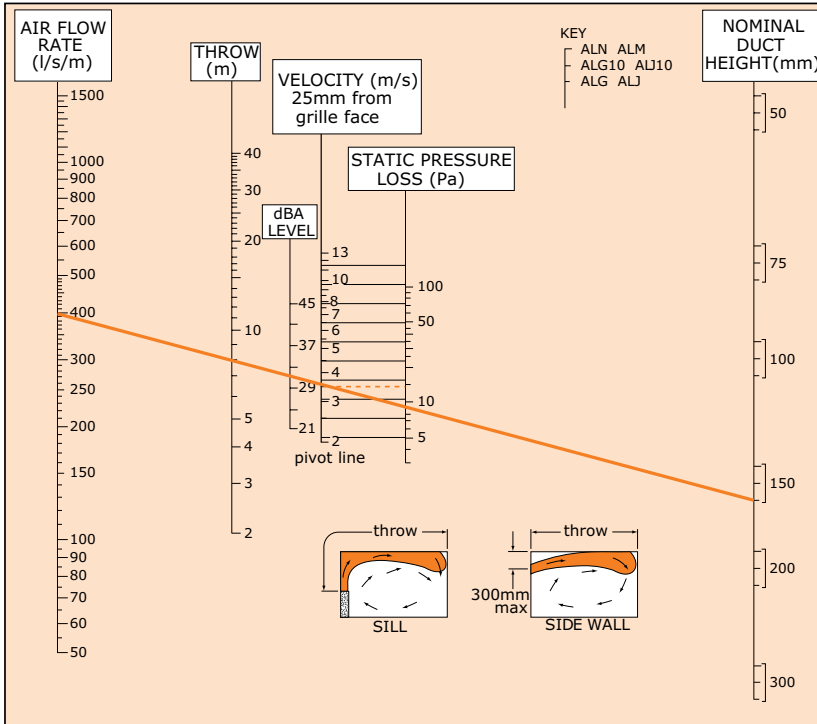




Airline Linear Grilles

ALN / ALM / ALF / ALG / ALJ

Performance Nomogram (Supply)



Selection Criteria

Performance data is derived from tests carried out at isothermal conditions for a 1.25m long grille mounted 0.2m below a ceiling surface. Throw is the horizontal distance to where the envelope velocity equals 0.5m/s.

Selection Example (Supply)

150mm wide grille supplying 400 l/s/m

- **ALG 10**
 $P_s = 16 \text{ Pa}$ 32 dBA
- **ALG**
 $P_s = 15 \text{ Pa}$ 31 dBA
- **ALG 10/OBSS**
 $P_s = 24 \text{ Pa}$ 35 dBA
- **ALG/OBSS**
 $P_s = 22.5 \text{ Pa}$ 34 dBA

Notes

For grilles with OBSS opposed blade damper (open), multiply the pressure loss by 1.5 and add 3dB to the Noise level.

Where AL2 grilles are used multiply $P_s \times 3.0$ and add 6dB to Noise level.

Grille selections for sidewall and cill applications should be based on a minimum discharge velocity of 2m/s.

For sidewall grilles that are to be mounted more than 0.2m from the ceiling, it is preferable to use a 15° blade format.

For sidewall grilles mounted 0.3m or more below ceiling level the throw is reduced by $1/3$.

Correction Factors

Grille Length Correction Factors						
Length (m)	0.25	0.5	1.25	2	2.5	3
L_w	-6	-3	0	+2	+3	+5
Throw	x 0.9	x 0.9	x 1.0	x 1.0	x 1.1	x 1.1

Non-isothermal Jet Correction Factors			
Differential	10°C cooling	0°C	10°C warming
Sidewall throw	x 0.9	x 1.0	x 1.1
Cill throw	x 0.9	x 1.0	x 1.1

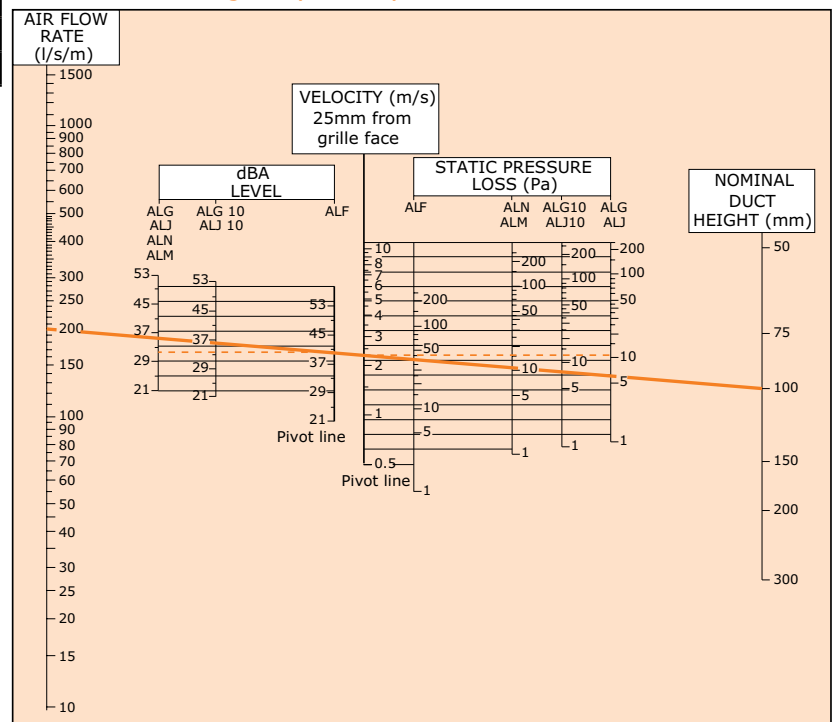
Terminal Velocity Correction Factors				
V_t (m/s)	0.6	0.5	0.4	0.3
Throw multiplier	x 0.8	x 1.0	x 1.3	x 1.66

Selection Example (Exhaust)

100mm wide grille supplying 200 l/s/m

- **ALF**
 $P_s = 46 \text{ Pa}$ 40 dBA
- **ALN**
 $P_s = 15 \text{ Pa}$ 31 dBA
- **ALF/OBSS**
 $P_s = 69 \text{ Pa}$ 43 dBA
- **ALN/OBSS**
 $P_s = 23 \text{ Pa}$ 34 dBA

Performance Nomogram (Exhaust)





Airline Linear Grilles

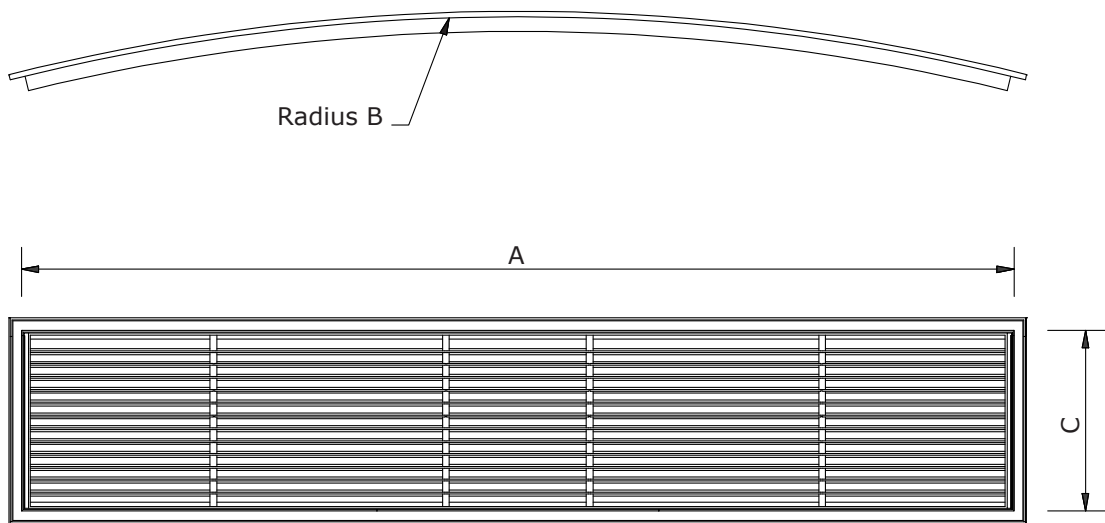
Curved Grilles

Introduction

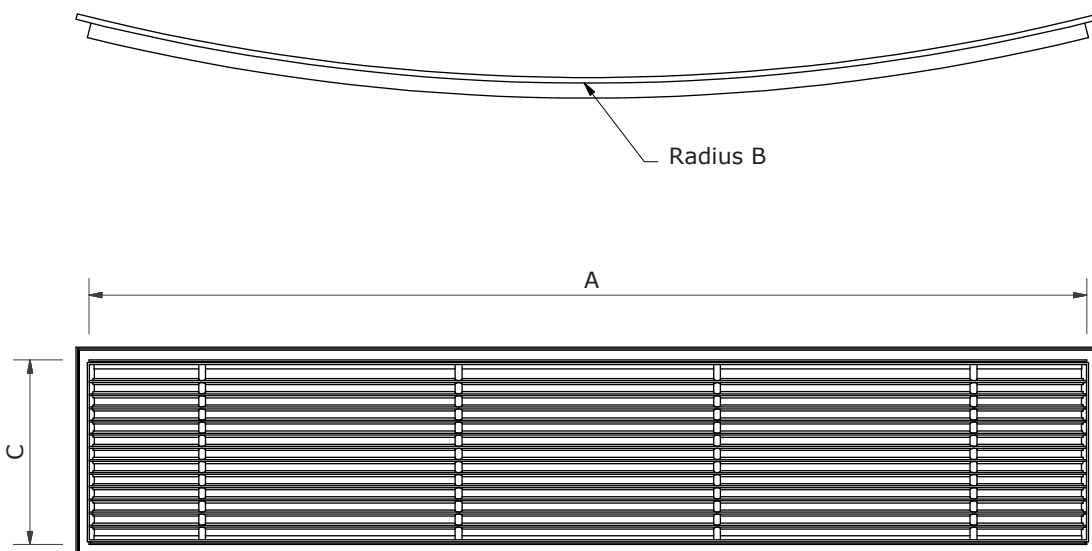
Waterloo Airline Linear grilles are available in 5 curved formats for types: ALG, ALM and ALN. The curved grilles can be manufactured bespoke to any required radius over 1.75mtrs, in any of the following configurations:

- Convex linear curve
- Concave linear curve
- Fanned curve
- Convex barrel curve
- Concave barrel curve

Convex linear curve



Concave linear curve

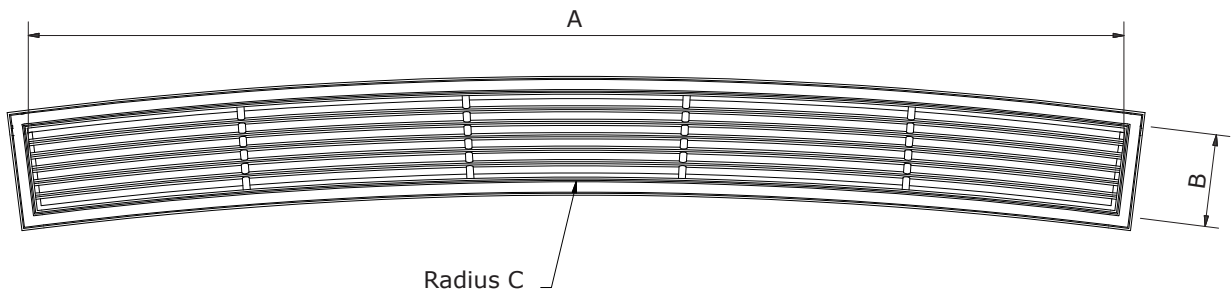




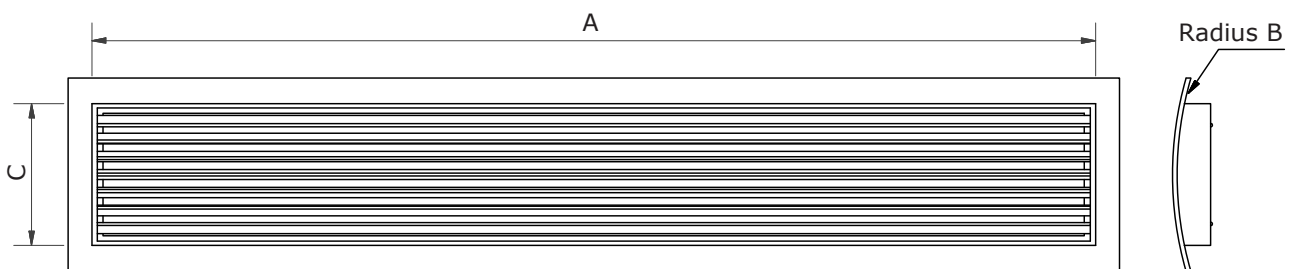
Airline Linear Grilles

Curved Grilles

Fanned curve



Convex barrel curve



Concave barrel curve

