

# Adjustable Blade Grilles

## 1H 1V 2H 2V



### Introduction

The Waterloo adjustable, single and double deflection grilles are suitable for duct, ceiling and sidewall applications in most commercial projects. The grille vanes are individually adjustable to allow jet spread or deflection to be set within 45° of the duct axis.

### Product Description

<b>1H</b>	Single set of horizontal blades
<b>1V</b>	Single set of vertical blades
<b>2H</b>	Double set of blades with front set horizontal
<b>2V</b>	Double set of blades with front set vertical
<b>OBSS</b>	Allen key operated opposed blade damper
<b>ED</b>	Equalising deflector
<b>DT-2M</b>	Adjustable duct turn (Installed in duct)

### Features

- Single or double deflection for complete air pattern control
- Teardrop blade for quiet operation but maximum induction

### Finishes

PPM9006 (RAL 9006 Matt Silver)  
 PPM9010 (RAL 9010 20% Gloss White)  
 PPG9010 (RAL 9010 Gloss White)  
 Other colours or anodised finish available on request

### Weights

1H /1V	8.5 kg/m <sup>2</sup> face area
2H/2V	12.0 kg/m <sup>2</sup> face area
OBSS/ED	9.5 kg/m <sup>2</sup> face area
DT2M	9.0 kg/m <sup>2</sup> face area

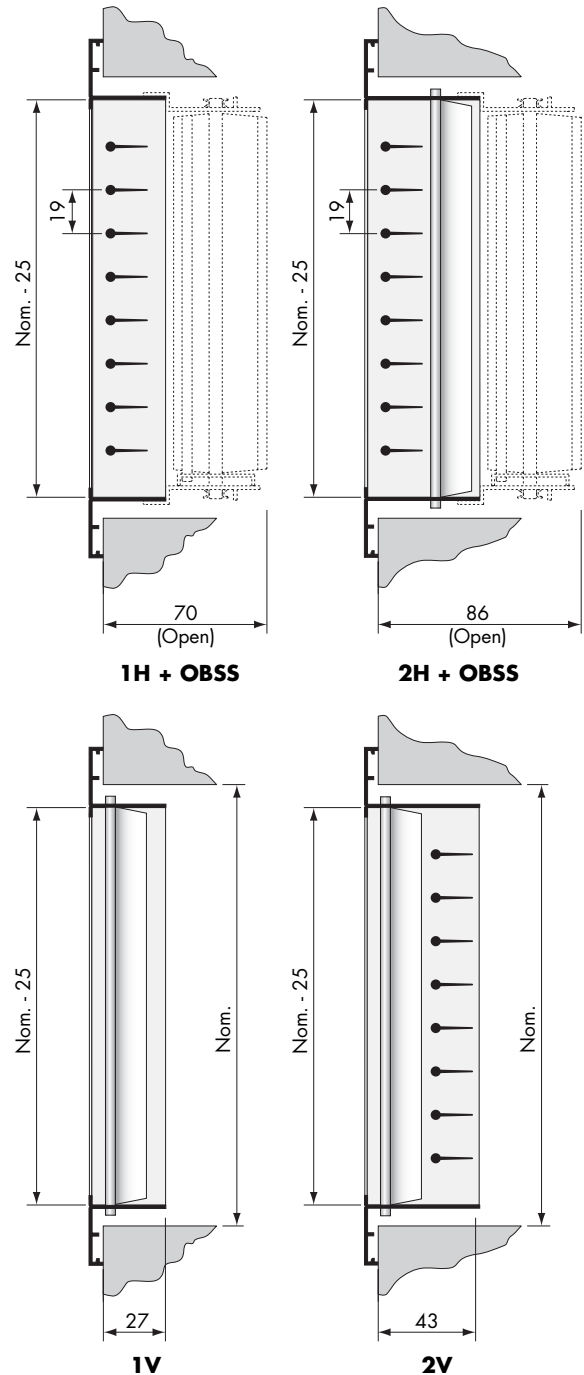
### Sizes

Minimum Size - 100 x 100  
 Maximum Size - 1200 x 1200

### Fixing Options

SF	CF	CRB	VS	AFVS
PFVS	RCHS	AFHS	AFCF	RCCF
BSSBD				

BSSBP (NOT for 2H or 2V)



Free Area	
1H/1V	2H/2V
74%	66%

Please refer to pages 40 - 43 for full details of:

- Fixing Options
- Control Options
- Sub Frames
- Sizing Implications
- Border Options

### Order Example

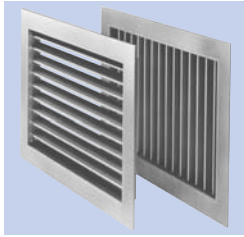
**1H/300x300/PPM9010/R25/SF/OBSS**

Type					
Nominal Width					
Nominal Height					
Finish					
Border					
Fixing					
Options					



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### Selection Criteria

Performance data is based on grilles situated within 0.6m of ceiling with supply air at an 11°C cooling differential. Throw is the horizontal distance from the grille face to the point at which the velocity of the airstream has retarded to 0.4 m/s.

For grilles situated 0.6m or more below ceiling level reduce throw by 1/3. NC is sound pressure level/Noise Criteria Curve based on a room absorption of 8 dB for sound power (Lw) ref 10<sup>-12</sup> W.

### Selection Example 2H/500x150/25T/SF

Air Volume 300 l/s

**Grille @ 0° deflection**

Throw 16m Velocity 6.1m/s NC 22 P<sub>s</sub> 10

**Grille @ 45° deflection**

Throw 8.5m Velocity 6.1m/s NC 30 P<sub>s</sub> 32

**Grille with damper @ 0° deflection**

Throw 16m Velocity 6.1m/s NC 27 P<sub>s</sub> 16

**Grille with damper @ 45° deflection**

Throw 8.5m Velocity 6.1m/s NC 35 P<sub>s</sub> 51

### NR(L<sub>p</sub>) and Static Pressure (P<sub>s</sub>) Correction Factors for Grilles With an Open Damper

Grille Width	100+	125+	150+	200+	250+	300+	350+	450+	550+	600+	700+	850+	>1000
L <sub>p</sub> Addition (C <sub>l</sub> )	12	11	10	9	8	7	6	5	5	4	4	4	3
P <sub>s</sub> Multiplier (C <sub>p</sub> )	2.5	2.4	2.2	2.0	1.9	1.8	1.7	1.6	1.5	1.5	1.4	1.3	1.2

### Performance Nomogram

