



INSTALLATION, OPERATION AND MAINTENANCE MANUAL



Air Curtains RECESSED OPTIMA

Please, read these instructions carefully before attempting installation

SECURITY ADVISE SYMBOLS



Attention, Danger, Safety Advice!



Danger from electric current or high voltage!



Injuries risk!



Danger! Do not stay underneath: Heavy load.

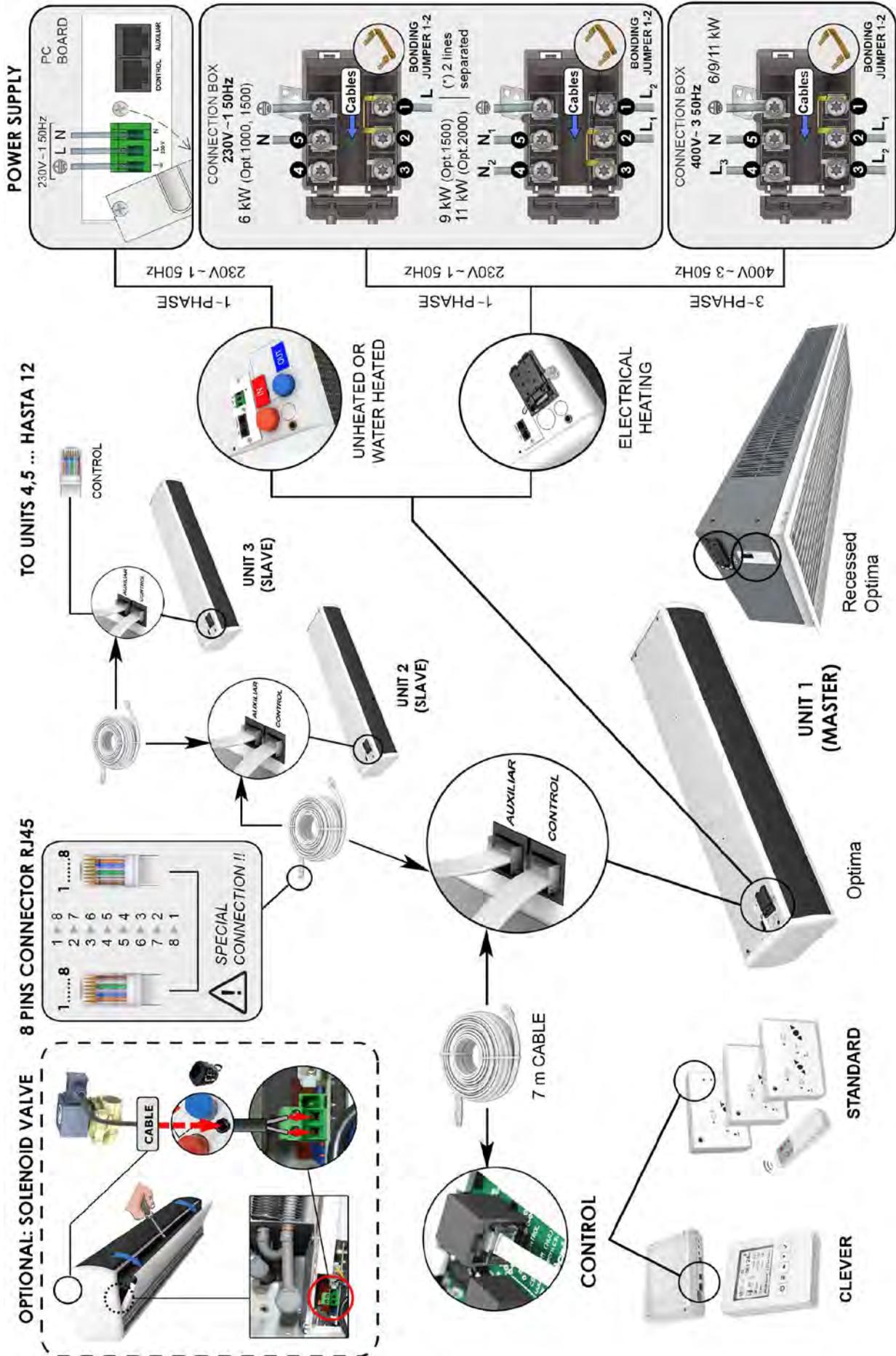


Important information.

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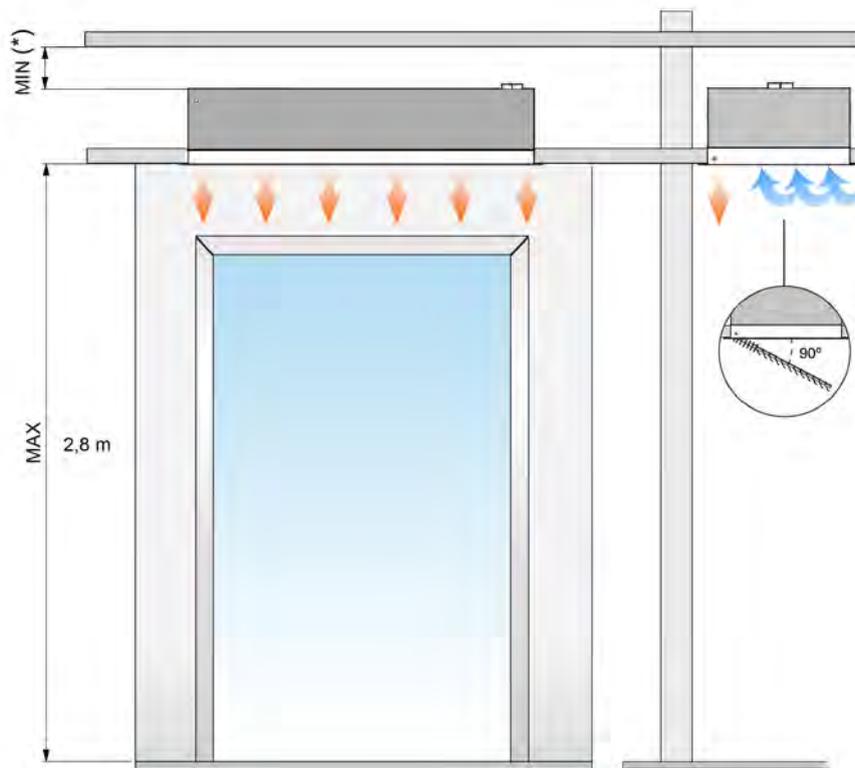
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CONNECTION DIAGRAM



INSTALLATION

Valid for models: **Recessed Optima**



MAX. Maximum recommended height, MIN. Minimum recommended distance

(*) Unheated units or electrical heated = 1cm. Units with water heating = 10cm

Minimum recommended distance between the inlet grille and any obstacle is the necessary to open the service grille.

| | |
|--|---|
| | <i>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. If the unit is operated with additional controller, please consider its specific instructions.</i> |
| | <i>There is no need to open the service door to connect the air curtain. All connections (power supply, control, water pipes when existing) and fixations are external. They are placed on top or lateral of the units. See how to open service door at repairs section.</i> |
| | <i>For safety, the air curtains never have to be stopped by disconnecting them from the main supply, always through the controller and waiting 10 minutes at least to disconnect the main supply. In case to not follow these instructions, the internal parts of the air curtain can be damaged.</i> |

Power Supply

To connect the power supply there is a black connection box outside the air curtain (located on lateral).

For an ambient air or water heated air curtain, just connect the single phase 230Vx1.

In case of an air curtain with electrical heating we will also connect the three phase 400Vx3 of the electrical element. Optionally under request the power supply of the water coil or electrical element can be three phase 230Vx3 or single phase 230Vx1 depending on each model (special wiring diagram will be enclosed).

PCBoard and Control

To connect the controller there is a PCBoard (printed circuit) located outside the air curtain (on top). There is no need to open the unit to connect it.

Use the 7 meters RJ45 cable supplied with the equipment. The communication between the controller and the PCB is digital and low-voltage.

Optionally, there are different accessories and controllers available, to meet every customer needs (Clever Control, thermostats, hand-auto, door contacts, anti-freezing sensor, supports, valves, etc.).

The new total control for ventilation technology is advanced *Clever* regulation. Leading the new generation of air curtains management with maximum control providing maximum energy saving. Clever automatically adapts the functioning of the air curtain to the entrance climatic conditions in order to keep the comfort and energy saving.

For more information ask for *Clever Control* manual.

Fixing

Units are provided of several external suspension points, depending on the weight and length of each model (see exact situation of the points at the air curtains characteristics page).

The fixing of the air curtain should be managed according to the weights of each unit shown on the technical data page. The installation can be made through threaded rods, cable tensors or other supports. See available supports in the accessories section.

Water coils

Water heated air curtains have a PCBoard with an output of 230Vx1 to install an electro valve (open/close water entrance) or any other device.

It is recommended:

- Close the hot water circulation (by turning the electrovalve OFF) to avoid fan overheating while the unit is OFF. Electrovalve is optional.
- Install 2 cutoff water valves (supply and return) in order to disassemble the equipment easily.
- Install a bleeding valve at the highest part of the water heating circuit.

The ambient temperature should be always over +4°C, otherwise it will be necessary to provide an anti-frost protection device.

Water coils have a drainage point placed at the end part of the intake manifolds area.

Electrical elements

The heater element has 3 or 6 resistances bars (depending on the model) that combined give 2 power stages. The control is managed by 2 PRBEO of 2 and 1 bars (in case of 3 resistances), or 4 and 2 bars (in case of 6 resistances).

All electrical elements are protected electrically and electronically against overheating (see "*Operating instructions*" section).

The electrical controllers have the option to install an external thermostat that turns on/off the heating in order to control the temperature.

During the first uses scent can be emitted but it disappears in a few days.

STORAGE AND TRANSPORT



**Attention! Heavy load.
Do not step underneath hanging load during the transport or assembly.**

Store in a dry place and weather protected in its original packaging. In case the packing is opened, cover the air curtain to protect it from dust. Do not step or put heavy load over the package to avoid damages to the material. Store temperatures are between -20°C and +40°C.

When carrying material, make sure it is not damaged by the forklift (fork penetration in the packaging). Please see the *Packaging* instructions.

WORKING INSTRUCTIONS



For safety, the air curtains never have to be stopped by disconnecting them from the main supply, always through the controller and wait for 10 minutes at least to disconnect the main supply. In case to not follow these instructions, the internal parts of the air curtain can be damaged.

Control PCBoard characteristics

The PC Board relays adjust the 2 ventilation and heating speed in case of electrical heated air curtains.

Controller's common characteristics

- **Controllers:** There are several models depending on the customer's needs (timers, anti-freezing detectors, thermostats, etc.).
- **2 ventilation speed.**
- **Memory:** When a power shortage happens, it guarantees that the selected speed will be maintained when the service is re-established. This function can be connected or disconnected through the switch ON/OFF placed inside the controller.
- **RJ45 cable and digital communication:** "Plug and Play" easy and fast connection through RJ45 cable and digital communication between the controller and the air curtain. This kind of communication is more reliable even at long distances.
- **External ON/OFF:** Inside the controller we can connect a normally open contact (1, 2) that controls the ON/OFF of the equipment through any external device, the contact is potential-free. When the contact is Open, the air curtain is ON. When the contact is closed the air curtain is OFF. It has a 30 seconds delay. It can be used with programmable timer, temperature sensors, fire alarms, PLC, etc.
- **Remote control:** All the standard controllers have an IR receiver that works by infrared.



Common characteristics to all controllers for water heated air curtains



Unheated air curtain controller



Warm water heated air curtain controller

Water heated air curtain auxiliary function:

- **Heating ON/OFF:** It is possible to activate/deactivate the current of 230Vx1 to the electrovalve to open/close the water entrance to the coil. This 230Vx1 output connector is placed on top of the equipment, besides the telephone cable connection of the controller.
- **How to control an electro-valve with an external thermostat:** To control the inlet water to the battery through a thermostat, we must install it in series with the electro-valve. Thus, when it reaches the selected temperature, the electro-valve will close.
- **Safety thermostat:** If the internal temperature increases to 60°C and the first speed being selected, it automatically turns to the second ventilation speed. It will continue to the maximum speed till the internal temperature is lower than 50°C. The emergency operating is indicated by a flashing LED. If the safety activates too often the cause must be determined. The most probable is that we have to increase the cleaning of the inlet grill with more regular recurrence. For example, an obstruction in the inlet grill, the inactive motor or a too high ambient temperature in an installation with no ambient thermostat or a water temperature of the water coil over 80°C would increase automatically the speed fan. It also avoids that the expelled air by the air curtain is over 60°C (too high temperature sensation for people).

Common characteristics to all controllers for electrical heated air curtains

2 speed system with 2 different Fan Speed and Heating Stages (H1, H2).



- **Limited heating:** for safety reasons, in references OPT/RO 1000 of 9kW the heating power is limited by the ventilation speed that we had selected, the following way:

| Selected speed | Max. heating power that can be selected |
|----------------|---|
| V1 | Stage 1 heating |
| V2 | Stage 2 heating |

To apply this limitation, the default control work jumper JP1 must be retired.

In the rest of the references, any ventilation speed can be selected with any heating power.

Furthermore, for safety reasons of the equipment, the heating power does not work if no speed fan is operating. It can be selected any speed with any heating power.

Warning: If the air ambient temperature is high, and we select the maximum heating and the minimum speed, the electronic safety ventilation will repetitively activate.



- **Thermostat of relay:** When the equipment is stopped, and the heating has been working, there is an increase in temperature (by thermal inertia) inside the equipment that could damage it. In order to avoid internal damages by overheating, when we stop the curtain and the internal temperature is over 50°C, there is a delay thermostat having the function to turn on again the fans automatically with maximum speed till the temperature goes under 50°C. This safety operating is indicated with a flashing green LED.
- **Safety thermostat:** When the air curtain operates with heating and the internal temperature increases over 50°C, a safety function activates: The air curtain increases one speed every two minutes till it reaches the maximum speed. After, it will start decreasing 1 heating stage till it stops. In case that after 2 minutes the situation persists, the heating will block. To unblock it, we must manually reset by disconnecting from the main supply. If in any moment the temperature decreases (below the set temperature) this process is interrupted and everything goes back to the normal situation.

A delay in the cleaning of the inlet grille or a high ambient temperature could temporally activate this function.

The air speed and the heating stage are indicated by a continuous lighted led, while the safety function is indicated by a flashing LED. The blockage of the heating is indicated with the led OFF of the heating flashing at a higher speed.

Controllers auxiliary function:

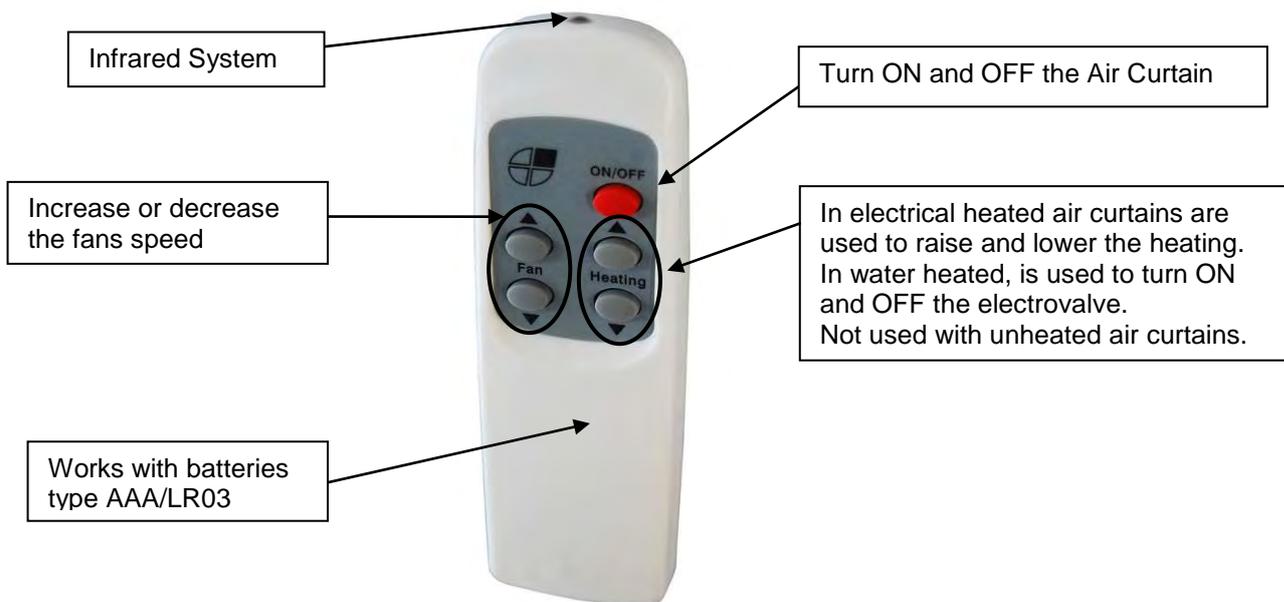
- **Ambient Thermostat:** The air curtain is equipped with contacts to install, if desired, an ambient thermostat in order to stops the heating temporally when reaching the programmed temperature. This installation is specially recommended for equipments installed in closed or small dimensions premises. In case of installing an ambient thermostat remove the bonding jumper between terminal 4 and 5, on the controller.

Special controllers

If there is a will to control more parameters, there are two controllers that allow a lot more possibilities in comparison with the standard control, especially *Clever*. The following controllers have specific user manuals:

- Hand Auto
- Clever Control

Remote control characteristics



WIRING DIAGRAMS

Following wiring diagrams are enclosed:

For the following models: OPTIMA 1000 - 1500

- Warm water heated or only air with standard controller. Diagram: AIRDOE07050
- Warm water heated with HC controller (Hand Auto, D805). Diagram: AIRDOE07060
- Electrical 400Vx3 air curtain OPTIMA 1000 E6kW / 1500 E6-9kW. Diagram: AIRDOE07100
- Electrical 400Vx3 air curtain OPTIMA 1000 E9kW. Diagram: AIRDOE07200
- Electrical 230Vx1 air curtain OPTIMA 1000 E6kW / 1500 E6kW. Diagram: AIRDOE07190
- Electrical 230Vx1 air curtain OPTIMA 1000 E9kW. Diagram: AIRDOE07215
- Electrical 230Vx1 air curtain OPTIMA 1500 E9kW. Diagram: AIRDOE07195

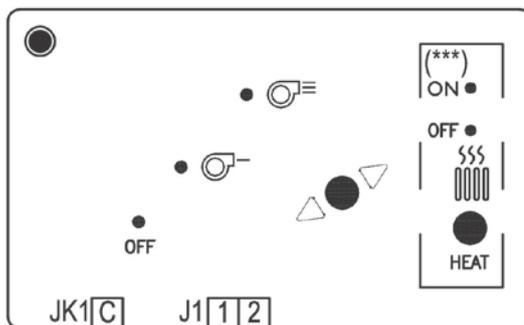
For the following models: OPTIMA 2000

- Warm water heated or only air with standard controller. Diagram: AIRDOE07150
- Warm water heated with HC controller (Hand Auto, D805). Diagram: AIRDOE07065
- Electrical 400Vx3 air curtain OPTIMA 2000 E. Diagram: AIRDOE07160
- Electrical 230Vx1 air curtain OPTIMA 2000 E. Diagram: AIRDOE07170

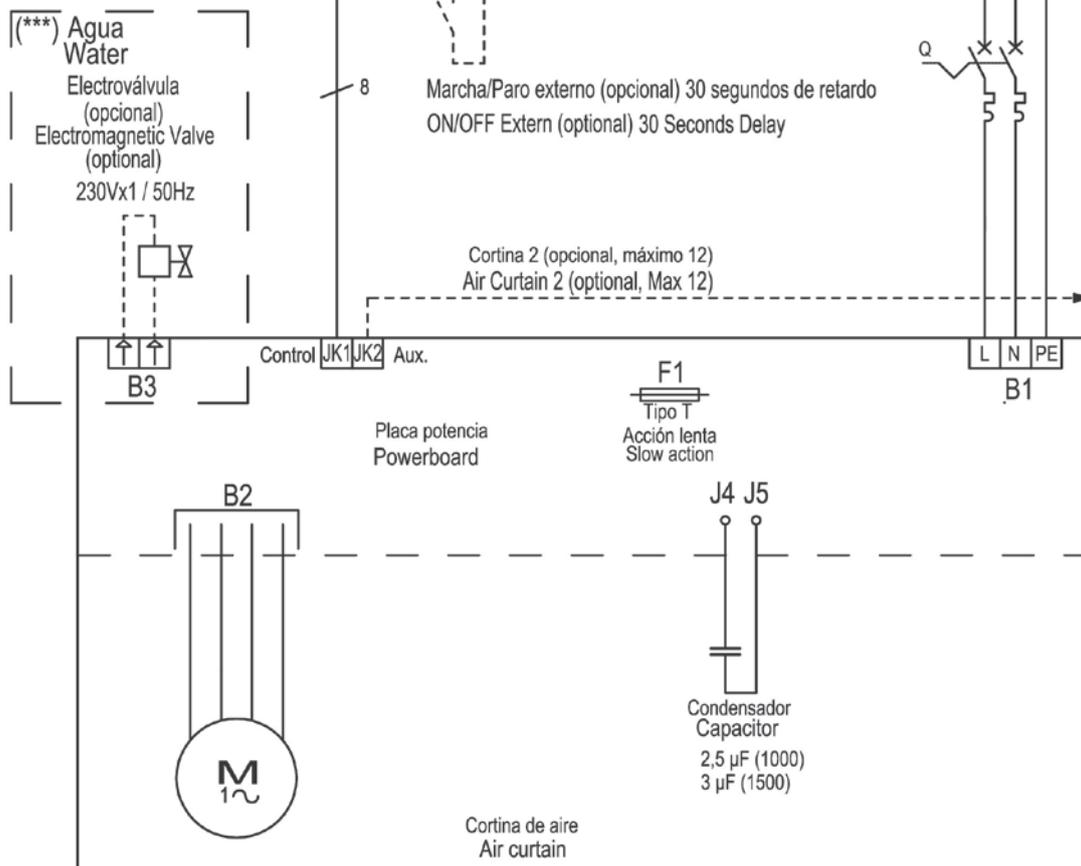
In case you need to connect the equipment to a PLC, the corresponding wiring diagrams will be supplied.

Reguladores de 2 velocidades
2 Speeds remote Control

Control remoto
Remote control



Q= Interruptor magnetotérmico
Q= Circuit breaker



ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES
WIRING DIAGRAM OF AIR CURTAIN, 2 SPEED CONTROLLER

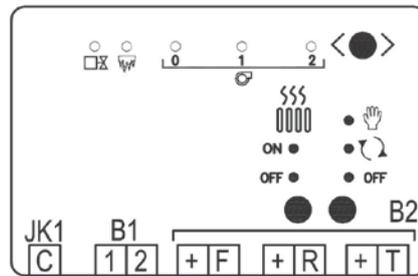
CORTINA SOLO AIRE Y CALEFACCIÓN DE AGUA OPTIMA 1000/1500
AIR ONLY, 2 SPEEDS WATER HEATED OR UNHEATED OPTIMA 1000/1500

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Doc. AIRDOE07050
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Control remoto
Remote control

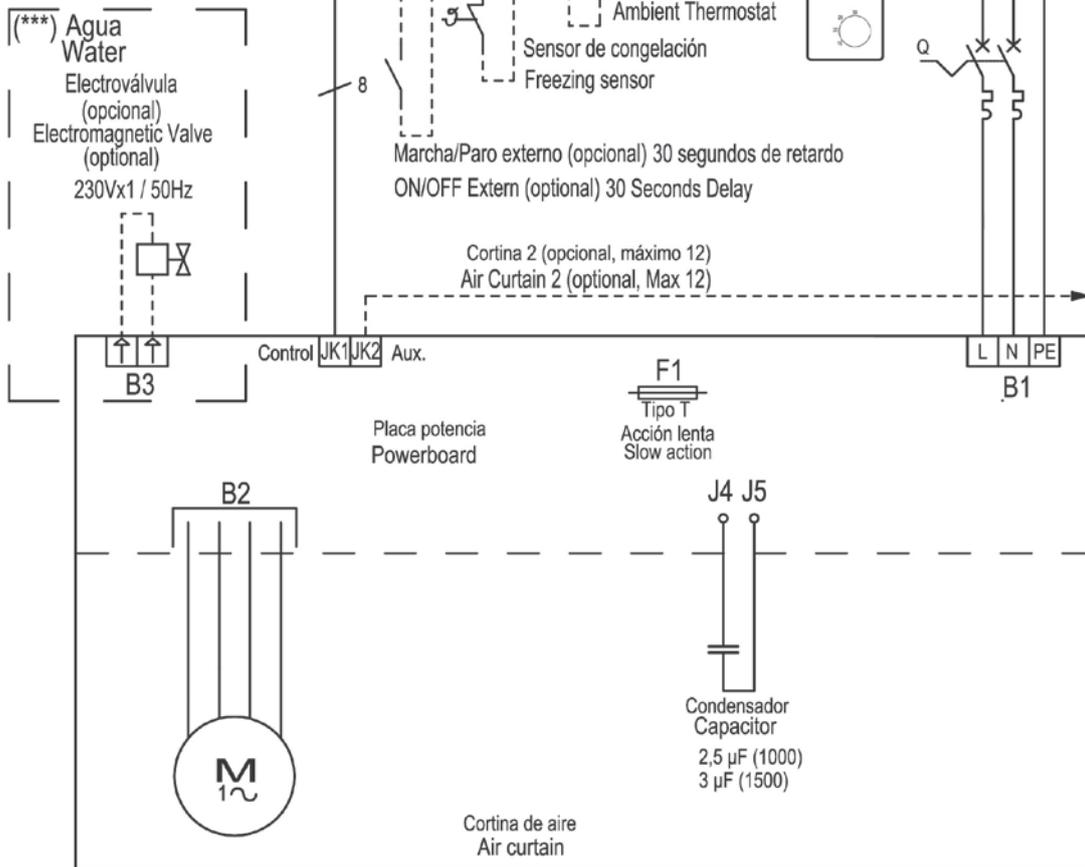
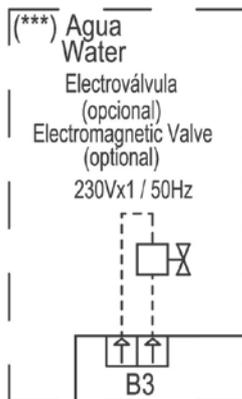


Hand-Auto



Reguladores de 2 velocidades
2 speed controller

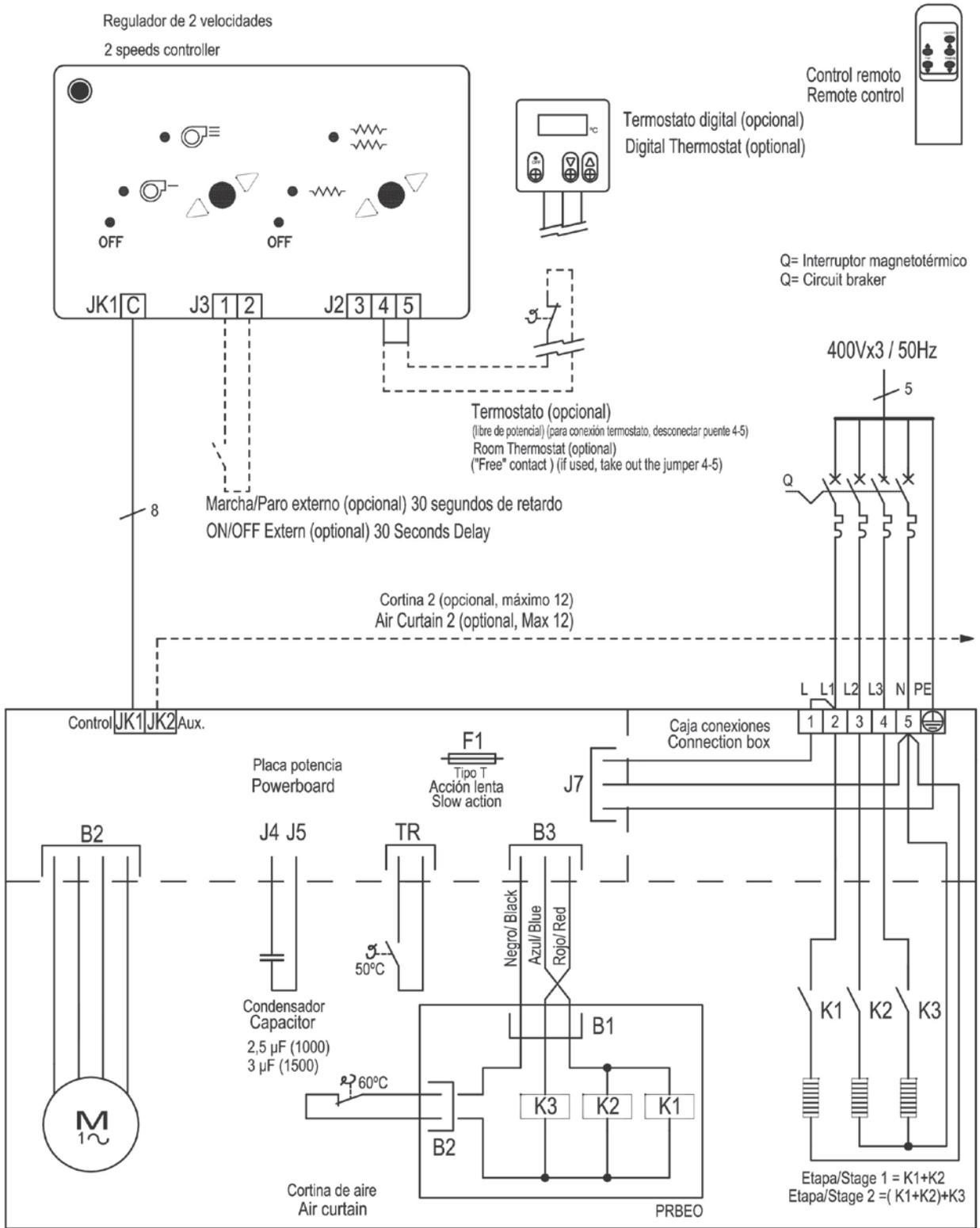
Q= Interruptor magnetotérmico
Q= Circuit breaker



ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES HANDAUTO
WIRING DIAGRAM OF AIR CURTAIN, 2 SPEED CONTROLLER HANDAUTO

CORTINA SOLO AIRE Y CALEFACCIÓN DE AGUA OPTIMA 1000/1500
2 SPEEDS WATER HEATED OR UNHEATED OPTIMA 1000/1500

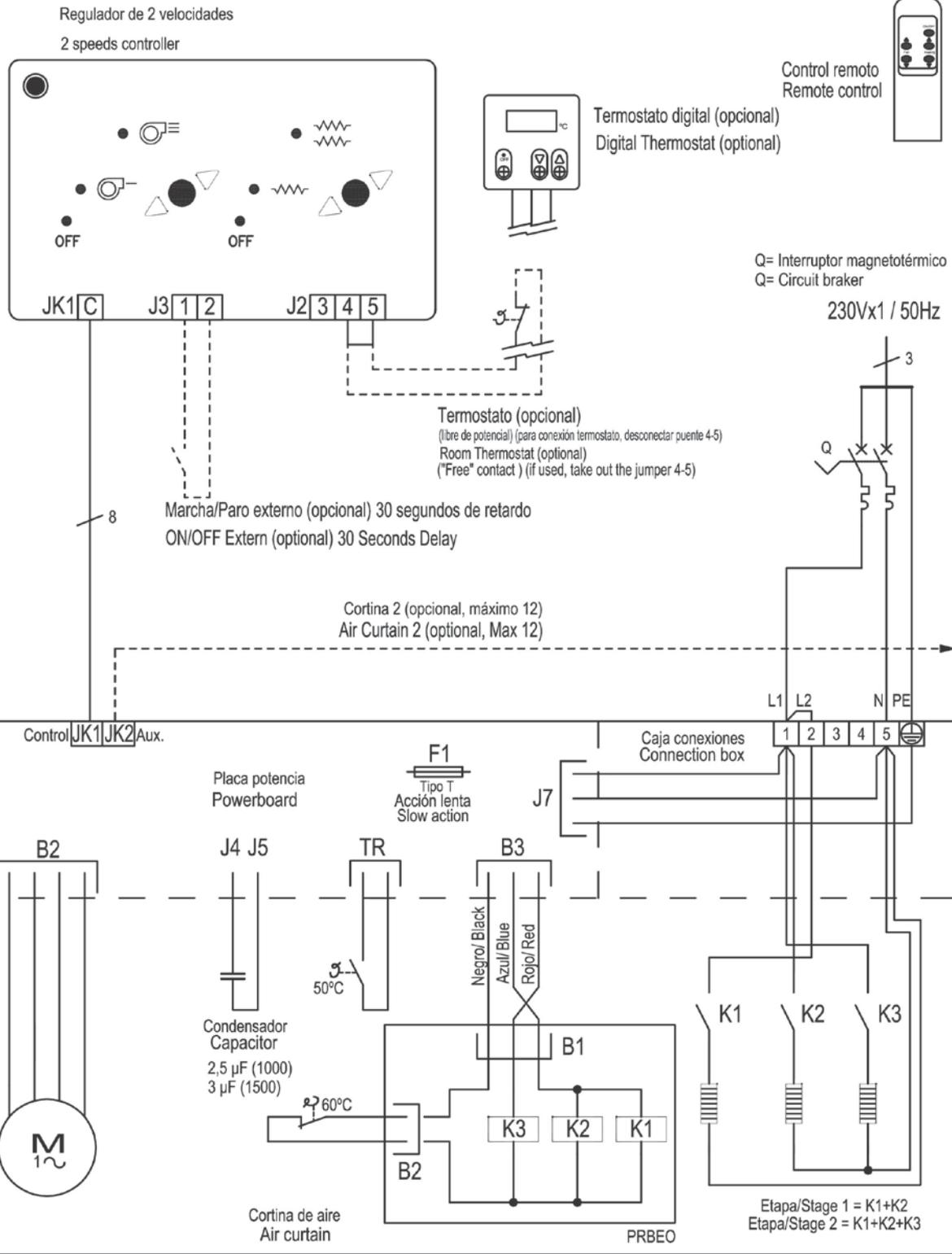
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ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES
WIRING DIAGRAM OF AIR CURTAIN 2 SPEED CONTROLLER

CORTINA ELÉCTRICA 400V~3 1000-6kW /1500-6-9kW
ELECTRICAL, 2 SPEEDS 400V~3 1000-6kW /1500-6-9kW

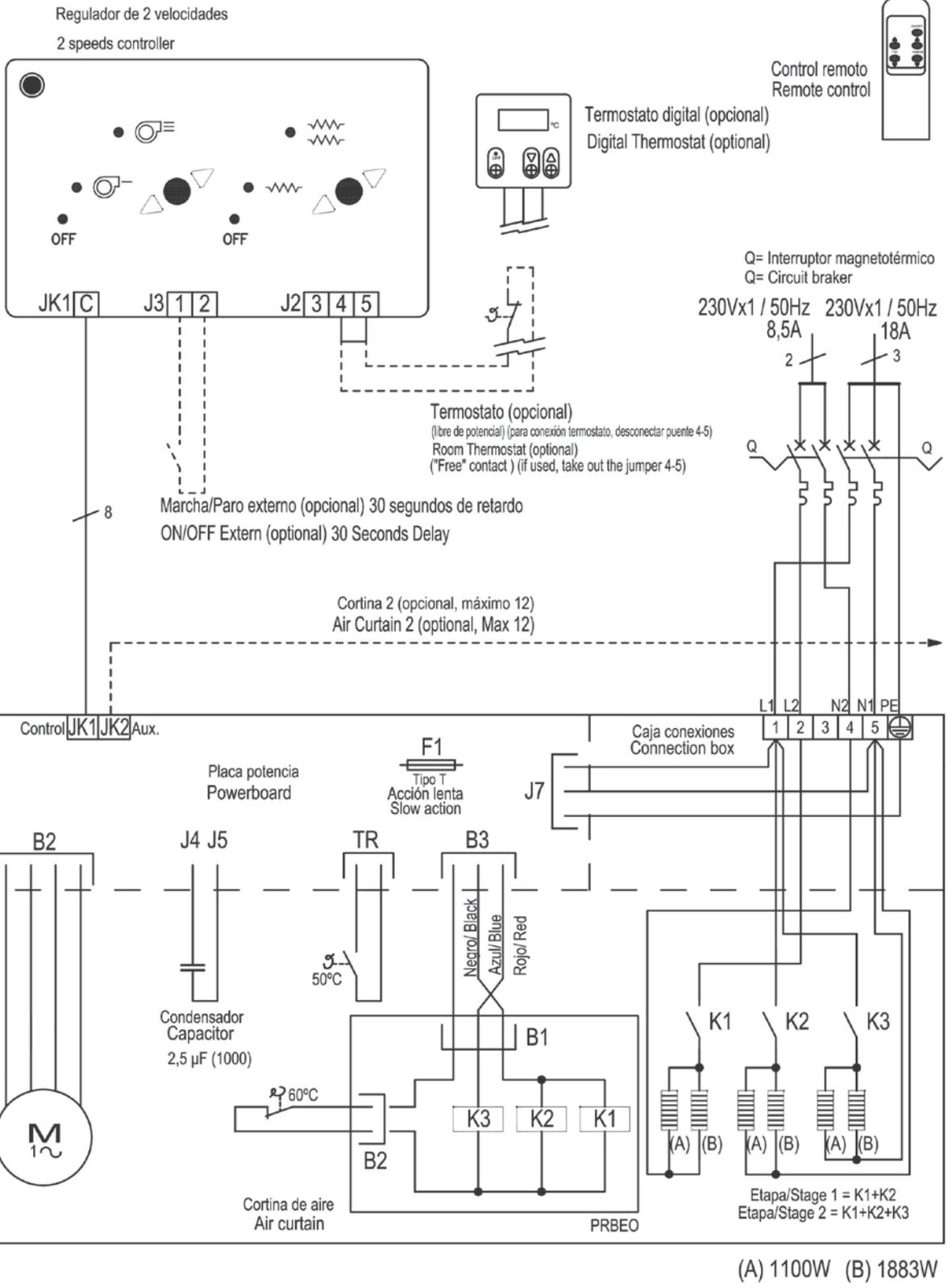
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ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES
WIRING DIAGRAM OF AIR CURTAIN 2 SPEED CONTROLLER

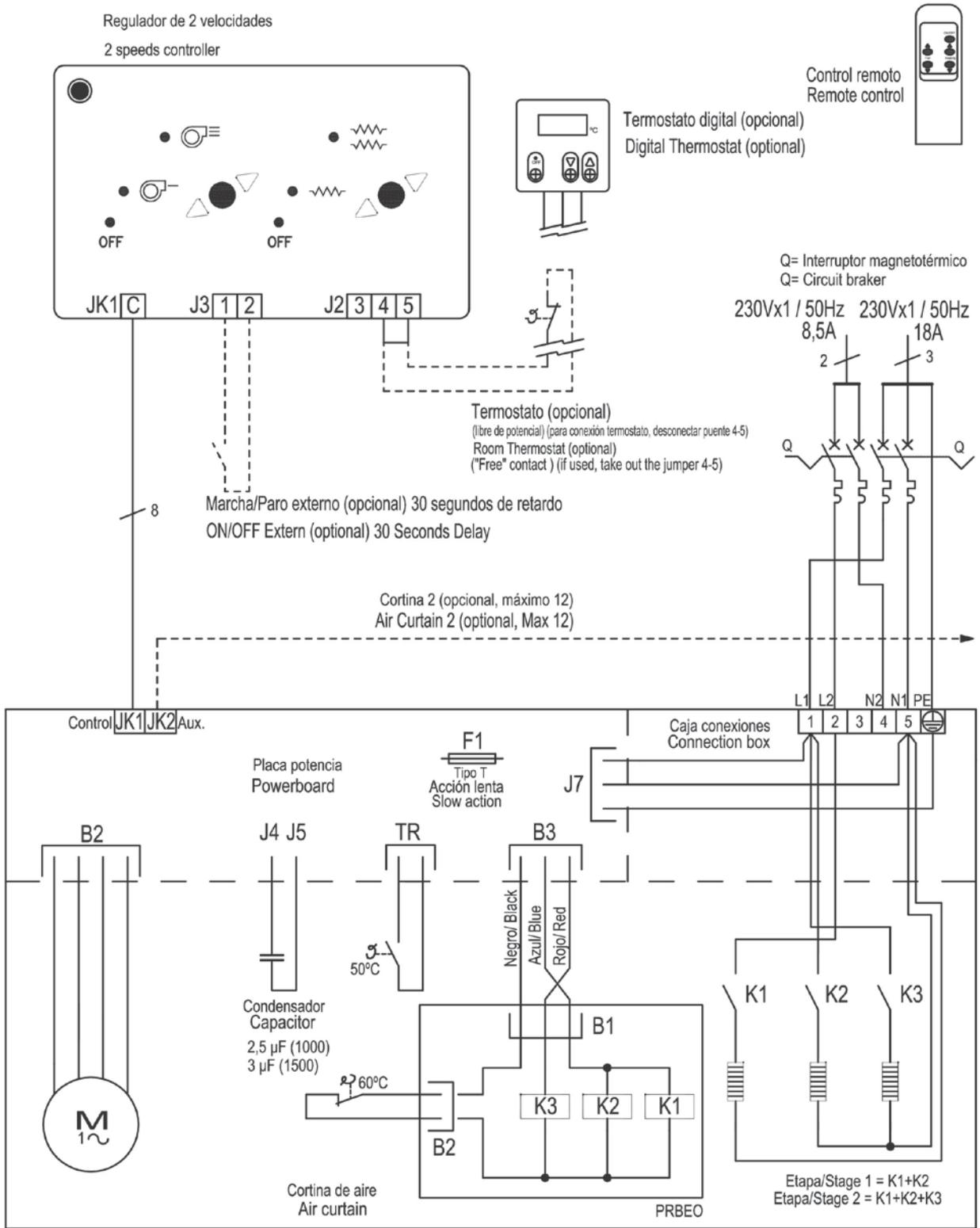
CORTINA ELÉCTRICA 230V~1 1000-6kW /1500-6kW
ELECTRICAL, 2 SPEEDS 230V~1 1000-6kW /1500-6kW

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ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES
WIRING DIAGRAM OF AIR CURTAIN 2 SPEED CONTROLLER

CORTINA ELÉCTRICA 230V~1 1000-9kW
ELECTRICAL, 2 SPEEDS 230V~1 1000-9kW

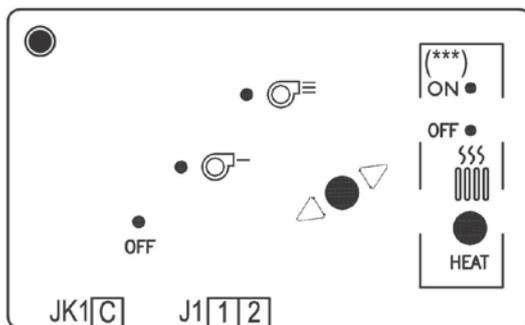


ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES
WIRING DIAGRAM OF AIR CURTAIN 2 SPEED CONTROLLER

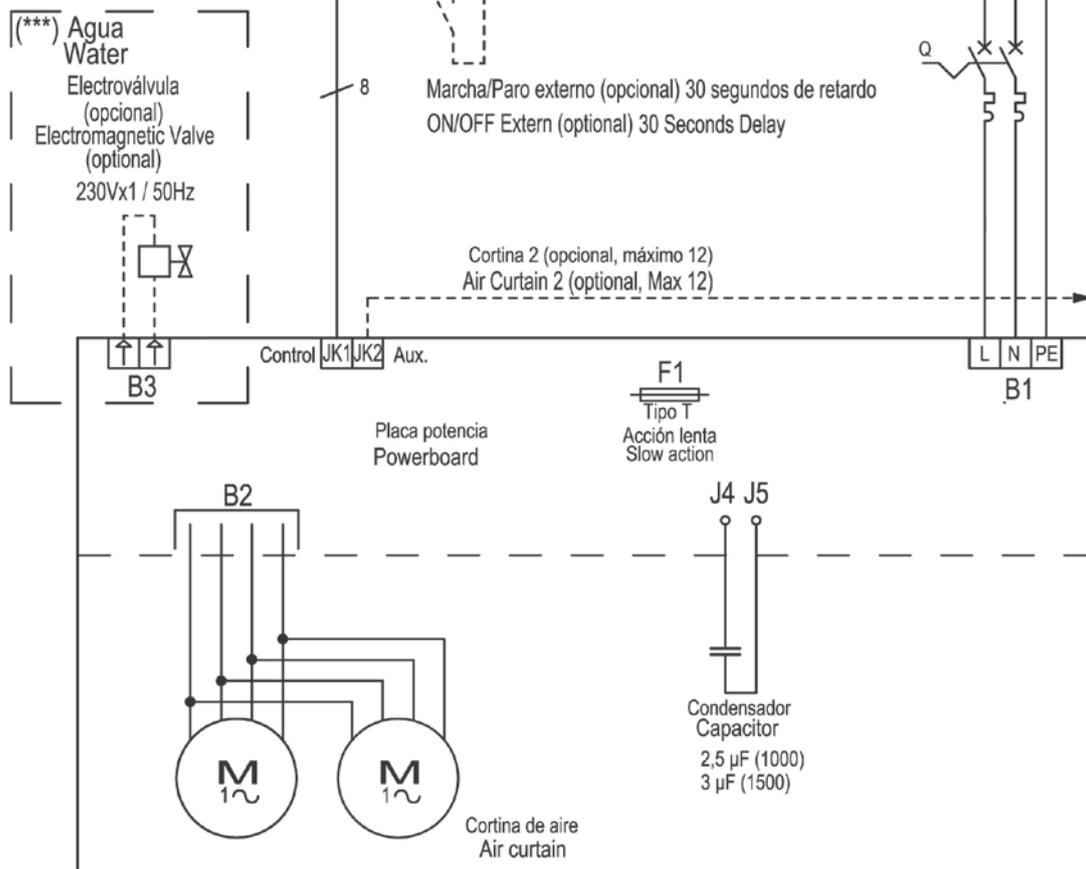
CORTINA ELÉCTRICA 230V~1 1500-9kW
ELECTRICAL, 2 SPEEDS 230V~1 1500-9kW

Reguladores de 2 velocidades
2 Speeds remote Control

Control remoto
Remote control



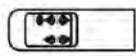
Q= Interruptor magnetotérmico
Q= Circuit breaker



ESQUEMA ELÉCTRICO CORTINA DE AIRE CONTROLADOR 2 VELOCIDADES
WIRING DIAGRAM OF AIR CURTAIN, 2 SPEED CONTROLLER

CORTINA SOLO AIRE Y CALEFACCIÓN DE AGUA OPTIMA 2000
AIR ONLY, 2 SPEEDS WATER HEATED OR UNHEATED OPTIMA 2000

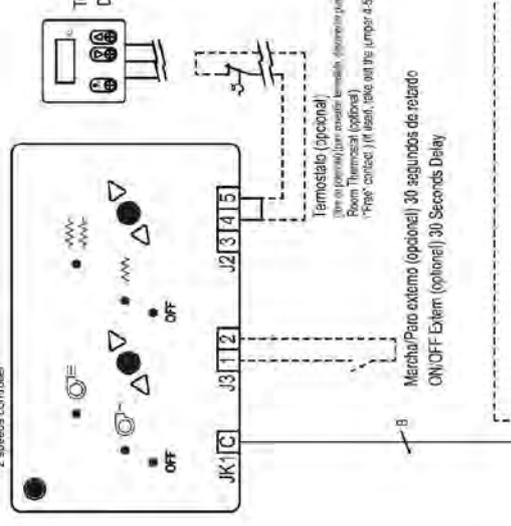
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Control remoto
Remote control

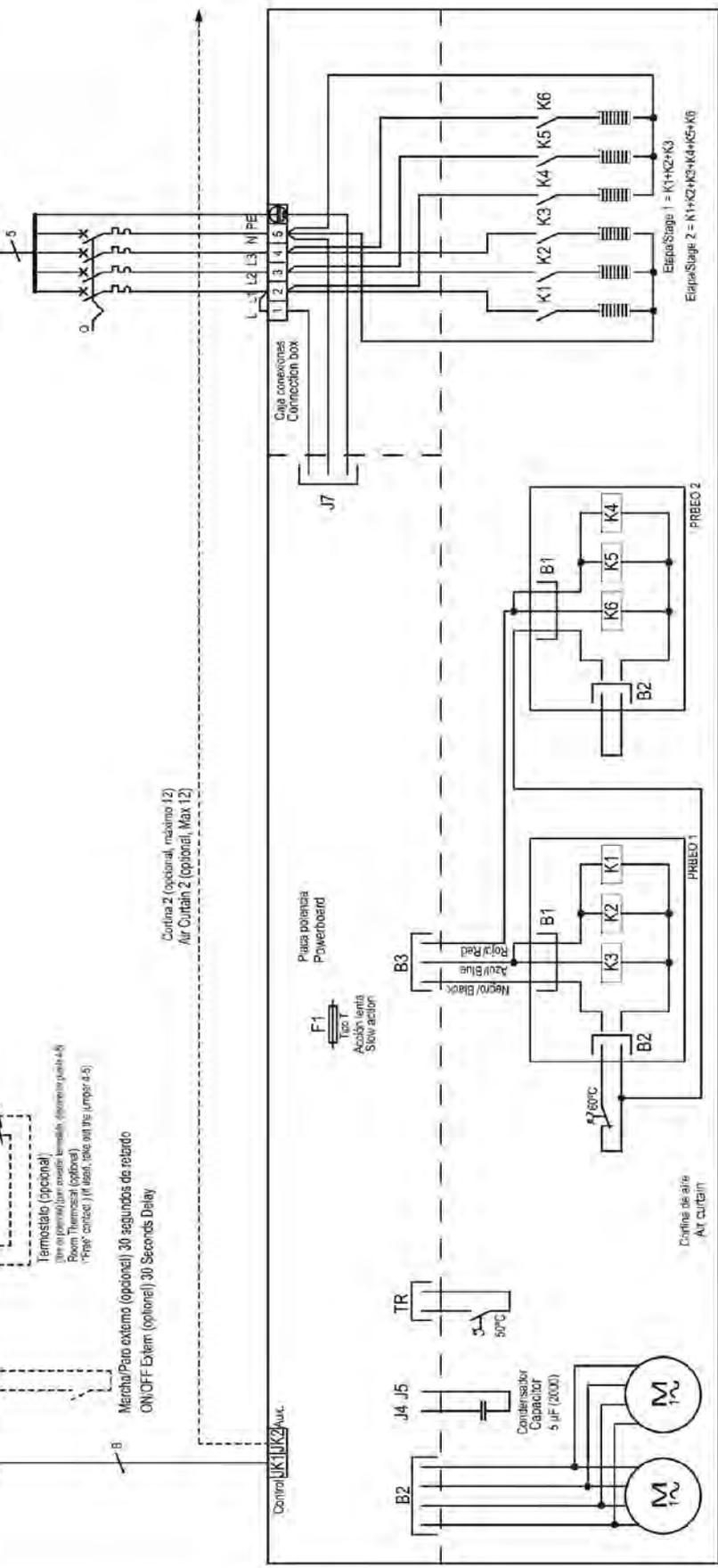
Q- Interruptor magnético
Q- Circuit breaker

Regulador de 2 velocidades
2 speeds controller



Cortina 2 (opcional, máximo 12)
Air Curtain 2 (optional, Max 12)

400Vx3 / 50Hz



Cortina de aire
AIR CURTAIN

RECESSED OPTIMA | Recessed Air Curtains For Commercial Doors



Characteristics



- Self-supporting casing construction made of galvanized steel plate, ready to be installed recessed in a false ceiling.
- Inlet grille (free of maintenance) made with aluminium profiles and blow-out nozzle, integrated in a single white frame colour RAL 9016. Other colours are available on request.
- Anodized aluminium outlet vanes, airfoil shaped.
- Low noise twisted cross-flow fans driven by a 2-speed external rotor motor.
- "P" type with water heated coil. "E" type with electrical shielded elements, two stages with integrated regulation. "A" type without heating, air only.
- Includes Plug&Play control with 7m RJ45 cable and infrared remote control.
Optional: Clever control (programmable, automatic, intelligent, energy saving, Modbus RTU for BMS...).

Specifications

AIR ONLY

| Model | Airflow m ³ /h | Power Fans 230V-50Hz W | Current Fans 230V-50Hz A | Noise Level (5 m) dB(A) | Weight kg |
|-----------|------------------------------|---------------------------------|-----------------------------------|----------------------------------|--------------|
| RO 1000 A | 1700 | 80 | 0,41 | 35/50 | 24 |
| RO 1500 A | 2200 | 117 | 0,53 | 36/51 | 34 |
| RO 2000 A | 3200 | 160 | 0,82 | 38/53 | 44,5 |

WATER HEATED P86

| Model | Airflow m ³ /h | Heating capacity 80/60°C kW | Water Drop Pressure Pa | Power Fans 230V-50Hz W | Current Fans 230V-50Hz A | Noise Level (5 m) dB(A) | Weight kg |
|-----------|------------------------------|--------------------------------------|---------------------------------|---------------------------------|-----------------------------------|----------------------------------|--------------|
| RO 1000 P | 1450 | 8,3 | 7360 | 80 | 0,41 | 37/51 | 26,5 |
| RO 1500 P | 2175 | 13 | 7480 | 117 | 0,53 | 38/52 | 37,5 |
| RO 2000 P | 2850 | 17,1 | 6810 | 160 | 0,82 | 40/54 | 49 |

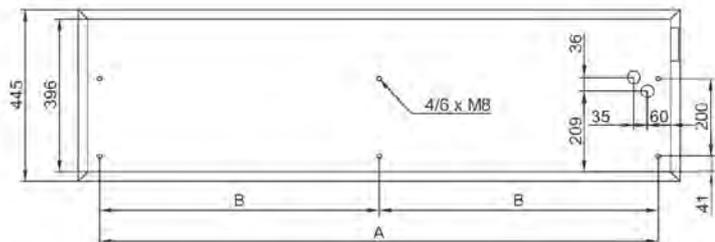
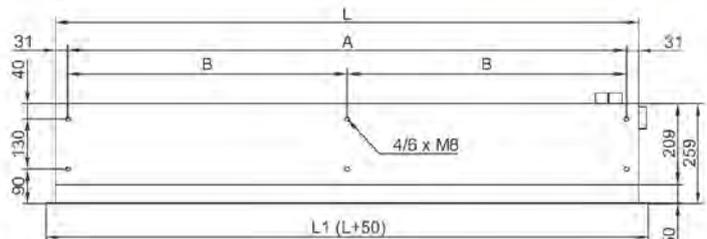
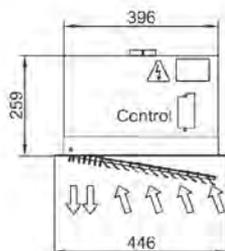
ELECTRICAL HEATED

| Model | Airflow m ³ /h | Electrical Heating Capacity (*) kW | Electrical Heating Voltage V | Electrical Heating Current A | Power Fans 230V-50Hz W | Current Fans 230V-50Hz A | Noise Level (5 m) dB(A) | Weight kg |
|----------------|------------------------------|---|---------------------------------------|---------------------------------------|---------------------------------|-----------------------------------|----------------------------------|--------------|
| RO 1000 E | 1700 | 4,6 | 400Vx3 | 5,8/7 | 80 | 0,41 | 35/50 | 26 |
| RO 1000 E-9 | 1700 | 6,9 | 400Vx3 | 8,7/13 | 80 | 0,41 | 35/50 | 27 |
| RO 1000 E230 | 1700 | 3,8/5,6 | 230Vx1 | 16,5/24,5 | 80 | 0,41 | 35/50 | 26 |
| RO 1500 E | 2200 | 6,9 | 400Vx3 | 8,7/13 | 117 | 0,53 | 36/51 | 37,5 |
| RO 1500 E230-6 | 2200 | 3,8/5,6 | 230Vx1 | 16,5/24,5 | 117 | 0,53 | 36/51 | 37,5 |
| RO 1500 E230-9 | 2200 | 6,9 | 230Vx1 | 26/39,1 | 117 | 0,53 | 36/51 | 37,5 |
| RO 2000 E | 3200 | 5,6/11,3 | 400Vx3 | 8,1/16,3 | 160 | 0,82 | 38/53 | 53,5 |
| RO 2000 E230 | 3200 | 5,6/11,3 | 230Vx1 | 24,5/49,1 | 160 | 0,82 | 38/53 | 53,5 |

Water heated: connection pipes 1/2" female, 2 rows coil.

(*) Under request other electrical heating capacities may be supplied.

Dimensions



| | L | L1 | A | B |
|---------|------|------|------|-----|
| RO 1000 | 1000 | 1050 | 938 | - |
| RO 1500 | 1500 | 1550 | 1438 | - |
| RO 2000 | 2000 | 2050 | 1938 | 969 |

MAINTENANCE INSTRUCTIONS

| | |
|---|---|
|  | <i>For safety, before any cleaning, disconnect power supply using the controller.</i> |
|  | <i>It is forbidden to open the service door (risk of electrical discharge and being trapped in fans). Service and maintenance should be done only by introduced and qualified workers.</i> |
|  | <i>Do not use water or steam for cleaning the internal parts and components of the air curtain.</i> |

External cleaning

Air curtains don't need any kind of maintenance except from the cleaning of the casing and the inlet grille. It is recommended to weekly clean the inlet grille. It's important to make sure that the air curtain is OFF, otherwise the dust mixed with a wet cloth would create a kind of paste that will damage the fan rotor when it sucks the air.

Annual cleaning of the discharge area (outlet).

The casing of the air curtain should be cleaned with a wet cloth and non-aggressive detergent. Do not use caustic soap or acids.

The inlet grille prevents the settling of dust and strange objects in the internal elements. It is recommended to check periodically that the inlet grille is free of any object that could interfere the air entrance (plastic bags, papers, etc.).



Internal cleaning

In models without micro drilled inlet grille and water coil or electrical heating is recommended to clean the inside of the unit with a vacuum at least once a year (*), best before the winter season, with qualified staff.

(*). These periods are indicative, depending on the ambient conditions of every installation.

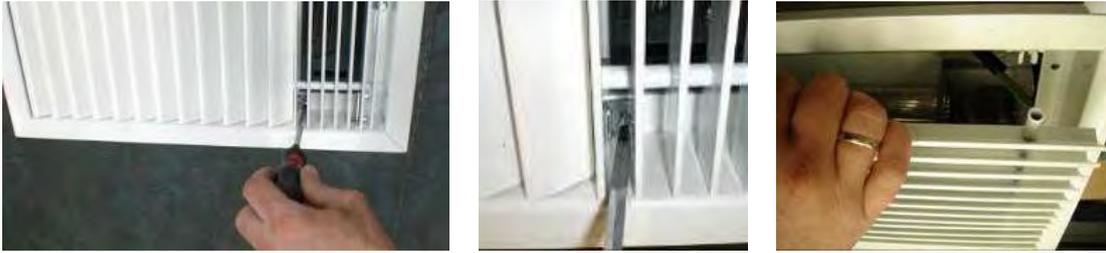
In places with a high number of particles in suspension is desirable to increase the frequency of the internal cleaning (including the city centers, near construction sites, etc.).

REPAIRS AND REPLACEMENTS

| | |
|---|---|
|  | <p><i>Installation and electrical connections must be done by qualified workers and following these instructions.</i></p> <p><i>Before any repairs are undertaken, please:</i></p> <ul style="list-style-type: none"> • <i>Inform people that there is work in progress.</i> • <i>Disconnect the power supply and protect the thermal magnet (so nobody can restart it accidentally).</i> • <i>Make sure there is no tension in the air curtain.</i> • <i>Make sure the fans are stopped.</i> • <i>Use only original spare parts.</i> |
|---|---|

To open the **inlet grille** follow these steps:

- Remove the safety screws.
- Pull the grille down gently.



Motor or turbine replacement

Before the motor replacement, inform people that there is work in progress. Disconnect main supply, make sure that the unit is without tension and that the fans are stationary.

Remove the lateral of the motor with a screwdriver.



Release the connector of the motor.

Release the fixation screw of the impeller (Allen L hex key 2.5mm through the discharge opening).

Remove motor loosening the fixation screws. Install the replacement motor following the process in reverse order, making sure that the motor and the turbine fit perfectly, the turbine screw must fit in with the flat part of the motor axle.

Fuse replacement

Before the replacement, inform people that there is work in progress, disconnect main supply, make sure that the unit is without tension and that the fans are stationary.

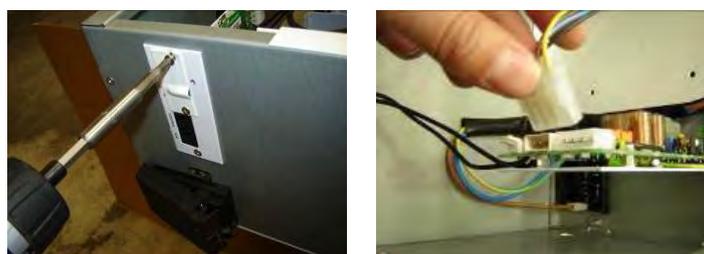
Open the inlet grille and find the fuse placed in the power plate. Remove the fuse by hand or with the help of a screwdriver and replace it.



Plate replacement

Open the inlet grille and disconnect the connectors from the plate and the condenser.

Unscrew the PCBoard through the lateral of the air curtain to remove it and make all necessary repairs for the inside part of the air curtain.



Heater replacement

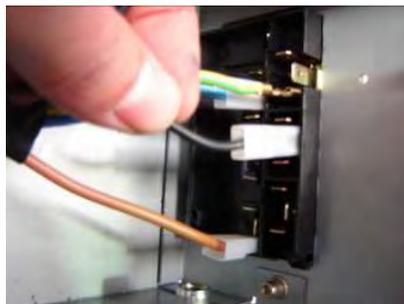
Before the replacement, inform people that there is work in progress, disconnect main supply, make sure that the unit is without tension and that the fans are stopped. Before proceeding to unfasten the heater fixing screws, we must:

Water Coils: Close the shut-off water valves of the building water circuit to the air curtain (supply and return). Open the service door and empty the water from the coil simply removing the draining screw placed in the bottom of the entrance manifold as shown in the photograph.

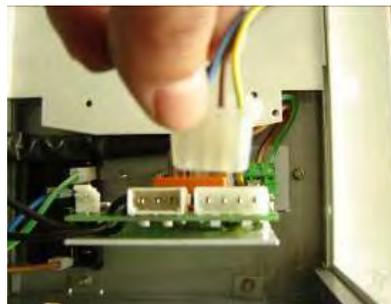


Electrical and water heater replacement

Disconnect the power supply of the water coil or electrical element. Remove the screw-earth of the connection box and disassemble from the equipment.



Disconnect the cables 2, 3, 4 of the connections box.



Disconnect the two connectors from the PCBoard.

How to remove the electrical heating or the water coil

When we have the coil or heater ready, we proceed to remove the fixation screws of the inlet grille and the screws of the water coil or electrical element to disassemble it. To assemble the new electrical heating or water coil follows the same process in reverse order.



Once removed the screws we will proceed to remove the water coil or electrical element using gloves to avoid any cut.

FAILURES AND SOLUTIONS

More than 95% of the complaints are submitted during the start of operation of the equipment and are due to installations errors.

More than 90% of the failures are solved only by **checking the connections**. Following the three following points, we can make sure that the installation is correct:

A) RJ45 cable manipulated: The cable that connects the controller to the air curtains is an 8 lines crossed RJ45 cable. **If manipulated (cut or removed the connector) and incorrectly joined (reverse way) the air curtain will not work well.** Moreover it can damage the electronics. To solve the problem just turn the connector of the cable (see connection diagram in the first page).

B) Wrong connection of the RJ45 cable. Verify whether the connector position is the correct, between the “control” and “auxiliary”, according to the installation diagram (particularly if there are several air curtains with a single controller).

C) Wrong current supply/input. The air curtain input depends on the type of current available and also on the heating type of the unit. Connect the unit according to the connection diagrams of the first page.

| More common failures and solutions | | |
|--|--|---|
| Effect | Problems | Solutions |
| All lights of the controller are OFF | Is the RJ45 cable the original (not manipulated), with no enlargements either shortenings? | Change the cable or connect it again correctly. |
| | Does the current reaches the connection box? | Connect correctly the terminals of the junction box: Between L and N there must be 230V and if the air curtain goes with three-phase electrical element, there must be 400V among terminals L1, L2 and L3. |
| | Is the controller connected to the air curtain, to the connector “Control” of the PCBoard? | Connect the cable from the controller to the “Control”, never to the “Aux”. |
| | Is the fuse of the PCBoard in good conditions? | Check the fuse and replace it in case it is necessary (type T, slow action). |
| Some lights of the controller are Flashing. | The green LED of the maximum speed flashes when we stop the air curtain after having been operating with heating. | It is not a failure, but a safety mechanism. The air curtain turns on by itself to the maximum speed to get cold and protect its components. When it decreases from the safety temperature, it will stop. |
| | Some speed or heating lights are flashing when the air curtain is working. | It is a protection mechanism of the air curtain so that the internal parts of the air curtain do not suffer damages. Situations on which the problem continuously recurs and the way to solve it: 1. Inlet grille blocked (objects, dirtiness...) the ambient temperature inside the equipment can increase a lot if the air cannot circulate. Clean the grille. 2. Small room: we recommend installing a thermostat to control the heating power so the protection device do not activates. 3. In case that the ambient temperature is already high, we recommend to lower the power heating or install a thermostat. 4. Inlet air already warm, that comes from another heating equipment beyond the air curtain. Move the air curtain away, place a thermostat in the inlet part of the curtain or lower the heating power. 5. Any motor does not work: call the technical service. |
| The heating does not work | Does the three-phase current reach the connections box? | Check installation. |
| The speed and/or the heat changes continuously with no apparent reason but the lights of the controller are not flashing. | Probably the RJ45 cable is near interference sources, transmitters, cable plates, particularly those that supply current to Motors, etc. | Pass the cable the furthest possible away from interference sources, particularly when long distances or use a screened table. |

ACCESSORIES



Clever Control

Intelligent proactive regulation, advanced functions, Automatic/manual working, door delay, timer, save energy program, multi equipment management, BMS Modbus connection, etc.



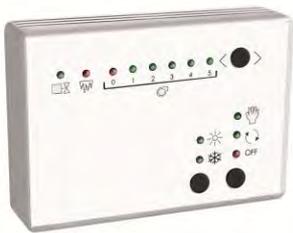
External temperature Sensor

It permits to take the temperature from a place different to the control.



Interface II

Allows the connection to a centralized management system (BMS, PLC, etc.).



Hand Auto 2 Speed (water heated)

It permits to connect anti-freezing sensors, door contact, ambient thermostat, etc.



Ambient Thermostat

It limits the operating of the heating to the selected one.

Supports, feet, vibration dampers, etc. depending on the model.



Door contact, thermostatic valve, solenoid valve, antifreezing sensor, etc.



RJ45 Cable 20m and 50m



Plenum and/or inlet/outlet kit (depending on the model)



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)

Air Curtains
Cortinas de aire

with models
con los modelos

Minibel, Optima, Recessed Optima, Windbox, Recessed Windbox, Smart, Dam, Deco, Kool, Variwind, Rotowind, Invisair, Rund, Zen, Duojet, Triojet, Max, Recessed Dam, Recessed Compact, Maxwell

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/UE
Directiva Baja Tensión 2014/35/UE

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

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

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
EN 60335-2-30:2010 + A11:2012

EMC: EN 61000-6-2:2006
EN 61000-6-3:2007 + A1:2012
EN 55014-1:2008 + A1:2009 + A2:2012
EN 55014-2:2015

RoHS: EN 50581:2012

Date / Fecha
Name / Nombre
Position / Cargo

03/05/2016
Jordi Oltra Orta
General Manager / Director General





| | | | | |
|--|---------------------|------|-------------|---------------|
| Model <i>Modelo</i> | WINDBOX M 2000 E | | | |
| Airflow <i>Caudal</i> | 3600 | m3/h | | |
| Blowers <i>Ventiladores</i> | 1,88 | A | 0,424 | kW 230 V/50Hz |
| Heating capacity <i>Calefacción</i> | 80/60 °C | | 60/40 °C | |
| Water Coil <i>Agua</i> | | kW | | kW |
| Electric Coil <i>Bateria Eléctrica</i> | 6/12/18 | kW | 400V~3 50Hz | |
| Serial Number <i>Número de Serie</i> | 2015-07-06 / 61.990 | | | |

Air curtain identification

Each air curtain is identified by a unique serial number printed in a label located inside the door service. There is also indicated the model and their technical characteristics (flow, fans technical characteristics and power heating).

It is indispensable to have this number to facilitate possible replacements or technical information of the air curtain in question.

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.

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: Fax:

Seller data:

Name:
 Address:
 Country: Phone: Fax:

Buyer signature and stamp

Seller signature and stamp