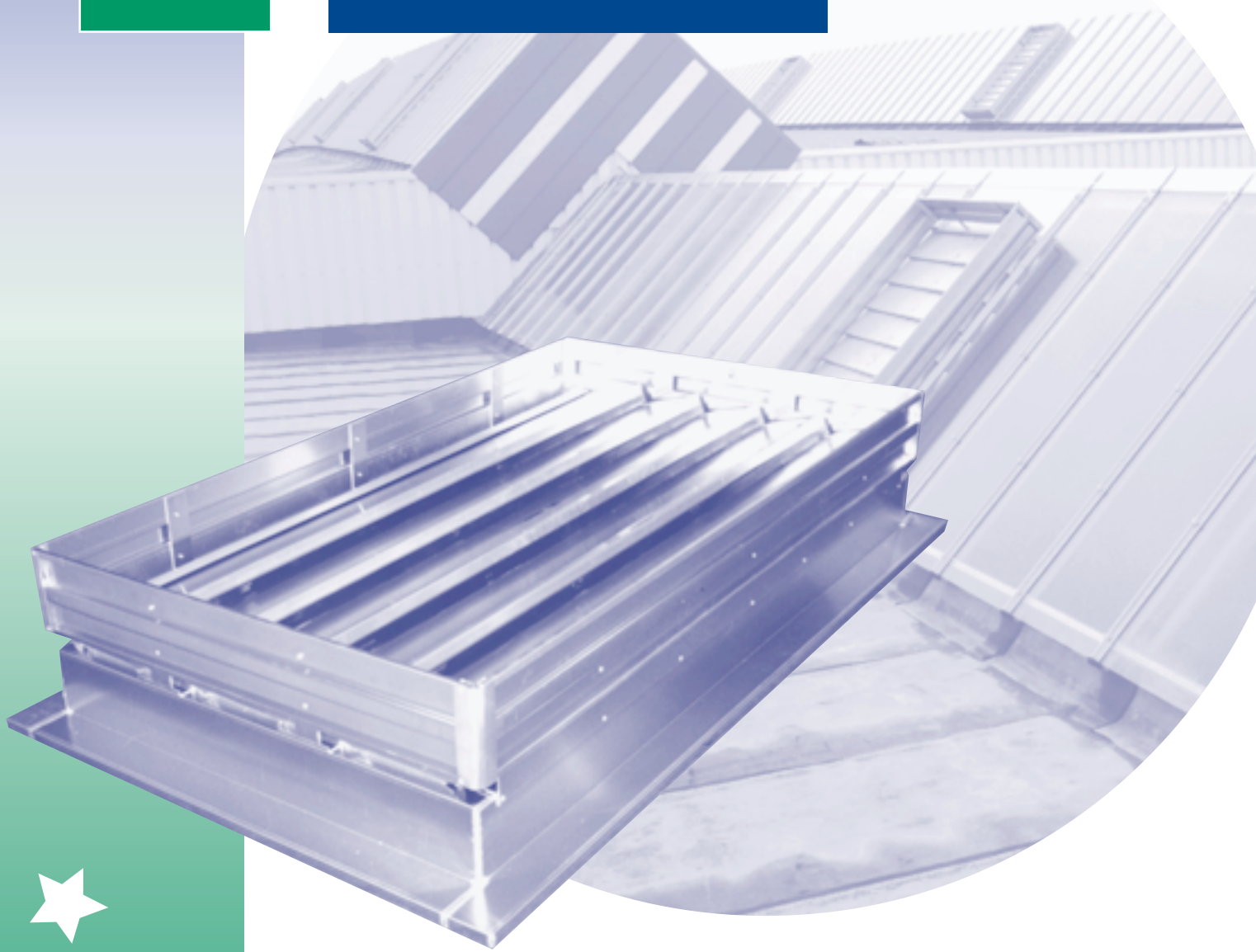
TMS

STANDARD ROOF LOUVRE

- Natural ventilation
- Smoke ventilation

  Smoke and heat exhaust
- Daylighting

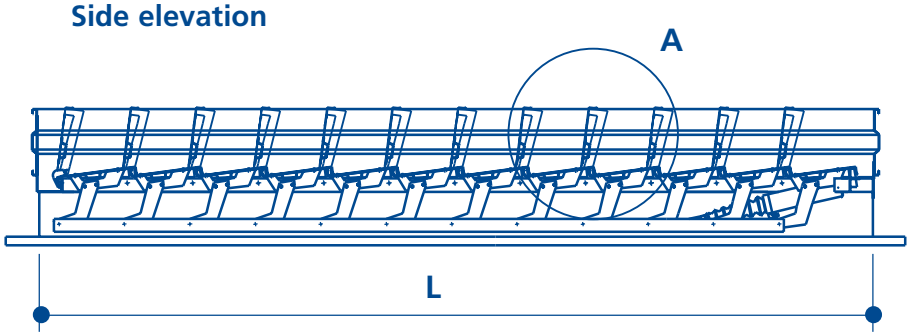


Bovema Konstrukties B.V.

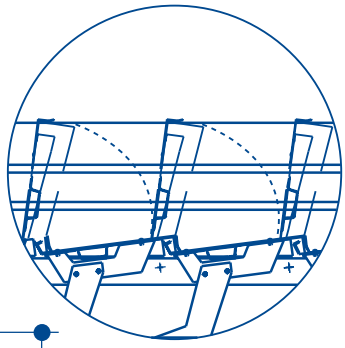
Bovema Konstrukties B.V. is a member of the international Bovema Beheer Group

TECHNICAL INFORMATION

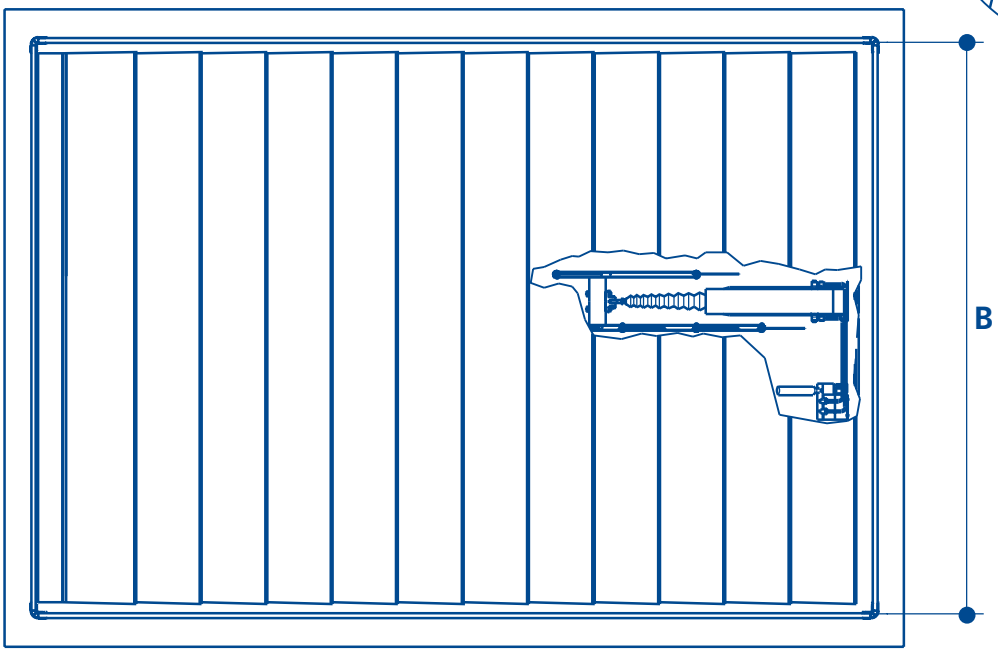
Side elevation



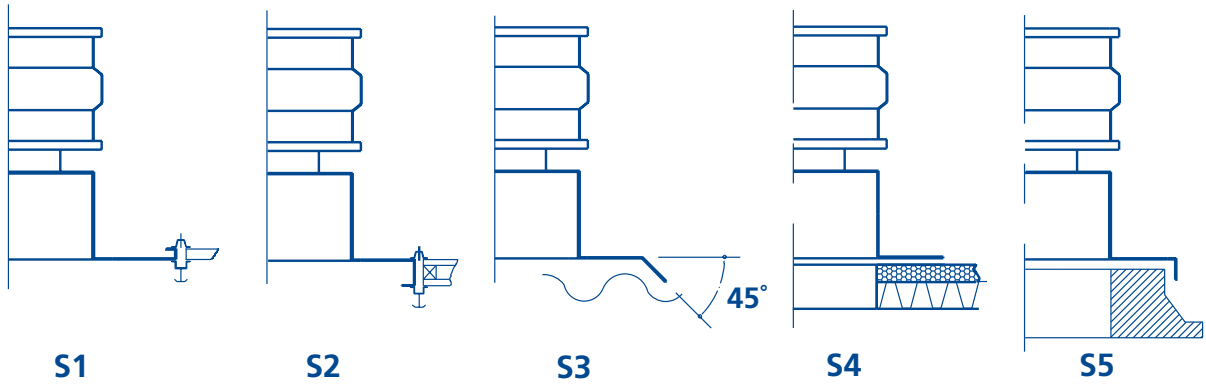
Detail A



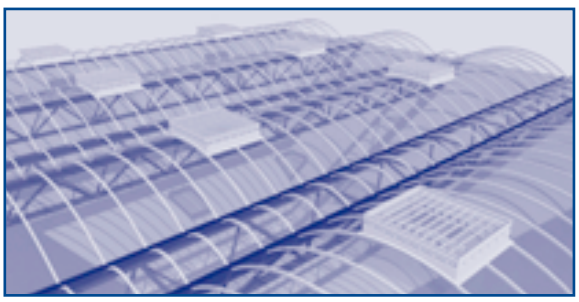
Plan



Flange details



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



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

TYPE TMS
LOUVRED VENTILATOR

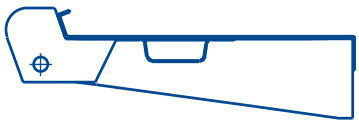
TMS (high base) single skin aluminium, geometric area Ag (m^2)

Type	3	4	5	6	7	8	9	10	11	12	13	14	15	16	B(mm)
6-	0.44	0.55	0.67	0.79	0.90	1.02	1.14	1.25	1.37	1.49	1.61	1.72	1.84	1.96	600
8-	0.62	0.78	0.95	1.11	1.28	1.45	1.61	1.78	1.94	2.11	2.27	2.44	2.61	2.77	850
11-	0.80	1.01	1.23	1.44	1.66	1.87	2.08	2.30	2.51	2.73	2.94	3.16	3.37	3.59	1100
14-	1.02	1.29	1.56	1.83	2.11	2.38	2.65	2.93	3.20	3.47	3.75	4.02	4.29	4.56	1400
17-	1.23	1.56	1.90	2.23	2.56	2.89	3.22	3.55	3.88	4.22	4.55	4.88	5.21	5.54	1700
20-	1.45	1.84	2.23	2.62	3.01	3.40	3.79	4.18	4.57	4.96	5.35	5.74	6.13	6.52	2000
21-	1.57	1.99	2.41	2.83	3.25	3.67	4.09	4.51	4.94	5.36	5.78	6.20	6.62	7.04	2160
23-	1.67	2.12	2.56	3.01	3.46	3.91	4.36	4.81	5.26	5.70	6.15	6.60	7.05	7.50	2300
25-	1.81	2.30	2.79	3.28	3.76	4.25	4.74	5.23	5.71	6.20	6.69	7.18	7.66	8.15	2500
*27-	1.96	2.48	3.01	3.54	4.06	4.59	5.10								2700
*29-	2.10	2.67	3.23	3.80	4.36	4.93									2900
L(mm)	725	920	1115	1310	1505	1700	1895	2090	2285	2480	2675	2870	3065	3260	

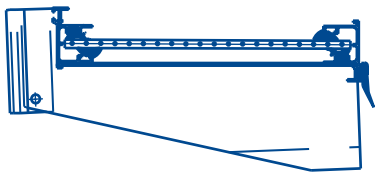
L (mm)= Length of throat opening B (mm)= Width of throat opening

Example: for ventilator 6-3, the width is 6=600mm, there are 3 blades, and the geometric free area is 0.44m^2

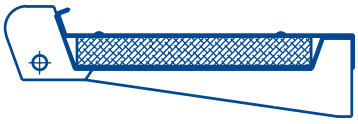
Top louvre blades



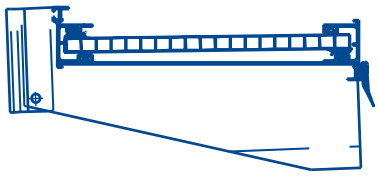
Aluminium 1.5 and 1.0 mm
K= 5.7 W/m^2K (U value)



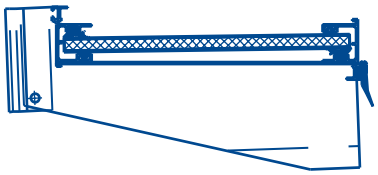
Georgian wired, toughened or laminated glass
K = 5.6 W/m^2K (U value) ± 90 % light transmission



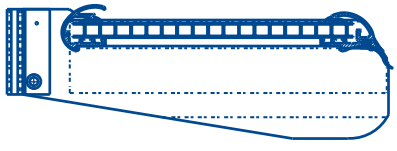
Double skin aluminium with 20 mm thermal insulation
K= 1.4 W/m^2K (U value)



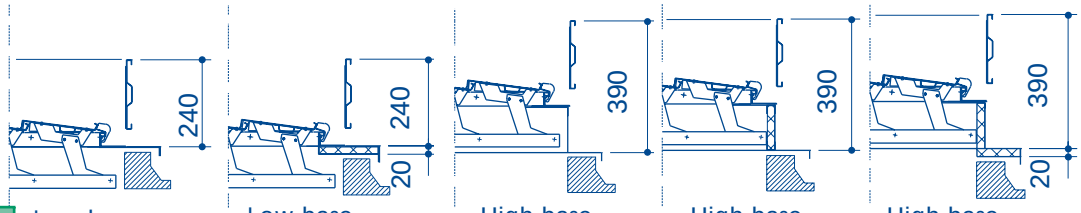
Translucent polycarbonate, clear or opal with 10 mm insulation
K = 3.0 W/m^2K (U value) ± 79-50 % light transmisson



Aluminium-Sandwich (Alusandwich)10 mm thermal insulation
K= 1.9 W/m^2K (U value)



TMS-N translucent polycarbonate with10 mm thermal insulation
K = 3.0 W/m^2K (U value) ± 79 % - 50 % light transmission



Minimum roof opening	Low base, single skin aluminium	Low base, fixing flange with insulation	High base, single skin aluminium	High base, base with insulation	High base, base and fixing flange with insulation
Length	L	L	L	L - 50	L - 50
Width	B	B	B	B - 50	B - 50

General information

DESCRIPTION

The **Bovema** TMS louvred ventilator provides an economic, non-powered method of ventilation, allowing the removal of large quantities of warm air and / or smoke from a building. The TMS is particularly suitable for use in industrial and commercial buildings where low cost natural ventilation with or without natural lighting is required. The low profile multi purpose ventilators are manufactured to NEN-EN-ISO 9002 quality control standards and are designed and tested to comply with the various national standards for smoke ventilators, for example BS: 7346: Pt 1: 1990 in the UK and NFS 61937 in France. The ventilators are formed from high quality corrosion resistant aluminium, to ensure low maintenance requirements. Various methods of operation using pneumatic or electric actuators are available. The ventilator design produces a versatile economic unit suitable for a wide range of applications.

OPERATING PRINCIPLES

Warm air rises due to thermal convection and 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. TMS ventilators are used to provide daily ventilation and / or smoke and heat evacuation in case of fire. Various control systems can be provided with additional facilities such as rain or wind sensors to ensure the building is protected when the external environmental conditions change. Specially designed interlocking louvre blades ensure leakage is prevented when the louvres are closed and the blades are themselves angled to provide a self-cleaning action for glass or polycarbonate louvres. The blade hinges are positioned outside of the airstream to allow maintenance free operation, and seals on each side of the blades reduce heat or air losses.

APPLICATIONS

Typical applications include: High heat producing process buildings, Industrial Buildings, Warehouses and Logistics centres, plus Shopping Centres and Stairwell ventilation systems, where daily ventilation or smoke extract ventilation in the event of a fire is required.

SPECIFICATIONS

Louvres:	1.5 and 1.0 mm single skin aluminium 10 mm thermally insulated, thermally broken double skin aluminium 20 mm thermally insulated, double skin aluminium 6 mm single, laminated, toughened or wired glass. 10 mm translucent or opal, twin wall polycarbonate
Frame / Base	Single skin aluminium Double skin aluminium with thermal insulation

CONTROLS

TMS louvres may be: -Fixed closed with fusible link / fire set operation, to open only in the event of a fire. As above but with cable operation and pull handle for remote low level operation. Fully operated to open and close by means of: - Pneumatic systems with single pipe, single acting actuators and spring sets. Pneumatic two pipe systems with actuators locking in the open and closed positions. Thermally operated fusible link fire sets or integral one-shot glass bulb and CO_2 operation, all operating at a temperature selected to suit the project requirements (68, 93, 110 or 140) Deg. C. 230 V A/C or 24 V D/C electric actuator operation, with fusible link and spring type fire set. Pneumatic or 24 V D/C systems can be operated via remote systems with compressors, protected mains / battery operated control panels and pipe work / wiring as required.

MATERIALS

Corrosion resistant aluminium sheet materials to AlMg3 alloy specification and extruded aluminium profiles to AlMgSi. 0.5 alloy specification. All fixings are in stainless steel.

GENERAL

TMS louvre ventilators are supplied 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 standard RAL colour, selected from the Bovema range may be specified for all the aluminium components. Other optional items such as bird screens, insect mesh, sound attenuators and sprinkler shields are also available. The ventilator base and flange units are of fully welded construction, with final flange sizes fabricated to suit individual project requirements. The lightweight construction and wide range of base profiles allows the TMS unit to be installed onto almost any type of cladded, built up or glazed roof construction. Specialist systems such as circular section dome light constructions can also be accommodated.
The overall construction allows for simplicity of installation to ensure watertight connection.

SERVICE

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

Bovema

Mrt. 2002

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