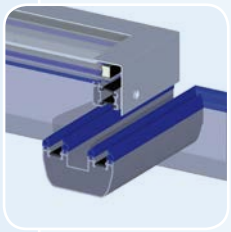
Brakel® Optima

Thermally separated louvred ventilator

Sustainable (fire) ventilation “in optima forma - perfect in form”

The Brakel® Optima is the most energy-efficient louvred ventilator for both smoke and heat exhaustion and ventilation. The Brakel® 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 Brakel® 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 m^3/hour/m^2, which is unparalleled. The Brakel® Optima also performs well in other areas. The louvred ventilator achieves high insulation values from 1.1 W/m^2K, 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!

EN 12101-2 CE

Green Building Products

As a leading partner, Brakel likes to be at the forefront when it comes to corporate social responsibility. Our products bring the best that nature has to offer indoors; heedless to say, therefore, nature has a special place in our hearts. Which is why we integrate sustainable solutions, products and services in our approach wherever possible.

We have organised our extensive production programme according to the level of sustainability and comfort. The many energy efficient products and systems can be identified by the butterflies.

We classify our products from functional to sustainable using the following descriptions:

F	functional application in accordance with current qualifications/standards
	meets higher requirements of sustainability
	meets high requirements of sustainability
	fits perfectly as part of a sustainable solution

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 Brakel® Optima – leader when it comes to the new, sustainable generation of louvred ventilators – guarantees that these requirements will be met. The wide transparent louvres placed at 400 mm 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 Brakel® Optima.

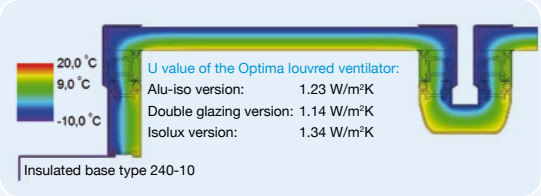


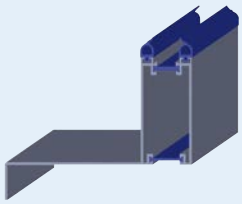
Image demonstrates the heat flow with a temperature pattern of -10 °C outside to 20 °C inside. Flixo U values are determined in accordance with EN ISO 10077-2

Test results

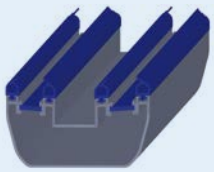
- EN 12101-2 certified: $B300_{30}$, Re 1000, WL1500, SL750 (type PB / P2B / M24) T(-15), SL250 (type PBFS) T(-15)
- U value: 1.1 - 1.8 W/m²K depending of the type and size
- Air permeability at negative pressure: EN 1026: 600 Pa, EN 12207: Class 4
- Water tightness: EN 1027: 1050 Pa, EN 12208: Class E1050
- Resistance to varying wind loads: Class C4, 800 Pa (=P2) deflection < 1/300 in accordance with EN12210 / EN12211, tested for strength 2400 Pa
- Acoustics: RW = 21 / 26 / 31 dB in accordance with EN ISO 10140-2
- Impact resistance: 1200 J

Thermally separated louvred ventilator

Base

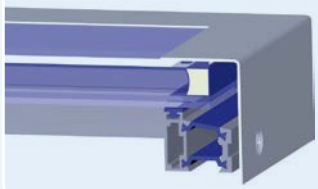


Gutter



Brakel® Thermal Insulator

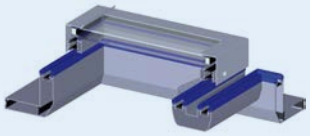
Louvres



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 0.21 m^3/hour/m^2 at 50 Pa. As such, Brakel® Optima achieves an excellent score in the very highest air tightness class (4).

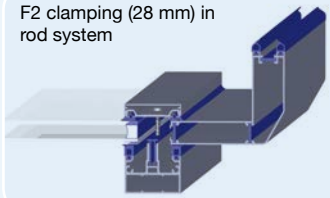
Four-sided treatment on double rubber seals



Installation applications

The flange of the Brakel® Optima can be customised for optimum attachment to a upstand (F5) or integration in a glass roof and/or facade system (F2 - 28mm), making the louvred ventilator suitable for any integration situation.

F2 clamping (28 mm) in rod system



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)

Fire ventilation in accordance with EN 12101-2

PB	single-action compressed air operation
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 90µ (Qualicoat)
- Anodising technical plain (Qualanod)

Regulations

Brakel® Optima is certified completely in accordance with EN 12101-2 by a certified independent testing institute.

Kingspan Light+Air | brakel

Ventilator dimensions (mm)

Type	Clear width* breadth	Number of louvres (louvre height: 400 mm)							
		3	4	5	6	7	8	9	10
60	600 mm	1100 mm	1500 mm	1900 mm	2300 mm	2700 mm	3100 mm	3500 mm	3900 mm
120	1200 mm								
180	1800 mm								
240	2400 mm								
250	2500 mm								

* Versions with intermediate sizes are possible

Aerodynamic surface (m^2)

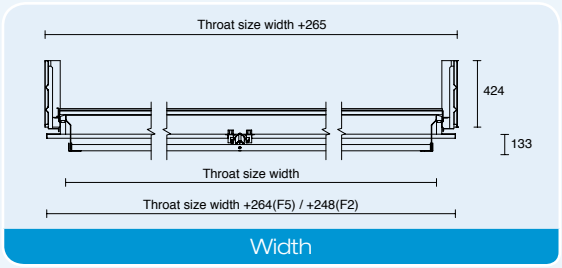
Type	Clear width* width	Number of louvres (louvre height: 400 mm)							
		3	4	5	6	7	8	9	10
		CV values with the use of a wind baffle							
60	600 mm	0.60	0.61	0.61	0.61	0.61	0.62	0.62	0.62
120	1200 mm	0.62	0.63	0.63	0.63	0.64	0.64	0.64	0.64
180	1800 mm	0.63	0.64	0.64	0.64	0.64	0.64	0.65	0.65
240	2400 mm	0.63	0.64	0.64	0.65	0.65	0.65	0.65	0.65
250	2500 mm	0.63	0.64	0.64	0.65	0.65	0.65	0.65	0.65

CV values have been determined in combination with a stand height of 300 mm and apply to roof and facade installation

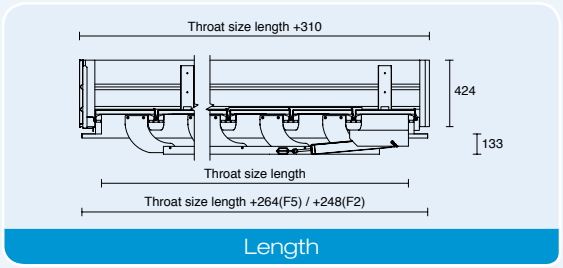
Weight (kg)

Type	Clear width* width	Number of louvres (louvre height: 400 mm)																					
		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 mm	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 mm	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 mm	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 mm	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 mm	78	74	128	104	98	170	130	123	213	156	147	255	182	172	298	208	196	340	234	220	383	260	245	425

Diameter



Width



Length

Materials

- Aluminium sheet EN AW 5754
- Aluminium profile EN AW 6060
- EPDM seal EPDM4431
- Fastening materials, stainless steel A2

Recyclable

The aluminium that is used to produce the Brakel® Optima comprises 80% recycled aluminium. Between 60 and 80% less CO_2 emissions are released in the recycling of aluminium than in the production of primary aluminium.

For further information, go to our website: www.brakel.com

EN2180114/Brakel® Optima 02-2018.1

Kingspan Light+Air | brakel