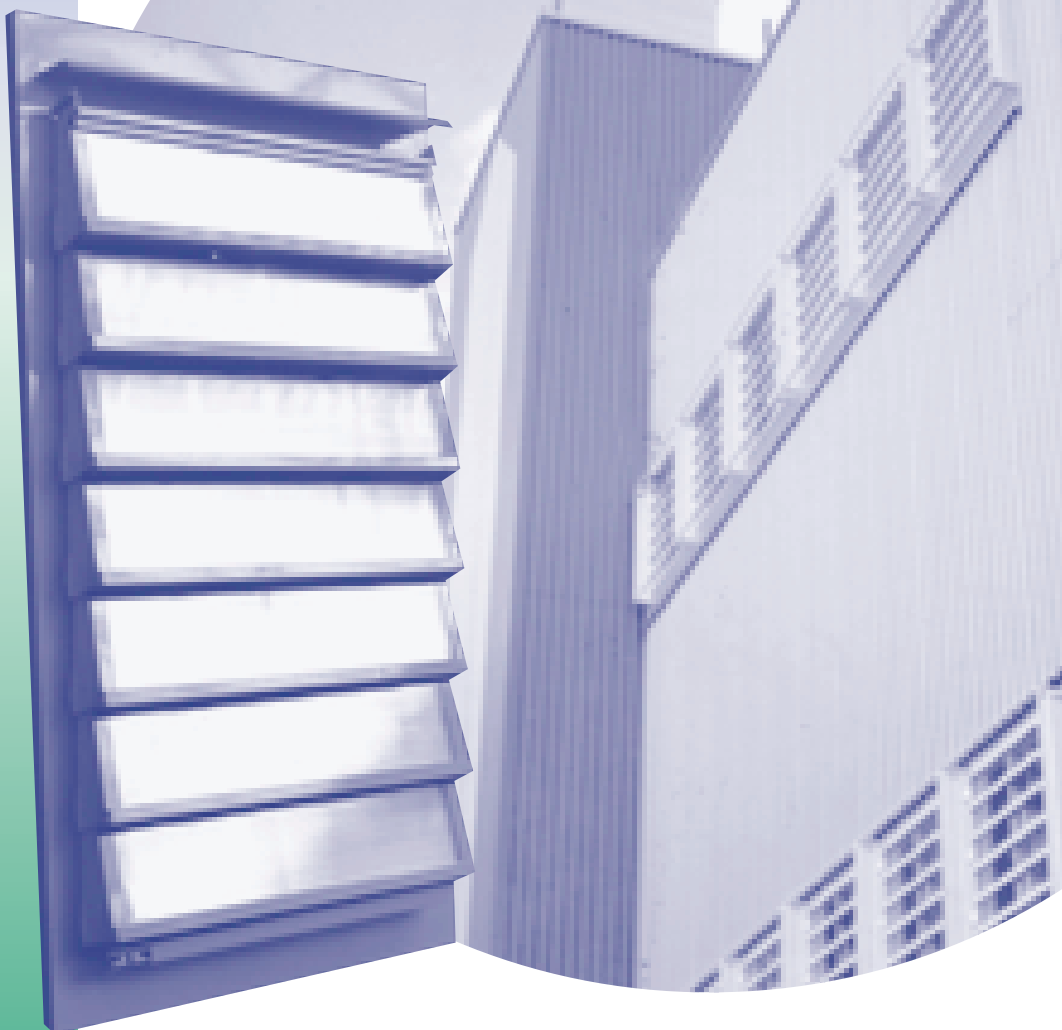


# TMS - G

## HIGH CAPACITY OPERABLE WALL LOUVRE

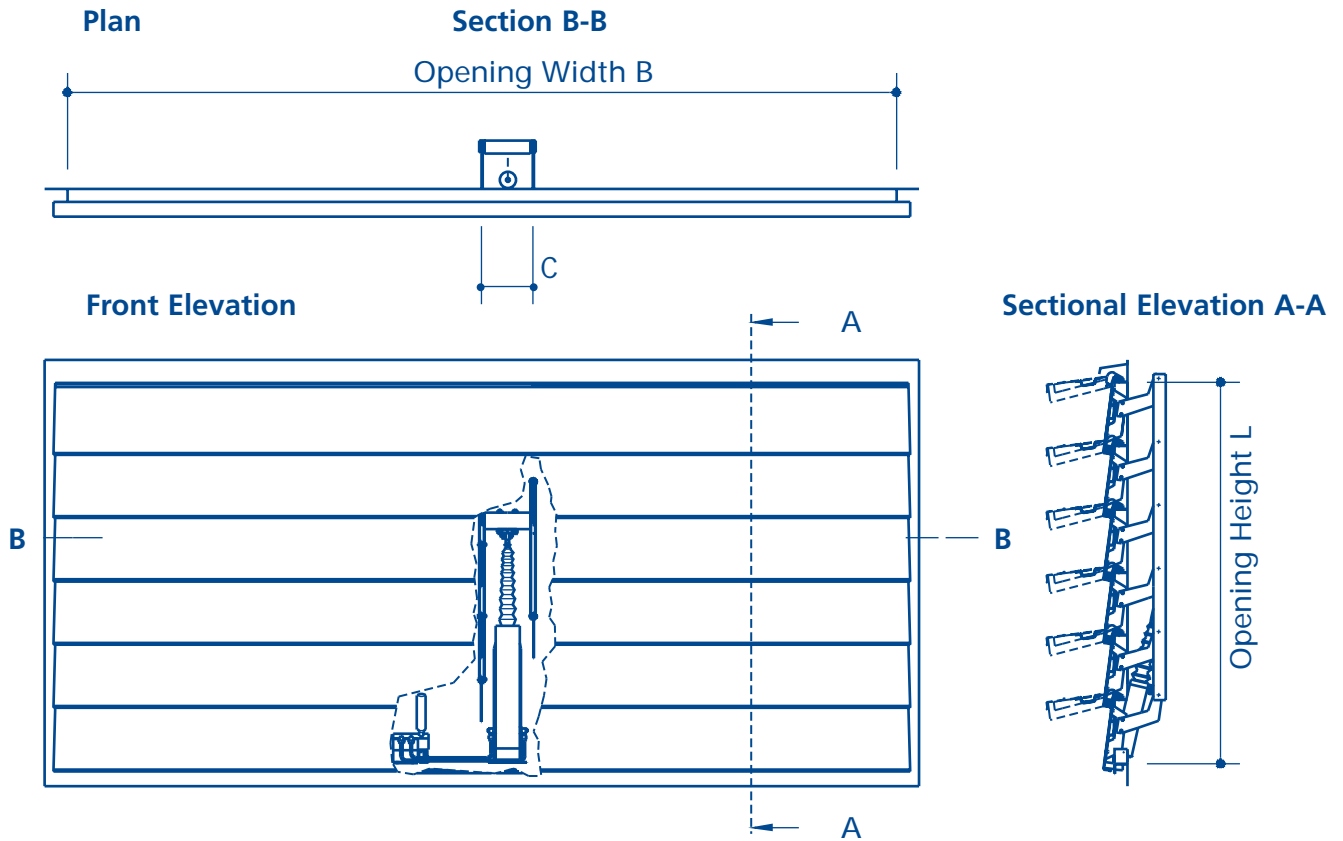
- Natural ventilation
- Operable louvre system with horizontal blades
- Air inlet for daily ventilation systems
- Air inlet for smoke ventilation systems
- Insulated or translucent blades



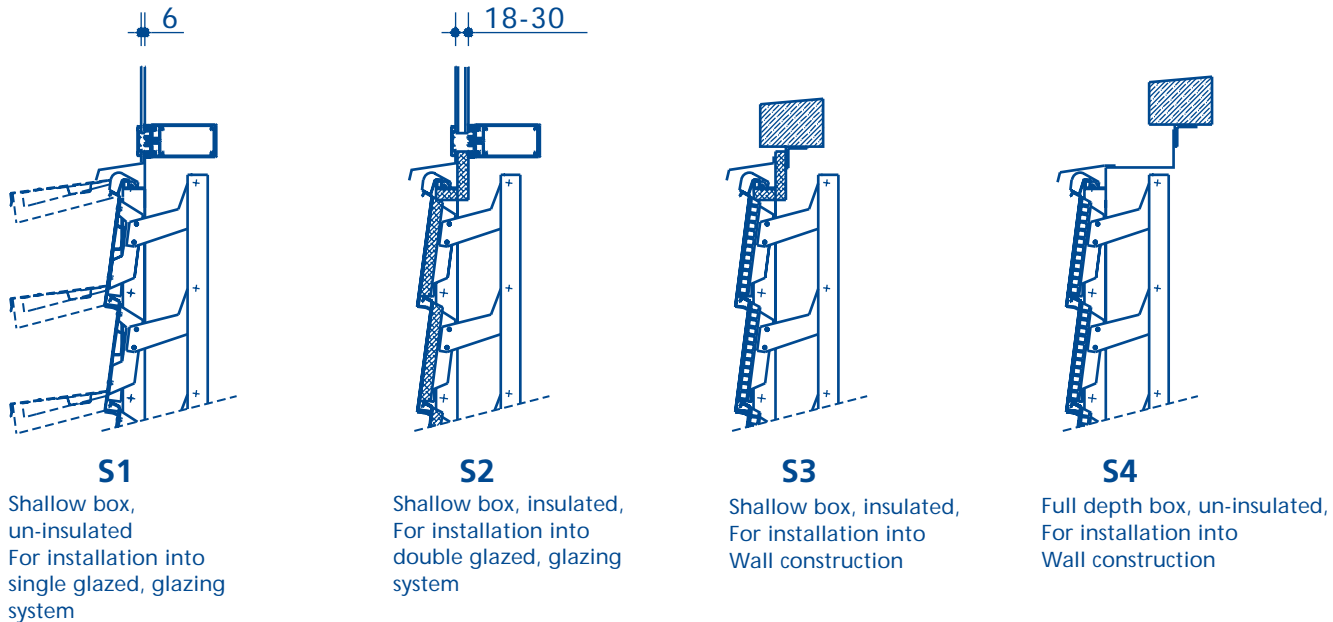
**Bovema**   
*Konstrukties B.V.*

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

# TECHNICAL INFORMATION



## Frames and Installation Flanges



| Blade type/<br>Box Depth | Alu-1<br>Blade                       | Alu-2<br>Blade                        | Single Glass<br>Blade                | Polycarbonate<br>PC-10 Blade          | Alutherm<br>Blade                    |
|--------------------------|--------------------------------------|---------------------------------------|--------------------------------------|---------------------------------------|--------------------------------------|
| H1 Shallow Box           | 70                                   | 70                                    | 125                                  | 125                                   | 125                                  |
| H2 Shallow Box           | 245                                  | 245                                   | 270                                  | 270                                   | 270                                  |
| H1 Deep Box              | 220                                  | 220                                   | 275                                  | 275                                   | 275                                  |
| H2 Deep Box              | 395                                  | 395                                   | 420                                  | 420                                   | 420                                  |
| C                        | up to type17<br>C= 160<br>>17 C=1000 | up to type17<br>C= 160<br>>17 C= 1000 | up to type14<br>C= 160<br>>14 C=1000 | up to type 14<br>C= 160<br>>14 C=1000 | up to type 14<br>C=160<br>>14 C=1000 |

Deep base constructions can be made to any wall opening size

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



# TYPE TMS-G

## Wall Louvre with operable blades

TMS-G (Shallow Box) single skin aluminium.

Geometric Area in m<sup>2</sup>

| Type  | 3    | 4    | 5    | 6    | 7    | 8    | 9    | 10   | 11   | 12   | 13   | 14   | 15   | 16   | B(mm) |
|-------|------|------|------|------|------|------|------|------|------|------|------|------|------|------|-------|
| 6     | 0.29 | 0.39 | 0.49 | 0.59 | 0.68 | 0.78 | 0.88 | 0.98 | 1.08 | 1.17 | 1.27 | 1.37 | 1.46 | 1.56 | 500   |
| 8     | 0.44 | 0.59 | 0.73 | 0.88 | 1.02 | 1.17 | 1.32 | 1.46 | 1.61 | 1.76 | 1.90 | 2.05 | 2.19 | 2.34 | 750   |
| 11    | 0.59 | 0.78 | 0.98 | 1.17 | 1.37 | 1.56 | 1.76 | 1.95 | 2.15 | 2.34 | 2.54 | 2.73 | 2.93 | 3.12 | 1000  |
| 14    | 0.76 | 1.01 | 1.27 | 1.52 | 1.77 | 2.03 | 2.28 | 2.54 | 2.79 | 3.04 | 3.30 | 3.55 | 3.80 | 4.06 | 1300  |
| 17    | 0.94 | 1.25 | 1.56 | 1.87 | 2.18 | 2.50 | 2.81 | 3.12 | 3.43 | 3.74 | 4.06 | 4.37 | 4.68 | 4.99 | 1600  |
| 20    | 1.11 | 1.48 | 1.85 | 2.22 | 2.59 | 2.96 | 3.33 | 3.71 | 4.08 | 4.45 | 4.82 | 5.19 | 5.56 | 5.93 | 1900  |
| 21    | 1.17 | 1.56 | 1.95 | 2.34 | 2.73 | 3.12 | 3.51 | 3.90 | 4.29 | 4.68 | 5.07 | 5.46 | 5.85 | 6.24 | 2060  |
| 23    | 1.29 | 1.72 | 2.15 | 2.57 | 3.00 | 3.43 | 3.86 | 4.29 | 4.72 | 5.15 | 5.58 | 6.01 | -    | -    | 2200  |
| 25    | 1.40 | 1.87 | 2.34 | 2.81 | 3.28 | 3.74 | 4.21 | 4.68 | 5.15 | 5.62 | 6.08 | -    | -    | -    | 2400  |
| 27    | 1.52 | 2.03 | 2.54 | 3.04 | 3.55 | 4.06 | 4.56 | 5.07 | 5.58 | 6.08 | -    | -    | -    | -    | 2600  |
| 29    | 1.64 | 2.18 | 2.73 | 3.28 | 3.82 | 4.37 | 4.91 | 5.46 | 6.00 | -    | -    | -    | -    | -    | 2800  |
| L(mm) | 585  | 780  | 975  | 1170 | 1365 | 1560 | 1755 | 1950 | 2145 | 2340 | 2535 | 2730 | 2925 | 3120 |       |

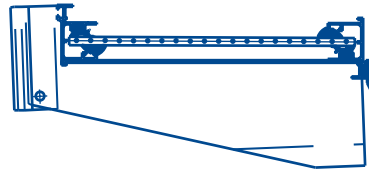
L (mm) = Clear Opening Height    B (mm) = Clear Opening Width  
 Deep Box    Lh = L + 140 mm    Bh = B + 100 mm

Example: for ventilator 6-3, the width is 6=600 mm, there are 3 blades, and the geometric free area is 0.29 m<sup>2</sup>

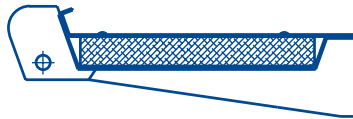
### Blade Types



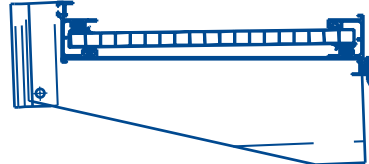
Single skin aluminium  
 1.5 mm thick  
 K = 5.7 W/m<sup>2</sup>K (U value)



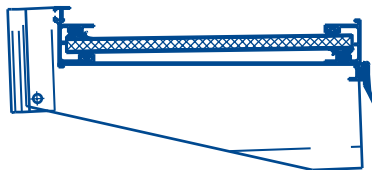
Georgian wired toughened or laminated glass  
 6 mm Thick. K = 5.6 W/m<sup>2</sup>K (U value)  
 ± 90 % light transmission.



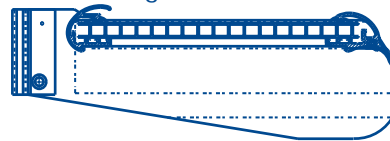
Double skin aluminium, 20mm thermal insulation  
 K = 1.4 W/m<sup>2</sup>K (U value)



Translucent polycarbonate, clear / opal, 10mm thermal insulation  
 K = 3.0 W/m<sup>2</sup>K (U value)  
 ± 79% - 50% light transmission



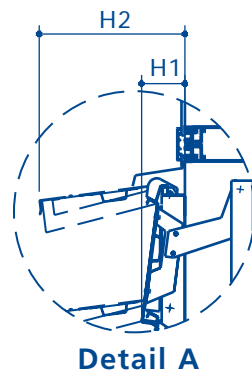
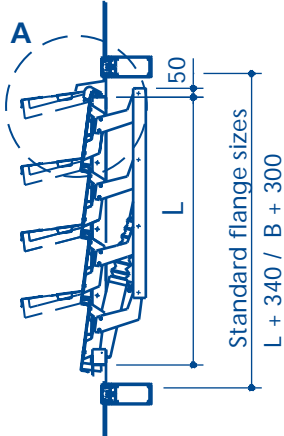
Aluminium sandwich (Alusandwich),  
 10 mm thermal insulation  
 K = 1.9 W/m<sup>2</sup>K (U value)



TMS-N translucent polycarbonate 10mm thermal insulation  
 K = 3.0 W/m<sup>2</sup>K (U value)

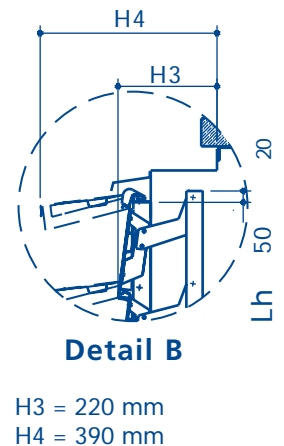
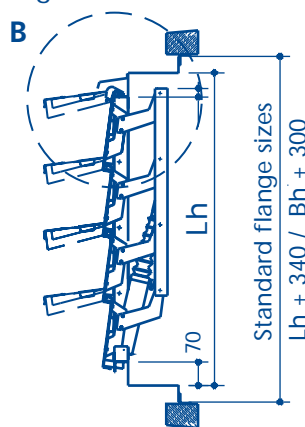
± 79%

low base



H1 = 70 mm  
 H2 = 240 mm

50% light transmission  
 high base



H3 = 220 mm  
 H4 = 390 mm

## General information

### DESCRIPTION

The **Bovema** TMS-G Wall Louvre provides an economic means of introducing large quantities of fresh air into a building. As a certified smoke extract ventilator the louvre may also be used for smoke extract in the event of a fire, where wall extract systems are acceptable. The TMS-G louvre is particularly suitable for industrial and commercial buildings where high levels of ventilation are required and it is commonly used as an operable air inlet for high heat or smoke extract systems, operating in conjunction with roof extract louvres or fans. The TMS-G louvre is available with solid or glazed blades and is therefore ideal for installations where ventilation plus Daylighting is required. The large bladed aesthetically pleasing louvres 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. The lightweight construction allows for the manufacture of large individual products and the full-unrestricted opening areas provide a very economic solution to meet wall louvre requirements. As a variation of the TMS roof louvre the TMS-G wall louvre is fully sealed when closed, with overlapping blades to ensure top class water shedding characteristics. Blade seals on the insulated louvres enhance the heat loss protection available. Various methods of operation using pneumatic or electric actuators are available.

### OPERATING PRINCIPLES

TMS-G wall louvres are designed to allow large quantities of air into buildings with very little loss in air pressure as the air flows through them when open. They are particularly compatible with natural or powered extract systems for smoke ventilation or high heat industrial systems. When closed the louvres are fully watertight even in driving rain conditions. Partial opening of the louvres can also provide reduced levels of ventilation with limited weather resistance. Various control systems are available and the louvres can be operated in conjunction with other roof extract ventilators to meet various environmental requirements. Specially designed interlocking louvre blades ensure leakage is prevented when the louvres are closed, and the blade hinges are positioned outside of the air stream to allow maintenance free operation.

### APPLICATIONS

Typical applications include: High heat producing process buildings, industrial buildings, Warehouses and logistics centres, plus Shopping centres and buildings where daily ventilation and / or smoke extraction in the event of a fire are required

### SPECIFICATION

Louvres: 1.5 mm and 1.0 mm single skin aluminium  
10 mm thermal insulated and separated double skin aluminium  
20 mm thermal insulated double skin aluminium  
6 mm single Georgian wired, laminated or toughened glass  
10 mm translucent or opal / insulated double skin polycarbonate

Frame/housing Single skin aluminium  
Thermal insulated double skin aluminium

### CONTROLS

Pneumatic control (locked in both opened and closed position) - CO<sub>2</sub> - fusible link temperature: 68°-93°-110°-140°C - electric controls 24V D/C / 230 V A/C - "fail safe" controls both electric and pneumatic - cable controls. CO<sub>2</sub> and electric battery back-up systems are available.

### MATERIALS

Corrosion resistant aluminium, sheet materials to AlMg3 alloy, extruded aluminium profiles to AlMgSi. 0.5 alloy, all fixings are in stainless steel. All bearings are nylon and require no lubrication

### GENERAL

TMS-G 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-G unit to be installed onto almost any type of cladded, built up or glazed wall construction. 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** 