SERIES H

Heavy Duty Adjustable Deflection Grilles

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Features

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- Individually Adjustable Aerofoil Blades.
- Robust 10mm Blade Section.
- All Extruded Aluminium Construction.

GILBERTS

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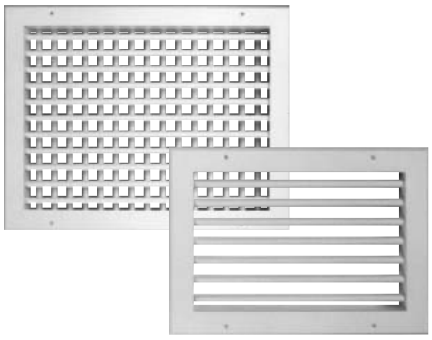
Introduction

Gilberts H Series provides an established and comprehensive range of heavy duty single and double adjustable deflection grilles for all types of ceiling and sidewall supply and extract application. Comprising of robust 10mm section individually adjustable aerofoil blades set on 25mm centres the H Series was designed and is especially suitable, for heavy duty or industrial type applications. Blades are firmly located into a 32mm bevel edged flange border frame for secure blade positioning and strength.

Series Options:
Type HH: Single Deflection Grille with one set of horizontal blades.
Type HV: Single Deflection Grille with one set of vertical blades.
Type HHV: Double Deflection Grille with horizontal front and vertical rear blades.
Type HVH: Double Deflection Grille with vertical front and horizontal rear blades.

All units are available complete with screwdriver operated, rear mounted opposed blade volume control damper as well as other accessories such as knob operated dampers and special fixings such as concealed bracket or quick release.

Standard finish on the H Series is a White Polyester Powder. Other special colours and finishes are available on request.



Features

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- Individually Adjustable Aerofoil Blades.
- Robust 10mm Blade Section.
- All Extruded Aluminium Construction.

Performance Data

All H 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, dampers fully open.

References Used

K factor (free area) on the H Series is approx. 60%

Pressure: All pressures are inPa (N/m^2)

Sound: Measured in average dba level

Selection Proceedure

From the proposed layout and application determine:

1. Volume of air to be handled at each outlet.
2. Throw. To prevent overblow this should be 75% of the distance to the wall opposite or, if the outlets are opposed to one another, this should be one third of the distance between them.
3. 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 dept.
4. Determine the centres of the outlets and, referring to the effective zone chart, establish if deflection is necessary to obtain full coverage of the area served.
5. Temperature differential between primary and secondary air.
6. Mounting Height or outlet.

Example:

Select a suitable supply outlet for a private office 6m x 3m x 3m high, the outlet being located in the centre of the 3m wall. Duty $0.07m^3$/sec. Throw 4.5m. Acceptable sound level 30db'A'. Cooling temperature differential 6°C. Mounting height 2.75m. referring to the effective zone chart, no deflection is necessary.

Table of Recommended Velocities

Space Served	Sound Level db 'A' Scale	Air Volume	0.05 m^3/s	0.25 m^3/s	1.0 m^3/s
Broadcasting & Recording Studios	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, Department 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, Pools, Sports Arenas Light Engineering Factories,	50	Velocity m/s	5.0	4.25	3.5
Heavy Engineering Factories	60	Velocity m/s	8.0	6.5	5.0

From Sizing Nomogram:

A size 300 x 150mm Grille meets the requirements and the sound level is acceptable. Noting the jet velocity refer to the drop assessment chart from which it can be seen that the air-stream does not drop into the occupied zone before the terminal velocity has reached a permissible figure.

Drop Assessment Chart

A horizontal air stream drops because of two reasons.

1. Discharge velocity and spread (always positive).

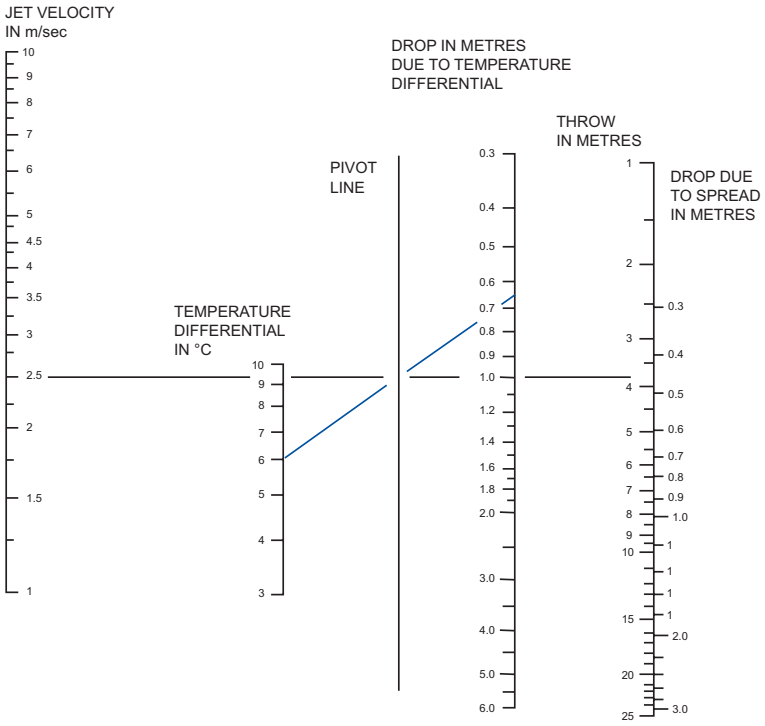
2. The temperature differential between the primary air (outlet) and secondary air (room) which is positive for cooling and negative for heating.

EXAMPLE

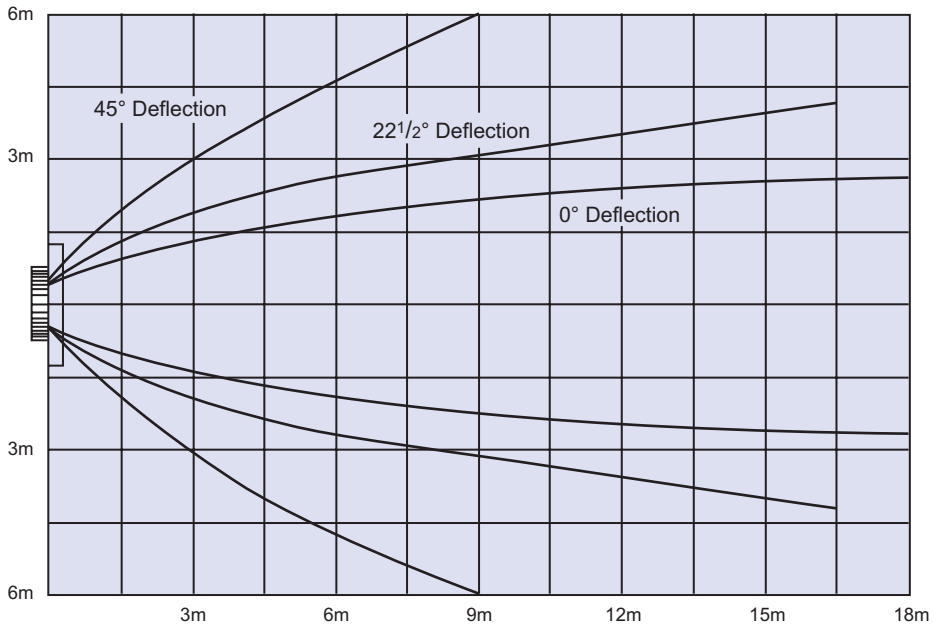
1. Joining the jet velocity of 2.5m/s to the throw of 3.7metres the drop due to spread is seen to be 0.45m.

2. Taking the point on the pivot line where the line intersects, it can be seen that with a cooling temperature differential of 6° the drop is 0.65m.

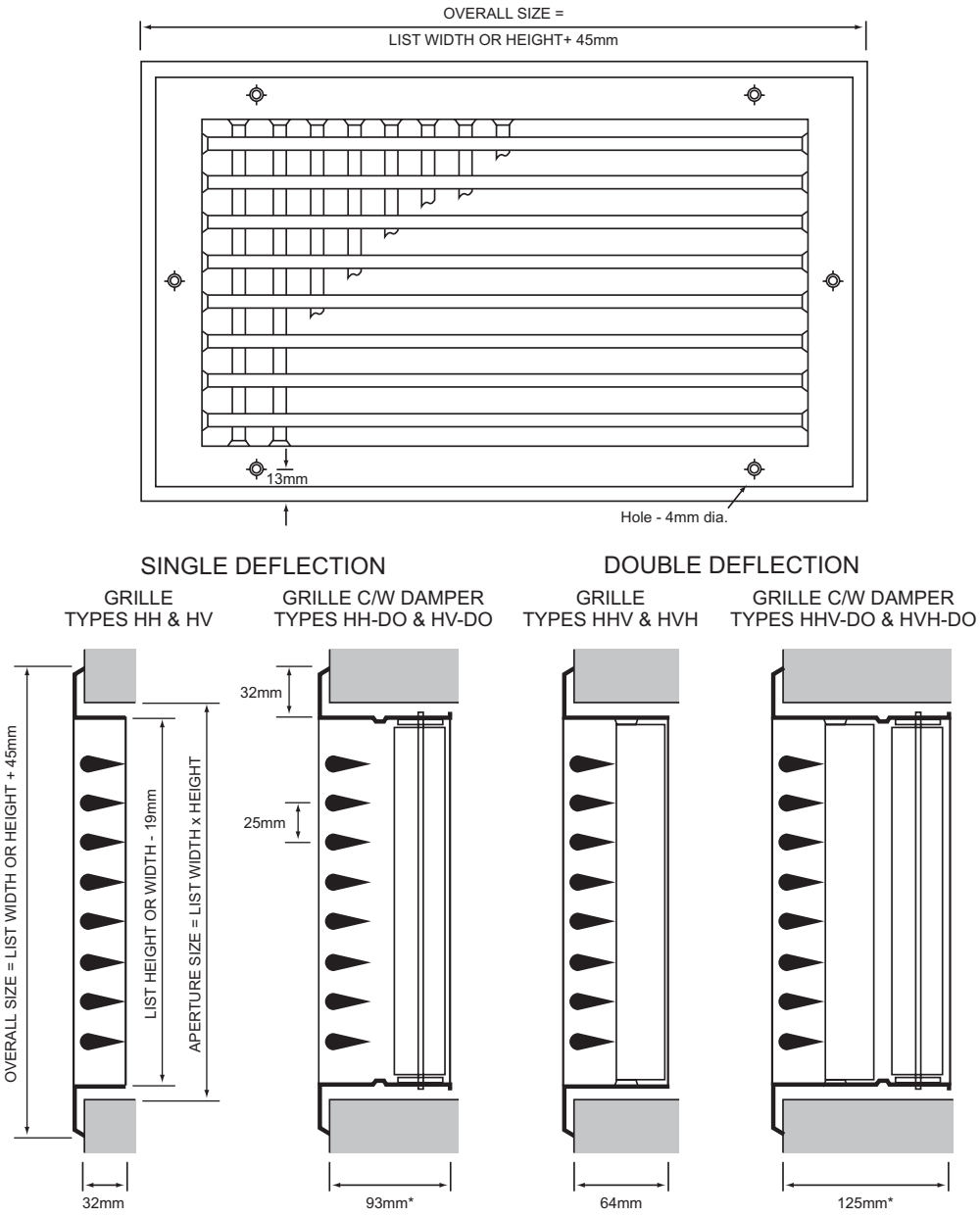
3. Total drop
   0.45 + 0.65 = 1.1m



Grille Spread Chart

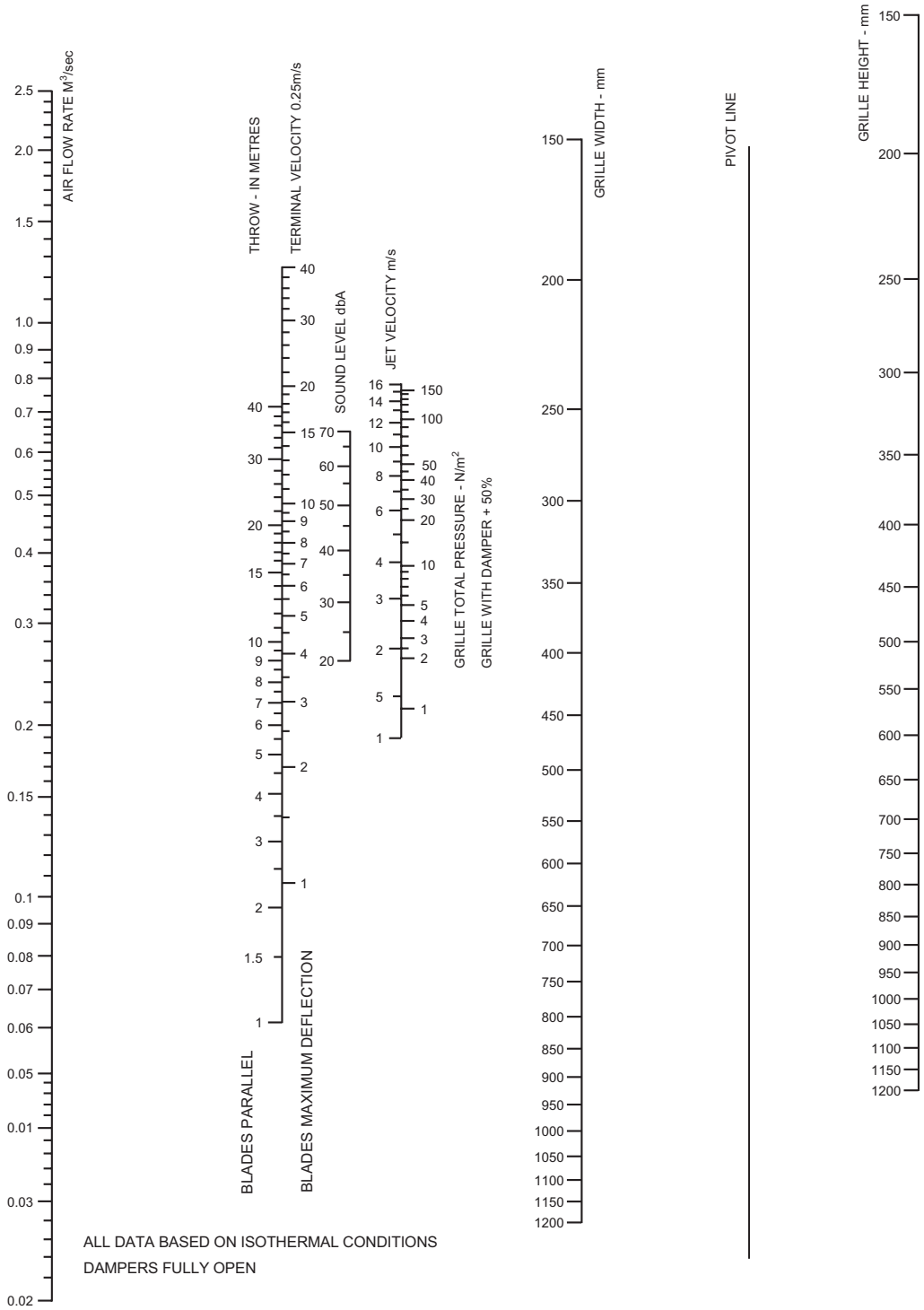


Dimensional Data



* Max depth - Depth may be lower depending on damper fitment. Please check where necessary.

Sizing Nomogram



ALL DATA BASED ON ISOTHERMAL CONDITIONS
DAMPERS FULLY OPEN

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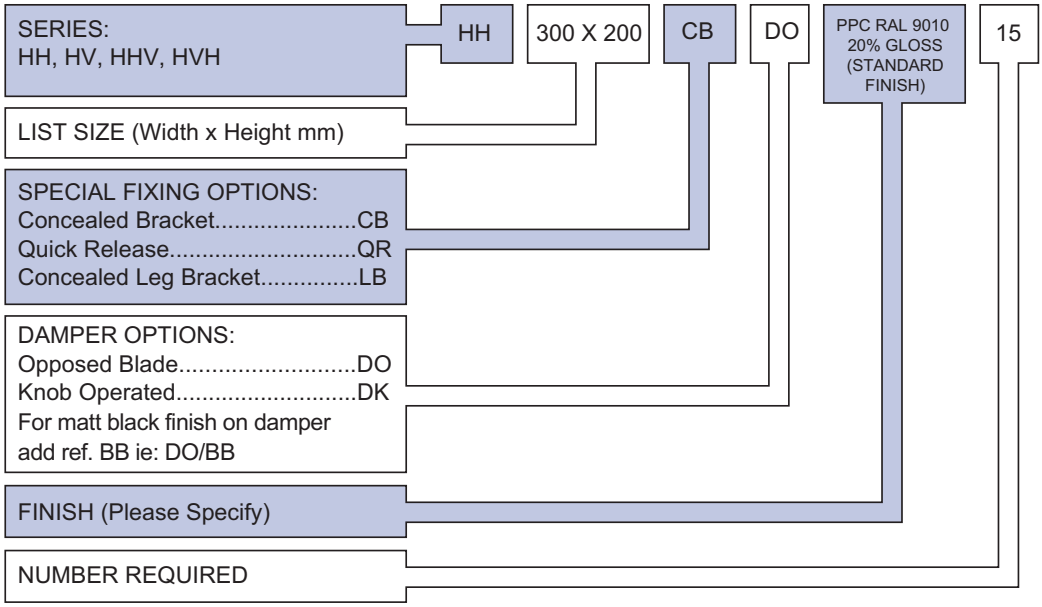
Ordering Specification



Example : HH 300 x 200/CB/DO/BB PPC White RAL 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.

Size Range

Available sizes range from 100 x 100 up to 1200 x 1200, in 1mm increments. For other sizes please contact Head Office.

Options

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

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