Windbox

High pressure air curtains

rosenberg®

***Wind**box*

GENERAL DESCRIPTION

The new and attractive generation of ***Windbox*** air curtains is the ideal solution to keep a comfortable inner climate in premises and public buildings that need to maintain the doors open.

Air curtains create a laminar air stream over the opening doorway and acts as an invisible barrier which efficiently divides the interior ambient from the exterior and substantially reduce heating and cooling cost meanwhile increasing the employees and clients comfort. They protect from the cold and heat, repel gust of wind and minimize the entrance airborne dust, fumes, pollutants and insects.

In local premises, the air curtains ***Windbox*** allow having a clear vision of the inside and are a friendly welcome to get inside freely. The end result is more customers and an increase of sales.

In order to obtain these advantages it's very important to realize an accurate selection of the air curtain. Factors such as interior depression, strong wind, door's situation, communicated stories, opposite doors, and the installation height have to be taken into consideration.

Our expert consultants are at your disposal to transmit you our wide experience.

CHARACTERISTICS

The casing is made of zinc plated sheet steel finished in epoxi-polyester white, RAL 9016 as standard. (Other colours are available upon request).

Microdrilled suction grill with washable dust filter functions, efficiency G2. The cleaning can be easily done with a vacuum cleaner.

Adjustable angle aluminium blow-out nozzle, airfoil-like profiled that guarantees an equilibrated airflow distribution covering the full length of the door.

The discharge angle can be adjusted in 5 positions until the 30 degrees slope.

The "E" models have shielded electrical heating elements with three stages. The power contactors are integrated. The "P" models have warm water coils in versions 80/60°C and 60/40°C. The "A" models are not heated, only air. Upon request there are also available special coils for direct expansion, cold water, overheated water and steam.

Low noise centrifugal fans, 100% speed controllable, equipped with direct drive external rotor motor, protected through thermal contact. High efficiency impeller statically and dynamically balanced according to DIN/ISO 1940, quality Q 2,5. We only use high quality Rosenberg and Ecofit fans.

The connector plate and the junction box are located on the top of the unit and there is no need to open the service door. The communication between the connector plate and the control panel is digital through low-voltage cable with telephone plugs (RJ45). This "plug and play" system dramatically reduce the installation cost and avoid connection mistakes

Wide assortment of accessories for specialized installations: Thermostatic valves, room thermostats, automatic controllers, anti-frost thermostats, door contacts, false ceiling installation kits, vibration absorbers, grills, electrostatic filters and activated carbon filters.

AIR CURTAIN SELECTION

For selecting an air curtain the following factors have to be in mind:

- The height of the installation measured from the discharge diffuser to the floor.
- The width of the door.
- The location of the building to determine the protection level requested against the weather inclemency.
- Building with several doors in the same, different or opposite façade.
- Building with several stories connected through escalators.
- Pressure differences between the inside and outside of the building.
- Door characteristics: always open, automatic opening, manual opening, rotating door, etc...
- Characteristics of the ventilation and air conditioning installation.
- Voltage and electrical power availability.
- Type of business, style and decoration of the premise.

Our specialists are on call to help you through each step of the selection process

APPLICATIONS

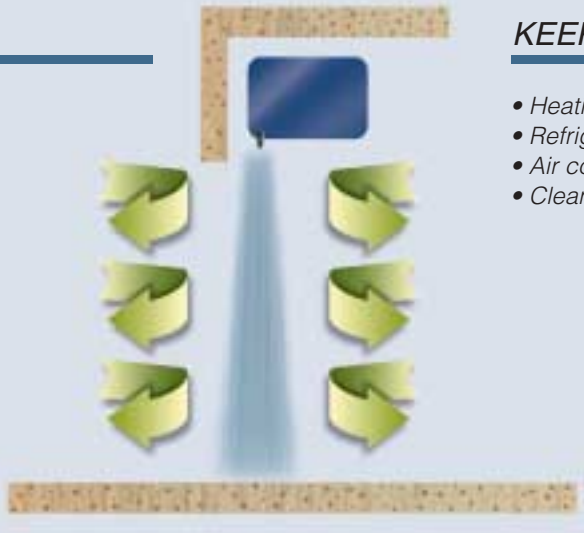
	Type	Recommended installation height (*)	Heating versions	Common applications
***Wind**box*	"S" "M" "G"	Up to 2.5 m Up to 2.8 m Up to 3.2 m	"A" Only air "P" Water "E" Electrical	Medium and big size premises with high pedestrian flow. Protection against dust, fumes, pollutants and insects. Cold rooms. False ceiling installations.
***Wind**box*	"B" "L"	Up to 4.0 m Up to 4.5 m		Medium and big size premises with high pedestrian flow. Industrial doors. Protection against dust, fumes, pollutants and insects. Cold rooms. False ceiling installations.

(*) The maximum high installation depends on the premise conditions. Contact us to clear your queries or doubts.

ADVANTAGES

PROTECS FROM:

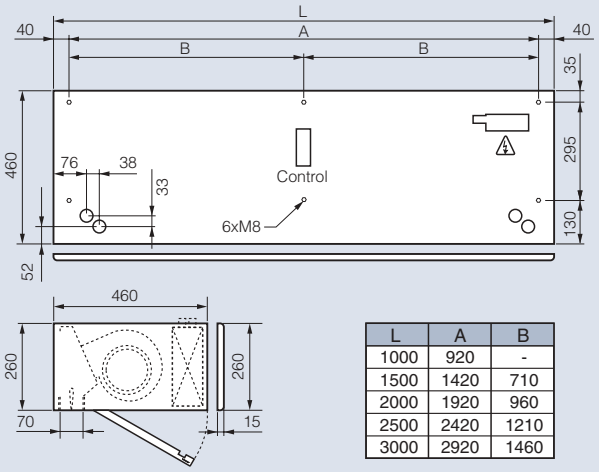
- *Winter low temperatures*
- *Summer hot temperatures*
- *Car fumes*
- *Airborne dust*
- *Pollution*
- *Bad smells and odors*
- *Insects*



KEEPS:

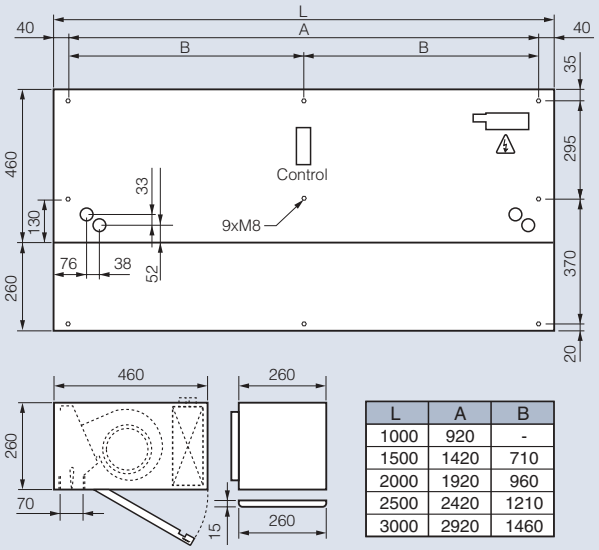
- *Heating*
- *Refrigeration*
- *Air conditioning*
- *Clean atmosphere*

Windbox S, M, G
Free hanging mounting



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

Windbox S, M, G
In ceiling surface mounting



L	A	B
1000	920	-
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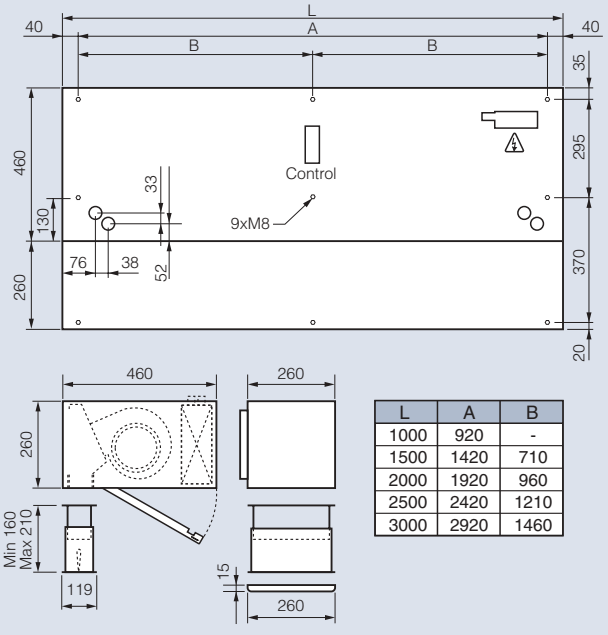
Windbox S, M, G
False ceiling invisible mounting



L	A	B
1000	920	-
1500	1420	710
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2500	2420	1210
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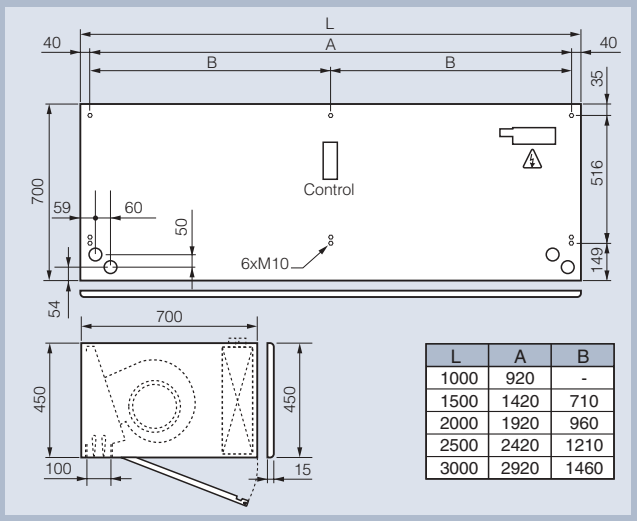
TECHNICAL DATA

Model	Air volume m^3/h	Water heat capacity 80/60°C kW	Water resistance 80/60°C Pa	Water heat capacity 60/40°C kW	Water resistance 60/40°C Pa	Water connections	Electrical heat capacity 3x400V-50Hz kW	Fan power input 230V-50Hz kW	Fan current 230V-50Hz A	Noise level (a 3 m.) dB(A)	Weight Kg
S 1000 P	1250	7,5	7200	6,5	2500	2x3/4"	-	0,370	1,66	53	45
S 1000 E	1300	-	-	-	-	-	3/6/9	0,370	1,66	53	45
S 1000 A	1300	-	-	-	-	-	-	0,370	1,66	53	40
S 1500 P	1875	11,3	3400	10,0	10700	2x3/4"	-	0,555	2,49	54	76
S 1500 E	1950	-	-	-	-	-	4/8/12	0,555	2,49	54	76
S 1500 A	1950	-	-	-	-	-	-	0,555	2,49	54	71
S 2000 P	2500	15,1	8000	14,1	4300	2x3/4"	-	0,740	3,32	55	106
S 2000 E	2600	-	-	-	-	-	6/12/18	0,740	3,32	55	106
S 2000 A	2600	-	-	-	-	-	-	0,740	3,32	55	101
S 2500 P	3125	18,8	3000	18,7	7300	2x3/4"	-	0,925	4,15	56	135
S 2500 E	3250	-	-	-	-	-	6/12/18	0,925	4,15	56	135
S 2500 A	3250	-	-	-	-	-	-	0,925	4,15	56	130
S 3000 P	3750	22,6	3800	22,5	15400	2x3/4"	-	1,11	4,98	57	164
S 3000 E	3900	-	-	-	-	-	7,5/15/22,5	1,11	4,98	57	164
S 3000 A	3900	-	-	-	-	-	-	1,11	4,98	57	159
M 1000 P	1800	11,30	5200	9,70	6300	2x3/4"	-	0,555	2,49	54	47
M 1000 E	1850	-	-	-	-	-	3/6/9	0,555	2,49	54	47
M 1000 A	1850	-	-	-	-	-	-	0,555	2,49	54	42
M 1500 P	2700	15,70	3600	13,30	7900	2x3/4"	-	0,740	3,32	55	78
M 1500 E	2775	-	-	-	-	-	4/8/12	0,740	3,32	55	78
M 1500 A	2775	-	-	-	-	-	-	0,740	3,32	55	73
M 2000 P	3600	22,60	10000	20,80	7800	2x3/4"	-	0,925	4,15	56	108
M 2000 E	3700	-	-	-	-	-	6/12/18	0,925	4,15	56	108
M 2000 A	3700	-	-	-	-	-	-	0,925	4,15	56	103
M 2500 P	4500	27,60	4800	24,10	5800	2x3/4"	-	1,110	4,98	57	140
M 2500 E	4625	-	-	-	-	-	6/12/18	1,110	4,98	57	140
M 2500 A	4625	-	-	-	-	-	-	1,110	4,98	57	135
M 3000 P	5400	33,25	5900	29,65	7600	2x3/4"	-	1,642	7,14	58	172
M 3000 E	5550	-	-	-	-	-	7,5/15/22,5	1,642	7,14	58	172
M 3000 A	5550	-	-	-	-	-	-	1,642	7,14	58	167
G 1000 P	2700	15,50	2270	10,80	7800	2x3/4"	-	0,821	3,57	55	50
G 1000 E	2775	-	-	-	-	-	5/10/15	0,821	3,57	55	50
G 1000 A	2775	-	-	-	-	-	-	0,821	3,57	55	45
G 1500 P	3600	22,60	7300	18,10	14400	2x3/4"	-	1,095	4,76	56	80
G 1500 E	3700	-	-	-	-	-	7,5/15/22,5	1,095	4,76	56	80
G 1500 A	3700	-	-	-	-	-	-	1,095	4,76	56	75
G 2000 P	5400	33,50	5500	26,10	12200	2x3/4"	-	1,642	7,14	57	110
G 2000 E	5550	-	-	-	-	-	10/20/30	1,642	7,14	57	110
G 2000 A	5550	-	-	-	-	-	-	1,642	7,14	57	105
G 2500 P	6300	39,60	7500	32,60	10300	2x3/4"	-	1,916	8,33	58	142
G 2500 E	6475	-	-	-	-	-	11/22/33	1,916	8,33	58	142
G 2500 A	6475	-	-	-	-	-	-	1,916	8,33	58	137
G 3000 P	7200	45,3	11500	38	12900	2x3/4"	-	2,19	9,52	59	174
G 3000 E	7400	-	-	-	-	-	11/22/33	2,19	9,52	59	174
G 3000 A	7400	-	-	-	-	-	-	2,19	9,52	59	169

Windbox B, L
Free hanging mounting



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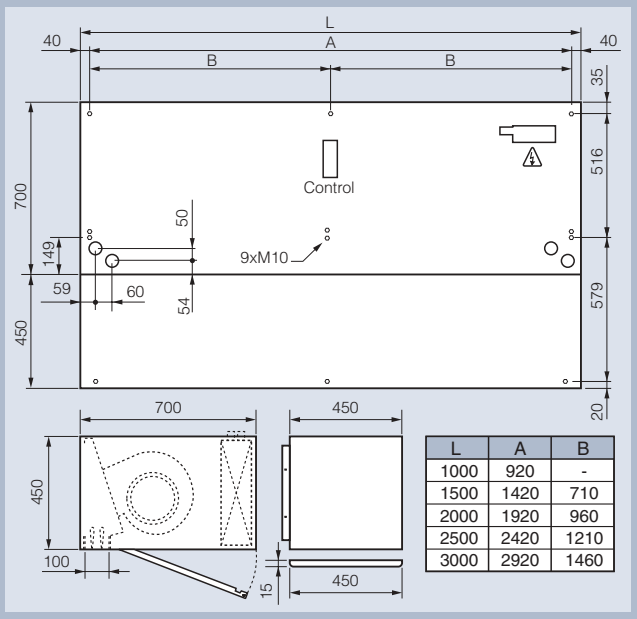
Windbox B, L
In ceiling surface mounting



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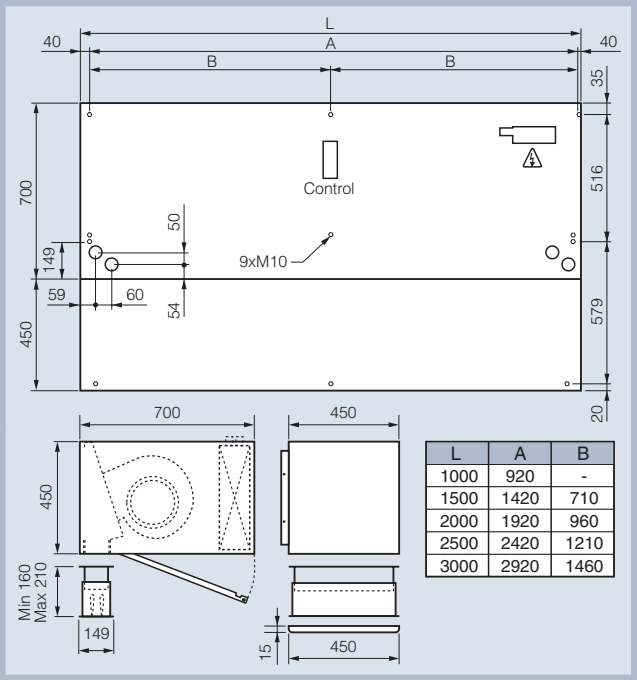
Windbox B, L
False ceiling invisible mounting



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TECHNICAL DATA

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B 1000 P	4000	23	12750	16,6	1550	2x1"	-	0,88	4	55	95
B 1000 E	4500	-	-	-	-	-	6/12/18	0,88	4	55	95
B 1000 A	4500	-	-	-	-	-	-	0,88	4	55	85
B 1500 P	6000	35,8	13580	27,1	3030	2x1"	-	1,32	6	57	125
B 1500 E	6750	-	-	-	-	-	9/18/27	1,32	6	57	125
B 1500 A	6750	-	-	-	-	-	-	1,32	6	57	110
B 2000 P	8000	48,7	14380	37,1	3410	2x1¼"	-	1,76	8	58	155
B 2000 E	9000	-	-	-	-	-	12/24/36	1,76	8	58	155
B 2000 A	9000	-	-	-	-	-	-	1,76	8	58	135
B 2500 P	10000	61,3	14440	47,3	4400	2x1¼"	-	2,2	10	60	200
B 2500 E	11250	-	-	-	-	-	15/30/45	2,2	10	60	200
B 2500 A	11250	-	-	-	-	-	-	2,2	10	60	175
B 3000 P	12000	72,9	7540	58,6	7890	2x1½"	-	2,64	12	62	240
B 3000 E	12000	-	-	-	-	-	15/30/45	2,64	12	62	240
B 3000 A	12000	-	-	-	-	-	-	2,64	12	62	210
L 1000 P	5000	26,1	15450	19,7	1970	2x1"	-	1,14	5,2	57	110
L 1000 E	5500	-	-	-	-	-	9/18/27	1,14	5,2	57	110
L 1000 A	5500	-	-	-	-	-	-	1,14	5,2	57	100
L 1500 P	7500	41	17540	31,4	3690	2x1"	-	1,71	7,8	58	145
L 1500 E	8250	-	-	-	-	-	12/24/36	1,71	7,8	58	145
L 1500 A	8250	-	-	-	-	-	-	1,71	7,8	58	130
L 2000 P	10000	55,8	18360	42,6	4380	2x1¼"	-	2,28	10,4	61	180
L 2000 E	11000	-	-	-	-	-	18/36/52	2,28	10,4	61	180
L 2000 A	11000	-	-	-	-	-	-	2,28	10,4	61	160
L 2500 P	12500	70,3	18710	54,8	5850	2x1¼"	-	2,85	13	62	225
L 2500 E	13750	-	-	-	-	-	21/42/63	2,85	13	62	225
L 2500 A	13750	-	-	-	-	-	-	2,85	13	62	195
L 3000 P	15000	83,8	9760	68,1	10610	2x1½"	-	3,42	15,6	63	265
L 3000 E	16500	-	-	-	-	-	21/42/63	3,42	15,6	63	265
L 3000 A	16500	-	-	-	-	-	-	3,42	15,6	63	225

CORRECTION FACTORS FOR WATER TEMPERATURES S, M, G, B, L

	Water temperature	Inlet air temperature 15°C	18°C	20°C
Water coil 80/60	100/80°C	1.58	1.53	1.46
	90/70°C	1.35	1.27	1.22
	80/60°C	1.11	1.04	1.00
	70/50°C	0.89	0.82	0.78
	60/40°C	0.66	0.59	0.54
	55/35°C	0.54	0.47	0.42
Water coil 60/40	100/80°C	2.86	2.71	2.62
	90/70°C	2.45	2.30	2.21
	80/60°C	2.03	1.89	1.81
	70/50°C	1.61	1.48	1.40
	60/40°C	1.21	1.08	1.00
	55/35°C	1.01	0.88	0.79

In the technical data tables is given the nominal heat capacity for warm water coils supplied with water at 80/60°C and 60/40°C with the air inlet temperature at 20°C.

These tables supply the corresponding factors for calculation the heat capacity with different air and water inlet temperatures.

Example of heat capacity calculation:

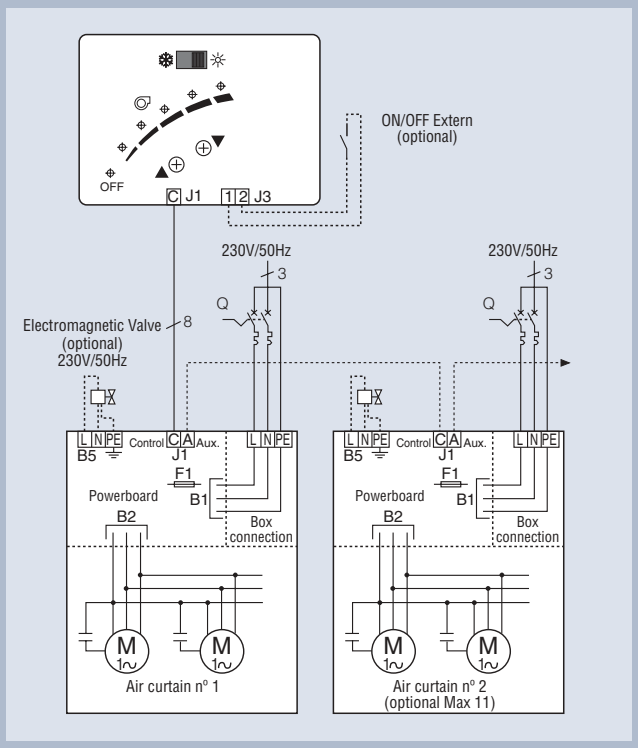
Model M 2000 P80/60°C

Air inlet temperature 15°C Water temperature 90/70°C

HEAT CAPACITY	=	Potency Nominal (19.5 kW)	x	Coefficient (1.35)	=	26.32 kW

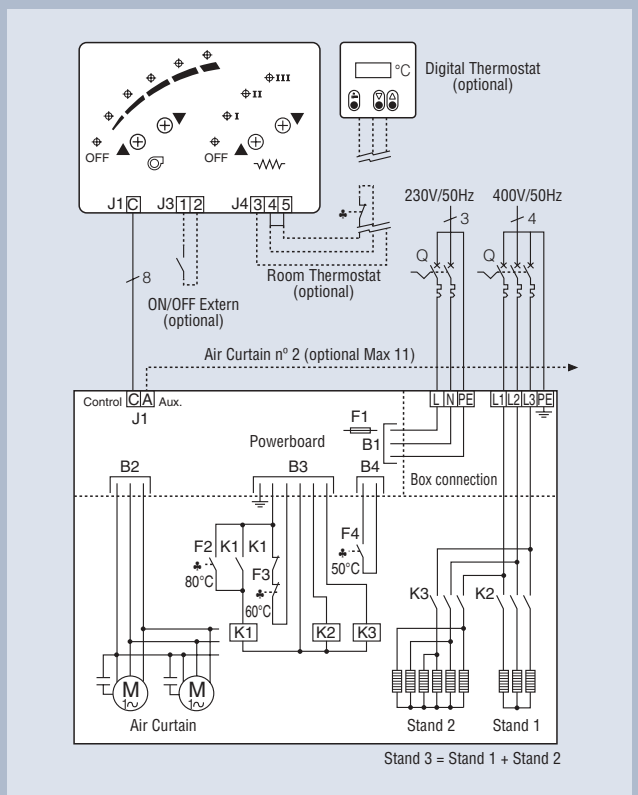
Warm water and only air controller

Controller of 5 speeds ventilation for only air or warm water heated air curtains. With ON-OFF switch for electrovalve, ON-OFF memory switch and ON-OFF potential-free contact for automatically remote connection with timers, sensors, control systems, etc



Electric controller

Controller for 5 speeds ventilation and 3 heating stages for electrical heated air curtains. With ON-OFF contact for room thermostat, ON-OFF memory switch and ON-OFF potential-free contact for automatically remote connection with timers, sensors, control systems, etc



These are just informative wiring diagrams that may be subject to further modifications.

CONTROLLERS

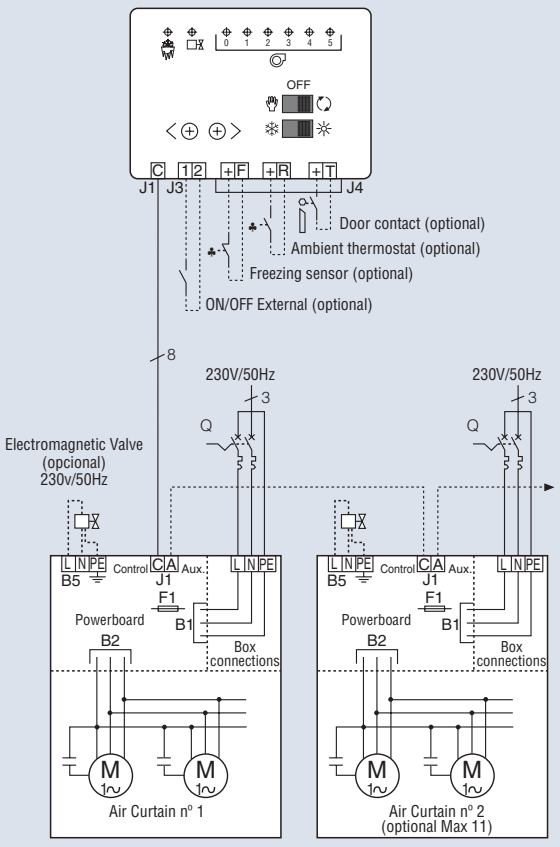
The 5 stages controllers give a very smooth function without sensible jumps, just like a steeples speed control.

The digital communication between the unit and the controller grant a very reliable connection even at long distances without information looses.

All the controllers have connectors type RJ 45 for an easy and quick connection, free of mistakes.

Hans/Automatic controller.
Manual or automatic function controller of 5 speeds ventilation for warm water heated air curtians. Connectors type RJ 45 for an easy and quick connection. The unit is equipped with memory for power supply failure and 5 optional connections for external accessories,

- Door contact.
- Electrovalve
- Frost sensor
- Remote ON-OFF
  (ttime, security, central management, etc.)
- Room thermostat.



These are just informative wiring diagrams that may be subject to further modifications.

WORKING AND FUNCTIONS:

MANUAL: Fan selection speed by pressing the up/down buttons. The selection is indicated with a green led.

When a frost sensor is installed, the unit will not start meanwhile the air temperature will be below freezing.

AUTOMATIC: Working depending on:

- Door contact: Programmable fan speed when the door is open. Automatically returns to the programmed automatic position after a selectable waiting time (10 to 120s). The programmed speed for open door is indicated with an orange led. When the programmed speed and the automatic function speed is the same, the lighted led turns into green which indicates the running fan speed.
- Thermostat:
  - Connect or disconnect the air curtain. When connected, the unit works at speed 1 until the settled temperature is reached. When reached, the air curtain stops.
  - Increase or decrease the fan speed according to the settled temperature: The fan speed increases step by step up to the maximum every 60s until the settled temperature is reached. When reached, the fan speed decreases every 60s until disconnection or till the temperature goes down the one settled on the thermostat (ON/OFF control)

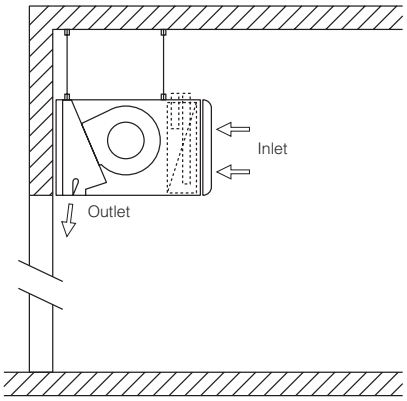
FROST SENSOR: The air curtain can be optionally equipped with a frost sensor. When the temperature goes under the frost level, the contact opens, the fans stop running and the electrovalve opens the water circuit even with the controller in OFF position. With frost sensor installed, the dip 4 located inside the controller has to be placed in OFF position.

REMOTE ON/OFF: This potential-free contact can be used as a remote ON/OFF. Meanwhile the contact is open the air curtain works normally according the controller settlements, but with contact closed the controller is blocked at position OFF. This utility doesn't interfere with the frost sensor security function.

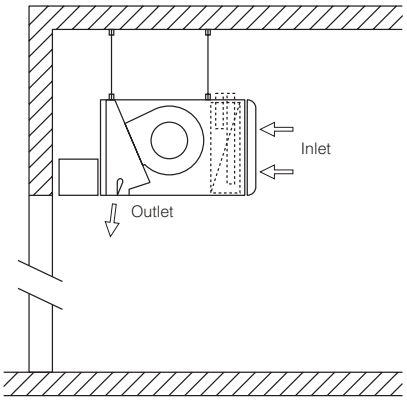
MEMORY SWITCH: In the event of electrical supply failure, the internal memory switch (dip 7) grants the return to the settled fan speed when the service is re-established.

ELECTROVALVE: The summer/winter switch selects the state of the output (230V) for the electrovalve. With the controller in OFF position this function is not operative and the valve remains closed. This utility doesn't interfere with the frost sensor security function. The output connection for the electrovalve is located on top of the unit, beside the controller phone cable connection.

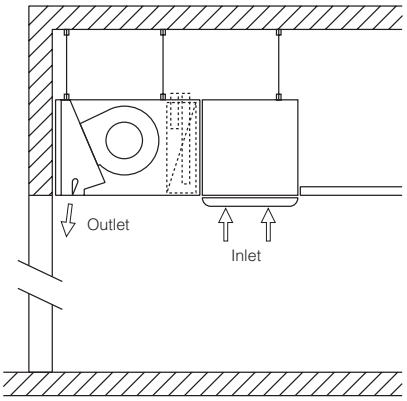
Free hanging Installation



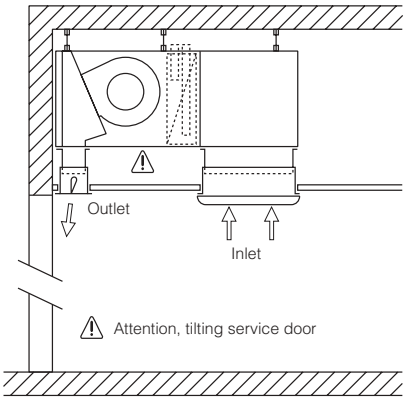
Free hanging installation on automatic door



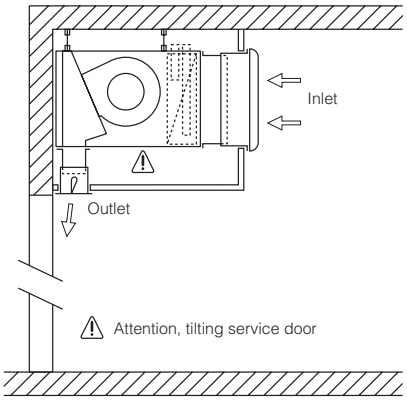
False ceiling installation, surface mounting



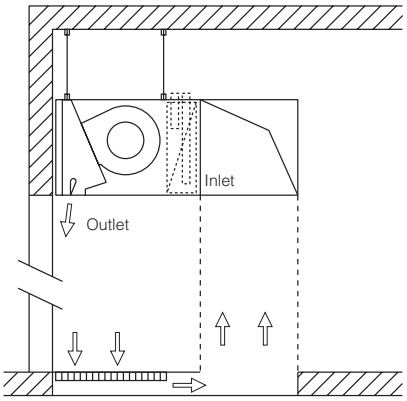
False ceiling installation, invisible mounting



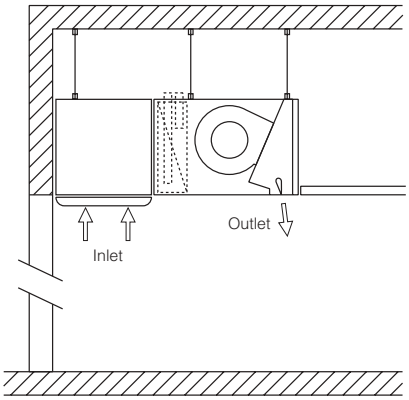
False ceiling installation, invisible mounting



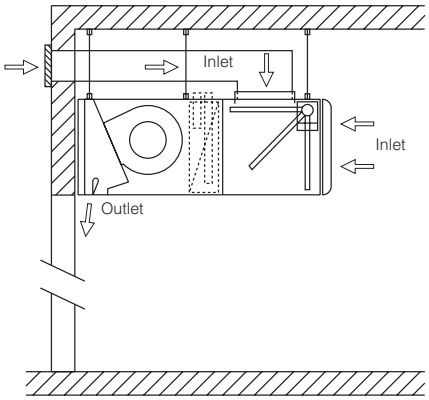
Installation with ducted air return from the floor



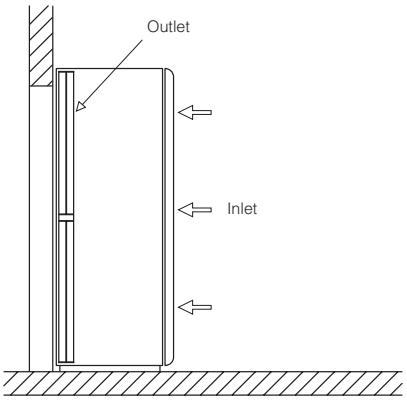
False ceiling installation with outside air intake



Free hanging installation with air mixing box



Floor standing installation with lateral air flow



(*) Contact us for other kind of intallations.

Optima
Installation in a window corridor shop

Windbox
Installed on a flapping door

Windbox
In-ceiling kit for surface mounting

Design
Decorative unit in a shopping center

Roundbox
Decorative unit in stainless steel

Colum
Decorative unit in vertical installation

Rotodoor
Installation in a rotating door

RHL
Vertical installation for industrial door

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