



Kingspan Ecofeu Premium Alu 160 PN Data Sheet

Thermally broken pneumatic Smoke & Heat Exhaust Vent



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



Premium Range

Thermal regulations

In order to meet the requirements of energy performance standards applied to new buildings and the increasing need for saving energy, Kingspan Light + Air brings different solutions for you, with the Premium range.

This range of new-generation skylights removes thermal breaks and limits heat losses while providing natural daylighting and ventilation.



Kingspan Ecofeu Premium Alu 160 PN

Description

Smoke & heat exhaust vent (SHEV) with thermal break applicable for waterproof roofing, CE certified according to EN 12101-2, with pneumatic control system, Urc from 1.3 W/m².K* allowing smoke extraction while preserving the building's insulation.

Aluminium wind baffles available in HPA (High Aeraulic Performance) version.

Premium Range



Urc = 1.3 W/m².K*

* Urc obtained with the best combination of kerb/upstand + cover + dimensions

Upstand for renovation

The Ecofeu Premium Alu 160 PN with thermally broken profiles is intended for renovation and compliance. It is laminated, with an insulated aluminium lid, 400 mm high, 100 mm insulated flange.



Standard description

The building's natural smoke extraction will be provided by Ecofeu Premium Alu 160 PN smoke vents from Kingspan Light + Air, CE certified in accordance with EN 12101-2 and in accordance with the Machinery Directive. Performance categories meeting requirements of European legislation, including the 10,000-cycle ventilation function.

Insulated 50 mm kerb, 400 mm high.

Aluminium opening frame and fixed frame with thermal break, Urc = 1.3 W/m².K*.

Advantages

- Urc between 1.3 and 1.7 W/m².K*.
- Fully thermally broken smoke vent, with frames made of aluminium profiles with double polyamide thermal breaks and insulating air chambers to minimise heat loss by transmission: 70% LESS energy loss compared to a conventional smoke vent.
- Unique locking system patented by Kingspan Light + Air.
- The unit is airtight to ensure better control of heat loss via air leakage. Unmatched performance on the market.
- Integrated pneumatic ventilation for greater comfort in the building.
- Wide choice of multiwall polycarbonate and aluminium glazing (see last page)
- The frames, lid and/or kerb can be painted in the RAL colour of your choice.

Description

Lid with thermally broken profiles

Choice: See details on next page

- Multiwall polycarbonate lid 16 and 32 mm (MWPC)
- Aluminium lid
- Glass lid

Opening frame & fixed frame

Aluminium with thermal break.

Pneumatic mechanism

Both pneumatic cylinders are equipped with shock absorbers.

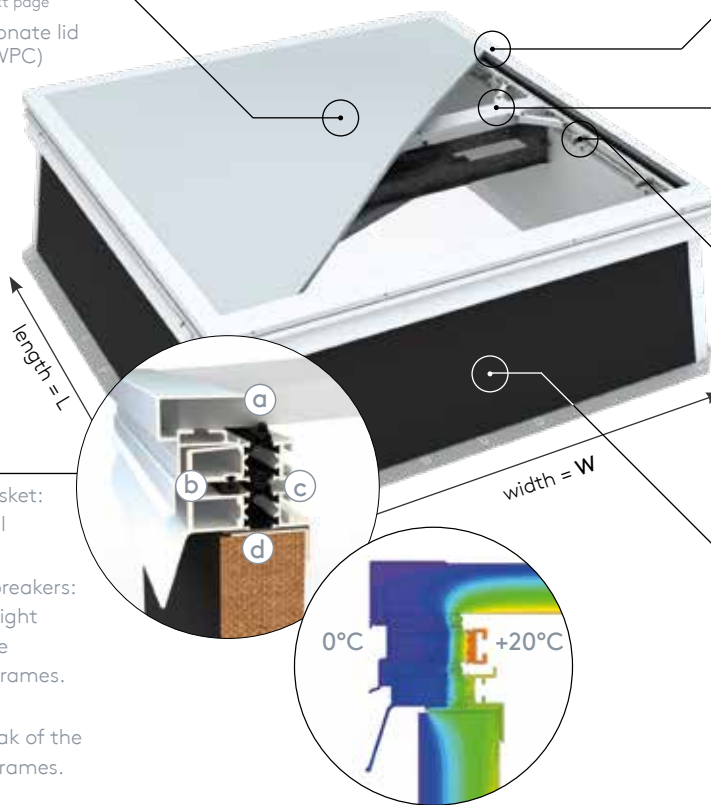
4- or 6-point locking system

New generation locking system patented by Kingspan Light + Air.

Improved airtightness and mechanical resistance.

Insulated oblique metal kerb or upstand

The kerb with thermal break is made of galvanised steel. Painted on the inside. Height: 400 mm. Thermal insulation is provided by 50 mm thick rock wool insulation for "waterproofing support" type roofing.



Double sealing

- a. 1 x EPDM rubber gasket: sealing and thermal break of the lid.
- b. 2 x EPDM contact breakers: dual air and watertight sealing between the opening and fixed frames.
- c. 4 breaks: double thermal break of the opening and fixed frames.
- d. EPDM strip: thermal separation between the fixed frame and kerb.

Dimensions & aeraulic performance

SUE (usable smoke exhaust ventilation area) = Aa in m² / SGO (geometric smoke ventilation surface area) = width (W) x Length (L) = Av in m²

L (cm)	W (cm)	100	110	120	130	140	150		
100		0.71	0.55						
110		0.78	0.61	0.86	0.67				
120		0.85	0.66	0.95	0.71	1.04	0.78		
130		0.94	0.70	1.05	0.77	1.12	0.84		
140		1.01	0.76	1.11	0.83	1.23	0.91		
150		1.08	0.81	1.19	0.89	1.31	0.97		
160		1.15	0.86	1.28	0.95	1.40	1.02		
170		1.22	0.92	1.37	0.99	1.49	1.08		
180		1.31	0.95	1.45	1.05	1.58	1.14		
190		1.39	1.01	1.53	1.11	1.66	1.21		
200		1.46	1.06	1.61	1.17	1.78	1.27		
210		1.53	1.11	1.69	1.22	1.86	1.31		
220		1.61	1.14	1.77	1.26	1.95	1.37		
230		1.68	1.20	1.87	1.32	2.04	1.44		
240		1.75	1.25	1.95	1.37	2.13	1.50		
250		1.83	1.30	2.04	1.43	2.22	1.56		
260		1.90	1.33	2.12	1.49				
270		1.97	1.38	2.20	1.51				
280		2.04	1.43	2.28	1.57				
290		2.15	1.48	2.36	1.63				
				Aa with wind baffles (m ²)				Aa Standard (m ²)	

Performance and classification according to EN 12101-2

Functioning	Snow load (N/m ²)	Wind load (N/m ²)	Reliability	Low temperature reliability test	Resistance to heat	Opening angle
Type B	SL 500	WL 2000	Re 300 + 10,000 (ventilation) Aluminium lid ≥ w 140: RE 300	T (00)	B 300	160°

Acoustic performance and airtightness of the units

Acoustic performance with 32 mm multiwall polycarbonate	Rw = 19 dB (0; 0)	Lia = 75 dB
Acoustic performance with aluminium sandwich panel (thickness 33 mm)	Rw = 24 dB (0; -2)	Lia = 65 dB
Airtightness (values obtained after testing on a 100 x 100 cm unit)	AP = 0.40 m ³ / h/ml (100 Pa)	w4 = 0.02 m ³ /h/ml

Types of glazing

1. Multiwall polycarbonate (MWPC) lid with thermal break

Advantages

Lid with the best insulation/price ratio.
Glazing possible with AeroTech®.

2. Aluminium lid (with thermal break and insulation) - Advantages

Total opacity with excellent thermal insulation.
Aesthetically pleasing thanks to the optional interior/exterior painting.

3. AeroTech® glazing

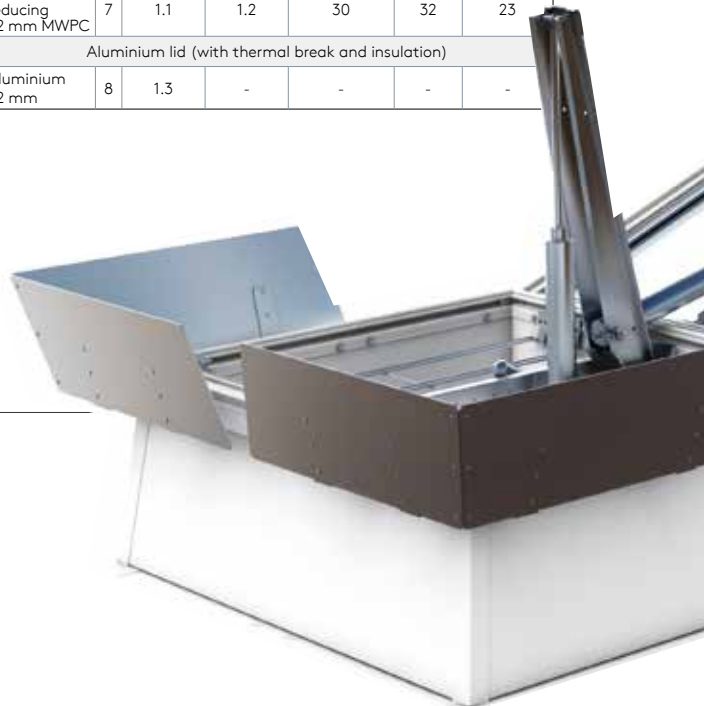
The AeroTech® solution is a technology based on insulating aerogel injected into polycarbonate cells that improves the diffusion of natural light while strengthening thermal and acoustic insulation.



4. 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 rooflights. CSTB tests show that the energy transmission factor is only 15%.

Version	N°	Ug value (W/m².K) Facade	Ug value (W/m².K) Roof	Light transmission (%)	Solar factor g (%)	Acoustic Reduction (dB)
Multiwall polycarbonate (MWPC) lid with thermal break						
Opal 16 mm MWPC	1	1.9	1.9	45	46	21
Transparent 16 mm MWPC	2	1.9	1.9	55	53	21
Heat-reducing 16 mm MWPC	3	1.7	2.1	47	44	21
AeroTech® 16 mm MWPC	4	1.5	1.5	67	67	21
Opal 32 mm MWPC	5	1.2	1.3	38	41	23
Transparent 32 mm MWPC	6	1.2	1.3	48	47	23
Heat-reducing 32 mm MWPC	7	1.1	1.2	30	32	23
Aluminium lid (with thermal break and insulation)						
Aluminium 32 mm	8	1.3	-	-	-	-



Options

1. 1200 Joule Anti-Burglary Grid

The Kingspan Light + Air anti-burglary grid complies with CRAM recommendations for the protection of personnel working on roofs, and complies with the French Labour Code. It passed the standardised test for resistance to a person tripping and falling over: dynamic 1200 Joule test.

2. Bars

Aluminium anti-intrusion and fall-arrestor bars made from 15x15 mm square section tubes, with 155 mm spacing, affixed to the kerb.

3. Wind baffles (HPA)

Rough aluminium wind baffles optimise aeraulic efficiency and smoke extraction performance.

4. Painting

The frames and the lid of the smoke vents can be painted in the RAL of your choice (RAL 9010 already provided as standard). Ideal for blending your smoke vent into your building.

5. Kerb equipped for PVC waterproofing

Ecofeu Premium Alu 160 PN is also suitable for PVC sealing membranes: without modifying the kerb, we offer uncoated insulation and a fastening kit.

6. Limit switches

This option is required when installing SHEV in a Category A or B Fire Safety System.

7. Without thermofuse

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

Certifications



INTERNATIONAL

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For the product offering in other markets please contact your local sales representative or visit www.kingspanlightandairinternational.com

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