airtècnics

Families User Manual

BIM

AIRTÈCNICS REVIT FAMILIES

MG, BB, LXL, MXW, DX

CONTENT

1. DESCRIPTION OF THE DOCUMENT

This document has been written as a user manual of the families of AIRTÈCNICS, with a wide vision on how the BIM families available by the manufacturer shall be used and focusing on one of the products (WINDBOX MG) with the aim to see an example.

To follow correctly this document, datasheets of every product of AIRTÈCNICS must be at disposal (available on the web[1]) to know about the product, the available sizes, the accessories and its compatibility, …

# 2. TECHNICAL DATA OF THE FAMILIES OF AIRTÈCNICS

These are some data that the user shall know before using these families:

1. **Software used:** Software Revit 2016 of Autodesk

2. **Language families:** English

3. **Template of family:** Metric Generic Model.rft

4. **Nomenclature to be used for each family:**

Brand_type of product_typ of heating

(WINDBOX Air Curtain): *AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)*

5. **Insertion point of the family:** By default, a family *metrical generic model* has two reference planes created. The plan view plane, and a base plane called reference level. Regarding the location of the family in plan it will be in the centre of the cross of these two planes, what will define the insertion point of the family in the project. In a front view, the lower part of the family will be positioned above the base level. See the example:

PLAN

FRONTAL
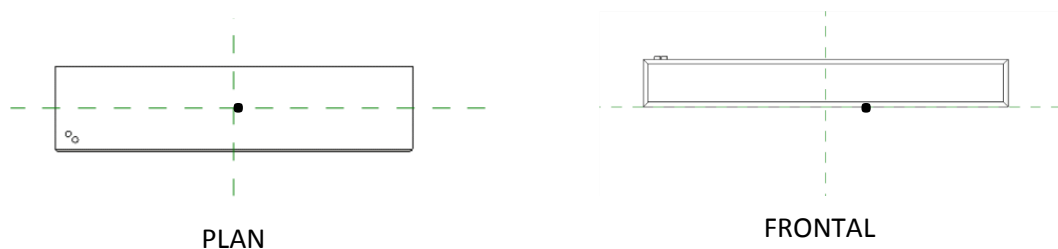
6. **Materials:** There is a library of AIRTECNICS with the materials pre-configured, so the user can use it when a concrete material is required. If the material were not available in the library, a new one can be created, just duplicate an existing one. There is a texture that shall be copied in a concrete address so the instructions of the file ReadMe.txt shall be followed.
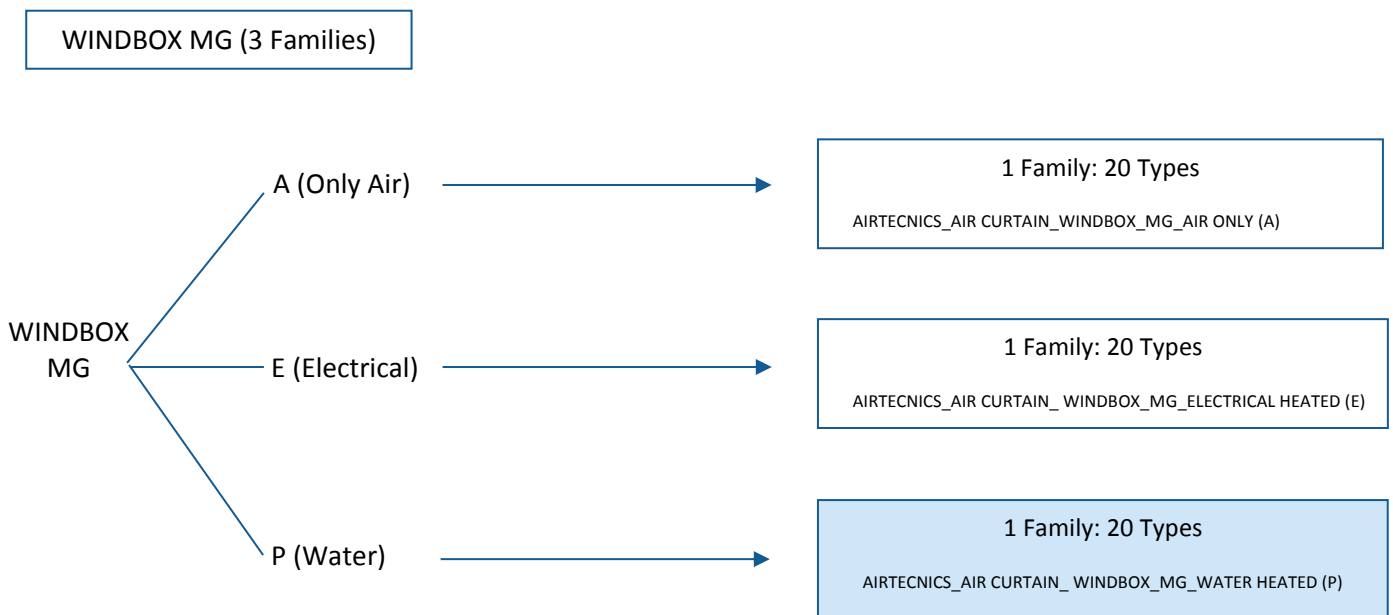
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[1] https://www.airtecnics.com/products

3. FAMILY WINDBOX MG (P)

3. FAMILY WINDBOX MG (P)

3.1 Diagram of the product

The product WINDBOX is used as an example of family for the development of this document, specifically the family *AIRTECNICS_AIR CURTAIN_WINDBOX MG_WATER HEATED (P).* This product is composed by three families with their respective types. The families are defined according to the heating (only air, electrical and water) and the types are defined depending on the length of the curtain and the ventilation power. The families and types of the product are defined hereafter:

WINDBOX MG (3 Families)

WINDBOX MG

A (Only Air)

1 Family: 20 Types

AIRTECNICS_AIR CURTAIN_WINDBOX_MG_AIR ONLY (A)

E (Electrical)

1 Family: 20 Types

AIRTECNICS_AIR CURTAIN_ WINDBOX_MG_ELECTRICAL HEATED (E)

P (Water)

1 Family: 20 Types

AIRTECNICS_AIR CURTAIN_ WINDBOX_MG_WATER HEATED (P)

This family has 20 Types:

```
AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)
    WINDBOX ECG 1000 P
    WINDBOX ECG 1500 P
    WINDBOX ECG 2000 P
    WINDBOX ECG 2500 P
    WINDBOX ECG 3000 P
    WINDBOX ECM 1000 P
    WINDBOX ECM 1500 P
    WINDBOX ECM 2000 P
    WINDBOX ECM 2500 P
    WINDBOX ECM 3000 P
    WINDBOX G 1000 P
    WINDBOX G 1500 P
    WINDBOX G 2000 P
    WINDBOX G 2500 P
    WINDBOX G 3000 P
    WINDBOX M 1000 P
    WINDBOX M 1500 P
    WINDBOX M 2000 P
    WINDBOX M 2500 P
    WINDBOX M 3000 P
```

It is categorised in Revit as a *Mechanical Equipment*.

Regarding instances, the following configurations are available selecting an option of each instance parameters subgroup. It will depend on each air curtain:

WINBOX MG

A (Only Air)	**E (Electrical)**	**P (Water)**
· Position	· Position	· Position
- Horizontal - Vertical Left - Vertical Right	- Horizontal - Vertical Left - Vertical Right	- Horizontal - Vertical Left - Vertical Right
· Others	· Heating	· Heating
- Supports - Materials and Finishes	- E Standard - E Limited 1/3 - E Limited 2/3	- P54 - 50/40ºC - 4 ROWS - P64 - 60/40ºC - 3 ROWS - P86 - 80/60ºC - 2 ROWS
	· Others	· Water pipes position
	- Supports - Materials and Finishes	- Water Pipes_P1 - Water Pipes_P2 - Water Pipes_P3 - Water Pipes_P4
		· Others
		- Supports - Materials and Finishes

3.2 Product description

The product WINDBOX MG of AIRTÈCNICS is a compact and robust air curtain of standard range with a timeless and eye-pleasing design. It's a suitable air curtain for all types of commercial and industrial entrances. The models "P" include a hot water coil. The models "E" include an electrical heating element with three stages and regulation. The models "A" do not have heating, only air. The models "EC" include low consumption efficient EC fans.

This product may have several finishing. The most requested materials for the housing of the curtain are included in the families. If the user cannot find the requested material, it can be created in the materials library of AIRTÈCNICS and assign it to the respective parameter. It can be seen in following sections of this manual.

3.3 Load of the family in the project

The process between the acquisition of the RFA family and the positioning and configuration inside a Revit project are shown in this section:

1. The families of AIRTÈCNICS are available in the web of the manufacturer.

2. Open a Revit Project and select an appropriate view for the insertion of the family.

3. Select the tab "Insert" and click the "Load family" icon. Select the family that has been previously downloaded.
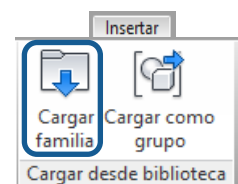
4. Once inserted, the family can be incorporated to the project. Select the tab "Architecture", select "Component" and click "Place a component".
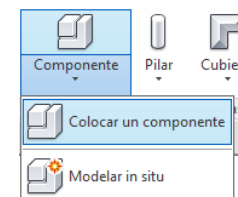
3.4 Placement of the families in the project

The families are created with no face or host, so they can be freely placed in the project. In the case of curtains Windbox, there are seven types of installation available:

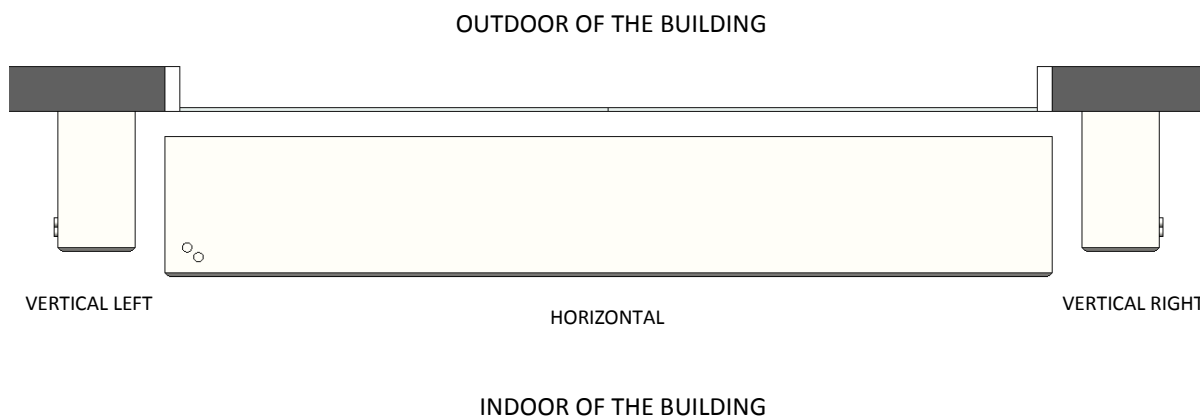1. <u>Horizontal</u> (by default). Select a Level before placing the family, and once placed select an *Offset* from the palette. If it were zero, it will be placed over the selected level. In case of the user would like to place also the support, only a length value regarding the parameter *Support Length* must be given. This support length starts from the housing of the curtain.

2. <u>Vertical left or Vertical right</u>. Select one of the two options in the palette Properties (*Vertical Left, Vertical Right*) before placing the family, according to the side of the door where the curtain will be installed (view from inside the building), select a Level and it will be placed over it.

In the following picture an example of the three possible positions of installation are shown:

General	⌃
· HEATING ·	-/ Select Heating /-
P54 - 50/40ºC - 4 ROWS	☐
P64 - 60/40ºC - 3 ROWS	☐
P86 - 80/60ºC - 2 ROWS	☑
· INSTALLATION CONFIGUR...	Free Hanging
Free Hanging	☑
With Inlet and Outlet Kits	☐
With Outlet Kits	☐
Ceiling Visible Surface	☐
Ceiling Invisible Surface	☐
Vertical Left	☐
Vertical Right	☐
· GRILLE TYPOLOGY ·	Grille W
W	☑
K	☐
KI	☐
· KITS CONFIGURATION ·	-/ Configure Length Kit /-
Kits Range	Max. 210 mm / Min. 160 mm
Outlet Kit Length	160.0
Inlet Kit Length	160.0
· OTHERS ·	-/ Select Supports - Inst.M...
Aspiration/Maintenance Sp...	☐
Supports (Horizontal)	☐
Supports Length	500.0

OUTDOOR OF THE BUILDING

VERTICAL LEFT   HORIZONTAL   VERTICAL RIGHT

INDOOR OF THE BUILDING

In addition, the needed space for the inlet air and the maintenance of the curtain can be selectable to be shown, with the aim to be placed correctly and not collide with any other object. The parameter *Aspiration/Maintenance Space* can be activated or deactivated for each air curtain.
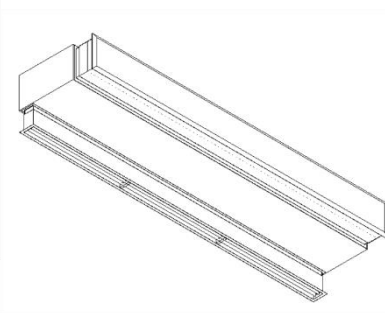
· OTHERS ·	-/ Select Supports - Inst.Mai...
Aspiration/Maintenance Space	☑

3. <u>Installation Configuration (Inlet and Outlet Kits)</u>. There are five different configurations for the *Horizontal* installation. They can be selected using the following selectors:

☑ Free Hanging
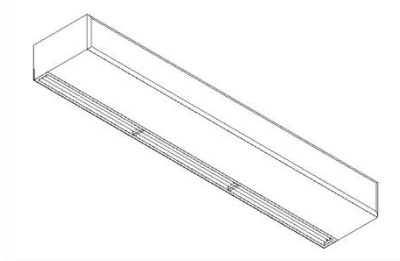
☑ With Inlet and Outlet Kits

☑ With Outlet Kits
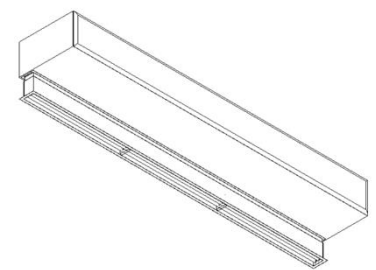
☑ Ceiling Invisible Surface
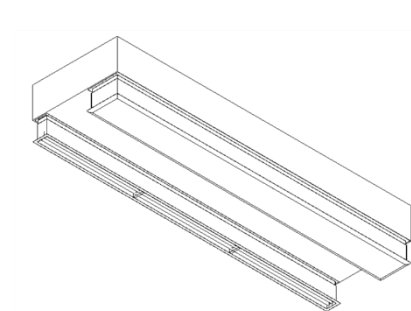
☑ Ceiling Visible Surface
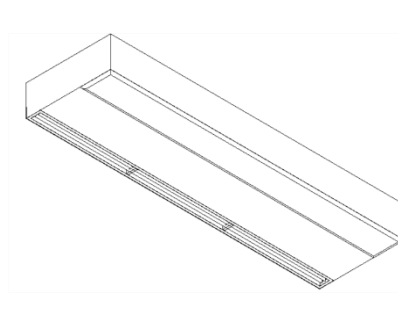
By adding different accessories, the air curtain can be installed inside the false ceiling with visible or invisible surface.
There is also available the *Free* Hanging installation, where all the air curtain is visible.

4. <u>Kits length.</u> The Kits activation requires to specify the length from 160 mm. up to 210 mm. The length of each kit can be different.

☑ With Inlet and Outlet Kits

☑ Free Hanging

| Outlet Kit Length | 160.0 |
| Inlet Kit Length | 160.0 |

| Outlet Kit Length | 210.0 |
| Inlet Kit Length | 210.0 |
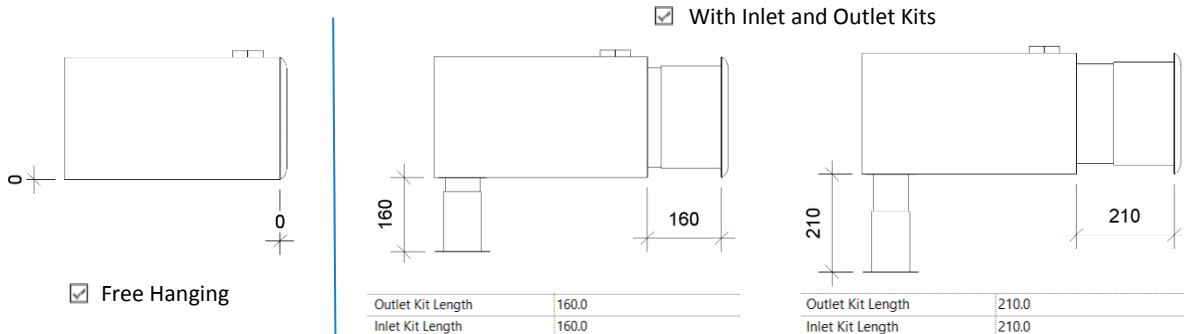
3.5 Selection and configuration of the product in the project

Once the family has been positioned in the project, the type, materials, heating type and the pipe position can be configurable. Select the family and the following box will be displayed in Properties.

In this picture, all the selectable types are shown, which depends on the length (L) of the curtain and on the fan power.

Properties ✕

AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)
WINDBOX M 3000 P

Search 🔍

AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)

WINDBOX ECG 1000 P
WINDBOX ECG 1500 P
WINDBOX ECG 2000 P
WINDBOX ECG 2500 P
WINDBOX ECG 3000 P
WINDBOX ECM 1000 P
WINDBOX ECM 1500 P
WINDBOX ECM 2000 P
WINDBOX ECM 2500 P
WINDBOX ECM 3000 P

Properties

AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)
WINDBOX M 3000 P

Mechanical Equipment (1)   ∨ Edit Typ

Constraints	
Level	Level 1
Host	Level : Level 1
Offset	0.0
Materials and Finishes	
Material Curtain	AIRTECNICS_White RAL 9016
Electrical - Loads	
Current Fans	5.70 A
Power Fans	1284.00 W
Voltage	230.00 V
Apparent Load	649.00 VA
Power Fans Factor	0.980000
Control	CW-5AW-IR
Panel	
Circuit Number	
Mechanical	
System Classification	Power,Hydronic Supply,Hydro...
System Name	
Mechanical - Flow	
Airflow	1383.33 L/s
Heating Capacity	33240.00 W
Water Drop Pressure	6590.00 Pa
Water Coil Rows	2
Water Coil Volume	3.2 L
Water Flow Connector	0.42 L/s
Dimensions	
Depth	475.0
Height	260.0
Length	3000.0
Mainfolds	2x3/4" F
D_Pipping_Connector	20.0 mm
Identity Data	
Product Description	Self-supporting casing cons...
Product Reference	M 3000 P86
Product Heating	P86 - 80/60ºC - 2 ROWS
Image	
Comments	
Mark	1
Phasing	
Phase Created	New Construction
Phase Demolished	None

Keeping in the same box, all the instance parameters every family has can be seen:

Materials and Finishes: Allows to choose a finish for the housing and other one for the panels of the curtain. There is a library of materials where the new materials can be added/created if it were necessary.

Electrical - Loads: Gives the electrical information related to the selected product.

Mechanical - Flow: Gives the heating information, the airflow and, also, the weight and the noise level of the selected product.

Dimensions: In addition to the dimensional information, it allows to give a length to the supports when the curtain is positioned horizontally, in the parameter *Supports Length.*

Identity Data: A description of the instance, the concrete reference and the type of heating selected are shown in this group.

General	
· HEATING ·	-/ Select Heating /-
P54 - 50/40ºC - 4 ROWS	☐
P64 - 60/40ºC - 3 ROWS	☐
P86 - 80/60ºC - 2 ROWS	☑
· INSTALLATION CONFIGURA...	Free Hanging
Free Hanging	☑
With Inlet and Outlet Kits	☐
With Outlet Kits	☐
Ceiling Visible Surface	☐
Ceiling Invisible Surface	☐
Vertical Left	☐
Vertical Right	☐
· GRILLE TYPOLOGY ·	Grille W
W	☑
K	☐
KI	☐
· KITS CONFIGURATION ·	-/ Configure Length Kit /-
Kits Range	Max. 210 mm / Min. 160 mm
Outlet Kit Length	160.0
Inlet Kit Length	160.0
· PIPES POSITION ·	-/ Select Pipes Position /-
Water Pipes_P1	☐
Water Pipes_P2 (Std)	☑
Water Pipes_P3	☐
Water Pipes_P4	☐
· OTHERS ·	-/ Select Supports - Inst.Mai...
Aspiration/Maintenance Space	☐
Supports (Horizontal)	☐
Supports Length	500.0
Data	
Noise Level (dB(A))	60.000000
Weight	103.000 kg

General: The configuration of the product is completed in this group. There are six groups:

1. HEATING: The user shall choose the type of heating, which depends on each family.
2. INSTALLATION CONFIGURATION: Allows the user to choose the air curtain's position and installation while it is being placed or once it is placed.
3. GRILLE TYPOLOGIY: Allows the user to select the kind of inlet grille.
4. KITS CONFIGURATION: It has the length of Inlet and Outlet Kit.
5. PIPES POSITION: Allows to choose one of the four possible positions for the two water pipes (only for the family of water heating).
6. OTHERS: If it is necessary, the space for the inlet and the maintenance can be shown (or hidden) when choosing the parameter.

Type Properties

Family:	AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)	Load...
Type:	WINDBOX M 3000 P	Duplicate...
		Rename...

Type Parameters

Parameter	Value
Electrical - Loads	
Frequency	50.00 Hz
Cable	CB7
Remote Control	IR-AIR
Mechanical - Flow	
Fans Stage	5
Dimensions	
L	3000.0
Identity Data	
Manufacturer	AIRTECNICS
Model	Air curtain Windbox M,G P
Product Size	3000
URL	https://www.airtecnics.com/products/air-curtain-windbox-m-g
URL_Datasheet	https://www.airtecnics.com/download/file/1952/windbox-mg.pdf
URL_Manufacturer	https://www.airtecnics.com
Type Comments	Self-supporting casing construction made of galvanized steel plate, finished in structural e
Keynote	
Assembly Code	
Cost	
Description	
Type Image	<None>
Assembly Description	
Type Mark	
OmniClass Number	23.75.70.21.17
OmniClass Title	Air Curtains
Code Name	
IFC Parameters	
IfcExportAs	IfcCoilType
IfcExportType	WATERHEATINGCOIL
Model Properties	
BIMETRICAL Category	Coil
Family Version	4.0
Review Date	12/18
Revit Version	Revit 2016 - English
Created by	BIMETRICAL
BIMETRICAL	http://www.bimetrical.com/

| << Preview | | OK | Cancel | Apply |

The type parameters the family has are shown in *Edit Type,* inside the *Properties* box. These are the main groups:

Electrical/Mechanical: In this group there are some common technical data for the instances such as the voltage, frequency or the type of control and cable.

Dimensions: Shows the Length of the product. This one will change depending on the type selected.

Identity Data: This group of parameters shows information regarding the manufacturer, the concrete model, description of the product, URLs, classifications, …

IFC Parameters: Information regarding the classification IFC of the family, control data, reviews,…

Model Properties: This group of parameters shows the information about the control of the Revit's Family: created by, versions and review date.

3.6 *Product Reference* and *Product Heating*

The following instance parameters generate automatically the complete reference of the product according to the selected type and the chosen heating configuration:

Selected Type:

AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P)
WINDBOX M 3000 P
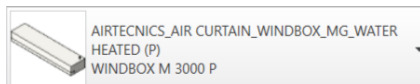
Selected Configuration:

General	
· HEATING ·	-/ Select Heating /-
P54 - 50/40ºC - 4 ROWS	☐
P64 - 60/40ºC - 3 ROWS	☐
P86 - 80/60ºC - 2 ROWS	☑

References

Product Reference	M 3000 P86
Product Heating	P86 - 80/60ºC - 2 ROWS

When an incompatibility exists between the selected accessories, the following message will be displayed:

General	
· HEATING ·	-/ Select Heating /-
P54 - 50/40ºC - 4 ROWS	☑
P64 - 60/40ºC - 3 ROWS	☑
P86 - 80/60ºC - 2 ROWS	☐

| Product Description	Consult Manufacturer
Product Reference	Consult Manufacturer

4. LOGICAL CONNECTION OF THE CONNECTORS

4.1 Water connectors

4.2 Electrical connectors

4. LOGICAL CONNECTION OF THE CONNECTORS

4.1 Water Connectors

The connectors are basically logical entities which allows to dimension the facilities of a project. The products of AIRTÈCNICS already have the connectors configured by default. For example, and following the example of the family *AIRTECNICS_AIR CURTAIN_WINDBOX_MG_WATER HEATED (P).rfa,* the type of connector is *Pipe Connector* and, in the case of the family water (P) WINDBOX MG, it is configured as below:
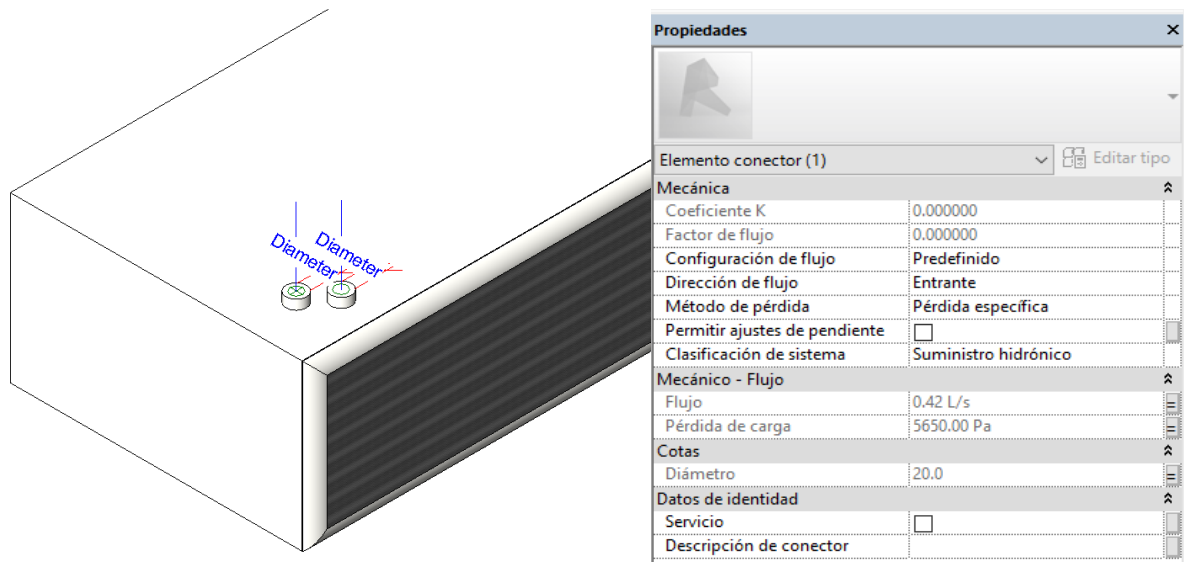
- **Flow configuration**: *Predefined*. Because of calculation reasons, the waterflow value which demands the curtain is predefined. Also, the outlet connector (with the same flow).
- **Direction of the flow**: *Inlet*. The flow enters through the connector because it is water supply.
- **Classification of the system**: *Hydronic Supply*.
- **Loss method:** *Specific loss*. It is specified depending on the flow.
- **Load loss**: Total load loss, associated to the parameter *Water Drop Pressure*.
- **Flow**: Total Flow inside the air curtain, associated to the parameter *Water Flow Connector*.

Possible positions for the water pipes:

P1

P2

P3

P4
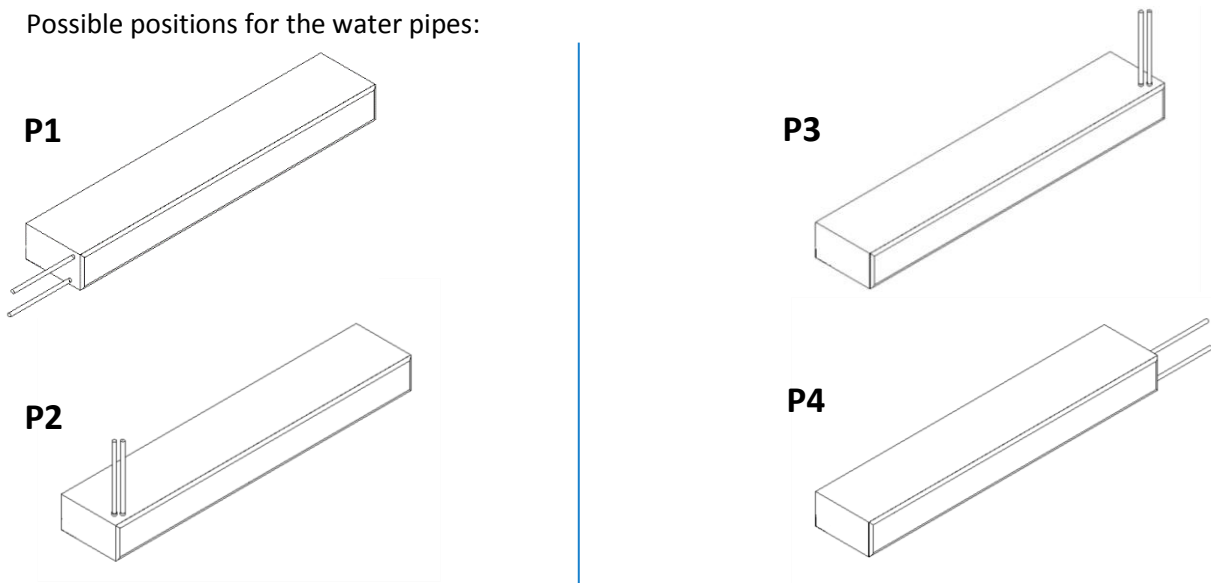
4.2 Electrical Connector

The electrical connector of the three families of the product WINDBOX MG is always located in the same point of the air curtain. Following the same example that with the water connectors:
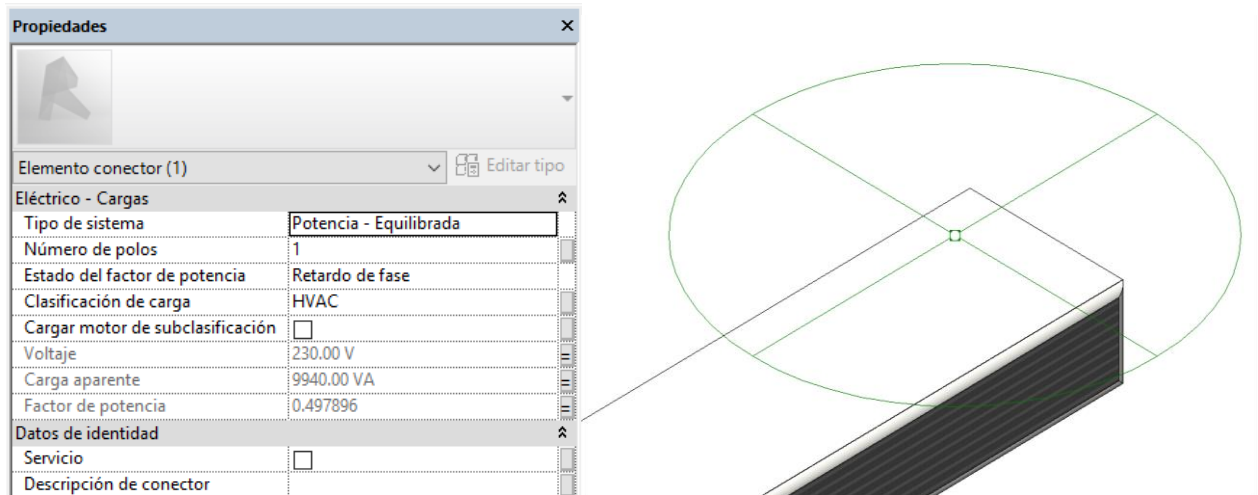
- **Type of system:**
  - o   Electrical heating family: Power – Unbalanced (only ventilation line)
  - o   Without heating and water heating families: Power – Balanced
- **Number of poles:**
  - o   Electrical heating family: 3 poles
  - o   Without heating and water heating families: 1 pole
- **Status of the power factor:** Phase delay.
- **Classification of load:** HVAC has been defined as a constant calculation method and a demand factor of the 100%.
- **Voltage:**
  - o   Electrical heating family: 400V
  - o   Without heating and water heating families: 230V
- **Phase 1,2,3 of apparent load:** Depending on the parameter(s) of apparent load.
- **Power factor:** Value of the relation between the fan power (kW) and the apparent load of them (VA). In case of electrical type this field can be empty, and an informative field is added with the fan power factor.

5. SCHEDULES

5. SCHEDULES

Once the modelling is finished, the information can be extracted by different means. One of them is with the "Schedules". Hereafter, some examples of schedules that the user can create following the steps are shown:

1. Go to the "Project browser" and click with the right button in "Schedules/Quantities" and chose de option "New Schedule/Quantities".
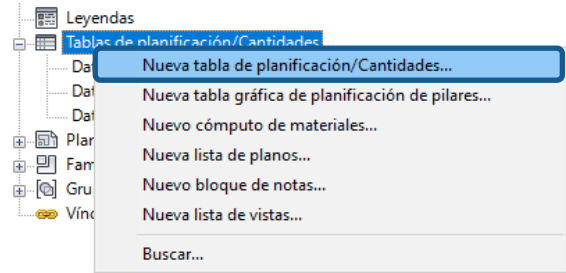
2. First, the user must choose the category. In this case, "Mechanical Equipment".

   Once the schedule has been created, the parameters from which the information must be extracted shall be configured. The parameter in the list on the left side must be selected, and then click in the icon "Add-->". It allows to filter, order and classify the parameters, and to change the appearance of the schedule or change the units of the parameters. In short, it allows to adapt the schedule according to the information the user wants to present.

   Consider that calculated values of the parameters to be inserted in the schedules can also be created. For example, to obtain the *Position* of the curtain according to the selectors selected:
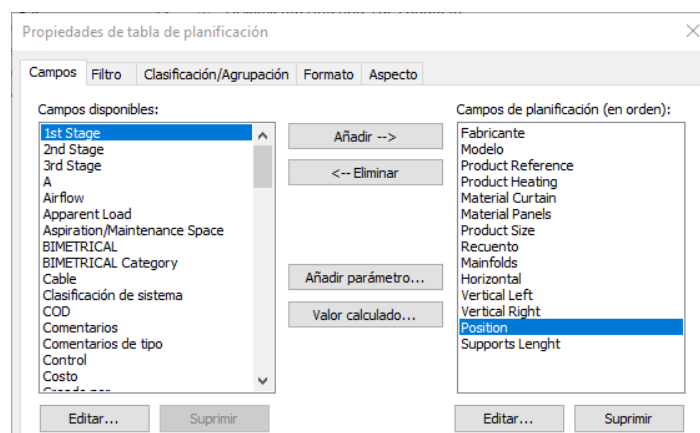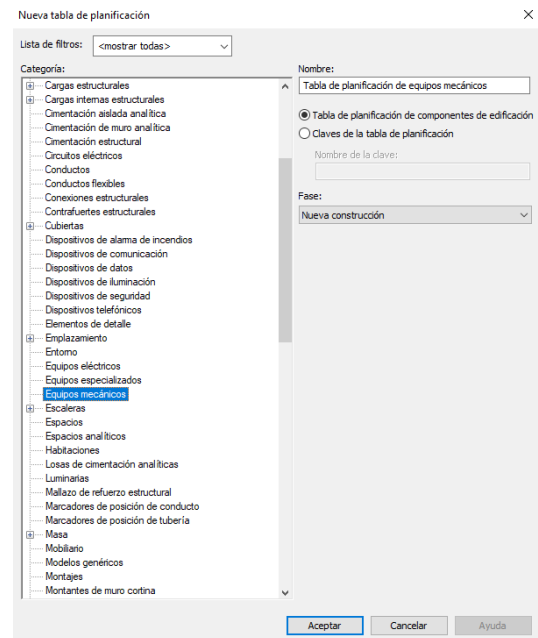
Fórmula: if(Horizontal, "Horizontal", if(and(Vertical Left, not(Horizontal)), "Vertical Left", "Vertical Righ"))

3. Examples

Schedule: Quantities

<01-AIRTECNICS - Air Curtains - WINDBOX MG_Quantities>									
A	B	C	D	E	F	G	H	I	J
Manufacturer	Model	Product Reference	Product Heating	Material Curtain	Product Size	Mainfolds	Support Length	Position	Count
AIRTECNICS	Air curtain Windbox M,G P	M 2000 P54	P54 - 50/40ºC - 4 ROWS	AIRTECNICS White RAL	2000	2x1" M	0	Vertical Right	1
AIRTECNICS	Air curtain Windbox M,G P	M 1500 P86	P86 - 80/60ºC - 2 ROWS	AIRTECNICS White RAL	1500	2x3/4" F	850 mm	Horizontal	1
AIRTECNICS	Air curtain Windbox M,G P	M 2500 P86	P86 - 80/60ºC - 2 ROWS	AIRTECNICS White RAL	2500	2x3/4" F	0	Vertical Left	1
AIRTECNICS	Air curtain Windbox M,G P	M 3000 P86	P86 - 80/60ºC - 2 ROWS	AIRTECNICS White RAL	3000	2x3/4" M	1500 mm	Horizontal	1
AIRTECNICS	Air curtain Windbox M,G P	M 2500 P86	P86 - 80/60ºC - 2 ROWS	AIRTECNICS White RAL	2500	2x3/4" M	0	Vertical Left	1
AIRTECNICS	Air curtain Windbox M,G P	M 3000 P54	P54 - 50/40ºC - 4 ROWS	AIRTECNICS White RAL	3000	2x1" M	0	Vertical Right	1
AIRTECNICS	Air curtain Windbox M,G P	M 1500 P86	P86 - 80/60ºC - 2 ROWS	AIRTECNICS White RAL	1500	2x3/4" M	0	Vertical Left	1
AIRTECNICS	Air curtain Windbox M,G P	M 1500 P64	P64 - 60/40ºC - 3 ROWS	AIRTECNICS White RAL	1500	2x3/4" M	1000 mm	Horizontal	1

Schedule: Technical Data

<02-AIRTECNICS - Air Curtains - WINDBOX MG_Technical Data>														
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
Manufacturer	Model	Product Reference	Product Heating	Current Fans	Power Fans	Water Flow	Water Drop Pressure	Mainfolds	Noise (dB(A))	Weight	Control	Cable	Control	Count
AIRTECNICS	Air curtain Windbox M,G P	M 2000 P54	P54 - 50/40ºC - 4 ROWS	3.80 A	0.86 kW	0.42 L/s	2060.0 Pa	2x1" M	58	69.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 1500 P86	P86 - 80/60ºC - 2 ROWS	2.85 A	0.64 kW	0.17 L/s	760.0 Pa	2x3/4" F	57	53.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 2500 P86	P86 - 80/60ºC - 2 ROWS	4.75 A	1.07 kW	0.33 L/s	3810.0 Pa	2x3/4" F	59	86.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 3000 P86	P86 - 80/60ºC - 2 ROWS	5.70 A	1.28 kW	0.42 L/s	6590.0 Pa	2x3/4" M	60	103.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 2500 P86	P86 - 80/60ºC - 2 ROWS	4.75 A	1.07 kW	0.33 L/s	3810.0 Pa	2x3/4" M	59	86.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 3000 P54	P54 - 50/40ºC - 4 ROWS	5.70 A	1.28 kW	0.69 L/s	5660.0 Pa	2x1" M	60	103.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 1500 P86	P86 - 80/60ºC - 2 ROWS	2.85 A	0.64 kW	0.17 L/s	760.0 Pa	2x3/4" M	57	53.00 kg	CW-5AW-IR	CB7	IR-AIR	1
AIRTECNICS	Air curtain Windbox M,G P	M 1500 P64	P64 - 60/40ºC - 3 ROWS	2.85 A	0.64 kW	0.17 L/s	6460.0 Pa	2x3/4" M	57	53.00 kg	CW-5AW-IR	CB7	IR-AIR	1

6. COMPATIBILITY PRODUCT TABLE

Windbox MG
Windbox BB
Windbox L,XL
Windbox DX
Recessed Windbox
Recessed Windbox BB
Recessed Windbox DX
Dam
Recessed Dam
Dam DX
Recessed Dam DX
Invisair
Recessed Compact
Kool
Fly K
Fly KBB
Fly KL,XL
Rund
Smart
Smart DX
Maxwell
Triojet

6. COMPATIBILITY PRODUCT TABLE

On this table there are the compatibilities of the characteristics between WINDBOX MG and other products, regarding their configuration on each Revit Family.

PRODUCTS	Size / Type Configuration	(Inlet and Outlet) Kits Configuration	Vertical Configuration	Inlet Grille type Configuration	Materials and Finishes Configuration	Only Air Configuration	Electrical Configuration	Water Configuration	Horizontal Supports	Manteanance Area Configuration
Windbox MG	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windbox BB	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windbox L,XL	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Windbox DX	✓	✓	X	✓	✓	X	X	X	✓	✓
Recessed Windbox	✓	X	X	X	✓	✓	✓	✓	✓	✓
Recessed Windbox BB	✓	X	X	X	✓	✓	✓	✓	✓	✓
Recessed Windbox DX	✓	X	X	X	✓	X	X	X	✓	✓
Dam	✓	X	✓	X	✓	✓	✓	✓	✓	✓
Recessed Dam	✓	X	X	X	✓	✓	✓	✓	✓	✓
Dam DX	✓	X	X	X	✓	X	X	X	✓	✓
Recessed Dam DX	✓	X	X	X	✓	X	X	X	✓	✓
Invisair	✓	X	✓	X	✓	✓	✓	✓	✓	✓
Recessed Compact	✓	X	X	X	✓	✓	X	X	✓	✓
Kool	✓	X	✓	✓	✓	✓	X	X	✓	✓
Fly K	✓	X	X	✓	✓	✓	X	X	✓	✓
Fly KBB	✓	X	X	✓	✓	✓	X	X	✓	✓
Fly KL,XL	✓	X	X	✓	✓	✓	X	X	✓	✓
Rund	✓	X	✓	X	✓	✓	✓	✓	✓	✓
Smart	✓	X	X	X	✓	✓	✓	✓	✓	✓
Smart DX	✓	X	X	X	✓	X	X	X	✓	✓
Mawell	✓	X	✓	X	✓	✓	✓	✓	✓	✓
Triojet	✓	X	X	X	✓	X	✓	X	✓	airtècnics

7. PRODUCT DISTICTIVE FEATURES: CONFIGURATION

7. PRODUCT DISTINCTIVE FEATURES

7.1 Windbox DX

In this variant of Windbox Air curtain with high energy savings heat pump, reduces up to 70% the consumption and the CO_2 emissions. (Include special connections to heat pump DX 1:1/VRF, Kit Interface 1:1/VRF modified for the air curtain, programmable control and direct expansion valve (some cases).

It has six different brand names: Daikin, Mitsubishi Electric, Toshiba, Hitachi, LG y Midea. Each brand has its own Family.
All the families have both systems: 1:1 and VRF. In case of Daikin the VRF system is called VRV, and Midea only has 1:1 system.

When a Family with a Heat Pump brand is selected, then appears more information on the Properties table:
- External Unit
- Kit 1:1 or VRF
- DX Control
- Expansion Valve

Datos	
External Ut. Reference	Not available
DX Controller	RBC-AMT32-E
DX Kit	MM-DXC010
Expansion Valve	MM-DXV280
Noise Level (dB(A))	60.000000
Weight	109.000 kg

DX/VRF Configuration

The configuration is made when the type is selected. So, when the type is chosen, the size, the system and the heating power are chosen too.
For example:
Air Curtain ECG **2500 DX27**-TO indicates:
- Size: 2500
- System: 1:1
- Heating Power: 27kW

Properties	
	AIRTECNICS_AIR CURTAIN_WINDBOX_MG_DX-VRF_ (TOSHIBA) WINDBOX ECG 2500 DX27-TO

Search

WINDBOX ECG 2500 DX27-TO
WINDBOX ECG 2500 VRF25-TO
WINDBOX ECG 2500 VRF29-TO
WINDBOX ECG 3000 DX27-TO
WINDBOX ECG 3000 VRF29-TO
WINDBOX ECM 1500 DX11-TO
WINDBOX ECM 1500 VRF12-TO
WINDBOX ECM 2000 DX16-TO
WINDBOX ECM 2000 DX19-TO
WINDBOX ECM 2000 VRF16-TO
WINDBOX ECM 2000 VRF19-TO
WINDBOX ECM 2500 DX21-TO
WINDBOX ECM 2500 DX24-TO

External Unit Configuration

All the models with 1:1 system allow to choose between single-phase and triple-phase external units.

· EXTERNAL UNIT ·	-/ External Unit Type /-
Single Phase (External Ut.)	☐
Triple Phase (External Ut.)	☑

Depending on the model there will be available only one Externla Unit single-phase or triple-phase. In this case will appear this message: "Only Triple Phase" or "Only Single Phase".

TRIPLE-PHASE

External Ut. Reference	RAV-SP2804AT8-E

SINGLE-PHASE

External Ut. Reference	Only Triple Phase

* It is showing that there is only available the triple-phase model.

7.2 Rund

The RUND air curtain is specially designed for doors of shops and buildings with high demands on design and low noise level.

RUND is a cylindrical, elegant and exclusive air curtain that can be installed in horizontal or vertical position. The RUND air curtain has multiple finishes and configurations that make it the decorative solution suitable for any interior design project.

Between the different option finishes, the user can choose:

- Material:
  o Galvanized Steel: painted in RAL 9016 or 9006 as standard, or in any other RAL color.
  o Brushed Stainless Steel
  o Polished Stainless Steel (mirror finish)

Different material finishes can be found at the materials library. Just follow the same steps as with the other models.

- Shape:
  o Faceted (with bends)
  o Circular (smooth, without bends)

The user can change the shape using the selector on the type properties table:

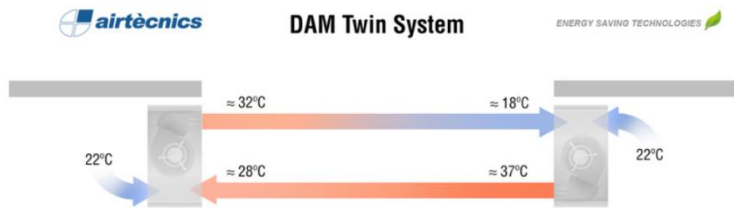| · EXT. COVER + GRILLE TYPE ·	-/ Select External Cover + Grille …
Faceted (Standard)	☑
Circular (Special)	☐
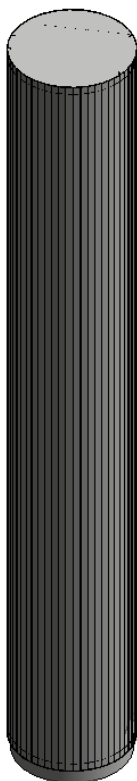
Faceted finish

Circular finish

7.3 Dam (Twin)

The DAM TWIN system consists on the placement of two vertical DAM air curtains face to face, one with the air jet ahead and other with the air jet behind. This way, at the end of each jet there is the inlet area of each air curtain that helps to close the air barrier. This creates a separation zone with double jet at the door entrance and is an optimal solution for installations with very adverse conditions.

The shown example is the Vertical Right Configuration of the Dam model, the modification changes the outlet position and adds a decorative panel.
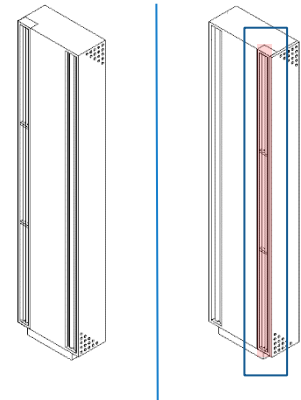In case of Vertical Left Configuration, the modification only adds the decorative panel.

It is important to choose the Dam Twin configuration on both air curtains.

Vertical Right Configuration

NORMAL

· POSITION ·	-/ Select Curtain Position /-
Horizontal	☐
Vertical Left	☐
Vertical Right	☑
DAM TWIN System	☐

TWIN

· POSITION ·	-/ Select Curtain Position /-
Horizontal	☐
Vertical Left	☐
Vertical Right	☑
DAM TWIN System	☑

7.4 Invisair

Specially designed for applications where the body of the air curtain is to be installed inside a column or bulkhead for architectural reasons.

In order to make easy the installation, this air curtain has a telescopic outlet which length goes from 160mm to 210mm. The length can be changed using a parameter on the type properties Schedule:

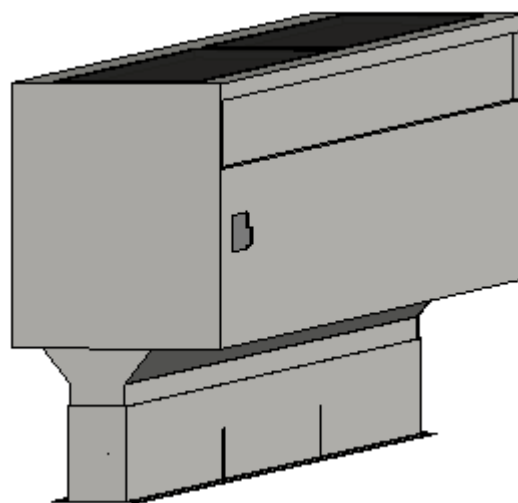| · KITS CONFIGURATION ·	-/ Configure Length Kit /-
Kits Range	Min 210 mm / Max. 260 mm
Outlet Kit Length	210.00

Also, the air curtain is available with two different outlet position. The standard with the outlet far from the door and the special with the outlet close to the door.

As with the other parameter, the special configuration can be chosen using a parameter on the type properties Schedule:

· POSITION ·	-/ Select Curtain Position /-
Horizontal	✓
Vertical Left	☐
Vertical Right	☐
Special Installation	☐
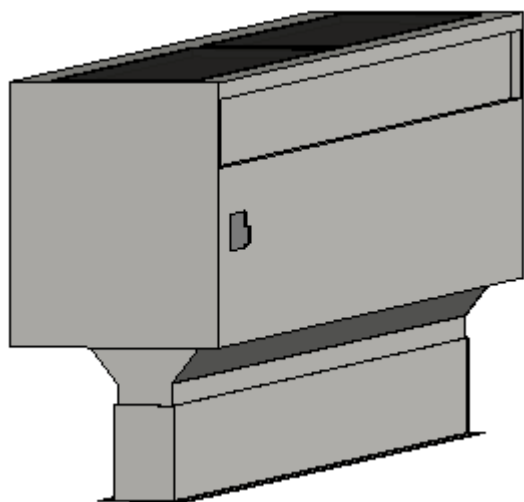
Standard configuration   Special configuration

7.5 Maxwell (With or Without Regulation)

In the one hand, Unheated or Water Heated Maxwell Air Curtain has the possibility to inbuild the regulation, or to remove it.

On the other hand, Electrical Heated Maxwell it is only available with inbuild regulation.
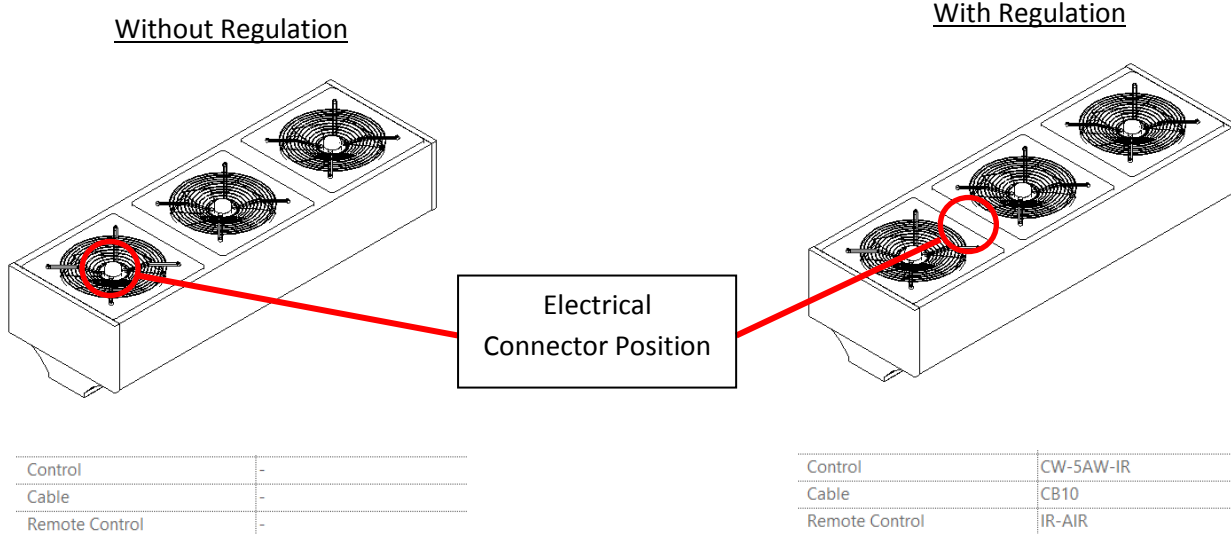
Regulation Configuration

The Revit Configuration is very easy and as usual by selectors placed on the Instances Properties.

Regulated models include a 5-speed control and place the Electrical Connector between the First and Second fan.

Non-regulated models place the Electrical Connector on the First fan and only runs at maximum speed.

Regulation Selector

· OTHERS ·	-/ Select Supports - Inst.Mai...
Regulated	☐
Not Regulated	☑

Without Regulation

With Regulation

Electrical Connector Position

Control	-
Cable	-
Remote Control	-

Control	CW-5AW-IR
Cable	CB10
Remote Control	IR-AIR

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