

Catalogue





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AIR CURTAINS FOR COLD STORES

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INTRODUCTION



Difficulties in cold stores

In buildings where there are cold rooms or freezers, most of the time there is a previous space at a higher temperature, the pre-chamber, and in very extreme conditions the difference between both spaces can be up to 50°C. When the door of the chamber is opened, the thermal shock between the two environments generates an increase in the relative humidity which implies condensation of water, formation of fog and loss of cold in the chamber. These environmental effects cause detrimental conditions for the business and the workers: there is energy loss, consequent economic loss and possible loss of goods; for the workers, potentially dangerous situations are created due to slippery floors or limited vision.







In these cases, the most common solutions are plastic slat curtains and roller doors, but they are not the most effective because they are not a permanent barrier. They present an obstacle for logistics personnel and the thermal contrast continues occurring every time the barrier is opened, so the effects related to this contrast are still present. The installation of an air curtains is a more efficient solution and provides better results.







Thermal losses



Economic losses



Poor preservation of goods



Risk of accidents



Ice formation



Low visibility

Over the years, Airtècnics has developed different models of cold room air curtains to adapt to any installation, even in the most extreme conditions, managing to solve the specific problems that occur due to the nature of the activity and managing to optimise the energy consumption.

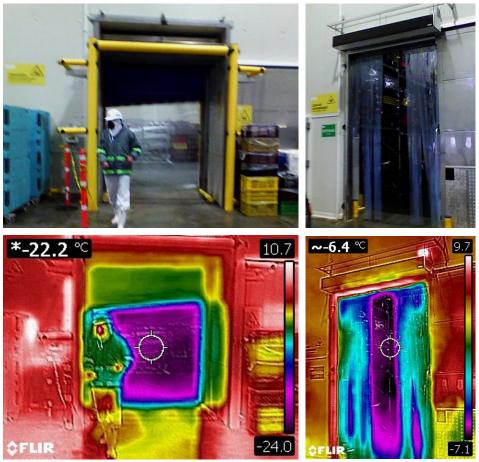
INTRODUCTION



Benefits of installing an air curtain

Air curtains in cold stores and industrial freezers are the most effective solution to prevent cold loss, ice formation and condensation in the accesses when the door is opened.

They are the ideal complement to high-speed rolling doors to facilitate access, avoid unnecessary risks and achieve the most effective system to save energy.



Thermographic photographs showing the efficiency of an installed air curtain

Advantages:

Savings

- Energy savings of up to 80% due to the reduction of cold losses and hot air infiltrations.
- Reduces defrosting cycles and prolongs the service life of refrigeration equipment and its maintenance because it reduces ice formation.
- High-speed rolling door maintenance due to ice damage.

Security and Accessibility

- Reduction of accidents caused by ice on the floor between the pre-chamber and the cold room.
- Reduced collisions due to improved visibility by eliminating fog around the door.
- Improves accessibility.

Preservation

- Correct conservation of frozen products thanks to the stabilization of temperatures in the cold room, avoiding sudden changes in temperature.



Considerations before installing an air curtain

The main advantages that we can achieve with air curtains specially designed for industrial cold rooms and freezers are:

- Climatic separation.
- Reduction or elimination of ice on the door and entrance floor.
- Removal of ice, snow and fog in the chamber.
- Reduction of chamber humidity.

To select the appropriate air curtain model for our installation and according to the functions to be covered, the following characteristics must be considered:

1. Temperature of the chamber.

- Cold chamber (X > 0°C).
- Freezing chamber (0° C > X > -25 $^{\circ}$ C).
- Low temperature freezing chamber (-25°C > X > -40°C).

2. Door dimensions and surroundings:

- Dimensions of the door
- Dimensions of the chamber:
 - Small: <100m2
 - Medum: 100m² < X < 250m²
 - Large: >250m2
- Available space:
 - Horizontal or vertical.
 - With or without insulating corridor.

3. Protection from the outside:

- With pre-chamber:

There is a climate-controlled space (temperature and relative humidity) between the chamber and outdoors.

- Without pre-chamber:

The chamber doors communicate directly with the outside of the building/vehicle.

4. Environmental conditions of the pre-chamber.

- With control:

Neither temperature nor humidity are controlled and vary depending on the season of the year.

- Without control:

The air conditioning system maintains a constant temperature and/or humidity Maximum range in the pre-chamber.

Prechamber temperature	Ideal relative humidity	Maximum relative humidity		
5 °C	< 50 %	70 %		
10 °C	< 40 %	50 %		

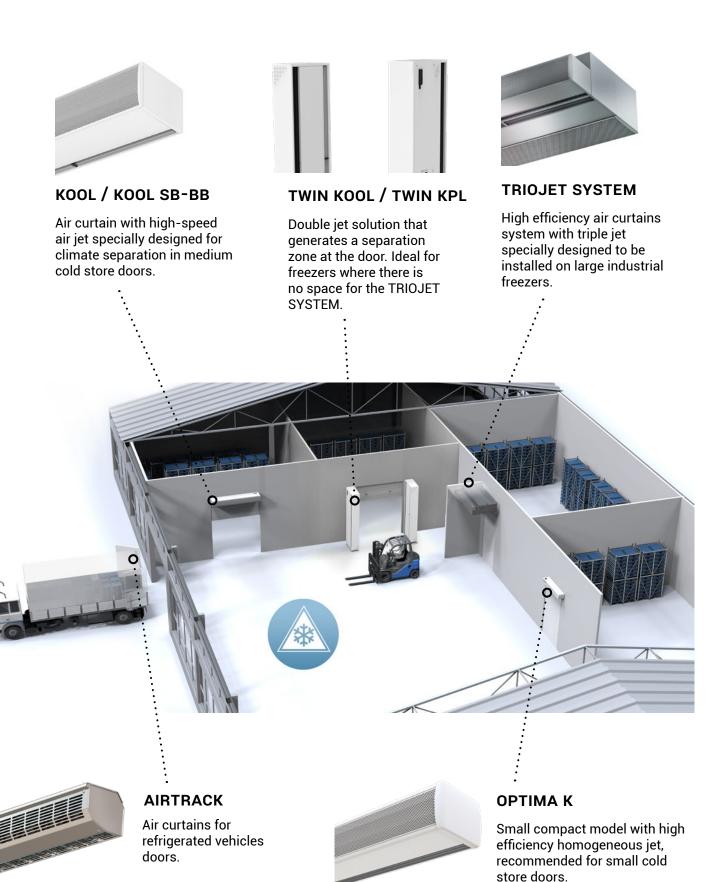
5. Door opening times:

- Short: <15 seconds
- Medium: between 15 seconds and 1 minute
- Length: >1 minute.

	nal operation of the Tri ons of the pre-chamb	
Prechamber temperature	Ideal relative humidity	Maximum relative humidity



Airtècnics air curtains





Selection criteria

					COLD STORE																		
A	AIR CURTAIN					RATURE		AIR CURTAIN FUNCTIONS															
					Refrigeration	Free	zing	AIN	CONTAIN FUNC	TIONS													
Model	Conf	[1]	tion	Air jet Maxi-	Maxi-	Maxi-		> 0 °C	0 °C - 25 °C	-25°C -40°C	Climatic separation	Reduction ice at door and entrance	Ice and fog removal and humidity	CONSIDERATIONS									
	F	Н	I	range		20 0	40 0	Separation	floor	reduction													
AIRTRACK	-	Α	НО	2,7 m	~	~	-	~	-	-	- For refrigerated vehicles. - Basic protection (1 air jet).												
ОРТІМА К	-	Α	НО	3 m							- Basic protection (1 air jet).												
	М			3,5 m							- At >0°C for any chamber size												
	ЕСМ			3,8 m							and door opening time.												
KOOL	G	Α	НО	4,5 m	-						- [2] At <0°C only in certain												
	ECG			5 m		[2]	-	~	[2]	-	conditions, for small and medium- sized chambers and short or												
	М			3,5 m							medium door opening time.												
KOOL IP55	G	Α	НО	4,5 m							- Pre-chamber without control												
KOOL SB-BB	-	Α	НО	7 m															(Temperature and HR).				
											- Double protection (2 air jets).												
TWIN KOOL	G		4,5 m A VE 5 m	VE	VE											/E							- For any chamber size.
TWIN KPL		Α															~	~	-	~	~	-	- Pre-chamber without control (Temperature and HR).
	ECG				5 m							- Short or medium door opening time.											
TRIOJET SYSTEM	_	Е	НО	5 m	-	~	-	~	~	~ [3]	- Triple protection (3 air jets).												
SISILIVI										[၁]	- For any chamber size.												
TRIOJET SYSTEM DOUBLE HEATING	-	E	НО	5 m	-	-	•	~	•	~ [3]	- [3] Only with pre-chamber with control (Temperature and HR). - For any door opening time.												

^{[1] (}F): Fans | (H): Heating: (A) Without heating, (E) Electrical heating.

Installation recommendations

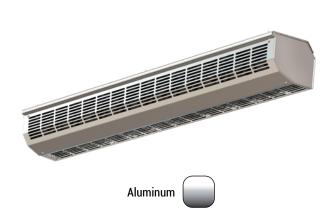
- Whenever the air jet is separated from the door, it is recommended to adapt a corridor to isolate the sides and upper area of the air curtain, and thus prevent air infiltration from outside (mandatory in the TRIOJET SYSTEM model).
- It is recommended to regulate the air curtain jet to adjust the air speed between 1-2m/s at 0.5m from the ground. A lower speed will cause cold air loss and hot air infiltration. A higher speed will cause turbulence upon impact with the ground, and will reduce the energy efficiency of the system.
- The angle of inclination of the outlet vanes should be pointing slightly towards the outside of the cold room (5-10°).
- The finish of the air curtain can be made of stainless steel and can incorporate IP55 protection designed for applications with extreme environments of cold, humidity and corrosion (optionally for KOOL MG/SB-BB and TWIN K/KPL models, and as standard in the TRIOJET model SYSTEM).

⁽I): Installation by default: (HO) horizontal, (VE) vertical. Kool, Kool IP55, Kool SB-BB and Triojet System models can be installed vertically.

AIRTRACK | AIR CURTAIN FOR REFRIGERATED TRANSPORT



Technical features





Maximum range 2,7 m



Casing

Aluminum

Chamber temperature From >0°C to -25°C



4 Protection grade IP20

Grille type

Slotted perforated

Airflow / Length

830 m3/h x 1m

55555



Fans

Low voltage 24V DC (-25°C to 50°C)

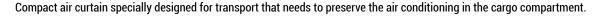


Control

Directly connected to the vehicle power supply



Outlet vanes Slotted perforated



The energy loss caused by loading and unloading in refrigerated trucks has very high costs for carriers. Therefore, the Airtrack air curtain has been specially designed to avoid these losses, achieving fuel savings of up to 30%. Customized length from 850 mm to 2430 mm to adapt to any type of transport vehicle: vans, trucks, trailers, vehicles with roll-up doors, etc.

Compact low voltage 24V DC fans designed to operate between -25 °C and 50 °C. Perforated inlet grille to avoid intensive maintenance service. Includes support with quick fixing system for ceiling installation.

WUNHEATED

Model	Airflow	Power Fans 24V DC	Ventilation current 24V DC	Noise Level (5 m)	Weight
	m³/h	W	А	dB(A)	kg
Per linear metre	830	72	3	55	5,8
AIRTRACK 2430	2000	190	7,0	60	14



A refrigerator truck is a vehicle designed to carry perishable freight at low temperatures.

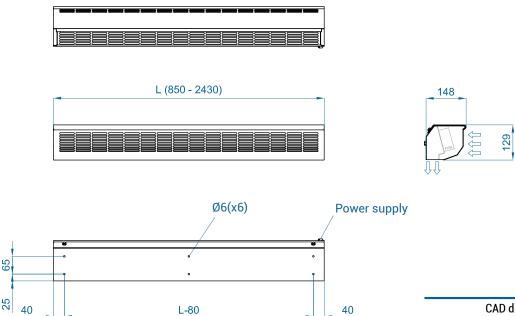
Most long-distance refrigerated transport by truck is done in articulated trucks pulling refrigerated semi-trailers.

In addition to the energy savings by reducing refrigeration loss, having air curtains in refrigerated transport helps to keep the cargo free of odours, gases or insects, among others that cause damage to the goods.

Thanks to air curtains, working is safer and more efficient, since there are no physical barriers that can interrupt the loading and unloading of vehicles.



Airtrack air curtain has a compact design, with lengths ranging from 850 mm to 2430 mm, ideal for modular integration.



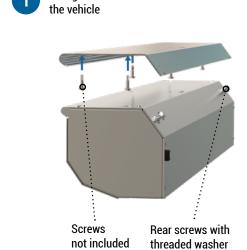
CAD drawings, installation manuals and other documentation





Installation

It has a fastening system that facilitates installation in three simple steps:

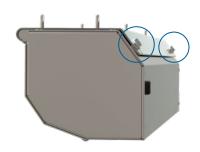


Fixing the bracket to the roof of

Pitting the air curtain to the bracket



3 Fastening with the rear screws



Finish tightening the screws

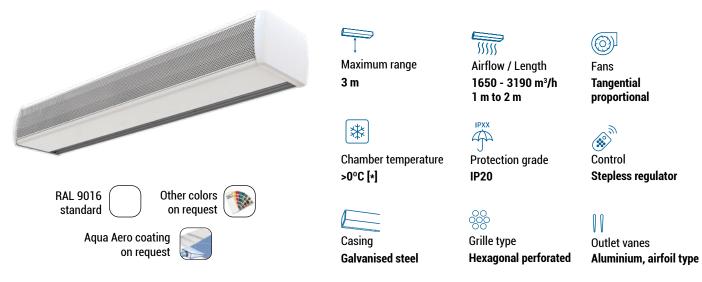
Optional accessories







Technical features



[*] From 0°C to -25°C only in certain conditions.

OPTIMA K air curtain is specially designed for cold rooms with temperatures above 0°C.

Small and compact friendly design with rounded shape and edges. It incorporates a large faceted inlet grille avoiding intensive maintenance. Equipped with low noise twisted cross-flow fans, driven with external rotor motors, which provides a homogeneous airflow.

Includes a stepless control, which allows the regulation of the curtain not to be carried out in stages, but to calibrate the air speed continuously, adapting it to each installation. It also includes kick-start function.

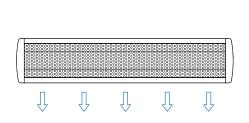
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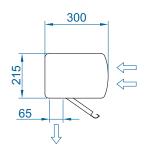
	Airflow 230V		Ventilation power 230V		Ventilation current 230V		Noise Level	Weight
Model	50Hz m³/h	60Hz m³/h	50Hz kW	60Hz kW	50Hz A	60Hz A	A -ID(A)	kg
OPT K 1000 A	1650	1800	0,080	0,109	0,41	0,56	35/50	18
OPT K 1500 A	2365	2515	0,117	0,145	0,53	0,74	36/51	26
OPT K 2000 A	3190	3390	0,160	0,218	0,82	1,12	38/53	34

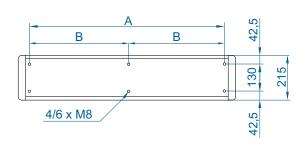


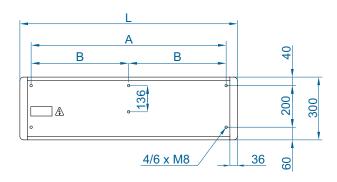












	L	Α	В
OPTIMA K 1000	1050	940	-
OPTIMA K 1500	1550	1440	-
OPTIMA K 2000	2050	1940	970

Optional accessories

Supports and installation



Wall rail support SPWR



Silentblock supports SPANG-SIL / SLB



Suspension cables SPCT



Omega wall support SPT2

Control



Stepless regulator
Included

Sensors



Mechanical door contact MEC-DC

CAD drawings, BIM files, installation manuals and other documentation











Technical features





Maximum range
M: 3.5 m ECM: 3.8 m

G: 4,5 m ECG: 5 m

*

Casing

Galvanised steel /

Stainless Steel



Chamber temperature >0°C [*]



Protection grade
Air curtain IP20

Airflow / Length

1 m to 3 m

1800 - 7200 m3/h





Fans

Centrifugal

5-speed

Control

Plug&Play Advanced PRO + IR remote control (Optional Clever Control)



Grille type

Circular perforated



Outlet vanes
Aluminium, airfoil type
Adjustable 0-15° each side

[*] From 0°C to -25°C only in certain conditions.

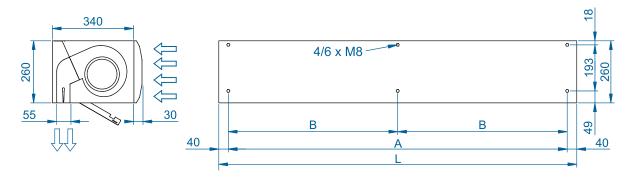
KOOL air curtain is specially designed for being mounted on cold store doors. With a compact timeless design, ensures a low turbulence and high velocity air jet, thus efficiently separating spaces with high temperature differences. Provided with a large faceted inlet grille avoiding intensive maintenance. It works with double-inlet centrifugal fans driven by an external rotor motor and low noise level. EC models assembled with very low consumption efficiency fans.

Advanced Plug&Play control. Includes: Advanced PRO control with LCD display and integrated thermostat, door contact, 7m RJ11 cable and remote control. Optional: intelligent Clever PRO Control (automatic, programmable, modbus for PLC, timer, etc).

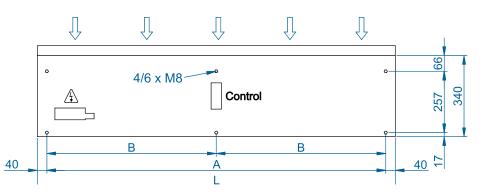
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Model	Airflow 230V		23	Ventilation power 230V		Ventilation current 230V		Weight
	50Hz m³/h	60Hz m³/h	50Hz kW	60Hz kW	50Hz A	60Hz A	(5 m) dB(A)	kg
KM 1000 A	1800	1940	0,212	0,248	0,94	1,10	55	29
KM 1500 A	2700	2900	0.318	0.372	1,41	1,65	56	44
KM 2000 A	3600	3840	0,424	0,496	1,88	2,20	57	53
KM 2500 A	4500	4850	0,530	0,620	2,35	2,75	58	58
KM 3000 A	5400	5820	0,636	0,774	2,82	3,30	59	76
KECM 1000 A	1840	1840	0,142	0,142	1,24	1,24	56	33
KECM 1500 A	2760	2760	0,213	0,213	1,86	1,86	57	50
KECM 2000 A	3680	3680	0,284	0,284	2,48	2,48	58	61
KECM 2500 A	4600	4600	0,355	0,355	3,10	3,10	59	68
KECM 3000 A	5520	5520	0,426	0,426	3,72	3,72	60	76
KG 1000 A	2400	2400	0,642	0,372	2,85	1,65	57	37
KG 1500 A	3200	3200	0,856	0,496	3,80	2,20	58	55
KG 2000 A	4800	4800	1,284	0,744	5,70	3,30	59	71
KG 2500 A	5600	5600	1,498	0,868	6,65	3,85	60	78
KG 3000 A	6400	6400	1,712	0,992	7,60	4,40	61	86
KECG 1000 A	2700	2700	0,213	0,213	1,86	1,86	61	37
KECG 1500 A	3600	3600	0,284	0,284	2,48	2,48	62	56
KECG 2000 A	5400	5400	0,426	0,426	3,72	3,72	63	71
KECG 2500 A	6300	6300	0,497	0,497	4,34	4,34	64	78
KECG 3000 A	7200	7200	0,568	0,568	5,96	5,96	65	86





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



Optional accessories

Supports and installation



Wall rail support SPWR



Silentblock supports SPANG-SIL / SLB



Suspension cables SPCT



Omega wall support SPT3



Foot support SPF-KOOL (Galv. / SS)



Joining kit SPJ-KOOL (Galv. / SS)

Control



ADVANCED PRO

✓ Included



IR Control

✓ Included



RJ11 Cable Included



CLEVER PRO

Sensors



Mechanical door contact MEC-DC



External Temperature Sensor (Clever Control)

CAD drawings, BIM files, installation manuals and other documentation







KOOL IP55 | AIR CURTAIN FOR INDUSTRIAL COLD STORES



Technical features

on request



on request



Maximum range

Chamber temperature

M: 3,5 m G: 4,5 m

*

>0°C [*]

1700 - 6400 m³/h 1 m to 3 m

Protection grade IP55

Airflow / Length

Fans
Centrifugal
5-speed

Control

Plug&Play Advanced PRO + IR remote control (Optional Clever Control)

Outlet vanes

Aluminium, airfoil type Adjustable 0-15° each side



Galvanised steel / Stainless Steel Grille type

Circular perforated

[*] From 0°C to -25°C only in certain conditions.

KOOL IP55 is specially recommended in applications with extrem cold and/or humidity and/or corrosion conditions.

With a compact timeless design, ensures a low turbulence and high velocity air jet, thus efficiently separating spaces with high temperature differences.

Provided with a large faceted inlet grille avoiding intensive maintenance.

It works with double-inlet centrifugal fans driven by an external rotor motor and low noise level with special IP55 protection made by: sealed bearings, encapsulated stator and wire sealed with silicone.

Includes IP55 waterproof box for electronic components and transformer and all wire connections, including IP68 press releases.

IMPORTANT: The electronic and transformer waterproof case cannot be assembled inside the air curtain. The customer should look for a place outside the air curtain. The dimensions of this case are 300x200x120mm.

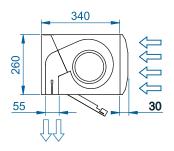
Advanced Plug&Play control. Includes: Advanced PRO control with LCD display and integrated thermostat, door contact, 7m RJ11 cable and remote control. Optional: intelligent Clever PRO Control (automatic, programmable, modbus for PLC, timer, etc).

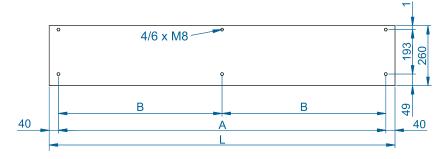
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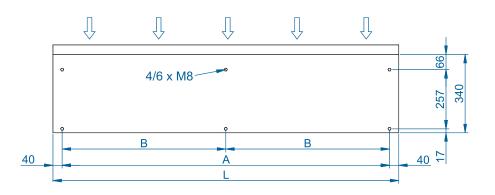
Model	Airflow 230V		23	Ventilation power 230V		Ventilation current 230V		Weight
	50Hz m³/h	60Hz m³/h	50Hz kW	60Hz kW	50Hz A	60Hz A	(5 m) dB(A)	kg
KM 1000 A IP55	1700	1470	0,428	0,662	1,90	2,50	55	29
KM 1500 A IP55	2550	2205	0,642	0,993	2,85	3,75	56	44
KM 2000 A IP55	3400	2940	0,856	1,324	3,80	5,00	57	53
KM 2500 A IP55	4250	3675	1,070	1,655	4,75	6,25	58	58
KM 3000 A IP55	5100	4410	1,284	1,986	5,70	7,50	59	76
KG 1000 A IP55	2400	2205	0,642	0,993	2,85	3,75	57	37
KG 1500 A IP55	3200	2940	0,856	1,324	3,80	5,00	58	55
KG 2000 A IP55	4800	4410	1,284	1,986	5,70	7,50	59	71
KG 2500 A IP55	5600	5145	1,498	2,317	6,65	8,75	60	78
KG 3000 A IP55	6400	5880	1,712	2,648	7,60	10,00	61	86











Optional accessories

Supports and installation



Wall rail support SPWR



Silentblock support SLB



Suspension cables SPCT



Omega wall support SPT3



Foot support SPF-KOOL (Galv. / SS)



Joining kit SPJ-KOOL (Galv. / SS)

Control



Caja externa IP55
Included



ADVANCED PRO
Included



IR Control

✓ Included



RJ11 Cable
Included



CLEVER PRO



IP55 Box Clever control

Sensors



Mechanical door contact MEC-DC



External Temperature Sensor (Clever Control)

CAD drawings, BIM files, installation manuals and other documentation







KOOL SB-BB



Technical features







Grille type

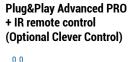
Circular perforated

Airflow / Length

3900 -10400 m3/h









[*] From 0°C to -25°C only in certain conditions.

KOOL SB-BB air curtain is specially designed for being mounted on large cold store doors. With a compact timeless design, ensures a low turbulence and high velocity air jet, thus efficiently separating spaces with high temperature differences. Large faceted inlet grille avoiding intensive maintenance.

Galvanised steel /

Stainless Steel

Casing

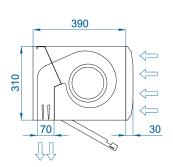
This air curtain model works with latest generation double-inlet centrifugal EC fans driven by an external rotor motor and low noise level, with very low consumption efficiency fans.

Advanced Plug&Play control. Includes: Advanced PRO control with LCD display and integrated thermostat, door contact, 7m RJ11 cable and remote control. Optional: intelligent Clever PRO Control (automatic, programmable, modbus for PLC, timer, etc).

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Model	Airflow	Ventilation power 230V~50Hz	Ventilation current 230V∼50Hz	Noise level (5 m)	Weight
	m³/h	kW	А	dB (A)	kg
KSB 1000 A	3060	0,523	3,8	62	37
KSB 1500 A	4080	0,697	5,07	63	54
KSB 2000 A	6120	1,046	7,61	64	75
KSB 2500 A	7140	1,22	8,87	65	91
KSB 3000 A	8160	1,395	10,14	66	107
KBB 1000 A	4020	0,873	3,87	66	38
KBB 1500 A	5360	1,164	5,16	67	55
KBB 2000 A	8040	1,746	7,74	68	77
KBB 2500 A	9380	2,037	9,03	69	93
KBB 3000 A	10720	2,328	10,32	70	110







		_	L	_	_
40) _		Α		_ 40
		В		В	34
				-	
390			Control		297
		4/6 x M8	o	0—	29
					4,7
					30

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



Optional accessories

Supports and installation



Wall rail support SPWR



Silentblock support SLB



Suspension cables SPCT



Omega wall support



Foot support SPF-KOOL SB-BB (Galv. / SS)



Joining kit SPJ-KOOL SB-BB (Galv. / SS)

Control



ADVANCED PRO



IR Control

✓ Included



RJ11 Cable Included



CLEVER PRO

Sensors



Mechanical door contact MEC-DC



External Temperature Sensor (Clever Control)

CAD drawings, BIM files, installation manuals and other documentation

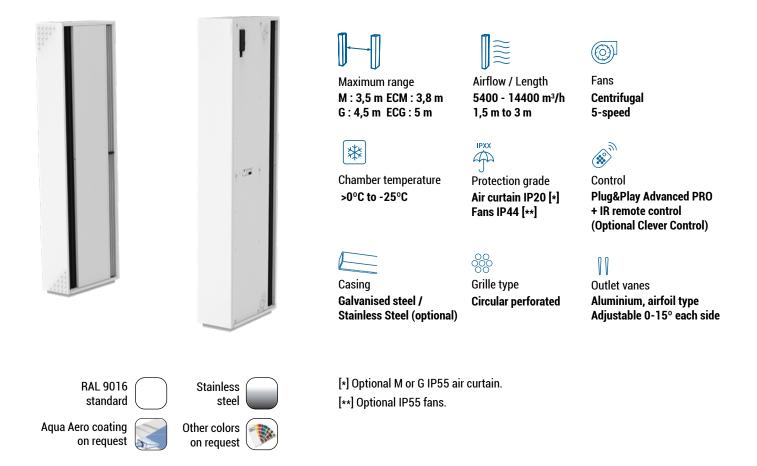








Technical features



TWIN KOOL air curtain system has been designed to offer a versatile solution to any type of cold room.

Highly efficient climatic separation against thermal losses caused by the large temperature difference with 2 jets and recirculation technology.

Recommended for chambers over 0°C where humidity control is not required like vegetables storage or chambers below 0°C with pre-chambers with controlled conditions of humidity and temperature.

The system consists of two air curtains facing each other vertically with the jets reversed and extra intakes from pre-chamber. This double jet works as a closed circuit creating a separation zone at the door entrance. Thanks to this double air barrier, this is a cheaper alternative to the TRIOJET SYSTEM when space is limited. It requires a ceiling to cover 100% of the opening with the 2 jets (not included, must be provided by others)

We recommend Aqua Aero coating (15.000 hours salt spray test) or stainless steel to improve the protection against corrosion.

With double-inlet centrifugal low noise fans driven by an external rotor motor.

Advanced Plug&Play control. Includes: Advanced PRO control with LCD display and integrated thermostat, door contact, 7m RJ11 cable and remote control. Optional: intelligent Clever PRO Control (automatic, programmable, modbus for PLC, timer, etc).

TWIN KOOL | AIR CURTAINS FOR INDUSTRIAL COLD STORES AND FREEZERS

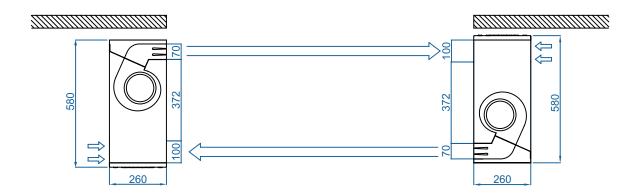


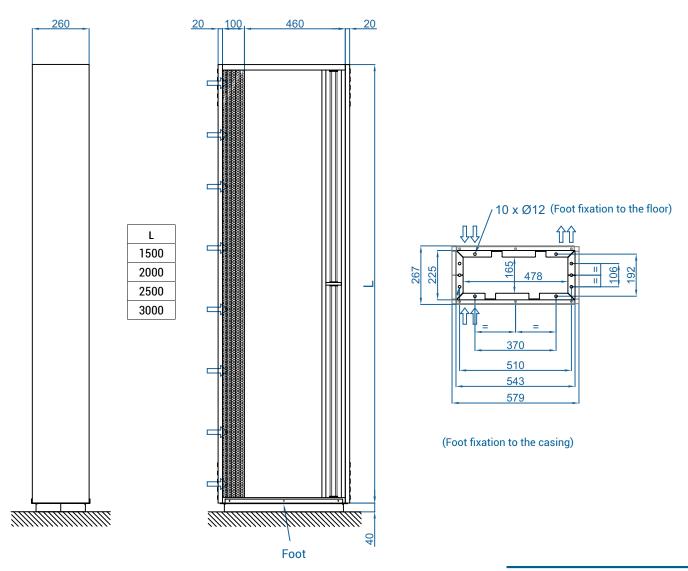
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Model	Airflow 230V			Ventilation power 230V		n current 0V	Noise Level	Weight
	50Hz	60Hz	50Hz	60Hz	60Hz 50Hz		(5 m)	. 3
	m³/h	m³/h	kW	kW	А	А	dBA	kg
TWIN KOOL M 1500 A	5400	5800	0,636	0,744	2,82	3,30	59	56
TWIN KOOL M 2000 A	7200	7680	0,848	0,992	3,76	4,40	60	70
TWIN KOOL M 2500 A	9000	9700	1,060	1,240	4,70	5,50	61	76
TWIN KOOL M 3000 A	10800	11640	1,272	1,488	5,64	6,60	62	88
TWIN KOOL ECM 1500 A	5520	5520	0,426	0,426	3,72	3,72	60	56
TWIN KOOL ECM 2000 A	7360	7360	0,568	0,568	4,96	4,96	61	70
TWIN KOOL ECM 2500 A	9200	9200	0,710	0,710	6,20	6,20	62	76
TWIN KOOL ECM 3000 A	11040	11040	0,852	0,852	7,44	7,44	63	88
TWIN KOOL G 1500 A	6400	6400	1,712	0,992	7,60	4,40	61	61
TWIN KOOL G 2000 A	9600	9600	2,568	1,488	11,40	6,60	62	80
TWIN KOOL G 2500 A	11200	11200	2,996	1,736	13,30	7,70	63	86
TWIN KOOL G 3000 A	12800	12800	3,424	1,984	15,20	8,80	64	98
TWIN KOOL ECG 1500 A	7200	7200	0,568	0,568	4,96	4,96	65	61
TWIN KOOL ECG 2000 A	10800	10800	0,852	0,852	7,44	7,44	66	80
TWIN KOOL ECG 2500 A	12600	12600	0,994	0,994	8,68	8,68	67	86
TWIN KOOL ECG 3000 A	14400	14400	1,136	1,136	11,92	11,92	68	98









CAD drawings, BIM files, installation manuals and other documentation

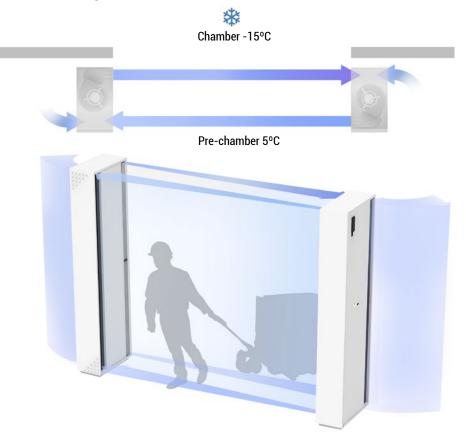








Functioning



We consider a chamber at -15°C and a pre-chamber at 5°C (thermal leap 20°C).

The TWIN KOOL SYSTEM with two air curtains facing each other, creates a separation zone in the door that acts as a very efficient barrier against adverse situations.

This separation zone is created by self-recirculation in such a way that both air curtains suck the jet from the other curtain, along with air from the pre-chamber itself. This separation area is maintained between the temperature of the chamber and the pre-chamber thus reducing the temperature exchange between both sides.

Optionally, depending on the installation, electrical heating can be used to help remove ice from the ground and reduce humidity.

Optional accessories

Supports and installation



Foot support SPF-DAM (Galv. / SS)



Joining kit SPJ-MG (Galv. / SS)

Control



ADVANCED PRO
Included



IR Control

✓ Included



RJ11 Cable

✓ Included



CLEVER PRO

Sensors





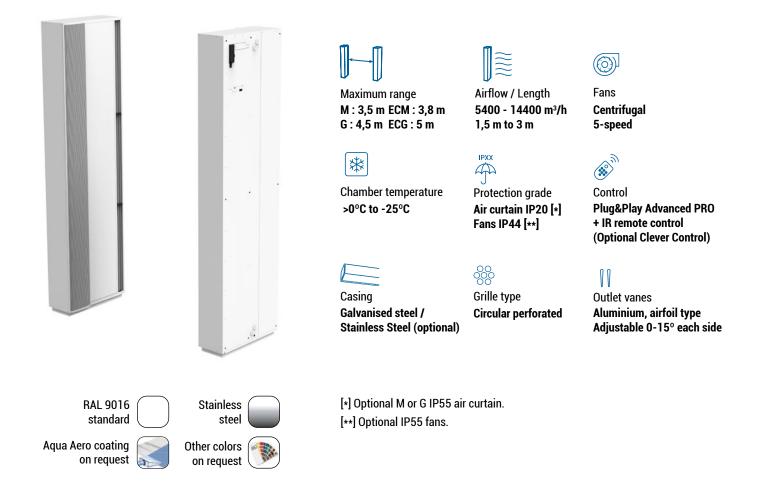


Mechanical door contact MEC-DC

External Temperature Sensor (Clever Control)



Technical features



TWIN KPL air curtain system has been designed to offer a versatile solution to any type of cold room: refrigerators (over 0°C) and freezers (0°C up to -25°C).

Highly efficient climatic separation against thermal losses caused by the large temperature difference with 2 jets and recirculation technology.

The system consists of two air curtains facing each other vertically with the jets reversed. This double jet works as a closed circuit creating a separation zone at the door entrance. Thanks to this double air barrier, is the best alternative to the TRIOJET SYSTEM when space is limited.

It requires a ceiling to cover 100% of the opening with the 2 jets (not included, must be provided by others).

On option heating could be implemented to improve ice reduction on the floor and humidity control.

We recommend Aqua Aero coating (15.000 hours salt spray test) or stainless steel to improve the protection against corrosion.

With double-inlet centrifugal low noise fans driven by an external rotor motor.

Advanced Plug&Play control. Includes: Advanced PRO control with LCD display and integrated thermostat, door contact, 7m RJ11 cable and remote control. Optional: intelligent Clever PRO Control (automatic, programmable, modbus for PLC, timer, etc).

TWIN KPL | AIR CURTAINS FOR INDUSTRIAL COLD STORES AND FREEZERS

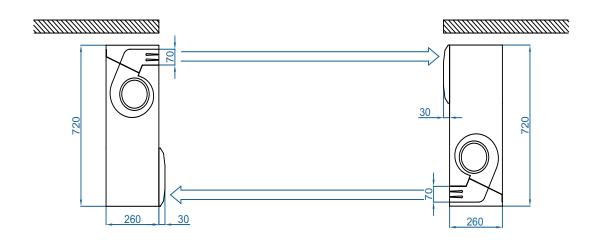


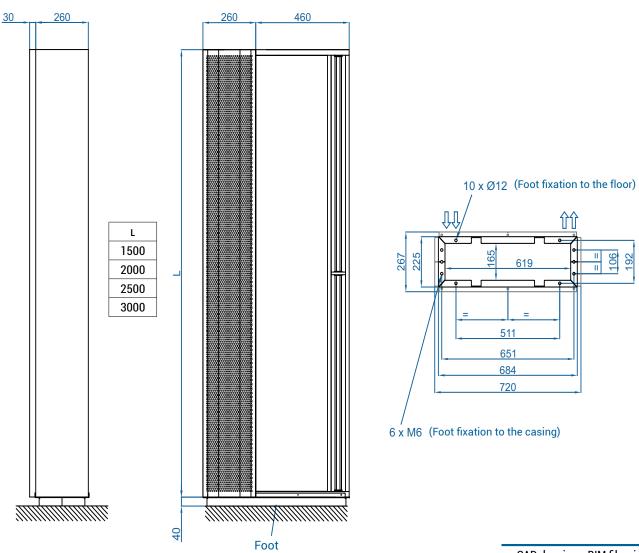
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W UNHEATED								
Model		Airflow 230V		Ventilation power 230V		Ventilation current 230V		Weight
	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	(5 m)	J
	m³/h	m³/h	kW	kW	А	А	dBA	kg
TWIN KPL M 1500 A	5400	5800	0,636	0,744	2,82	3,30	59	64
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TWIN KPL M 2500 A	9000	9700	1,060	1,240	4,70	5,50	61	88
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TWIN KPL G 2500 A	11200	11200	2,996	1,736	13,30	7,70	63	98
TWIN KPL G 3000 A	12800	12800	3,424	1,984	15,20	8,80	64	112
TWIN KPL ECG 1500 A	7200	7200	0,568	0,568	4,96	4,96	65	69
TWIN KPL ECG 2000 A	10800	10800	0,852	0,852	7,44	7,44	66	90
TWIN KPL ECG 2500 A	12600	12600	0,994	0,994	8,68	8,68	67	98
TWIN KPL ECG 3000 A	14400	14400	1,136	1,136	11,92	11,92	68	112









CAD drawings, BIM files, installation manuals and other documentation



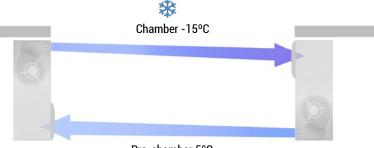




TWIN KPL | AIR CURTAINS FOR INDUSTRIAL COLD STORES AND FREEZERS



Functioning



Pre-chamber 5°C



We consider a chamber at -15°C and a pre-chamber at 5°C (thermal leap 20°C).

The TWIN KPL SYSTEM with two air curtains facing each other, creates a separation zone in the door that acts as a very efficient barrier against adverse situations.

This separation zone is created by self-recirculation in such a way that both air curtains suck the jet from the other curtain. This separation area is maintained between the temperature of the chamber and the prechamber thus reducing the temperature exchange between both sides.

Optionally, depending on the installation, electrical heating can be used to help removing ice from the ground and reduce humidity.

Optional accessories

Supports and installation



Foot support SPF-MG (Galv. / SS)



Joining kit SPJ-MG (Galv. / SS)

Control



ADVANCED PRO
✓ Included



IR Control

✓ Included



RJ11 Cable
✓ Included



CLEVER PRO

Sensors





Mechanical door contact MEC-DC

External Temperature Sensor (Clever Control)

TRIOJET SYSTEM AIR CURTAINS FOR INDUSTRIAL COLD STORES AND FREEZERS



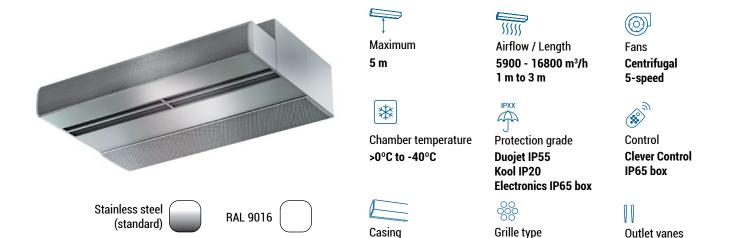
Aluminium, airfoil type

Adjustable 0-15° each side

Technical features

Agua Aero coating

on request



The TRIOJET SYSTEM is specially designed for doors of cold rooms and industrial freezers with a large thermal leap.

Highly efficient climatic separation against thermal losses caused by the large temperature difference (short payback period) using a barrier with 3 air jets. It reduces the risk of accidents because it eliminates ice from the ground at the entrance and reduces fog.

Stainless Steel /

Galvanised steel

Circular perforated

System composed of two air curtains: special Duojet air curtain with plenum and Kool curtain.

Other colors

on request

The result is 3 jets together at different temperatures and different speeds that do not mix, achieving efficient separation.

It needs a structure with side walls to cover 100% of the opening with the 3 jets (structure not included, must be provided by others).

Duojet air curtain with AC IP55 centrifugal fans and Kool with EC fans, both double inlet, driven by external rotor motors with low noise level and reduced consumption. Includes electric heater with 3 power stages with integrated regulation.

Triojet is automatically fully controlled by Clever Control. Electronics and control protected inside IP65 boxes. Plug & Play connections. Ready for BMS connection via Modbus RTU.

ELECTRIC HEATED

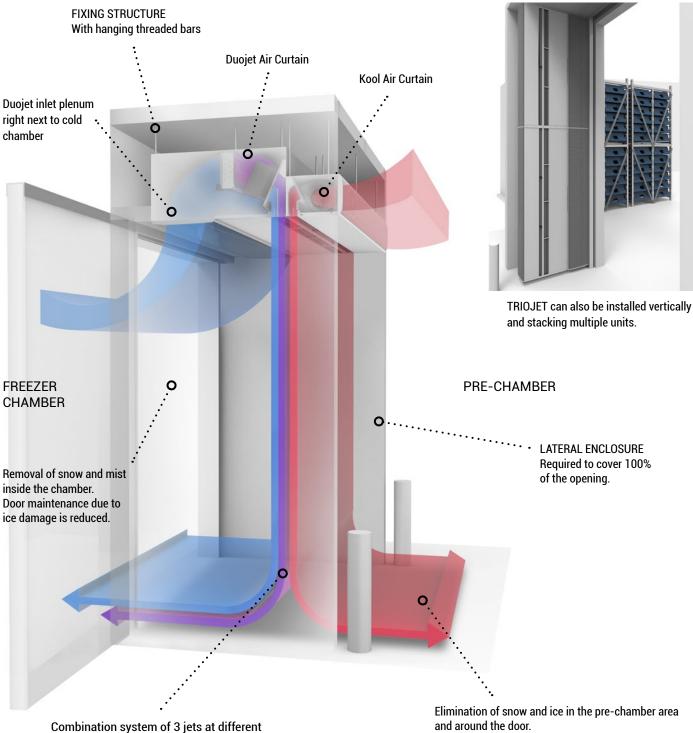
Madal	Airflow 230V		Ventilation power 230V		Ventilation current 230V		Electrical Heating Capacity (*)	Noise Level	Weight
Model	50Hz	60Hz	50Hz	60Hz	50Hz	60Hz	400Vx3~50/60Hz	(5 m)	_
	m³/h	m³/h	kW	kW	А	Α	kW	dBA	kg
TRIOJET SYSTEM 1000	5900	5620	1,08	1,54	5,75	6,87	3/6/9	62	125
TRIOJET SYSTEM 1500	8400	8240	1,58	2,27	8,30	9,98	4/8/12	63	182
TRIOJET SYSTEM 2000	11800	11240	2,16	3,07	11,50	13,74	6/12/18	64	234
TRIOJET SYSTEM 2500	14300	13600	2,66	3,81	14,05	16,85	6/12/18	65	275
TRIOJET SYSTEM 3000	16800	15960	3,17	4,54	16,60	19,96	8/16/24	66	314

(*) For a standard cold chamber and pre-chamber (-20°C / 5°C). Special electrical heater adapted for each installation.





Infographics

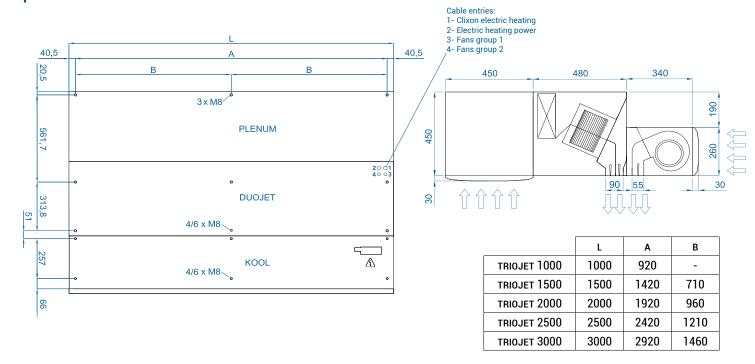


temperatures and different speed. The temperatures stabilize at the cold chamber and pre-chamber (Energy savings of up to 70%).

Higher visibility through the door, improving safety. Decreasing risk of accidents due to slippery floor.







Optional accessories

Supports and installation



Silentblock supports SPANG-SIL / SLB



Suspension cables SPCT



Foot support SPF-TRIO (Galv. / SS)

Control



Triojet connection box ✓ Included



CLEVER PRO ✓ Included



IP65 Box Clever Control TFT ✓ Included

Sensors



Mechanical door contact MEC-DC



Sensor de temperatura externa (Clever Control)

CAD drawings, BIM files, installation manuals and other documentation







CONTROL AND REGULATION



Advanced regulation

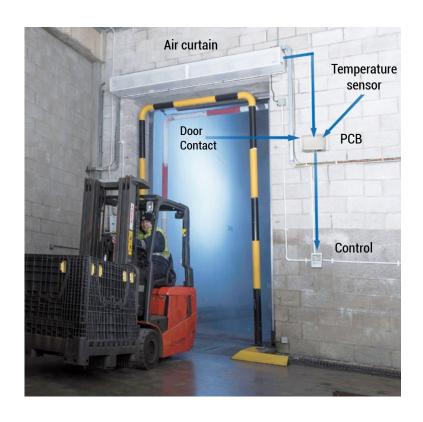
INTELLIGENT PROACTIVE REGULATION



Air curtains regulation is essential to substantially reduce energy consumption.

Our latest technology control system allows to manage the operation of the air curtains automatically according to each situation, maintaining indoors comfort with maximum energy savings.

Clever control automatically adapts the functioning of the air curtain to the entrance conditions, mantaining comfort while saving energy. It optimizes the ventilation and heating to make an efficient barrier for an optimal climate separation.





Basic and advanced modes



Conectivity Modbus BMS and control via APP



Easy Plug & Play installation



Regulation with **valves:** thermostatic, solenoid, modulating



Ambient thermostat and external temperature sensors

Special Requirements

Airtècnics can produce units with special requirements under request.

- External alarm signals: unit working, heating ON, airflow switch, dirty grille, electronic overheating signal, fans overheating thermal contact TK, electrical heating blocked, etc.
- Water or steam coils for higher temperatures or different power than standard.
- · Special heating elements at desired power and power supply.
- Dummies (empty air curtains) to combine with working units.
- · Industrial air curtains with ATEX fans.

CONTROL AND REGULATION



Clever Control features:



USER FRIENDLY DESIGN

Multilanguage and intuitive icons for easy understanding.
Main state screen: ventilation speed, heating, temperatures, door state, working mode and program, filter state, day/hour, timer, etc. 3 different menu configurations depending on who is managing the equipment.



FILTER ALARM

Indicates when filter needs replacing/cleaning. 2 options: by "Timer"of functioning hours or by "Pressure Sensor" switch.









ADAPTIVE DOOR DELAY

Air curtain delay: when the door closes, the air curtain remains working at door open conditions for certain time to be ready if it opens again.

Door opening delay: the door remains closed until the air curtain achieve the nominal speed.



TIMER

To turn ON or OFF automatically the unit depending on each different day of the week or predefined groups of days. User can select between Day or Night modes with 2 different Set temperatures.



COMPATIBLE

BMS communication with Modbus RTU protocol or using digital and analogical IN/OUT to control or monitor directly the unit.



ENERGY SAVING

3 grades of comfort and energy efficiency.



MODE







FULLY PROGRAMMABLE

All parameters can be configured at Basic or Advanced menu. Lots of extra functions to fulfill all clients applications. Customizable device names for easy identification.



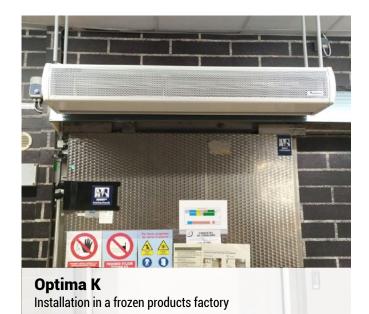
MULTI-EQUIPMENT

Clever works with different types of units: air curtains, fan heater, AHU, etc. Once programmed, PCB can work by itself without any controller.

- Clever Control is factory adjusted according to the device/s and client requirements.
- Once installed, the system checks automatically all connected units and its temperature sensors.
- Different integrated programs and functions for particular applications.
- · Multiple programs depending on installed temperature sensors: inside, outside and air jet.
- Able to regulate by itself the ventilation and heating depending on: door state, temperature sensors, selected working mode, grade of energy saving, program and other parameters.
- Alarms: general, filter state, anti-freezing, overheating, fans overheating, airflow, fire, external, heating locked, etc.
- Security control buttons lock option by code.
- Modulating valve for water heated (includes 24VDC power supply).
- Multiple functions: temporized door, excessive temperature of water return, cooling mode and others.

GALLERY

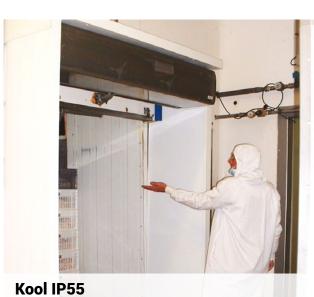






Kool





Installation in a food products distribution factory



Kool IP55Installation in a poultry factory

Twin KInstallation in the factory of a supermarket chain

GALLERY





Triojet System
Installation in a wholesale food supplier factory



Triojet SystemInstallation in an agricultural and livestock production factory



Triojet System Installation in a baking factory freezer







Vertical multiple installation in a food company

Installation in a freezer entrance



Production for world renowned brands



























































































































































































































See all references





See all installation photos





Findus (Pamplona, Spain)

Gillette (Reading, UK)

McDonald's (Jordan, Amman)

Nestlé (La Penilla de Cayón, Spain)

Mercadona (Colmena Alicante, Spain)

Frank Bird Poultry (Penrith, Scotland)

Pierre Fabre Dermo-Cosmétique (Avème, France)

Baxter (Marsa, Malta)

AstraZeneca (Macclesfield, UK)

Uriach (Palau Solità i Plegamans, Spain)

Adelie Foods (London, UK)

Servei Dolç (Barcelona, Spain)

Sonoco (Montanay, France)

Konings Juices & Drinks (Sudbury, UK)

Valero (Sabadell, Spain)

Frigorífics Costa Brava (Girona, Spain)

Mercabarna (Barcelona, Spain)

Cerlesa (León, Spain)

Friselva (Girona, Spain)

Canon Foods (Jandakot, Spain)

Rimi (Riga, Latvia)

Mann Pharma (Germany, Berlin)

Bo de Debò (Sant Vicenç de Castellet, Spain)

Moehs Catalana (Rubi, Spain)

Costco Wholesale (Watford, UK)

Corporació Alimentaria Guissona (Guissona, Spain)

Unique Poultry International (Punjab, Pakistan)

Barfoots Ltd (Bognor Regis, UK)





Agrozumos (Navarra, Spain)

The Sail Tower (Jeddah, Saudi Arabia)

1COLD (Solihull, UK)

Montana Bakery (Slough, UK)

Centro de Carga Aerea 3 (Madrid, Spain)

Aidl (Fraisses, France)

Havelok (Grimsby, UK)

Capper & Co (Bridgend, UK)

Greencore Food to Go (London, UK)

Pensworth Dairy (Southampton, UK)

Norish (Wrexham, UK)

Tottus (Puente Piedra, Peru)

Grapes Direct (Kent, UK)

Grupo Éxito (Antioquía, Colombia)

Disfribell (Girona, Spain)

Kapp Ehf (Gardabaer, Iceland)

Frigoríficos del Morrazo (Balea, Spain)

Gasporc (Lleida, Spain)

Vili's Bakery (Adelaide, Australia)

Galores Cold (Panamá, Panamá)

Frutas Espax (Soses, Spain)

Accord Healthcare (Newcastle, UK)

Fowler Welch (Spalding, UK)

Gandras Energoefektas (Visaginas, Lithuania)

Lonja Pescados Mercamadrid (Madrid, Spain)

Agrícola La Goya (Parcona, Peru)

Thermo Fisher (Renfrew, UK)

William White Meats (Purfleet, UK)

Pensworth Dairy (Southampton, UK)



Production for world renowned brands



























































































































































































































See all references





See all installation photos





Sagrada Familia (Barcelona, Spain)

Alhambra (Granada, Spain)

Eiffel Tower (Paris, France)

IKEA (Badalona, Spain)

Ferrari (Las Rozas, Spain)

United Nations Palace (Geneva, Switzerland)

El Prat Airport (Barcelona, Spain)

JFK Airport (New York, United States)

Atocha Station (Madrid, Spain)

Lego Paseo de Gracia (Barcelona, Spain)

Louvre Museum (Paris, France)

National Theater (London, UK)

Apple Headquarters (London, UK)

Nike Paseo de Gracia (Barcelona, Spain)

Hugo Boss (Dublin, Ireland)

Zara (Milan, Italy)

Porsche (Stuttgart, Germany)

BBVA Headquarters (Bilbao, Spain)

Telefónica Factory (Madrid, Spain)

Würth factory (Kouvola, Finland)

Aston Martin F1 Team (Silverstone, UK)

BASF factory (Milan, Italy)

American Naval Base (Juffar, Bahrain)

Hilton Hotel (Addis Ababa, Ethiopia)

Disneyland (Paris, France)

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