

## Overview

**12 Months  
Warranty**

# MANUFACTURED RANGE Bar Grilles

### Description

For supply or return air, most suitable for wall applications. Bar Grilles are available in many different styles, such as fixed core, removable core, hinged core, reverse angle and flangeless. They are also available with different blade spacing, depending on the requirements. Bar Grilles are available in both 15 and 0 degree deflection. Available in natural anodised, white or any special colours upon request.

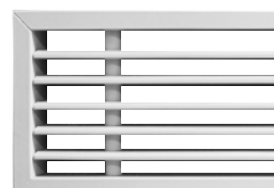
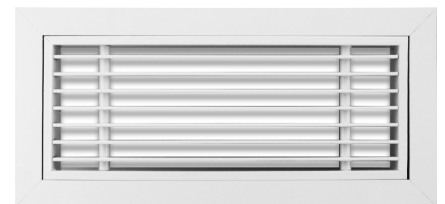
### Construction

From extruded aluminium sections. Hairline mitred joints mechanically held. Blades are spaced at 12.5mm as standard, however also available in 6mm, 9.1mm and 10.4mm upon request. Round spacers form the mullions for support between blades.

PRODUCT CODE	DESCRIPTION
BG0/BG15	Fixed Core Bar Grille
BGBB0/BGBB15	Fixed Core Bar Grille with rear deflection blade
RCBG0/RCBG15	Removable Core Bar Grille
HBG0/HBG15	Hinged Bar Grille (9mm standard blade spacing)
HBGF0/HBGF15	Hinged Bar Grille with filter
FBG0/FBG15	Flangeless Bar Grille
BG12F0/BG12F15	Fixed Core Bar Grille 12mm flange
RABG0/RABG15	Flangeless Reverse Angle Bar Grille

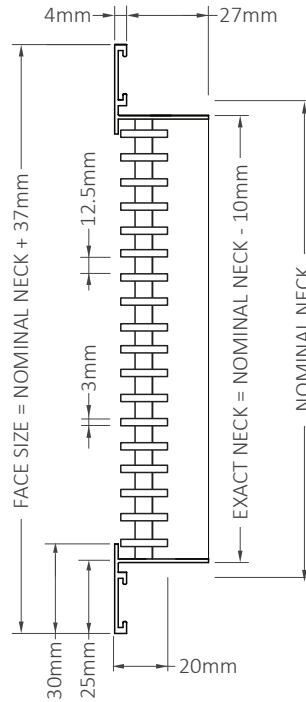
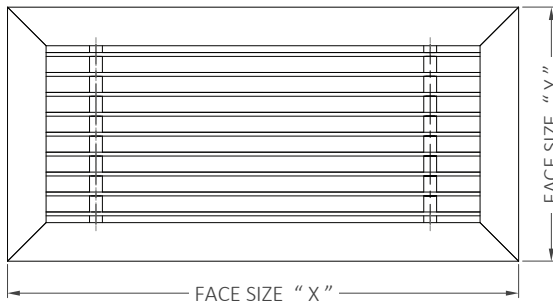
### Note:

- Made to order, custom sizes and colours are available
- (The "F" Suffix denotes a filter to be supplied)
- [For product performance data, see pages 322 - 323](#)



QAE strive to provide products that best suit the market's requirements. As such, QAE reserve the right to supply products which may differ slightly from those shown in this and other publications. For product warranties please refer to our standard terms and conditions.

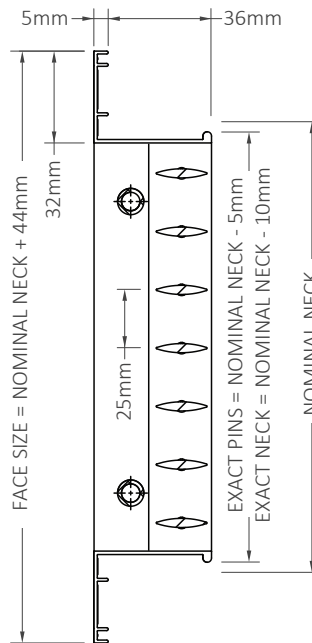
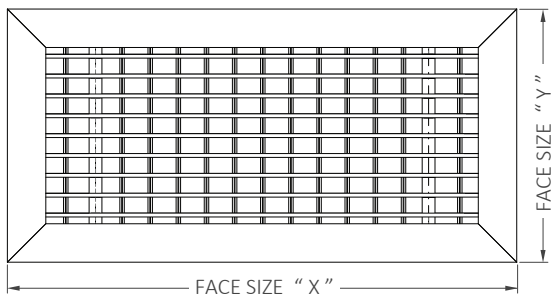
## Bar Grilles: BG0, BG15



### FIELDS REQUIRED PRIOR TO ORDERING

Quantity	
Width (W) (Blade Length)	
Height (H)	
Exact Neck Size	Choose One
Nominal Neck/ Cut Out Size	
Face Size	Choose One
0 Degree Deflection	
15 Degree Deflection	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	

## Bar Grille c/w Rear Deflection Blades: BGBB0, BGBB15



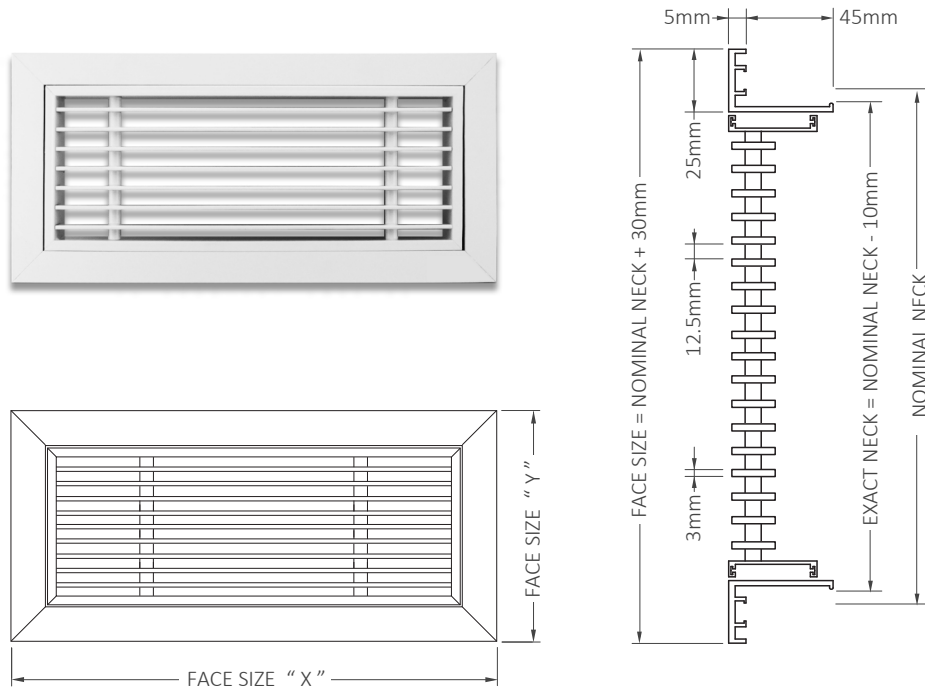
### FIELDS REQUIRED PRIOR TO ORDERING

Quantity	
Width (W) (Blade Length)	
Height (H)	
Exact Neck X Exact Pins	Choose One
Nominal Neck/ Cut Out Size	
Face Size	Choose One
0 Degree Deflection	
15 Degree Deflection	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	

### Related Products for Bar Grilles

UB	SB	EB	ALPBM	ALPBF	OBD	LSPRING	SS
see pg.266	see pg.266	see pg.266	see pg.227	see pg.226	see pg.127	see pg.79	see pg.273

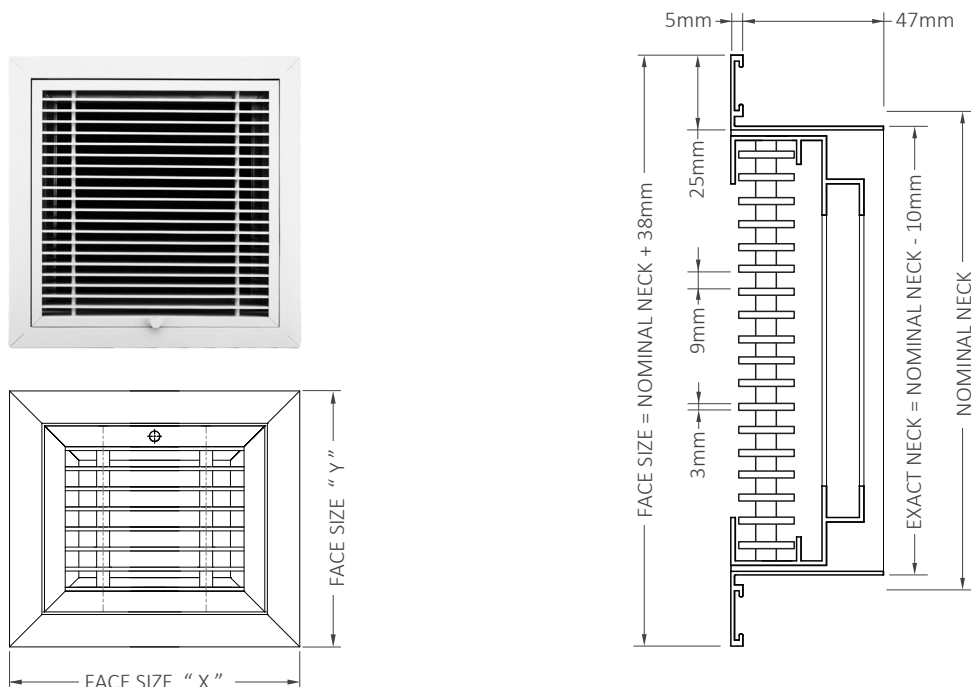
## Removable Core Bar Grilles: RCBG0, RCBG15



### FIELDS REQUIRED PRIOR TO ORDERING

Quantity	
Width (W) (Blade Length)	
Height (H)	
Exact Neck Size	Choose One
Nominal Neck/ Cut Out Size	
Face Size	
0 Degree Deflection	Choose One
15 Degree Deflection	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	

## Hinged Bar Grilles: HBGF0, HBGF15, HBGF15, HBGF15



### FIELDS REQUIRED PRIOR TO ORDERING

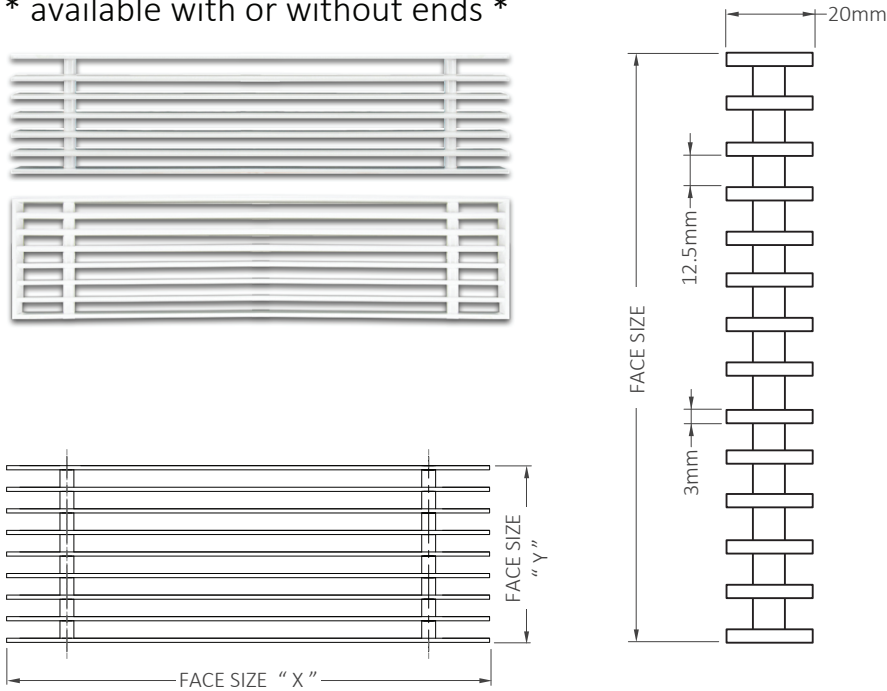
Quantity	
Width (W) (Blade Length)	
Height (H)	
Exact Neck Size	Choose One
Nominal Neck/ Cut Out Size	
Face Size	
Wall Mount (No Knobs)	Choose One
Ceiling Mount (With Knobs)	
With Filter	Choose One
Without Filter	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	

### Related Products for Bar Grilles

UB	SB	EB	ALPBM	ALPBF	OBD	LSPRING	SS
see pg.266	see pg.266	see pg.266	see pg.227	see pg.226	see pg.127	see pg.79	see pg.273

## Flangeless Bar Grilles: FBG0, FBG15

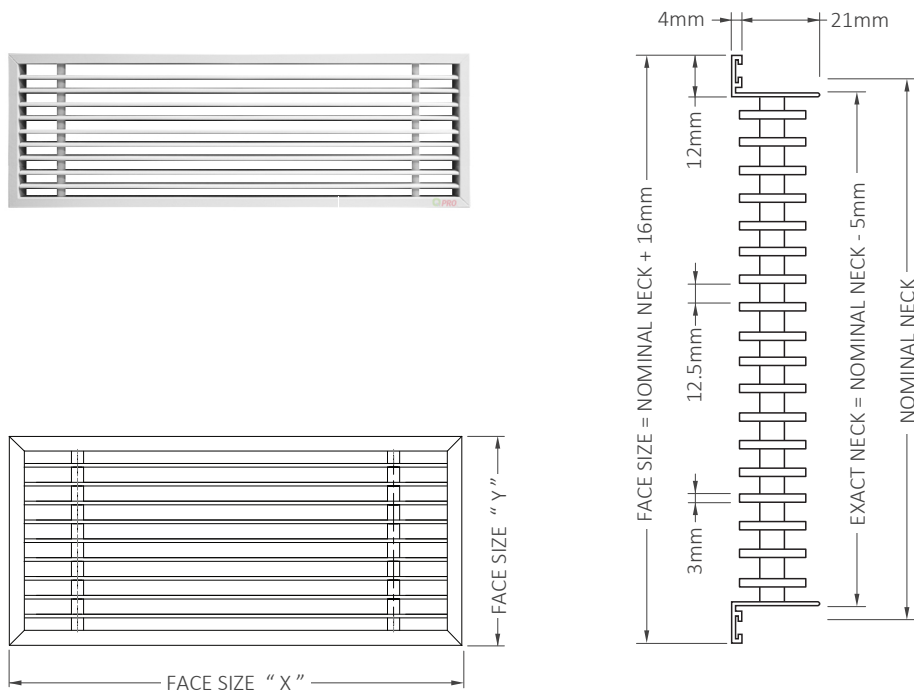
\* available with or without ends \*



### FIELDS REQUIRED PRIOR TO ORDERING

Quantity	
Width (W) (Blade Length)	
Height (H)	
0 Degree Deflection	Choose One
15 Degree Deflection	
With Ends	Choose One
Without Ends	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	

## 12mm Flange Bar Grilles: BG12F0, BG12F15



### FIELDS REQUIRED PRIOR TO ORDERING

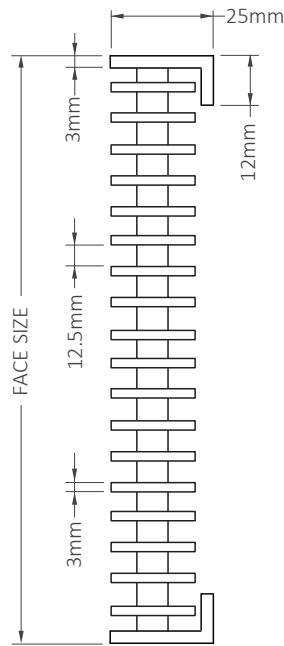
Quantity	
Width (W) (Blade Length)	
Height (H)	
Exact Neck Size	Choose One
Nominal Neck/ Cut Out Size	
Face Size	
0 Degree Deflection	Choose One
15 Degree Deflection	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	

### Related Products for Bar Grilles

UB	SB	EB	ALPBM	ALPBF	OBD	LSPRING	SS
see pg.266	see pg.266	see pg.266	see pg.227	see pg.226	see pg.127	see pg.79	see pg.273

## Reverse Angle Bar Grille: RABG0, RABG15

\* available with or without ends \*



### FIELDS REQUIRED PRIOR TO ORDERING

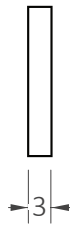
Quantity	
Width (W) (Blade Length)	
Height (H)	
0 Degree Deflection	Choose One
15 Degree Deflection	
Reverse Angle All 4 Sides	Choose One
Reverse Angle Top & Bottom Only	
White	Choose One
Natural Anodised	
Special Colour	
Mill Finish	



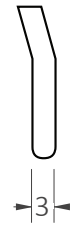
RABG0 in application

**Available Blade Profiles:**

Other profiles are available for large quantity projects\*

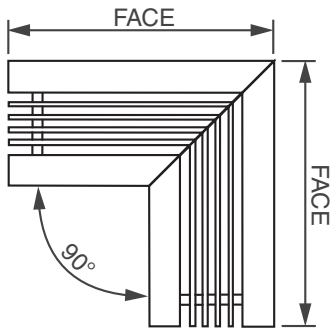


0 ° Deflection

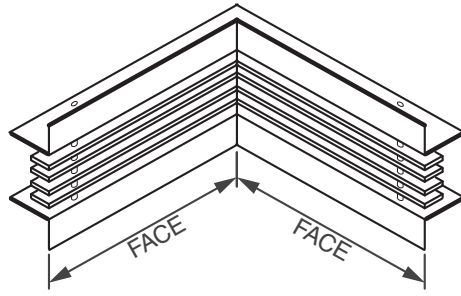


15 ° Deflection

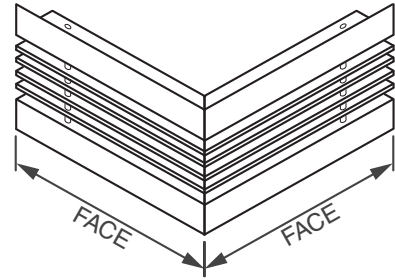
**Corner Details:**



90 ° Mitred corner

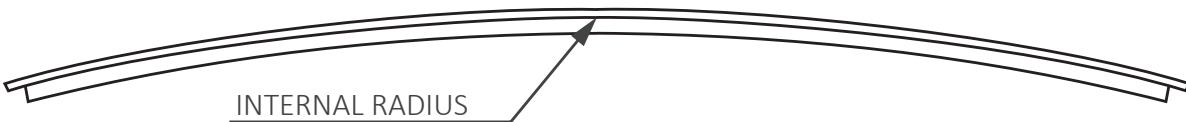
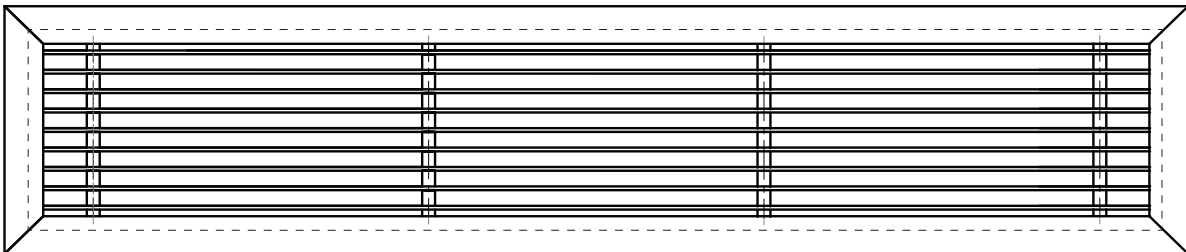


Side wall - internal corner

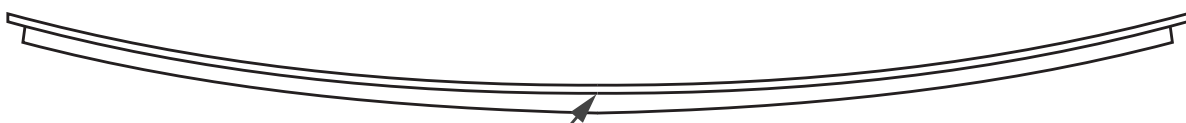


Side wall - external corner

**Curved Linear Bar Grille:**



INTERNAL RADIUS



EXTERNAL RADIUS

## Bar Grilles: BG/RCBG/HBG/FBG/BG12F/RABG

### Air Patterns and Throw

0° blowing  
 $b_h = \text{Active Length} + (L_{0.25} \times 0.3)$   
 $L_{bh} = L_{0.25} \times 0.6$

**Note:**

- L = Throw in M (refer graphs)
- $L_{0.25}$  = Throw at 0.25m/s terminal velocity
- Active Length = supply air plenum Length
- Active Height = supply air plenum Height

0° blowing  
 $b_v = \text{Active Height} + (L_{0.25} \times 0.09)$   
 $L_{bv} = L_{0.25} \times 0.5$

NR levels for the grille may be determined from engineering graph.

### Sound power level $L_w$

The generated sound power level  $L_w$  dB is calculated by adding the correction factor  $K_{ok}$  (see table on the right) to the sound level NR dB according to the formula:

$$L_w = NR + K_{ok}$$

Correction table for grilles of length other than 1 metre

Grille length (m)	0.5	1	1.5	2	3+
Add value to NR value	-3	0	+2	+3	+5
Multiply throw by	0.8	1	1.2	1.35	1.5

Frequency (cycles per second)							
Size	125	250	500	1000	2000	4000	8000
All	+6	+5	+3	-2	-8	-13	-15
Tol+/-	2	2	2	2	2	2	2

Correction factor  $K_{ok}$

### Test Conditions

Throws are based at Isothermal conditions to a terminal velocity of 0.5m/s and 0.25m/s respectively for a 1 metre active length with a room height of 2.7m. The diffuser is mounted flush in a side wall no further than 400mm down from the ceiling. Throw factors are for throws in one direction only. Noise Ratings are based on a room absorption level of 10db.

### Note:

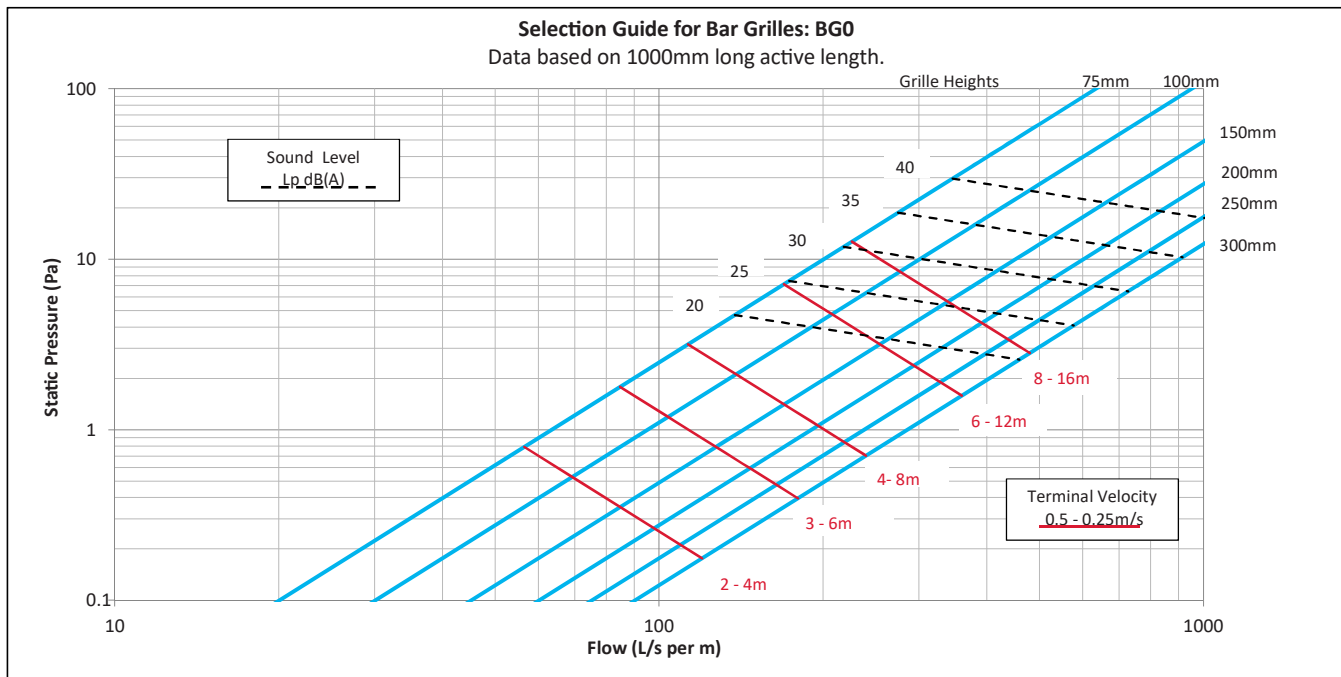
- **For 9mm spacing** (3mm flat blade) apply a size reduction of 25%. For example: If selecting a 1000x200mm grille use the data for the 1000x150mm.
- **For 15 Deg deflection** add 20% to pressure drops and 6dB(A) to the new value.
- Please refer to the table **“Comparing Noise Criteria”** on page no. 297 when evaluating “sound pressure level dB(A).”

### Free Area

BG/RCBG/HBG/FBG/BG12F/RABG	75mm	100mm	150mm	200mm	250mm	300mm
Nominal Neck Height (mm)	75	100	150	200	250	300
No. of Bars	3	5	8	11	14	17
Bar Gap (mm)	12.5	12.5	12.5	12.5	12.5	12.5
Bar Thickness (mm)	3.0	3.0	3.0	3.0	3.0	3.0
Face Free Width (mm)	1000	1000	1000	1000	1000	1000
Face Free Height (mm)	50	75	112.5	150	187.5	225
Free Area (m <sup>2</sup> /m)	0.050	0.075	0.113	0.150	0.188	0.225
Free Area	67%	75%	75%	75%	75%	75%



## Bar Grilles: BG/RCBG/HBG/FBG/BG12F/RABG



These graphs are for selection only and should not be used for commissioning.

**Example Selection:** A 1000mm long Bar grille (BG0) x 100mm high at 250 l/s will have a static pressure of 7Pa, a throw of 7-14m & sound pressure level of 25dB(A).

Airflow	Grille Size	Pressure	Face Velocity	Throw	Lp
L/s Per M	1000 x ....	Pa	m/s	m	dB(A)
100	100	1	1.3	2.8 - 5.7	<20
	150	0	0.9	2.3 - 4.7	<20
	200	0	0.7	2.0 - 4.0	<20
	250	0	0.5	1.8 - 3.6	<20
	300	0	0.4	1.6 - 3.3	<20
200	100	4	2.7	5.7 - 11.5	31
	150	2	1.8	4.7 - 9.4	24
	200	1	1.3	4.0 - 8.1	<20
	250	1	1.1	3.6 - 7.3	<20
	300	0	0.9	3.3 - 6.6	<20
300	100	10	4.0	>9	40
	150	4	2.7	7.0 - 14.1	33
	200	2	2.0	6.1 - 12.2	28
	250	2	1.6	5.4 - 10.9	24
	300	1	1.3	5.0 - 10.0	21
400	100	18	5.3	>12	46
	150	8	3.6	>9	39
	200	4	2.7	8.1 - 16.3	34
	250	3	2.1	7.3 - 14.6	30
	300	2	1.8	6.6 - 13.3	27
500	100	28	6.7	>14	51
	150	12	4.4	>12	44
	200	7	3.3	>10	39
	250	4	2.7	9.1 - 18.2	35
	300	3	2.2	8.3 - 16.6	32