

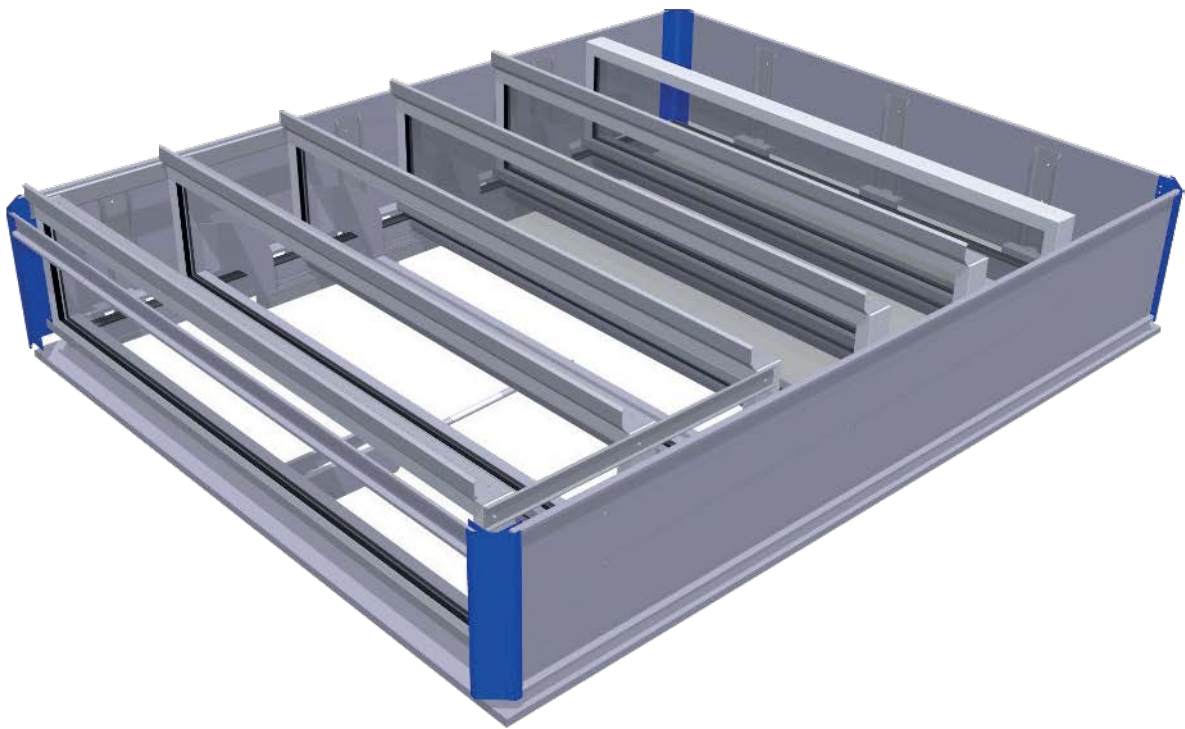


Kingspan Optima

Thermally separated louvred ventilator

Data Sheet

Sustainable (smoke) ventilation "in optima forma - perfect in form"



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

Application

Kingspan Optima is the most energy-efficient louvred ventilator for both smoke and heat exhaustion and ventilation. The Optima offers an optimum contribution to the fire safety, comfort and energy management of a property and is perfect for use in sustainable buildings. In contrast to other louvred ventilators, the Optima is completely thermally separated. Not only the louvres, but also the base gutter construction are thermally insulated, thereby combining the advantages of a louvred ventilator and the unique performance of a double flap ventilator.

Unparalleled in terms of both insulation performance and air and water tightness

The Optima delivers a remarkable performance. The system is extremely airtight. With a pressure of 600 Pa, the system more than meets the requirements for Class 4 in accordance under EN 12207. The air leakage loss with a positive pressure difference of 100 Pa is 0.4 m³/hour/m², which is unparalleled. The Optima also performs well in other areas. The louvred ventilator achieves high insulation values from 1.1 W/m²K, depending on the type and version. Water tightness testing up to 1050 Pa in accordance with EN 12208 – comparable to hurricane-strength speeds of 144 km/hour! – is a clear indication that this louvred ventilator has the best air and water tightness on the market!



Technical Specifications

The new generation of louvred ventilators

More and more requirements with regard to daylight and comfort are being set for public buildings, offices and industrial buildings. The Optima – leader when it comes to the new, sustainable generation of louvred ventilators – guarantees that these requirements will be met. The wide transparent louvres in the translucent version allow daylight penetration and produce an attractive distribution of light. Condensation and air leakage are also a thing of the past with the Optima.

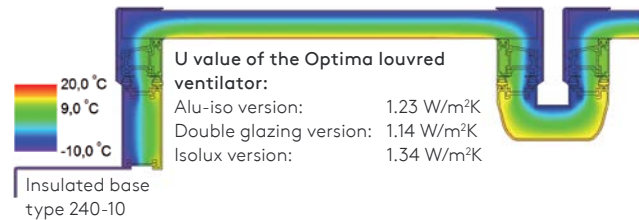


Image demonstrates the heat flow with a temperature pattern of -10 °C outside to 20 °C inside. Flixo U values are determined in accordance with EN ISO 10077-2

Airtight seal

The base and gutters have double EPDM rubbers. This means that four sides of the louvres are on rubbers, creating a very effective seal and a minimum air leakage of 0.4 m³/hour/m² at 100 Pa. As such, Optima achieves an excellent score in the very highest air tightness class (4).

Adaptable to your specifications

The Optima can be fully customised in louvre height and flange type to fit the exact specifications for optimal installation making the louvred ventilator suitable for any sustainable integration situation.

Test results

- EN 12101-2 certified: B300_{30'}, Re 1000, WL1500, SL750 (type PB / P2B / M24) T(-15), SL250 (type PBFS) T(-15)
- U value: 1.1 - 1.8 W/m²K depending of the type and size
- Air permeability at positive pressure:
EN 1026: 600 Pa, EN 12207: Class 4
- Water tightness: EN 1027: 1050 Pa, EN 12208: Class E1050
- Resistance to varying wind loads: Class C4, 800 Pa (=P2) deflection < 1/300 in accordance with EN 12210 / EN 12211, tested for strength 2400 Pa
- Acoustics: $R_w = 21 / 26 / 31$ dB in accordance with EN ISO 10140-2
- Impact resistance: 1200 J

Thermally separated louvred ventilator

Base



Flexible flange options

Louvres



Flexible louvre height

Gutter



Thermal Insulator



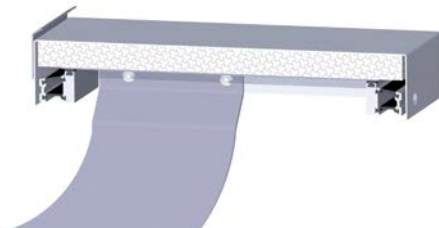
Four-sided support on double rubber seals



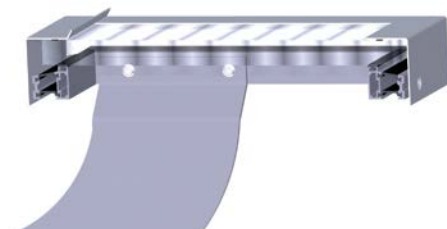
F2 clamping (28 mm) in rod system

Technical Specifications

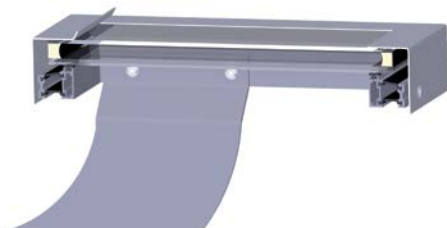
Louvre versions



Alu-iso 25 mm



Isolux 5-wall



Double glazing 4 - 15 - 3.3.2

Controls

Natural ventilation:

- P single-action compressed air operation
- P2 double-action compressed air operation
- M motor operation (24 VDC or 230 VAC)

Smoke ventilation in accordance with EN 12101-2:

- PB single-action compressed air operation with fire function
- PB-V single-action compressed air operation with fire function and "all weather ventilation setting" (wind baffles required)
- P2B double-action compressed air operation with fire function
- PB-FS single-action compressed air operation with fire function fail-safe
- M24V motor operation 24V

Options

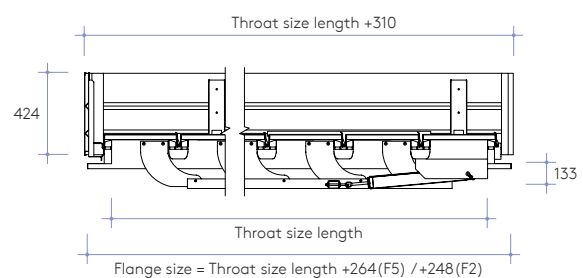
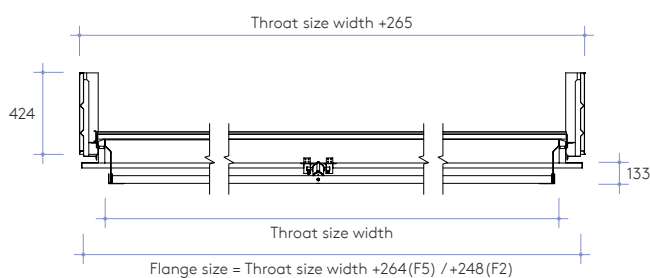
Surface treatment:

- RAL colour 1-layer 60μ; optional 2-layer 110μ (Qualicoat)
- Anodising technical plain (Qualanod)

Regulations

The Optima is certified completely in accordance with EN 12101-2 by a certified independent test institute.

Sections



Technical Specifications

Ventilator dimensions (mm)

Flexible louvre height: 301-400 mm									
Type	Clear width* width (mm)	Number of louvres							
		3	4	5	6	7	8	9	10
		Length (mm)							
60	600	1100	1101-1500	1501-1900	1901-2300	2301-2700	2701-3100	3101-3500	3501-3900
120	1200								
180	1800								
240	2400								
250	2500								

* Versions with intermediate sizes are possible

Aerodynamic surface (m²)

Type	Clear width* width (mm)	Number of louvres							
		3	4	5	6	7	8	9	10
		C _v values with the use of a wind baffle							
60	600	0.60	0.61	0.61	0.61	0.61	0.62	0.62	0.62
120	1200	0.62	0.63	0.63	0.63	0.64	0.64	0.64	0.64
180	1800	0.63	0.64	0.64	0.64	0.64	0.64	0.65	0.65
240	2400	0.63	0.64	0.64	0.65	0.65	0.65	0.65	0.65
250	2500	0.63	0.64	0.64	0.65	0.65	0.65	0.65	0.65

C_v values have been determined in combination with an upstand height of 300 mm and apply to roof and facade installation
C_v values of intermediate sizes on request

Weight (kg)

Type	Clear width* width (mm)	Number of louvres																							
		3			4			5			6			7			8			9			10		
		Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing	Alu-Iso	Isolux	double glazing
60	600	19	18	31	25	24	41	31	29	51	37	35	61	44	41	71	50	47	82	56	53	92	62	59	102
120	1200	37	35	61	50	47	82	62	59	102	75	71	122	87	82	143	100	94	163	112	106	184	125	118	204
180	1800	56	53	92	75	71	122	94	88	153	112	106	184	131	124	214	150	141	245	169	159	275	187	176	306
240	2400	75	71	122	100	94	163	125	118	204	150	141	245	175	165	286	200	188	326	225	212	367	250	235	408
250	2500	78	74	128	104	98	170	130	123	213	156	147	255	182	172	298	208	196	340	234	220	383	260	245	425

Materials

- Aluminium sheet EN AW 5754
- Aluminium profile EN AW 6060
- EPDM seal EPDM 4431
- Fastening materials, stainless steel A2

Recyclable

The aluminium that is used to produce the Optima comprises 80% recycled aluminium. Between 60 and 80% less CO₂ emissions are released in the recycling of aluminium than in the production of primary aluminium.

INTERNATIONAL

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For the product offering in other markets please
contact your local sales representative or visit
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