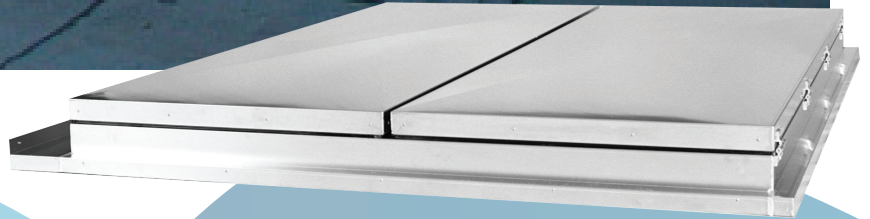


NKVD-PF

Twin Flap Roof Ventilator

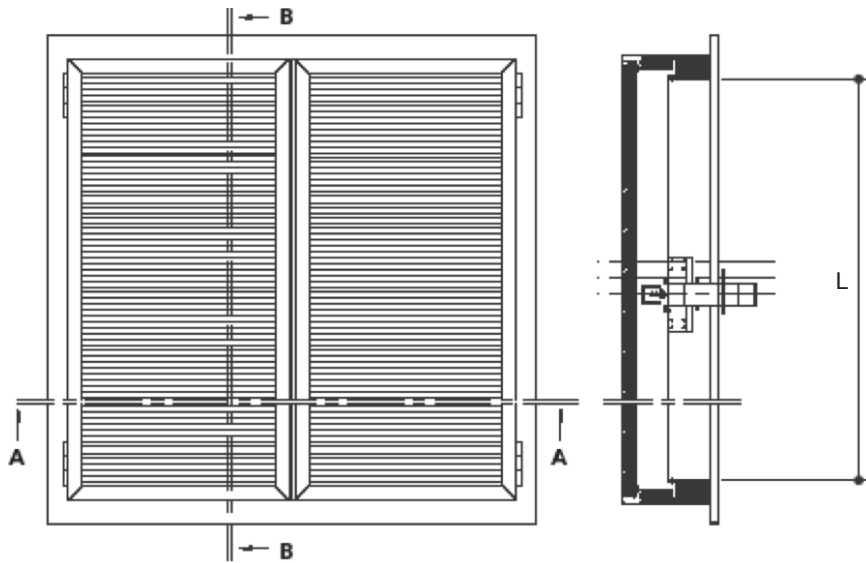
Flat profile. According EN 12101-2



- Natural ventilation.
- Smoke ventilation (Smoke and heat exhaust).
- Superior condensation protection.
- Superior protection against air losses.
- Superior acoustic attenuation.

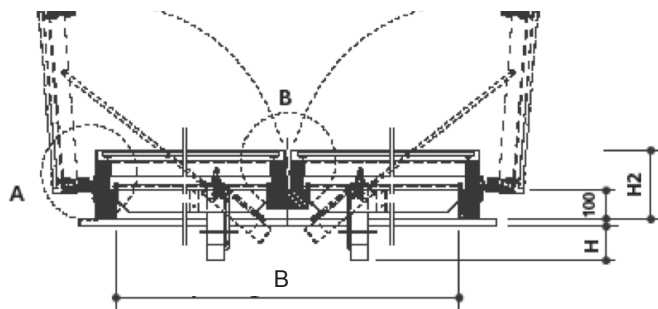
NKVD-PF

Intersection



Plan

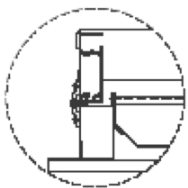
Section B-B



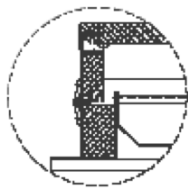
Section A-A

Detail

Detail A



Single skin
Aluminium

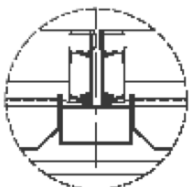


Thermally
insulated

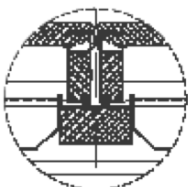


Thermally insulated
and broken

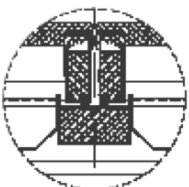
Detail B



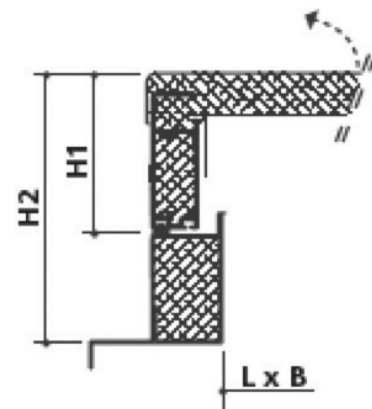
Single skin
Aluminium



Thermally
insulated



Thermally insulated
and broken



Detail.

Operable flap with thermally insulated flap and base.

Technical information

NKVD-PF, Geometric area (m²). Sizes in mm.

Type	L	B	Ag	Cilinderstroke	H
1000/1000	1000	1000	1,00	470	500
1000/1500	1000	1500	1,50	470	500
1000/2000	1000	2000	2,00	470	500
1000/2500	1000	2500	2,50	470	500
1500/1000	1500	1000	1,50	680	710
1500/1500	1500	1500	2,25	680	710
1500/2000	1500	2000	3,00	680	710
1500/2500	1500	2500	3,75	680	710
2000/1000	2000	1000	2,00	840	920
2000/1500	2000	1500	3,00	840	920
2000/2000	2000	2000	4,00	840	920
2000/2500	2000	2500	5,00	840	920
2500/1000	2500	1000	2,50	1100	1130
2500/1500	2500	1500	3,75	1100	1130
2500/2000	2500	2000	5,00	1100	1130
2500/2500	2500	2500	6,25	1100	1130

Thickness of operable flaps in mm.

	1,5	6,0	10	16	16k	20	24	25k	30	60	60+
Thermal insulation											
K-value in W/m². K (U value)											
Single skin aluminium	5,6										
Georgian wired, toughened or laminated glass	5,1										
Translucent Polycarbonate	3,1 2,3 2,0										
Thermally insulated panel	1,9 1,9 1,8 1,6 1,5 1,3 0,45 0,40										

Sound level Rw -											
Value in dB per spec. ISO 717											
Single skin aluminium	6,0										
Translucent Polycarbonate	17 21 21										
Thermally insulated panel	22 24 25 28 38										

H1 in mm	98	98	98	98	98	102	106	106	112	142	142
H2 in mm	198	198	198	198	198	202	206	206	212	242	242

The appliance with polycarbonate flap must be built in under minimum angle of 10°.

NKVD-PF



Service

BOVEMA offers a comprehensive service covering the specification and installation of our products.

BOVEMA

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Subject to technical changes and misprints.

Description

The NKVD-PF twin flap ventilator provides an economical and energy efficient method of exhausting large quantities of warm air and / or smoke from a building. The NKVD-PF is particularly suitable for industrial and commercial buildings where the overall building design requires low rates of air leakage, good sound attenuation or good thermal insulation performance. The NKVD-PF is a flat, very low profile unit and is supplied for flat roof installation with solid blades. To prevent staining, polycarbonate or glass bladed units should only be specified where the roof slope is 10 Deg or more from the horizontal. The low profile makes the NKVD-PF ideal for installations where Architectural requirements require a rigid but unobtrusive ventilator. The NKVD-PF ventilator is manufactured to NEN-EN-ISO 9002 quality control standards and is designed and tested to comply EN 12101-2. Specially designed units offer high levels of sound reduction for theatres and similar noise sensitive buildings.

Operating principles

Warm air is lighter than cold air and rises by convection. Using this natural ventilation principle, assisted as appropriate by wind action, large quantities of warm air or smoke can be evacuated from a building. The NKVD-PF natural ventilator utilises this principle to provide high levels of ventilation. Each ventilator has two large flaps, which close on single or double EPDM seals to provide an air and watertight seal around the full perimeter of the unit. A fully welded upstand and central gutter combine to drain water from the flaps directly onto the roof, without first entering the building. The flaps are hinged on the outside of the frame, which allows them to open fully to 90 degrees. This maximises the free area available for ventilation. Operation to open and close is by pneumatic or electric actuators, which are operated via remote control panels, allowing interface connections to rain, wind detectors, BMS or fire alarm systems.

Applications

Industrial or commercial buildings with flat roofs, where smoke extract is required for fire protection. Where the removal of process or solar heat gains requires daily ventilation, without weather protection, including buildings where high levels of thermal or acoustic protection is essential. Typical installations include: Theatres, Warehouses, Logistics or similar buildings where protection against water penetration is paramount, high quality public and private accommodation projects.

Specifications

Flaps:	1.5 - 2.0 mm thick, single skin aluminium 20/30/60 mm thick double skin aluminium with thermal insulation 20/30/60 mm thick double skin aluminium, thermally broken with full insulation 16/20 mm translucent, insulated double skin polycarbonate.
Base construction:	Single skin aluminium Double skin aluminium, with thermal insulation. Double skin aluminium, thermally broken, with full insulation.

Controls

Pneumatic actuators, which lock in both the fully open and fully closed position, using a two pipe pneumatic system, with when required, individual one-shot glass bulb / CO₂ emergency fail safe system actuation, operating at 68, 93, 110 Deg °C as required to meet the project requirements. 230 V A/C or 24V D/C electric actuator operation to motor the flaps from fully open to fully closed. Both the electric and pneumatic systems can be provided with remote controlpanels, with fail safe battery or compressed air operation plus complete pipe work and wiring as required.

Materials

- Corrosion resistant aluminium with sheet material from AlMg3 alloy.
- Extruded Aluminium profiles from AlMgSi 0.5 alloy
- All fixings in stainless steel.
- Hinges in aluminium and stainless steel.
- Weather resistant seals in EPDM

General

The NKVD- PF twin flap ventilator is fully assembled and tested before despatch. The standard unit is supplied in natural mill finished aluminium, but a Polyester Powder Paint finish may be supplied to any available RAL colour, selected from the standard range. Other optional items such as bird screens, sound attenuators, sprinkler shields and open / close location switches are also available.