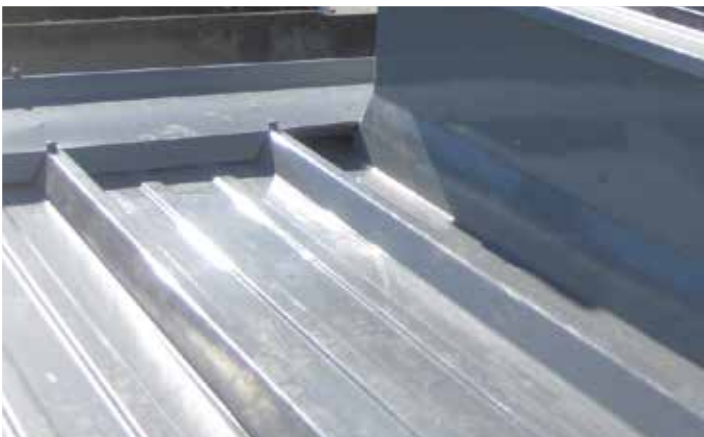




# Kingspan Ecobac 160 TC /160 TC HPA Data Sheet

Mechanically-operated smoke & heat exhaust vent for metal roofs



Daylighting Solutions  
Natural Ventilation Solutions  
Smoke Management Solutions  
Service & Maintenance  
Building Automation





# Kingspan Ecobac 160 TC / HPA

## Description

CE- and NF-certified, mechanically-controlled smoke and heat exhaust vent (SHEV) with 160° opening. Designed for installation in composite, steel, or aluminium roofs. 160 TC HPA version (High aeraulic performance).

Ideal for single skin profile, sandwich insulated panels and composite roofs



## Advantages

- CE-certified smoke & heat exhaust vent compliant with EN 12101-2 (CE certificate of conformity no.: 0333-CPR-219014).
- NF-certified SHEV smoke & heat exhaust vent compliant with NF S 61937-1 (Certificat no.: 03/06.09)
- Exterior gel coat finish for a smooth surface and a longer life.
- Economical solution.
- Mechanical ventilation as standard, no extra cost.
- Enhanced waterproofing on lid: aluminium F frame with patented, factory-mounted seal.
- Compliant with the CETIM Machinery Directive to ensure optimal operational safety.
- Aluminium wind baffles for better smoke ventilation performance (HPA version).
- Control system installed by our teams.

## Standard description

The building's natural smoke ventilation will be provided by Kingspan Light + Air Ecobac 160 TC smoke and heat exhaust vents. These units are CE-certified according to EN-12101-2, NF-certified SHEV and compliant with the EC Machinery Directive. Performance levels meet the requirements of French regulations, including the 10,000-cycle ventilation function. The base can be coloured to match the roof. The vent opens to 160°. Multiwall polycarbonate lid with fire rating B - s1, d0 (M1) and multiplied fuse rated at 93°C.



## Description

### Opening lid

The frame is made of galvanised steel. In the safety open position, it opens to 160° powered by two gas springs.

### Control system

The controls feature a manual cable-operated opening and closing system compliant with NF S 61-938. The smoke exhaust vent is equipped with a factory-installed 93°C multiplied fuse which actuates the opening vent.

### Base

The base is made of glass-reinforced polyester (GRP), with RAL colour finish to blend in with the roof profile. Sandwich panel base available for insulated steel cladding panels. Other profiles are available on request.

## iSO+ range

The ISO+ reinforced insulation range limits heat losses.

### Gutter

At the top, it ensures effective evacuation of rainwater.

### Glazing

Opalescent multiwall polycarbonate (MWPC), thickness 10 mm, standard version. Integrated into a fully sealed aluminium F frame. Fire rating: B-s1,d0(M1). (Optional different types of glazing)

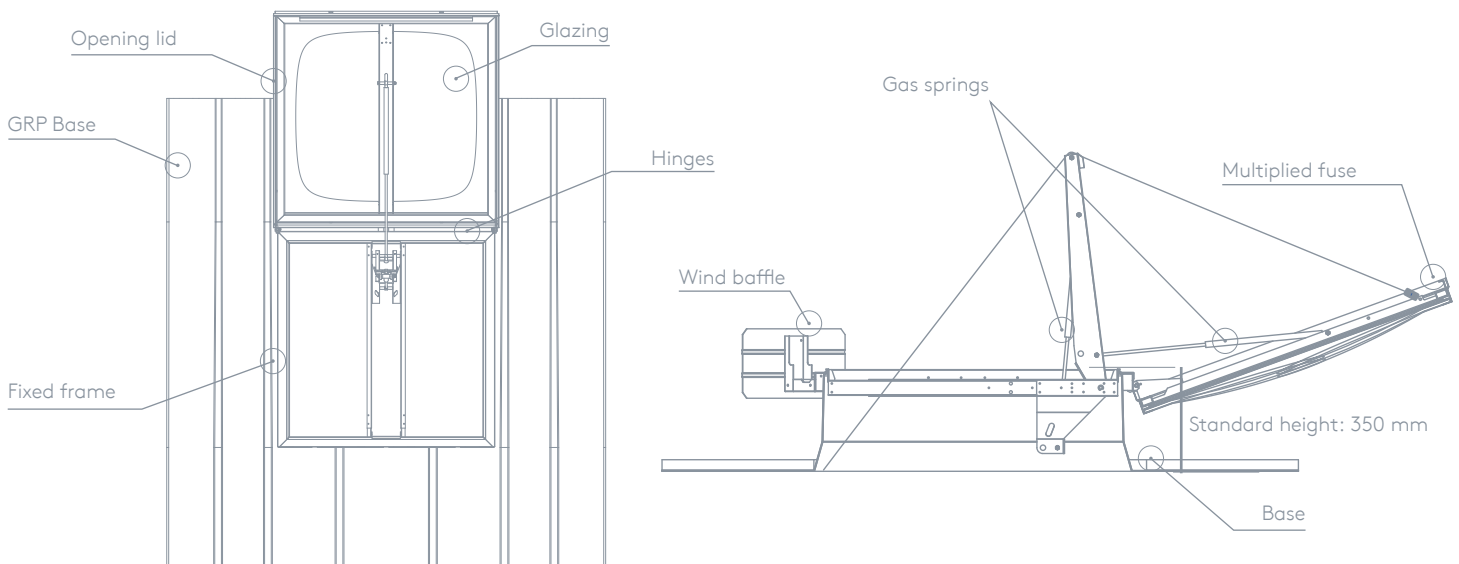
### Wind baffles

(for the HPA version)

Aluminium wind baffles improve the aerolic efficiency of the skylight.

### Gas springs

The two gas springs are equipped with stroke end cushioning





### Ecobac 160 TC | Aeraulic performance

PROFILE	Dim. (W x L)	Surface area of smoke exhaust vent (m <sup>2</sup> )	Aa (m <sup>2</sup> )	
			Standard	Burglar- proof grid
OAC 5 wave 1/2	110 x 110	1.21	0.80	0.73
	110 x 150	1.65	1.09	1.02
	110 x 240	2.64	1.73	1.68
OAC 6 wave 1/2	110 x 110	1.21	0.80	0.73
	110 x 290	3.19	2.08	2.06
SUPERONDE	150 x 150	2.25	1.26	1.19
PST 230	110 x 110	1.21	0.80	0.73
	110 x 180	1.98	1.29	1.22
H 3 333 39 T (PROMISOL 1001 T)	110 x 110	1.21	0.80	0.73
	110 x 180	1.98	1.29	1.22
	150 x 150	2.25	1.26	1.19
NERV. 3 45 1000 TS (ONDATHERM 101)	120 x 250	3.00	1.88	1.84
	130 x 250	3.25	1.94	1.92
JI 45 333 1000 (JI ROOF + PLUS OR PIR)	160 x 180	2.88	1.54	1.50
NERV. 3 35 1000 T (ONDATHERM 201)	130 x 250	3.25	1.94	1.92

- SL250
- SL500 possible on request
- Available in roof access version

PROFILE	Dim. (W x L)	Surface area of smoke exhaust vent (m <sup>2</sup> )	Aa (m <sup>2</sup> )	
			Standard	Burglar- proof grid
H 4 250 35 T	110 x 110	1.21	0.80	0.73
COBACIER 1004 (GLAMET 1000)	110 x 180	1.98	1.29	1.22
	150 x 150	2.25	1.26	1.19
JI 40 250 1000 ROOF (JI ECO PIR)	120 x 250	3.00	1.88	1.84
JI 33 250 1000 CS	130 x 250	3.25	1.94	1.92
NERGAL 3 45 1000 T	130 x 250	3.25	1.94	1.92
ASTRON PR ASTRON LPR 1000	130 x 170	2.21	1.34	1.27
ISODUPLEX	130 x 250	3.25	1.94	1.92
METECNO	130 x 250	3.25	1.94	1.92
PROFILACIER 35 C	130 x 250	3.25	1.94	1.92
JI 37 250 1000 (VULCASTEEL ROOF) (KS 1000 RF)	110 x 110	1.21	0.80	0.73
	150 x 150	2.25	1.26	1.19
	130 x 250	3.25	1.94	1.92
(KS 1000 RW)	110 x 110	1.21	0.80	0.73
	150 x 150	2.25	1.26	1.19
	120 x 250	3.00	1.88	1.84
JI 29 283 850	110 x 110	1.21	0.80	0.73



### Ecobac 160 TC HPA | Aeraulic performance with wind baffles

PROFILE	Dim. (W x L)	Surface area of smoke exhaust vent (m <sup>2</sup> )	Aa (m <sup>2</sup> )	
			Standard	Burglar- proof grid
OAC 5 wave 1/2	110 x 110	1.21	0.97	0.90
	110 x 150	1.65	1.31	1.24
	110 x 240	2.64	2.05	2.00
OAC 6 wave 1/2	110 x 110	1.21	0.97	0.90
	110 x 290	3.19	2.38	2.36
SUPERONDE	150 x 150	2.25	1.75	1.68
PST 230	110 x 110	1.21	0.97	0.90
	110 x 180	1.98	1.56	1.49
H 3 333 39 T (PROMISOL 1001 T)	110 x 110	1.21	0.97	0.90
	110 x 180	1.98	1.56	1.49
	150 x 150	2.25	1.75	1.68
NERV. 3 45 1000 TS (ONDATHERM 101)	120 x 250	3.00	2.21	2.17
	130 x 250	3.25	2.31	2.29
JI 45 333 1000 (JI ROOF + PLUS OR PIR)	160 x 180	2.88	2.06	2.02
NERV. 3 35 1000 T (ONDATHERM 201)	130 x 250	3.25	2.31	2.29

- SL250
- SL500 possible on request
- Available in roof access version

PROFILE	Dim. (W x L)	Surface area of smoke exhaust vent (m <sup>2</sup> )	Aa (m <sup>2</sup> )	
			Standard	Burglar- proof grid
H 4 250 35 T	110 x 110	1.21	0.97	0.90
COBACIER 1004 (GLAMET 1000)	110 x 180	1.98	1.56	1.49
	150 x 150	2.25	1.75	1.68
JI 40 250 1000 ROOF (JI ECO PIR)	120 x 250	3.00	2.21	2.17
JI 33 250 1000 CS	130 x 250	3.25	2.31	2.29
NERGAL 3 45 1000 T	130 x 250	3.25	0.97	2.29
ASTRON PR ASTRON LPR 1000	130 x 170	2.21	1.73	1.66
ISODUPLEX	130 x 250	3.25	2.31	2.29
METECNO	130 x 250	3.25	2.31	2.29
PROFILACIER 35 C	130 x 250	3.25	2.31	2.29
JI 37 250 1000 (VULCASTEEL ROOF) (KS 1000 RF)	110 x 110	1.21	0.93	0.90
	150 x 150	2.25	1.75	1.68
	130 x 250	3.25	2.31	2.29
(KS 1000 RW)	110 x 110	1.21	0.97	0.90
	150 x 150	2.25	1.75	1.68
	120 x 250	3.00	2.21	2.17
JI 29 283 850	110 x 110	1.21	0.97	0.90

## Performance and classifications (according to EN 12101-2)\*

Name	Class	Meanings / Observations
Operation	Type B	Opening and closing from the ground
Effective surface area	Aa	See "Dimensions and aerualic performance" table
Reliability	RE 300 (10,000 cycles in ventilation)	Number of open/close smoke ventilation test cycles
Snow load	SL250	Permissible load in N/m <sup>2</sup> in the smoke ventilation test
	SL500	Oversize 130 x 250
Wind load	WL 1500	Resistance to wind force (in N/m <sup>2</sup> )
Low temperature	T (00)	Unit meets French requirements
Resistance to heat	B300	Operating test at a temperature of 300°C

\* The exact technical specifications depend on the dimensions of the units.  
Requires validation on a case-by-case basis.



Ecobac insulated GRP bases are a perfect match for the Kingspan KS1000 roof panel - the example is of ECOBAC 160 on KS 1000 RW QuadCore™ panels.  
Thickness of insulation to be defined.

## Installation examples

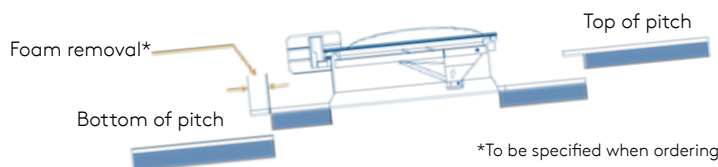
Installation of the bases is governed by the applicable Unified Technical Document (D.T.U. 40.30 series) and French standards relating to the sheets they are associated with, in the following domains:

- overlaps
- Installation of additional waterproofing if necessary
- attachment method.

In all cases, a steel H beam is required.  
You will be sent a custom steel H beam plan:

- on request with your quotation
- systematically when you place your order
- or see all our H beam drawings on [www.kingspan.com/gb/en-gb](http://www.kingspan.com/gb/en-gb)

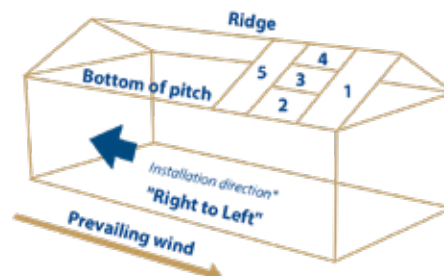
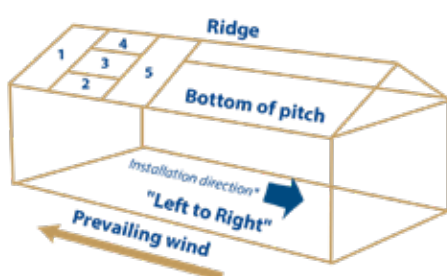
### Principle of installing "sandwich" bases:



Foam removal to the left

Foam removal to the right

The numbers indicate the order of assembly





## Options

### Kerb and equipment

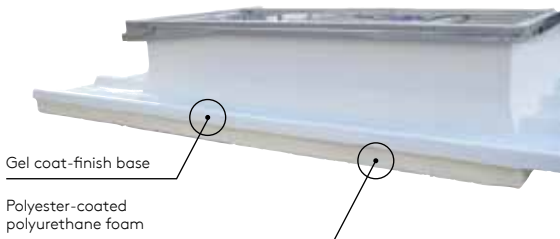
#### 1. 1200 joule burglar-proof & fall protection grid

The Kingspan Light + Air RE grid satisfies CRAM recommendations for the protection of personnel working on roofs, and ensures compliance with the French Labour Code. It passed the standardised test for resistance to a person tripping and falling over: dynamic 1,200 Joule test (see product data sheet).



#### 2. Sandwich panels

For sandwich panel roofs, Ecobac can be delivered with a double wall GRP base, featuring up to 200 mm of polyurethane foam insulation. The thickness of insulation, direction of installation, roof laying and colours of the two sides must be specified when ordering.



#### 3. Limit position contacts

Two position contacts (safety open position /standby position) can be connected to an indicator panel. This system allows you to check the position of all vents without climbing on the roof. This option is required when installing the SHEV in a Category A or B Fire Safety System.



#### 4. Reinforced thermal insulation

The ISO+ reinforced insulation range provides better airtightness and reduces heat loss through efficient MWPC glazing (16 or 32mm), an insulating seal between the lid and the kerb.

**ISO+ range**

#### 5. Without thermofuse

Useful option, for example, if regulations require the fire detection system to control smoke ventilation.

#### 6. Steel Ecobac

For specific cases, Ecobac can be built with a fully steel base.

### Asbestos-cement expert assessment



Kingspan Light + Air is certified to work in buildings containing asbestos and on composite roofs, which can be fragile.

### Specially for Roof Access

#### Roof access

For easy roof access, the opening vent features a remote mechanism and can be fitted with a variety of options: hand rail, 1200 joule opening burglar-proof & fall-through protection grid, ladder attachment bar (see product data sheet).



### Ventilation

#### 160° mechanical ventilation

Delivered by the unit without modification, at no additional cost. Opening and closing are controlled manually by operating the winch handle. CE certification is also valid in this configuration.



## Types of glazing

### 1. Multiwall polycarbonate lid

Refer to the table on the right

Other details available on request.



Type
MWPC - Opalescent - 10 mm - 4 walls
MWPC - Opalescent - 16 mm - 7 walls
MWPC - Opalescent - 32 mm - 5 walls
MWPC - Translucent - 10 mm - 4 walls
MWPC - Translucent - 16 mm - 7 walls
MWPC - Translucent - 32 mm - 5 walls
MWPC - IR Gold - 10 mm - 4 walls
MWPC - IR Gold - 16 mm - 5 walls
MWPC - IR Gold - 16 mm - 7 walls
MWPC - IR Gold - 32 mm - 5 walls
MWPC - Grey opaque - 10 mm - 4 walls
MWPC - Grey opaque - 16 mm - 7 walls

### 2. Polyester lid and dome

Completely opaque lid with black interior to prevent light reflection.

Suitable for use on sites where overhead lighting is to be avoided: cellar, cinemas, etc. Also suitable for sites exposed to chemical agents or an aggressive environment.

Thickness: 25 mm. Light transmission: 0%.

### 3. Aluminium lid

This lid has the best fire rating:

A2 - s1, d0 (M0). Not combustible.

Thickness: 50 mm. Light transmission: 0%.

Thermal transmittance coefficient:

$U = 0.8 \text{ W/m}^2 \cdot \text{K}$ .

### 4. PMMA dome

Polymethyl methacrylate dome. Single or double wall.

Fire rating: E (M4).



## Solar protection

### 5. ECOSUN Sunshade

The ECOSUN Sunshade provides a sustainable and economical solution to the problem of overheating in buildings. It is a high performance aluminium system, combined with the multiwall polycarbonate glazing in our skylights. CSTB tests show that the energy transmission factor is only 15% (see product data sheet).

### 6. Detachable external sun screens

Made to measure fabric, PVC coated for better ageing, with reinforced edges and eyelets. The screens are delivered ready to be installed, and are secured using a bungee cord threaded through the eyelets.

## At your service:

Kingspan Light + Air is a manufacturer as well as a service provider with a network of service engineers and in-house CFD and fire engineering expertise. Proper, preventative, pre-emptive maintenance of Smoke & Heat Exhaust Systems undertaken by qualified specialists will not only ensure the highest levels of safety and security but also mean savings in time and money.

The comfort of a partner who takes care of everything: ask your local representative for more information about the services available in your country.



## Certifications



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## INTERNATIONAL

**Kingspan Light + Air**

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[www.kingspanlightandairinternational.com](http://www.kingspanlightandairinternational.com)

For the product offering in other markets please contact your local sales representative or visit [www.kingspanlightandairinternational.com](http://www.kingspanlightandairinternational.com)

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