



Interior cleaning

It is only necessary to clean the area before the G4 filter, the fan area is a filtered area that does not require maintenance. To carry out cleaning, disconnect the equipment from the current and remove the maintenance panel. Next, clean the interior with a vacuum cleaner or damp cloth.



Cartridge replacement

Periodically check the level of the cartridge and, once finished, replace it with a new one according to the following image:



1 Remove the plug of the cartridge



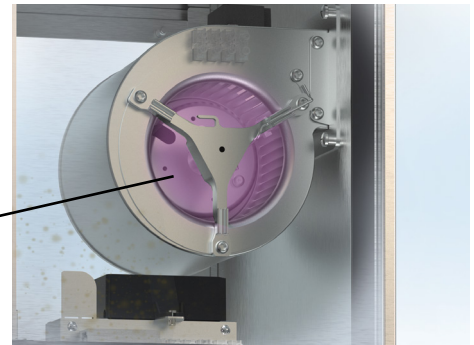
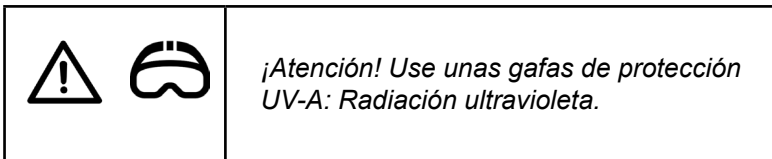
2 Check that the wick is inserted



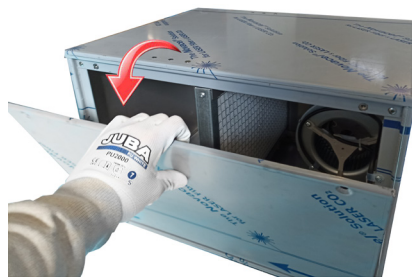
3 Screw on the cartridge in the reactor chamber

Electrical consumption and visual checking

Check, with the equipment in operation, that the UV LED is on (the color inside the fan appears purple).



Remove maintenance panel and check that electrical connections are secure.







Write down the consumption value of the product label located at the lateral service panel. Using an ammeter, verify that the amperage consumption of the equipment is between 85% and 110% of the value indicated on the product label.



REPAIRS AND REPLACEMENTS

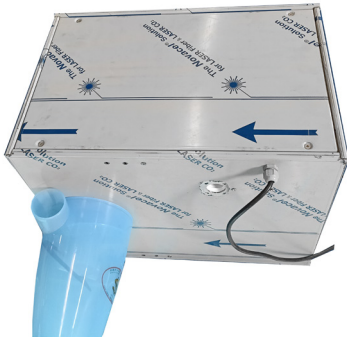
Assembly and electrical connection must be carried out exclusively by specialized professionals and in compliance with these instructions.

Before carrying out any repair, it is necessary to:

	<ul style="list-style-type: none"> • Notify staff and indicate that work is being done. • Disconnect the current and protect the circuit breaker.
	<ul style="list-style-type: none"> • Make sure there is no voltage to the unit.
	<ul style="list-style-type: none"> • Make sure the fan has stopped. • Use only original spare parts.
	<p>For manipulation safety, being it assembling, transport or maintenance duties it's a must to wear the correct individual protection equipment recommended. Those being gloves, insulating shoes, goggles and helmet.</p>

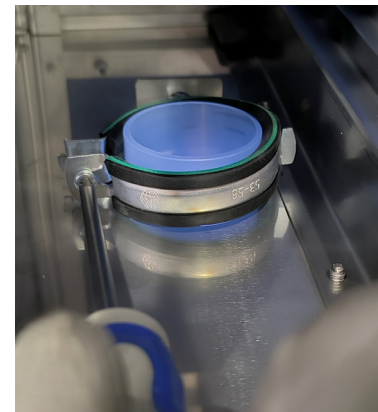
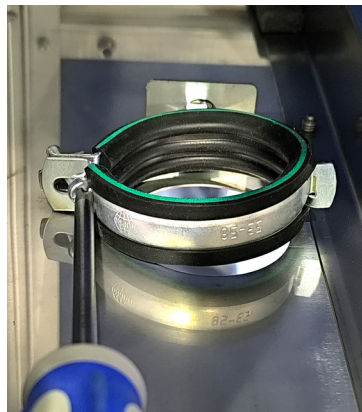
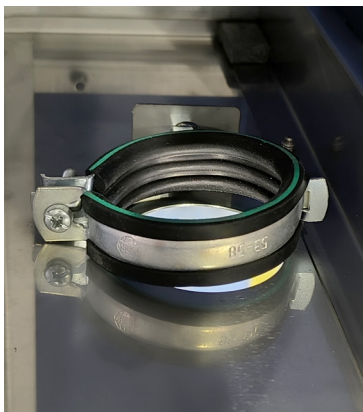
Lateral service panel opening

Remove the four panel fixing screws and then remove the equipment.



Replacing the particle cyclone collector

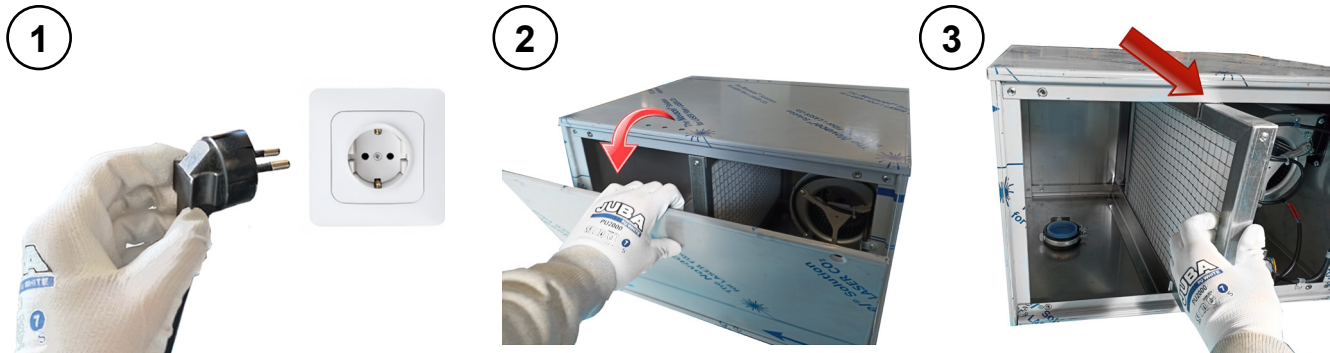
Open the service panel. Loosen the flange screw to remove the cyclone collector. Reverse the procedure.



Motor replacement

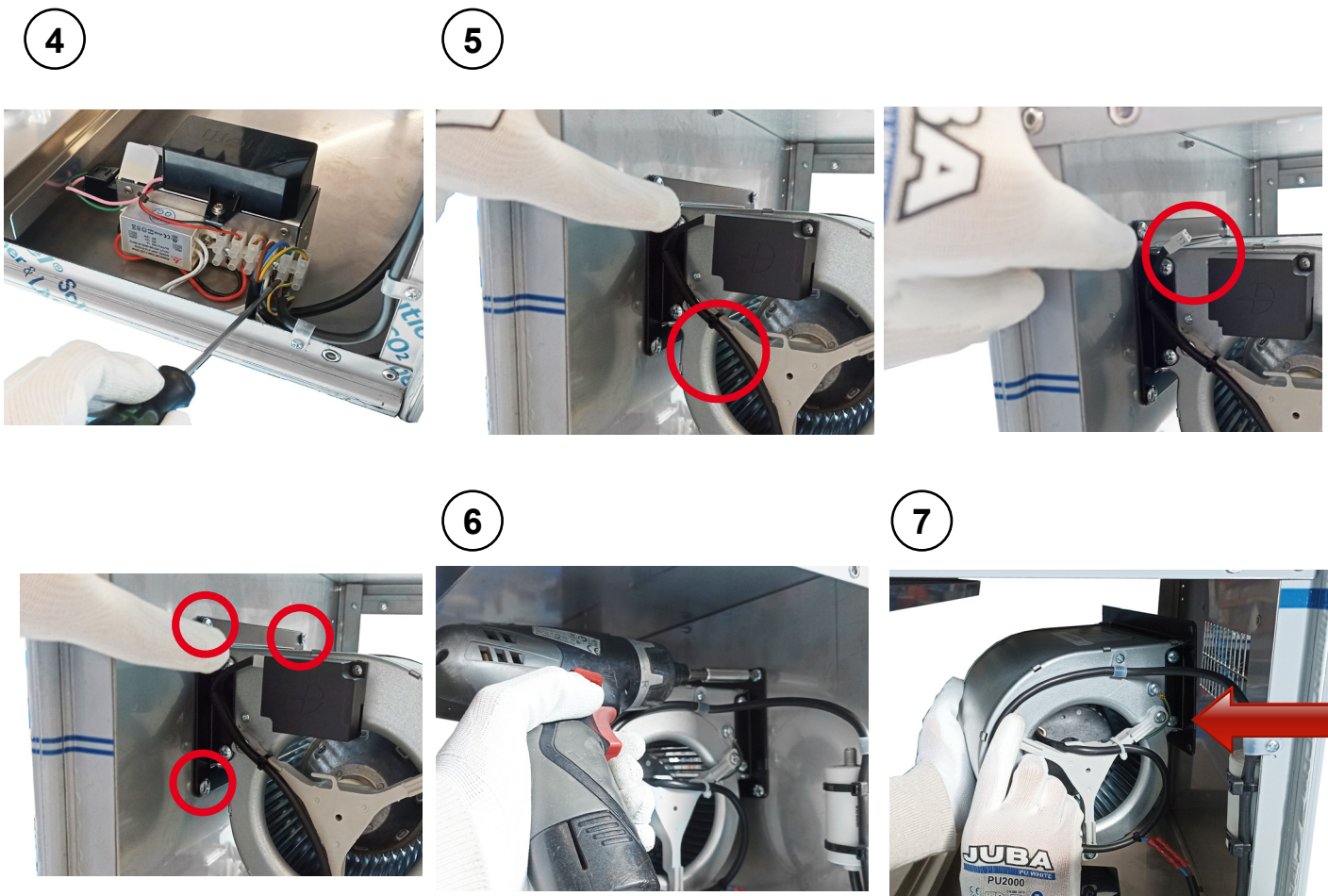
Before replacing the motor, it is necessary to warn that it is working, disconnect from the current (1), make sure that there is no voltage and that the turbine does not turn.

Remove the lateral service panel (2) and G4 filter (3) for greater maneuverability.



Disconnect the power cable from the terminal block (4), as well as the OH generator power supply (5). Unscrew the four fastening screws of the fan (6) and remove it from the device (7).

Finally, proceed in reverse order to fit the new motor.



ACCESSORIES

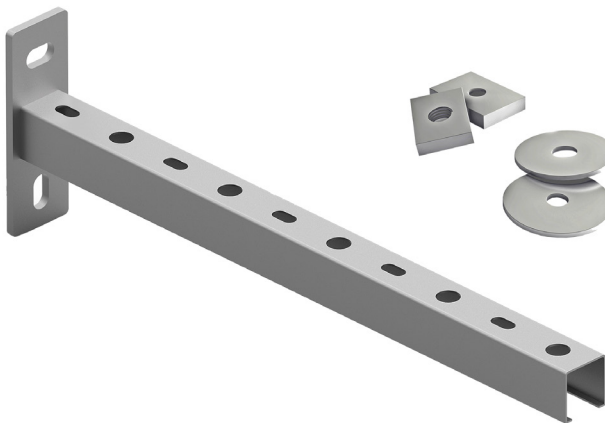
Supports and shock absorbers according to installation (see references in the attached document).



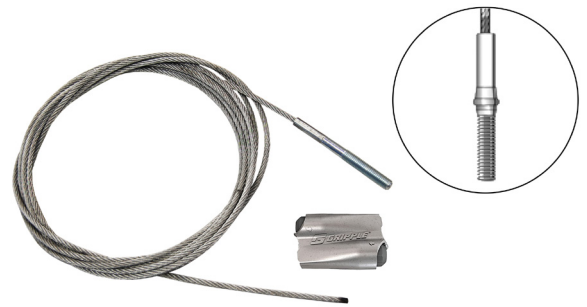
Angle Silentblock



Silentblock rod damper



Rail support



Standard cable clamp



Electrical feeding

If the equipment does not work, the error is most likely due to an incorrect terminal power supply.

1 - Check that it has been connected to a functional electrical outlet.

2 - Check that the current is compatible with the equipment and that the terminal block cables are connected according to the electrical diagram specified in this manual.

3- Check that voltage (230Vx1) reaches the equipment. If not, check the power cables.

Considerations:

- If the equipment stops recirculating air, check the level of the cyclone filter tank. If it is completely full, it must be emptied so that it can perform the function and allow air to circulate through the equipment.

- If, once the tank has been emptied, the fan still does not work, it must be replaced with a new one.

- If the UV light does not work, but the rest of the components do, check that the cables of the UV Source are correctly connected.

- If the fan turns but does not blow air and the cyclonic filter tank is empty, the G4 filter must be changed.

COMFORMITY DECLARATION



Declaration of conformity / Declaración de conformidad

Manufacturer **Motors i Ventiladors S.L. (AIRTÈCNICS)**
Fabricante **Conca de Barberà 6, Pol. Ind. Pla de la Bruguera**
08211 Castellar del Vallès (Barcelona) Spain

We declare, under our sole responsibility, that the product
Declaramos, bajo nuestra única responsabilidad, que el producto

Air and Surfaces Purification Equipment
Equipo de Purificación del Aire y Superficies

with models
con los modelos

Cyclohnic, Cyclohnic Active

is/are developed, designed and manufactured in accordance with the following directive(s)
ha(n) sido desarrollado(s), diseñado(s) y fabricado(s) de acuerdo con la(s) siguiente(s) directiva(s)

Low Voltage Directive 2014/35/EU
Directiva Baja Tensión 2014/35/UE

Electromagnetic Compatibility Directive 2014/30/EU
Directiva Compatibilidad Electromagnética 2014/30/UE

Restriction Certain Hazardous Substances Directive 2011/65/EU (RoHS)
Directiva Restricción Substancias Peligrosas 2011/65/UE

Eco-design Energy-related Products Directive 2009/125/EC
Directiva Diseño Ecológico Productos Con Energía 2009/125/CE

applying the following harmonized standards in particular
aplicando las siguientes normas armonizadas en particular

LVD: EN 60335-1:2012 + A11:2014 + A13:2017 + A1:2019 + A14:2019 +
A2:2019 + A15:2021
EN 60335-2-65:2003 + A1:2008 + A11:2012

EMC: EN 61000-3-2:2014
EN 61000-3-3:2013
EN 61000-6-1:2007
EN 61000-6-3:2007+ A1:2011

RoHS: EN 50581:2012

Date / Fecha
Name / Nombre
Position / Cargo

01/10/2024
Jordi Hierro
Technical Manager / *Director Técnico*

MOTORS I VENTILADORS, S.L.
ESB58967183 - C/ Conca de Barberà, 6
08211 Castellar del Vallès
Tel. 937159988 - Fax 937159989

IDENTIFICATOR



Conca de Barbera 6 - Pla de la Bruguera
08211 Castellat del Vallès - BCN (SPAIN)
Tel +34 93 7159988 www.airtecnics.com

Model: **Cyclohnic**
Code: **AIRWEL68005**
Dimensions:
Motor: Tension: **230** V
Frequency: **50** Hz
Intensity: **0,36** A
Power: **82** kW
Fan:
Speed: **300** rpm
Capacitor: **110** microF
Filter: Air Volume: **300** m3/h
Pre-Filter:
Filter:

Customer:
Order nº: Fab nº: **24** Serial nº: **405.309**

All air purifiers are identified by a unique serial number, printed on a label located inside the service door. It also indicates the model of the purifier and its technical characteristics (flow rate, technical data of the fans). It is essential to have this number to facilitate possible spare parts or technical information on the purifier in question.

CE Before use observe security rules and operating instructions!
Avant la mise en service, observer les prescriptions de sécurité et le manuel d'utilisation !
Antes de su puesta en marcha consultar el manual de instrucciones y normas de seguridad!



WARRANTY

The warranty extends for one calendar year from the date of delivery. The guarantee is limited to repairing or replacing from our warehouse the products that eventually suffer breakdowns attributable to production defects. Installation costs are borne by the buyer. Products that in our opinion have been used improperly, handled incorrectly, improperly installed, connected to voltages other than the nominal, modified or repaired by unauthorized personnel, or that have suffered damage during transport, are excluded from any guarantee.

For the validity of this guarantee, it will be essential that it be correctly completed and accompanied by the invoice that proves the date of purchase. In the case of being tampered with, it will lose its validity. It is the sole responsibility of the buyer to take the necessary security measures so that, in the event of a failure of one of the products, no damage occurs to third-party equipment, facilities or people.



Warranty card

Purificator data:

Model: Serial number:
Invoice date: Invoice number:

Buyer data:

Name:
Adress:
Country: Telephone: Fax:

Seller data:

Name:
Adress:
Country: Telephone: Fax:

Seal and sign from the buyer

Seal and sign from the seller



If you detect any errors in this manual, we will be happy to receive your comments, it helps us to continue improving. Airtècnics reserves the right to modify any of the specifications in this manual.

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AIRWEL68010-R0(08/10/24)

Airtècnics reserves the right to change design and specifications without prior notice.