



## Specifications

SHEV application   

### Brakel® Optima

Manufacturer	: Brakel (www.brakel.com)
Type	: Brakel® Optima
Description	: thermally separated natural louvered ventilator, suitable for ventilation purposes and smoke & heat ventilation
Operation	: single action pneumatic cylinder + CO <sub>2</sub> fire function (PB) / double action pneumatic cylinder + CO <sub>2</sub> fire function (P2B) / single action failsafe pneumatic cylinder (PBFS) / 24Vdc spindle motor (M24)
Base	: thermally separated insulated aluminium / thermally separated uninsulated aluminium
Louvers	: thermally separated aluminium with 25mm insulated aluminium flap U = 0.94 W/m <sup>2</sup> K / thermally insulated with insulated glass 4-15-3.3.2, 25 mm thick U = 1.10 W/m <sup>2</sup> K / thermally insulated with 6 wall polycarbonate - 25mm thick - clear / opal U = 1.50 W/m <sup>2</sup> K
Flanges	: thermally separated for glazing installation F2 flange thickness (28) mm / uninsulated flange for preformed upstand (width 120mm F5) / uninsulated flange for application of roof felt (F4) / thermally separated insulated flange for special installations (see drawing)
Clear opening (w x l)	: *** x *** mm (identical)
Flange sizes (w x l)	: *** x *** mm (identical)
Installation angle	: 0-30° and 90°
Installation	: installation in glazing / on preformed upstands / roof felt application
Protection	: enamel finish with 1 polyester layer powder coating, layer thickness 60 µm, in standard RAL colour (group 1) / anodised
U value	: Depending on type and size from 0.99 to 1.40 W/m <sup>2</sup> K
Air-tightness	: EN 1026: 600 Pa, EN 12207: class 4
Air leakage	: 0.3 m <sup>3</sup> /hrs/m <sup>2</sup> at 50 Pa
Water tightness	: EN 1027: 1050 Pa, EN 12208: class E1050
Resistance to varying wind load	: EN 12211:800 Pa (= P2) deviation < 1/300, strength 2400 Pa, EN 12210: class 4
Reaction to fire Test	: EN 13501-1 +A1:2009, B-s2,d0 : EN 12101-2
Acoustic values	: Brakel® Optima with insulated aluminium flap Rw = 26 dB Brakel® Optima with 6 wall polycarbonate Rw = 21 dB Brakel® Optima with glass flap 4-15-3.3.2 Rw = 31 dB



## Specifications

Ventilation application  

### Brakel® Optima

Manufacturer	: Brakel (www.brakel.com)
Type	: Brakel® Optima
Description	: thermally separated natural louvered ventilator, suitable for ventilation purposes
Operation	: single action pneumatic cylinder (P) / double action cylinder (P2) / 24Vdc spindle motor (M24) / 24Vdc spindle motor + transformer / rectifier (M230)
Base	: thermally separated insulated aluminium thermally separated uninsulated aluminium
Louvers	: thermally separated aluminium with 25mm insulated aluminium flap U = 0.94 W/m <sup>2</sup> K / thermally insulated with insulated glass 4-15-3.3.2, 25mm thick U = 1.10 W/m <sup>2</sup> K / thermally separated with 6 wall polycarbonate - 25mm thick - clear / opal U = 1.50 W/m <sup>2</sup> -K
Flanges	: thermally separated for glazing installation F2 flange thickness (28) mm / uninsulated flange for preformed upstand (width 120mm F5) / uninsulated flange for application of roof felt (F4) / thermally separated insulated flange for special installations
Clear opening (w x l)	: *** x *** mm (identical)
Flange sizes (w x l)	: *** x *** mm (identical)
Installation angle	: 0-90°
Installation	: installation in facade construction / glazing installation / on preformed upstands / roof felt application
Protection	: enamel finish with 1 polyester layer powder coating, layer thickness 60 µm, in standard RAL colour (group 1) / anodised
U value	: Depending on type and size from 1.0 to 1.4 W/m <sup>2</sup> K
Air-tightness	: EN 1026: 600 Pa, EN 12207: class 4
Air leakage	: 0.3 m <sup>3</sup> /hrs/m <sup>2</sup> at 50 Pa
Water tightness	: EN 1027: 1050 Pa, EN 12208: class E1050
Resistance to varying wind load	: EN 12211:800 Pa (= P2) deviation < 1/300, strength 2400 Pa, EN 12210: class 4
Acoustic values	: Brakel® Optima with insulated aluminium flap Rw = 26 dB Brakel® Optima with 6 wall polycarbonate Rw = 21 dB Brakel® Optima with glass flap 4-15-3.3.2 Rw = 31 dB