Installation and maintenance instructions

SKYBAIE® Pneumatic

Designation and commercial reference: SKYBAIE ® Pneumatic

Certificate No. : 0333 CPR 219085

DOP SPN

Year of certificate: 2015

Reference standard: NF EN 12101-2 / NF S 61-937-1 / NF S 61-937-7 / NF S 61-937-8

Certification rule: CE 219 / NF 537

Warning: This notice does not constitute a contractual document; the manufacturer reserves the right to make without notice any modification he deems useful.

Certifying body :
AFNOR Certification
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CE 0333

This mark certifies:
Compliance with standard
NF EN 12101-2

NF 537
DISPOSITIFS D'ÉVACUATION
NATURELLE DE FUMÉES
ET DE CHALEUR

This mark certifies:
- Compliance with standard NF S 61-937-1 and NF S 61-937-7
- The values of the characteristics announced in this sheet
- Compliance with the rules of certification NF 537

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1. Identification:

Range Name: SKYBAIE ®

Commercial reference: SKYBAIE ® Pneumatique

Type of DENFC Assembly: Facade ☒
Roof ☐

Product certifications CE : ☒ Yes ☐ No
NF : ☒ Yes ☐ No

Descriptive:
The SKYBAIE ® Pneumatic is a façade frame for the evacuation of smoke and heat and natural ventilation, opening at an angle of 60° -5°+10° and equipped with the necessary components for its opening. It is powered by pneumatic energy within the meaning of standard NF EN 12101-2. The availability of the energy source must be ensured.

2. Possible variants in the range:

- Chassis:
  - Aluminium frame and opening
- Fills:
  - Glass
  - Cellular polycarbonate thickness 16 to 56 mm (transparent, opal, opaque)
  - Opaque hood
- Opening weight:
  The weight of the maximum opening with its filling ≤ 70 kg
- Options:
  - Position switch
  - Air intake

3. Characteristics:

1. General characteristics of Safety Actuated Devices (SARs):

- A D.A.S. must not issue an order
- Devices for checking the safety and/or waiting positions of the D.A.S.
- Unblocking energy external to the D.A.S.
- Functional independence of the self-control and remote control
- No remote reset if passing in safety position by self-control
- Rearmament by remote control only if the energy to the previous rearmament has been interrupted
- End-of-life damping
- Type B or type A if height of the component to be handled less than or equal to 2.50 m from the ground.

2. General characteristics of the constituents:

- Control of the positions of the D.A.S (if presence of a position contactor).
- Class III for electrical equipment operating under very low safety voltage (TBTS)
- Isolation of electrical circuits in TBTS and electrical circuits of other equipment
- Minimum protection class IP 42
- Presence of the main connecting device
- Specific TBTS connection device
- Minimum electrical characteristics of position contacts
- Independence of control electrical circuits with other circuits
- Test pressures of pneumatic equipment

3. Wind load classification:

- The DENFC is classified in the following category: WL 1500

The designation 1500 represents the test wind load expressed in Pa.:

4. Reception – storage:

Make sure in the presence of the carrier that the window is not cracked or broken by opening in the center of the package.
In case of deterioration of the packaging, carry out a complete check of the outlet (a reservation a posteriori will not be accepted).
Storage is preferably carried out in the transport position and in the original packaging away from bad weather and dirt.

5. Unpacking – handling:

Take care not to scratch the faces of the profiles with a cutting tool. Proceed through the chassis edge. Handle the whole by the glazing using suction cups in accordance with the safety instructions of use.

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6. The range:

The Skybaie® entry characteristics are available on the CE marking label affixed to the sheet and are visible with the open chassis.

Below is the summary table of opening and closing pressures.

SIZE		OPENING 60°				
		Opening weight max. 70 kg				
Hopper* H x W	Opening interior** Hpa x Lpa	Opening pressure	Close pressure	Consumption per chassis***	Cartridge for CO_2 box	
mm x m m	m mx m m	Bars	Bars	Nl to 10 bar	Opening	Closure
700 x 7 0 0	530 x 530	8	7	2.2		30g
8 00x 8 0 0	630 x 630	8	7	2.8		30g
900 x 900	730 x 730	8	9	2.8		30g
1000 x 1000	830 x 830	8	10	4		30g
10 00 x 2000	830 x 1830	8	14	4	30g	60g
1100 x 11 0 0	930 x 930	8	12	4		30g
1200 x 1200	1030 x 1030	8	14	4		60g
1200 x 24 0 0	1030 x 2230	8	14	4		60g
1400 x 1400	1230 x 1230	8	14	4.6		60g
1500 x 15 0 0	1330 x 1330	8	15	4.6		60g
1600 x 1600	1430 x 1430	8	15	4.6		60g

* "H" is the overall height of the device
Max H = 1600
"L" is the overall width of the device.
L maxi = 2400 or for H > 1200: L = 4800 – 2 x H

** Lpa = width of air passage expressed in mm (at the level of the dormant frame), side parallel to the joints.
Hpa = air passage height expressed in mm (at the level of the dormant frame), side perpendicular to the joints.
Hpa (Air Passage Height) = H - 17 0 and Lpa (Air Passage Width) = L - 170
Consumption in Normo liter (V(Nl) = Pc x V(l))
Example a device 160 0x 1600 and an opening pressure of 7 bar; Volume 4.6Nl
That is 7 x 4.6 = 3.22 Nl

7. Determination of opening surfaces

Geometric surface

The geometric surface is the surface released by the opening, at the level of the dormant frame.
SGO (in dm2) = Lpa × Hpa /10000

Free surface

In accordance with §3.4 of NF S 61937-8: 2010, the free surface of the opening corresponds to the actual surface of air passage, less than or equal to the geometric surface of opening, considering any obstacles provided that the degree of opening of the opening is at least 60°, in the case of tilting or swivelling openings.
Regardless of the type of opening no obstacle is present (except the leaf itself) in the geometric surface of opening.

Calculated free area

In accordance with § 3.5 of NF S 61937-8: 2010, the calculated free surface is the smallest value obtained between the inner geometric surface of the opening (= geometric opening surface indicated in § 4.3.7.1) and the tensile surface which rests on the one hand on the dormant frame and on the other hand on the parts closest to the opening when it is in the open position.
The tensile surface which rests on the one hand on the frame and on the other hand on the parts closest to the opening when it is in the open position is defined by the following formula:
S = (Lpa x Hpa x sin α) + (Hpa x cos α) × (Hpa x sin α) with α which is the opening angle of the opening.
This formula is valid only in the absence of obstacles and subject to meeting the following criteria:
- The vertical surface between the upper part of the opening in the open position and the ceiling must be at least equal to the stretched surface between opening and frame.
- No lateral obstacle shall be located at less than Hpa/2 from the device. The space between openings must also be less than the same distance.

8. SKYBAIE installation and implementation rules:

Caution: Any maneuver that may damage the mechanisms and/or structure of the DENFC is prohibited. SKYDOME® cannot be held responsible for the impact of such maneuvers.

1. Support:

The support receiving the DENFC must be flat, within the normative tolerances of building construction.

2. The installation of the DENFC:

The SKYBAIE must be placed at an angle of 0°, with respect to the vertical and square.
The installation must follow the recommendations of the DTU in force
The support must respect a flatness of ± 2 mm

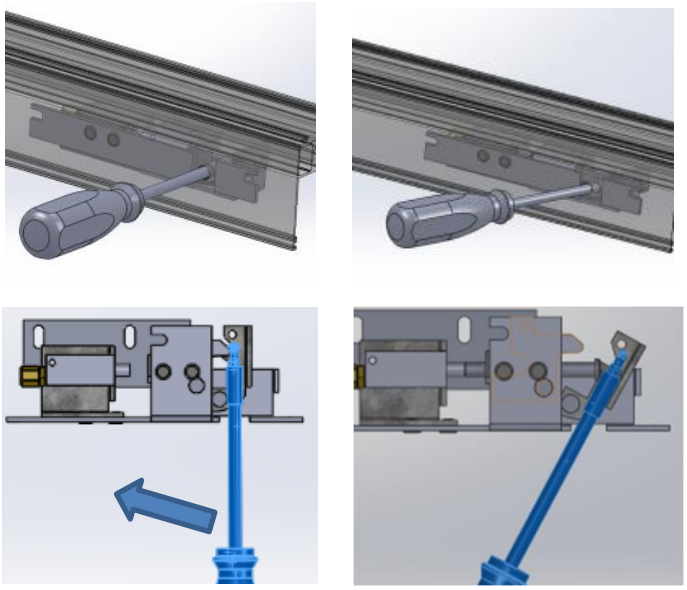
Warning: the device must be installed according to the standards, technical instructions, and any rules or texts in force.

3. Opening of the opening:

The opening is kept closed by a locking system integrated into the SKYBAIE.

For tunnel installation:
Cut the grab strap as shown in the illustration below.
Unlock the lock(s) using the string or strings protruding from the device gluedto the appliance with labels on the glazing. If the string is not usable, holes are provided on the inner and upper side of the chassis allowing with a screwdriver, or a rod, to unlock the opening by a lever movement while pushing on the opening. It opens partially and free access to the pre-drilling s fixing.Once the chassis is attached, cut completely, and remove the straps.
In case the servo is not done right away, close the device manually until it locks.

For a wall application:
Attach the opening with fixing tabs
Cut the strap completely and remove it.



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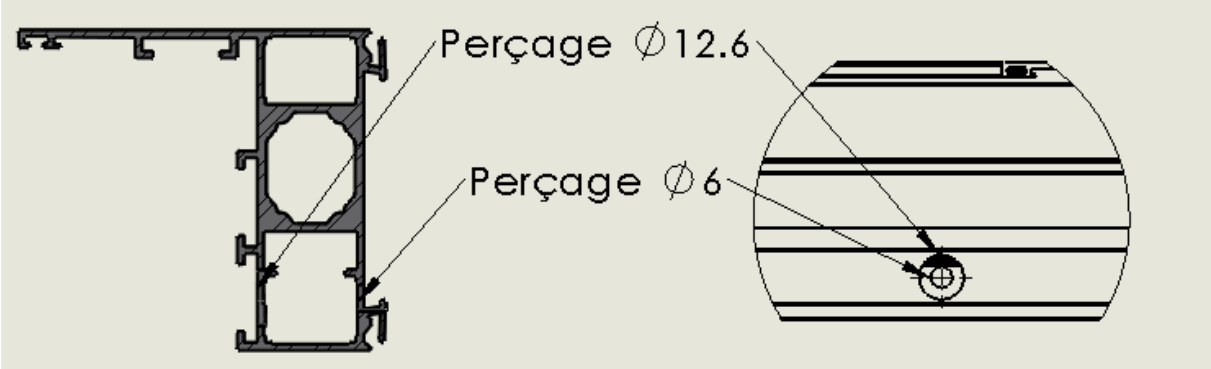
4. Installation of the SKYBAIE penu:



Piercings are provided in the SKYBAIE, in order to fix the frame on its support (see image above).

- *Horizontal only to the high crossmember:*
  From 500mm to 599mm →1 attachment
  From 600mm to 2400mm→2 fasteners

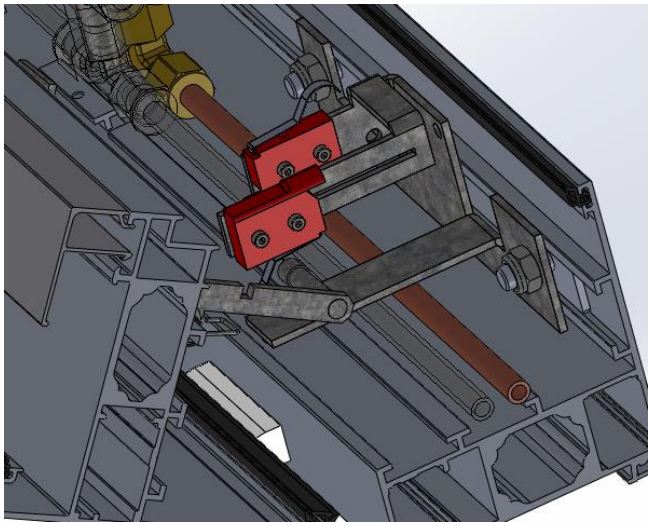
Do not fix the dormant profile low.

- *Fixing on the two amounts:*
  From 700mm to 1449mm→2 fasteners
  From 1 350mm to 1600mm→3 fasteners

5. Assembly and connection

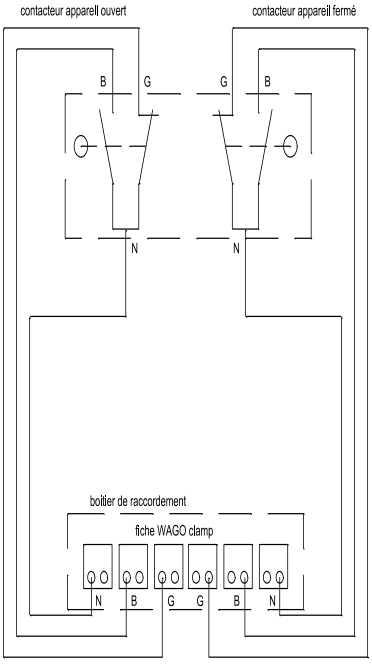
The SKYBAIE PNEUMATIQUE comes with an indoor pneumatic network.
A bag composed of angled brass, union fittings, lacquered caps to the shade of your opening and grommets Ø6 for brass and Ø10 for holding the caps is provided to help you with installation and finishing.
Attention the opening is marked in red and the closure in yellow.
Once the device is mounted and connected, test some openings and closures to ensure the proper functioning of the device and the tightness of the copper network.
Remove the string attached to the lock(s).

9. Position switch



- Connecting position contactors:

The connection (connection) of the contactors, is carried out as illustrated on the electrical diagram below.



N = BLACK
B = BLUE
G = GREY

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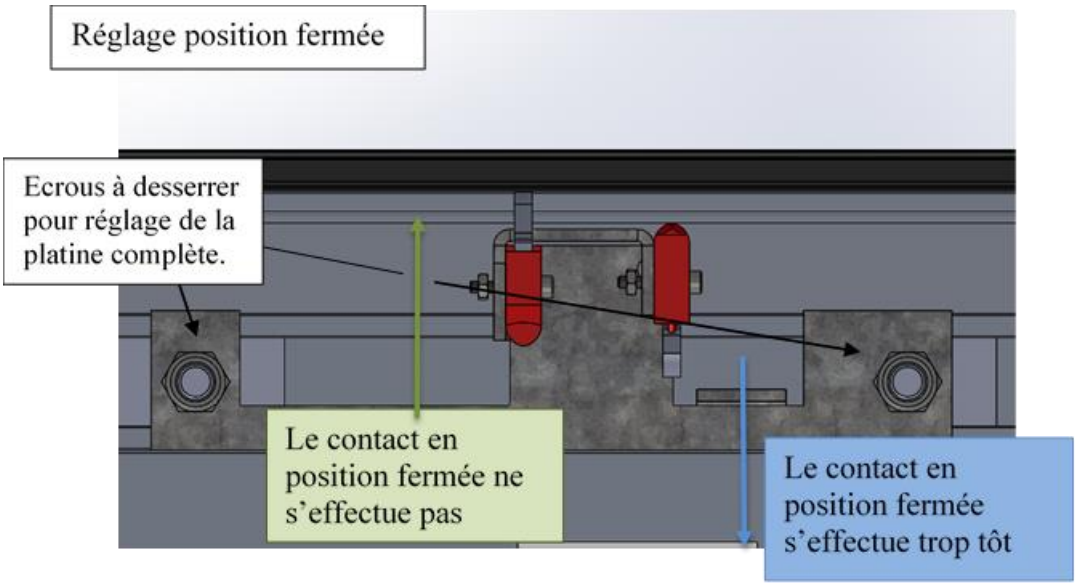
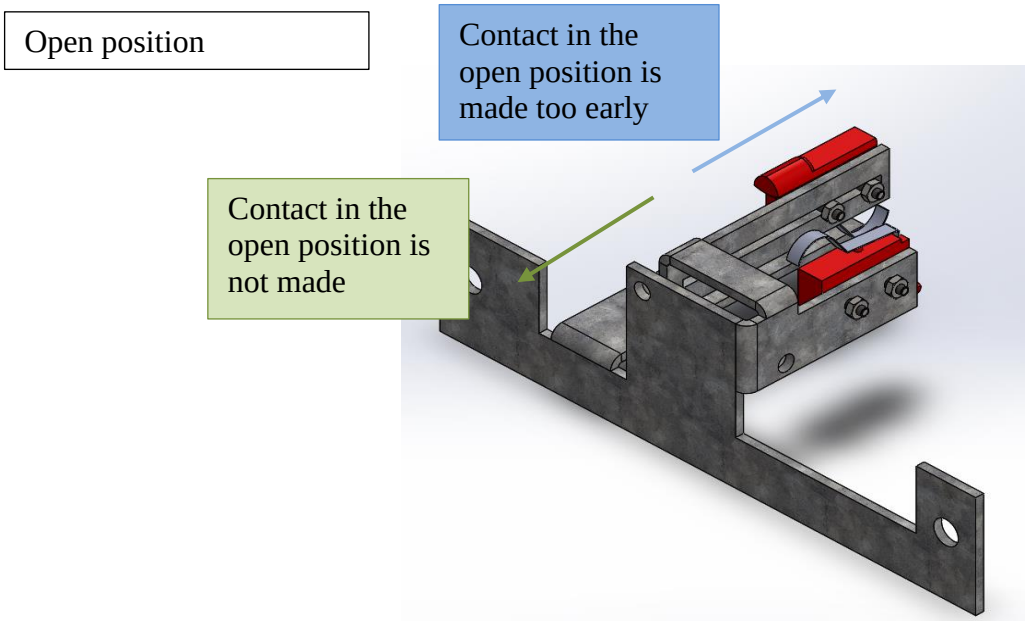
- Position contactor adjustment:

The adjustment of the position contactors is to be refined once the chassis is installed in its final position and the electrical connection made to the cabinet or central. A visual signal must confirm the contact on them (refer to the instructions of your cabinet or central)
In the closed position, the ignition setting is preset. If, however, the detection is carried out too early or not at all, it is possible to adjust the height of the complete contactor block. The signal must be received at the very end of the opening (± 2° of the end of the closure)
In the open position and as appropriate, adjust the contactor in the open position as follows. The signal must be received at the very end of the opening (± 2° of the end of the opening).





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10. Maintenance instructions

Please note: our devices are not warranted for an exhibition that may alter the initial characteristics of an element or function of the DENFC.

The operation, maintenance and periodic verification operations will be carried out according to the requirements of the texts and standards in force as well as the following SKYDOME ® requirements :

- Proceed at least 2 times a year to the opening/closing in a safe position of the DENFC.
- Verification operations:
    - Check in particular the condition of the joints, hinges, the rod of the cylinders and slide. It is important to keep these elements lubricated (Teflon grease for slides, oil), except the cylinder stem.
    - Control the tightening of the screwed elements.
    - Check hose status
    - Do not clean the cylinder stem with a solvent, as this can damage the inner seals.
    - Do not paint the stem of the cylinder.
    - Clean drainage channels
    - Check by manual opening that the joints are not glued.

- DENFC verification operations must be carried out at least 1 time per year.

    - Contactor maintenance

Please note: our position switches are not guaranteed in the context of an exhibition likely to modify the initial characteristics of an element or a function thereof.

The operation, maintenance and periodic checks of all SKYDOME position contactors will be carried out in accordance with the requirements of the texts and standards in force as well as the SKYDOME®® requirements.

The correct functioning of the contactor must be checked during each maintenance operation of the device or when doubts arise as to the accuracy of the information sent by the latter. A visual signal must confirm the contact on the cabinet or central connected to the contactor (refer to their instructions).

- SKYDOME® requirements : check the operating sets, contact settings, fasteners, wear of rotating parts.

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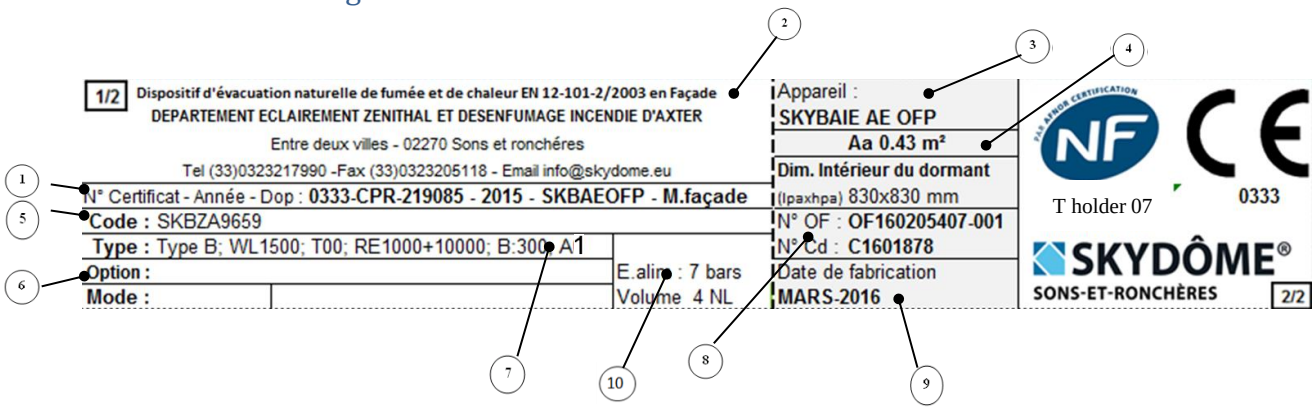
11. Replacement

All components of the device are available on request from SKYDOME®

12. Product marking



1. Number of the certificate, its date of obtaining, D.O.P. number, type of assembly.
2. Reference standard in effect.
3. Trade description of the device.
4. Interiordimensions of the frame (lpa x hpa) and Useful Aperture Area (Aa).
5. Item code (for device traceability).
6. Description of security options
7. Respectively:
   - Type of opening of the natural smoke and heat evacuation device.
   - Classification of wind load.
   - Ambient temperature classification.
   - Reliability classification.
   - Heat resistance classification.
   - Reaction to fire classification of the materials constituting the DENFC, according to the European standard in force.
8. Production order number
9. Date of manufacture of the device.
10. Feature of remote control and power inputs
    E.Alim: opening pressure in bars
    Volume: consumption of the cylinder in Normo litre