INSTRUCTION MANUAL

Air Curtains B, L, XL

SECURITY ADVISE SIMBOLS

Attention, Danger, Safety Advice!

Danger from electric current of high voltage!

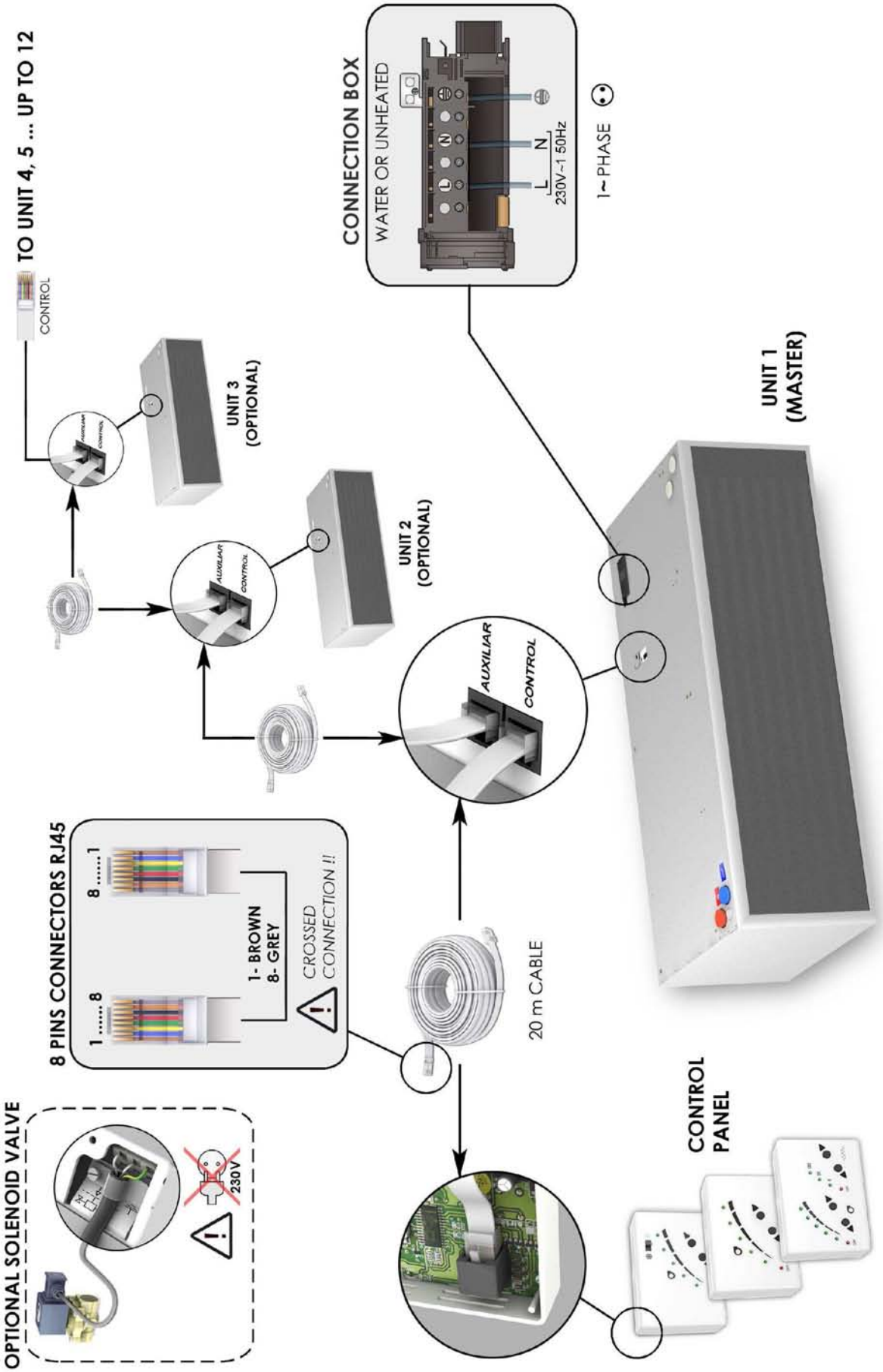
Injuries risk!

Danger! Do not step underneath: Heavy load.

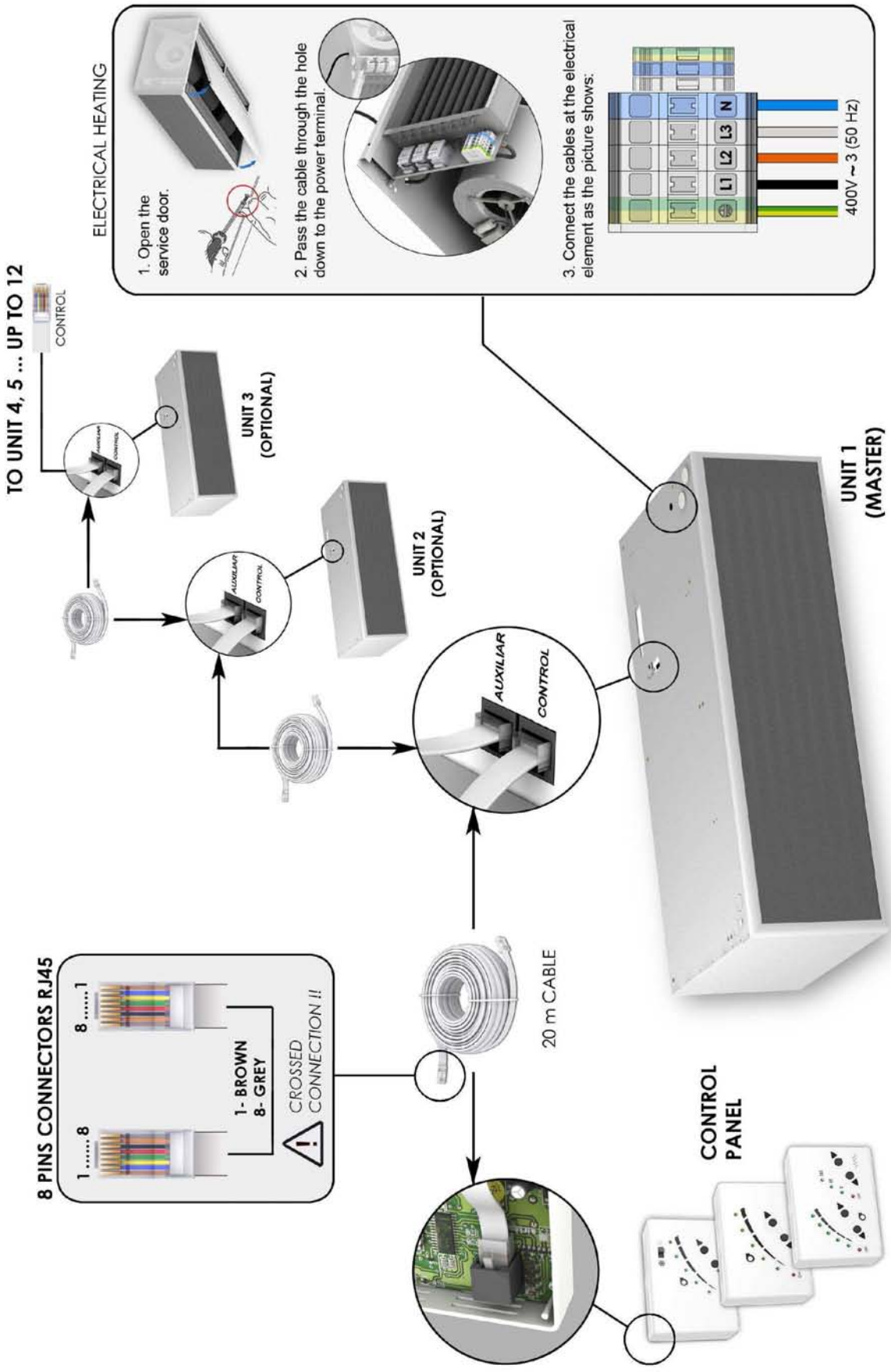
Important Information!

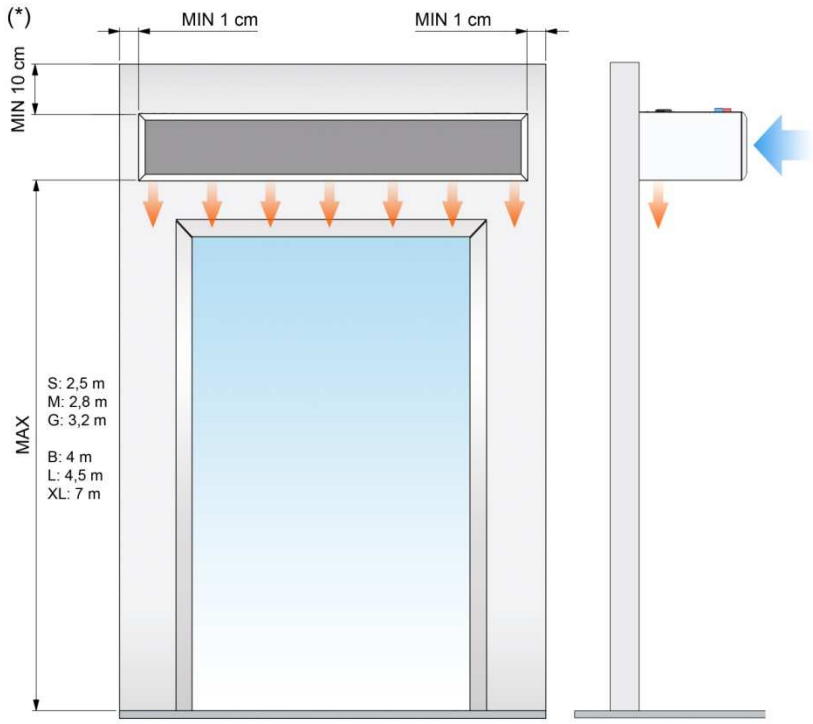
AIRDOM05012- R10(31/10/11)

INSTALLATION DIAGRAMS. UNHEATED OR WATER HEATED



INSTALLATION DIAGRAMS. ELECTRICAL HEATING





MAX. Maximum recommended height, MIN Minimum recommended distance.
(*) Standard units. Under request this distance can be reduced to 1cm when connections are placed inside and water pipes lateral.

Minimum recommended distance between the inlet grille and any obstacle is of 400mm

	Installation work, connection, disconnection, electrical wiring, mechanical maintenance and service must be done by qualified persons 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.**
	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.
	For safety, the air curtains never have to be stopped by disconnecting from the main supply, always through the controller and wait for 10 minutes at least to disconnect the main supply. In case we do not follow these instructions, the internal parts of the air curtain can be damaged.

Power Supply
To connect the power supply there is a black connection box outside the air curtain (on top or 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 current of the electric battery can be three phase 230Vx3 or single phase 230Vx1 depending on 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 or lateral). There is no need to open the unit to connect it.

Use the telephone cable of 20 meters (RJ45 connectors) supplied with the equipment. The communication between the connector plate and the controller is digital through low-voltage.

Optionally, there are available different accessories and controllers, to meet every customer's needs (week timer, thermostats, door contacts, anti-freezing sensor, supports, valves, etc…).

Fixing

Units are provided with several external suspension points, depending on the weight and length (see exact situation of the points at the air curtains characteristics page).
Generally air curtains work horizontally but also can be installed vertically using feet (accessories section).

The anchor should be managed according to the weights of each unit shown on the technical data page. The installation can be made through threaded rods, 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 warm water circulation (by closing the electro valve) to avoid motor overheating while the unit is OFF. The electro valve is optional.
- Install 2 shut-off water valves (supply and return) in order to dismantle the equipment easily.
- Install a bleeding point at the highest part of the heating water circuit.

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

Water coils have a draining point placed at the end part of the intake manifold.
Some special units with condensation tray prepared to work with cold water can't work at high ventilation speed (depending on model and length). Suction air with higher speed of 3m/s should be avoided because water drops can appear on the outlet.

Electrical elements

The heat exchanger has 15 resistances in bar form that combined among them give us 3 stages of heating. The control is made through 3 contactors of 6, 6 and 3 bars respectively.
All electrical elements are protected electrically and electronically against overheating (see "operating instructions" section).
The electric 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

TRANSPORT AND STORAGE

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

Store in a dry place and weather protected in its original packaging. In case the packing is open, 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 -20ºC and +40ºC.

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

Characteristics

- Self-supporting casing construction made of galvanized plated steel, finished in structural epoxy-polyester RAL 9016 as standard. Other colours or stainless steel construction are available on request.
- Low noise centrifugal double inlet fans driven by an external rotor motor with built in thermal protection contact. Provided by five speed selection.
- Micro-perforated inlet grille with filter functions makes unnecessary an intensive filter servicing, only has to be periodically wiped or vacuumed
- "P" type includes water heated coils. "E" type includes electrical shielded elements, three power stages with power switches included. "A" type is without heating, air only.
- Anodised aluminium blow-out vanes, airfoil shaped, adjustable from 0 to 15º each side.
- Control panel and 20m of telephonic cable with fast connectors type RJ45 (Plug & Play), included. Optional: Interface to connect to BMS.

Specifications

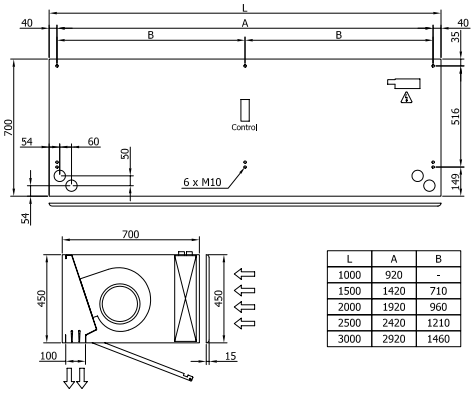
Model	Airflow	Heating Capacity 80/60ºC	Water Drop Pressure 80/60ºC	Water Connection 80/60ºC	Heating Capacity 60/40ºC	Water Drop Pressure 60/40ºC	Water Connection 60/40ºC	Electrical Heating Capacity 3x400V-50Hz	Fans Power 230V-50Hz	Fans Current 230V-50Hz	Noise Level (3 m)	Weight
	m3/h	kW	Pa		kW	Pa		kW	kW	A	dB(A)	kg
B 1000 P	4000	21,30	12200	2x1"	17,00	2300	2x1"	-	0,88	4	55	64
B 1000 E	4500	-	-	-	-	-	-	8,1/10,9/19	0,88	4	55	65
B 1000 A	4500	-	-	-	-	-	-	-	0,88	4	55	51
B 1500 P	6000	35,80	13580	2x1"	27,10	3000	2x1"	-	1,32	6	57	87
B 1500 E	6750	-	-	-	-	-	-	11,5/15,5/27	1,32	6	57	92
B 1500 A	6750	-	-	-	-	-	-	-	1,32	6	57	72
B 2000 P	8000	48,70	14200	2x1¼"	37,10	3400	2x1¼"	-	1,76	8	58	111
B 2000 E	9000	-	-	-	-	-	-	16/22/38	1,76	8	58	117
B 2000 A	9000	-	-	-	-	-	-	-	1,76	8	58	92
B 2500 P	10000	61,20	14400	2x1¼"	47,30	4400	2x1¼"	-	2,20	10	60	138
B 2500 E	11250	-	-	-	-	-	-	18/30/48	2,20	10	60	146
B 2500 A	11250	-	-	-	-	-	-	-	2,20	10	60	113
B 3000 P	12000	72,80	7450	2x1½"	58,60	7860	2x1½"	-	2,64	12	62	166
B 3000 E	13500	-	-	-	-	-	-	24/36/60	2,64	12	62	173
B 3000 A	13500	-	-	-	-	-	-	-	2,64	12	62	133
L 1000 P	5000	24,40	15800	2x1"	19,60	3000	2x1"	-	1,14	5,2	57	69
L 1000 E	5500	-	-	-	-	-	-	10/15/25	1,14	5,2	57	70
L 1000 A	5500	-	-	-	-	-	-	-	1,14	5,2	57	56
L 1500 P	7500	41,00	17400	2x1"	31,20	3900	2x1"	-	1,71	7,8	58	94
L 1500 E	8250	-	-	-	-	-	-	15/22,5/37,5	1,71	7,8	58	99
L 1500 A	8250	-	-	-	-	-	-	-	1,71	7,8	58	79
L 2000 P	10000	55,70	18300	2x1¼"	42,50	4310	2x1¼"	-	2,28	10,4	61	121
L 2000 E	11000	-	-	-	-	-	-	20/30/50	2,28	10,4	61	127
L 2000 A	11000	-	-	-	-	-	-	-	2,28	10,4	61	102
L 2500 P	12500	70,20	18650	2x1¼"	54,60	5750	2x1¼"	-	2,85	13	62	151
L 2500 E	13750	-	-	-	-	-	-	24/36/60	2,85	13	62	159
L 2500 A	13750	-	-	-	-	-	-	-	2,85	13	62	125
L 3000 P	15000	83,50	9600	2x1½"	67,70	10300	2x1½"	-	3,42	15,6	63	181
L 3000 E	16500	-	-	-	-	-	-	24/36/60	3,42	15,6	63	188
L 3000 A	16500	-	-	-	-	-	-	-	3,42	15,6	63	148
XL 1000 P	6400	28,00	15800	2x1"	22,77	3960	2x1"	-	2,20	9,56	59	94
XL 1000 E25	7000	-	-	-	-	-	-	10/15//25	2,20	9,56	59	95
XL 1000 E37	7000	-	-	-	-	-	-	15/22/37,5	2,20	9,56	59	95
XL 1000 A	7000	-	-	-	-	-	-	-	2,20	9,56	59	81
XL 1500 P	9600	42,69	1380	2x1"	36,43	5200	2x1"	-	3,30	14,64	60	125
XL 1500 E37	10500	-	-	-	-	-	-	15/22/37,5	3,30	14,34	60	130
XL 1500 E50	10500	-	-	-	-	-	-	20/30/50	3,30	14,34	60	130
XL 1500 A	10500	-	-	-	-	-	-	-	3,30	14,34	60	110

WINDBOX B,L,XL | High Pressure Air Curtains For Commercial And Industrial Doors

Model	Airflow	Heating capacity 80/60ºC	Water Drop Pressure 80/60ºC	Water Connection 80/60ºC	Heating Capacity 60/40ºC	Water Drop Pressure 60/40ºC	Water Connection 60/40ºC	Electrical Heating Capacity 3x400V-50Hz	Power Fans 230V-50Hz	Current Fans 230V-50Hz	Noise Level (3 m)	Weight
	m3/h	kW	Pa		kW	Pa		kW	kW	A	dB(A)	kg
XL 2000 P	12800	60,87	3570	2x1¼"	50,02	5960	2x1¼"	-	4,40	19,12	63	156
XL 2000 E50	14000	-	-	-	-	-	-	20/30/50	4,40	19,12	63	162
XL 2000 E60	14000	-	-	-	-	-	-	24/36/60	4,40	19,12	63	162
XL 2000 A	14000	-	-	-	-	-	-	-	4,40	19,12	63	137
XL 2500 P	16000	78,75	7240	2x1¼"	63,77	7700	2x1¼"	-	5,50	23,90	64	191
XL 2500 E60	17500	-	-	-	-	-	-	24/36/60	5,50	23,90	64	199
XL 2500 E74	17500	-	-	-	-	-	-	27,8/46,4/74,2	5,50	23,90	64	199
XL 2500 A	17500	-	-	-	-	-	-	-	5,50	23,90	64	166
XL 3000 P	19200	96,89	12880	2x1½"	79,24	14020	2x1½"	-	6,60	28,68	66	227
XL 3000 E60	21000	-	-	-	-	-	-	24/36/60	6,60	28,68	66	234
XL 3000 E93	21000	-	-	-	-	-	-	34,8/58,2/93	6,60	28,68	66	234
XL 3000 A	2100	-	-	-	-	-	-	-	6,60	28,68	66	194

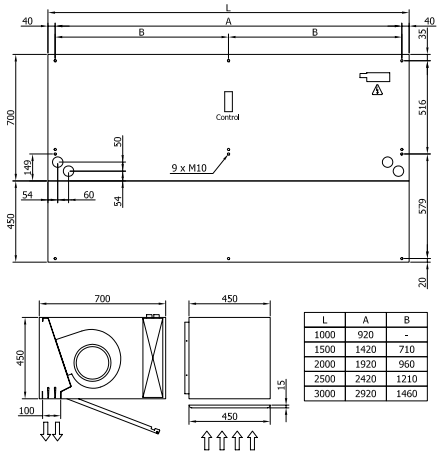
Layouts and dimensions

Free hanging mounting



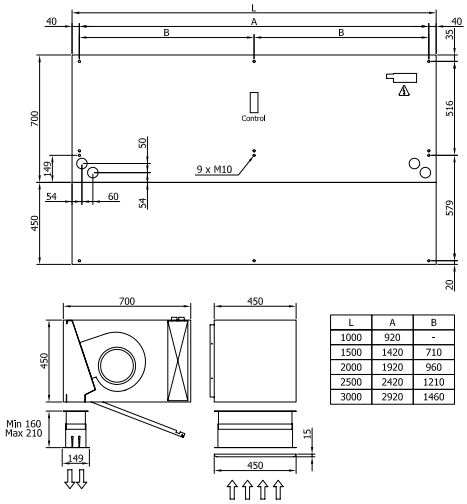
L	A	B
1000	920	-
1500	1420	710
2000	1920	960
2500	2420	1210
3000	2920	1460

Inside ceiling surface mounting



L	A	B
1000	920	-
1500	1420	710
2000	1920	960
2500	2420	1210
3000	2920	1460

False ceiling invisible mounting



L	A	B
1000	920	-
1500	1420	710
2000	1920	960
2500	2420	1210
3000	2920	1460

OPERATING INSTRUCTIONS

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

Control PCBoard characteristics

It adjusts the fan speed through the input voltage variation of the set of fans. The PCBoard has 5 output voltages: 120, 140, 170, 200 and 230 Volts.

Controller's common characteristics

- **Controllers:** There are several models depending on the customer's needs (timers, anti-freeze detectors, thermostats, etc...).
- 5 ventilation speeds
- **Memory**: It guarantees that in the event of a power shortage, the selected speed will be maintained when the service is re-established. This function can be connected-disconnected through the switch ON/OFF placed inside the controller.
- **Telephone cable and digital communication**: "Plug and Play" easy and fast connection through telephone 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 there is 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 closed contact, air curtain is OFF. It can be used with programmable timer, temperature sensors, fire alarms, PLC, etc…
- **Remote control:** All the standard controllers have a IR receiver that works by infrared.

Common characteristics to all controllers for water heated air curtains

Safety thermostat: thanks to this safety device, the air curtain can auto-regulate its own speed in case of too low air suction due to a wrong function. For example, an obstruction of the inlet grille, a stationary fan or a too high ambient temperature in an installation without ambient thermostat would make the air curtain react increasing the fan speed automatically.
The air curtain returns automatically to the programmed speed when the internal temperature decreases from 45ºC, so in the most part of cases on which this safety is exceptionally activated, the air curtain will come back to its own habitual function as soon as the problem is solved.

Warm water air curtain controller

Air Only air curtain controller

Water heated air curtain auxiliary function:

- **Electro-valve:** With the **"summer-winter"** switch 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.

Common characteristics to all controllers for electrical heated air curtains

Equipments with five ventilation speeds and three different heating powers (C1, C2, C3= [C1 + C2]).

- **Heating:** For safety reasons, the heat power capacity is limited depending on the fan speed selected, as shown:

Selected speed.	Max. heating capacity
V1	Stage 1.
V2	Stage 2.
V3	Stage 2.
V4	Stage 3 (stage 1 + stage 2).
V5	Stage 3 (stage 1 + stage 2).

- **Thermostat of delay:** When we stop the equipment and before it has been operating with heating, there is an increasing of the internal temperature due to a thermal inertia (by thermal inertia the heater is still heating for several minutes and it could make some damages). In order to avoid it, when we stop de air curtain the temperature increases over 50ºC., the air curtain turns on to the maximum speed. It won't stop till the temperature decreases below the set temperature.

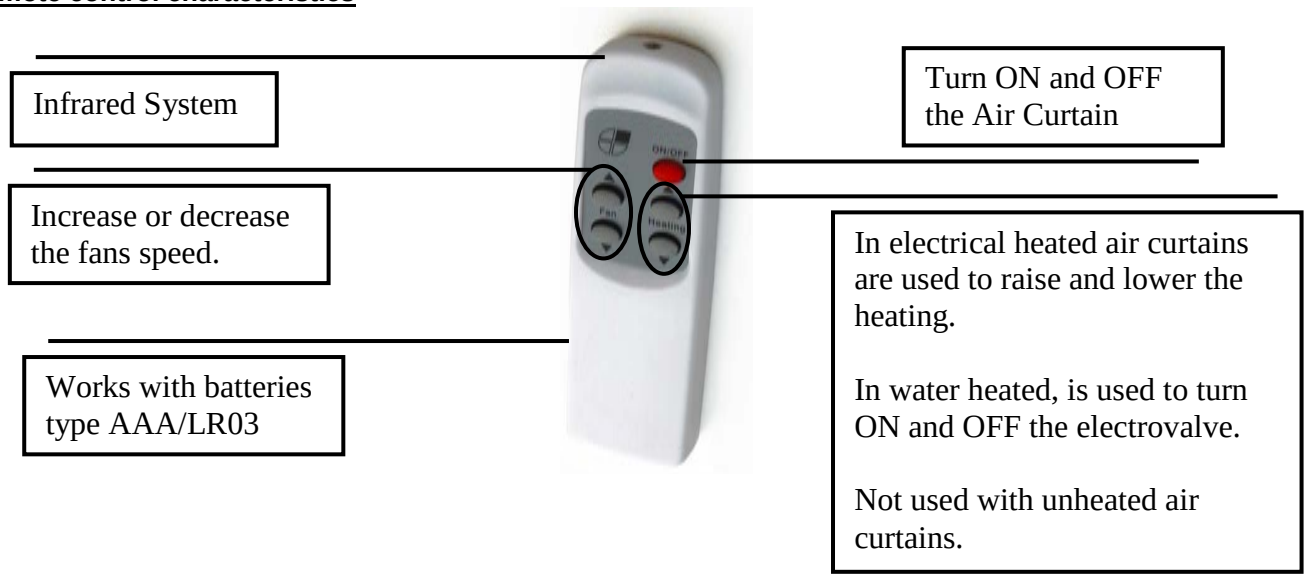
- **Safety thermostat:** When the air curtain operates with heating and the internal temperature increases over 60ºC, a safety function activates: the air curtain increases one speed every two minutes till it reaches the maximum speed. After, it will start decreasing 1 heating stage till it stops. In case 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 cleansing 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:

- **Room Thermostat:** The curtain is equipped with contacts to install, if desired, a room thermostat that stops the heating temporally when reaching the programmed temperature. Its installation is specially recommended for equipments installed in closed or small dimensions premises. In case of installing a room thermostat remove the bridge between terminal 4 and 5, on the controller.

Remote control characteristics



Controller CH manual /automatic for warm water heated air curtains (Hand Auto)

It permits the **manual or automatic control** of the air curtain. Moreover, together with the standard warm water heated controllers functions, it includes the functions of door contact, anti-freeze sensor and room thermostat.

Type of operating:

- **Manual:** Manual selection of the fans speed (indicated with a green led). In case of installing an anti-freeze thermostat, if the temperature decreases below the one selected, the ventilation will stop and will feed 230Vx1 the electro valve to allow the entrance of warm water.
- **Automatic:** It works automatically depending on:
  - **Door contact:** It allows programming the fan speed for open door. We can program the desired speed through the buttons (indicated by orange led). When the programmed speed is the same than the working one, the led will change into green. Through the internal switches we can modify the time of delay (time since the door is closed till it goes back to the normal operating).
  - **Room thermostat (optional):** It controls the air curtain operating depending on the selected temperature and the Switch nº 1 (switch placed inside the controller).
    - Switch nº 1 – Control of the air curtain depending on the thermostat:
      - ON: The power/fan speed increases or decreases depending on the thermostat. While the selected temperature is not reached, it will increase 1 ventilation speed every minute, till it reaches the maximum speed. When this happens or when the temperature is over the selected one, it will decrease one ventilation speed every minute till the ventilation stops and the electro valve closes.
      - OFF: It connects or disconnects the minimum fan speed depending on the thermostat. The air curtain works at speed 1 while the selected temperature is not reached. When this reached or exceeded, the ventilation stops and the electro valve closes. If the thermostat is not installed, switches 1 and 3 should be placed in OFF position (default position)

  If in any moment the door contact closes, the air curtain goes to the selected speed. If the door contact opens, it will come back to the automatic operating after a delay time. The delay time is selectable through switches 5 and 6.

CH functions (Hand-Auto):

- **Anti-frost thermostat**: When the temperature decreases below the selected in the anti-freezing sensor, the fans stop and the electro valve opens (the frost alarm is indicated by a lighted red led and the electro valve by a green led). This is to protect the water coil against freezing and it works even with the air curtain stopped. In case of no installation of the anti-frost thermostat, place Switch 4 in ON position.
- **Door contact:** Only in automatic functioning. When the door opens, the air curtain changes automatically the fan speed to the programmed one (indicated by a lighted orange led). Other type of detectors can be used (movement sensors, infrared, etc…).
- **Room thermostat:** Modifies the ventilation speed (and at the same time the heating power) depending on the programmed speed and the switch nº 1. For detailed explanation see the section of automatic operating.

Programmable switches (controller CH):

A block of seven micro switches placed inside the controller, allows the customer to program the functions of the air curtain as follows:

- **Switch 1:** It modifies the air curtain control in automatic mode depending on the room thermostat. Detailed explanation in the automatic operating section.
- **Switch 2**: Door contact inverter. Position OFF-NO (normally open), position ON-NC (normally closed).
- **Switch 3**: Room thermostat inverter. Position OFF-NO, position ON-NC.
- **Switch 4**: Anti-frost thermostat inverter. Position OFF-NC, position ON-NO
- **Switch 5 and 6**: The combination of these two switches allows the customer to set the delay time to go back to the normal function alter the door is closed

Switch 5	Switch 6	
Off	Off	10 Sec.
On	Off	40 Sec.
Off	On	80 Sec.
On	On	120 Sec.

- **Switch 7:** It permits to choose between memory ON/OFF.

Wiring diagrams

Following connection diagrams are enclosed:

Water coil

- Aircurtains B,L 1000 y 1500, and Aircurtain XL 1000
  Diagram: AIRDOE09053 (1 placa)
- Aircurtains B,L 2000, 2500 y 3000 and Aircurtains XL 1500 y 2000
  Diagram: AIRDOE09074 (2 placas)
- Aircurtains XL 2500 y 3000
  Diagram: AIRDOE09871 (3 placas)

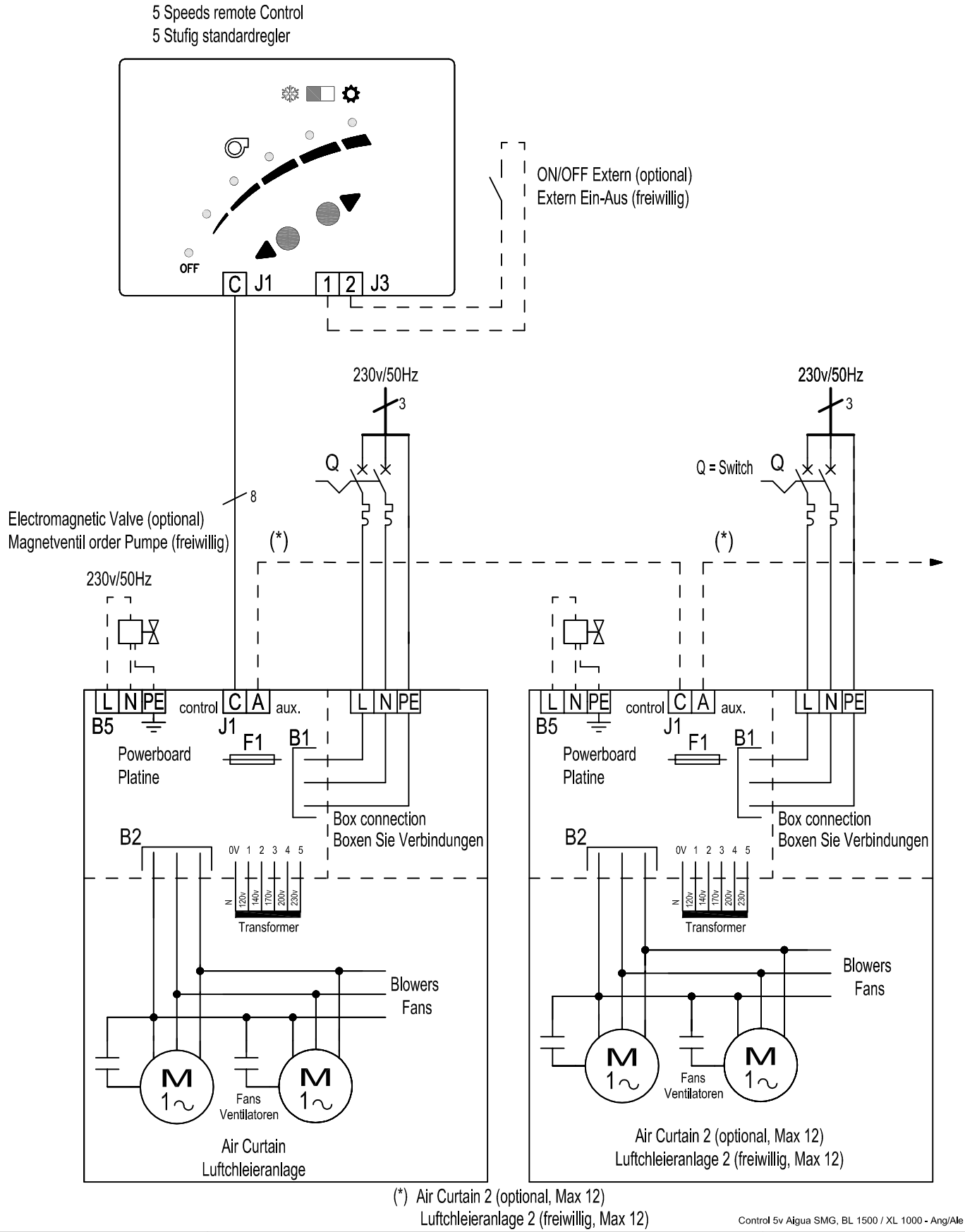
Electrical Coil

- Aircurtains B,L 1000 y 1500, and Aircurtains XL 1000
  Diagram: AIRDOE09801 (1 PCBoard)
- Aircurtains B,L 2000, 2500 y 3000 and Aircurtains XL 1500 y 2000
  Diagram: AIRDOE09851 (2 PCBoard)
- Aircurtains XL 2500 y 3000
  Diagram: AIRDOE09861 (3 PCBoards)

Water Coil with Hand Auto

- Aircurtains B,L 1000 y 1500, and Aircurtains XL 1000
  Diagram: AIRDOE09253 (1 PCBoard)
- Aircurtains B,L 2000, 2500 y 3000 and Aircurtains XL 1500 y 2000.
  Diagram: AIRDOE09076 (2 PCBoards)
- Aircurtains XL 2500 y 3000
  Diagram: AIRDOE09881 (3 PCBoards)

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



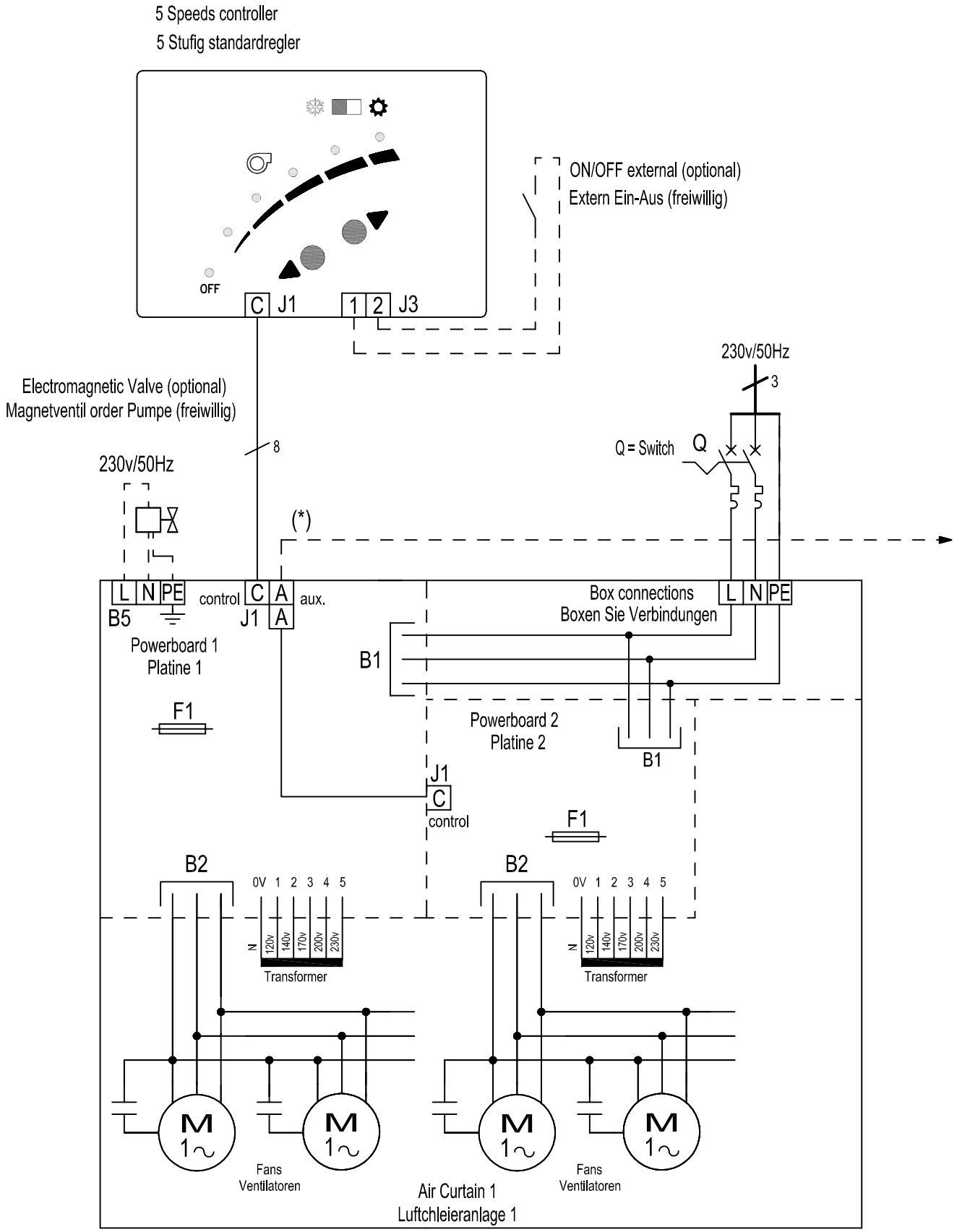
(*) Air Curtain 2 (optional, Max 12)
Luftchleieranlage 2 (freiwillig, Max 12)

Control 5v Aigua SMG, BL 1500 / XL 1000 - Ang/Ale

WIRING DIAGRAMS OF AIR CURTAIN
Schaltpläne Der Luftschleieranlagen

WATER AND ONLY AIR, CONTROLLER 5 SPEEDS
Wasser Und Umluft, 5 Stufig

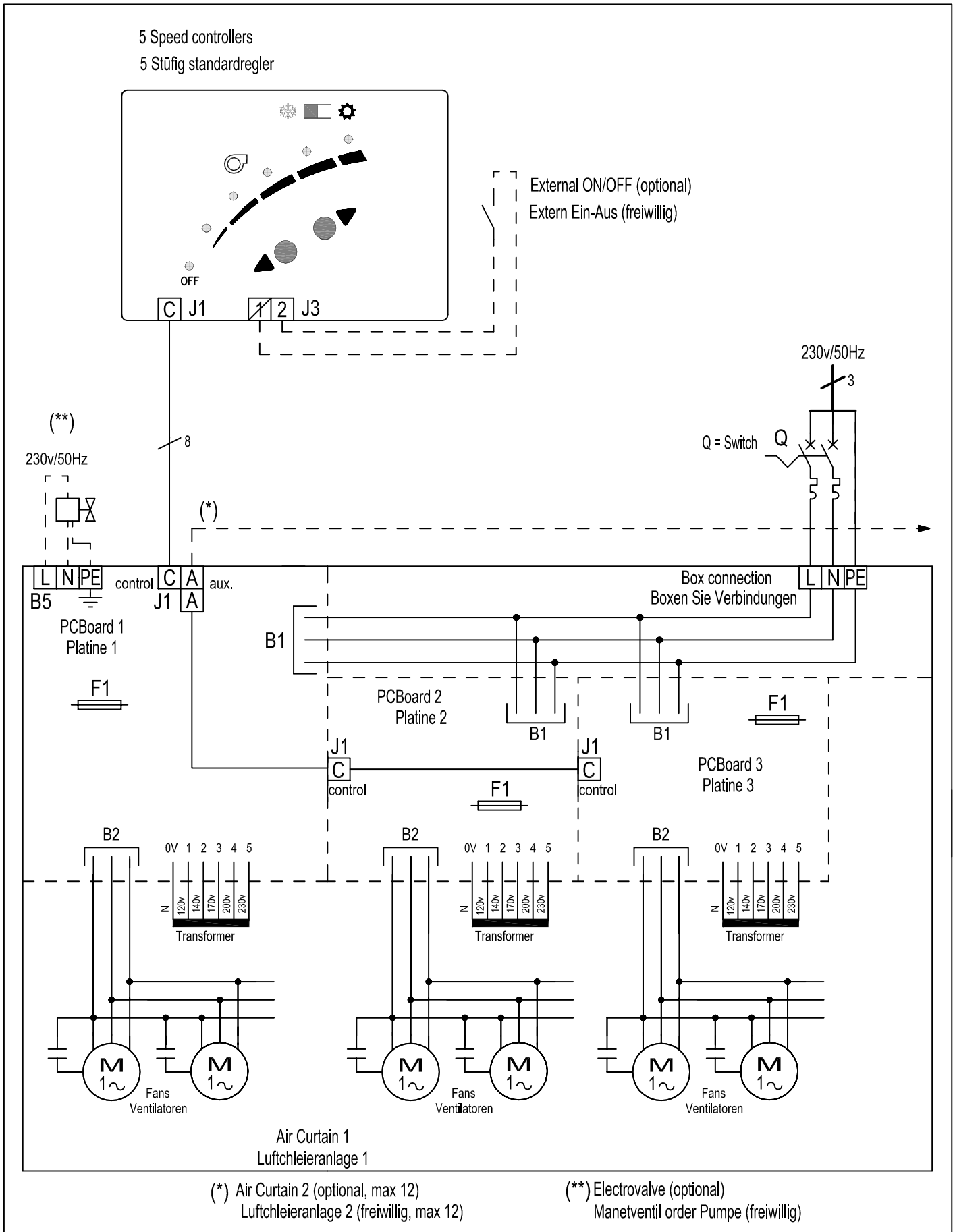
Doc. AIRDOE09053
R9 – 13/09/11



(*) Air Curtain 2 (optional, max 12)
Luftchleieranlage 2 (freiwillig max. 12)

WINDBOX BL 2000,2500,3000 i XL 1500 i 2000 - Control 5v Agua, 2 placas - Ang/Ale

	WIRING DIAGRAMS OF AIR CURTAINS SCHALTPLÄNE DER LUFTSCHLEIERANLAGEN CONTROLLER 5 SPEEDS WATER, 2 POWER BOARDS 5 Stufig, wasser, 2 platines relais	Page./Seite 1 of/von 1 Doc. AIRDOE09074 R9 – 13/09/11

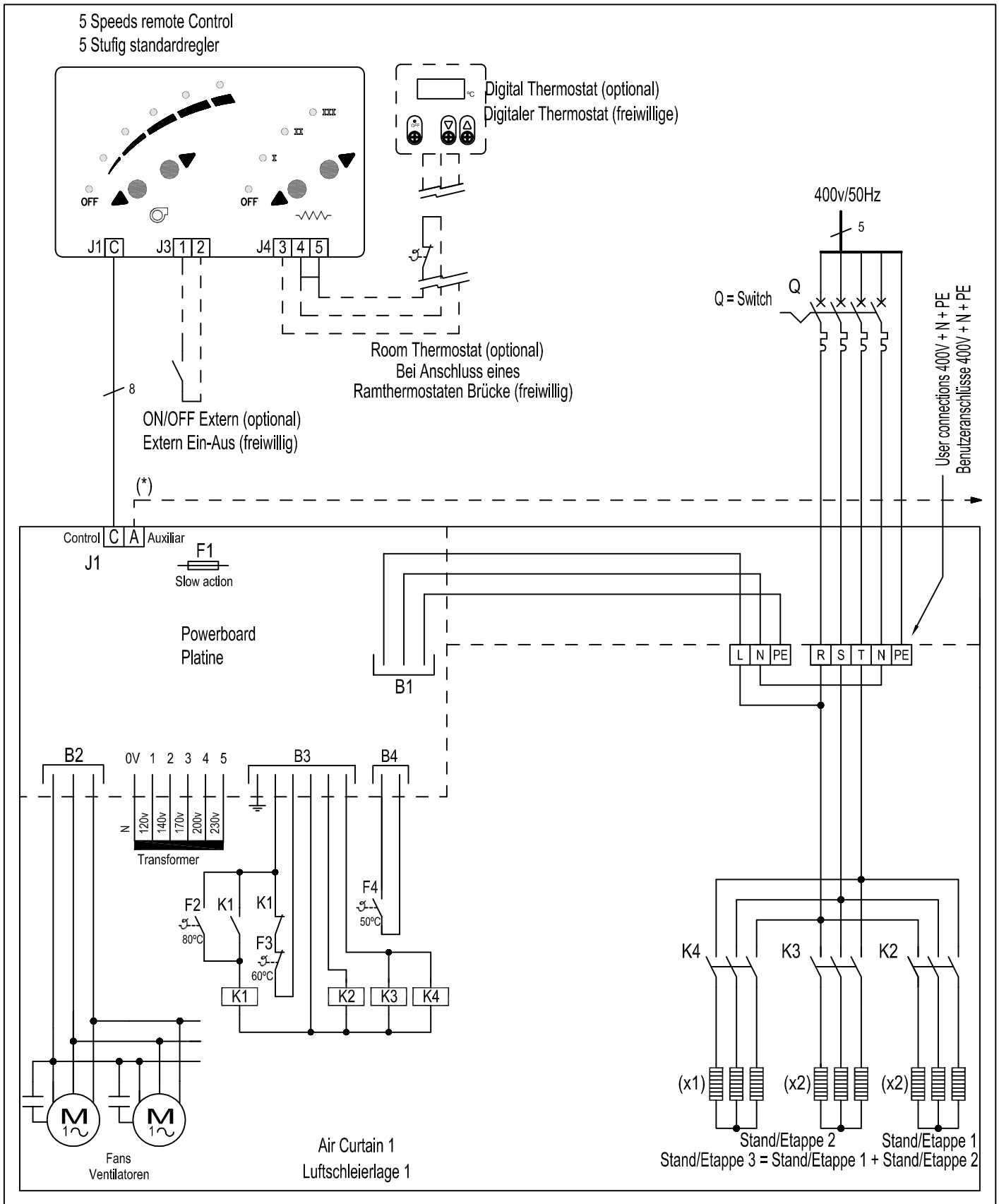


(*) Air Curtain 2 (optional, max 12)
Luftchleieranlage 2 (freiwillig, max 12)

(**) Electrovalve (optional)
Manetventil order Pumpe (freiwillig)

WINDBOX XL 2500 I 3000 - Control 5v algua 3 plaques Ang/Ale

	WIRING DIAGRAMS OF AIR CURTAINS SCHALTPLÄNE DER LUFTSCHLEIERANLAGEN CONTROLLER 5 SPEEDS WATER, 3 PCBoard Wasser 5 stufig, 3 platine relais	Page/Seite 1 of/von 1 Doc. AIRDOE09871 R9 – 13/09/11

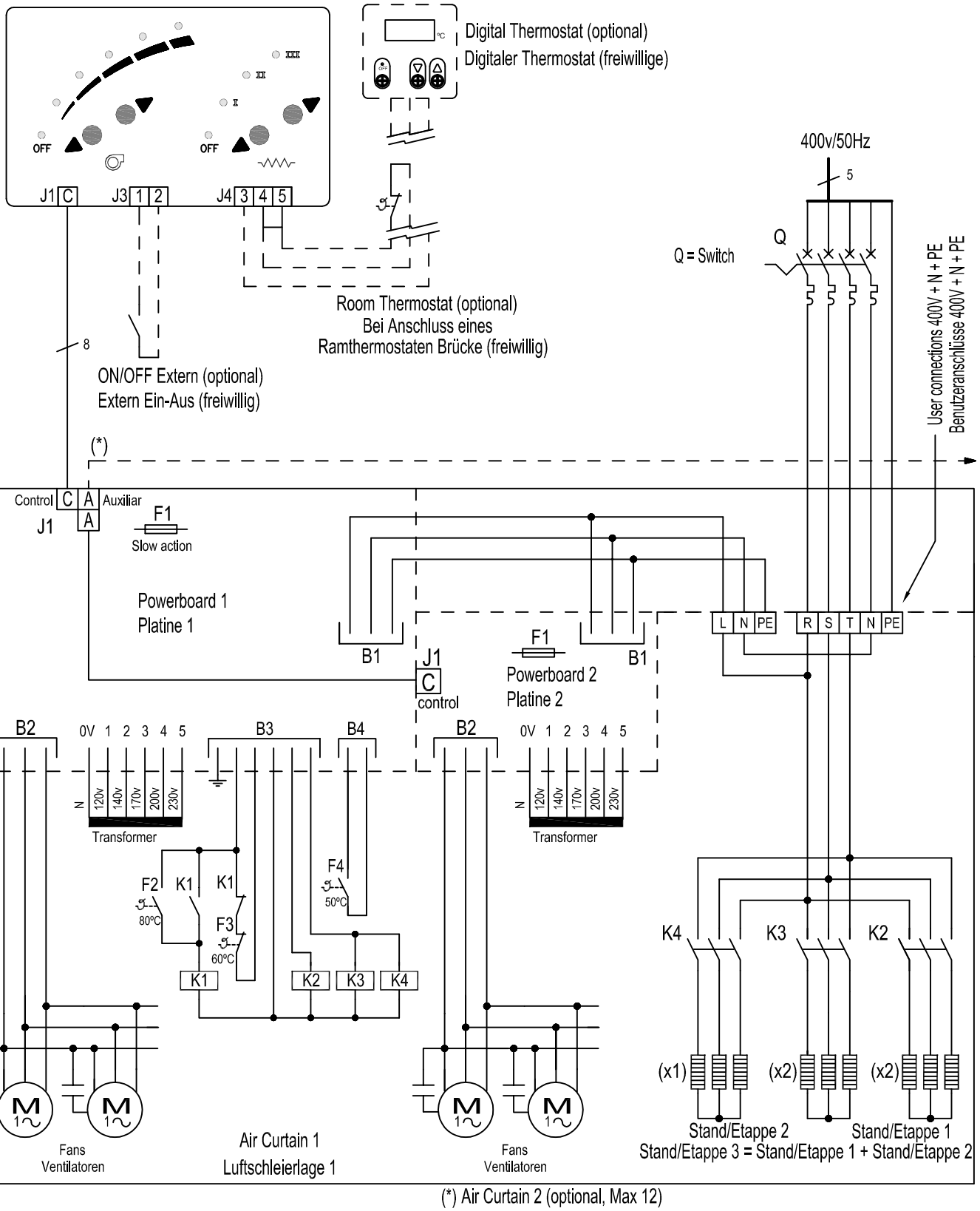


(*) Air Curtain 2 (optional, Max 12)
Luftchleieranlage 2 (freiwillig, Max 12)

WINDBOX BL 1000,1500 / MAX i XL 1000 - Control 5v Elèctric, 1 placa - Ang/Ale

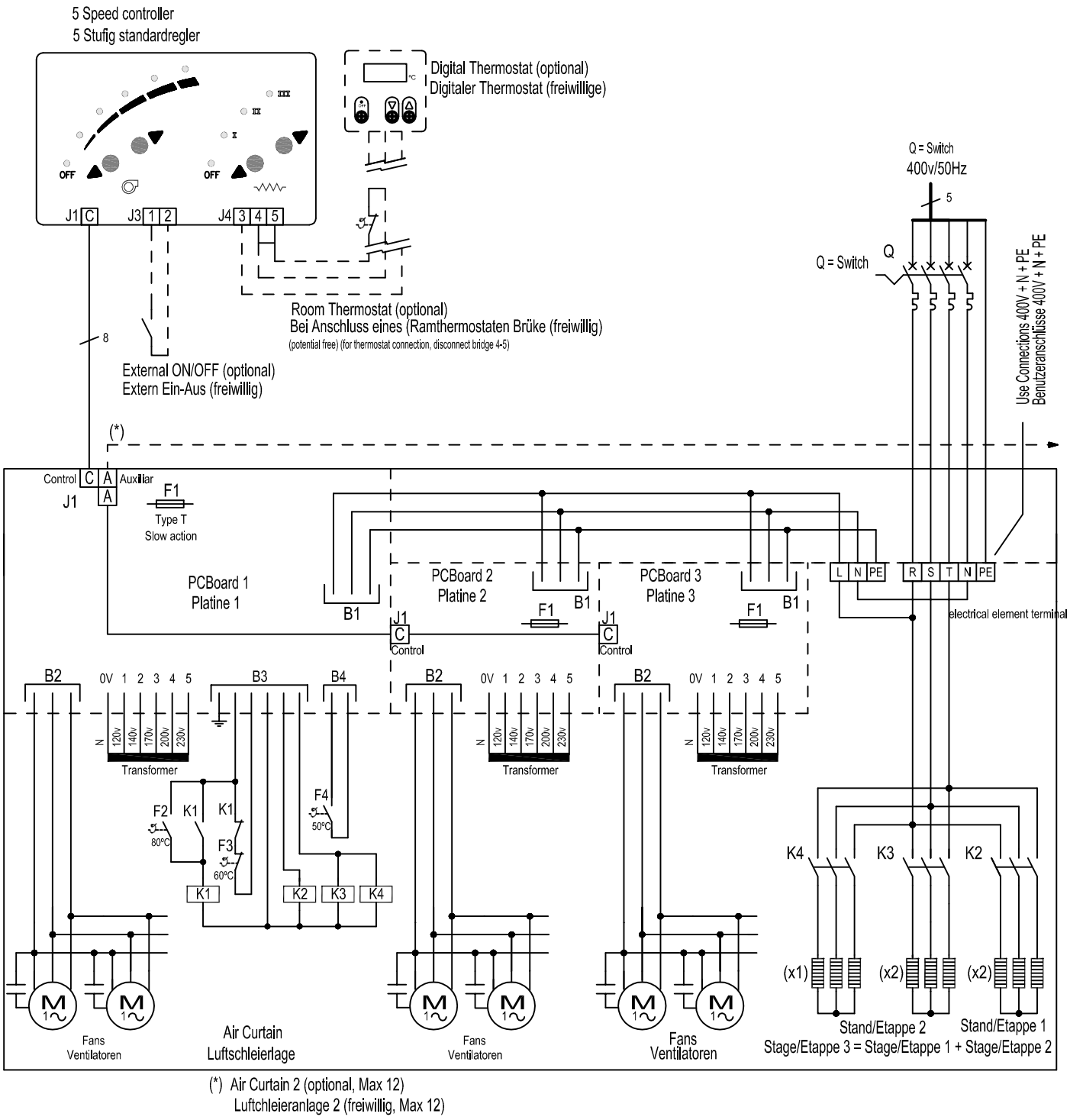
	WIRING DIAGRAMS OF AIR CURTAIN SCHALTPLÄNE DER LUFTSCHLEIERANLAGEN Electrical, controller 5 speeds, 1 powerboards relay Elektrisch 5 Stufig, 1 platine Relais	Page/Seite 1 of/von1 Doc. AIRDOE09801 R9 – 13/09/11

5 Speeds remote Control
5 Stufig standardregler



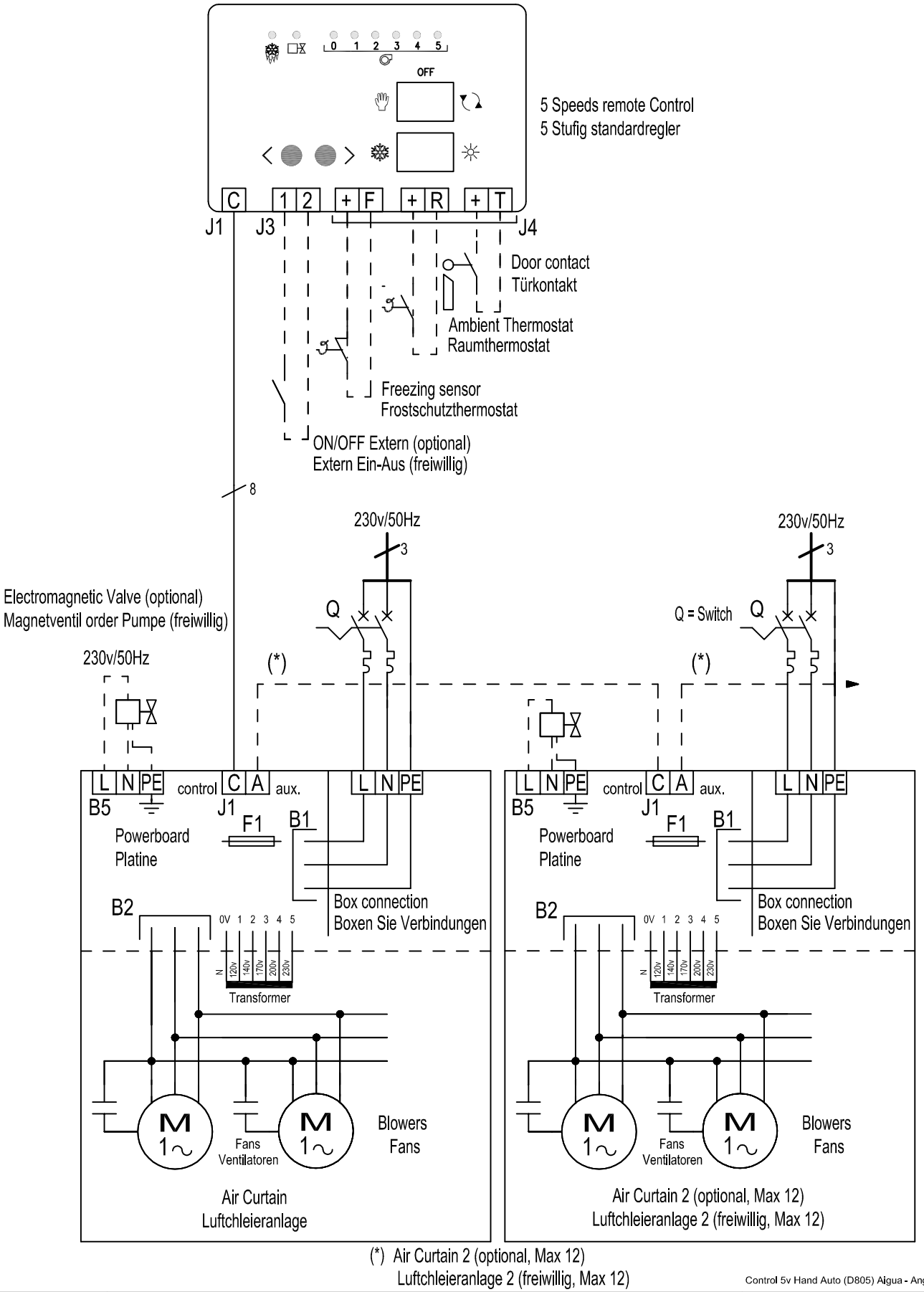
(*) Air Curtain 2 (optional, Max 12)
Luftchleieranlage 2 (freiwillig, Max 12)

	WIRING DIAGRAMS OF AIR CURTAIN SCHALTPLÄNE DER LUFTSCHLEIERANLAGEN Electrical, controller 5 speeds, 2 powerboards relay Elektrisch 5 Stufig, 2 platine Relais	Page/Seite 1 of/von1 Doc. AIRDOE09851 R9 – 13/09/11



(*) Air Curtain 2 (optional, Max 12)
Luftchleieranlage 2 (freiwillig, Max 12)

	WIRING DIAGRAMS OF AIR CURTAIN SCHALTPHÄNE DER LUFTSCHLEIERANLAGEN 5 speed controller, 3 PCBoard Elektrisch 5 Stufig, 3 Platine	Page/Seite 1 of/von 1 Doc. AIRDOE09861 R9 – 13/09/11



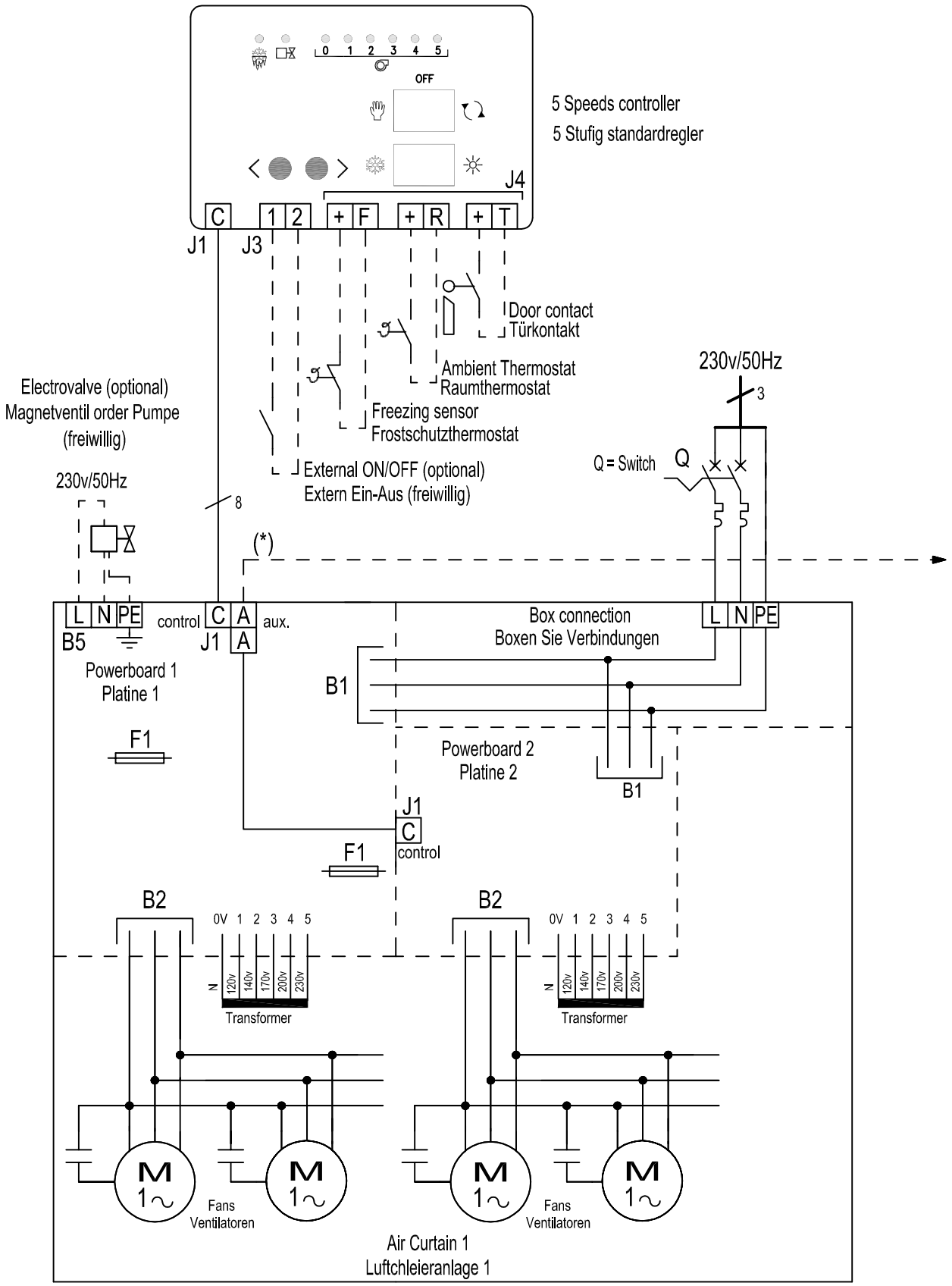
(*) Air Curtain 2 (optional, Max 12)
Luftchleieranlage 2 (freiwillig, Max 12)

Control 5v Hand Auto (D805) Aigua - Ang/Ale

WIRING DIAGRAMS OF AIR CURTAIN
Schaltpläne Der Luftschleieranlagen

CONTROLLER HAND AUTO (D805) 5 SPEEDS, WATER
standardregler Hand Auto (D805) 5 Stufig, Wasser

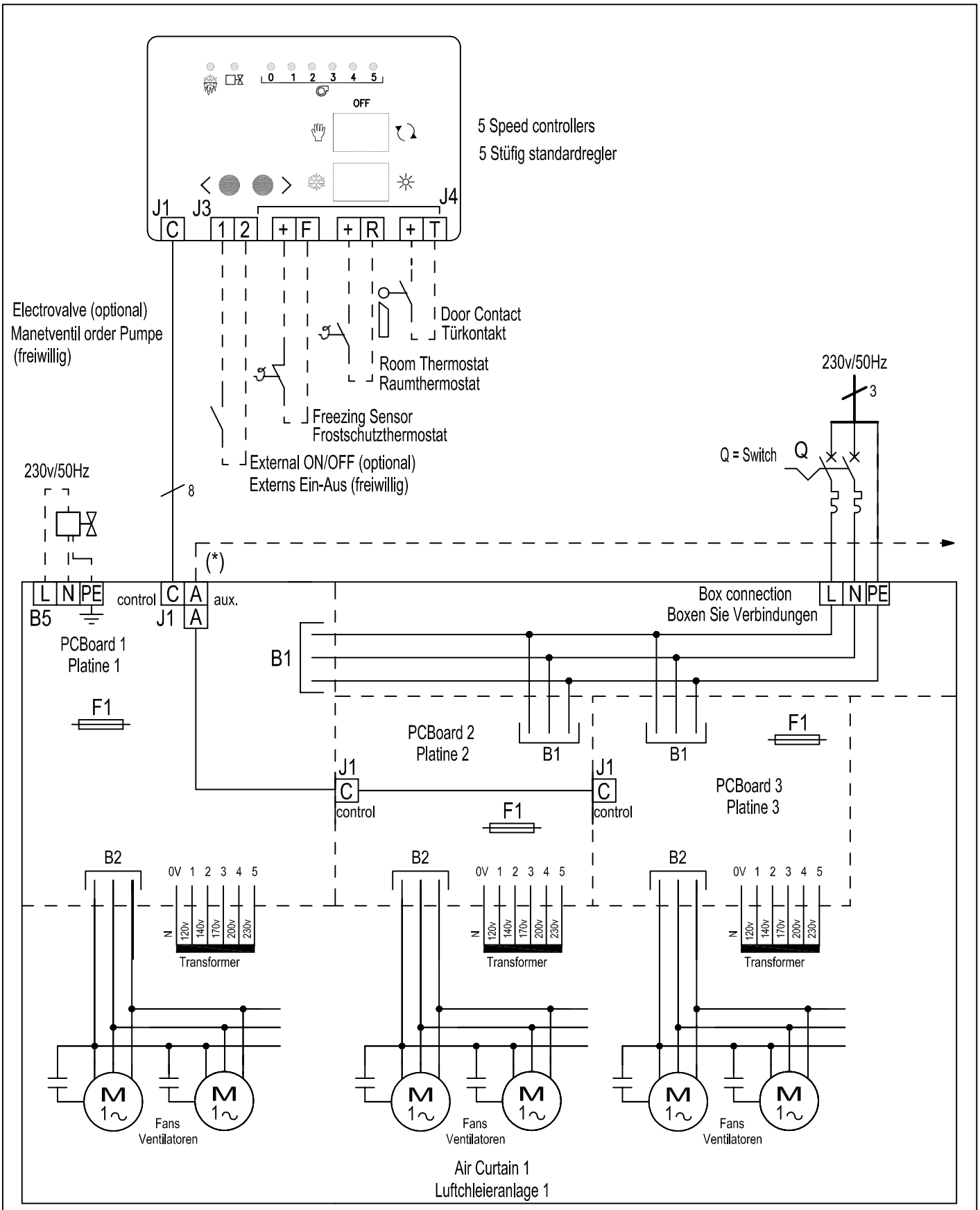
Doc. AIRDOE09253
R9 – 13/09/11



(*) Air Curtain 2 (optional, max 12)
Luftchleieranlage (freiwillig, max. 12)

WINDBOX BL 2000,2500,3000 I XL 1500 I 2000 - Control Hand Auto 5v Agua 2 placas relés Ang/Ale

	WIRING DIAGRAMS OF AIR CURTAINS SCHALTPLÄNE DER LUFTSCHLEIERANLAGEN Controller Hand Auto (D-805) 5 SPEEDS WATER, 2 POWER BOARDS RELAY standardregler Hand Auto (D-805) 5 stufig, wasser, 2 platine relais	Page./Seite 1 of/von 1 Doc. AIRDOE09076 R9 – 13/09/11



(*) Air Curtain 2 (optional, max 12)
Luftchleieranlage 2 (freiwillig, max 12)

Windbox XL 2500 I 3000 - Control Hand Auto 5v agua 3 placas relés Ang/Ale

	WIRING DIAGRAMS OF AIR CURTAINS SCHALTPLÄNE DER LUFTSCHLEIERANLAGEN CONTROLLER Hand Auto (D-805) 5 SPEEDS WATER, 3 PCBoards RELAYS Standardregler Hand Auto (D-805) 5 stufig, wasser, 3 platines relais	Page/Seite 1 of/von 1 Doc. AIRDOE09881 R9 – 13/09/11

MAINTENANCE INSTRUCTIONS

Air curtains don't need any kind of maintenance except the cleaning.

	***For security, before proceeding with cleaning, switch off the controller. Not doing this may cause serious damage, internal and in the motors, and electrical risk of electric shock.***
	***Do not use water or steam for cleaning.***
	***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.***

- **EXTERNAL CLEANING:**

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…)

In case of a micro drilled inlet grille (it has filter functions to prevent the entrance of dust to the internal elements) use a vacuum cleaner with a soft brush in order to avoid any damages in the micro drilled grille. We recommend cleaning the grille every two weeks (depending on the amount of the incoming air dust).

- **INTERNAL CLEANING:**

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

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

	***To open the air curtain must be disconnected the power supply and follow the instructions of this manual. Not doing this may cause serious damage, internal and in the motors, and electrical risk of electric shock.***

REPAIRS

	***Installation and electrical connections must be done by qualified workers and following these instructions.*** ***Before any repairs are undertaken, please :*** • ***Inform people that there is work in progress.*** • ***Disconnect the power supply and protect the thermal magnet (so nobody can restart it accidentally).*** • ***Make sure there is no tension in the air curtain.*** • ***Make sure the fans are stationary.*** • ***Use only original spare parts.***

To **open the service door,** follow these steps:

1. With a screwdriver and holding the door, remove all the screws that fix the door.

2 - Open the door carefully. In case of an air curtain with **plenum or inlet/outlet kits** follow the same steps,

Fan replacement:

Before replacing the fan, inform people that there is work in progress, stop the air curtain through the controller and disconnect main supply. Make sure that the unit is without tension and the fans are stationary.

B, L: Unplug the fan from the cable tree. Remove the fan by loosening the fixing screws and assemble the new fan following the process in reverse order.
XL: Unplug the fan from the cable tree. Remove the fan by loosening the fixing screws of the platform (photo1) to remove the air curtain (Photo 2), remove the screws of the fan and assemble the new fan following the process in reverse order.

Fuse and PCB (plate) replacement:

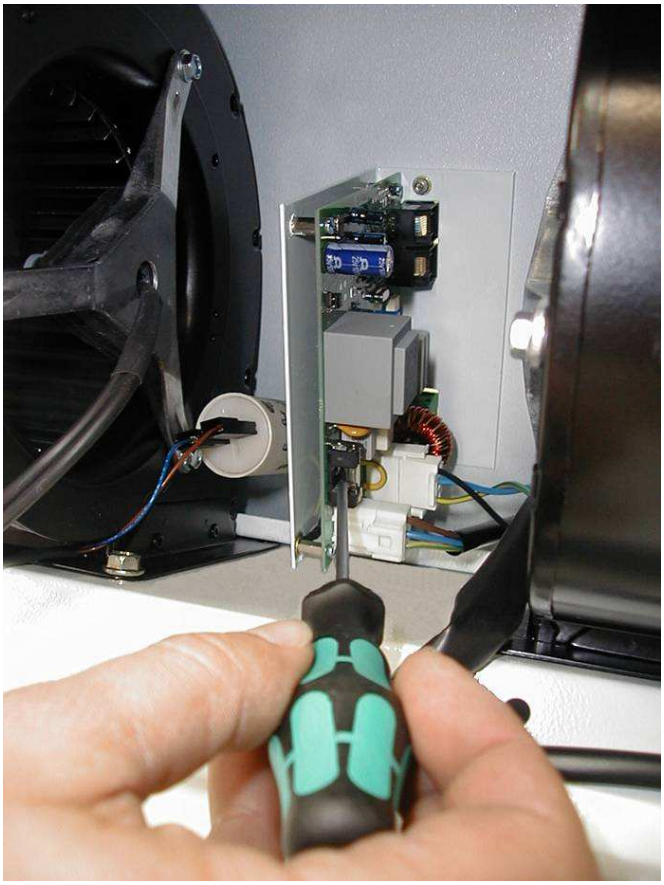
Before the replacement, inform people that there is work in progress,
Disconnect main supply, make sure that the unit is without tension and that the fans are stationary.

Sustitución de la placa de potencia o fusible:

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.

Fuse replacement: Open the service door and remove the fuse of the fuse holder by hand or pulling with the help of a screwdriver and replace

PCB replacement: Open the service door and simply unscrew the power plate by the upper external part of the air curtain to remove it and make the necessary repairs.

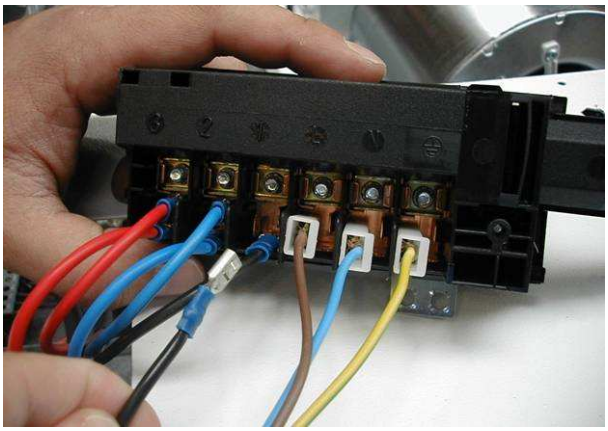


Heat exchanger or coil replacement:

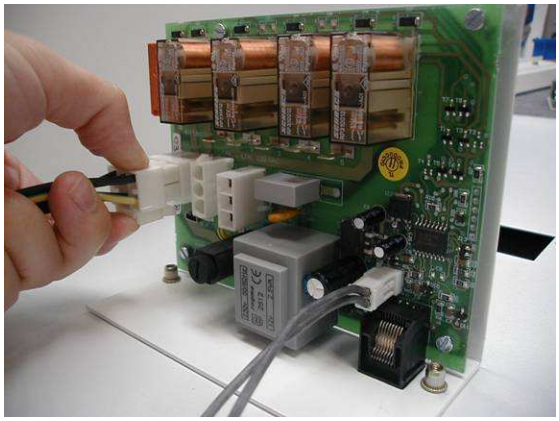
Before change of coil or heater, inform people that there is work in progress, stop the air curtain through the controller and disconnect main supply. Make sure that the unit is without tension and the fans are stationary. Before removing the screws that fix the coil or heater, we have to:

Water element: Close the shut-off water valves of the building water circuit to the air curtain (supply and return). Open the service door..

Electrical element: Disconnect the power supply from the electrical element:



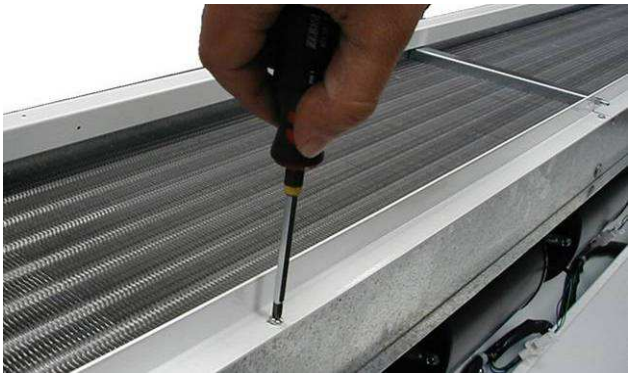
Unplug the cables to 1, 2, 3 in the junction box



Unplug the two connectors of plate pressing the fluke

When we have the coil or heater ready, we proceed to remove the fixation screws to disassemble the coil or heater and assemble the new heater following the same process in reverse order.

Fixation points of coils and heaters



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) Telephone cable is been manipulated: The cable that connects the controller to the air curtain is an 8 lines crossed telephone cable. **If manipulated (cut or removing the connector) and incorrectly joined, the air curtain won't work.** Moreover, it can damage the electronics. If the connector is joined wrong side, we can solve the problem only by turning it (connections diagram of first page).

B) Wrong connection of the telephone cable. Verify whether the connector position is correct (between control or auxiliary according to the installation diagram, specially if there is more than one air curtain with a single controller.

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

Common problems and solutions		
Effect	Problem	Solution
All lights of the controller are OFF	¿Is the telephone cable the original (not manipulated), with no enlargements either shortenings?	Change the cable or connect it again correctly.
	¿Does the current reaches de connection box?	Connect the terminals of the junction box correctly: Between L and N there must be 230V and if the air curtain goes with a three-phase electrical element, there must be 400V among the terminals L1,L2 y L3.
	¿Is the controller connected to the “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 an error but a safety mechanism. The air curtain turns on by itself to the maximum speed to get cold and protect its components. When the temperature decreases from the safety one, 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/avoid it: 1. Inlet grille blocked (objects, dirtiness…) the ambient temperature inside the equipment can increase a loti f the air cannot circulate properly. Keep the grille clean. 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 other 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: inform the technical service.
The heating is not working	¿Does the three-phase current reach the connection 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 telephone cable is near interference sources, transmitters, cable plates, specially those that supply current to the Motors, etc..	Pass the cable the furthest possible away from the interference source, specially when long distances or use a screened cable.

ACCESSORIES

TD Digital Thermostat
Modifies the heat stages and the ventilation speed depending on the temperature and programme selected. Only for electrical models.

Interface
Permits the connection to a centralised Management system (BMS, PLC, etc…)

External temperature sensor
It permits to know the temperature from a different place from where the control is placed.

Total Controller
Universal controller, timer, digital display, Ready for all type of auxiliary sensors, incorporated thermostat, automatic operating etc…

Hand Auto (Water control panel)
Manual and automatic operating. Auxiliary functions: with anti-freeze sensor, door contact and ambient thermostat.

Ambient Thermostat
It regulates the operating of the heating depending on the selected temperature.

Supports, feet, shock absorbers, etc… depending on the model.

Door contact, thermostatic valve, solenoid valve, anti-freeze sensor, etc…

Telephone cable 50m, extension adapter …

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

airtècnics

Declaration CE of conformity / Declaración CE de conformidad

Manufacturer
Fabricante

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(s)
Declaramos, bajo nuestra única responsabilidad, que el/los producto(s)

Air Curtains
Cortinas de aire

with models
con los modelos

Minibel, Eco, Optima, Recessed Optima, Windbox, Recessed Windbox, Windbox EC, Recessed Windbox EC, Dam, Deco, Compact, Kool, Variwind, Rotowind, Rund, Zen, Duojet, Max

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/ECC
Directiva De Máquinas 2006/42/CEE

Low Voltage Directive 2006/95/EEC
Directiva De Baja Tensión 2006/95/CEE

Electromagnetic Compatibility Directive 2004/108/EEC
Directiva De Compatibilidad Electromagnética 2004/108/CEE

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

MD:	**UNE-EN 60204-1**	**LVD:**	**UNE-EN 60335-1**	**EMC:**	**UNE-EN 61000-6-2**
	UNE-EN 292-1		**UNE-EN 60335-2-30**		**UNE-EN 61000-6-3**
	UNE-EN 294				

AIRTÈCNICS
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Conca Barberà, 2 - Pla Bruguera
08211 CASTELLAR DEL VALLÈS
Tel. 715 99 88 - Fax 715 99 89

Date / *Fecha* **08/04/2010**
Name / *Nombre* **Jordi Oltra Orta**
Position / *Cargo* **General Manager / Director General**

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

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 one 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***