

NKV - T

HIGH PERFORMANCE ROOF LOUVRE

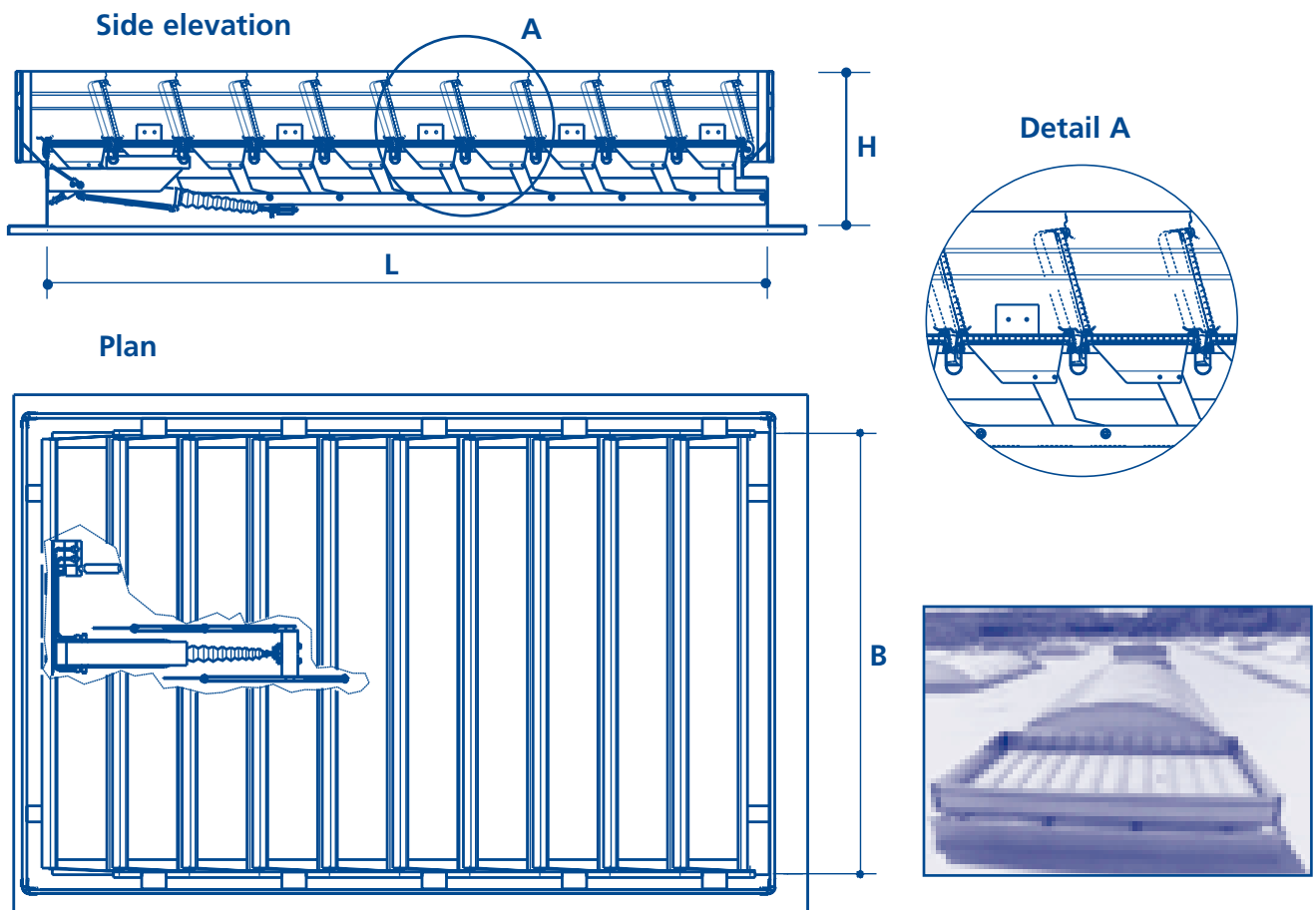
- **Natural ventilation**
- **Smoke ventilation**
(Smoke and heat exhaust)
- **Daylighting with double glazed louvres**
- **Superior acoustic and air loss performance**



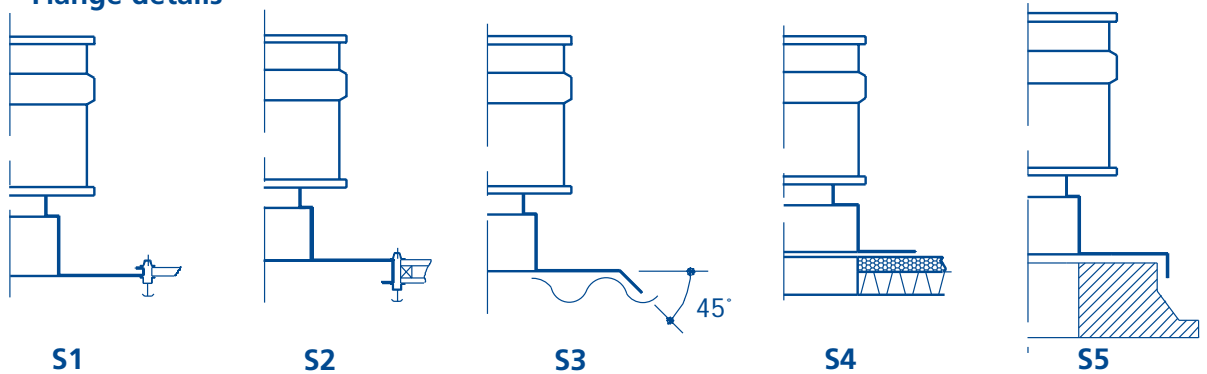
Bovema 
Konstrukties B.V.

Bovema Konstrukties B.V. is a member of the international Bovema Beheer Group

TECHNICAL INFORMATION

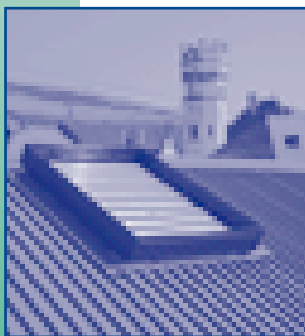


Flange details



- High base constructions can be made to any roof opening size

Air leakage
in m³/hour per m²
geometric area



Typical standard blade system
High performance NKV-T system

Internal to external pressure
differential in Pascal



Lloyds Quality Assurance audits the production process and management systems twice each year.

TYPE NKV - T

Louvred ventilator

Type NKV-T (high base) single skin aluminium
Geometric surface in m²

→ nr. of blades

Type	3	4	5	6	7	8	9	10	11	B (mm)
50	0.41	0.54	0.67	0.79	0.92	1.05	1.18	1.31	1.43	580
75	0.59	0.77	0.95	1.14	1.32	1.50	1.68	1.87	2.05	830
100	0.77	1.00	1.24	1.48	1.72	1.95	2.19	2.43	2.67	1080
130	0.98	1.28	1.59	1.89	2.19	2.50	2.80	3.11	3.41	1380
160	1.19	1.56	1.93	2.30	2.67	3.04	3.41	3.78	4.15	1680
190	1.41	1.84	2.28	2.71	3.15	3.58	4.02	4.46	4.89	1980
220	1.62	2.12	2.62	3.12	3.63	4.13	4.63	5.13	5.63	2280
240	1.76	2.31	2.85	3.40	3.94	4.49	5.03	5.58	6.13	2480
L (mm)	710	930	1150	1370	1590	1810	2030	2250	2470	

L (mm) = throat opening length B (mm) = throat opening width

Blade specifications



Georgian wired, toughened or laminated glass.
K = 5.6 W/m²K (U value) ± 90% light transmission



Aluminium sandwich (Alusandwich),
with 10 mm thermal insulation.
K=1.9 W/m²K (U value)



Translucent polycarbonate, clear or opal,
with 10mm thermal insulation
K = 3.0 W/m²K (U value) ± 79%-50% light transmission



Aluminium Sandwich (Alusandwich),
with 16 mm thermal insulation.
K=1.4 W/m²K (U value)



Translucent polycarbonate, clear or opal,
with 16mm thermal insulation
K = 2.4 W/m²K (U value) ± 79%-50% light transmission



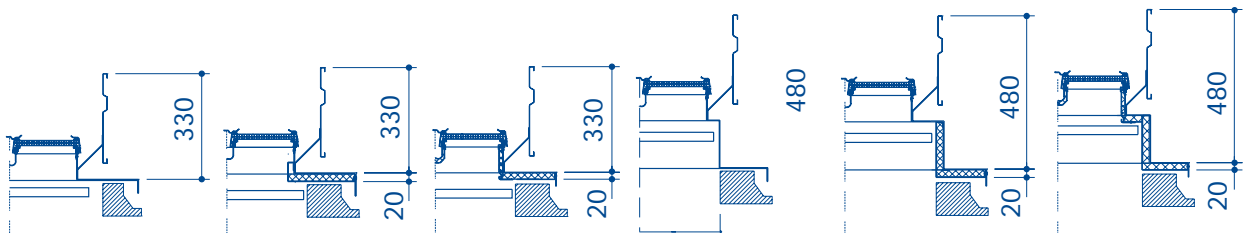
Single skin extruded aluminium,
1.8mm thick
K = 5.7 W/m²K (U value)



Double glazed, 18 mm, 20 mm or 22 mm,
sealed glass units
K = 3.0 - 1.4 W/m²K ± 90% light transmission



Double skin aluminium
with 20mm thermal insulation
K = 1.4 W/m²K (U value)



Low base,
single skin
aluminium

Low base,
fixing flange
insulated

Low base,
fully insulated
and thermally
broken

High base,
single skin
aluminium

High base,
insulated

High base,
fully insulated
and thermally
broken

Length	L	L - 12	L - 12	L	L	L
Width	B	B - 24	B - 24	B	B - 50	B - 50
Minimum roof opening						

General information

DESCRIPTION

The **Bovema** NKV-T louvre is a high performance high quality natural ventilator with many extruded aluminium sections for improved visual characteristics. Natural ventilation allows for the removal of large quantities of warm air and / or smoke from a building and the NKV-T is particularly suitable for industrial or commercial buildings where low air leakage, good thermal insulation and / or good sound reduction is required when the ventilator is closed. The fully welded, rigid construction, together with a choice of solid aluminium or fully sealed glass / polycarbonate blades makes this louvre the right choice for high quality, high specification buildings. Each low profile multi purpose ventilator is manufactured to NEN-EN-ISO 9002 quality control standards and is designed and tested to comply with various national standards for smoke ventilators, for example BS: 7346: Pt 1: 1990 in the UK and DIN 18232 in Germany. The construction is from high quality corrosion resistant aluminium to ensure low maintenance. Various methods of operation by pneumatic or electric systems are available.

OPERATING PRINCIPLES

Warm air rises due to thermal convection. Large quantities of warm air and / or smoke can be removed from a building using this natural ventilation principle. The system consumes no electrical power to extract the air and the ventilation effect may be increased by external wind action. NKV-T ventilators are used to provide daily ventilation and / or smoke and heat evacuation in case of fire. The operating systems may be enhanced by the addition of facilities such as rain or wind sensing systems, which ensure the building is protected even if the outside environmental conditions change. As a high performance operable ventilator the NKV-T has blades fitted with weather resistant EPDM seals, which form an airtight unit when closed, to conserve energy. A rainwater gutter at each blade junction sheds water to either side of the louvre box, for removal by an external drainage system, to ensure a waterproof internal construction. All the louvre-operating mechanisms are contained within this protected area to minimise maintenance requirements. The overall design, with its high thermal and sound performance, makes this the ideal ventilator for the more Architectural or technically demanding installations.

APPLICATIONS

Quality industrial or commercial buildings with high performance requirements, where thermal insulation, acoustic insulation or protection against infiltration or condensation is of particular importance. Typical applications include Atria and glazing systems for Shopping Centres, Sports Centres and other Public Buildings, Apartment Buildings and Hotels, where daily ventilation or smoke extract in the event of a fire is required.

SPECIFICATIONS

Louvres:

- 1.8 mm single skin, extruded aluminium
- 10 mm thermal insulation, double skin aluminium
- 20 mm thermal insulation, double skin aluminium
- 6 mm single laminated, toughened or wired glass
- 18 – 22 mm double glazed units (various constructions)
- 10 mm clear or opal, twin wall polycarbonate
- 16 mm clear or opal, twin wall polycarbonate

Frame/housing:

- single skin aluminium
- Double skin aluminium, thermally insulated

CONTROLS

NKV-T louvres are normally provided with pneumatic or electrical operating systems. The pneumatic systems may include individual one-shot glass bulbs and CO₂ systems for Emergency fail-safe operation to open in fire conditions. These operate at a temperature to suit the project requirements, 68-93-110 or 140 deg C. 24V D/C or 230 V A/C electric actuator operation is available, with fusible link and spring type fire sets if required. The pneumatic or 24 V D/C electrical systems can be operated via remote control panels with a protected mains / battery facility, plus wiring or compressor units and pipe-work as required.

MATERIALS

Corrosion resistant aluminium, with sheet material to AlMg3 alloy and extruded aluminium profiles to AlMgSi 0.5 alloy. All fixings are in stainless steel and seals are weather resistant EPDM.

GENERAL

The NKV-T louvred ventilators are fully assembled and each unit is test operated before despatch. The standard unit is manufactured in natural mill finished aluminium but a Polyester Powder Paint finish, to any available RAL colour from the Bovema range, may be supplied. Other optional items such as bird screens, insect mesh, sound attenuators, sprinkler shields and open / close louvre location indication switches are also available. The louvre base units and fixing flanges are of fully welded construction and the light weight construction allows the NKV-T louvre to be installed on to various types of, cladded, built up or patent glazed roof constructions. The final flange sizes are manufactured to customer requirements, to allow simple installation and ensure watertight buildings.

SERVICE

The Bovema group offers a comprehensive service covering the specification and installation of our products.

