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 at 50 Pa is 0.21m³/hour/m², which is unparalleled. The Brakel Optima also performs well in other areas. The louvred ventilator achieves high insulation values from 1.0 W/(m²·K), 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!
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:

- 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.

Test results

- EN 12101-2 certified: B300, Re 300, WL1500, SL750 (type PB/P2B/M24) T(-15), SL250 (type PBFS) T(-15)
- U value: 1.0 – 1.3 W/(m²·K) depending on the type and size
- Air permeability: 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
- Acoustics: RW = 21 / 26 / 31 dB in accordance with EN ISO 10140-2
- Impact resistance: 1200 J

U value of the Optima louvred ventilator:
- Alu-iso version: 1.0 W/(m²·K)
- Double glazing version: 1.1 W/(m²·K)
- Isolux version: 1.3 W/(m²·K)

Image demonstrates the heat flow with a temperature pattern of -10 ºC outside to 20 ºC inside. Fits 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 0.21 m$^3$/hour/m$^2$ at 50 Pa. As such, Brakel Optima achieves an excellent score in the very highest air tightness class (4).

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.

Louvre versions
- Alu-iso 25 mm
- Isolux 6-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.
### Ventilator dimensions (mm)

#### Number of louvres (louvre height: 400 mm)

<table>
<thead>
<tr>
<th>Type</th>
<th>Clear width* breadth</th>
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* Versions with intermediate sizes are possible

### Aerodynamic surface (m²)

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### Weight (kg)

#### Number of louvres (louvre height: 400 mm)

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<td>123</td>
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</tr>
</tbody>
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### Diameter

#### Width

- Width Length: +264(F5) / +248(F2)
- Throat size width +265
- Throat size width +264(F3) +248(F2)

#### Length

- Throat size length +310
- Throat size length +264(F3) +248(F2)

### Materials

- Aluminium sheet EN AW5754
- Aluminium profile EN AW6060
- 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 CO₂ 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