

## Air curtain: Optima K



### INSTALLATION, OPERATION AND MAINTENANCE MANUAL



*Please read this instruction manual carefully before carrying out installation.  
Give this manual to the end user.*

#### SAFETY WARNING SYMBOLS



*Attention, danger, warning of security!*



*Electrical hazard*



*Risk of injury!*



*Attention! Do not stand under the load.  
High weight.*



*Important information.*

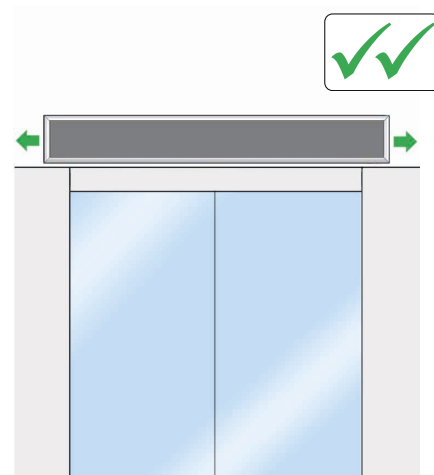
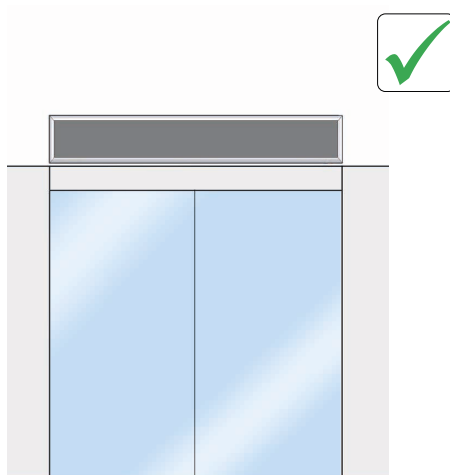
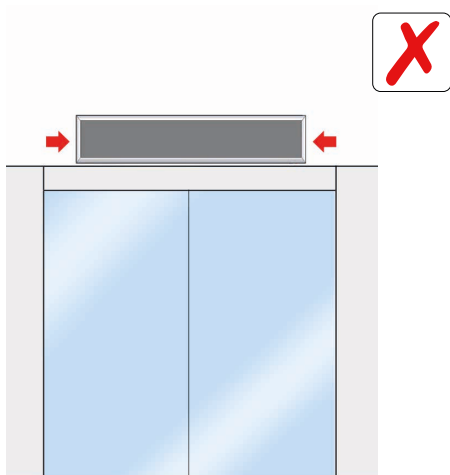
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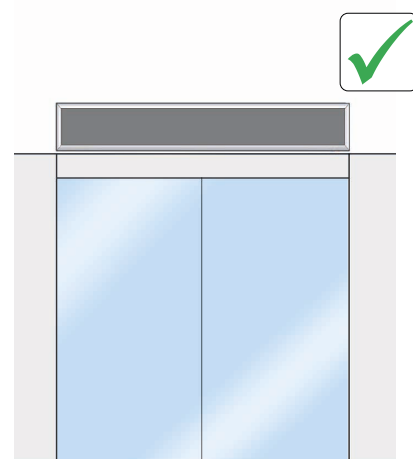
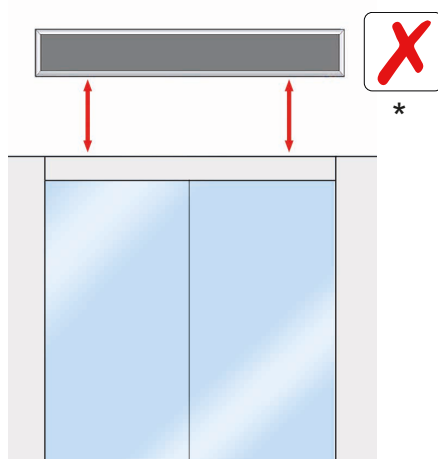
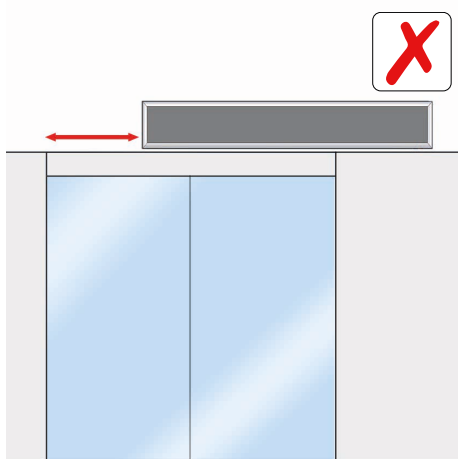
# INSTALLATION

## Tips and recommendations for a good installation

### LENGTH

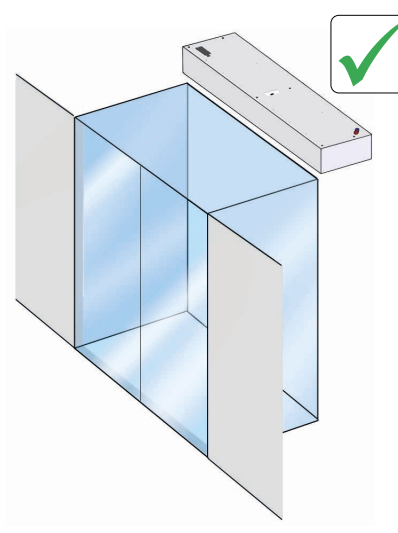
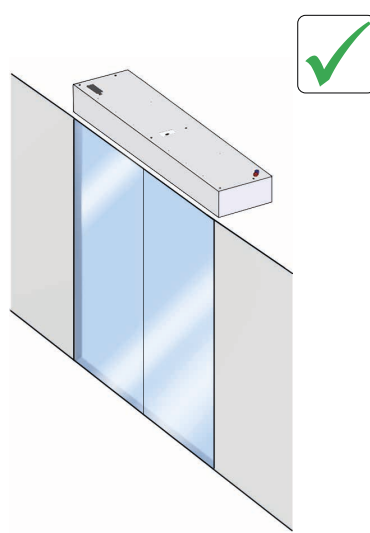
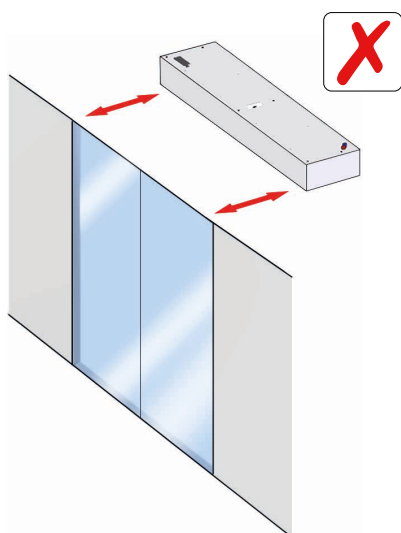


### CENTERED/ HEIGHT

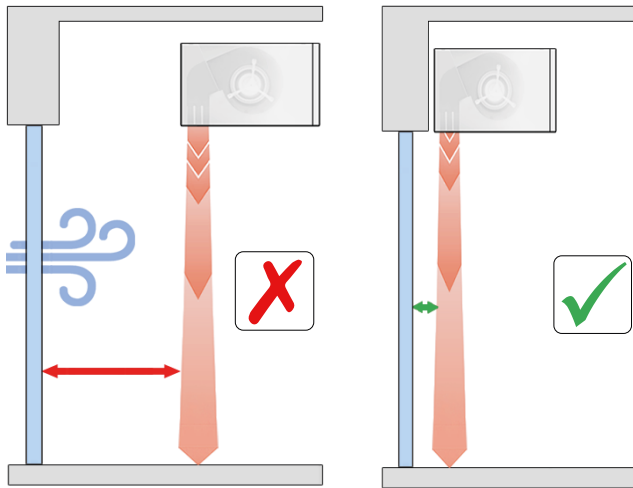


(\* Unless it has been designed to be installed at that height.

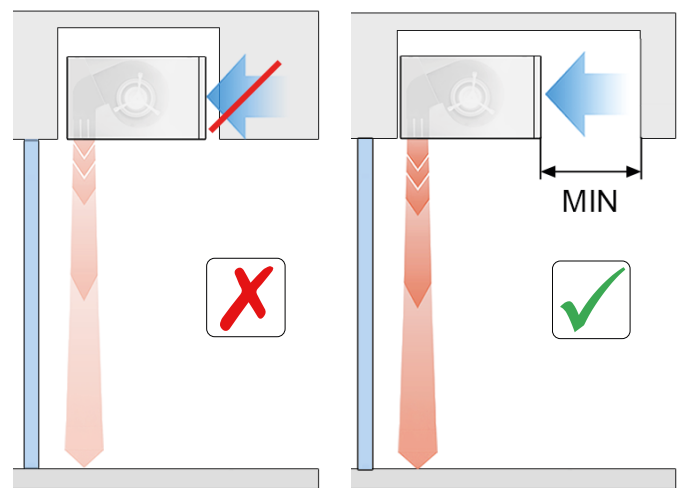
### DOOR DISTANCE



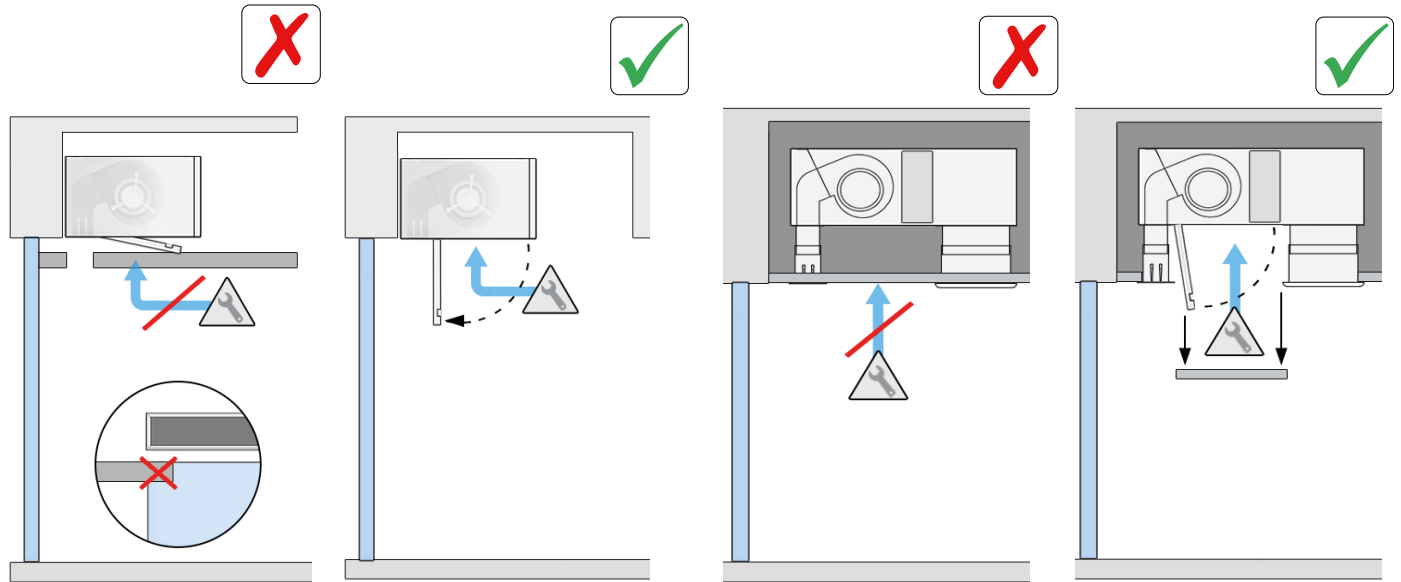
### AIR DISCHARGE



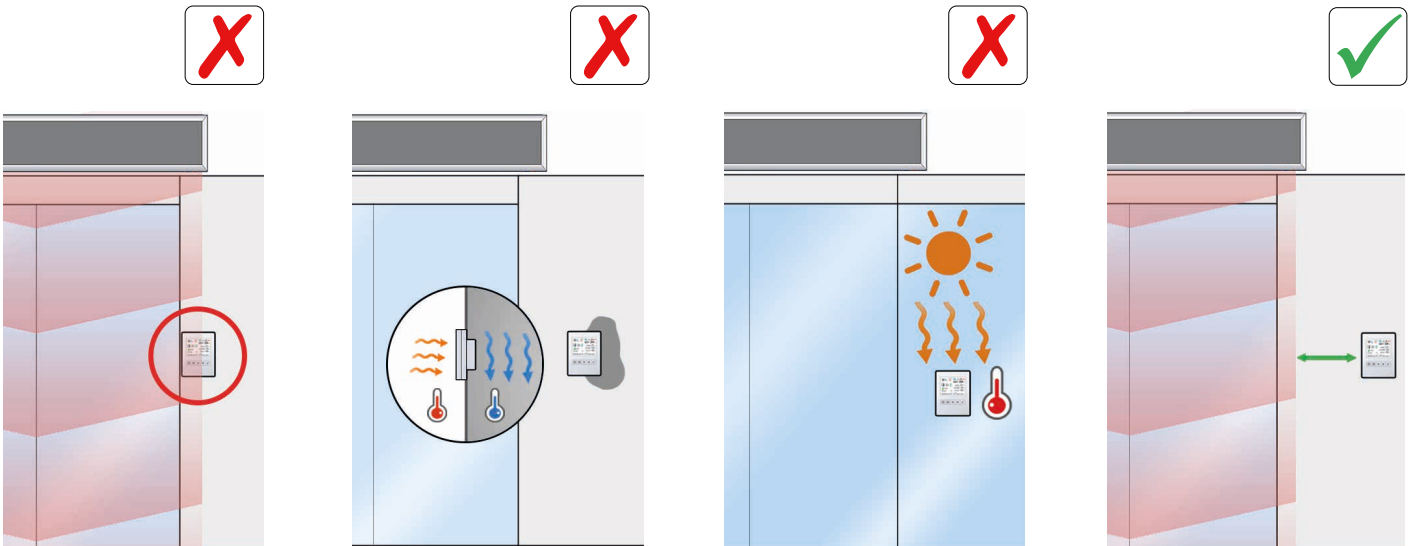
### AIR ASPIRATION






### MAINTENANCE ACCESSIBILITY

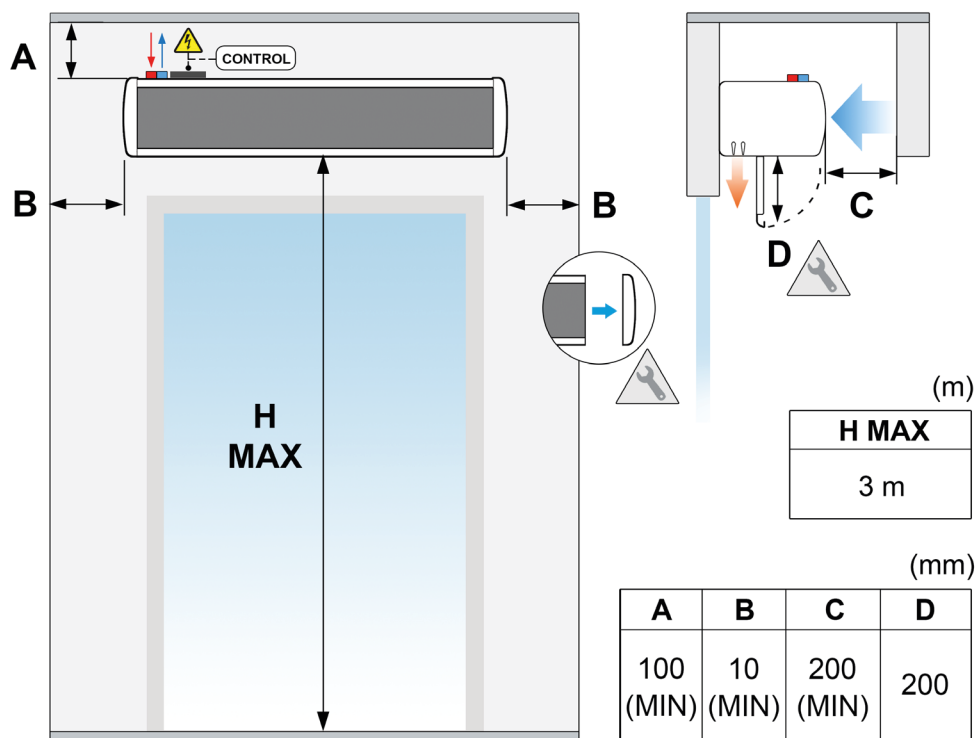


### CONTROL (CLEVER)



## Optima K model

	<p>Assembly, connection and disconnection, electrical wiring and maintenance must be carried out exclusively by qualified personnel, following this instruction manual and respecting the applicable standards.</p>
	<p>It is not necessary to open the service door to connect the air curtain. All connections (power and control) and necessary fixings are external (located at the top of the curtain). The equipment has a service door to carry out repairs (see repairs section).</p>
	<p>For safety reasons, the air curtains must never be stopped by disconnecting the current, it must always be done through the controller, waiting at least 10 minutes to leave the curtain without voltage. Otherwise, the curtain components may be damaged.</p>



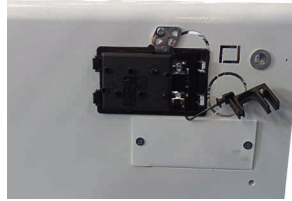
H MAX. Maximum recommended range, MIN. Recommended minimum distance

The minimum recommended distance between the suction grille and any obstacle is 200 mm (Dimension C)

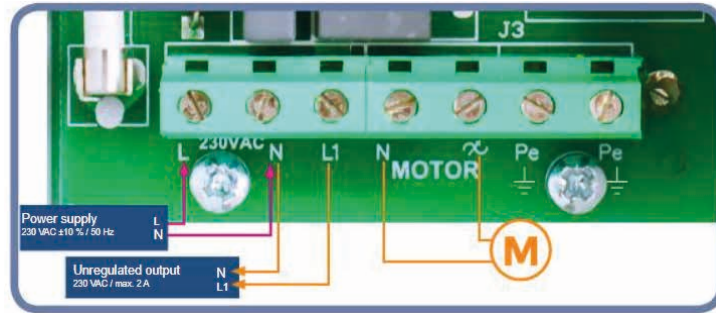
Dimension D: service opening distance.

## Power supply

The power supply of the device must be made in the upper part of the outside of the air curtain:



230Vx1 single-phase power must be connected. The line must be connected to terminal L, the neutral to N and the ground to Pe. The motor cables must be connected to terminals N and regulation as in the image



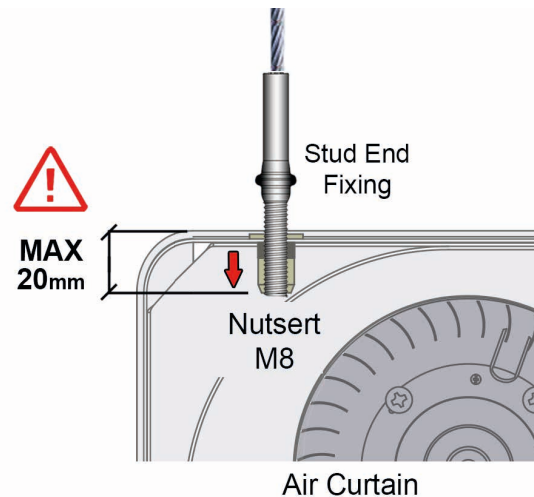
Model	Differential 30mA	Differential 300mA
Optima K	20 uds.	20 uds.

## Fixings

The curtain has several external fastening points depending on the weight and length (see situation in the model characteristics section).

Generally, air curtains are installed horizontally. For vertical installation, use the feet kit (see accessories section).

The anchor must be sized according to the weights of each curtain indicated on the technical data page. The installation can be done using threaded rods, tensioners or other supports (see available supports in the accessories section).



## TRANSPORTATION AND STORAGE



**Warning! Heavy load.**  
**Do not stand under the suspended load during transportation or assembly.**

Store in a dry place protected from the environment. If the package is opened, cover the curtain to protect it from the 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 for correct manipulation of the product.



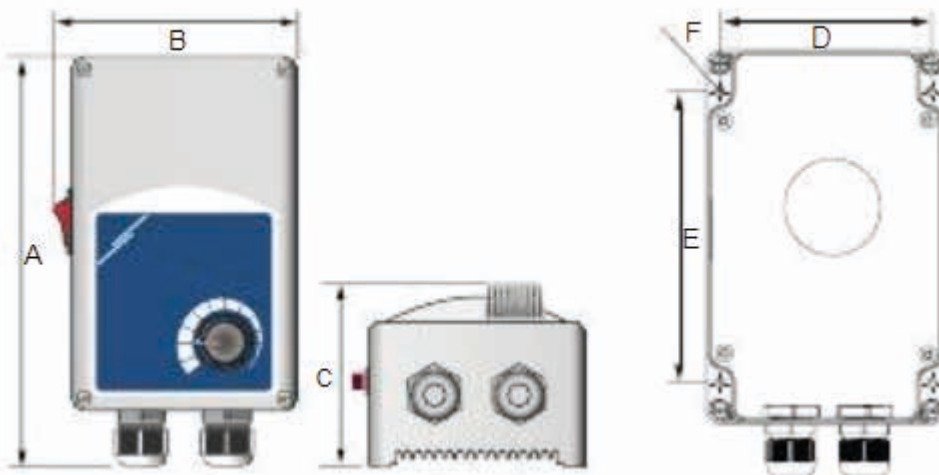
## WORKING INSTRUCTIONS



**For safety, the air curtains must never be stopped by disconnecting the current, always do it through the controller. If the power is turned off to turn off the shade, or within ten minutes of turning it off with the controller, internal components may be damaged.**

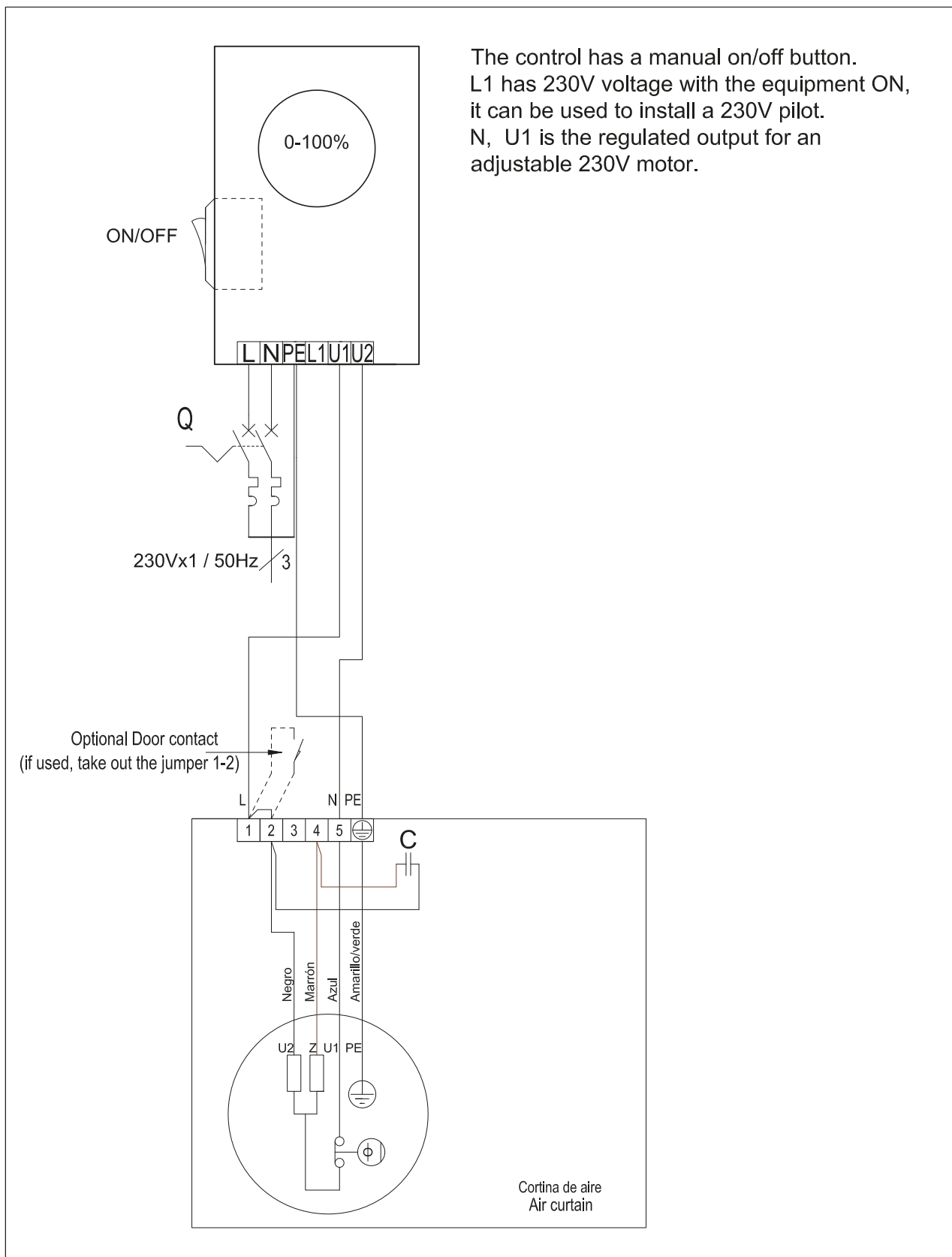
### Characteristics common to all regulators

The curtain has an ON/OFF switch and a wheel to regulate the airflow



# WIRING DIAGRAM

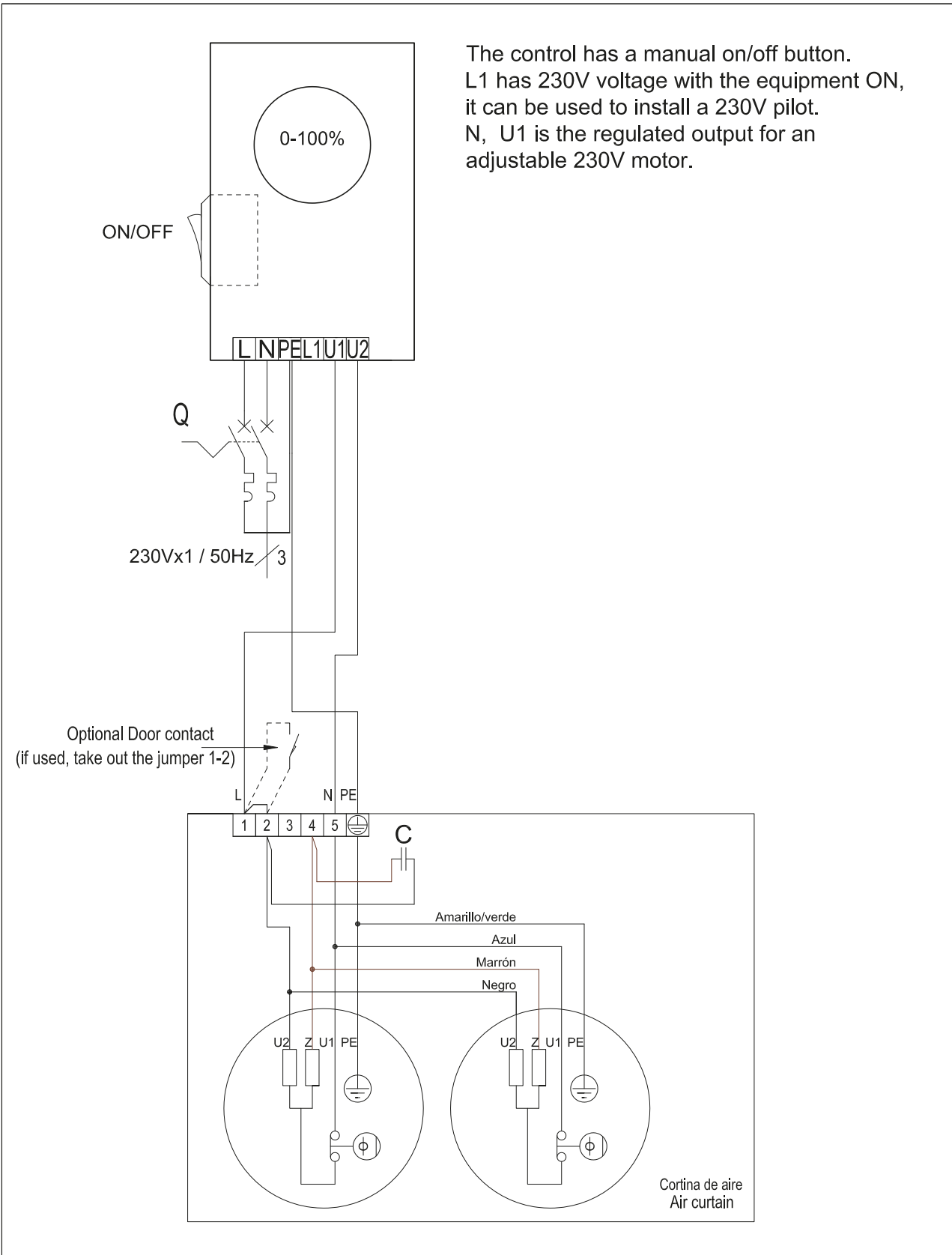
## Unheated air curtain with stepless control models 1000 and 1500. Diagram AIRDOE07056



WIRING DIAGRAM OF AIR CURTAIN  
OPTIMA K CURTAIN 1000/1500

Pág./ Page 1 de/ of 1  
Doc. AIRDOE07056  
R00 - 10/11/22

**Unheated air curtain with stepless control model 2000.  
Diagram AIRDOE07057**



WIRING DIAGRAM OF AIR CURTAIN, 2 SPEED CONTROLLER  
OPTIMA K 2000 CURTAIN

# DATASHEET



RAL 9016 standard



Other colors on request



Aqua Aero coating on request



Range  
Up to 3 m



Airflow  
1650 - 3190 m<sup>3</sup>/h



Fans  
Twisted cross-flow  
External rotor motor



Chamber temperature  
Above 0°C



Protection grade  
IP20



Casing  
Galvanised Steel  
Self-Supporting



Grille type  
Hexagonal 5 mm



Outlet vanes  
Airfoil - Non-Adjustable



Control  
Stepless regulator

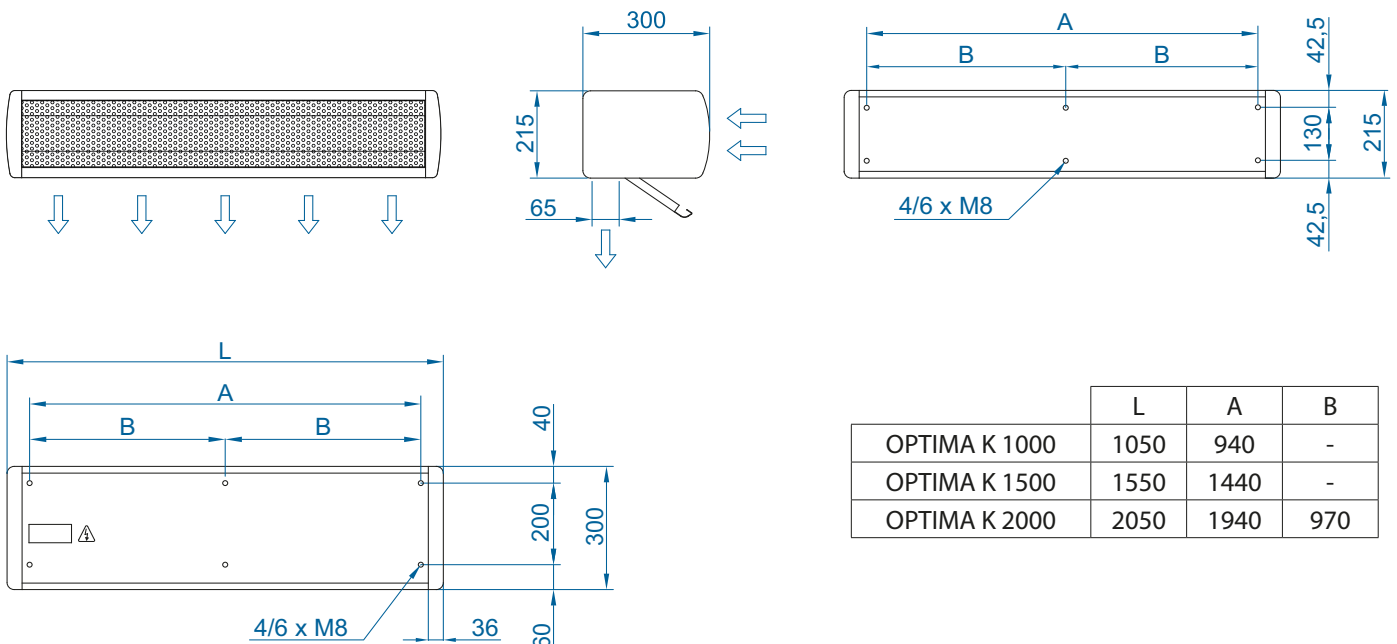
Specially designed to be installed in doors of cold stores with higher temperatures than 0°C. OPTIMA K is a small and compact air curtain of elegant and friendly design with rounded shape and edges. It incorporates a large faceted inlet grille avoiding intensive maintenance.

These air curtains work with low noise twisted cross-flow fans, driven with external rotor motors. This allows for a more homogeneous airflow. Includes stepless regulation. It controls the air outlet speed continuously (without steps) allowing the air curtain to be calibrated at its optimum point. It also includes kick-start function.

AIR ONLY





Model	Airflow m <sup>3</sup> /h	Power Fans 230V-50/60Hz W	Current Fans 230V-50/60Hz A	Noise Level (5 m) dBA	Weight kg
OPTIMA K 1000 A	1650	80	0,41	35/50	18
OPTIMA K 1500 A	2365	117	0,53	36/51	26
OPTIMA K 2000 A	3190	160	0,82	38/53	34

## Dimensions



	L	A	B
OPTIMA K 1000	1050	940	-
OPTIMA K 1500	1550	1440	-
OPTIMA K 2000	2050	1940	970

## MAINTENANCE INSTRUCTIONS

	<b>For safety, before cleaning, stop the curtain through the controller and disconnect the device from the current.</b>
 	<b>Do not open the service door (risk of electric shock and entrapment in the fans). Repairs must be carried out exclusively by authorized personnel.</b>
	<b>The inside of the device must not be cleaned with water or steam.</b>

Indicative periodicity of maintenance		
N° Action	Action	Frequency
1	Inlet grille cleaning	Bimonthly (monthly recommended)
2	External cleaning	Half yearly (quarterly recommended)
3	Internal cleaning	Half yearly (quarterly recommended)
4	Internal inspection	Half yearly (quarterly recommended)
5	Auditive and consumption control	Half yearly (quarterly recommended)

### Inlet grille cleaning

The suction grille prevents the entry of objects into the internal elements. It is a good idea to periodically check that the suction grille is free of any object that could prevent air from entering (plastic bags, paper, etc.). It is recommended to clean the suction grille monthly. In addition, it is important to make sure that the air curtain is off, otherwise the mixture between the dust and a damp cloth would form a paste of dirt that could damage the fan rotor when it sucks in the air. An annual cleaning of the discharge area must be carried out.



## External cleaning

Wipe the entire outer surface of the air curtain (except the suction grille) with a damp cloth to trap dust particles. In addition to the damp cloth, neutral soaps that do not contain acids or are caustic can be used.



## Internal cleaning

It is recommended to clean the inside of the unit with a vacuum cleaner at least once every 2 years. (\*) It is recommended to clean the inside of the equipment frequently with the help of a vacuum cleaner, especially before the arrival of winter. (\*)

(\*) These periods are indicative depending on the conditions of each installation. In places with a high number of suspended particles, it is desirable to increase the frequency of interior cleaning.



## Internal inspection

Check that the motor cables are well secured and that they have not been disconnected from their corresponding terminals.






## Auditive and consumption control

Write down the consumption value of the fans that appears on the product label (located on the inside of the service door). Give power to the curtain and with the help of an ammeter, check that the electrical consumption of the curtain at maximum speed is between 110% and 85% of the value indicated on the label. Check that all fans blow air. Keep the curtain running at maximum speed for a few minutes and listen for abnormal noises from the curtain.



## 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"> <li>• <b>Notify staff and indicate that work is being done.</b></li> <li>• <b>Disconnect the power</b></li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Make sure there is no voltage to the unit.</b></li> </ul>
	<ul style="list-style-type: none"> <li>• <b>Make sure the fans have stopped.</b></li> <li>• <b>Use only original spare parts.</b></li> </ul>

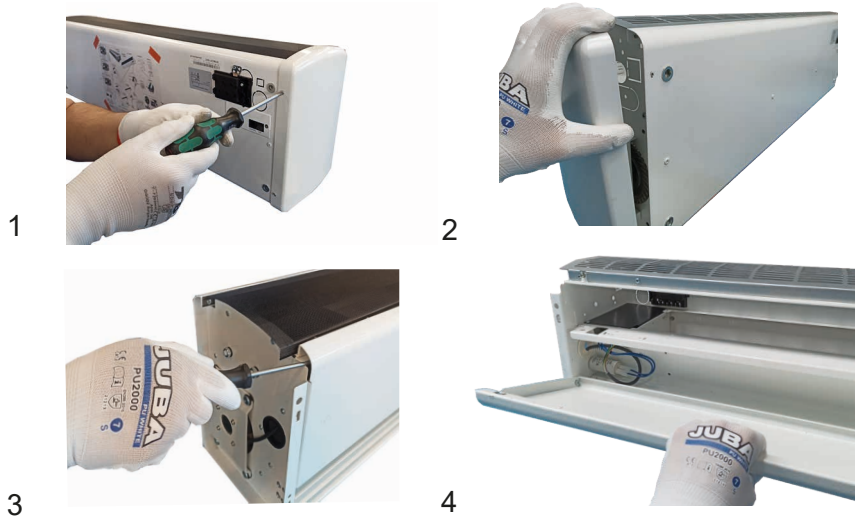


CODE	COMPONENT	COMPONENT REFERENCE	CURTAIN MODEL
ECOCME06045	Outer rotor motor	4REC35 62Z X22-05	Optima K 1000 y 2000
ECOCME06085	Outer rotor motor	4RET45-55S Y18-03	Optima K 1500
ECOCME06046	Outer rotor motor	4REC35 J10-A0	Optima K 2000

## Service door opening

### Optima K model

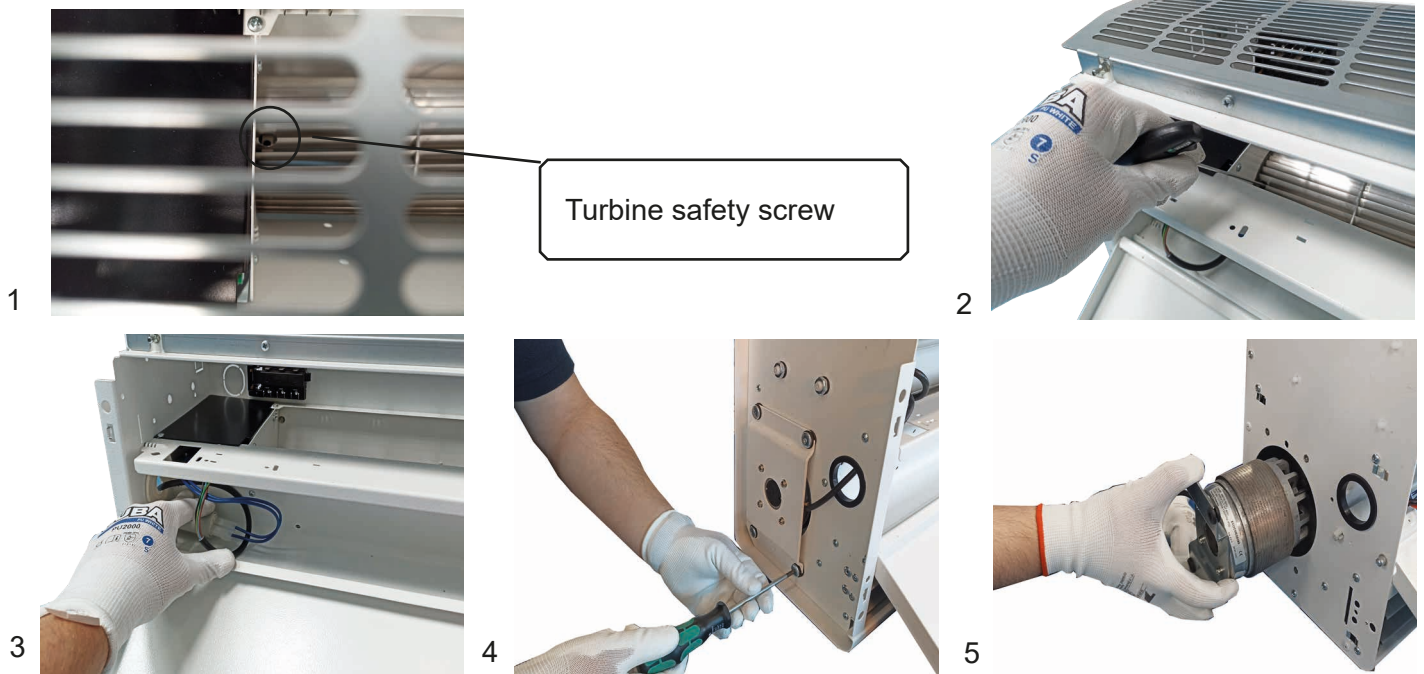
1. Remove the curtain side panel, gently pry between the grille and the door with a flat blade screwdriver and open the service door with both hands.



### Fan replacement

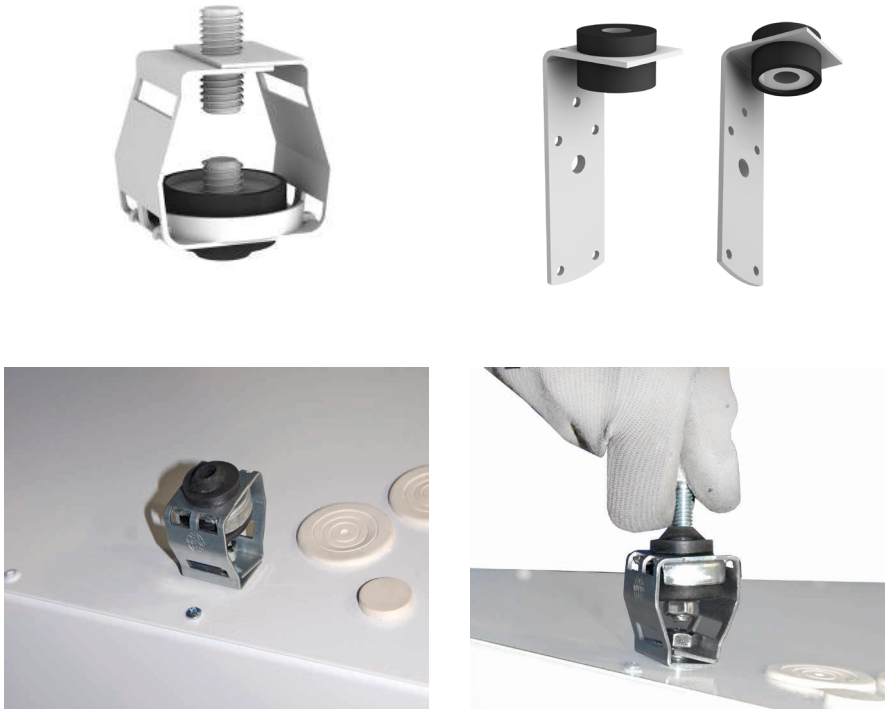
Before changing the fan, notify and indicate that it is working, disconnect the power supply, making sure that there is no voltage and that the fans have stopped.

Next, identify and release the fan cables. Remove the lateral fixing (4 screws), unscrew the motor, unscrew the turbine from the shaft and mount the replacement motor following the process in reverse order.



## Recommendation: installation with silentblocks

To reduce the sound level and the vibrations of the curtain, it is recommended to carry out an installation with silentblocks:



## TROUBLESHOOTING

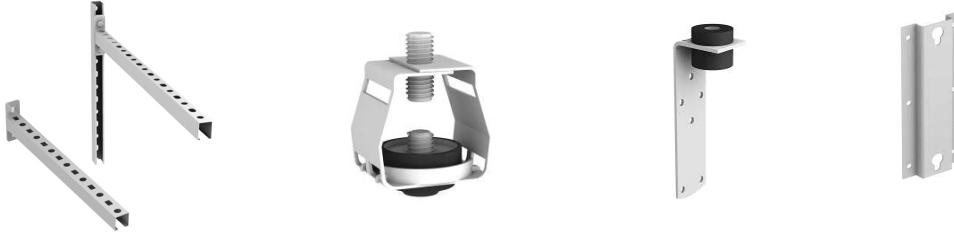
**More than 95% of the claims** occur during the start-up of the equipment and are due to installation errors. Reviewing the following point solves more than 90% of incidents:

**A) Incorrect feeding.** The supply of the air curtain depends on the type of current available and the type of heating of the equipment. Connect following the diagram outline.

Most common problems and solutions		
Symptom	Problem	Solution
No light on the remote comes on.	Is there power to the junction box?	Correctly connect the terminals of the junction box: Between L and N there must be 230V.

## ACCESSORIES

Brackets, feet, shock absorbers, etc. (depending on model).



Door contact



## 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  
*Declaramos, bajo nuestra única responsabilidad, que el producto*

**Air Curtains**  
**Cortinas de aire**

with models / *con los modelos*

**Minibel, Optima, Recessed Optima, Optima Wireless, Recessed Optima Wireless, Optima K, Windbox, Recessed Windbox, Smart, Dam, Deco, Kool, Variwind, Rotowind, Invisair, Rund, Zen, Triojet System, Duojet, Max, Recessed Dam, Recessed Compact, Maxwell, Windbox BB, Recessed Windbox BB, Zen BB, Compact Fly, Aris, Fly K, Fly KL-KXL, Fly KBB, Windbox L-XL.**

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 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A:14:2019 + A2:2019**  
**EN 60335-2-30:2009 + A11:2012 + A1:2020 + A12:2020**

**EMC: EN 61000-3-11:2000**  
**EN 61000-3-12:2011**  
**EN 55014-1:2017 + A11:2020**  
**EN 55014-2:2015**  
**EN 62233:2008 + AC:2008**

**RoHS: EN 50581:2012**

Date / Fecha  
Name / Nombre  
Position / Cargo

**19/07/2022**  
**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

**UK  
CA**

## **UK Declaration of conformity**

Manufacturer **Motors i Ventiladors S.L. (AIRTÈCNICS)**  
**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

**Air Curtains**

with models

**Minibel, Optima, Recessed Optima, Optima Wireless, Recessed Optima Wireless, Optima K, Windbox, Recessed Windbox, Smart, Dam, Deco, Kool, Variwind, Rotowind, Invisair, Rund, Zen, Triojet System, Duojet, Max, Recessed Dam, Recessed Compact, Maxwell, Windbox BB, Recessed Windbox BB, Zen BB, Compact Fly, Aris, Fly K, Fly KL-KXL, Fly KBB, Windbox L-XL.**

is/are developed, designed and manufactured in accordance with the following regulation(s)

**Electrical Equipment (Safety) Regulations 2016 No. 1101**

**Electromagnetic Compatibility Regulations 2016 No. 1091**

**The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 No. 3032**

**The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019 No. 539**

applying the following harmonized standards in particular

**LVD: BS EN 60335-1:2012+A2:2019**  
**BS EN 60335-2-30:2009+A12:2020**

**EMC: BS EN IEC 61000-3-11:2019**  
**BS EN 61000-3-12:2011**  
**BS EN IEC 55014-1:2021**  
**BS EN IEC 55014-2:2021**

**RoHS: BS EN IEC 63000:2018**

Date  
Name  
Position

**19/07/2022**  
**Jordi Hierro**  
**Technical Manager**



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## IDENTIFICATOR



All air curtains are identified by a unique serial number printed on a label located on the inside of the service door. It also indicates the model of the curtain and its technical characteristics (flow rate, technical data of the fans and heating power).

It is essential to have this number to facilitate possible spare parts or technical information on the curtain in question.

Model <small>Modelo</small>	WINDBOX M 2000 P86		
Airflow <small>Caudal</small>	3320	m3/h	
Blowers <small>Ventiladores</small>	3,8 A	0,856 kW	230 V/50Hz
<b>Heating</b>			
<small>Calefacción</small>	<small>Temperatura</small>	<small>Capacity</small>	<small>Water Flow</small>
<small>Bateria Agua</small>	80/60 °C	20,65 kW	900 l/h
<small>Bateria Eléctrica</small>	Electric Heater kW		
Serial Number <small>Número de Serie</small>	2022 01 21 / 113.864		



AIRCOR15698 113864

WINDBOX M 2000 P86      www.airtecnics.com

## GUARANTEE

Your air curtain is guaranteed for a period of one year from the date of purchase. We will adjust, repair or replace at our discretion from our warehouse any defect, system failure or part found to be defective. The assembly cost out of our warehouse is at buyer expense. The products that, in our eyes, have been inadequately used, incorrectly manipulated, improperly installed, connected to different nominal tensions, modified, repaired by non-authorized workers or that have suffered damages during transport are totally excluded from the guarantee.

*To validate the guarantee it should be correctly filled and enclosed with the invoice that vouches for the buying date. If it is manipulated, it will lose all validity.*

*It is the buyer's responsibility to take the necessary safety measures because in case of a failure or mistake in one of our products, no damages to third parties, sets or installations will occur.*



### Guarantee draft

**Air curtains data:**

Model: ..... Series number: .....

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

**Buyer data:**

Name: .....

Address: .....

Country: ..... Phone: ..... Mail:.....

**Seller data:**

Name: .....

Address: .....

Country: ..... Phone: ..... Mail:.....

**Buyer signature and stamp**

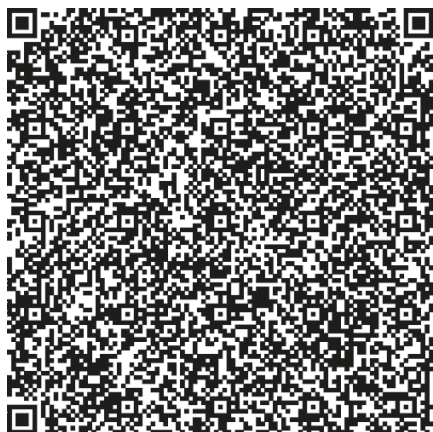
**Seller signature and stamp**



*If you detect some error in this manual, we'll be pleased to receive your feedback, it helps us to improve even more. Airtècnics reserves the right to modify some of the specifications in this manual*

Conca de Barberà, 6 - Pol. Ind. Pla de la Bruguera  
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AIRDOM05515-R14(01/22)

*We reserve the right to change design and specifications without prior notice.*