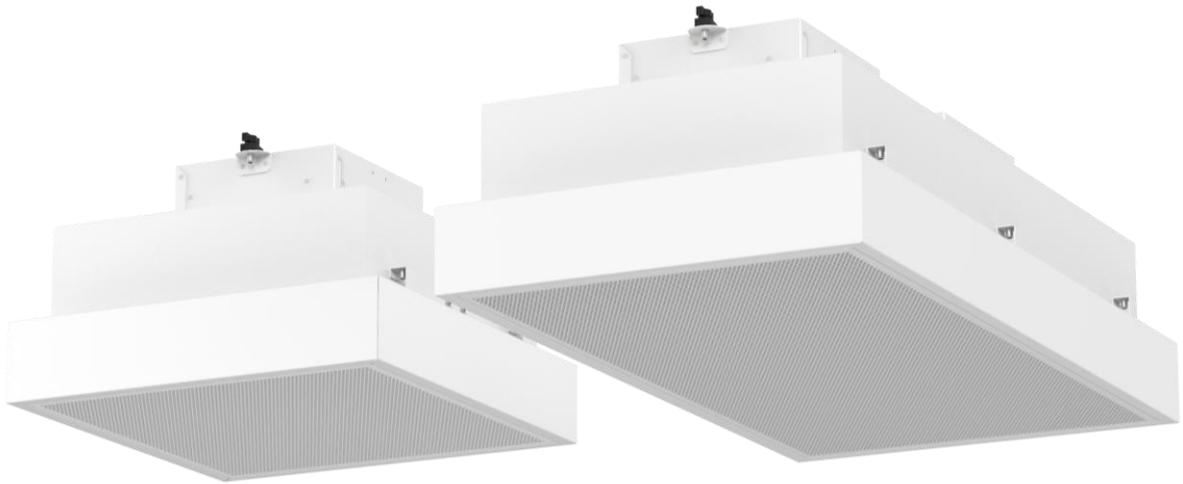


## INSTALLATION, OPERATION AND MAINTENANCE MANUAL



### **DIF-PUR**



*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.*

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## DIF-PUR

A complete range of units of filtration, lightweight, versatile, and easy to install that provide a located climax free of particles exactly there where it is needed. The concrete class of areas inside a cleaning room are increased. Installed inside vinyl transparent air curtains, sectorize and isolate the working zone from external pollution.

They include an adaptative regulator that maintain a constant flow meanwhile the fan can spin faster.

The equipment come painted in RAL 9016. However, there is the option to order it in stainless steel.

These equipments are ready for a suspended and adaptative installation in false ceilings with T profile. Besides, they count with a sealed system made with neoprene gasket.

## INSTALLATION

The DIF-PUR models feature of four or six fixations points to ceiling. It must be considered to maintain a minimum distance of 400mm for the fixations of the prefilter G4 and the connections of the equipment.

	<b>Assembly, connection and disconnection, electrical wiring and maintenance must be carried out exclusively by qualified personnel, observing these instructions and in accordance with applicable standards. In case of providing special control, a specific manual is attached that should be used for its operation and installation.</b>
	<b>It is not needed to open the service dashboard to connect your device. All connections (power and control) and necessary bindings are exterior (located on the side of the equipment). The equipment has a service panel for repairs and replacements (see repairs section).</b>

### Power supply

To connect the power to the device, there is a white connection box located on the outside of the equipment (top, next to the prefilter). You do not need to open the inlet grille to connect it. 230V single-phase current must be connected to power the fan.



### Control

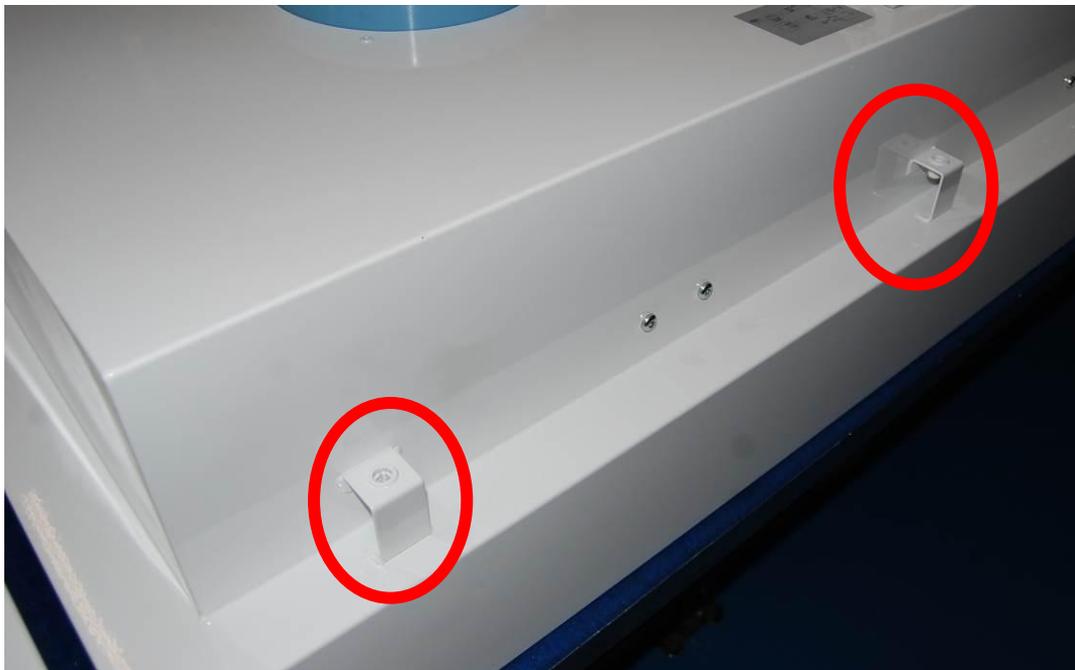
Dif-PUR models include a constant flow regulation inside a black box located on the outside of the equipment (next to the power connection box). You do not need to open the drive gate to make the connection.

It is necessary to connect the 0-10V controller and the dirty filter visual signal in the power connection box (see electrical diagram section for both cases).



### **Fixations**

The equipment is equipped with brackets on the side of the equipment prepared to be hung by M8 threaded rod.



It is recommended that you install the machine with silentblocks to isolate the vibration environment. In the case of the DIF-PUR 6-6 model it has 4 M8 threaded anchors and in the case of the DIF-PUR 6-12 model it has 6 M8 threaded anchors.

## **STORAGE AND TRANSPORT**



**Attention! Heavy product.**  
**Do not place under the suspended appliance during transport or assembly.**

Store in a dry and weatherproof place. If the packaging is open, cover the appliance to protect it from dust. Do not step on or place heavy loads on top to prevent damage to the material. Storage temperature between -20°C and +40°C. When transporting the material, you must ensure that the material is not damaged by the forklift (penetration of the fork into the packaging). The indications on the packaging should be observed.

## **OPERATING INSTRUCTIONS**

Dif-Pur equipment works with high efficiency, very low consumption rear-blade jet motor-fans thanks to their EC motor. The motor is 100% voltage adjustable external rotor. The set is statically and dynamically balanced up to Q-2.5.

These motors are mounted on shock absorbers to prevent vibration transmission and reduce sound emissions.

These equipments are prepared to work as easily installable filtration units, as it has stops to fit the filters and prevent their movement.

### **Controllers characteristics**

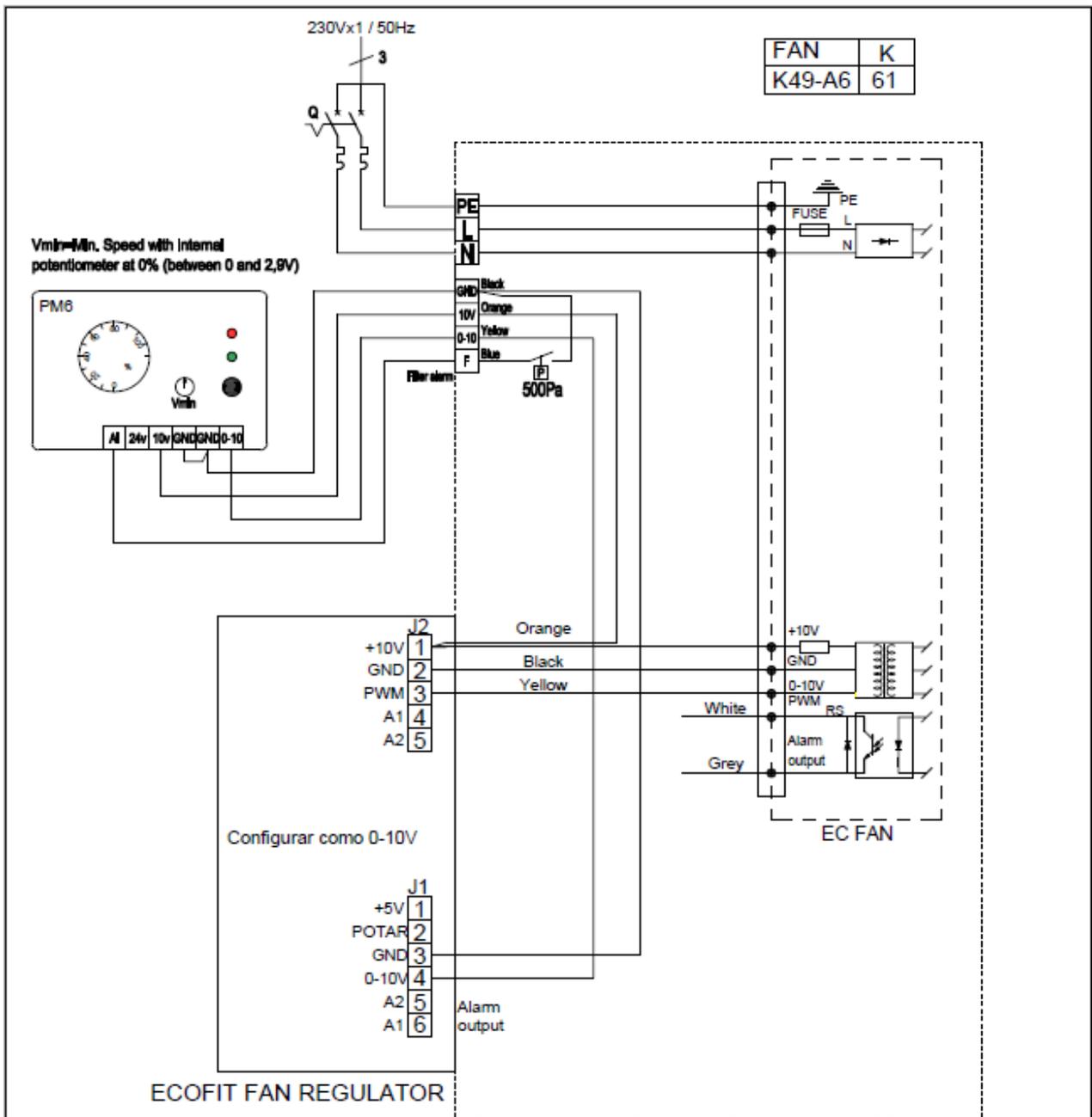
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- **ON/OFF:** They have a switch that cuts off the fan power and automatically stops the equipment.
- **Control 0-100%:** They include a potentiometer 0-10V that allows to regulate the fan speed from 0 to 100%.
- **Constant flow rate:** When selecting a working point, the equipment regulation controls the fan to maintain the flow rate, even if the working pressure goes up when the filters get dirty. This feature stops working if the filters are too dirty or if 100% fan flow is requested.
- **Visual filter alarm indicator:** Using a LED indicator, the user is informed that the filters are dirty and require a replacement to maintain the level of cleaning.

## **WIRING DIAGRAM**

The following diagrams are attached:

- Dif-Pur with constant flow by EFC. WELDOE07010 Scheme



With the filters clean and mounted measuring the output air velocity, it should be around 0.45m/sec (5.5VDC of potentiometer approximately, 72% screen printing).

The alarm (red light) indicates the need to change the absolute filter.

It is not necessary to touch the potentiometer again, as any of the filters are filled "Fan regulator" will modify its output to maintain the discharge speed up to the maximum limit.

The approximate pressure in the engine compartment is about 95Pa, with the new absolute filter.

With the dirty filter the output speed is maintained up to a pressure of about 270Pa. Tare the alarm pressure switch to 260Pa approx.

The prefilter must always be clean, optionally you can ask for a prefilter change alarm.

WIRING DIAGRAM DIFPUR EC  
ESQUEMAS ELÉCTRICOS DIFPUR EC  
Constant airflow by EFC  
Regulación con caudal constante mediante EFC

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Doc. WELDOE0xxxx  
R1 - 11/12/25

## TECHNICAL SPECIFICATIONS

### Technical features

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Filtration horizontal unit that creates a low velocity laminar flow purified air barrier, used in high demand applications such as operating rooms and clean rooms.

Laminar flow purification unit with high efficiency gasket with two filtration stages:

- G4 (ZLM) pre-filter according to EN779 standard
- H14 absolute filter type mini-pleat with efficiency of 99.995% according to standard EN1822 and sealed with polyurethane for filtration of 100% of the air. On request, it can be replaced by a ULPA U15 filter with an efficiency of 99.9995%.

The continuous recirculation of the indoor air through the two filtration stages guarantees the purification of the air by eliminating particles and pollutants such as: dust, pollen, spores, bacteria, viruses and fine particles PM10, PM2.5 and PM1.

Perforated and enveloping diffuser of steel painted in RAL 9016 white. On request, other colours or materials such as AISI304 stainless steel.

Backward blade fan with high efficiency and very low consumption external rotor EC motor, electronically adjustable 0-100% via 0-10V.

Constant airflow controlled by special regulation which measures air pressure to modify the fan working point and activate dirty filter alarm when it saturates.

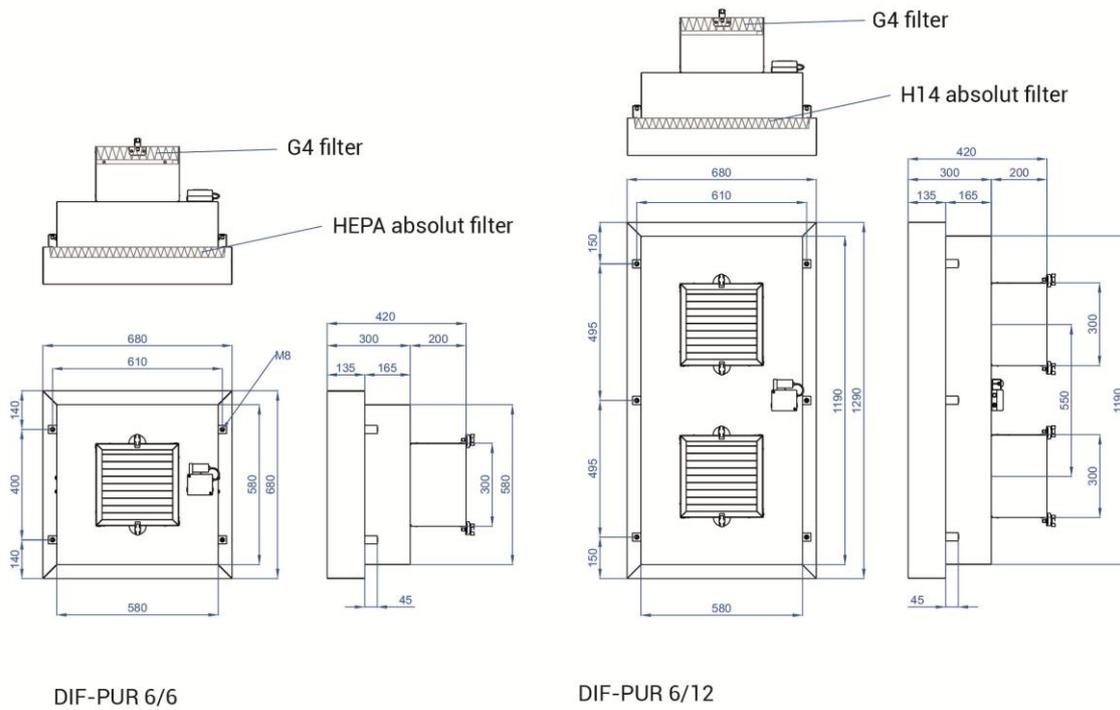
Suitable for suspended installation or adaptable to false ceilings in "T" system.



Unit	Airflow (m <sup>3</sup> /h)	Fans power (230V)(W)	Fans current (230V)(A)	Weight (Kg)
DIF-PUR 6/6 EC	600	155	0,70	23
DIF-PUR 6/12 EC	1200	310	1,40	41

## Dimensions

Available in two sizes.



## Finishings

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The unit is available in two finishes: galvanised steel painted in RAL 9016 or stainless steel AISI304.



*Standard RAL 9016*



*Stainless steel*

## Accessories

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*Silentblock support M8*



*Silentblock angle support*

## MAINTENANCE INSTRUCTIONS

DIF-PUR does not require any maintenance except for external cleaning and filter replacement when saturated or damaged.

It is important to keep the discharge grille clean, to not obstruct the flow of air from the unit. When cleaning, care must be taken when passing a damp cloth as the grille rests thanks to two angles on each side. If the grille is pressed up, we will disengage it from its place, which means that the grille must be completely removed to make the cleaning or hold it with one hand while cleaning with the other hand.

Cleaning from the outside should be done with a damp cloth and a conventional detergent. Do not use caustic or acid-containing detergents.

	<b><i>For safety, before cleaning, turn off the appliance using the controller.</i></b>
	<b><i>Repairs and handling of the equipment must be carried out exclusively by authorized personnel. It is forbidden to open the service panel without disconnecting the power (risk of electric shock and fan entrapment).</i></b>
	<b><i>The inside of the appliance must not be cleaned with water or steam.</i></b>

To remove the filters, open the fence and move the safety angle that holds each filter and replace them with the new filters:



## REPAIRS AND REPLACEMENTS

	<b><i>The assembly and electrical connection must be carried out exclusively by specialized personnel and observing these instructions. Before performing any repair, you must:</i></b>
	
	
	<b><i>• Notify staff and indicate that work is being made. • Disconnect the current and protect the thermal magnet (so that no one can inadvertently operate it). • Make sure there is no voltage in the equipment. • Make sure the fans have stopped. • Use only original spare parts.</i></b>

To remove the gate simply tilt it from one side and make a little game to remove it from the inside of the equipment.

Once the process is complete, there is access to the absolute filter and fan.

## Filters Replacement

Dif-Pur models have a visual indicator of dirty filter alarm. When the LED lights up, the two filters need to be changed.

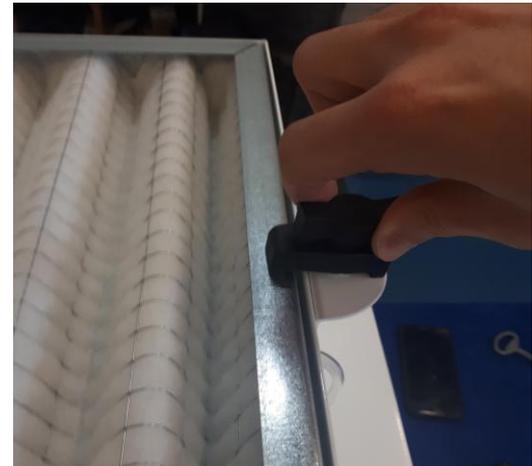
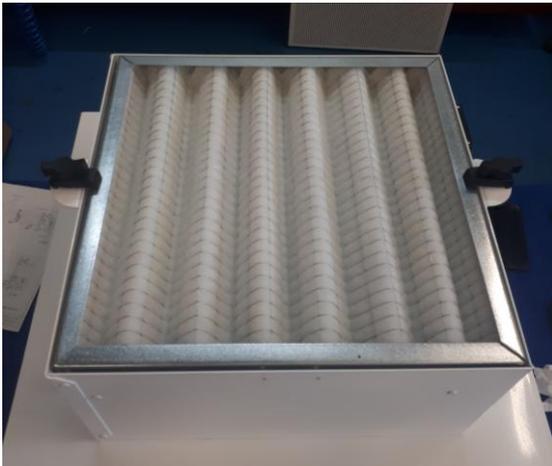
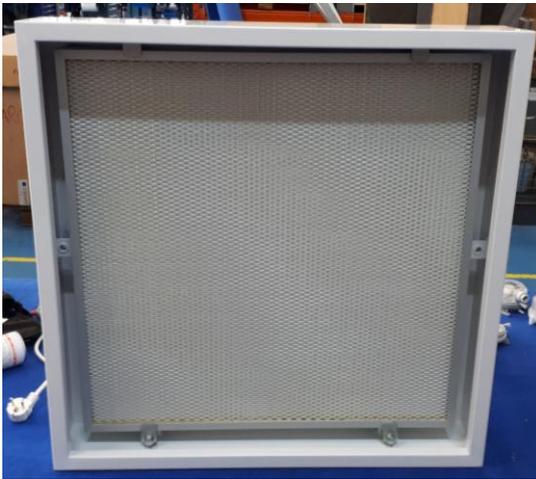
Even if the dirty filter signal is not turned on, it is highly recommended to replace the filters every 500 hours in the case of the G4 and every 3,000 hours for the HEPA filter.

For the replacement of the absolute filter, the inlet grille must first be removed and then the four wing nuts that press the filter loosen.

Finally, remove the dirty filter and place the new one by following the steps in reverse order.

In the case of the prefilter it is not necessary to remove the inlet grille since the filter is located on top of the equipment. Just loosen the two wing nuts that keep it fixed to the equipment and remove the dirty filter.

To assemble, place the filter clean and tighten the wing nuts to prevent it from moving or entering air without passing through the filter.



## Fans Replacement

Before changing any fan or fans, it is mandatory to advise and indicate that work is under way on the equipment, disconnect the power from the current and make sure that there is no voltage and that the fans have stopped.

Before separating the fan from the support, you must disconnect the cables from the connection boxes (both the power supply and the regulation ones).

Disconnect the single-phase hose from the white box and the regulation hose from the black box.



The next step is to remove the drive fence and absolute filter as set out in the previous points.

Next, you have to cut the flanges with which the fan cables are attached to the inside of the equipment.

Next, the fan support screws are removed, as shown in the image (8 screws).

Caution should be taken as once all 8 screws are removed the fan may fall by its own weight.



To mount the new fan, follow the process in reverse order.

**DECLARATION OF CONFORMITY**



Declaration **CE** of conformity / Declaración **CE** 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(s)  
*Declaramos, bajo nuestra única responsabilidad, que el/los producto(s)*

**Dif-Vent..., Dif-Pur...,**  
(Including all models with this reference)  
*(Incluyendo todos los modelos con esta referencia)*

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)*

**Machinery Directive 2006/42/EC**  
**Directiva De Maquinas 2006/42/CE**

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

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

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

**UNE-EN EN 60204-1:2018**  
**UNE-EN EN 62311:2019**  
**UNE-EN ISO 12100:2010**  
**UNE-EN ISO 12499:2008**  
**UNE-EN ISO 13857:2019**

Date / Fecha  
Name / Nombre  
Position / Cargo

**20/05/2021**  
**Jordi Hierro**  
**Technical Manager / Director Técnico**

A handwritten signature in black ink, appearing to read 'Jordi Hierro', is written over a faint circular stamp.

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

## IDENTIFICACIÓN DEL EQUIPO



**airtècnics**  
MOTORS I VENTILADORS, S.L.

C/Carretera de Barberà 51-Pla de la Brugueras  
E-08211 Castell del Valles - BCN (Spain)  
Tel: +3493 2168866 - www.airtecnics.com  
email: airtecnics@airtecnics.com

Model: **DIF-VENT 6/6 EC**

Code: **AIRFIL12100**

Dimensions: **680x680x325**

Motor: Tension: 230 V  
Frequency: 50 Hz  
Intensity: 0,70 A  
Power: 0,155 kW  
Speed: 2780 rpm  
Capacitor:  
Fan: RREG9 225X63R EC K49-A6-1  
Filter: **Uloa, LAMIFLOW H14 (610x610x68)**

Customer:

Order n°: **41.489** Fab N°: **VDIF244** Serial n°: **1218 V24.641**



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 manual de  
**instrucciones y normas** de seguridad!



AIRFIL12100 024641

All DIF-PUR are identified by a unique serial number printed on a label located on the outside of the equipment. It also indicates the model and its most important technical characteristics (voltage, intensity, power, etc.).

It is essential to have this number to provide possible spare parts or technical information of the equipment in question.

## WARRANTY

Our warranty extends for one calendar year from the date of delivery. The warranty is limited to repairing or replacing products that may suffer faults that may be blamed on production defects from our warehouse. Installation costs are borne by the buyer. Products that we believe have been misused, improperly handled, improperly installed, connected to voltages other than the nominal, modified or repaired by unauthorized personnel or damaged during transport, are excluded from any warranty.

*For the validity of this warranty, it will be essential that it is properly filled in and accompanied by the invoice proving the date of purchase. If manipulated, it will lose its validity.*

*It is the sole responsibility of the exclusive buyer to seek the necessary safety measures so that in case of breakdown of one of our products there is no damage to third-party equipment, facilities, or individuals.*

✂

### Warranty sheet

#### Equipment data:

Model: ..... Serial number: .....

Invoice date: ..... Invoice number: .....

#### Buyer data:

Name: .....

Address: .....

Country: ..... Telephone: ..... Fax: .....

#### Seller data:

Name: .....

Address: .....

Country: ..... Telephone: ..... Fax: .....

Signature and stamp of the buyer

Signature and stamp of the seller