

**SMOKE EVACUATION / NATURAL DAYLIGHTING / VENTILATION**

# **ROOFLAM<sup>®</sup> ÉVOLUTION PNEUMATIQUE**

**CE**  
0333



**SKYDÔME<sup>®</sup>**  
La sécurité en toute clarté



ROOFLAM® ÉVOLUTION PNEUMATIQUE

TRANSPARENT DEFLECTOR  
IN OPTION

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is a unit used on sheeted roof for all types of natural smoke evacuation, example: public access buildings, industrial buildings, commercial buildings, offices, residential buildings, etc.

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is best used in large buildings which require smoke evacuation systems comprising several pieces of equipment.

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** opening control has to be connected by copper tubing to a pneumatic box (manual control).

## SMOKE EVACUATION / NATURAL DAYLIGHTING / VENTILATION

**ROOFLAM®** CE 0333

ÉVOLUTION PNEUMATIQUE



### 1 ADVANTAGES

**Integrated mechanisms:** the opening and closing mechanisms of **ROOFLAM® ÉVOLUTION PNEUMATIQUE** are completely contained within the height of the kerb in both open and closed position. This means that they do not impede the passage of other networks or the use of other equipment under the ceiling.

For opening dimensions **100 x 100** and **120 x 120** the **integrated mechanism** of **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is **fixed on the side** allowing easy roof access.

**A wide range of polyester bases:** **SKYDÔME®** has moulds for bases adapted to the main sheeted roof profiles present on the market. The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is integrated in the polyester base. The dimensions and reference lists of the bases, adapted to each profile, are summarized in the "Bases" brochures.

**Colour finish:** as option, the **ROOFLAM® ÉVOLUTION PNEUMATIQUE** can be delivered on a painted base in one of the main RAL colours.

**The Ventilation Kit option:** the **ROOFLAM® ÉVOLUTION PNEUMATIQUE** can be equipped, with an electric ventilation kit, an efficient and simple system for buildings' ventilation.

The opening and closing of the **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is executed thanks to a 300 mm electric cylinder, connected to the 220 volts electric supply. The electric closing is possible at any roof angle (patented system).

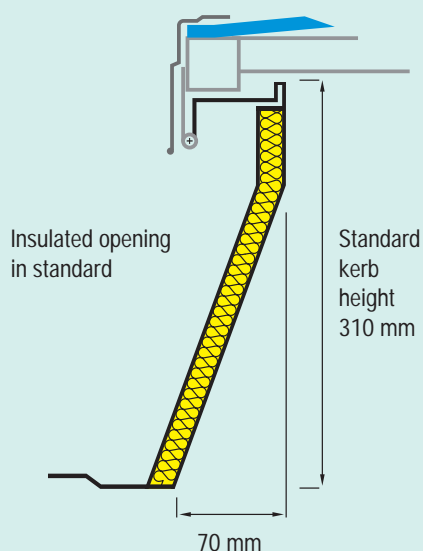


In case of fire, the system automatically disconnects, giving priority to the fire safety function. While closing after tests or fire, the electric ventilation system reconnects automatically, avoiding the manual operation on roof (put the electric cylinder on low position).

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE**, with the Ventilation Kit option, has the CE Product Certification.

## 2 TYPE OF KERB

### ROOFLAM® ÉVOLUTION PNEUMATIQUE



For the dimensions of the units and of the trimmer joist, refer to the brochure "Insulated and non insulated Bases".



## 3 COMPOSITION

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is made of:

- **A base + a support:**

- A **support** in galvanised steel fixed on the polyester unit. It will contain the opening frame, the mechanisms, the mechanical opening system and gas strut opening system.
- A polyester **base** with an angled insulated opening of 310 mm height. The top part of the base includes a 60 mm part allowing rain water evacuation.

- **A tubular opening frame in galvanised steel:** the opening frame is activated by a pneumatic cylinder for opening and closing. The frame is kept closed thanks to a mechanical lock mechanism including a visual closed position indicator.

- **Glazing:** as standard, 10 mm structured opalescent polycarbonate or double dome. As option, 10 and 16 mm structured polycarbonate, PCA triple- or quadruple-walled for a better thermal resistance, or aluminium cover. **Only the grill option guarantees the "1200 joules" test.** Simple dome or pyramid on request. All our glazings are anti-UV treated. To choose the type of glazing required, see the table "Glazing-Performance". The positioning of the glazing and the design of our units reduce the build-up of condensation as air circulates between the frame and the kerb.

- **Aluminium beading frame:** fixed by stainless steel screws and nylon washers. It holds the glazing in place and protects edges from lateral impacts. It improves the aesthetic appeal of **ROOFLAM® ÉVOLUTION PNEUMATIQUE**.

## 4 FUNCTION

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is connected to a pneumatic circuit linked to CO<sub>2</sub> cartridge control. Pressure on the circuit from ground level activates the pneumatic cylinder, allowing the release of the cylinder head and the opening of the unit to 155°. In case of fire, for automatic opening when the temperature rises, a thermal fuse is proposed as option, with a cartridge and bulb calibrated at the desired release temperature, on the **ROOFLAM® ÉVOLUTION PNEUMATIQUE**.

The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** is closed again using a CO<sub>2</sub> cartridge control in case of only fire function, or with the air compressor network if the installation is working on ventilation system.

**The thermal fuse is imposed by the norm NF EN12101-2 on all units, apart of specific restrictions: (contact us).**

## 5 GLAZING PERFORMANCE

TYPE OF GLAZING	THERMAL TRANSMISSION U (W/m <sup>2</sup> °C)	LIGHT TRANSMISSION (%)	FIRE CLASSIFICATION*	ACOUSTIC (db (A))
Double Domes PMMA (Polymetacrylate methyl)	3.1	76	Test in progress (M4)	19
10 mm structured polycarbonate - Clear	3.1	85	Bs1do	17
10 mm structured polycarbonate - Opal	3.1	62	Bs1do	17
10 mm structured polycarbonate - 4-walled Opal	2.5	55	Bs1do	17
16 mm structured polycarbonate - Opal	2.3	57	Bs1do	21
Aluminium cover 10	3.1	0	Test in progress (M0)	17
Aluminium cover 20	0.98	0	Test in progress (M0)	-
Aluminium cover 60	0.6	0	Test in progress (M0)	24

For other types of glazing: see the datasheet on Optional Functions

\* Euroclass Classification

( ) Former Fire classification

## 6 VENTILATION PERFORMANCE

OPENING cm x cm	Av (GEOMETRIC SURFACE) in m <sup>2</sup>	Aa (OPENING SURFACE) HEIGHT 310 mm in m <sup>2</sup>
100 x 100*	1.30	0.87
120 x 120*	1.80	1.20
140 x 140	2.37	1.60
150 x 150	2.69	1.82
160 x 160	3.03	2.05
100 x 150	1.87	1.25
100 x 200	2.44	1.64
120 x 200	2.87	1.95
120 x 250	3.54	2.41
140 x 200	3.30	2.24

\* Side fixed mechanism

## 7 APPROVAL

Laboratory tests guarantee that the **ROOFLAM® ÉVOLUTION PNEUMATIQUE** resistance and performance levels conform to the most stringent current regulatory standards when installed in accordance with current regulation DTU 43-3. The **ROOFLAM® ÉVOLUTION PNEUMATIQUE** has the Product Certification CE NF EN 12101-2 N° 0333 CPD219 017 with all our glazings (see table), including with the safety options:

- Position contacts;
- Thermal fuse.

The conformity certifications of the norm NF EN 12101-2, 1200 joules and fire rating data are available on our website: [www.skydome-axt.com](http://www.skydome-axt.com) under the heading "Espace Partenaires" (Partner Information).

## 8

## PERFORMANCES

LOADS Kg/m <sup>2</sup>	WIND LOADING (depression test)	RELIABILITY TEST	HEAT RESISTANCE
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From 25 to 50 kg/m<sup>2</sup>  
depending on the glazing

WL 1500

Re 1000

B 300

In standard, the ROOFLAM® ÉVOLUTION are of type B and T(00)

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## MAXIMUM ACCEPTABLE LOADS

OPENING (mm)	PCA		DOUBLE DOME		ALU COVER	
	SL in kg/m <sup>2</sup>	Mechanism	SL in kg/m <sup>2</sup>	Mechanism	SL in kg/m <sup>2</sup>	Mechanism
100 x 100	50	Side	50	Side	50	Side
120 x 120	50	Side	25 / 50	Side / Centre	25 / 50	Side / Centre
140 x 140	50	Centre	50	Centre	50	Centre
150 x 150	50	Centre	50	Centre	50	Centre
160 x 160	50	Centre	50	Centre	50	Centre
100 x 150	50	Centre	50	Centre	50	Centre
100 x 200	50	Centre	50	Centre	50	Centre
120 x 200	50	Centre	50	Centre	50	Centre
120 x 250	50	Centre	–	–	–	–
140 x 200	50	Centre	–	–	–	–

In standard, the ROOFLAM® ÉVOLUTION are SL25

### Reminder IT 246: Article 3.8 Characteristics of smoke evacuation units

“The smoke evacuation units of reliability class **Re 300** (300 cycles of security process).

The bi-function units, used for ventilation, are opened 10 000 times during the ventilation tests.

The classification of the snow load is **SL 250** (25 daN/m<sup>2</sup>) for altitudes lower or equal to 400 m,

**SL 500** (50 daN/m<sup>2</sup>) for altitudes over 400 m...

The units are inside temperature class **T00** (0°C) and heat resistance class **B<sub>300</sub> 30** (300° during 30').”






## 10

## OPTIONS

- Grill tested to 1200 joules
- Painted grill tested to 1200 joules
- Position contacts
- Domes 1200 joules
- Domes, pyramid domes
- PCA 10 black, PCA 16, etc
- Aluminium cover 10-20-60

## 11

## CONTROLS

- CO<sub>2</sub> boxes for opening / closing 
- Two-zone CO<sub>2</sub> boxes, 2 openings / 1 closing 
- Copper network
- CO<sub>2</sub> boxes+ventilation 
- See Controls Datasheet

Installation should be carried out in accordance with current regulations. Decks should be sound and resistant and should conform to the requirements of current decking standards and of the installation guide. Maximum roof slope: 25°, i.e. 45%. The hinged side of the unit must be parallel to the slope for square openings, and perpendicular to the slope for rectangular units (see installation notice).

**Fixing:** in accordance to the current DTU standards and the norm NFP 37.417, the base has to be installed on a trimmer-joist. The base has to be fixed on wood, by screwing or bolting, on concrete, by pegging, and on steel by screwing.

**Waterproofing seal:**

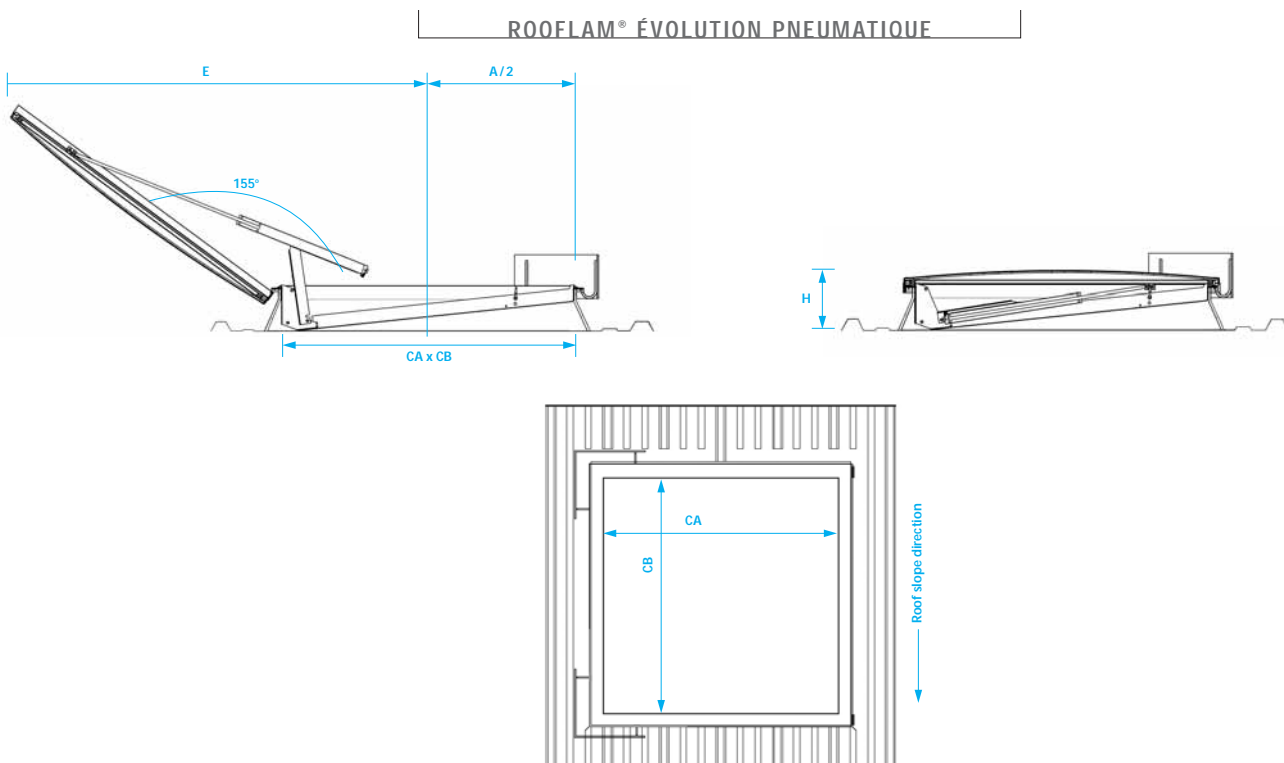
- Through a transverse installation under and above the existing roof, in accordance to the norm NFP 37.417.

**Maintenance:** the installation must be maintained at regular intervals and preventive maintenance check should be scheduled for at least once a year (refer to current regulations for the type of building).

The installation notice of **ROOFLAM® ÉVOLUTION / ÉVOLUTION XL PNEUMATIQUE** is available on our website: [www.skydome-axt.com](http://www.skydome-axt.com) under the heading "Espace Partenaires" (Partner Information).

DIMENSION OF OPENING CA x CB* (cm)	E (cm)	CH (cm)		WEIGHT WITH GRILL (KG)	
		in DD	in PCA	in DD	in PCA
100 x 100	165	55	41	62	57
120 x 120	195	57	41	73	68
140 x 140	220	60	41	85	82
150 x 150	235	65	41	104	88
160 x 160	250	65	41	105	91
100 x 150	165	67	41	82	72
100 x 200	165	55	41	95	83
120 x 200	195	–	41	–	99
120 x 250	195	–	41	–	102
140 x 200	220	–	41	–	119

\*When CA = CB the hinges are on side CB (on right). When CA ≠ CB the hinges are on side CA (on bottom)



DÉPARTEMENT ÉCLAIREMENT ZÉNITHAL ET DÉSENFUMAGE EN CAS D'INCENDIE D'AXTER

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SKYDÔME UNE ENTREPRISE DU DÉPARTEMENT DE L'AISNE

