

TECHNICAL FILE

Monoflap 2x2m for Cintralux 25 mm

Aluminium opening system with multi-walled polycarbonate sheets

SKYLUX®
Hello daylight!

31-03-2020

General product description

The Monoflap opening system consists of 2 aluminium frames. The fixed subframe is connected with hinges to the openable top frame that is filled with 25 mm multi-walled polycarbonate sheets, resulting in a low Ug value. The pre-assembled Monoflap is placed on top of the Cintralux 25 barrel vault in accordence with the mounting instructions.

The Monoflap version uses the principle of convection of warm air for efficient natural ventilation of the building in case of fire and/or for daily ventilation.

The Monoflap comes in 4 operating types:

- Ventilation: electric motor for daily ventilation
- SHE pneumatic: opens in case of fire
- Combi: Combination of pneumatic SHE (Smoke and Heat Extractor) and electric daily ventilation
- SHE electric: Combination of electric SHE (Smoke and Heat Extractor) and daily ventilation (not yet available)

Advantages

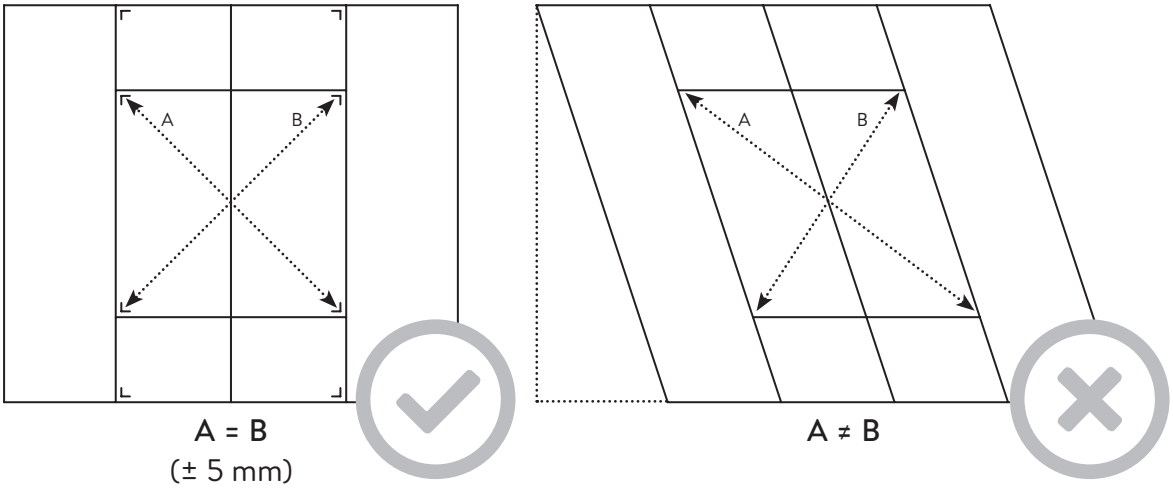
- Combination of aesthetic aspect and light transmission, sound and heat insulation
- Various operation options: Combi, ventilation only, ...
- Suitable for large spans and heavy snow loads
- Cost-effective
- Easy installation because of pre-assembled frames

General properties of Monoflap

Compatible with barrel vault type	Cintralux® 25 mm
Min barrel vault span:	
pitched curb	2500 mm
horizontal curb	4000 mm
Opening/daylight size	2036 mm x 2036 mm (4m²)
External flap size	2240 mm x 2265 mm (5m²)
Cover weight (top frame only)	± 40 kg
Complete frame weight without actuators	± 60 kg
Spacing between Monoflaps	Min 1 full sheet (1072 mm)
Spacing between end piece and Monoflap	Min ½ sheet (536 mm)
Radius	R=4000 mm (for span 2.5-4.99 m) R=5000 mm (for span 5-6.3 m)
Sheet colour	Opal (clear = on request)
U-value	See Cintralux® 25 mm
LT	See Cintralux® 25 mm
G-value	See Cintralux® 25 mm
Max. wind speed when opened (daily ventilation)	6 m/s (4 Beaufort)

Installation

- Tools: aerial working platform + standard toolbox equipment
- Curb specifications:
    - see also technical file Cintralux 25, special attention to:
    - curb perpendicularity (squareness):

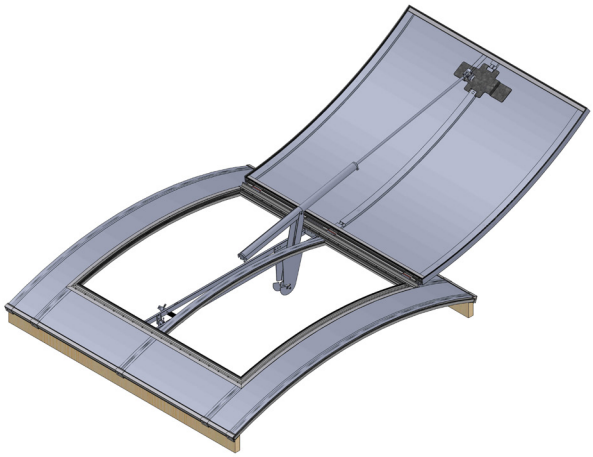


It is very important that the difference between the diagonals, A and B, is not bigger than 5 mm. Otherwise you will have problems installing the top frame onto the subframe of the Monoflap.

Opening types

1. SHE Pn (Smoke and Heat Extractor Pneumatical)

- SHE function: at e.g. 68°C, the pneumatic cylinder will open the Monoflap 160° by using CO_2 gas. Close manually.

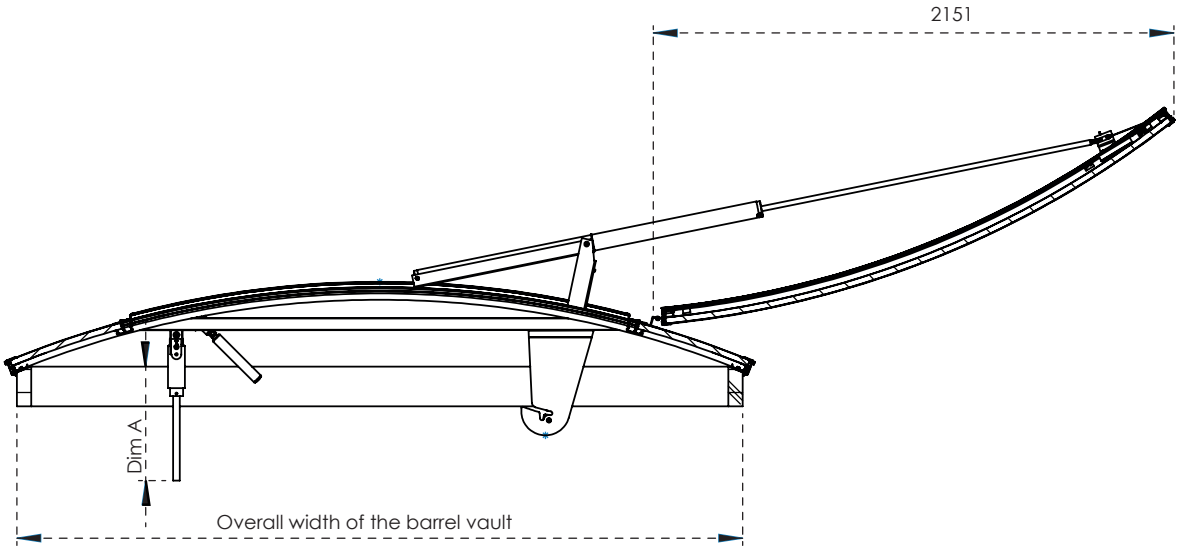


2. Combi (SHE Pn + electrical ventilation)

- SHE function: at e.g. 68°C, the pneumatic cylinder will open the Monoflap 160° by using CO_2 gas. Close manually.
- Daily ventilation: electric spindle motor opens the Monoflap up to 50 cm.

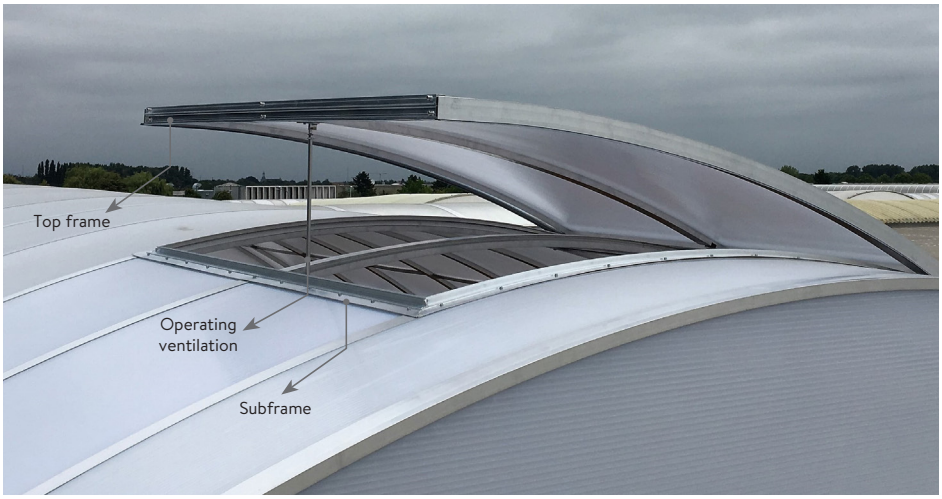


	SHE: Pneumatic	**Elec. ventilation (optional):**
Power source	Bottle 120 g liquid CO_2	See motor specifications below in point 3 'ventilation'
Opening angle	Full opening, 160°	
Activation temperature	68°C (red glassfuse)	
Performances acc EN12101-2:		
Snow load	SL 500 for T(-5) SL 125 for T(-15)	The same electric spindle motor is used in the combi and in the ventilation version of the Monoflap
Wind load	WL 1500	
Reliability	Re 500	
Resistance to heat class	B 300	
Aerodynamic free area		
- Without wind deflector:	1,63 m^2 (Cv = 0,4)	
- With wind deflector:	2,52 m^2 (Cv = 0,62)	
Min. working pressure for opening		
- Without load:	7 bar (open & close)	
- With snow load 250 N/m^2:	14 bar	
- With snow load 500 N/m^2:	25 bar	
Consumption (cylinder volume)	4,22 Litres	
Weight actuator system (traverse)	± 30 kg	
Extension below curb for	See drawing Dim A:	
- Span 2500:	550 mm	
- Span 3000:	475 mm	
- Span 3500:	350 mm	
- Span 4000:	225 mm	
- Span 4500:	50 mm	



3. Ventilation

- An electric spindle motor opens the Monoflap up to 50 cm ensuring efficient daily ventilation of your building.



• Motor specifications



Power supply	230 V / 50 Hz
Power consumption	200 W / 0.92 A
Parallel connection allowed	yes
Up-down control switch	Double pole changeover contact (Single pole changeover is also allowed)
If up (brown) and down (black) signal are both connected at the same time to the L-line, the motor will open	*Also allowed that the supply Voltage stays continuously on the motor terminals in open or closed position*
Connection cable	H05-VV-F 6 x 0,75 mm²
	Approx. 1,3 m long (white)
Operation mode duty cycle	S2- 1 min (short-time duty)
Colour	Similar to RAL 9002 (grey white)
Stroke	500 mm
Stroke time	10 mm/s
Push / tensile force	500 N / 250 N
Protection class	IP54
	In case of rain or strong wind (≥6 m/s) the Monoflap must be closed!
Thermal protection	115°C : short time duty : after 4-6 full strokes, the thermal switch-off will be activated
Ambient temperature	Max 60°C
Reliability (dual purpose for Combi)	Re 10000
Electronic limit switch	>250 N
open/closed position indication	potential free NO contact
(for e.g. indication lamp connection)	Contact closes when Monoflap opens (max. 250 V/4 A)
Maintenance-free	yes
Safety	
Motor Weight	2,5 kg
Dimensions (diameter x length)	Ø 70 x 650 mm
Extension below curb	Idem Combi

Wiring diagram

Check the wiring diagram to see how to connect the motor correctly.

Maintenance

See separate installation instructions.
Legal requirement of yearly test: you need access to the CO_2 bottle and glass fuse **by aerial working platform**.

Options

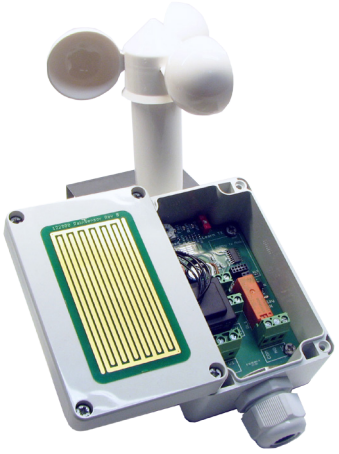
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Accessories

1. Bipolar switch
The switch is used to operate the Monoflap.
Possibility to switch bipolar switch to a push button.
Maximum 10 motors per switch (10 A).



2. Weather detector
The weather detector is optional. It closes the Monoflap when it rains or when there is a strong wind. If you don't install a weather detector, the customer is responsible to close the Monoflap in case of bad weather.
Maximum 8 motors per weather detector (8 A).



Attestations, certificates and documentation:

CE

- CE according to SHE norm EN 12.101-2:2003
- CE of the Skycom® CE master and Skycom® CE slave centrale according to EN 12.101-(9)/10
- CE of multi-walled sheets EN16153
- DoP via www.skylux.be

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