

# SERIES GC

Curved Blade Grilles

PUBLICATION

GRILLES 3

APRIL 2012



## Features

- Individually Adjustable Blades.
- 1,2,3 or 4 Way Air Pattern.
- 8 Air Pattern Options.
- Wide Flexible Size Range.
- All Extruded aluminium Construction.



**GILBERTS**

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## Curved Blade Grilles

### Introduction

Gilberts GC Series provides a range of established curved blade 'eyelash' type grilles for ceiling or sidewall supply and extract applications. All units comprise of individually adjustable curved blades set on a 19mm pitch in a 32mm wide flange border frame. 8 different core, air distribution patterns ranging from one to four way throw can be selected for extreme flexibility in air pattern control.

All units are available complete with screwdriver operated, rear mounted opposed blade volume control damper and special fixings such as concealed bracket or quick release. Standard finish on the GC Series is a Polyester Powder White. Other special colours and finishes are available on request.

### Performance Data

All GC Series units can be sized and selected from the nomogram up to a maximum size of 1200 x 1200. All data based on isothermal conditions, with damper fully open.

### References Used

**Pressure:** All pressures are in Pa (N/m<sup>2</sup>)  
**Sound:** Measured in average dBA level  
**'K' Factor:** 50 % average (varies according to blade setting)

### Selection Procedure

First establish the position where terminals can be sited. Refer to data showing core patterns and select the suitable direction pattern required. Knowing the volume and throw for each diffuser, sub divide the volume by the number of air patterns per diffuser to arrive at a volume per direction. From

the appropriate sizing nomogram select as a one way blow outlet per section and establish the following:

1. Throw. To prevent overblow, this should be 75% of the distance to the wall opposite or, if outlets are opposed to one another, this should be one third of the distance between them.
2. Acceptable sound level from chart. Please note that data is only available down to NC20. For selection at lower noise levels please consult with our technical department.

3. Acceptable pressure loss figure.
4. Size or area of this directional outlet.
5. If multi-directional, the total of all outlet areas should be added together to establish the overall grille size and pattern reference.

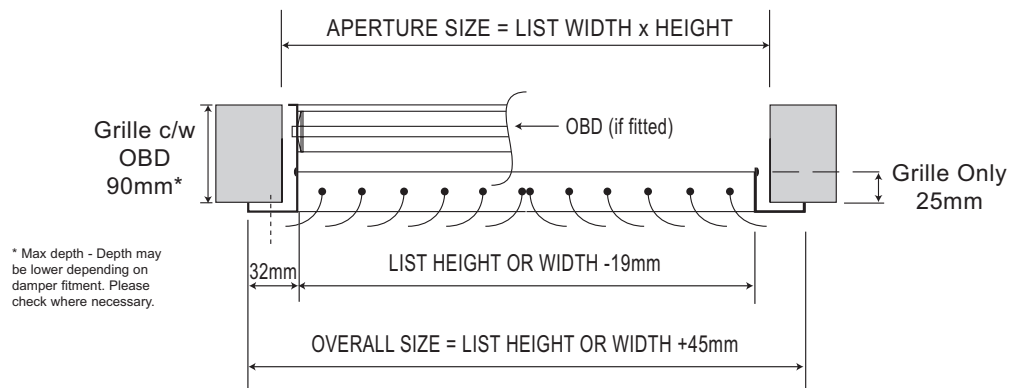
#### EXAMPLE:

Two way opposite blow required  
 Throw 5 metres max. (75% being 3.75m)  
 Differential Temperature = -6°C cooling

- A. Taking total volume and dividing this by two for both directions = 0.1m<sup>3</sup>/s per direction.
- B. From selection nomogram note 0.1m<sup>3</sup>/s at 3.8 metres throw and a size of 300 x 300mm
- C. Pressure drop = 2 Pa (N/M<sup>2</sup>), sound level below 20 dbA and jet velocity 1.8m/s
- D. As unit is for two way opposite discharge select 600 x 300mm GC2/1 unit

SPACE SERVED	Sound Level db 'A' Scale	RECOMMENDED VELOCITIES			
		AIR VOLUME	0.05 m <sup>3</sup> /s	0.25 m <sup>3</sup> /s	1.0 m <sup>3</sup> /s
Broadcasting & Recording Studio	20-25	Velocity m/s	2.0	1.5	1.0
Board or Conference Rooms, Churches, Concert Halls, Hospitals, Lecture Theatres, Offices, Hotels, Private Houses	30	Velocity m/s	3.0	2.5	2.0
Banks, Courtrooms, General Offices, Libraries, School Classrooms	35	Velocity m/s	3.5	3.0	2.5
Cinemas, Departmental Stores, Restaurants	40	Velocity m/s	4.0	3.5	3.0
Computer Rooms, Supermarkets	45	Velocity m/s	4.5	3.75	3.25
Laundries and Kitchens, Typing Pools, Light Engineering Factories, Sports Arenas	50	Velocity m/s	5.0	4.25	3.5
Heavy Engineering Factories	60	Velocity m/s	8.0	6.5	5.0

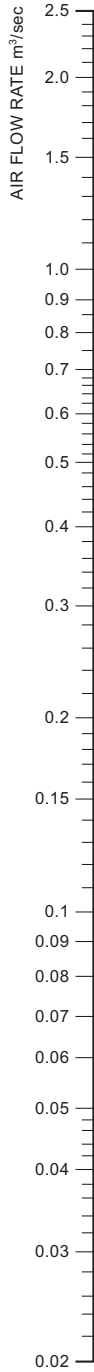
### Dimensional Data





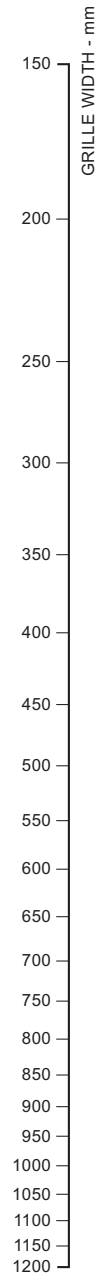
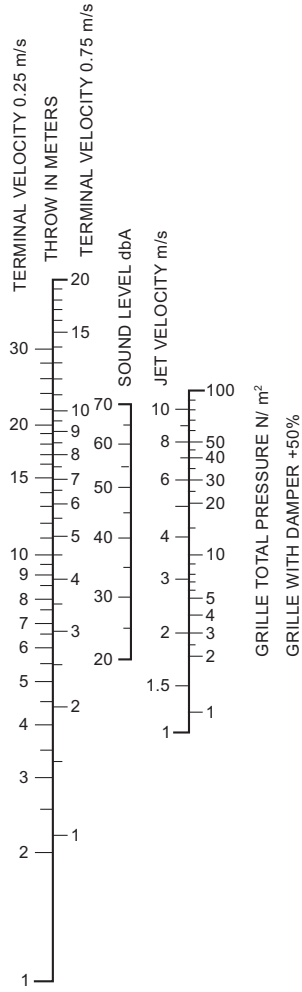
# Sizing Nomogram

## SIZING NOMOGRAM

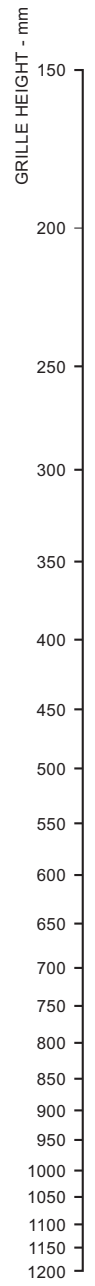


ALL DATA BASED ON ISOTHERMAL CONDITIONS  
DAMPERS FULLY OPEN  
1 WAY THROW

## TECHNICAL DATA



PIVOT LINE



## SERIES GC

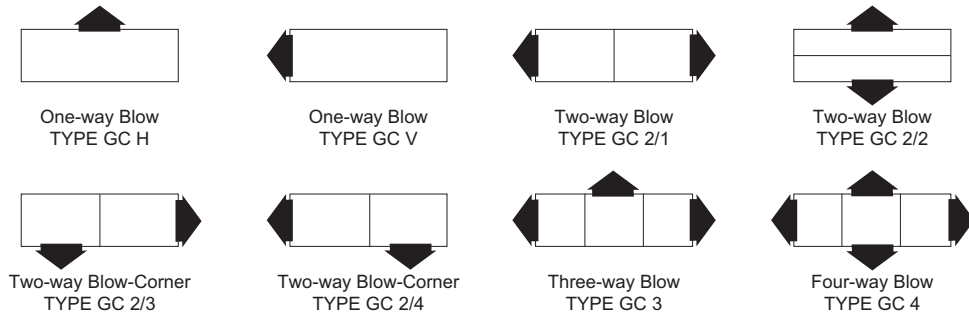
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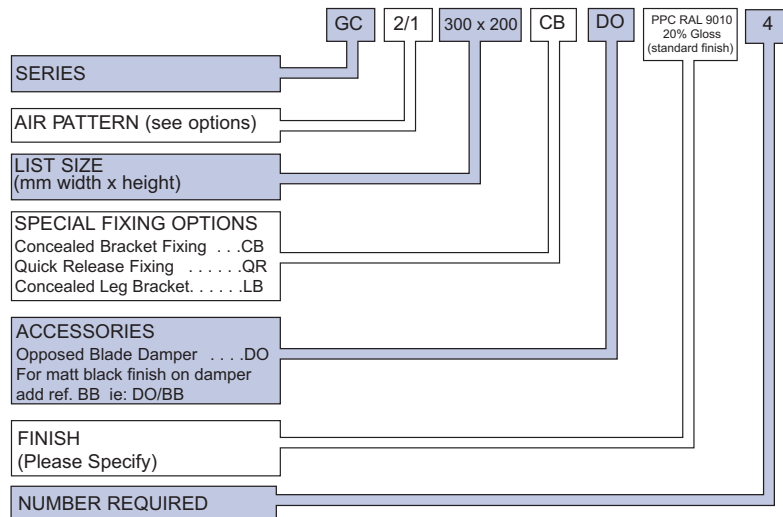
## Air Patterns

Series Options:

Viewed from rear



## Ordering Specification



Example : GCH 300 x 200/CB/DO/BB PPC 9010 20% Gloss

## Finish

Standard Finish: Polyester Powder Coat White  
RAL 9010 20% Gloss.

Special Finishes: Polyester Powder Finish to  
stock BS or RAL colour.  
(Dampers Mill finish Aluminium or  
Galvanised Steel).

## Fixing

Standard flange screw fixing using self tapping  
screws provided.

Concealed Bracket and Quick Release Fixing  
available on Request.

## Size Range

Available sizes range from 100 x 100 up to 1200 x  
1200, in 1mm increments.

(minimum 250 width on 3 and 4 way units).  
For other sizes please contact Head Office.

## Options

Special fixing, border and damper options detailed  
separately in grille options and accessories data.

## GILBERTS

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