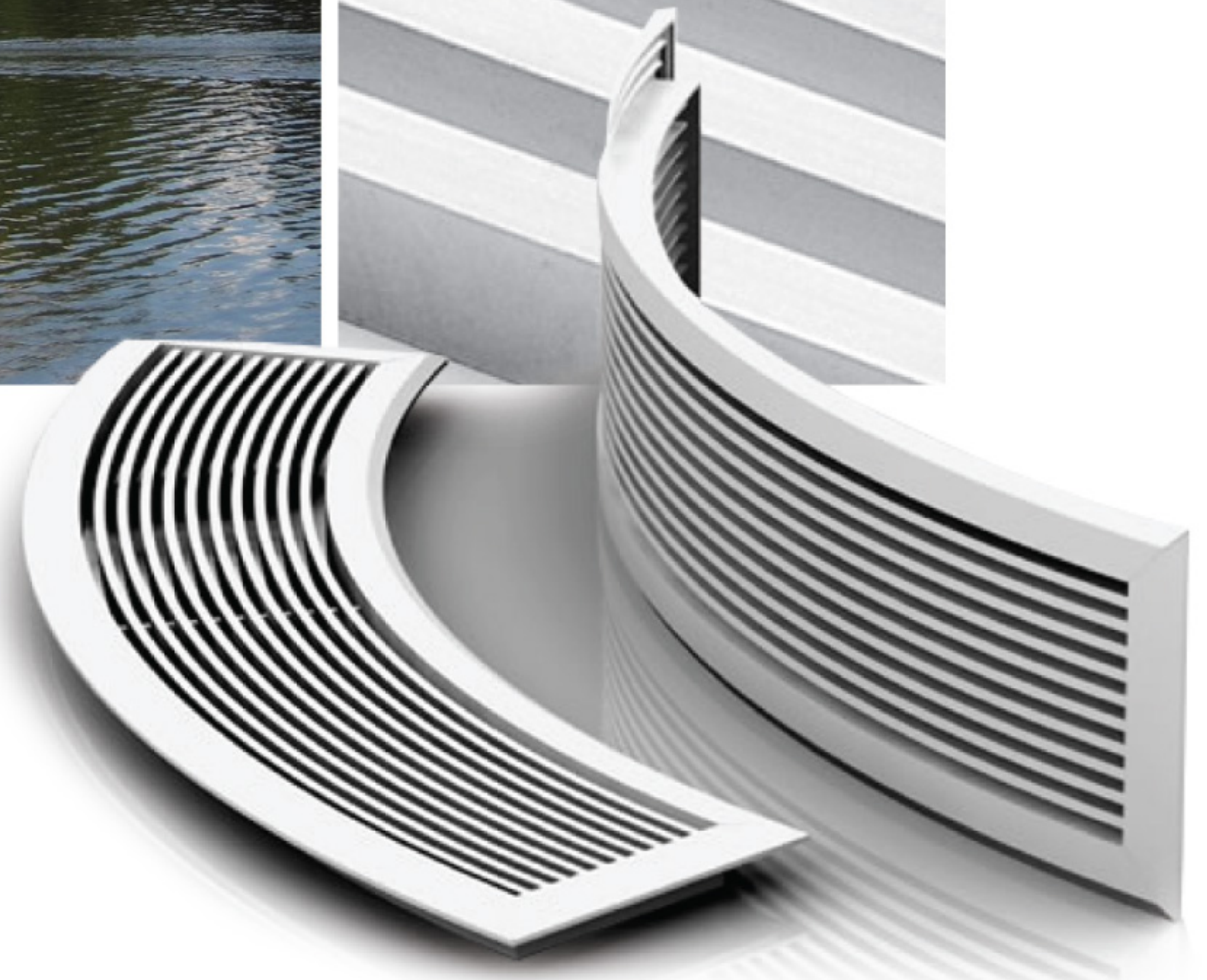


BG Bar Grille



MADE IN MALAYSIA



Introduction

Making use of the extruded vanes side profiles & angle of deflection, the Bar Grille is able to manipulate the airflow orientation and thus creating the desired flow profile. Depending on the model type, the grilles can be wall mounted and windowsill mounted. For standard model, the aerodynamic free area of 53% (see-through area of >60%) can be further increased upon customer's request.

Available in highly customizable shape profile, the Bar Grille is one of the preferred choice for providing aesthetic value-added points. Thus Bar Grilles are commonly found in facilities such as offices, shopping centers, hotels and airports etc. for both supply and exhaust purposes.

CONSTRUCTIONS & MATERIALS

- 0° & 15° deflection configurations
- Customizable deflection angles
- Highly customizable shape profiles
- Optional removable core vanes
- Standard vanes pitch of 10mm, 12mm & 15mm
- Stainless Steel & Aluminium construction available

Frame Construction

AL
1.2mm

Extruded Aluminium

Vaness Construction

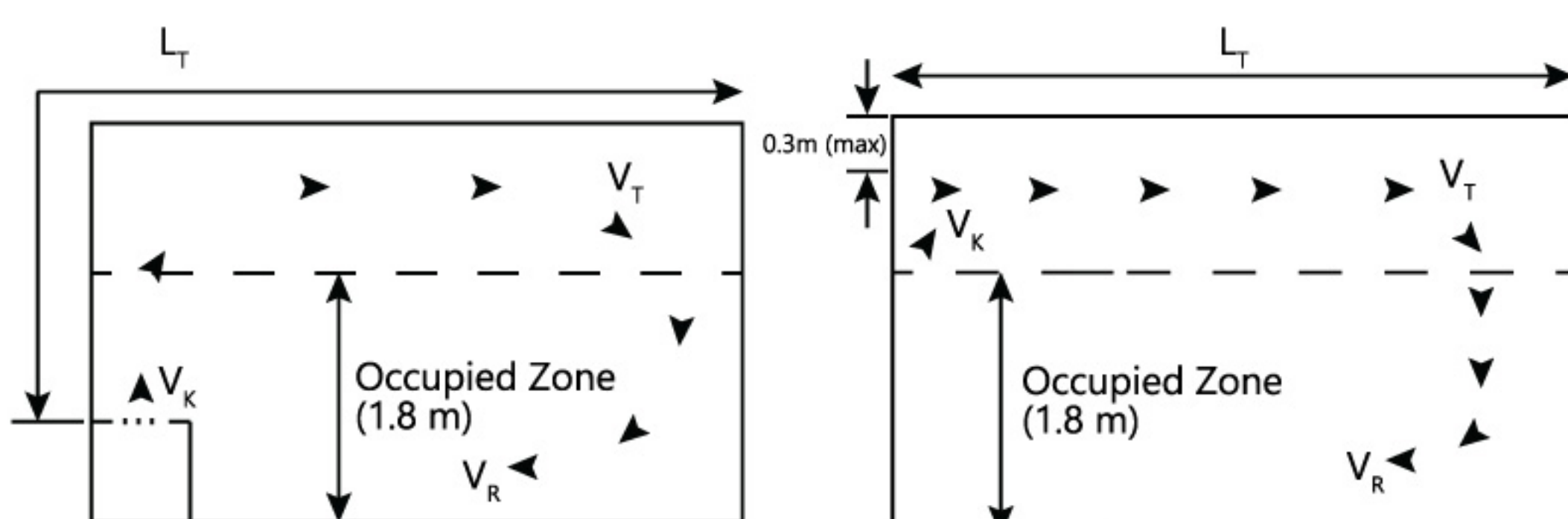
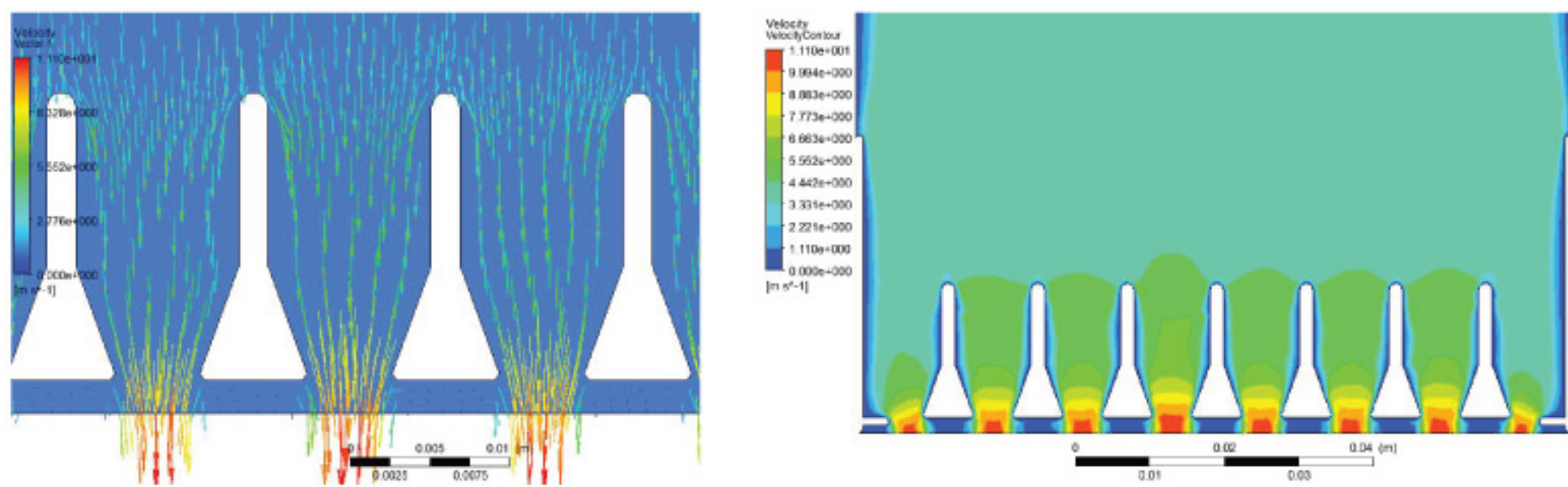
AL
6.0x1.8 mm

Extruded Aluminium

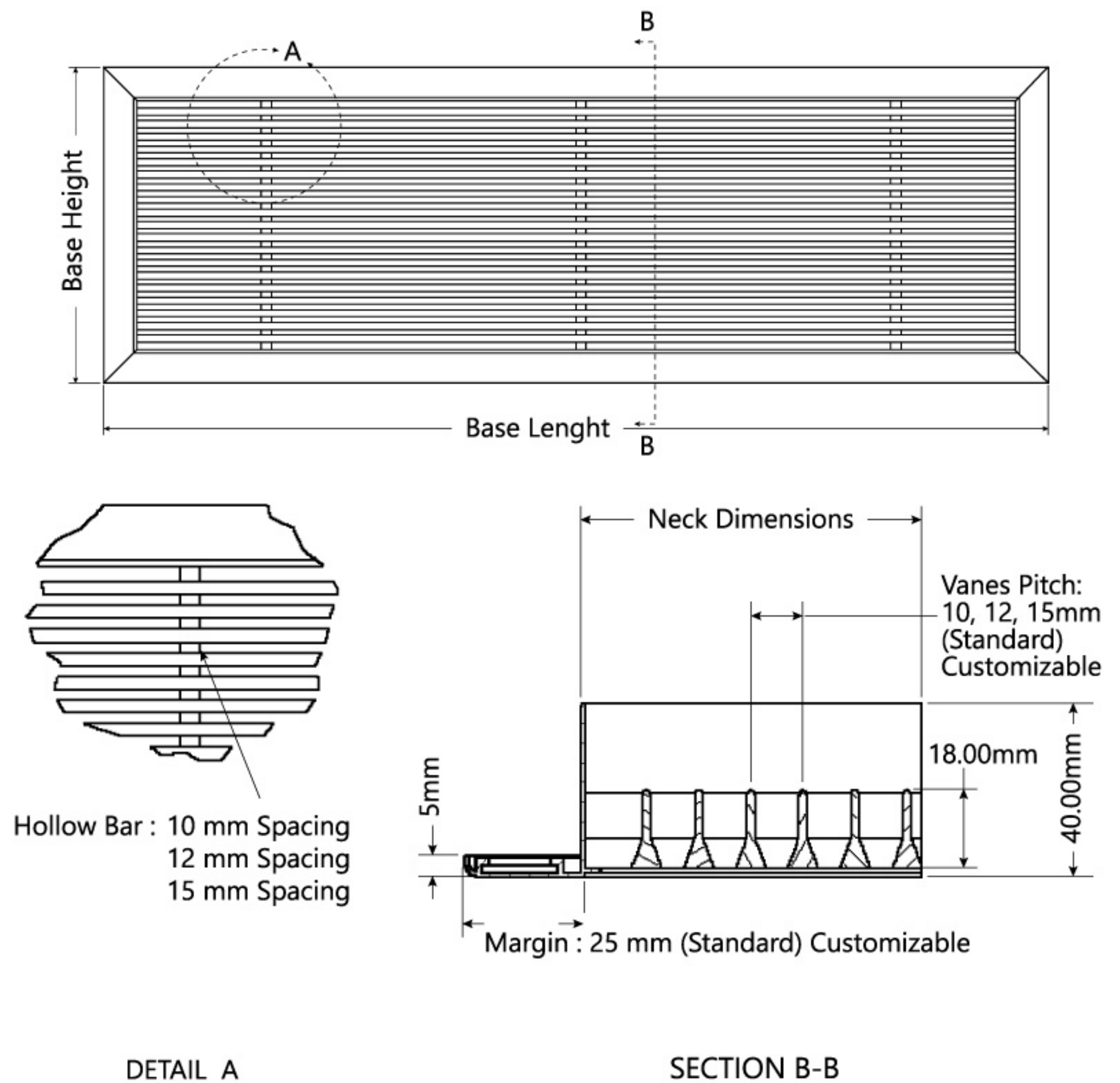
Surface Finishing

RAL
9010 SG

White (Matt) /
Natural Anodised
Customizable Colors



DIMENSIONS

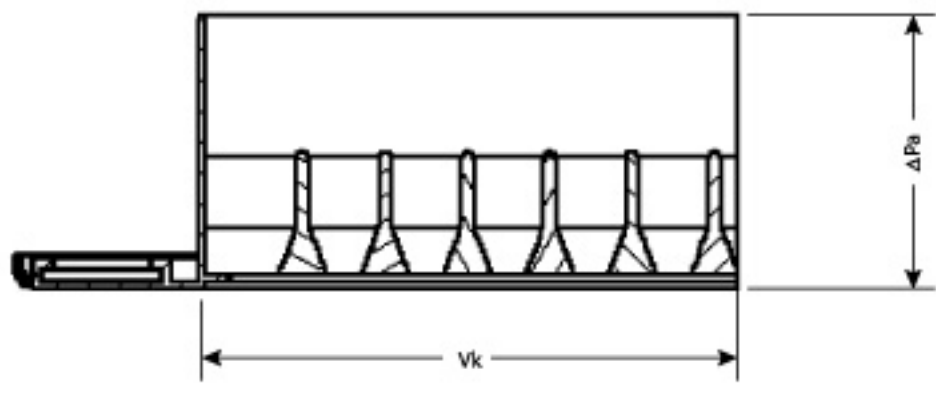


Correction Factors

Conditions	15° Deflection
Effective Area (m ²)	x 0.95
V _k	x 1.05
Pressure Lost (Pa)	x 1.0
NR	+0

TECHNICAL PERFORMANCE DATA

Supply



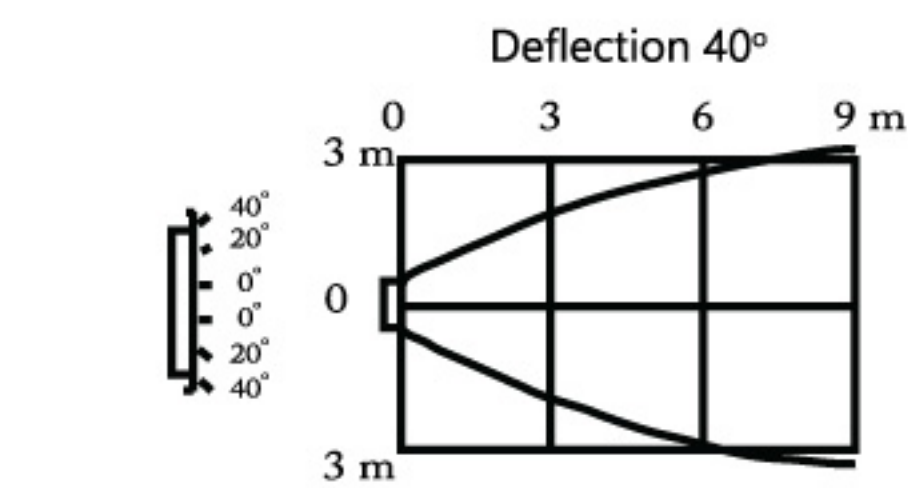
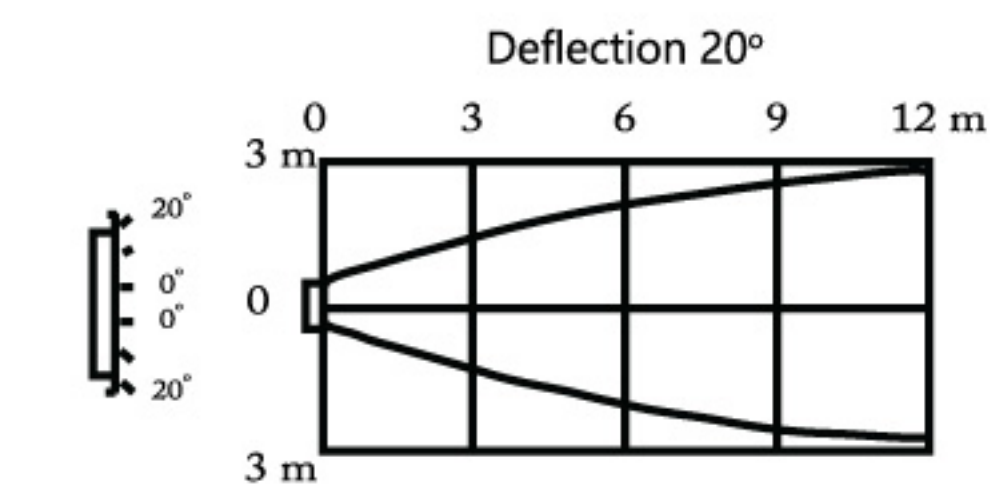
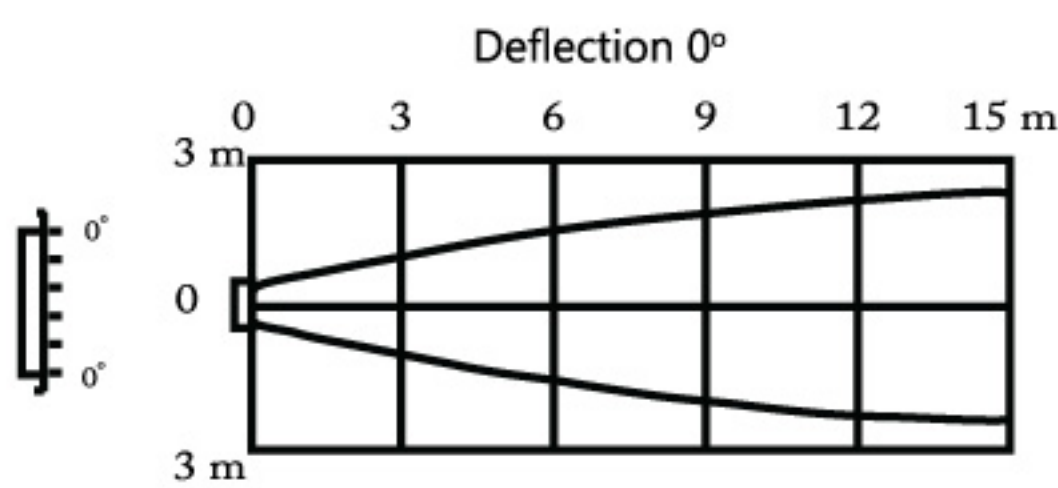
* Diffuser performance data factored in Coanda effect & fully opened Radial OBD conditions.

* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25		NR35		NR40		NR45			
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1400 392	1600 448	
150 x 250	0.0375 (0.019)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	6.0 3.7 9.5 23	7.0 4.4 14 30	9.0 5.8 23 36	12 7.3 40 43	14 8.8 55 45	- - - -	- - - -	- - - -	- - - -	
150 x 300	0.045 (0.023)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	5.5 3.0 7 25	6.2 3.6 10 27	8.5 4.8 16 34	11 6.0 27 37	13 7.2 40 42	17 9.7 65 >45	- - - -	- - - -	- - - -	
150 x 400	0.06 (0.031)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	5.0 2.2 <4 23	6.0 2.7 5 25	8.0 3.6 9 32	9.5 4.5 14 36	11 5.4 22 38	16 7.2 40 45	- - - -	- - - -	- - - -	
150 x 500	0.075 (0.038)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	5 2.2 <4 20	7 2.9 7 26	8.5 3.7 9.5 31	9.5 4.4 14 33	14 5.8 25 40	17 7.3 40 43	- - - -	- - - -	
150 x 600	0.09 (0.047)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	6.0 2.4 <4 22	7.5 3.0 7 27	9.0 3.5 9 30	12 4.7 16 36	15 5.9 25 41	20 8.3 50 >45	- - - -	
150 x 800	0.12 (0.063)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	6.8 2.2 <4 23	7.5 2.6 5 25	10.5 3.5 9 32	13 4.4 14 37	17 6.2 27 42	20 7.1 40 45	
150 x 1000	0.15 (0.078)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	6.5 2.1 <4 23	9.5 2.8 6 30	12 3.6 9 34	15 5.0 18 40	18 5.7 25 42	

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25		NR35		NR40		NR45		
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1400 392	1600 448
200 x 400	0.12 (0.063)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	6.5 2.6 5 24	8.0 3.3 8 28	9.0 4.0 12 32	12.5 5.3 20 37	16 6.6 30 42	21 9.3 65 >45	- - - -
200 x 500	0.15 (0.078)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	5.5 2.1 <4 21	7 2.6 5 25	8.5 3.1 7 28	11.5 4.2 12 35	14 5.2 19 40	18.5 7.3 40 45	- - - -

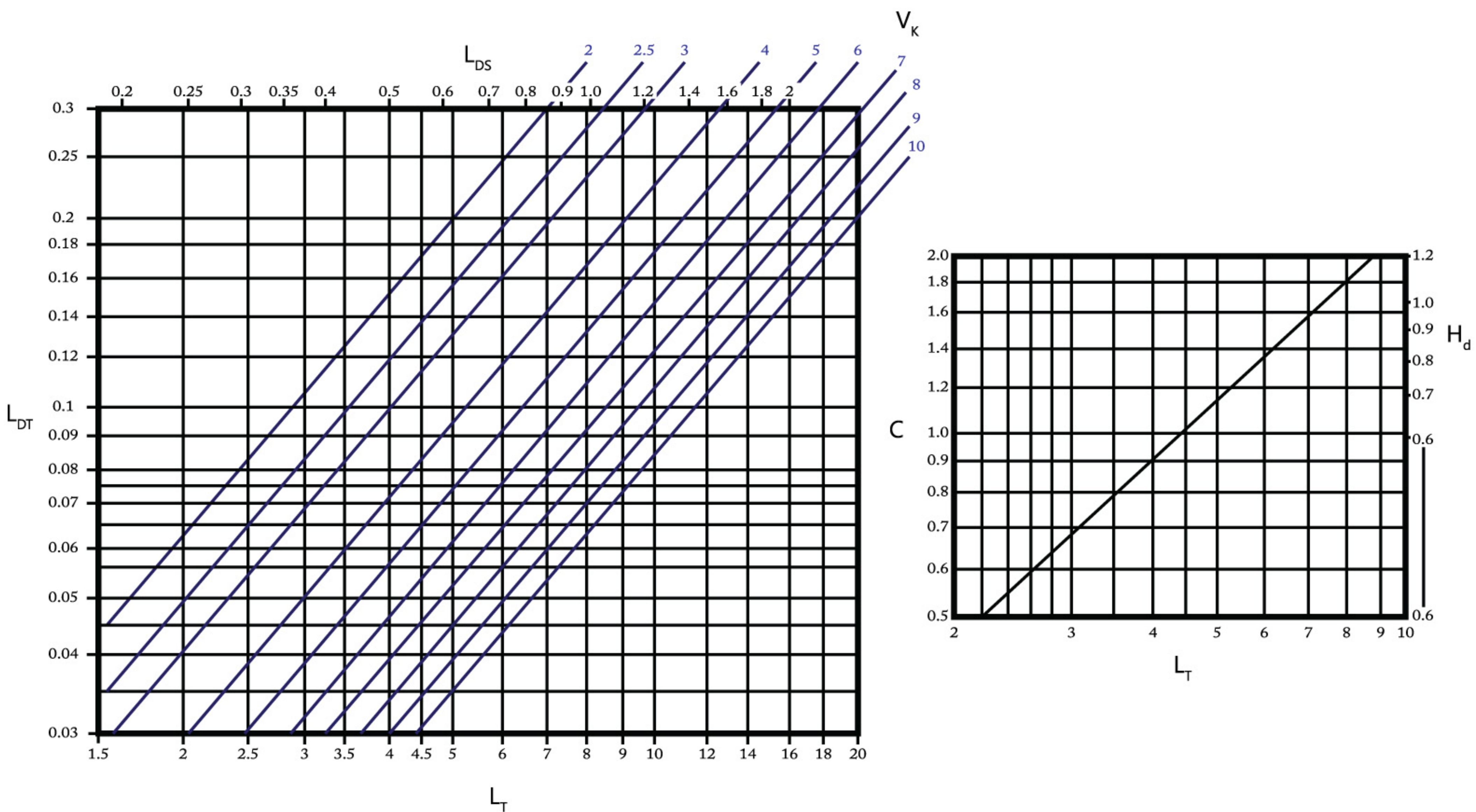
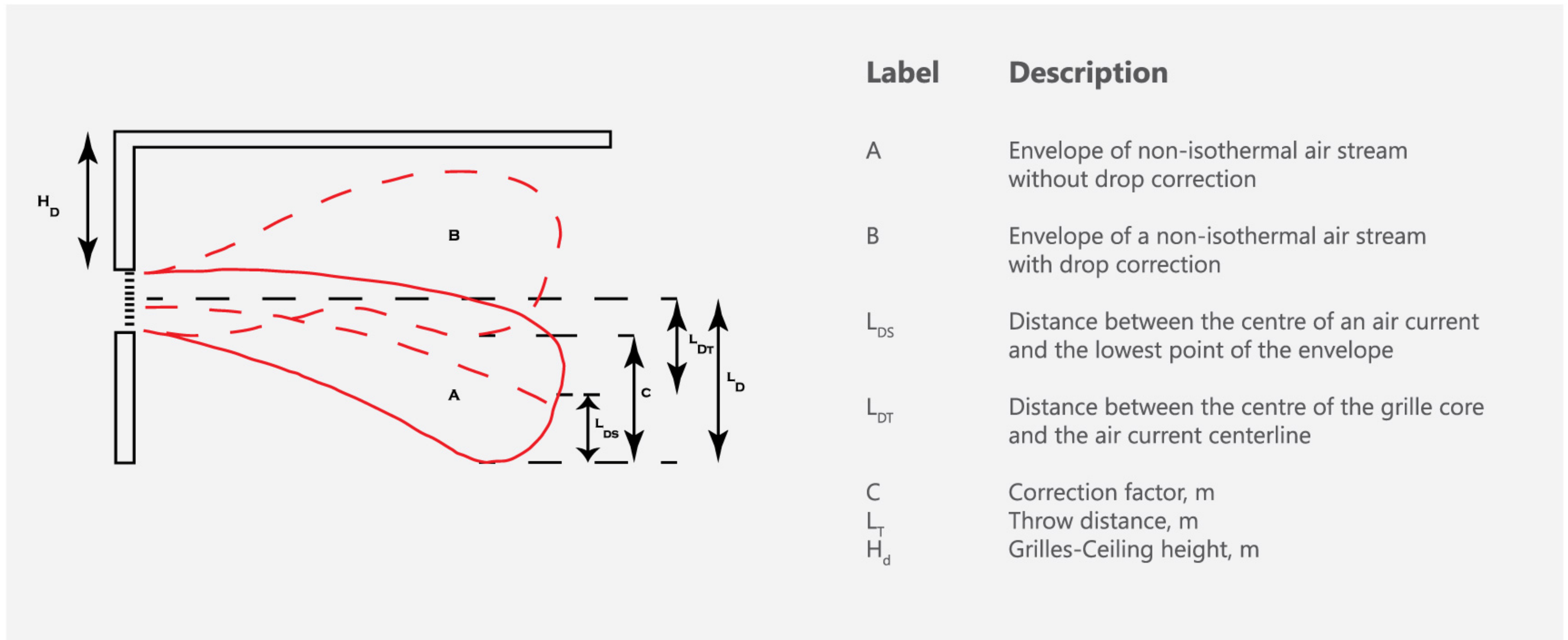
Supply



Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25		NR35		NR40		NR50		
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1400 392	1600 448
200 x 600	0.12 (0.063)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	6.8 2.2 <4 23	7.5 2.6 5 25	10.5 3.5 9 32	13 4.4 14 37	17 6.2 27 42	20 7.1 40 45
200 x 800	0.16 (0.084)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	7.0 2.0 <4 21	9.5 2.6 5 27	11.5 3.3 8 32	16 4.6 15 37	17 5.3 22 40
200 x 1000	0.2 (0.108)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	- - - -	8 2.1 <4 24	10 2.6 5 28	14 3.6 9.5 34	14.5 4.1 12 36

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25		NR35		NR40		NR50		
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1400 392	1600 448
300 x 500	0.15 (0.084)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	7.0 2.0 <4 21	9.5 2.6 5 27	11.5 3.3 8 32	16 4.6 15 37	17 5.3 22 40
300 x 600	0.18 (0.099)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	- - - -	9.0 2.2 <4 25	11 2.8 5.5 30	14 3.9 12 36	16 4.5 14 37
300 x 800	0.24 (0.133)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	9.5 2.1 <4 25	13 2.9 6 32	14 3.3 8 34
300 x 1000	0.3 (0.167)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - - -	- - - -	- - - -	- - - -	- - - -	- - - -	8.5 1.7 <4 22	11 2.3 <4 27	12.5 2.7 5 30

Drop Correction



Airstream Drop

The total drop is the maximum vertical distance between the centre of a grille core and the lowest point of a specified envelope, determined by the envelope velocity V_T .

The total drop consist of two elements :

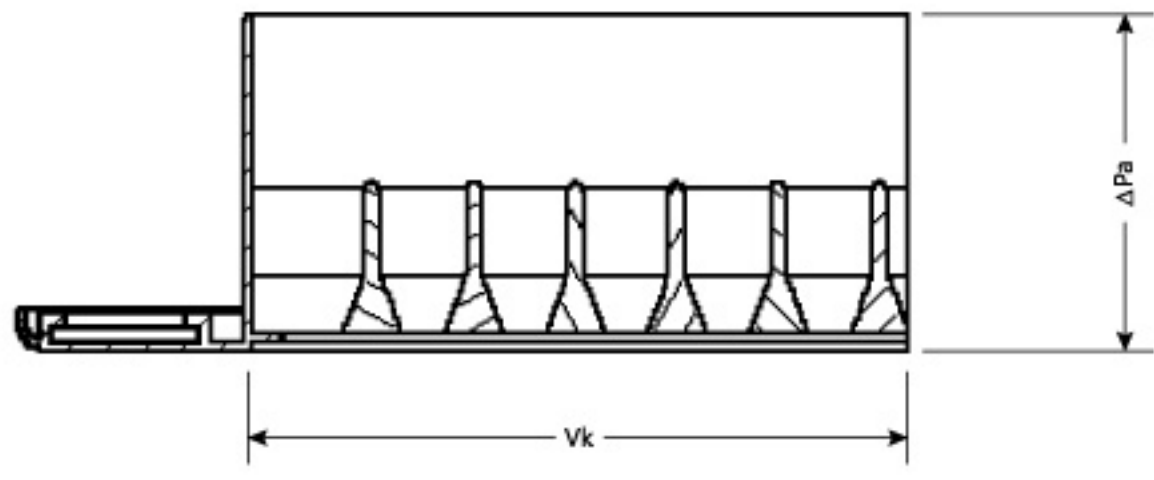
$$L_D = L_{DS} + L_{DT}$$

Drop Correction L_D

Drop correction is possible by projecting the air current upward, with supply grille having adjustable horizontal bars. The drop effect can be significantly corrected if the air is projected upward 15° to 20°, as shown in the drop correction diagram. The correction factors "C" in the diagram are only valid if the minimum distance H_d between the centre of the grille and the ceiling is maintained.

TECHNICAL PERFORMANCE DATA

Exhaust



* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

* For 15° deflector vanes, air flow rate will be reduced by 5% at listed pressure lost and NR values.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	<div style="display: flex; justify-content: space-around; font-size: small;"> NR25 NR35 NR40 NR45 </div>									
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1500 420	2000 560	
150 x 250	0.0375 (0.014)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	5.0 4 25	6.0 6.0 30	7.7 9.0 40	- - -	- - -	- - -	- - -	- - -	- - -	
150 x 300	0.045 (0.017)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	4.0 2.5 <20	4.7 4.0 25	6.5 7.0 34	8.2 10 42	9.8 14 47	- - -	- - -	- - -	- - -	
150 x 400	0.06 (0.023)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.0 <1 <20	3.6 2.5 <20	4.8 3.5 20	6.0 6.0 27	7.2 8.0 37	9.7 14 47	- - -	- - -	- - -	
150 x 500	0.075 (0.028)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.0 <1 <20	4.0 2.5 20	5.0 4 27	6.0 6.0 33	7.9 10 42	9.9 15 52	- - -	- - -	
150 x 600	0.09 (0.035)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	3.2 1.5 <20	4.0 2.5 20	4.8 3.5 26	6.3 7.0 36	7.9 10 45	11.9 22 >55	- - -	
150 x 800	0.12 (0.047)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	3.0 <1 <20	3.5 2 20	4.7 4.0 30	5.9 6.0 37	8.9 13 50	- - -	

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	<div style="display: flex; justify-content: space-around; font-size: small;"> NR25 NR35 NR40 NR50 </div>								
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280		
200 x 400	0.08 (0.031)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	3.6 2.5 <20	4.5 3.0 24	5.4 5.0 30	7.2 8.0 40	- - -	- - -	- - -
200 x 500	0.1 (0.039)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	3.6 2.5 <20	4.3 3.0 24	5.7 5.5 34	7.1 8.0 40	- - -	- - -
200 x 600	0.12 (0.047)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	3.0 <1 <20	3.5 2 20	4.7 4.0 30	5.9 6.0 37	8.9 13 50	- - -

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	<div style="display: flex; justify-content: space-around; font-size: small;"> NR25 NR35 NR40 NR45 </div>							
			250 70	300 84	400 112	500 140				
200 x 800	0.16 (0.063)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	3.5 2.0 20	4.3 4.0 28	6.5 7.0 40	8.7 13 52
200 x 1000	0.2 (0.080)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	3.5 2.0 22	5.2 4.5 34	6.9 8.0 45

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	<div style="display: flex; justify-content: space-around; font-size: small;"> NR25 NR35 NR40 NR45 </div>							
			250 70	300 84	400 112	500 140				
300 x 500	0.15 (0.063)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	3.5 2.0 20	4.3 4.0 28	6.5 7.0 40	8.7 13 52
300 x 600	0.18 (0.074)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	3.0 <1 <20	3.8 2.5 24	5.6 5.0 36	7.5 9.0 47
300 x 800	0.24 (0.099)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	2.8 <1 <20	4.2 3.0 28	5.6 5.0 37
300 x 1000	0.3 (0.125)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	3.3 <1 23	4.4 4.0 32

BAR GRILLE TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.2mm thick.
2. The margin to be in 28mm from the neck height to the edge.
3. Frame height to be in 40mm.
4. The corner of the frame should be pressed with a 90° corner piece to ensure the frames are in 90°.

Vanes Construction

1. Vanes to be in extruded aluminium. Vanes thickness should be 1.8mm thick at the tail and 6.0mm at the surface.
2. Height of the vanes to be in 18mm only.
3. Vanes pitch to be in 12mm, unless otherwise stated.
4. All the vanes to be support with minimum 2 support bar.

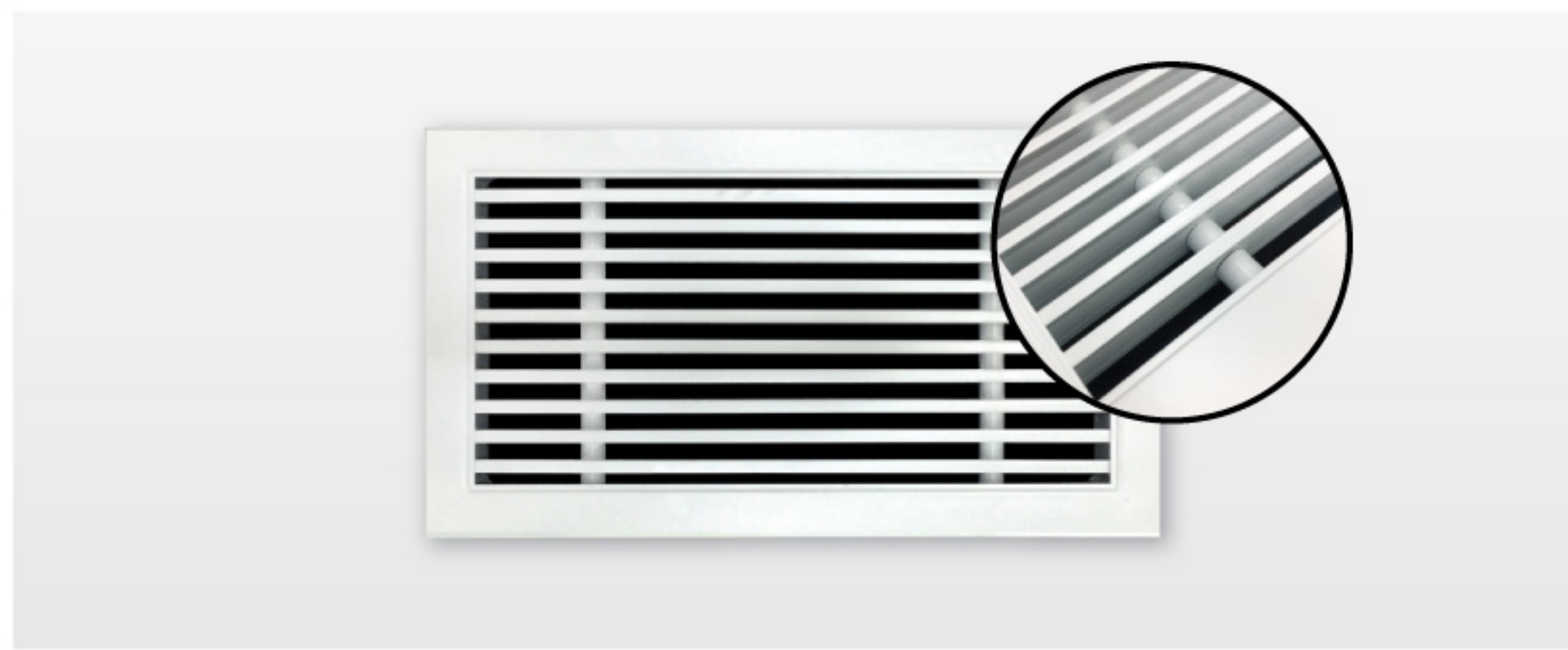
Finishing

1. Finishing to be in powder coated RAL 9010 SG white matt, unless otherwise stated.

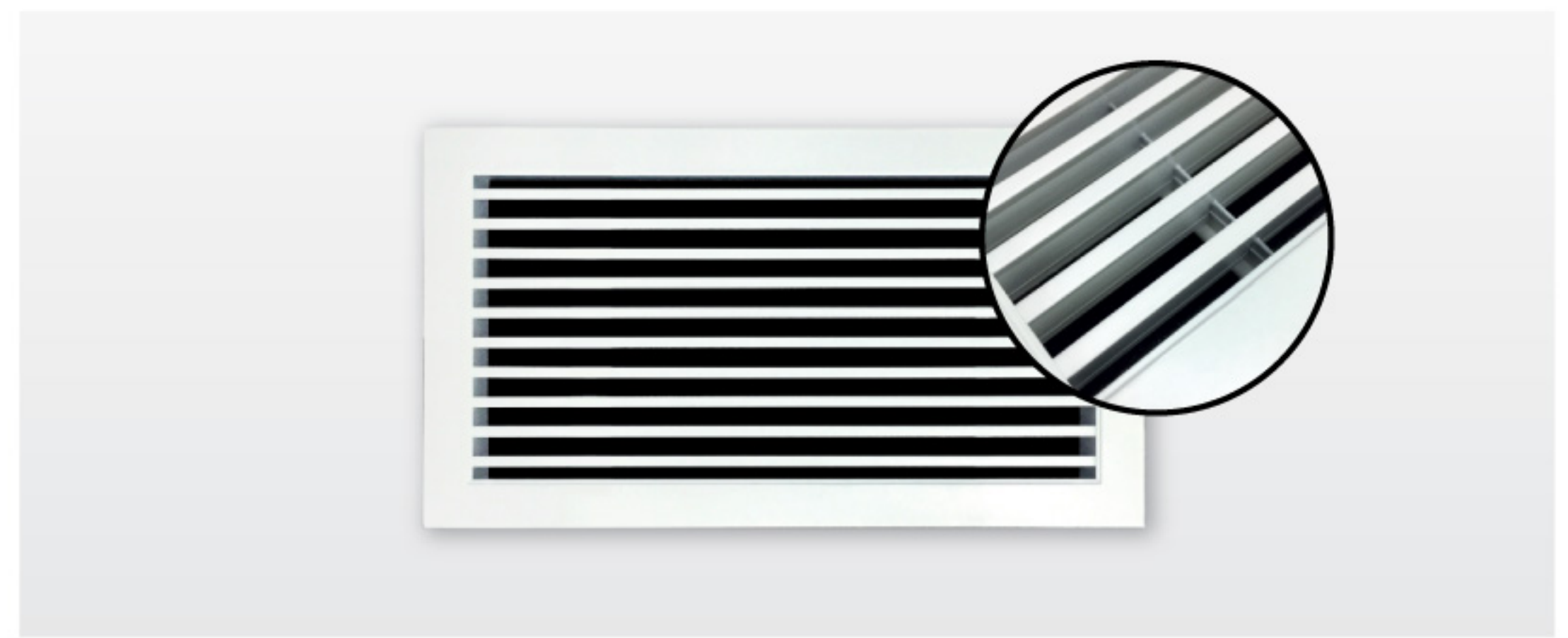
Performance

1. Free area of the grill to be in 53%
2. Standard vanes deflection configuration to be 0°, unless otherwise stated.
3. Bar Grille are designed to be wall mounted and windowsill mounted.

AVAILABLE TYPES



Fixed Type - Hollow Bar



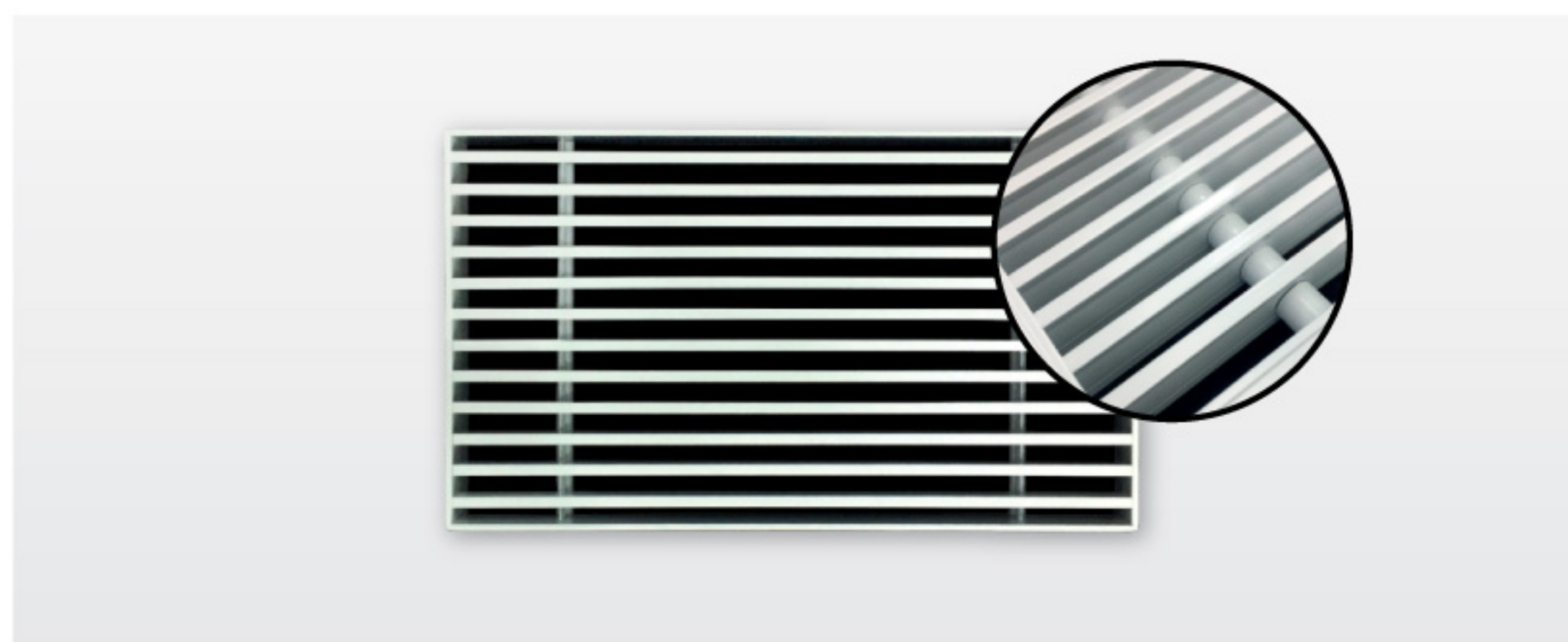
Fixed Type - Slot In



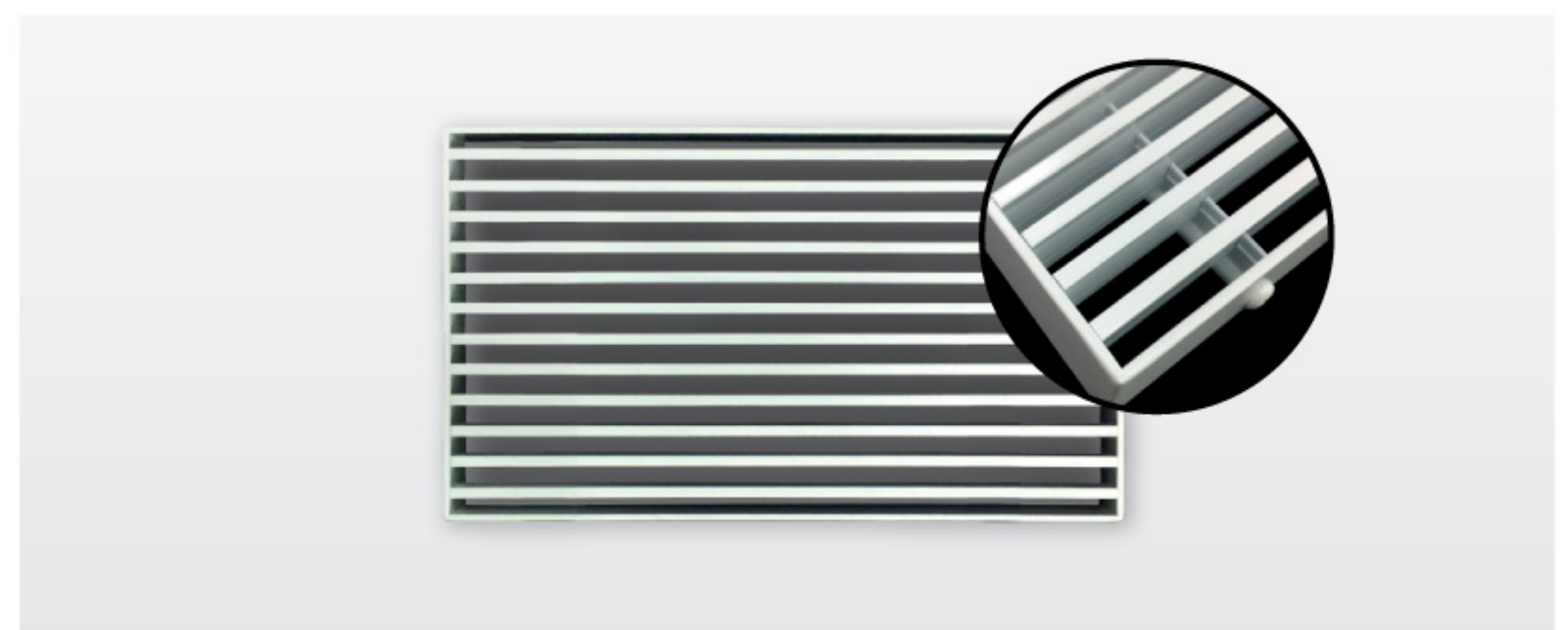
Removable Type



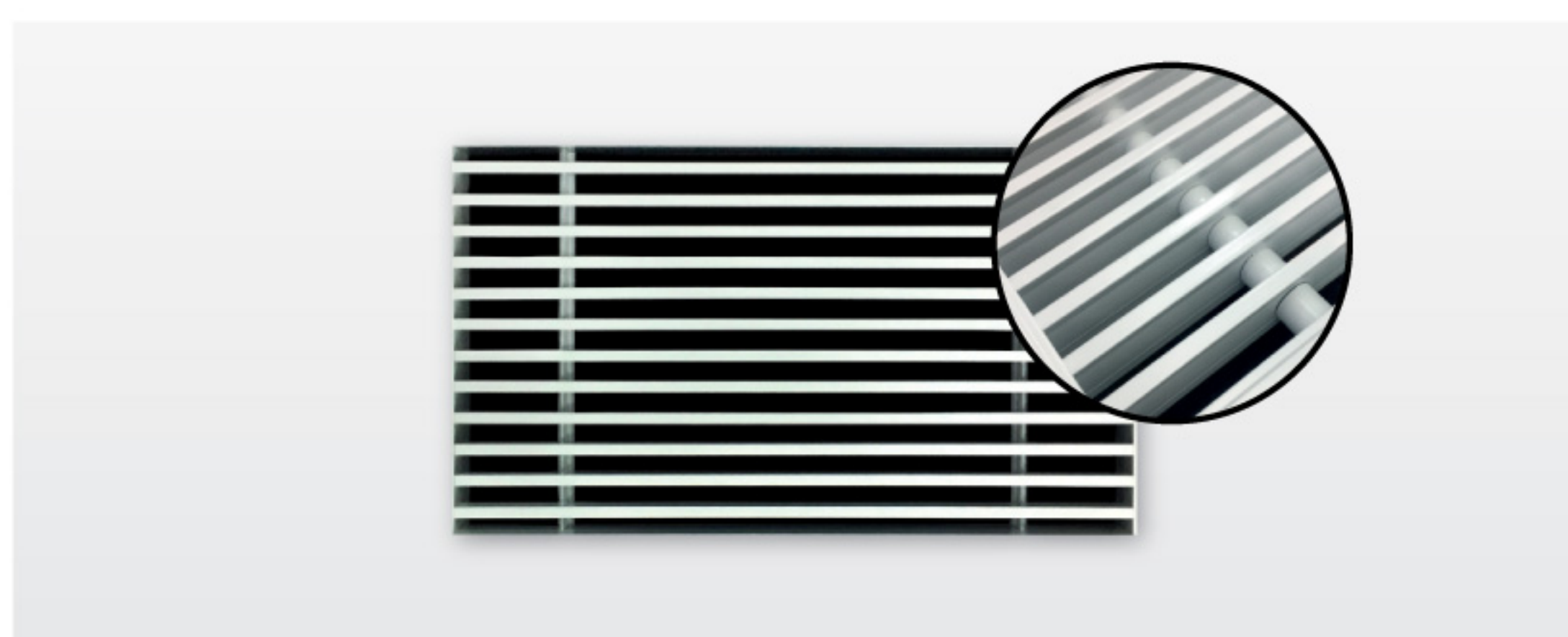
Removable Type



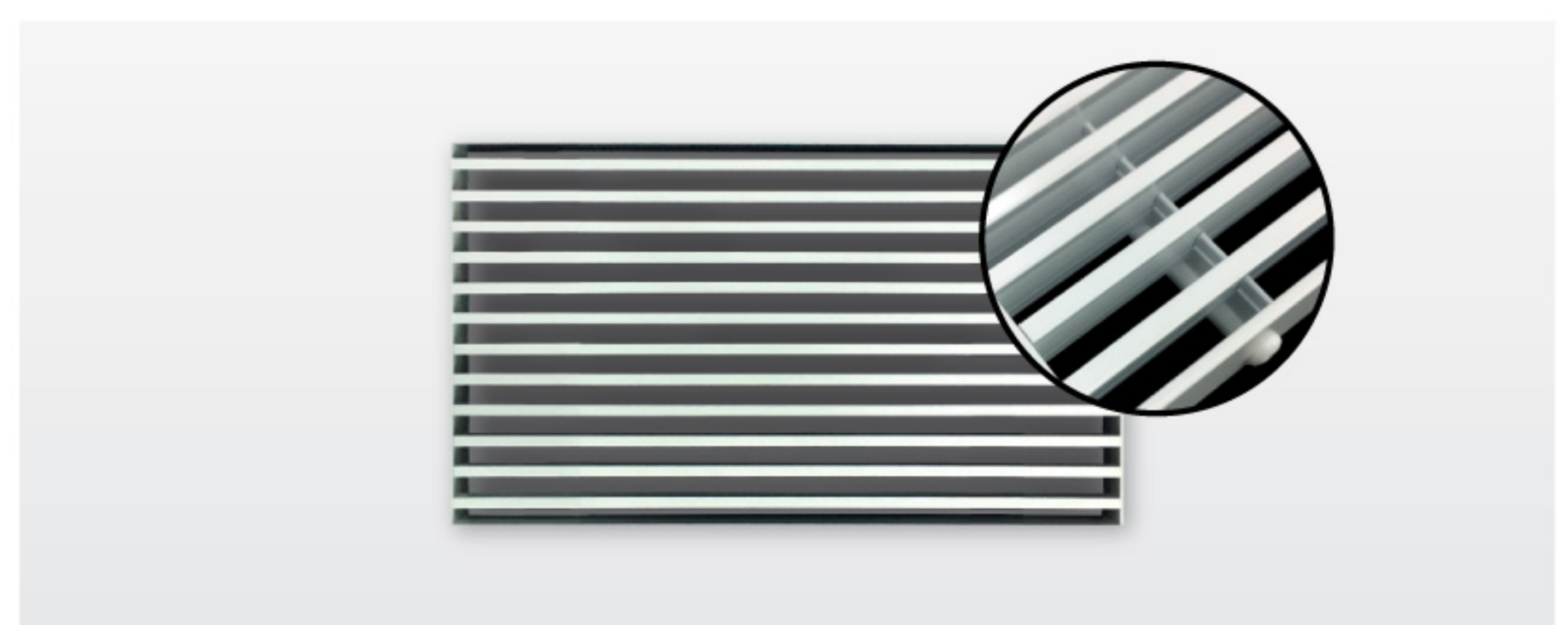
Box Type - Hollow Bar



Box Type - Slot In

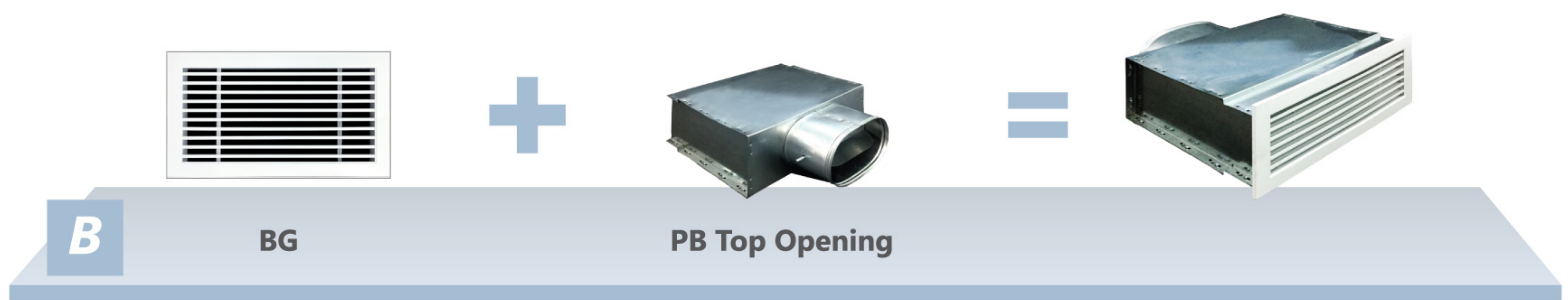


Frameless - Hollow Bar



Frameless - Slot In


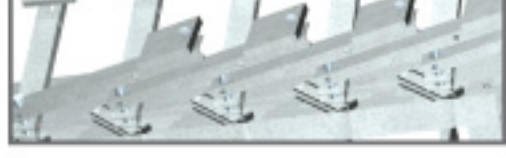


GRILLE + ACCESSORIES COMBINATION



BG | Bar Grille



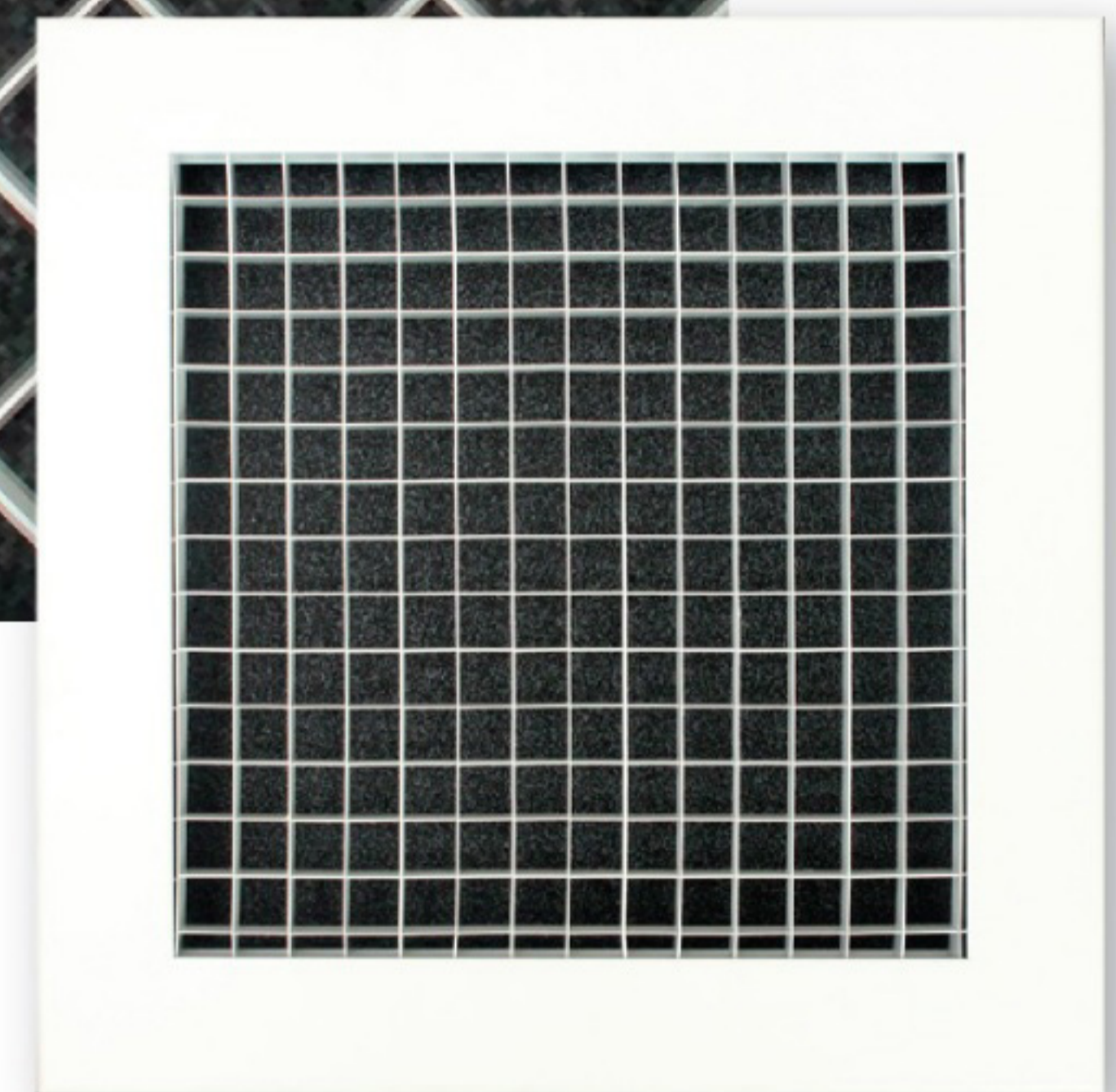
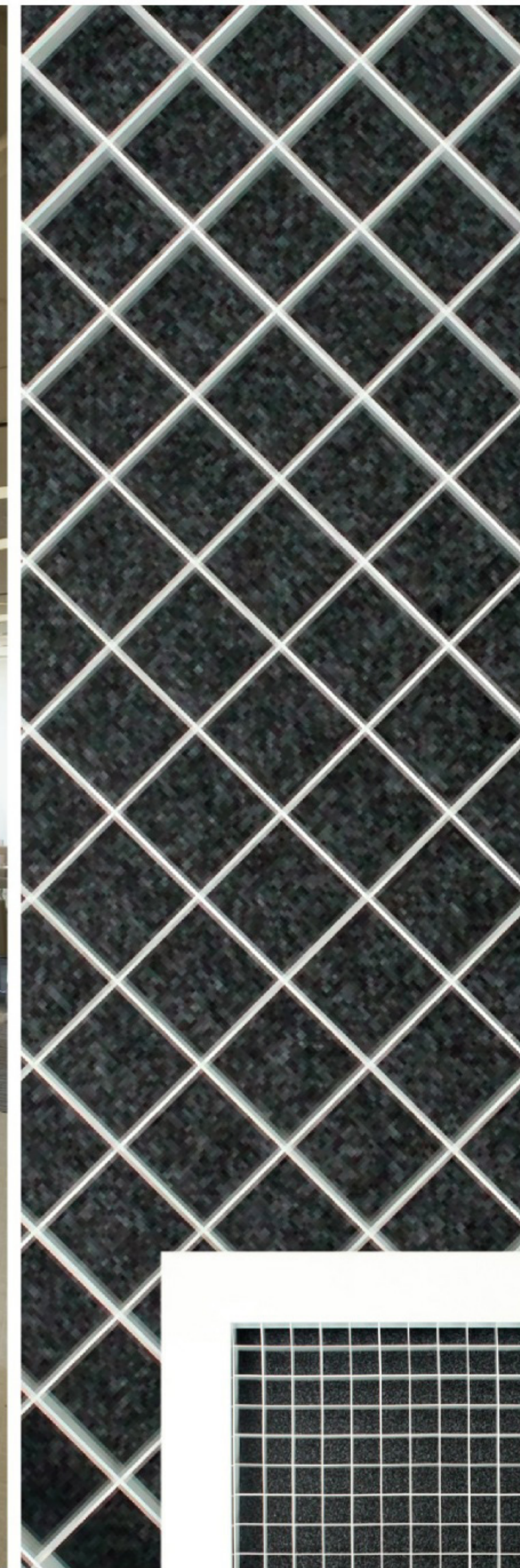
Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



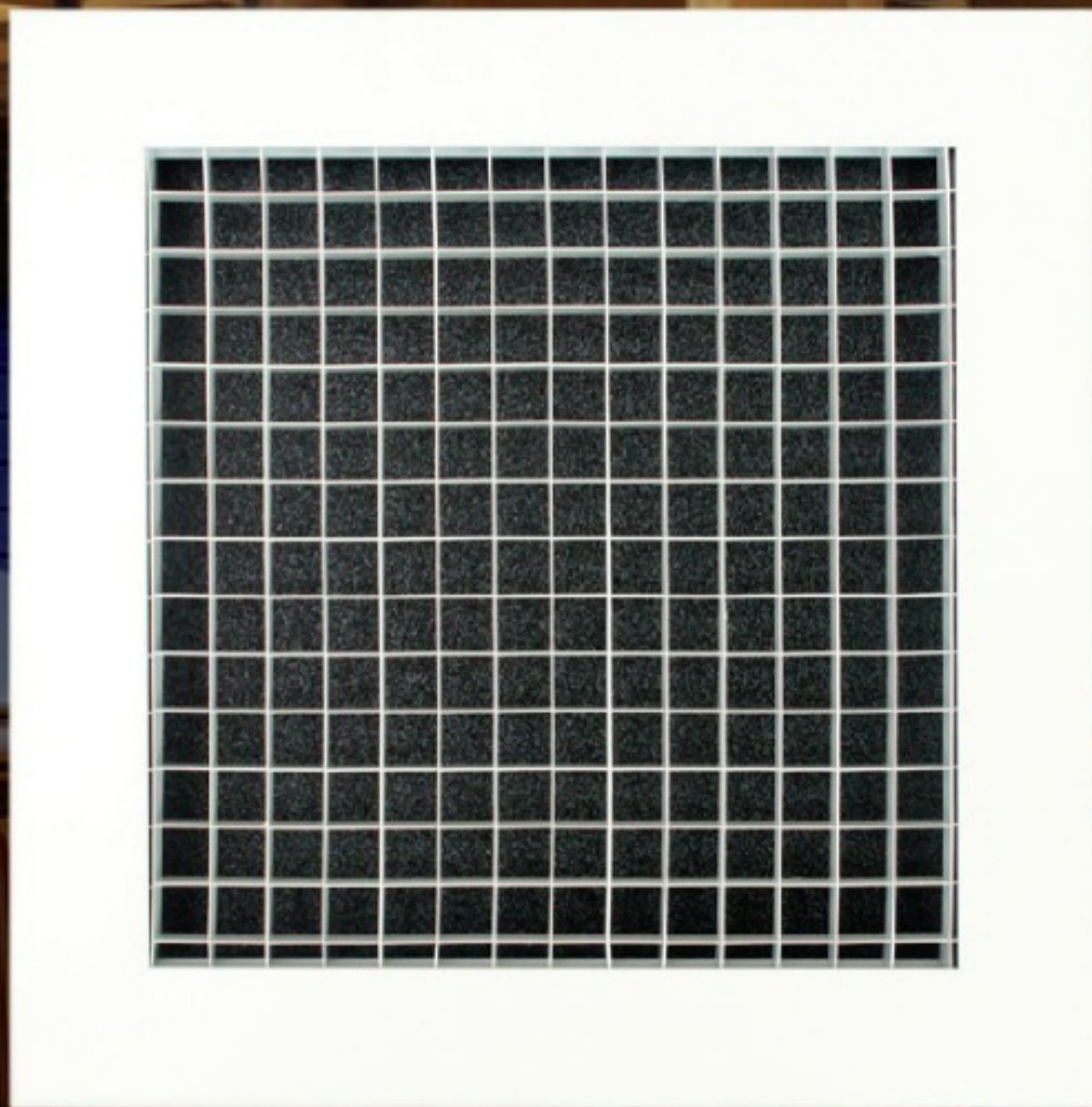
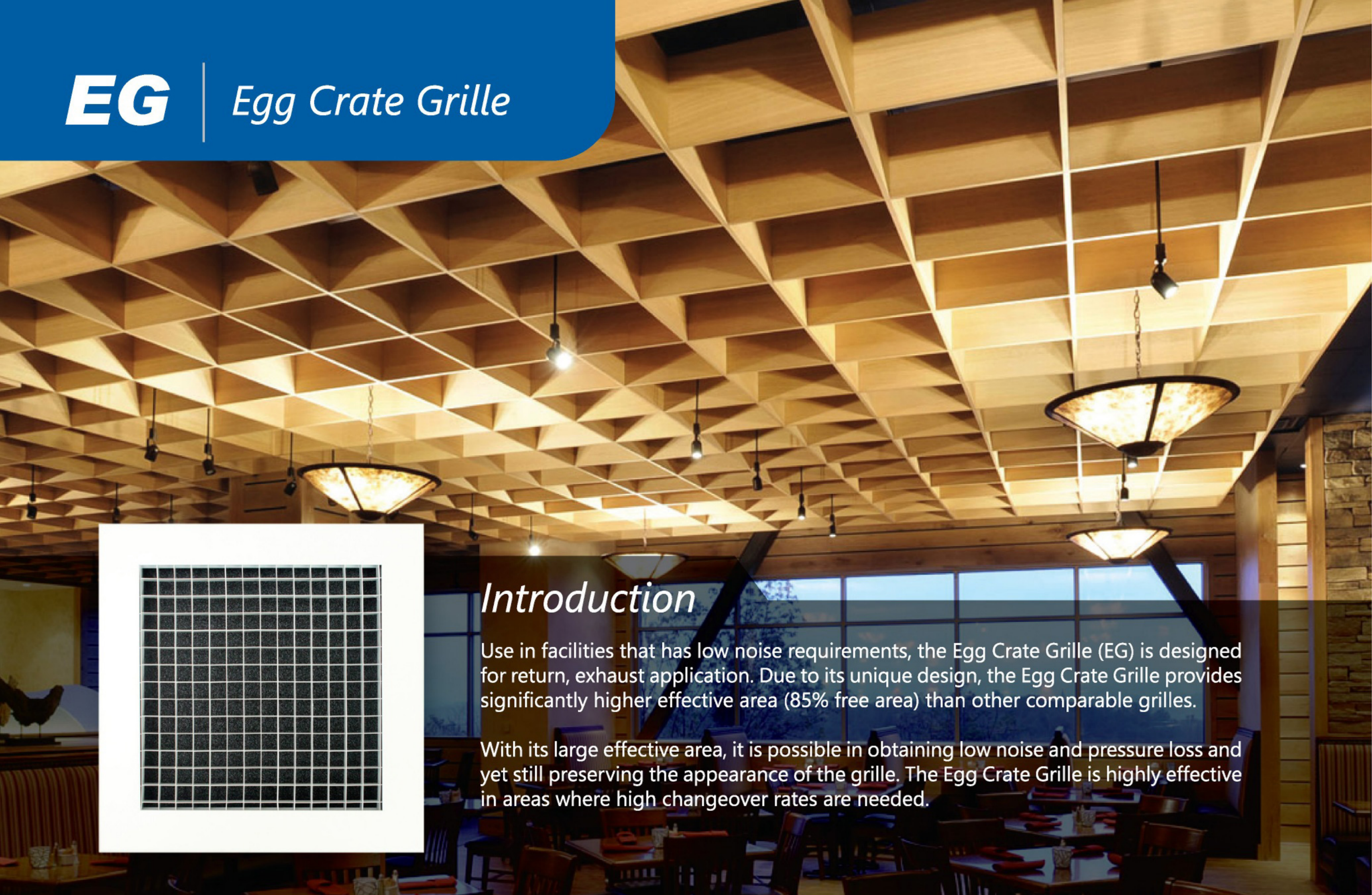
Prudent Aire Sdn Bhd 514037-D
Lot 2102, Jalan KPB12, Off Jalan Suria Park 1, Kg Baru Balakong,
43300 Seri Kembangan, Selangor Darul Ehsan, Malaysia
Tel : +603-9100 3858 (HL) / 9101 3869 / 9101 5868
Fax : +603-9100 4868 Email : sales@prudentaire.com

www.prudentaire.com



EG Egg Crate Grille





Introduction

Use in facilities that has low noise requirements, the Egg Crate Grille (EG) is designed for return, exhaust application. Due to its unique design, the Egg Crate Grille provides significantly higher effective area (85% free area) than other comparable grilles.

With its large effective area, it is possible in obtaining low noise and pressure loss and yet still preserving the appearance of the grille. The Egg Crate Grille is highly effective in areas where high changeover rates are needed.

CONSTRUCTIONS & MATERIALS

- 90° crate profile
- Highly customizable grille shape
- Optional removable core vanes
- Grille sizing :
 - Minimum size: 100mm x 100mm
 - Maximum size: 1200mm x 1200mm
- Grid size : 12mm x 12mm x 12mm

Construction Available



Stainless Steel

Frame Construction



Extruded Aluminium

Grid Construction

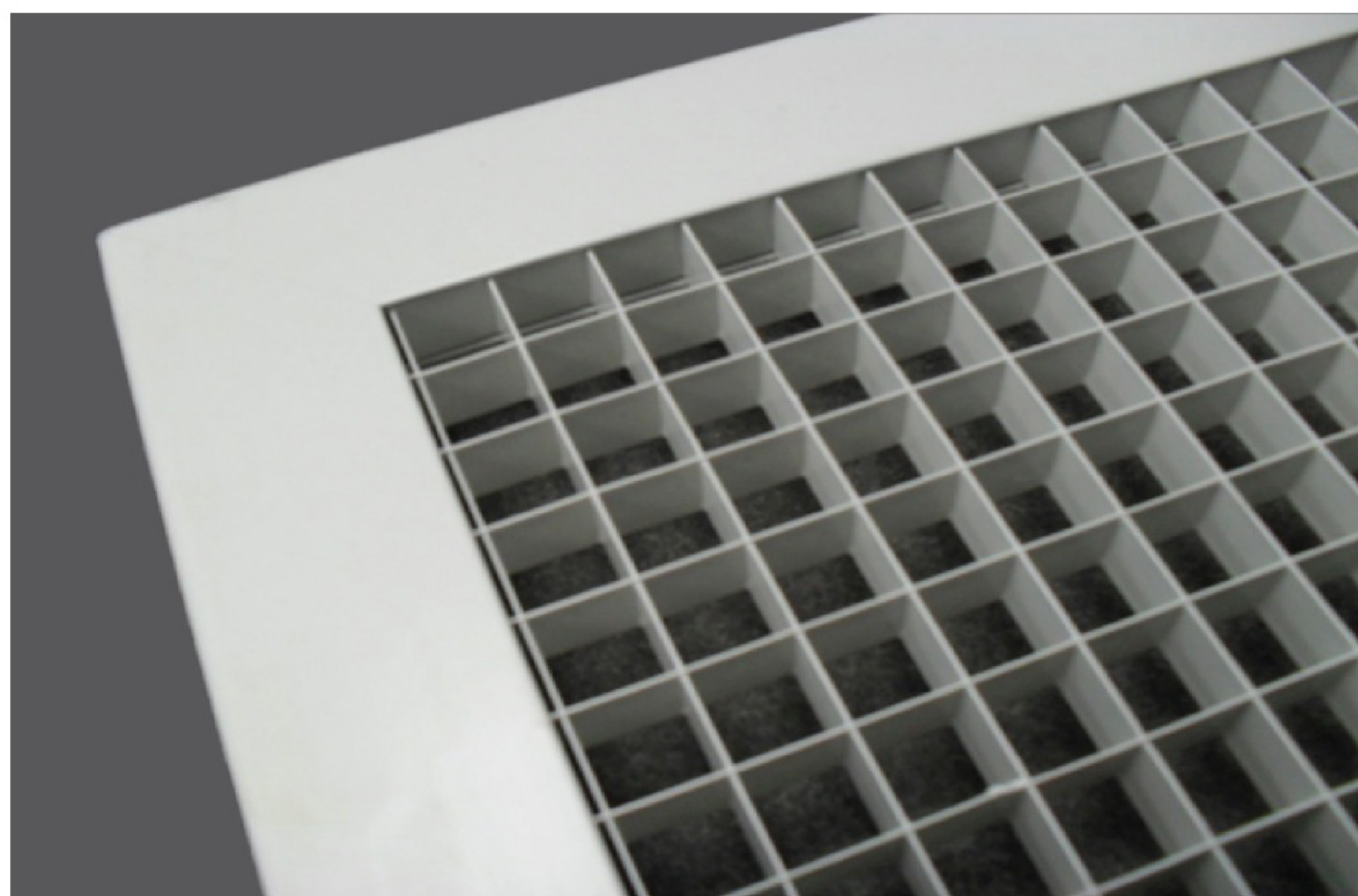


Aluminium

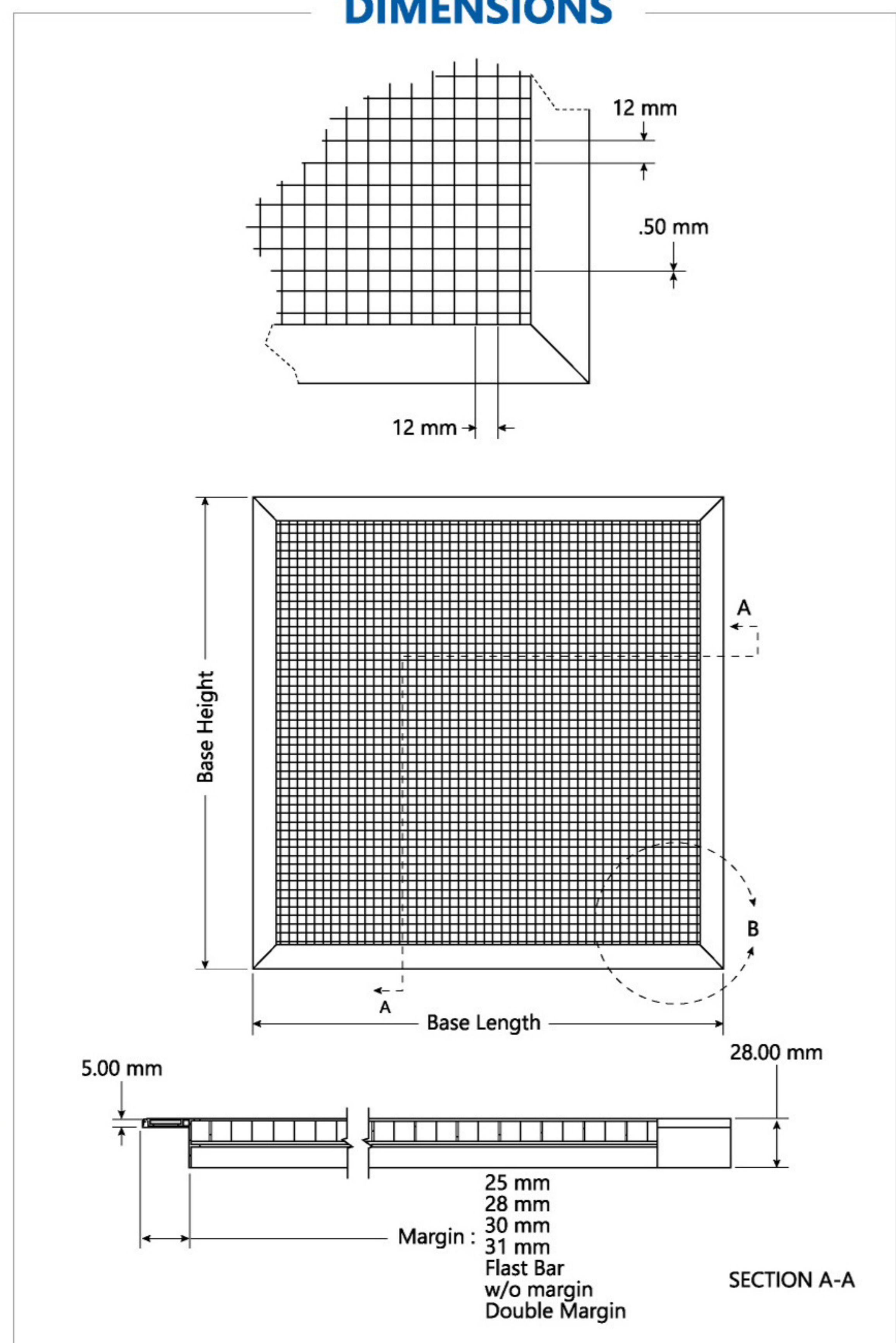
Surface Finishing



White (Matt)
Customizable Color

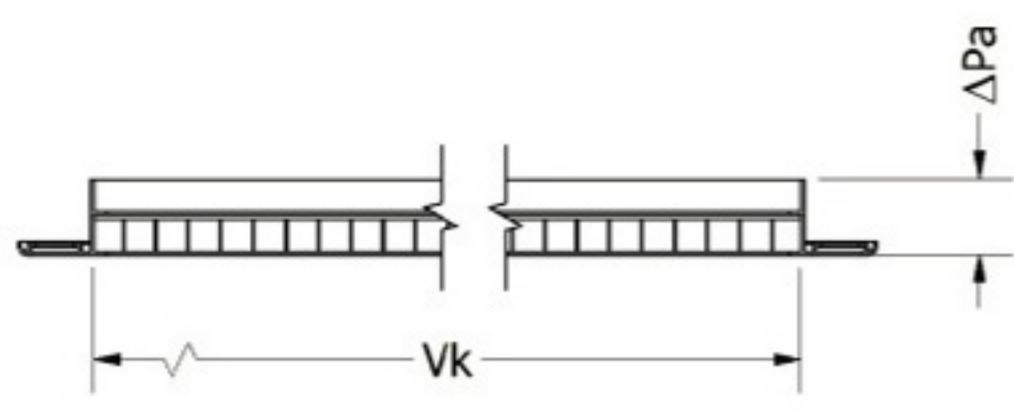


DIMENSIONS



TECHNICAL PERFORMANCE DATA

Exhaust



* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating (NR)									
			250 70	400 112	600 168	800 224	1000 280	1500 420	2000 560	2500 700	4000 1120	
150 x 250	0.0375 (0.018)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.9 2.0 <20	6.2 6.0 30	9.3 12.5 47	12.3 20 >50	- - -	- - -	- - -	- - -	- - -	
150 x 300	0.045 (0.021)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.3 <2 <20	5.3 5.0 30	7.9 8.0 40	10.6 17.5 50	13.2 22.5 >50	- - -	- - -	- - -	- - -	
150 x 400	0.06 (0.029)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.8 2.5 20	5.7 5.0 34	7.7 10 43	9.6 15 50	14.4 25 >50	- - -	- - -	- - -	
150 x 500	0.075 (0.038)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	4.4 3.0 25	5.8 5.0 35	7.3 7.0 43	11 17.5 51	- - -	- - -	- - -	
300 x 300	0.09 (0.045)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	3.7 2.2 20	4.9 4.0 30	6.2 6.0 37	9.3 12.5 50	12.3 20 >60	- - -	- - -	
300 x 400	0.12 (0.061)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	3.6 2.2 20	4.6 3.5 27	6.8 6.0 40	9.1 12 50	11.4 18 >60	- - -	
300 x 500	0.15 (0.078)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	3.6 2.0 20	5.3 5.0 33	7.1 6.0 45	8.9 12.5 55	- - -	
300 x 600	0.18 (0.094)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	4.4 3.0 25	5.9 5.0 37	7.4 7.0 45	11.8 18 >60	
300 x 800	0.24 (0.127)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	3.3 <2 <20	4.4 3.0 30	5.5 4.5 36	8.7 12.5 55	
300 x 1000	0.3 (0.160)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	3.5 <2 23	4.3 2.7 27	6.9 7.0 45	

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating (NR)									
			250 70	400 112	600 168	800 224	1000 280	1500 420	2000 560	2500 700	4000 1120	
450 x 450	0.16 (0.084)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	3.3 <2 <20	5.0 4.0 28	6.6 6.0 42	8.3 10 47	13.2 25 >60	
450 x 450	0.24 (0.127)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	3.3 <2 <20	4.4 3.0 30	5.5 4.5 36	6.5 6.0 43	
450 x 450	0.32 (0.172)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	3.2 <2 20	4.0 2.5 27	6.5 6.0 43	
450 x 450	0.4 (0.216)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	- - -	3.2 <2 <20	5.1 4.0 36	

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating (NR)									
			250 70	400 112	600 168	800 224	1000 280	1500 420	2000 560	2500 700	4000 1120	
500 x 600	0.3 (0.193)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	3.6 2.0 23	5.5 4.3 38
500 x 800	0.4 (0.278)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	<3.0 <2 <20	4.0 2.5 27
500 x 1000	0.5 (0.347)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	- - -	3.2 1.5 20

EGG CRATE TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.2mm thick, unless otherwise stated.
2. The margin to be in 28mm from the neck height to the edge.
3. Frame height to be in 28mm.
4. The corner of the frame should be pressed with a 90° corner piece to ensure the frames are in 90°.
5. Removable core designs are available upon request.

Core Construction

1. Crate to be in aluminium crate. Grid size with 12mm x 12mm x 12mm, unless otherwise stated
2. Crate to be in 0.5mm thick.

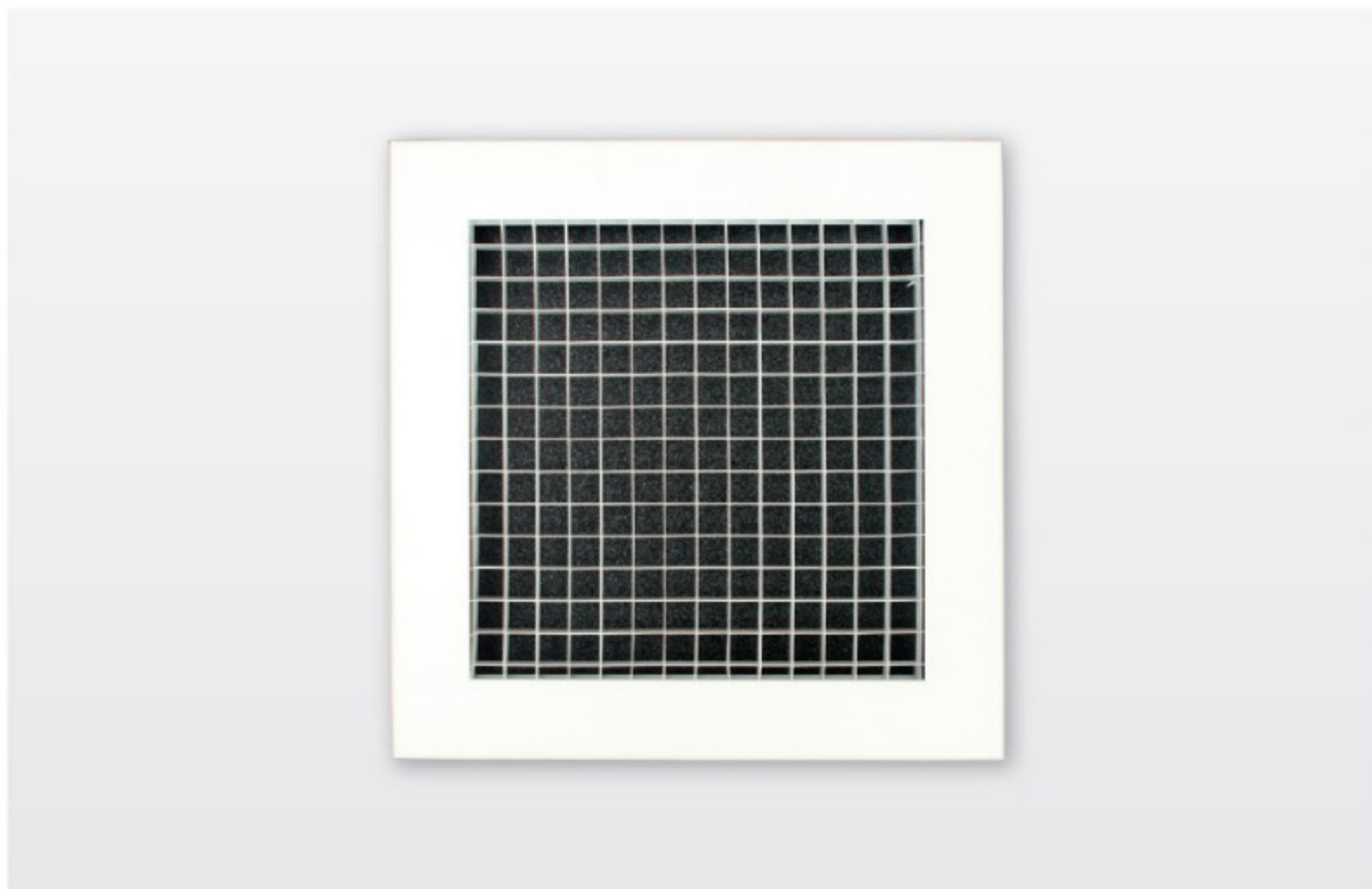
Finishing

1. Finishing to be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grill to be in 85%.
2. Grid profile to be in 90° only.
3. Egg Crate are designed to be ceiling mounted.

AVAILABLE TYPES



Fixed



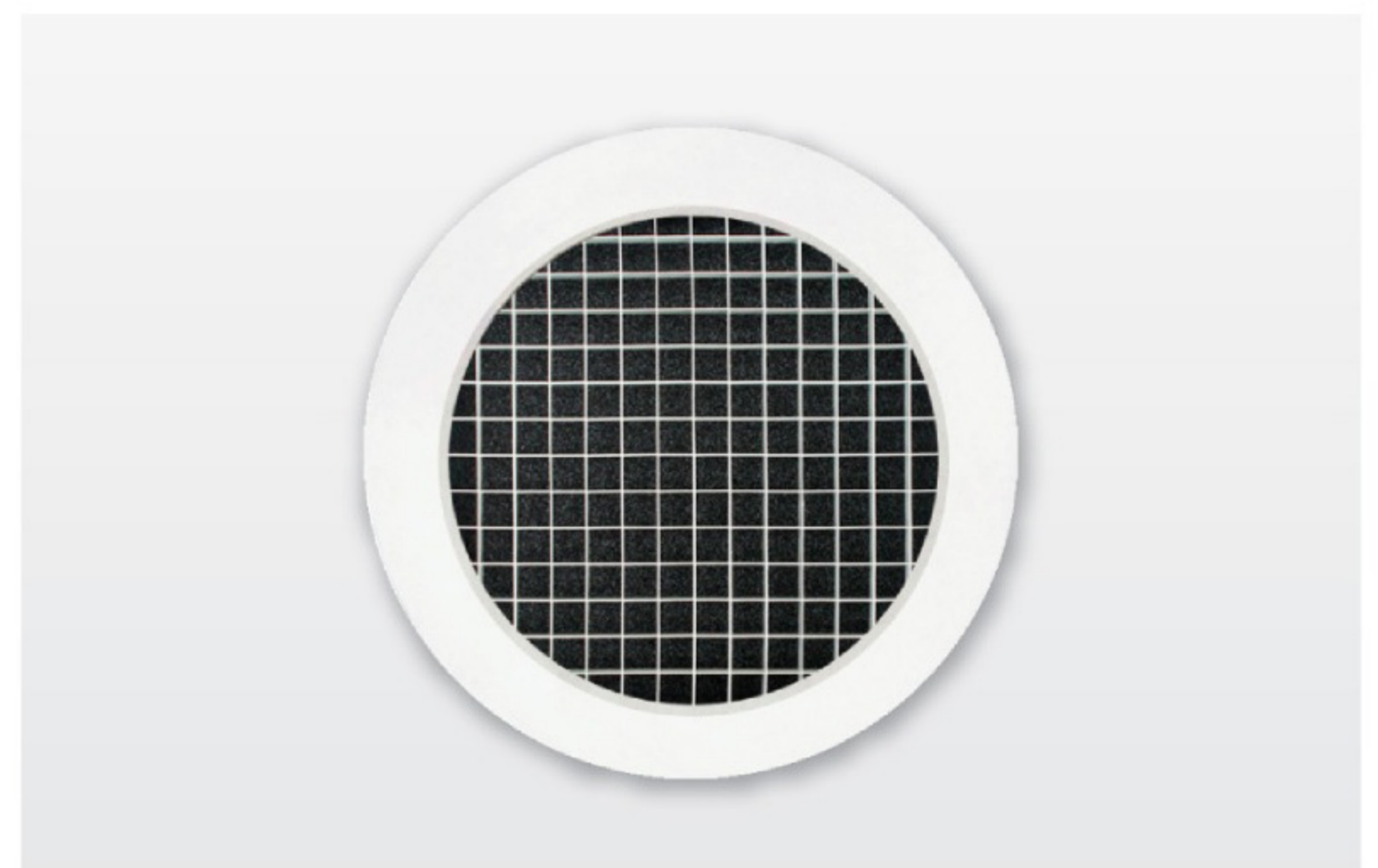
Double Margin

Removable



Push & Sit Down

Removable

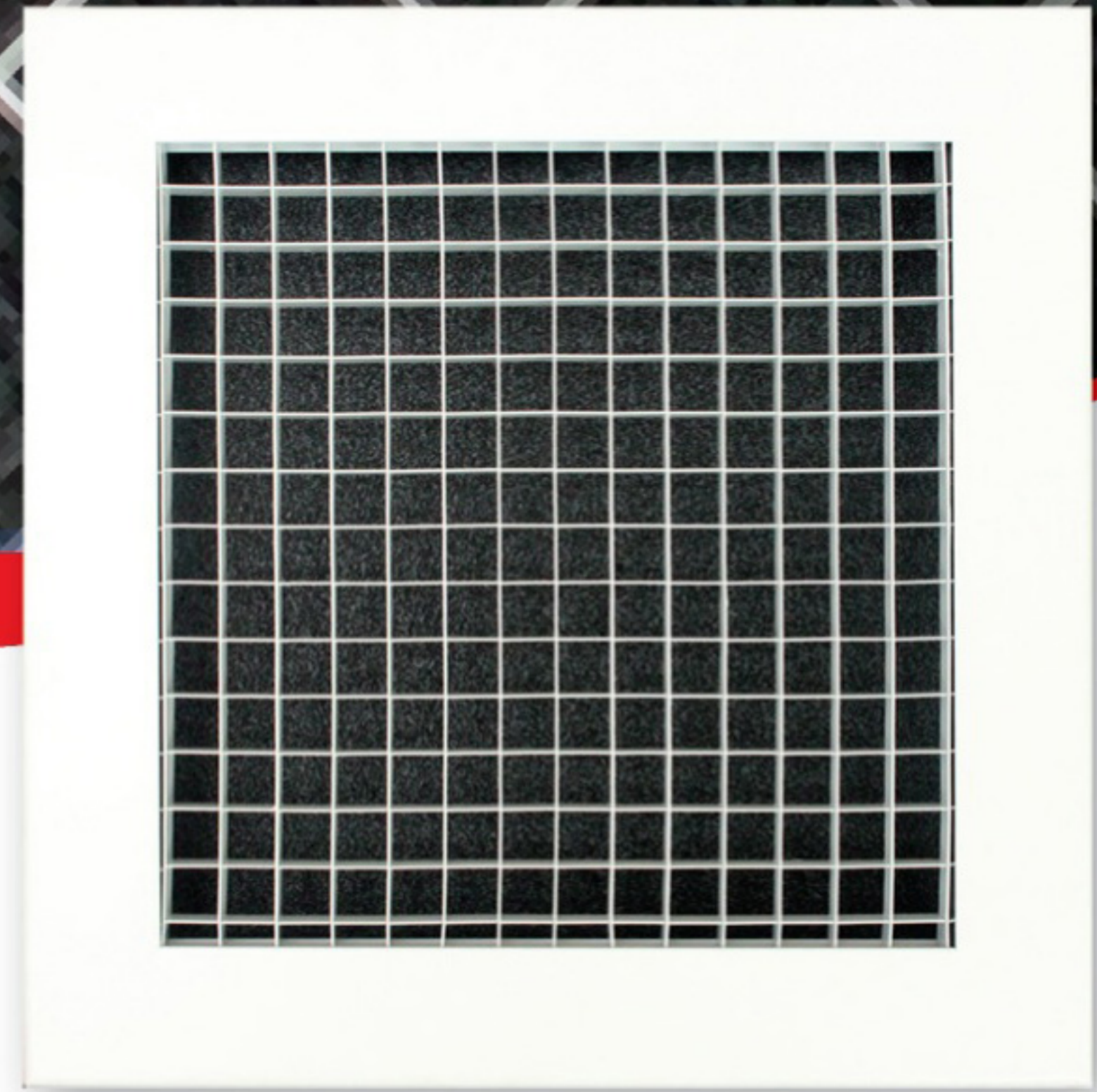


Round

GRILLE + ACCESSORIES COMBINATION



EG | Egg Crate Grille



Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



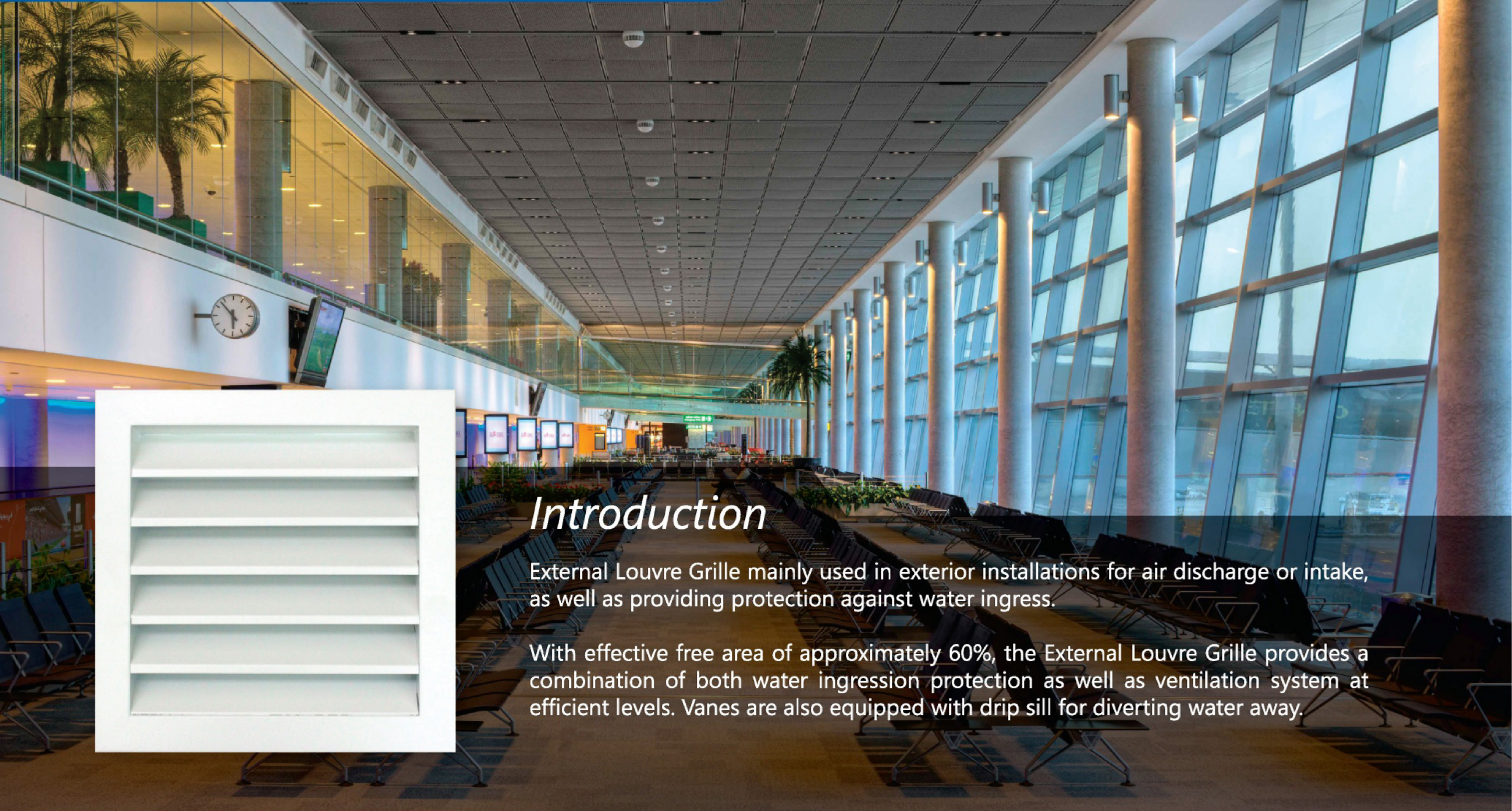
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External Louvre Grille





Introduction

External Louvre Grille mainly used in exterior installations for air discharge or intake, as well as providing protection against water ingress.

With effective free area of approximately 60%, the External Louvre Grille provides a combination of both water ingress protection as well as ventilation system at efficient levels. Vanes are also equipped with drip sill for diverting water away.

CONSTRUCTIONS & MATERIALS

- 36° deflection configuration
- Vanes pitch of 40mm (Customizable)
- Grille sizing:
 - i) Minimum size: 100mm x 100mm
 - ii) Maximum size: 2400mm x 1200mm

Frames



Extruded Aluminium



Galvanized Steel (L < 1200 mm)



Galvanized Steel (L > 1200 mm)

Vanes



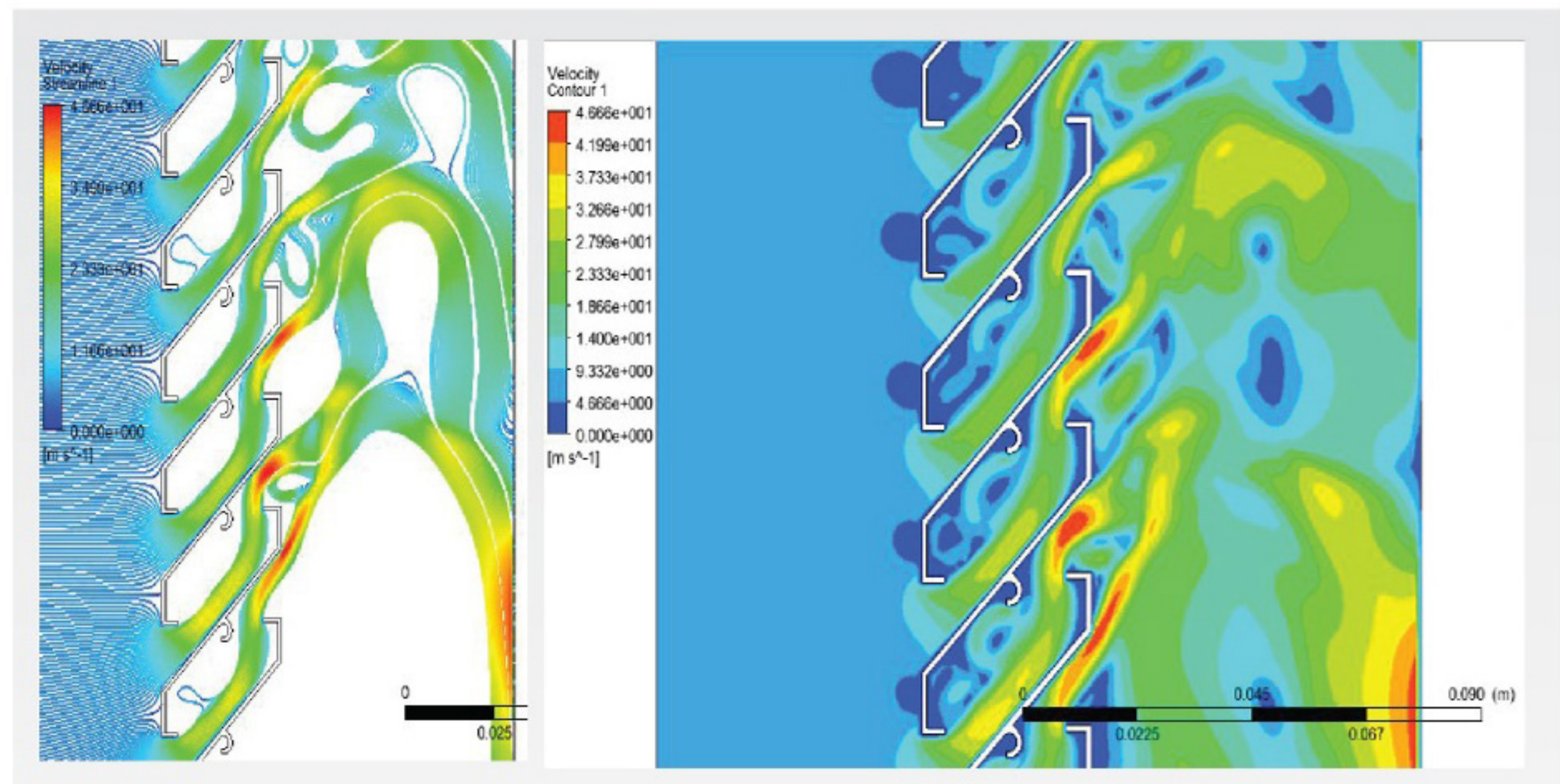
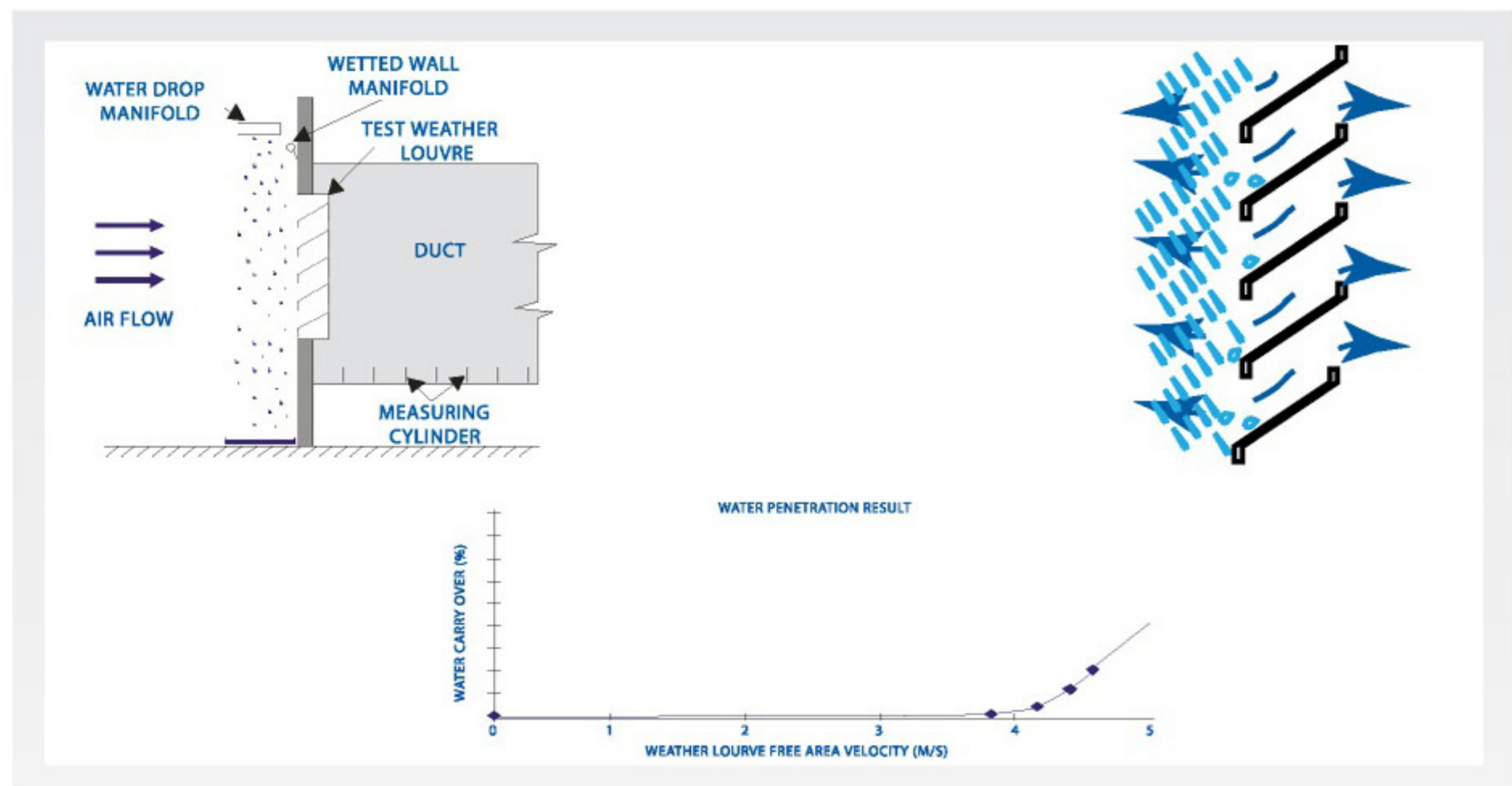
Extruded Aluminium



Galvanized Steel (L < 1200 mm)

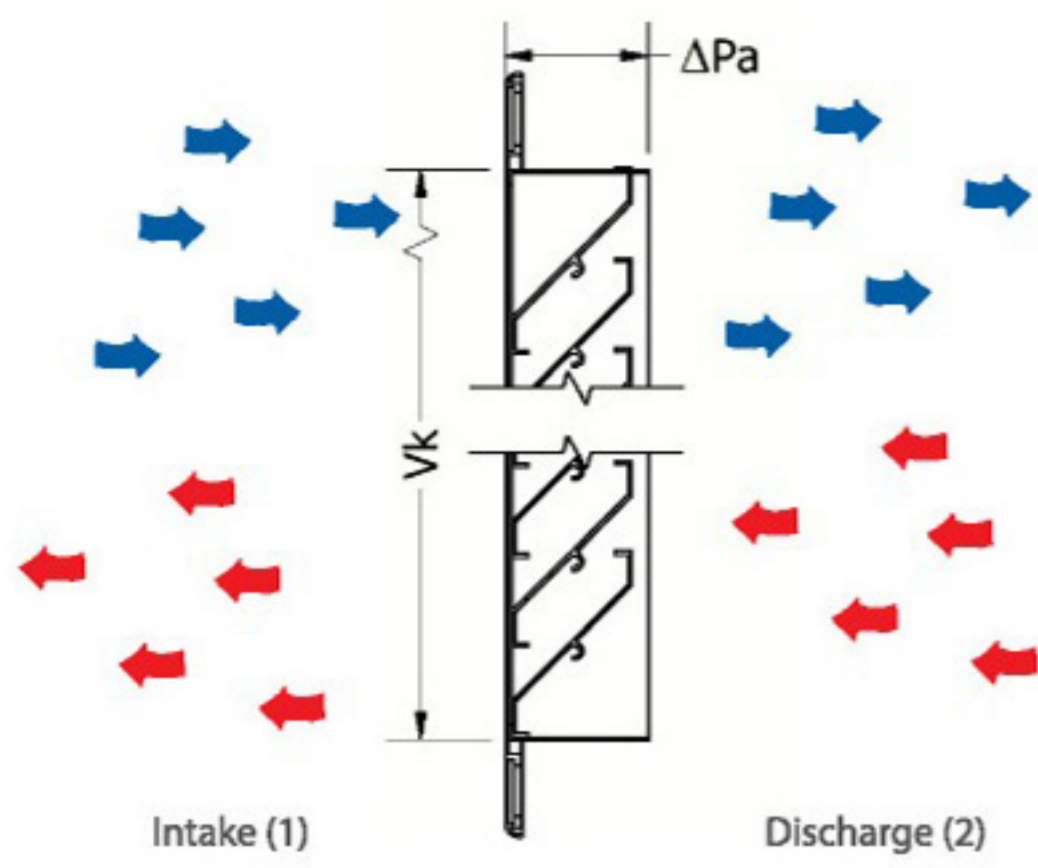


Galvanized Steel (L > 1200 mm)



TECHNICAL PERFORMANCE DATA

Intake / Discharge



* For round grille, select according to similar grille neck area.

* For pressure loss for intake and discharge flow, refer to Pa(1) and Pa(2) respectively.

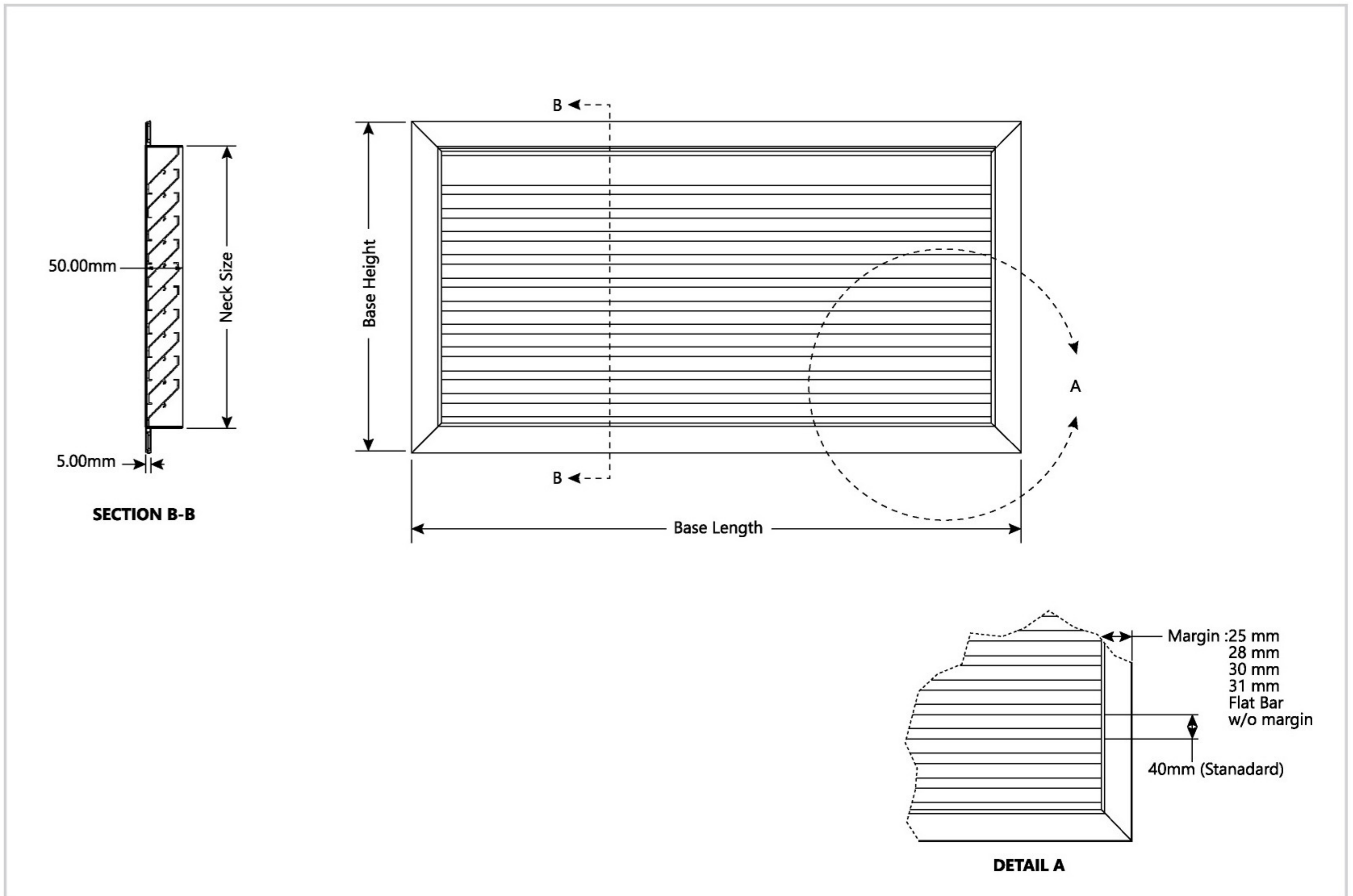
* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	250 70	400 112	600 168	800 224	1000 280	2000 560	2500 700	3000 840	4000 1120
200 x 300	0.06 (0.03)	Face Velocity, m/s	2.3	3.7	5.6	7.4	9.3	-	-	-	-
		Total Pressure Loss, Pa (1)	<10	27	60	>100	>100	-	-	-	-
		Total Pressure Loss, Pa (2)	<10	20	45	80	>100	-	-	-	-
200 x 400	0.08 (0.04)	Face Velocity, m/s	1.7	2.8	4.2	5.6	6.9	13.9	-	-	-
		Total Pressure Loss, Pa (1)	<10	16	35	60	95	>100	-	-	-
		Total Pressure Loss, Pa (2)	<10	11	25	45	70	>100	-	-	-
200 x 500	0.1 (0.06)	Face Velocity, m/s	1.2	1.9	2.8	3.7	4.6	9.3	-	-	-
		Total Pressure Loss, Pa (1)	<10	<10	16	27	45	>100	-	-	-
		Total Pressure Loss, Pa (2)	<10	<10	11	20	32	>100	-	-	-
200 x 600	0.12 (0.07)	Face Velocity, m/s	1.0	1.6	2.4	3.2	4.0	7.9	-	-	-
		Total Pressure Loss, Pa (1)	<10	<10	<10	22	30	>100	-	-	-
		Total Pressure Loss, Pa (2)	<10	<10	<10	17	22	90	-	-	-
200 x 800	0.16 (0.09)	Face Velocity, m/s	-	1.2	1.9	2.5	3.1	6.2	-	-	-
		Total Pressure Loss, Pa (1)	-	<10	<10	12	17	75	-	-	-
		Total Pressure Loss, Pa (2)	-	<10	<10	<10	15	58	-	-	-
300 x 300	0.09 (0.05)	Face Velocity, m/s	1.4	2.2	3.3	4.4	5.6	11.1	-	-	-
		Total Pressure Loss, Pa (1)	<10	<10	25	38	60	>100	-	-	-
		Total Pressure Loss, Pa (2)	<10	<10	19	27	45	>100	-	-	-
300 x 400	0.12 (0.07)	Face Velocity, m/s	1.0	1.6	2.4	3.2	4.0	7.9	-	-	-
		Total Pressure Loss, Pa (1)	<10	<10	<10	22	30	>100	-	-	-
		Total Pressure Loss, Pa (2)	<10	<10	<10	17	22	90	-	-	-
300 x 500	0.15 (0.09)	Face Velocity, m/s	-	1.2	1.9	2.5	3.1	6.2	-	-	-
		Total Pressure Loss, Pa (1)	-	<10	<10	12	17	75	-	-	-
		Total Pressure Loss, Pa (2)	-	<10	<10	<10	15	58	-	-	-
300 x 600	0.18 (0.10)	Face Velocity, m/s	-	1.1	1.7	2.2	2.8	5.6	6.9	8.3	-
		Total Pressure Loss, Pa (1)	-	<10	<10	<10	16	60	95	>100	-
		Total Pressure Loss, Pa (2)	-	<10	<10	<10	11	45	70	>100	-

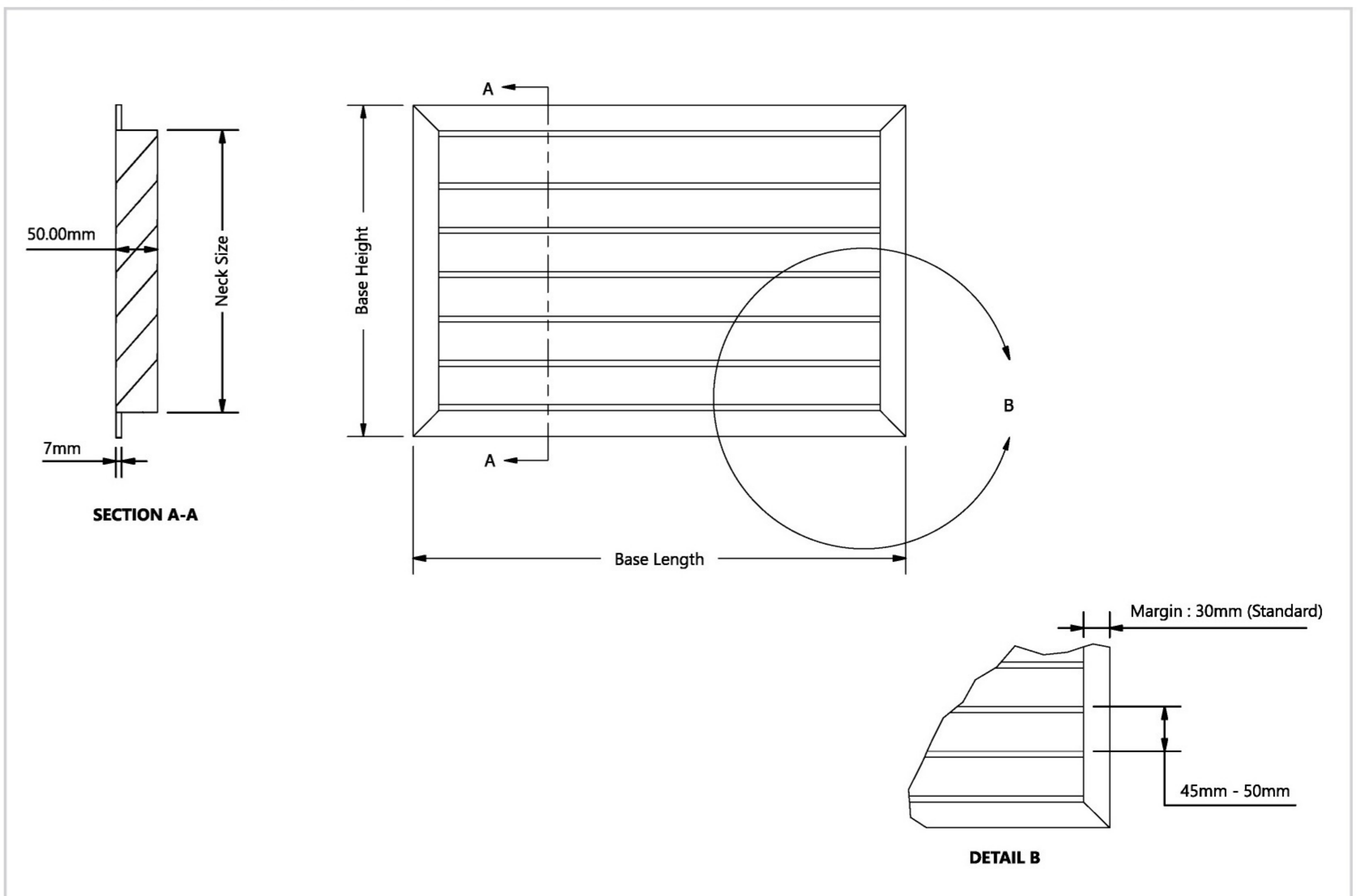
Extract

300 x 800	0.24 (0.14)	Face Velocity, m/s	-	-	1.2	1.6	2.0	4.0	5.0	6.0	7.9
		Total Pressure Loss, Pa (1)	-	-	<10	<10	<10	30	50	70	>100
		Total Pressure Loss, Pa (2)	-	-	<10	<10	<10	22	35	55	90
300 x 1000	0.3 (0.18)	Face Velocity, m/s	-	-	-	1.2	1.5	3.0	3.9	4.6	6.2
		Total Pressure Loss, Pa (1)	-	-	-	<10	<10	15	27	45	75
		Total Pressure Loss, Pa (2)	-	-	-	<10	<10	14	20	35	58
400 x 400	0.16 (0.09)	Face Velocity, m/s	-	1.2	1.9	2.5	3.1	6.2	-	-	-
		Total Pressure Loss, Pa (1)	-	<10	<10	12	17	75	-	-	-
		Total Pressure Loss, Pa (2)	-	<10	<10	<10	15	58	-	-	-
400 x 500	0.2 (0.12)	Face Velocity, m/s	-	-	1.4	1.9	2.3	4.6	5.8	6.9	9.3
		Total Pressure Loss, Pa (1)	-	-	<10	<10	<10	45	65	95	>100
		Total Pressure Loss, Pa (2)	-	-	<10	<10	<10	35	50	70	>100
400 x 600	0.24 (0.14)	Face Velocity, m/s	-	-	1.2	1.6	2.0	4.0	5.0	6.0	7.9
		Total Pressure Loss, Pa (1)	-	-	<10	<10	<10	30	50	70	>100
		Total Pressure Loss, Pa (2)	-	-	<10	<10	<10	22	35	55	90
400 x 800	0.32 (0.19)	Face Velocity, m/s	-	-	-	1.2	1.5	2.9	3.7	4.4	5.8
		Total Pressure Loss, Pa (1)	-	-	-	<10	<10	13	27	35	65
		Total Pressure Loss, Pa (2)	-	-	-	<10	<10	12	20	27	50
400 x 1000	0.4 (0.24)	Face Velocity, m/s	-	-	-	-	1.2	2.3	2.9	3.5	4.6
		Total Pressure Loss, Pa (1)	-	-	-	-	<10	<10	13	22	45
		Total Pressure Loss, Pa (2)	-	-	-	-	<10	<10	12	17	35
500 x 500	0.25 (0.15)	Face Velocity, m/s	-	-	1.1	1.5	1.9	3.8	4.6	5.6	7.4
		Total Pressure Loss, Pa (1)	-	-	<10	<10	<10	30	45	60	>100
		Total Pressure Loss, Pa (2)	-	-	<10	<10	<10	22	35	45	74
500 x 600	0.3 (0.18)	Face Velocity, m/s	-	-	-	1.2	1.5	3.0	3.9	4.6	6.2
		Total Pressure Loss, Pa (1)	-	-	-	<10	<10	15	27	45	75
		Total Pressure Loss, Pa (2)	-	-	-	<10	<10	14	20	35	58
500 x 800	0.4 (0.24)	Face Velocity, m/s	-	-	-	-	1.2	2.3	2.9	3.5	4.6
		Total Pressure Loss, Pa (1)	-	-	-	-	<10	<10	13	22	45
		Total Pressure Loss, Pa (2)	-	-	-	-	<10	<10	12	17	35
500 x 1000	0.5 (0.3)	Face Velocity, m/s	-	-	-	-	-	1.9	2.3	2.8	3.7
		Total Pressure Loss, Pa (1)	-	-	-	-	-	<10	<10	16	27
		Total Pressure Loss, Pa (2)	-	-	-	-	-	<10	<10	11	20
500 x 1200	0.6 (0.36)	Face Velocity, m/s	-	-	-	-	-	1.5	1.9	2.3	3.1
		Total Pressure Loss, Pa (1)	-	-	-	-	-	<10	<10	<10	18
		Total Pressure Loss, Pa (2)	-	-	-	-	-	<10	<10	<10	15

DIMENSIONS - ALUMINIUM



DIMENSIONS - GALVANIZED STEEL



ALUMINIUM EXTERNAL LOUVER TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.2mm thick, unless otherwise stated.
2. The frame to be in 28mm from the neck height to the edge.
3. Frame height to be in 50mm.
4. The corner of the frame should be pressed with a 90° corner piece to ensure the frames are in 90°.
5. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in extruded aluminium.
2. Vanes to be in 1.0mm thick. Edge of the vanes should with C hock to minimize water penetrate through the louver.
3. Vanes pitch to be in 40-50mm depends on size.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grill to be in 60%.
2. Vanes angle should be with 45° to minimize water penetrate through the louver.
3. External louver are designed to be install as wall mounted and the surface are normally outside of the building.

GALVANIZED STEEL EXTERNAL LOUVER TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in galvanized steel. Frame thickness should be in minimum 0.6mm thick, unless otherwise stated.
2. The frame to be in 30mm from the neck height to the edge.
3. Frame height to be in 50mm.
4. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in galvanized steel.
2. Vanes to be in 0.6mm thick, unless otherwise stated.
3. Vanes pitch to be in 40-50mm depends on size.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

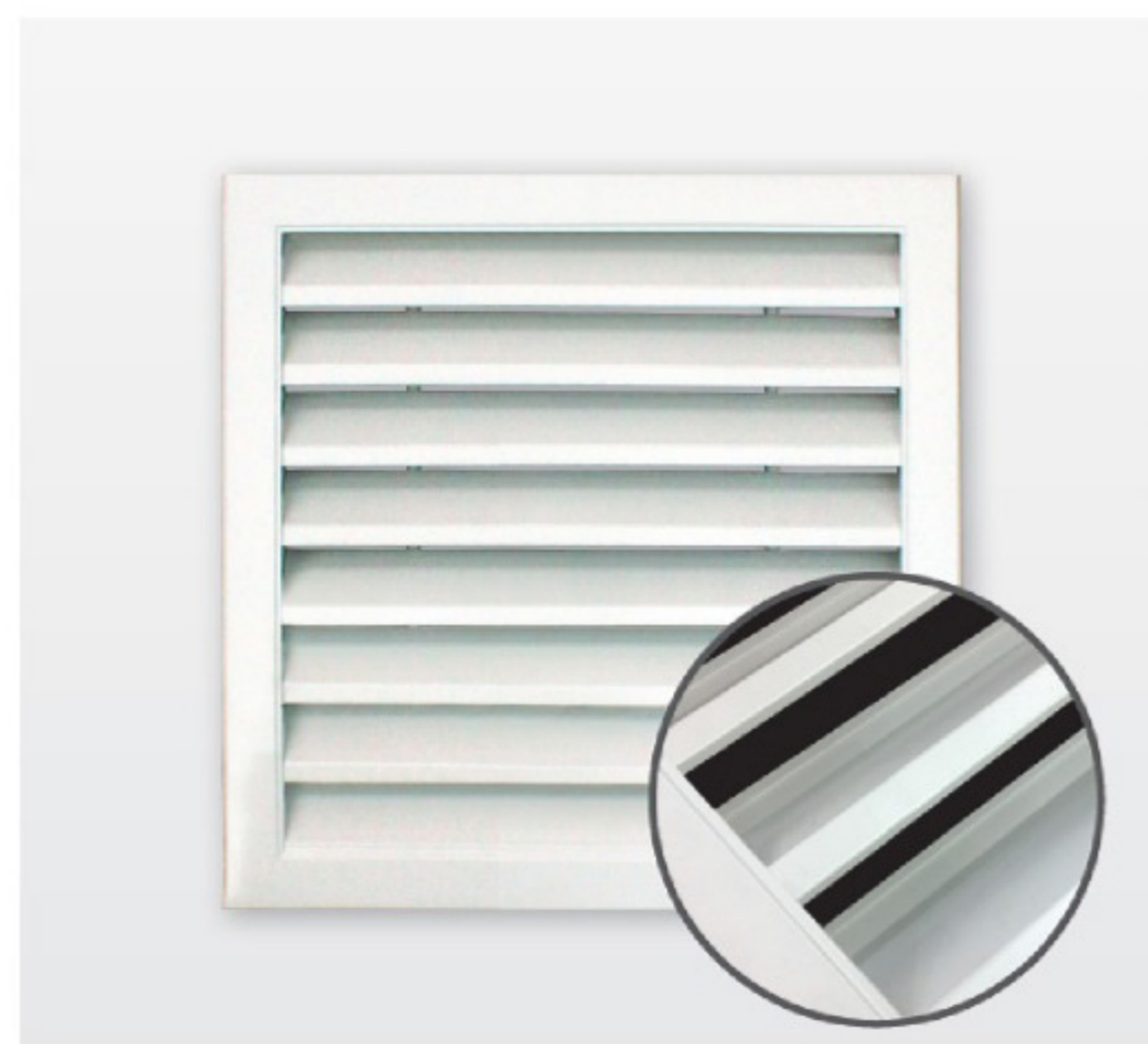
Performance

1. Free area of the grille to be in 60%.
2. Vanes angle should be with 45° to minimize water penetrate through the louver.
3. External louvers are designed to be install as wall mounted and the surface are normally outside of the building.

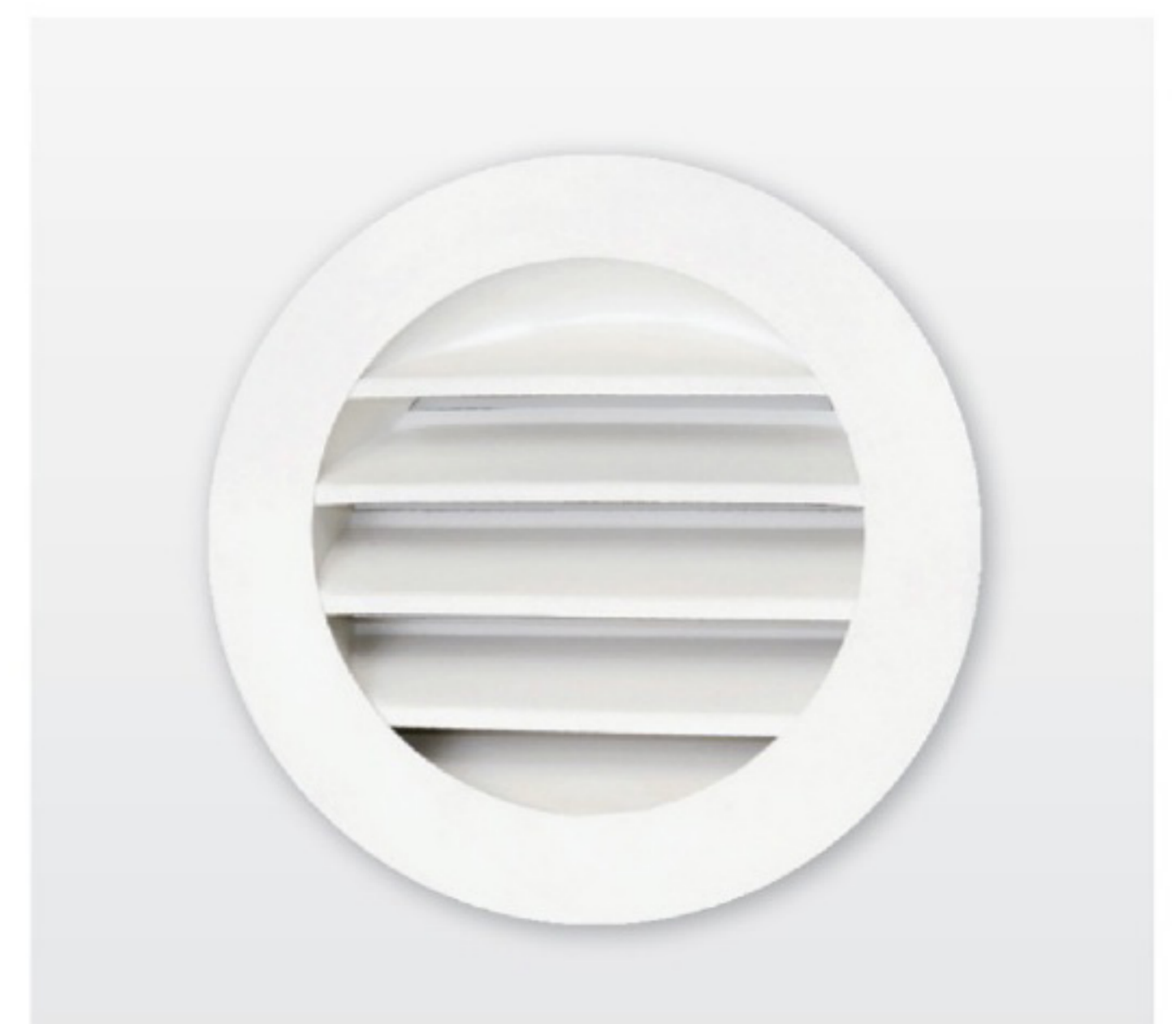
AVAILABLE TYPES



Fixed - Aluminium



Fixed - Galvanized Steel



Round



EL | External Louvre Grille



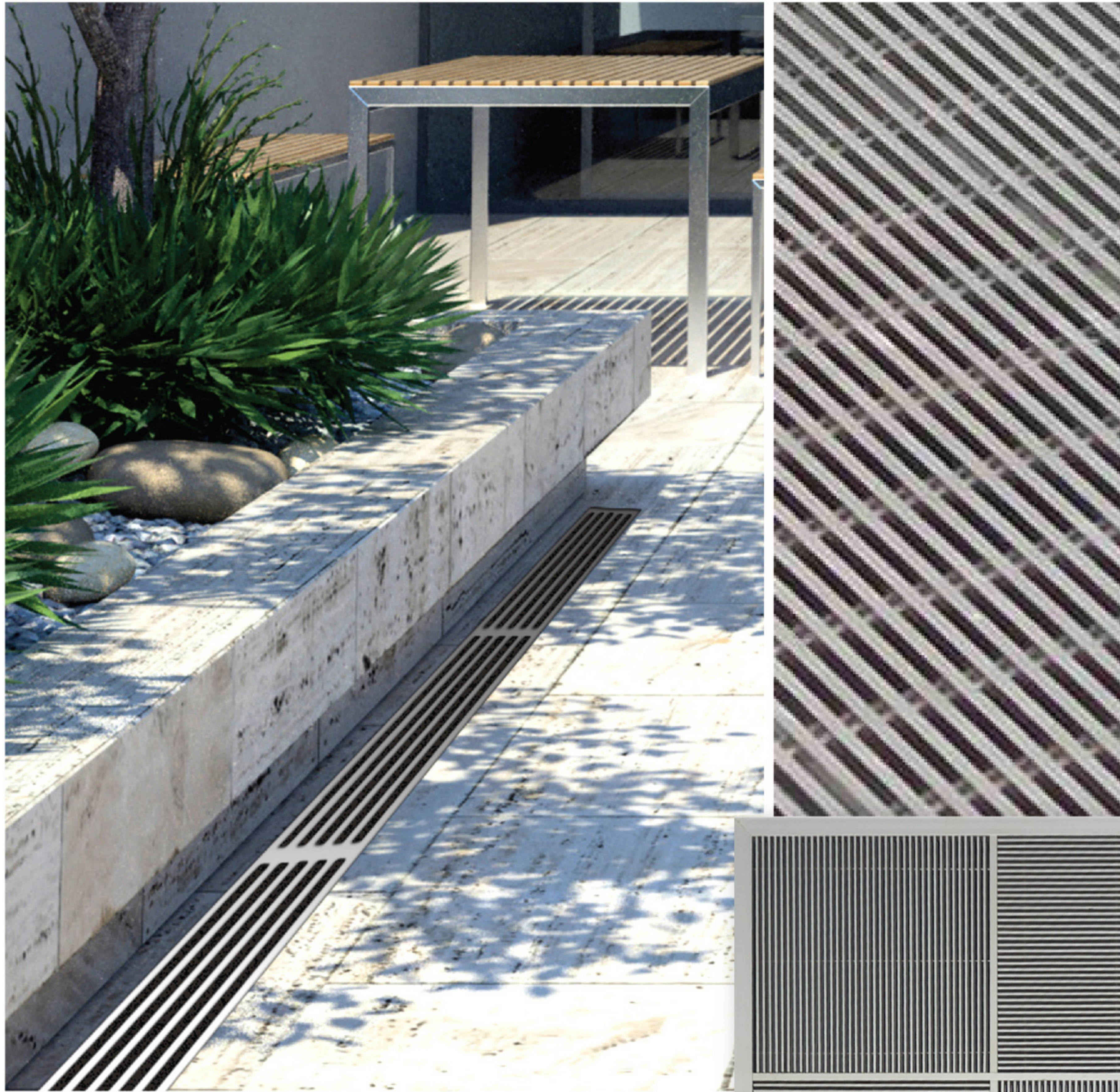
Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



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FBG *Floor Bar Grille*



Introduction

Unlike other conventional floor bar grilles, Prudentaire's Floor Bar Grille with its optional removable core grilles is designed to provide both aesthetic value as well as the highest flexibility in throw direction as required. Fabricated from heavy duty aluminium materials, the Floor Bar Grille is able to withstand an average load of 4.5kN on a 25mm x 25mm² area, which is in accordance to the European standard EN13264-heavy structural classification.

Designed for access floor system where the Under Floor Air Distribution (UFAD) system is implemented, the FBG series is suitable for both supply and return air applications. Installation into access floor is done from the top, hence removal of floor tiles is not necessary.

CONSTRUCTIONS & MATERIALS

- Standard 300mm x 300mm & 600mm x 600mm size
- Standard vanes pitch 6mm (Customizable upon request)
- 0° & 15° deflection configurations
- Customizable vanes profile & grille size
- Standard 25mm margin
- Customizable upon request
- Stainless steel construction available

Frame Construction



Extruded Heavy Duty Aluminium

Vanes Construction

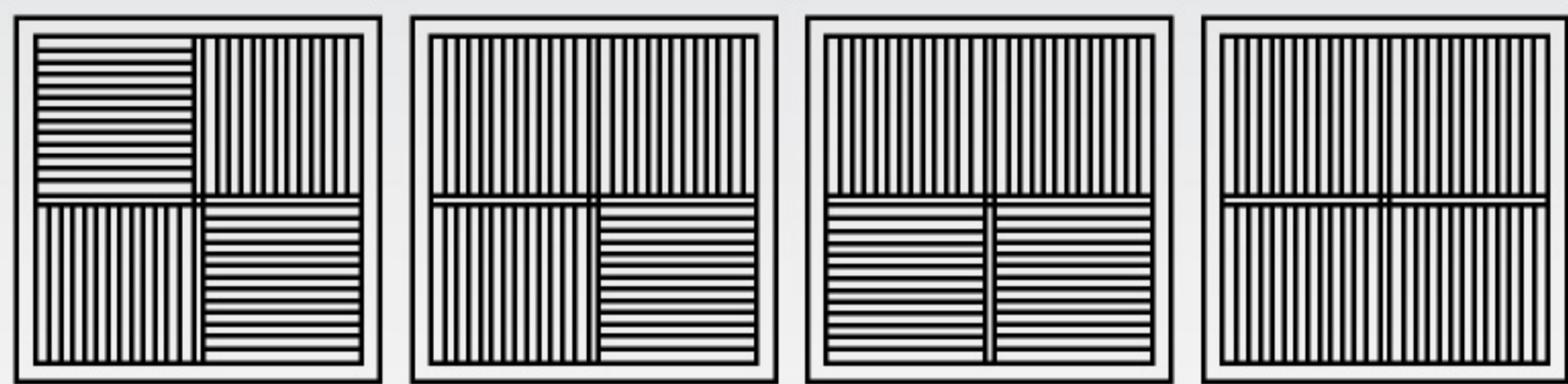


Extruded Heavy Duty Aluminium

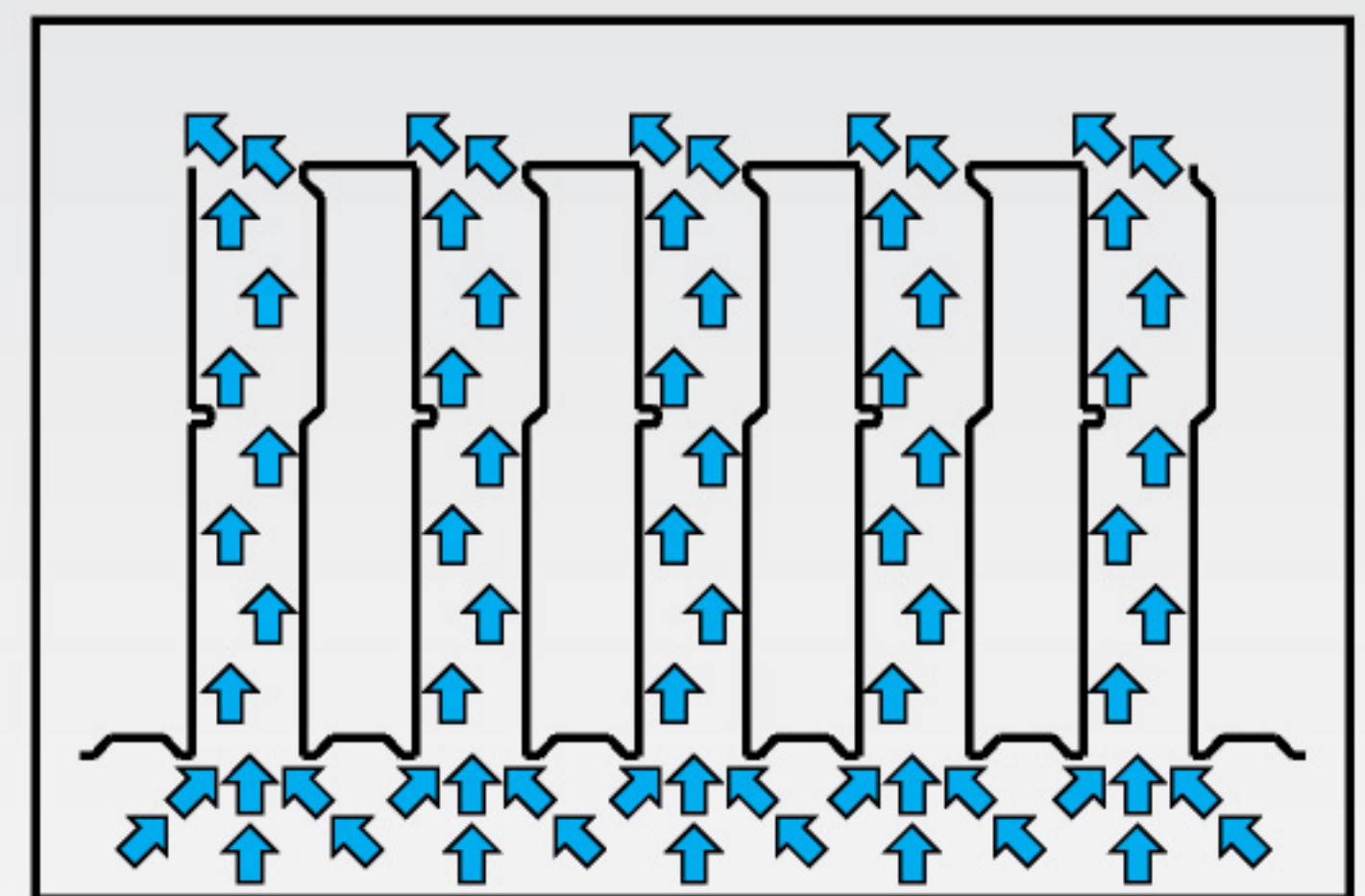
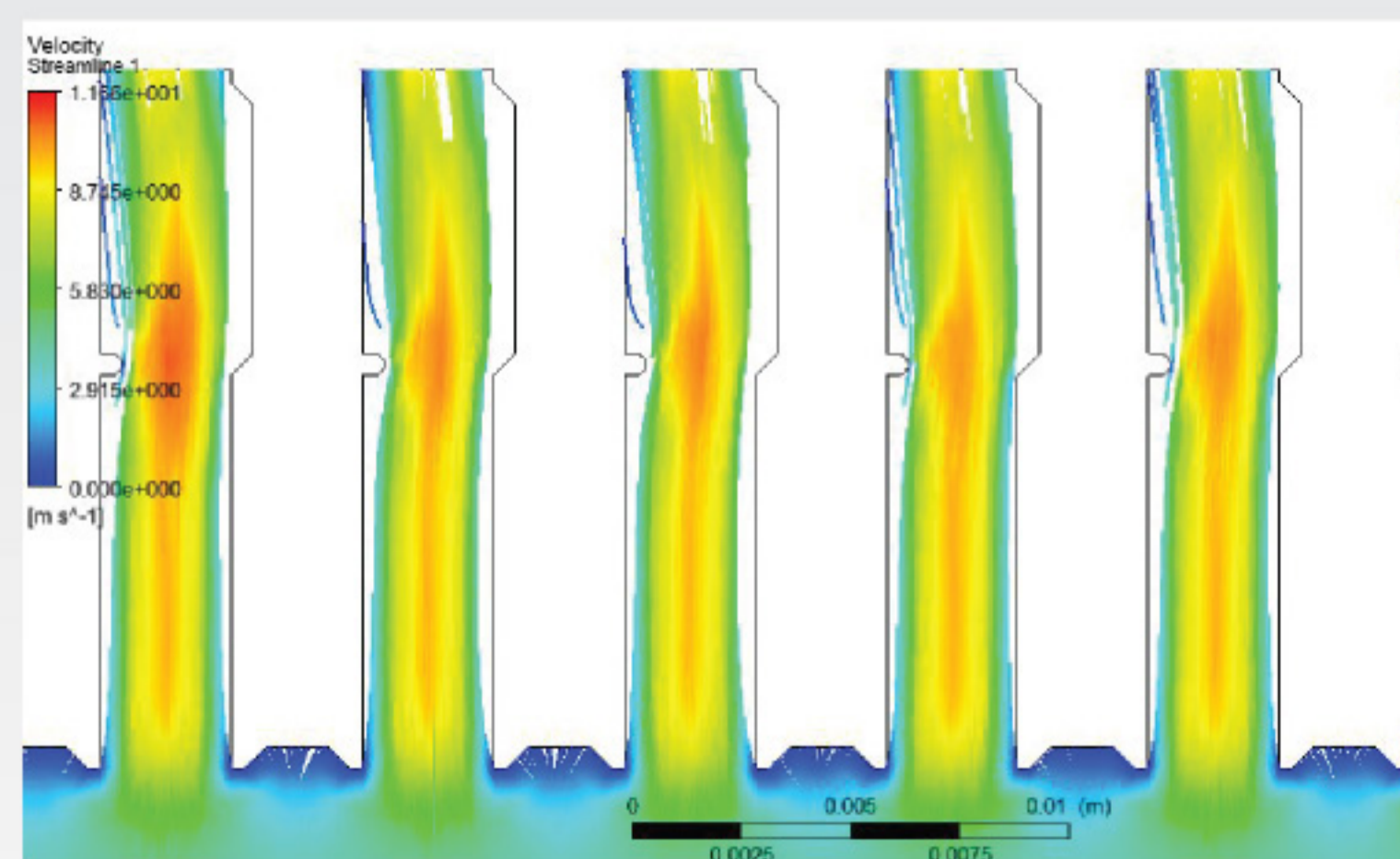
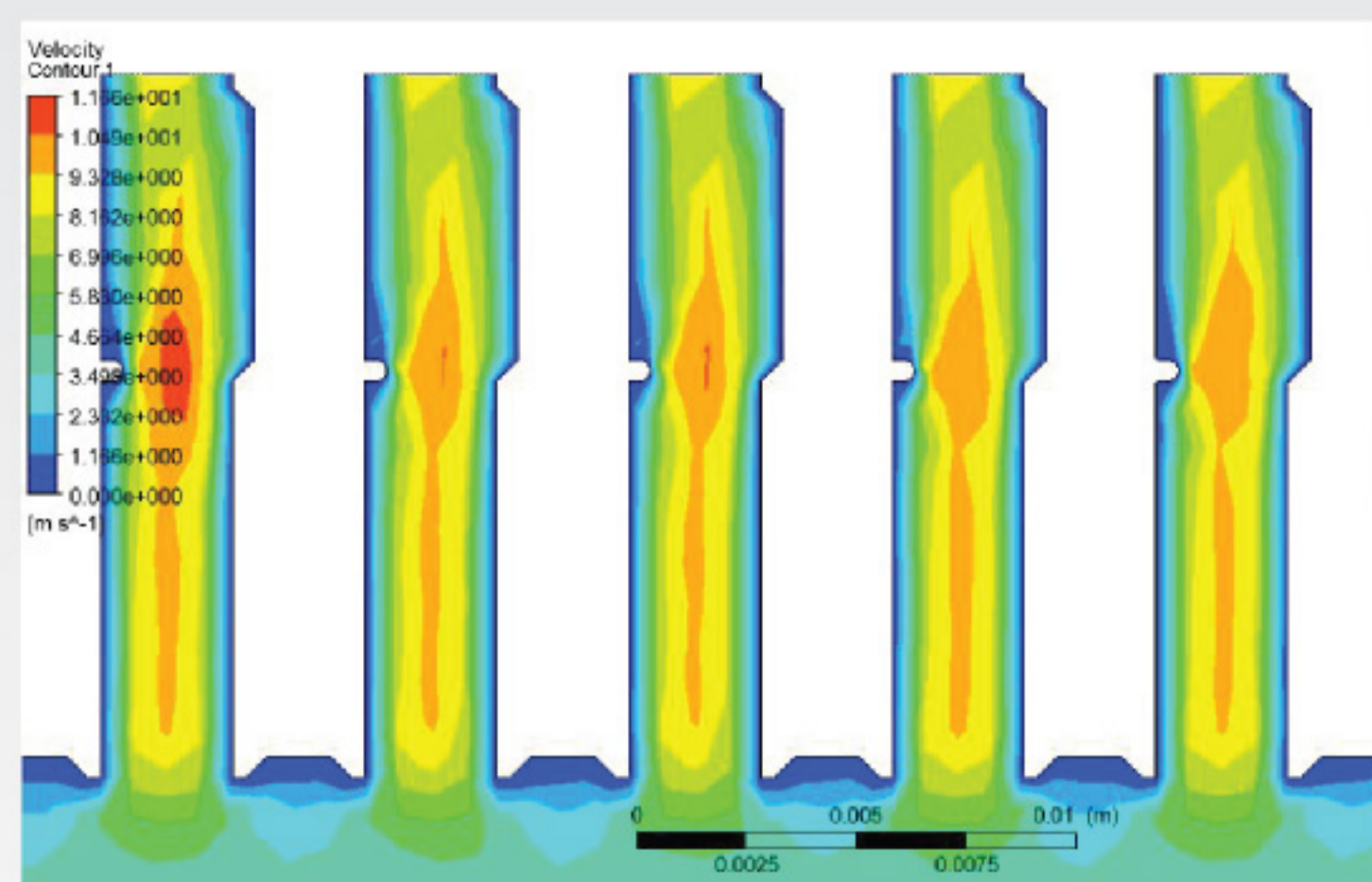
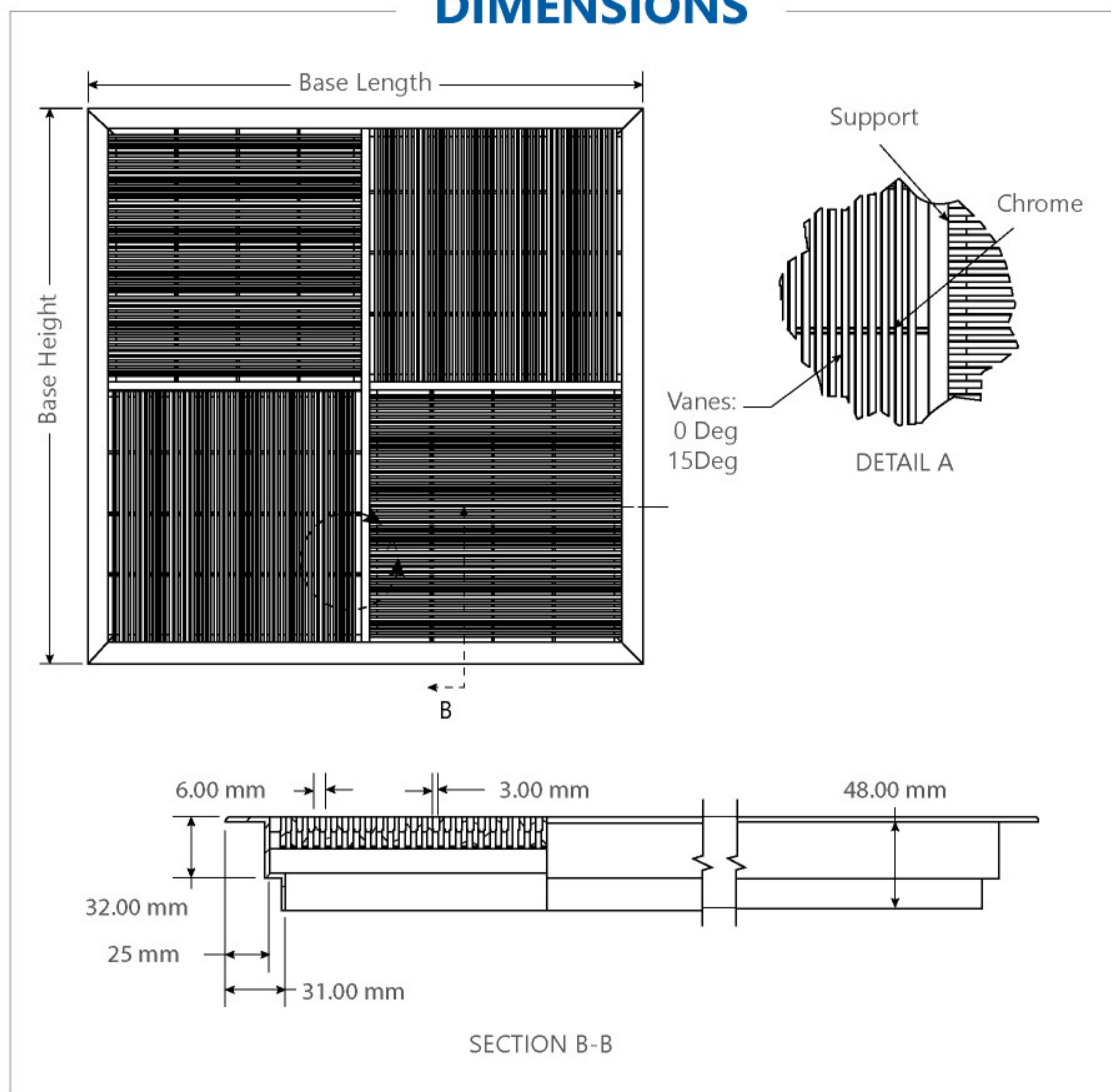
Bracket & Support Construction



Extruded Heavy Duty Aluminium

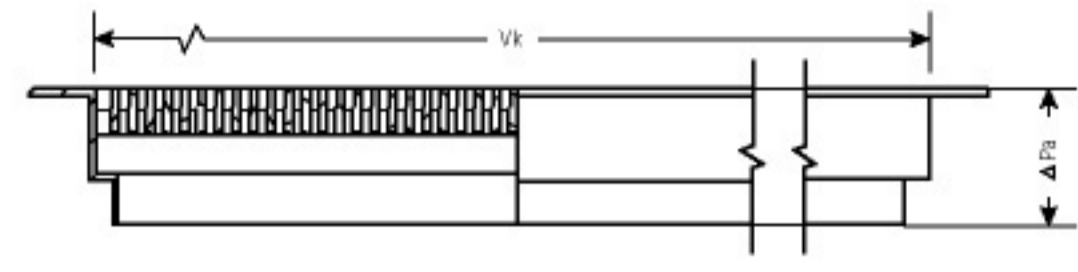


DIMENSIONS



TECHNICAL PERFORMANCE DATA

Supply



Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating (NR)									
			179	357	536	714	1072	1428	1607	1786	2144	
300 x 300	0.09 (0.0335)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	50	100	150	200	300	400	450	500	600	
			1.5	3.0	4.5	6.0	-	-	-	-	-	
			<4	7	15	29	-	-	-	-	-	
			<15	<15	26	35	-	-	-	-	-	
600 x 600	0.36 (0.1339)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	-	0.7	1.1	1.5	2.2	3.0	3.4	3.7	4.5	
			-	<4	<4	<4	4	7	9	11	15	
			-	<15	<15	<15	<15	<15	20	22	26	

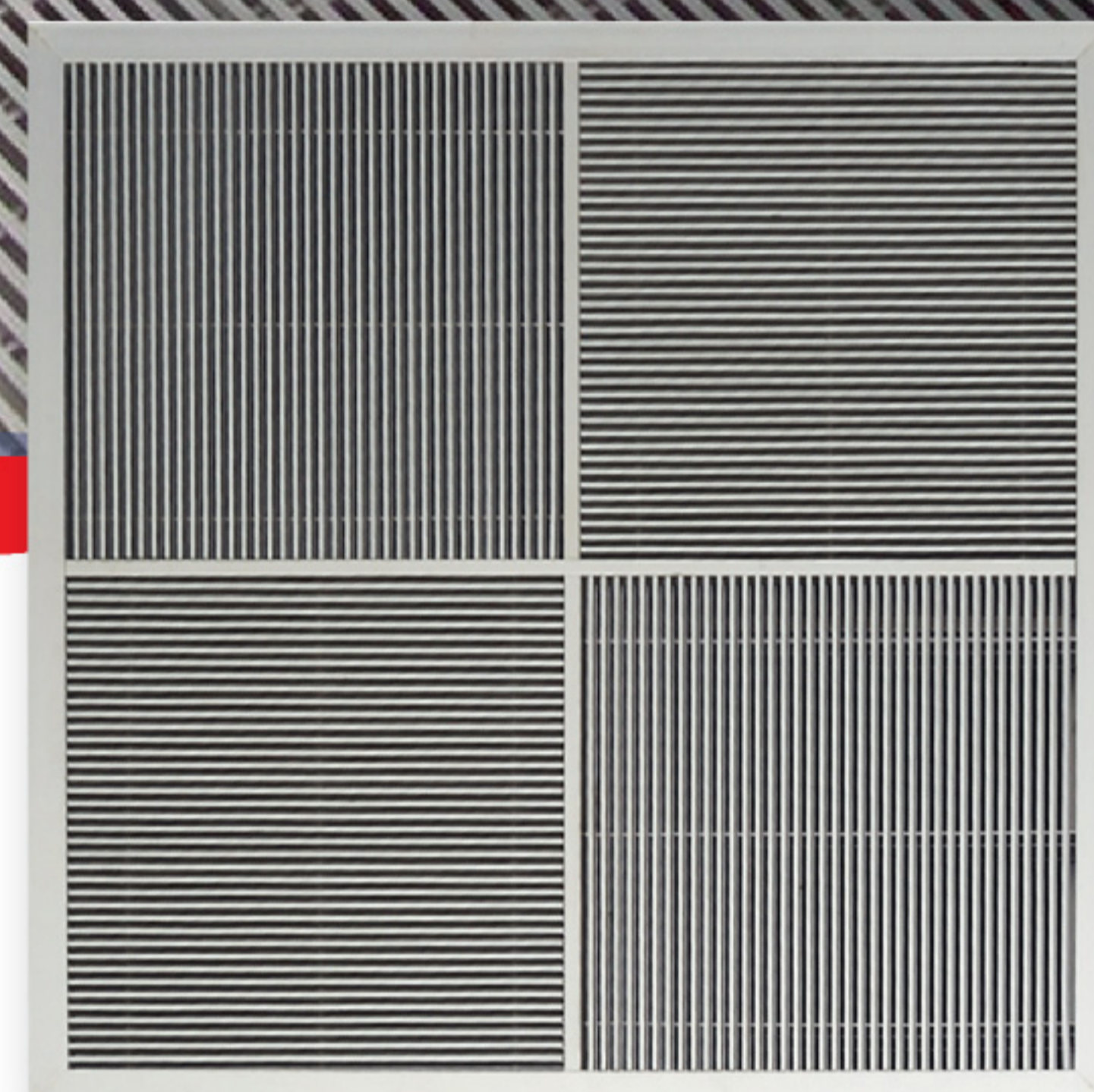
* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating (NR)									
			179	357	536	714	1072	1428	1607	1786	2144	
300 x 400	0.12 (0.0447)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	-	2.2	3.3	4.4	-	-	-	-	-	
			-	4	9	15	-	-	-	-	-	
			-	<15	16	30	-	-	-	-	-	
300 x 600	0.18 (0.0670)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	-	1.5	2.2	3.0	-	-	-	-	-	
			-	<4	4	7	-	-	-	-	-	
			-	<15	22	28	-	-	-	-	-	
300 x 1200	0.36 (0.1339)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	-	0.7	1.1	1.5	2.2	3.0	3.4	3.7	4.5	
			-	<4	<4	<4	4	7	9	11	15	
			-	<15	<15	<15	<15	<15	20	22	26	

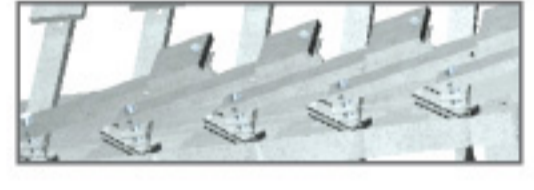
Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating (NR)									
			179	357	536	714	1072	1428	1607	1786	2144	
400 x 400	0.16 (0.0595)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	-	1.7	2.5	3.3	-	-	-	-	-	
			-	<4	5.3	9	-	-	-	-	-	
			-	<15	23	29	-	-	-	-	-	
400 x 600	0.24 (0.0893)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	-	1.1	1.7	2.2	-	-	-	-	-	
			-	<4	<4	4	-	-	-	-	-	
			-	<15	<15	24	-	-	-	-	-	



FBG | *Floor Bar Grille*



Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



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www.prudentaire.com



LG *Louvre Grille*



MADE IN MALAYSIA



Introduction

Suitable for both wall and ceiling installation, Louvre Grille is designed for return, exhaust and intake applications.

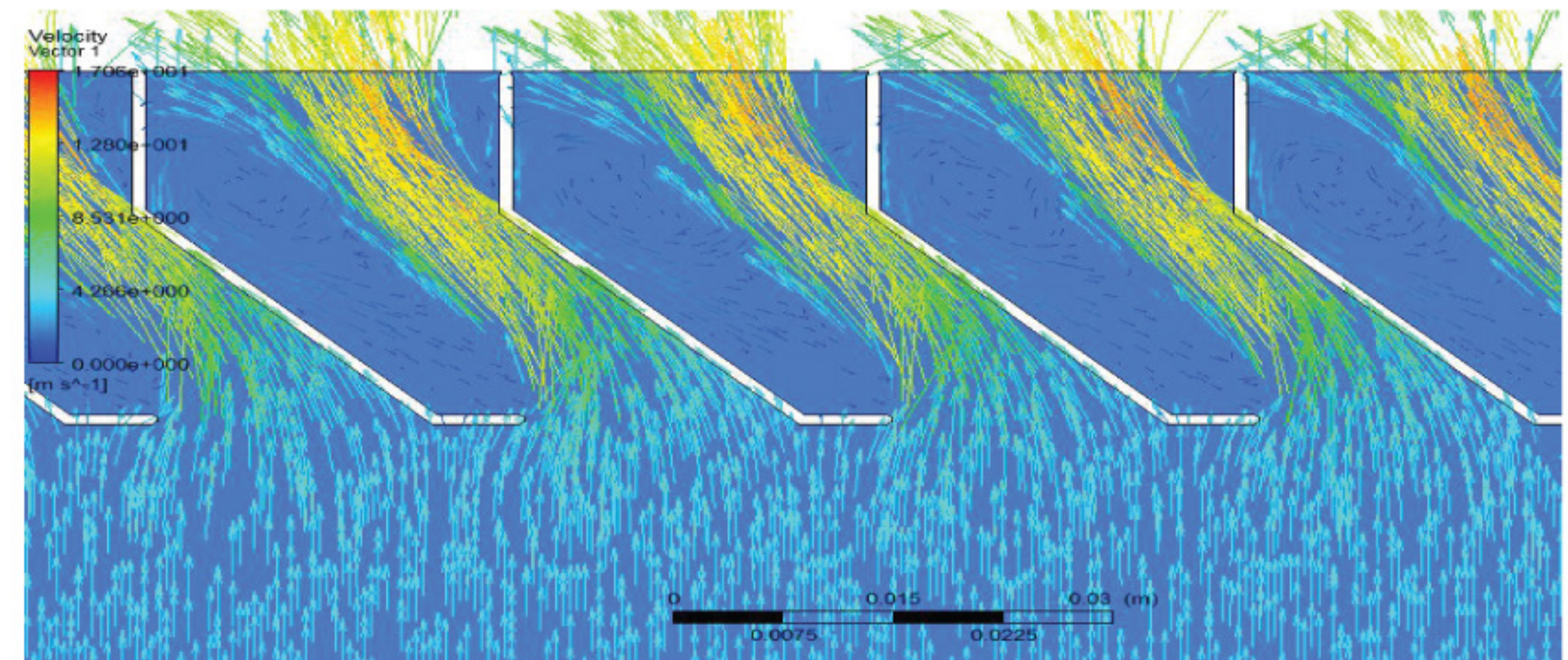
Due to its flexible designs, Louvre Grille is highly customizable when it comes to effective free area. With effective area of 36% for standard issued size, the Louvre Grille is able to provide high aesthetic value without compromising primary product functions significantly.

Come in both fixed and removable configurations, the Louvre Grille is also available in round shape face profile to suit customer's varying site requirements.

Removable Type

CONSTRUCTIONS & MATERIALS

- Standard 36% effective area
- Highly customizable effective area
- Vanes pitch of 25mm (Alu) & 45mm (G.I.)
- Grille sizing:
 - i) Minimum size: 100mm x 100mm
 - ii) Maximum size: 2400mm x 1200mm
 - iii) For Length > 600mm, grille supplied in sections



Frames Construction



Extruded Aluminium



Galvanized Steel



Stainless Steel (Upon request)

Vanes Construction



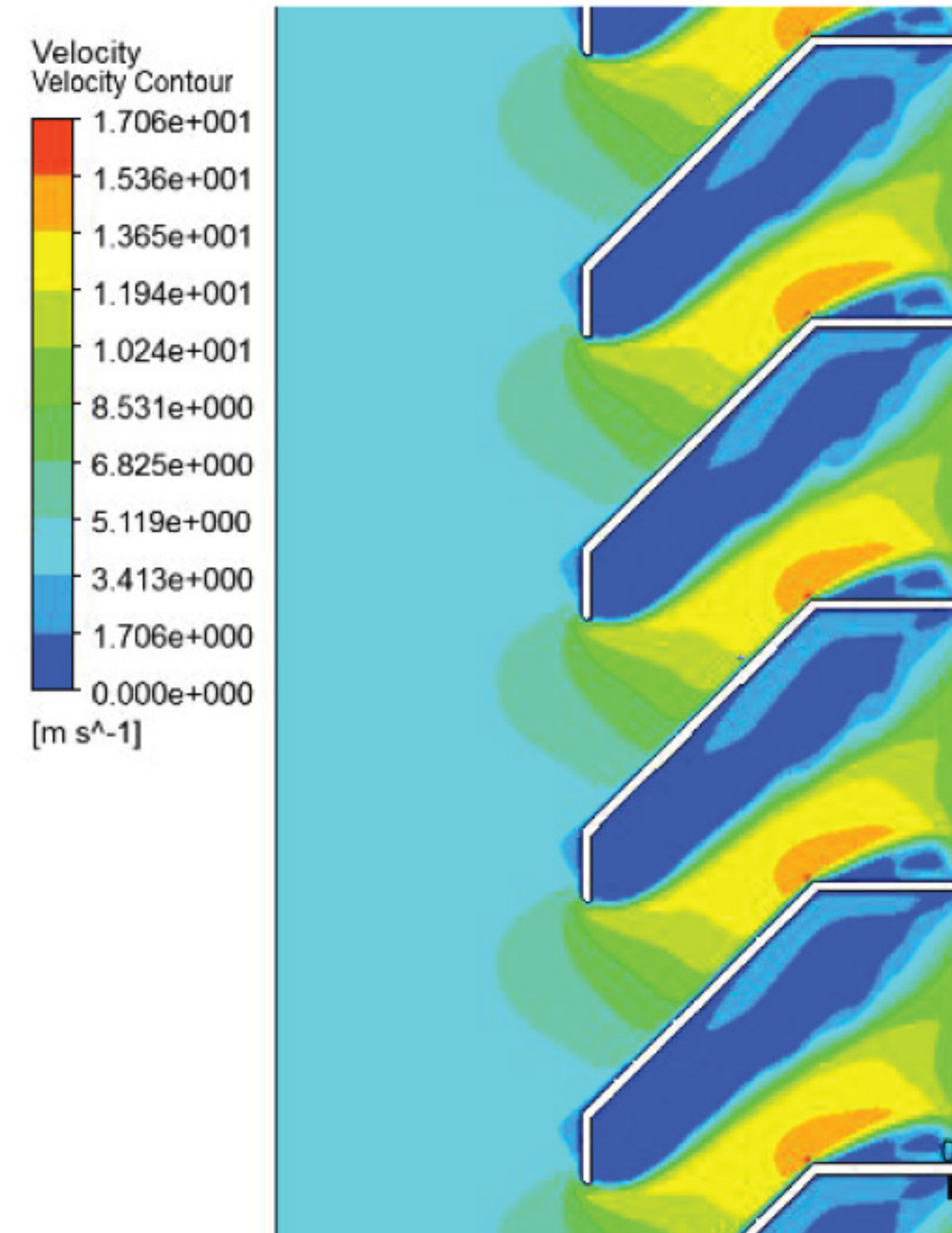
Extruded Aluminium



Galvanized Steel

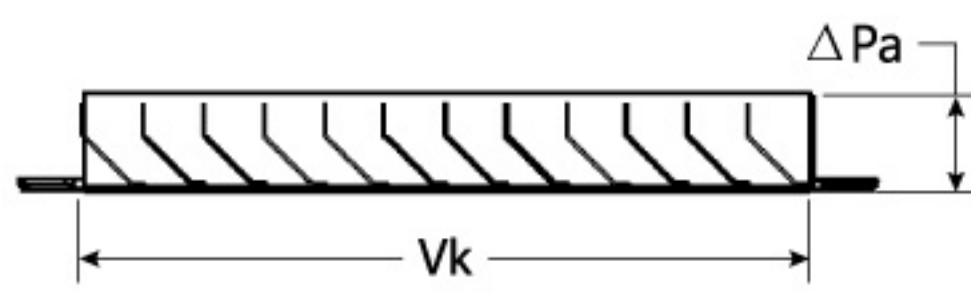


Stainless Steel (Upon request)



TECHNICAL PERFORMANCE DATA

Extract



Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s															
			NR25	NR35	NR40	NR50	250	400	600	800	1000	2000	2500	3000	4000		
100 x 400	0.04 (0.012)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	250 70	400 112	600 168	800 224	1000 280	2000 560	2500 700	3000 840	4000 1120	-	-	-	-	-	-
100 x 500	0.05 (0.015)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	4.6 10 23	7.4 25 37	11.1 55 53	-	-	-	-	-	-	-	-	-	-	-	-

* For supply flow, the effective area will be 20% more.

* For round grille, select according to similar grille neck area.

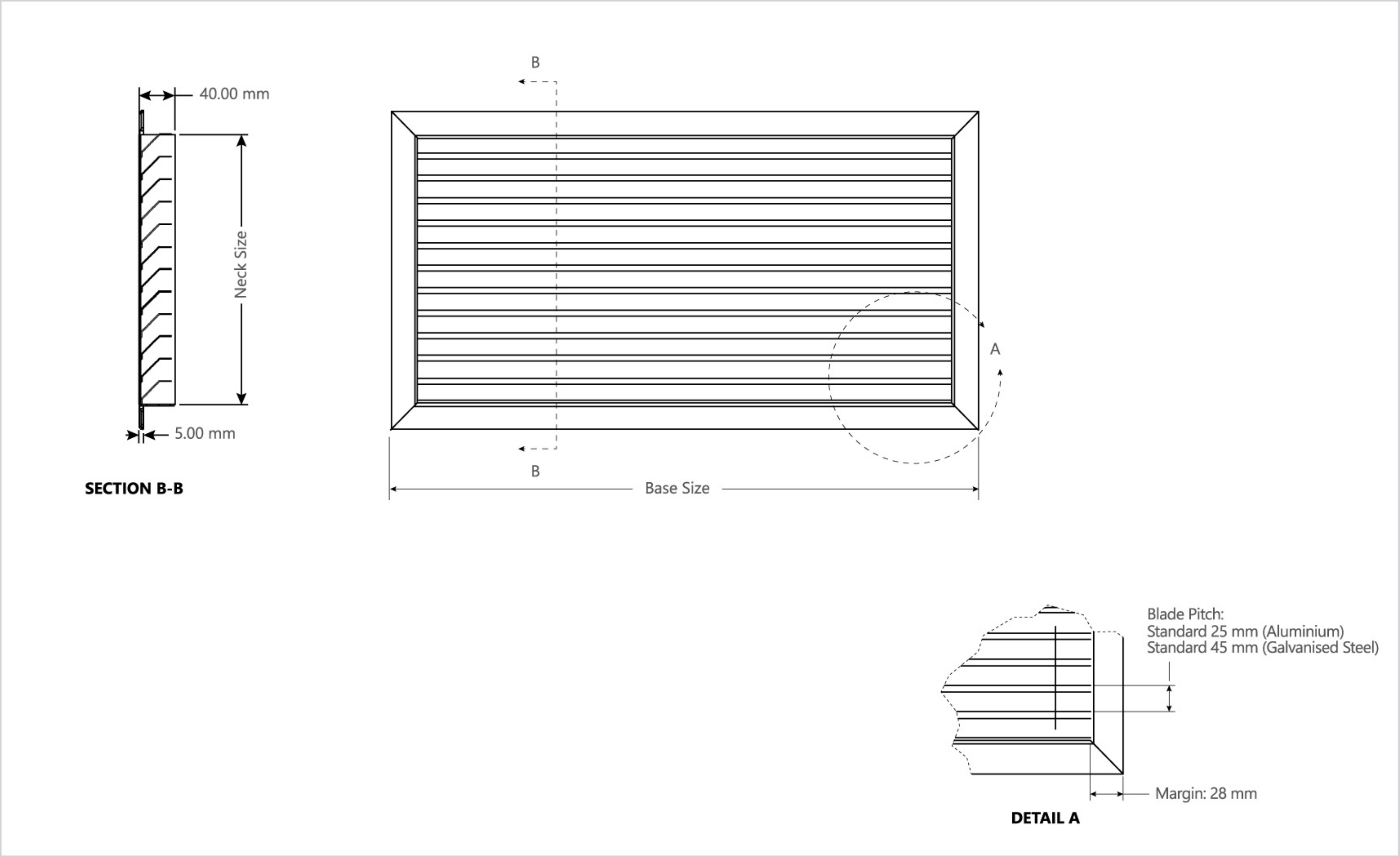
* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s															
			NR25	NR35	NR40	NR50	250	400	600	800	1000	2000	2500	3000	4000		
150 x 250	0.0375 (0.012)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	5.8 17 30	9.3 40 46	13.9 90 >50	-	-	-	-	-	-	-	-	-	-	-	-
150 x 300	0.045 (0.015)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	4.6 10 23	7.4 25 37	11.1 55 53	-	-	-	-	-	-	-	-	-	-	-	-
150 x 400	0.06 (0.020)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.5 5.5 <20	5.6 15 30	11.1 55 44	11.1 55 >50	-	-	-	-	-	-	-	-	-	-	-
150 x 500	0.075 (0.025)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	2.8 5.0 <20	4.4 9.0 24	6.7 17.5 36	8.9 35 47	11.1 55 >50	-	-	-	-	-	-	-	-	-	-
150 x 600	0.09 (0.029)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.8 7.0 <20	5.7 15 31	7.7 27 43	9.6 45 51	-	-	-	-	-	-	-	-	-	-
150 x 800	0.12 (0.041)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	4.1 7.5 21	5.4 13 33	6.8 18 40	13.6 90 >50	-	-	-	-	-	-	-	-	-

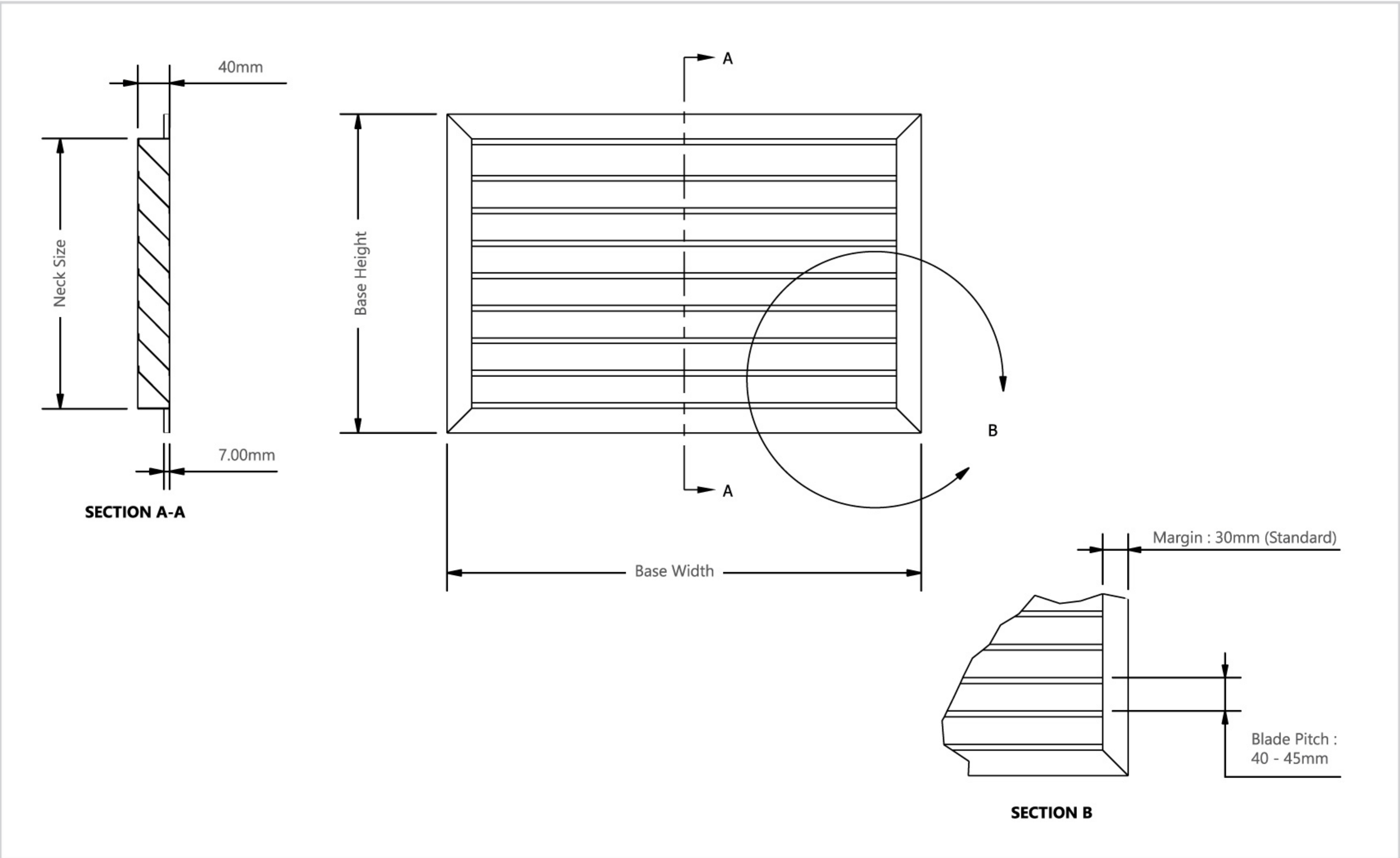
Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s															
			NR25	NR35	NR40	NR50	250	400	600	800	1000	2000	2500	3000	4000		
200 x 250	0.05 (0.018)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.9 7.0 <20	6.2 17.5 33	9.3 40 46	12.3 70 >50	-	-	-	-	-	-	-	-	-	-	-
200 x 300	0.06 (0.022)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.2 4.5 <20	5.1 13 26	7.6 26 40	10.1 47 50	12.6 7 >50	-	-	-	-	-	-	-	-	-	-
200 x 400	0.08 (0.029)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.8 7.0 <20	5.7 17 32	7.7 27 43	9.6 45 52	-	-	-	-	-	-	-	-	-	-
200 x 500	0.1 (0.035)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.2 4.5 <20	4.8 12.5 25	6.3 17.5 37	7.9 30 46	15.9 >80 >50	-	-	-	-	-	-	-	-	-
200 x 600	0.12 (0.041)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	4.1 7.5 20	5.4 13 33	6.8 18 40	13.6 90 >50	-	-	-	-	-	-	-	-	-
200 x 800	0.16 (0.055)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	3.0 4.0 <20	4.0 7.5 24	5.1 13 33	10.1 47 >50	-	-	-	-	-	-	-	-	-
200 x 1000	0.2 (0.071)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	3.1 4.4 <20	3.9 7.5 24	7.8 27 47	-	-	-	-	-	-	-	-	-

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s															
			NR25	NR35	NR40	NR50	250	400	600	800	1000	2000	2500	3000	4000		
300 x 300	0.09 (0.033)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.4 5.5 <20	5.1 13 27	6.7 20 39	8.4 35 47	16.8 >80 >50	-	-	-	-	-	-	-	-	-
300 x 400	0.12 (0.044)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	3.8 7.0 <20	5.1 13 30	6.3 17.5 37	12.6 70 >50	-	-	-	-	-	-	-	-	-
300 x 500	0.15 (0.055)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	3.0 4.0 <20	4.0 7.5 24	5.1 13 33	10.1 47 >50	-	-	-	-	-	-	-	-	-
300 x 600	0.18 (0.065)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	3.4 5.5 21	4.2 8.0 27	8.5 35 50	10.7 55 >50	-	-	-	-	-	-	-	-
300 x 800	0.24 (0.087)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	3.2 5.0 20	6.4 18 42	8.0 30 50	9.6 45 >50	-	-	-	-	-	-	-
300 x 1000	0.3 (0.110)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	- - -	- - -	2.5 <4 <20	5.1 13 34	6.3 17.5 40	7.6 27.5 46	10.1 47 >50	-	-	-	-	-	-

DIMENSIONS - ALUMINIUM



DIMENSIONS - GALVANIZED STEEL



ALUMINIUM LOUVER GRILLE TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.1mm thick, unless otherwise stated.
2. The frame to be in 28mm from the neck height to the edge.
3. Frame height to be in 40mm.
4. The corner of the frame should be pressed with a 90° corner piece to ensure the frames are in 90°.
5. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in extruded aluminium.
2. Vanes to be in 1.0mm thick.
3. Vanes pitch to be in 25-35mm depends on size.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grille to be in 36%.
2. Vanes angle should be with 45°.
3. Louver Grilles are designed to be installed as wall mounted as an exhaust or return opening.

GALVANIZED STEEL EXTERNAL LOUVER TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in galvanized steel. Frame thickness should be in minimum 0.6mm thick, unless otherwise stated.
2. The frame to be in 30mm from the neck height to the edge.
3. Frame height to be in 40mm.
4. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in galvanized steel.
2. Vanes to be in 0.6mm thick, unless otherwise stated.
3. Vanes pitch to be in 40-50mm depends on size.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grille to be in 36%.
2. Vanes angle should be with 45°.
3. Louvers Grille are designed to be install as wall mounted as exhaust or return.

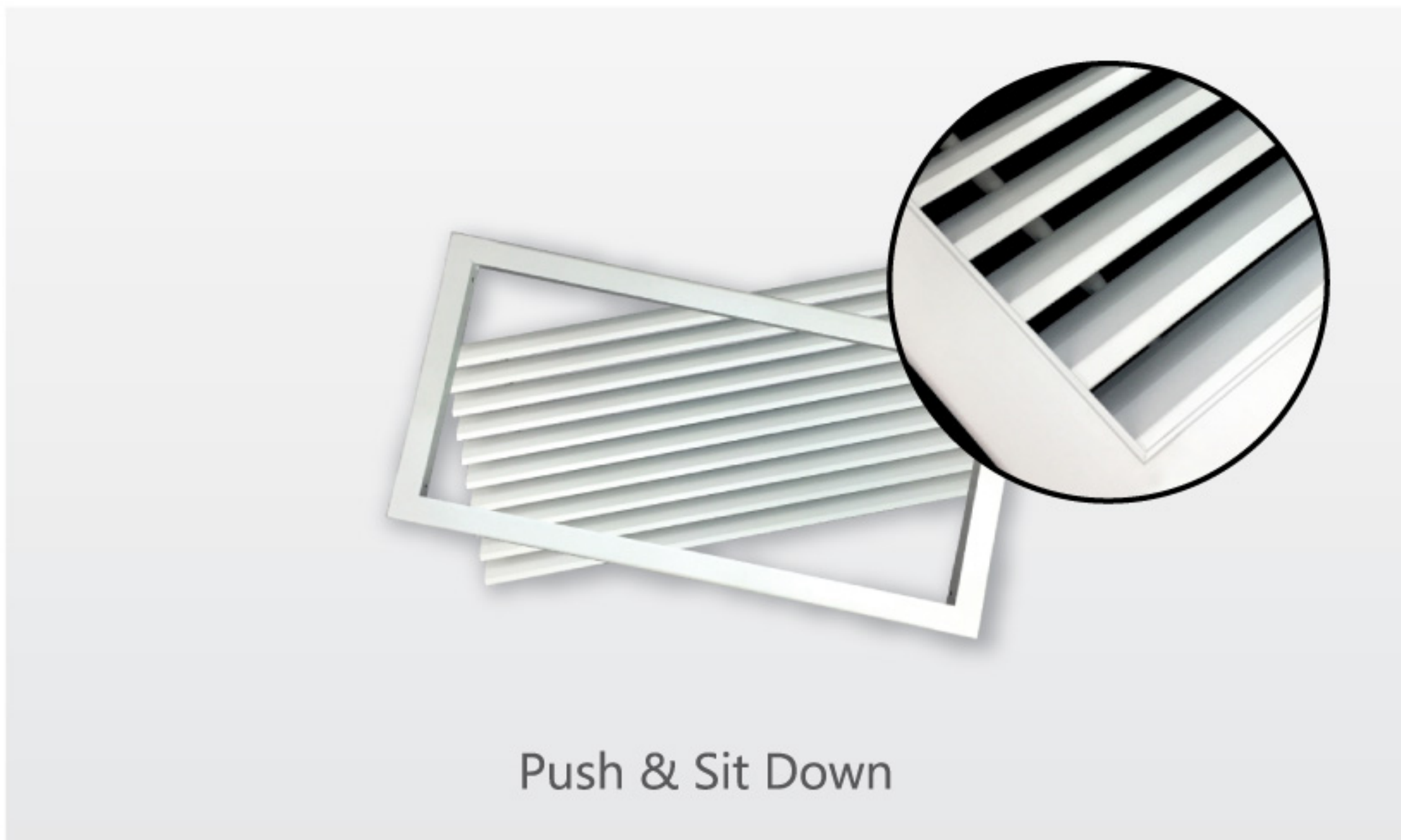
AVAILABLE TYPES



Fixed



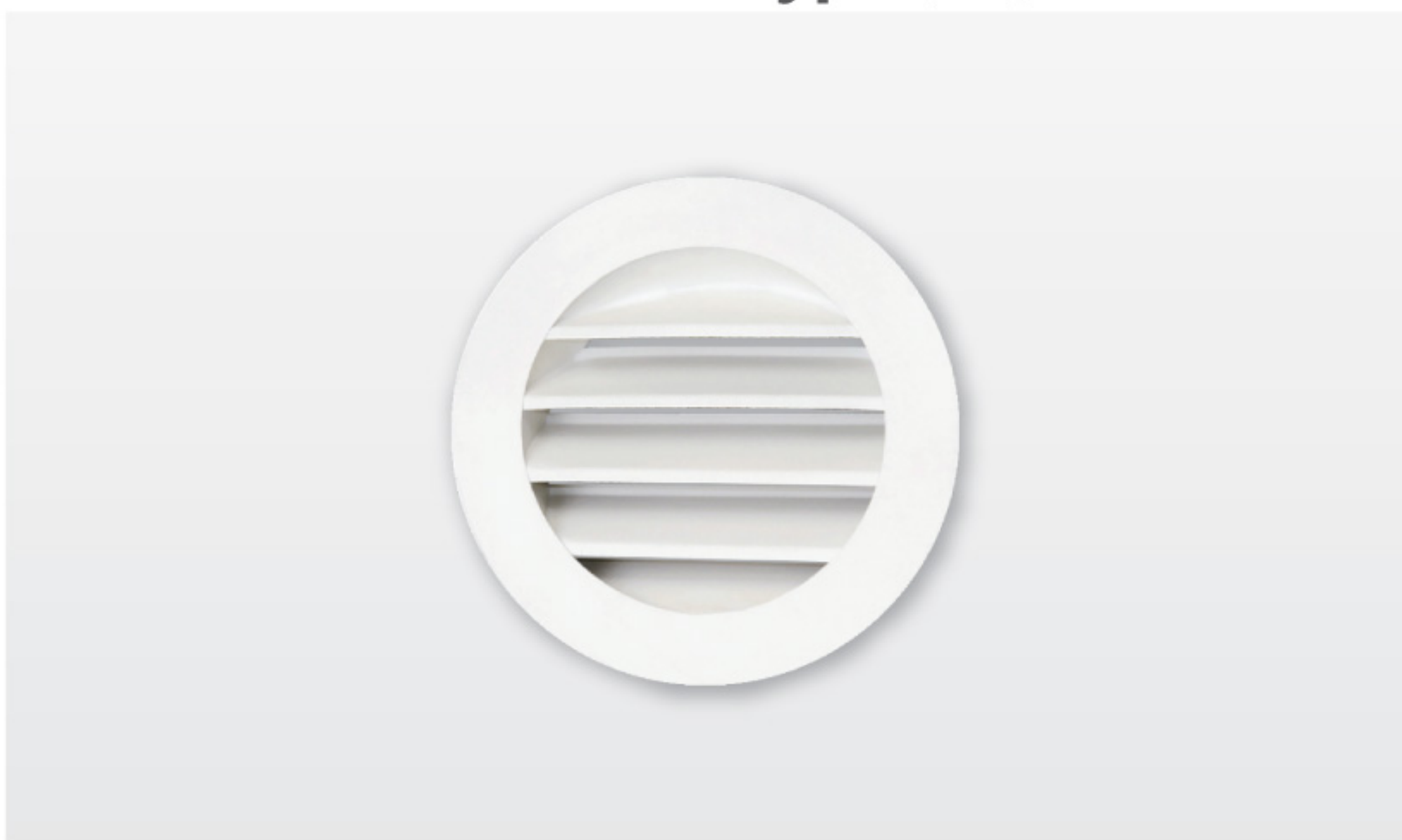
Removable Type



Removable Type (AL)



Removable Type (GI)



Round


GRILLE + ACCESSORIES COMBINATION



LG | Louvre Grille



Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



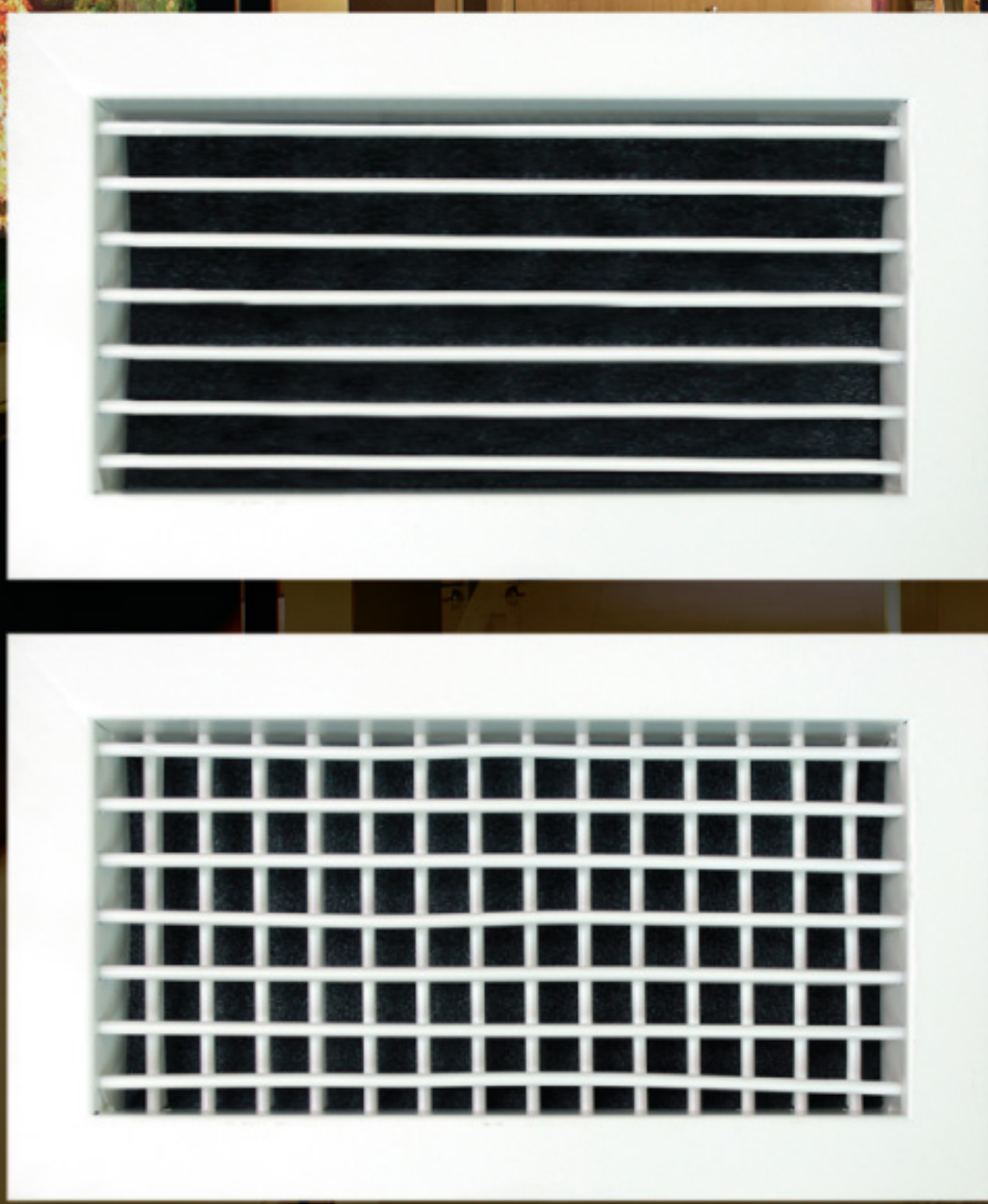
Prudent Aire Sdn Bhd 514037-D
Lot 2102, Jalan KPB12, Off Jalan Suria Park 1, Kg Baru Balakong,
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SD DD *Single & Double Deflection*





Introduction

Equipped with both horizontal or/and vertical deflection blades, the Deflection Grilles (Single & Double Deflection, SD/DD) are able to have adjustable flow pattern and throw length and thus providing the required air diffusion pattern (Double Deflection) and exhaust/return applications (Single Deflection).

Both horizontal and vertical blades adjustments are done manually easily without compromising the firmness of blade positions.

Adjustable flow pattern and throw length are achieved with horizontal blades directing the flow pattern and vertical blades adjusting throw length and jet width.

CONSTRUCTIONS & MATERIALS

- Average of 56% effective area
- Vanes pitch of 20mm
- Grille sizing:
 - Minimum size: 100mm x 100mm
 - Maximum size: 2400mm x 1200mm
- Stainless steel construction available

Frames



Extruded Aluminium



Galvanized Steel

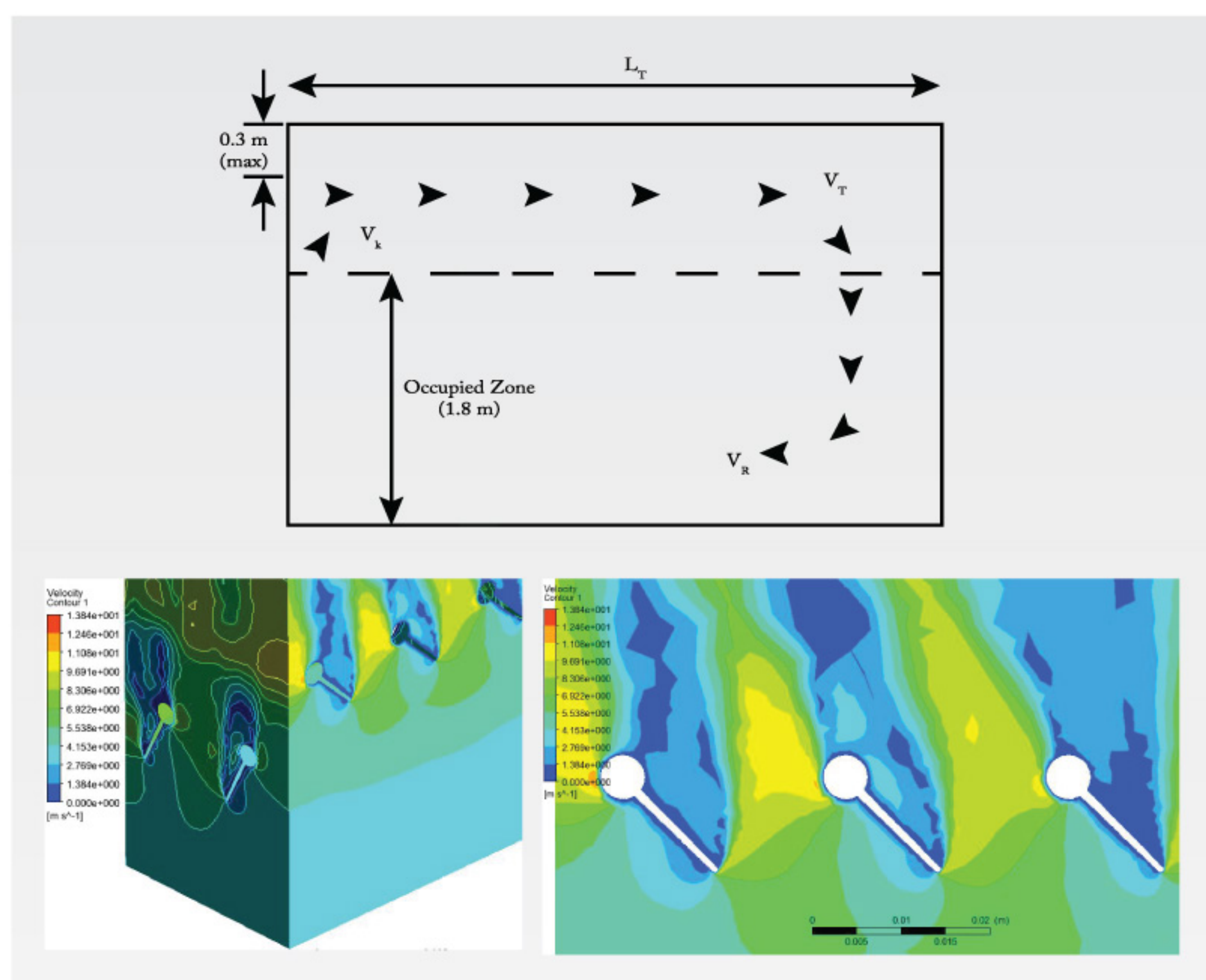
Vanes



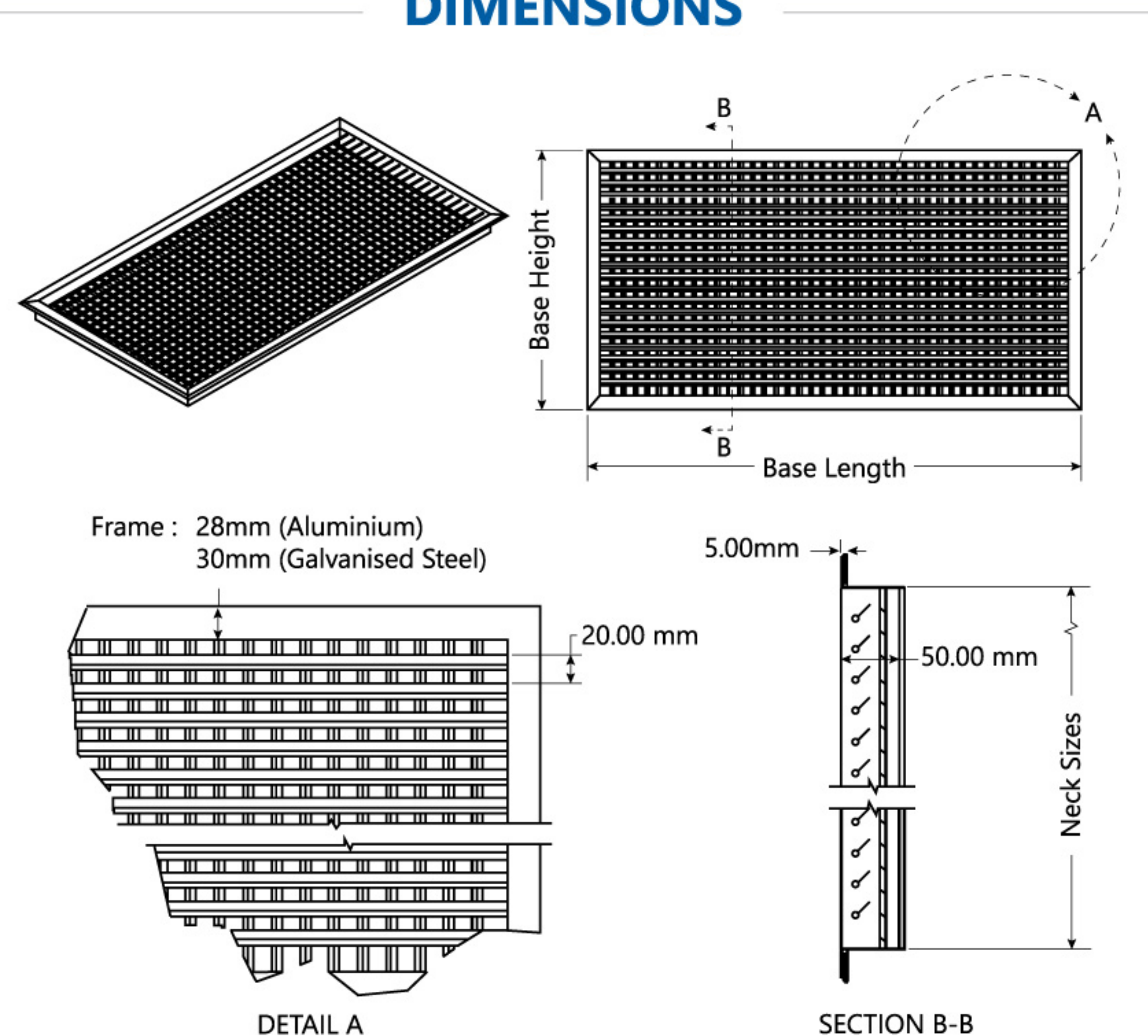
Extruded Aluminium



Galvanized Steel (Size Dependent)



DIMENSIONS

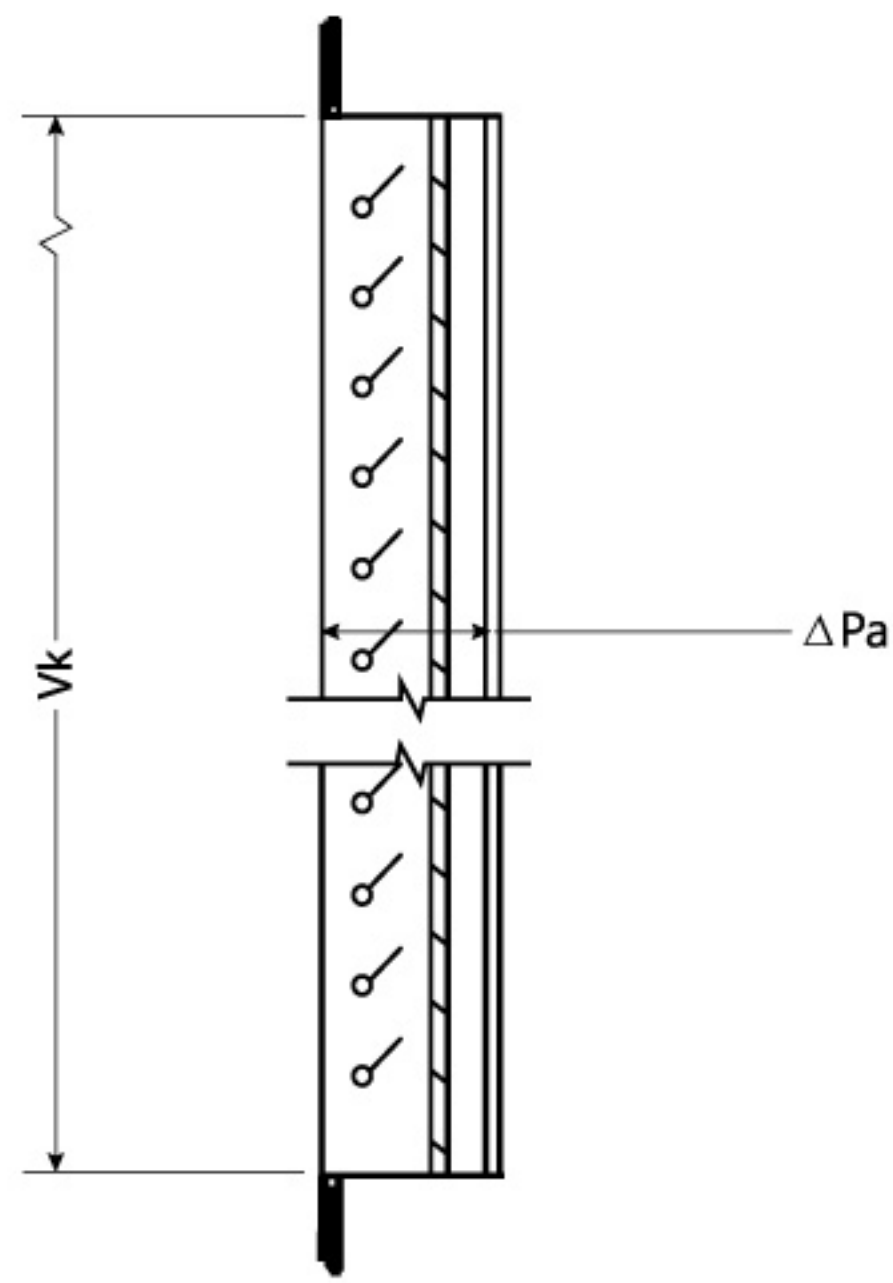


Correction Factors

Conditions	15° Deflection	20° Deflection	40° Deflection
Effective Area (m ²)	x 0.95	x 0.87	x 0.80
V _k	x 1.05	x 1.15	x 1.25
Pressure Lost(Pa)	+ 1.0	+ 1.1	+ 1.2
NR	+ 0	+ 3	+ 5
L _T (m)	x 0.95	x 0.85	x 0.75
Induction Ratio, i	x 1.1	x 1.4	x 2
Temperature Quotient	x 1.1	x 1.4	x 2
Ceiling Distance(>0.9m)	L _T x 0.75	L _T x 0.75	L _T x 0.75

TECHNICAL PERFORMANCE DATA

Supply (Double Deflection)



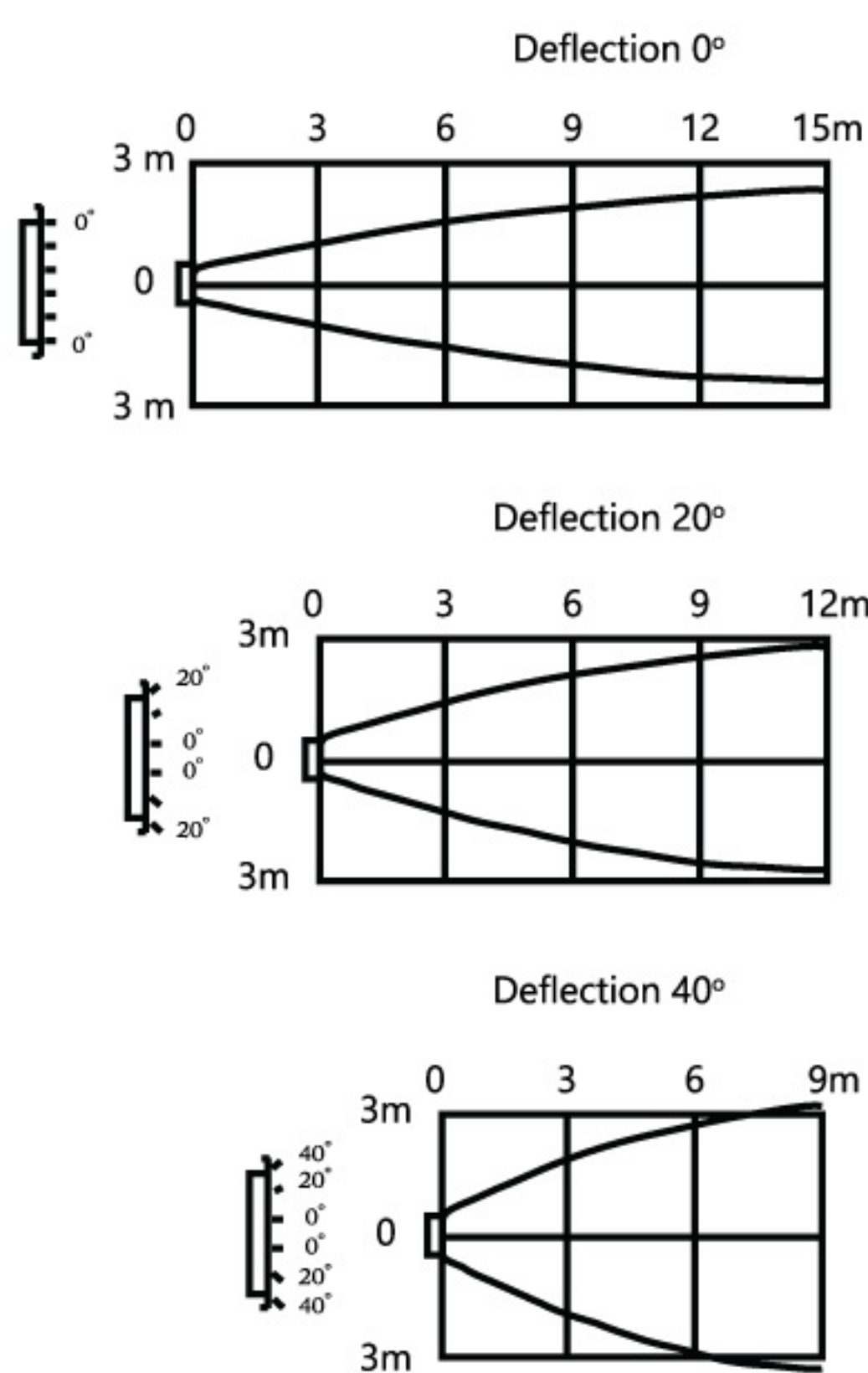
* Diffuser performance data factored in 0° deflection, coanda effect & fully opened Radial OBD conditions.

* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating								
			NR25	NR35	NR40	NR45					
200 x 200	0.04 (0.016)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	250 70	500 140	800 224	1000 280	1400 392	1600 448	2000 560	2500 588	3000 840
200 x 500	0.1 (0.051)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	6.0 2.7 5.5 <20 0.24 7.8	9.5 4.4 12.5 25 0.15 12	11.5 5.4 22 33 12.2 14.5	16 7.6 45 44 -	19 8.7 55 49 -	34 10.9 >80 >50 -	-	-

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating								
			NR25	NR35	NR40	NR45					
300 x 300	0.09 (0.039)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	7.0 3.6 10 <20 0.18 10	11 5.7 23 32 0.115 16	13 7.1 38 37 0.095 18.5	17 10.0 78 48 -	23 11.4 >80 >50 -	-	-	-
300 x 800	0.24 (0.113)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	- 2.0 3.0 <10 0.34 5.4	6.0 2.5 4.5 <20 0.27 6.2	7.0 3.4 9.0 18 0.18 10	11 3.9 12 23 0.15 12	13 4.9 17 30 0.13 13.5	15 6.1 27 37 -	18 7.4 45 42 -	30 7.4 45 42 -
300 x 1200	0.36 (0.179)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	- 2.2 3.5 <10 0.3 6.5	- 1.6 4.5 <10 0.23 8.0	- 2.5 4.5 <20 0.23 8.0	8.8 2.2 4.5 <10 0.3 6.5	11 3.1 7.0 18 0.19 9.5	13 3.9 11.5 27 -	16 4.7 16 31 -	18 4.7 16 31 -

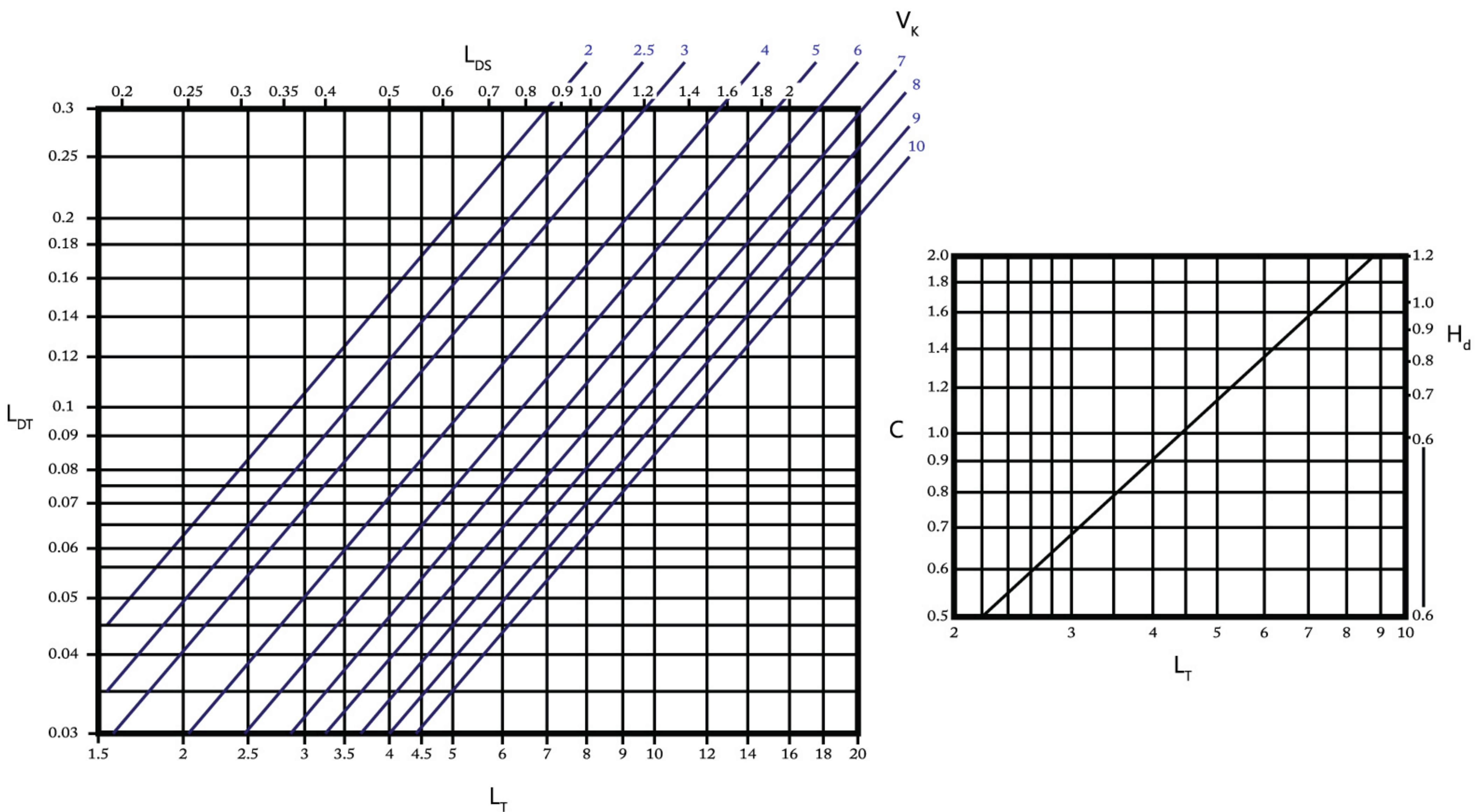
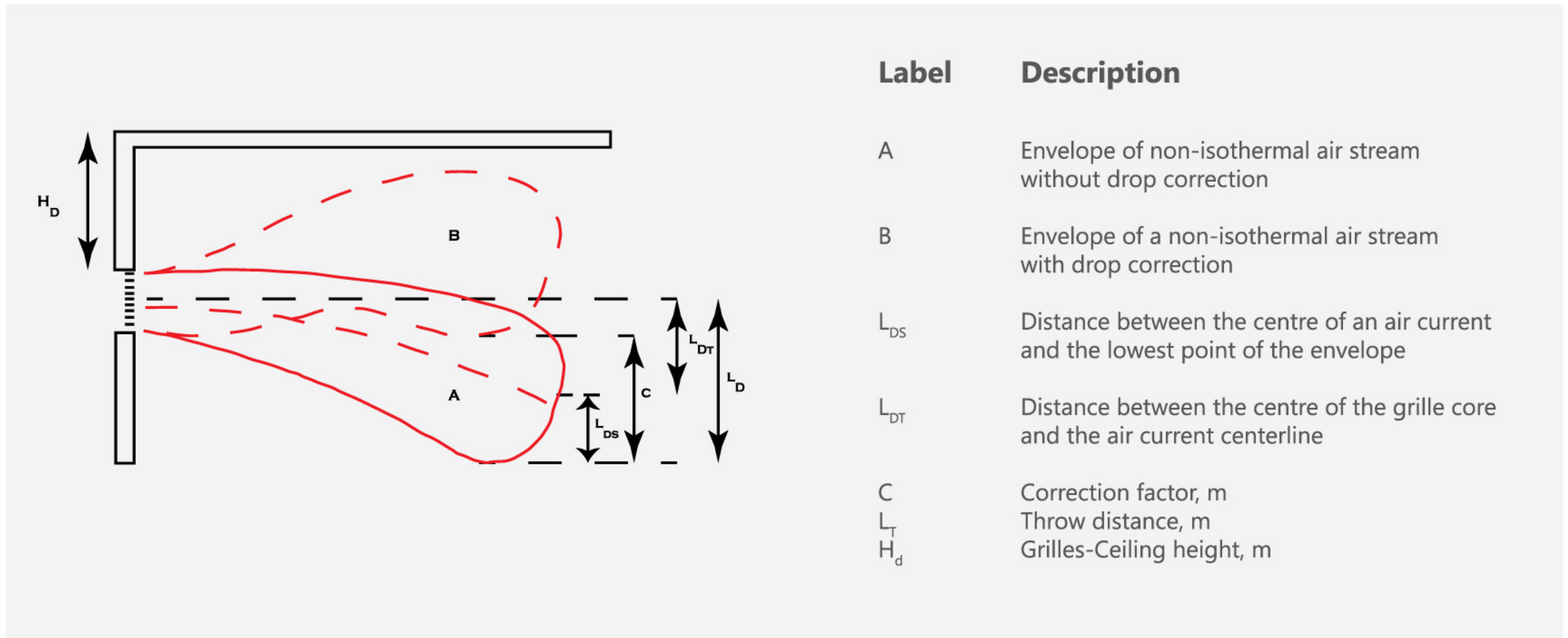
Supply (Double Deflection)



Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating								
			NR25	NR35	NR40	NR50					
400 x 400	0.16 (0.084)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	250 70	500 140	800 224	1000 280	1400 392	1600 448	2000 560	2500 588	3000 840
400 x 800	0.32 (0.179)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	- 1.6 2.2 3.5 0.27 4.5	- 1.6 2.2 3.5 0.27 4.5	6.2 1.6 2.2 3.5 0.5 4.5	9.8 2.2 3.5 4.5 0.27 7.0	11 2.5 4.5 18 0.22 8.0	13 3.1 7.2 23 0.19 9.5	17 3.9 11 31 -	19 4.7 17 35 -
400 x 1200	0.48 (0.270)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	- 1.6 2.2 3.5 0.37 5.5	- 1.6 2.2 3.5 0.37 5.5	- 1.6 2.2 3.5 0.37 5.5	- 1.6 2.2 3.5 0.37 5.5	8.5 1.6 3.1 4.5 0.37 5.5	11 2.1 3.1 7.2 0.28 7.2	13 2.6 5.0 18 0.24 8.5	16 3.1 7.0 22 -

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	Noise Rating								
			NR25	NR35	NR40	NR50					
500 x 500	0.09 (0.039)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	- 1.5 1.9 3 0.34 5.4	6.0 1.5 1.9 3 0.27 6.2	7.0 1.9 2.7 5.0 0.18 10	11 2.7 3.1 6.5 0.15 12	13 3.1 6.5 10 0.13 13.5	15 3.8 10 16 -	18 4.8 16 24 -	30 5.7 24 42 -
500 x 1200	0.60 (0.367)	Throw Distance (0.25 m/s), m Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR) Temperature Quotient Induction Ratio	-	- 2.3 3.5 <20 0.09 7.0	- 2.3 3.5 <20 0.09 7.0	- 2.3 3.5 <20 0.09 7.0	- 2.3 3.5 <20 0.09 7.0	- 2.3 3.5 <20 0.09 7.0	- 2.3 3.5 <20 0.09 7.0	- 2.3 3.5 <20 0.09 7.0	14 2.3 3.5 <20 0.09 7.0

Drop Correction



Airstream Drop

The total drop is the maximum vertical distance between the centre of a grille core and the lowest point of a specified envelope, determined by the envelope velocity V_T .

The total drop consist of two elements :

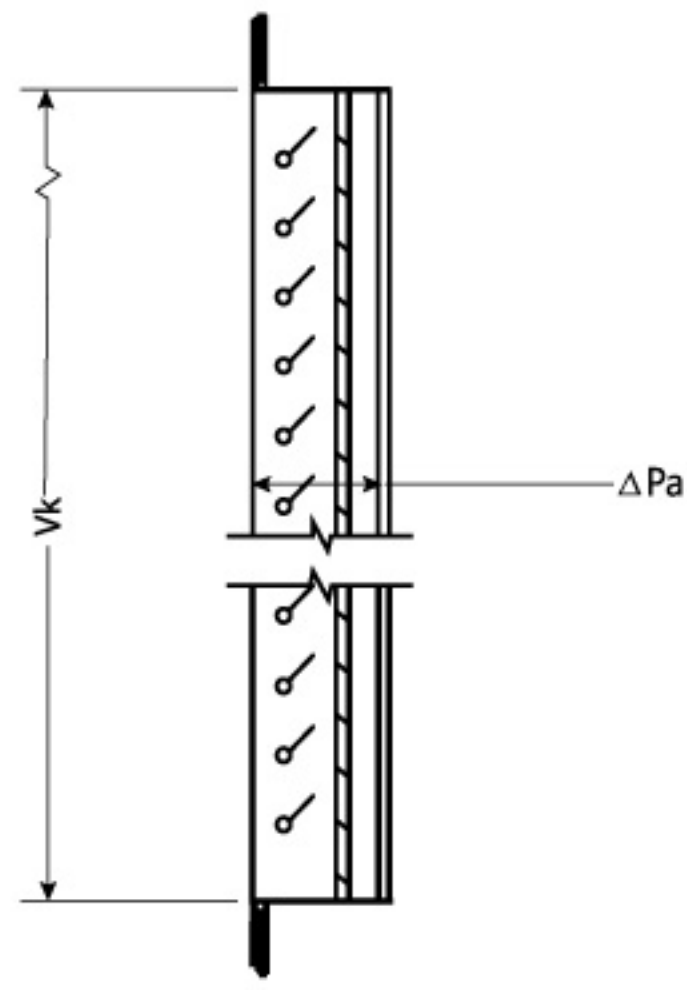
$$L_D = L_{DS} + L_{DT}$$

Drop Correction L_D

Drop correction is possible by projecting the air current upward, with supply grille having adjustable horizontal bars. The drop effect can be significantly corrected if the air is projected upward 15° to 20°, as shown in the drop correction diagram. The correction factors "C" in the diagram are only valid if the minimum distance H_d between the centre of the grille and the ceiling is maintained.

TECHNICAL PERFORMANCE DATA

Exhaust (Single Deflection)



Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25	NR35	NR40							
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1500 420	2000 560	
100 x 250	0.025 (0.010)	Face Velocity, m/s	6.9	8.3	11.1	-	-	-	-	-	-	-
		Total Pressure Loss, Pa	7.0	9.0	17	-	-	-	-	-	-	-
		Noise Rating (NR)	35	40	>50	-	-	-	-	-	-	-
100 x 300	0.03 (0.012)	Face Velocity, m/s	5.8	6.9	9.3	11.6	-	-	-	-	-	-
		Total Pressure Loss, Pa	5.0	34	12	18	-	-	-	-	-	-
		Noise Rating (NR)	27	33	46	>50	-	-	-	-	-	-
100 x 400	0.04 (0.016)	Face Velocity, m/s	4.3	5.2	6.9	8.7	10.4	-	-	-	-	-
		Total Pressure Loss, Pa	2.7	4.0	12	16	-	-	-	-	-	-
		Noise Rating (NR)	20	26	37	45	>50	-	-	-	-	-
100 x 500	0.05 (0.020)	Face Velocity, m/s	3.5	4.2	5.6	6.9	8.3	11.1	-	-	-	-
		Total Pressure Loss, Pa	2	2.7	4.7	34	9.0	17	-	-	-	-
		Noise Rating (NR)	<20	<20	29	36	43	>50	-	-	-	-

* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25	NR35	NR40	NR50						
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1500 420	2000 560	
150 x 300	0.045 (0.020)	Face Velocity, m/s	3.5	4.2	5.6	6.9	8.3	11.1	-	-	-	-
		Total Pressure Loss, Pa	2	2.7	4.7	34	9.0	17	-	-	-	-
		Noise Rating (NR)	<20	<20	29	36	43	>50	-	-	-	-
150 x 500	0.075 (0.033)	Face Velocity, m/s	-	-	3.4	4.2	5.1	6.7	8.4	12.6	-	-
		Total Pressure Loss, Pa	-	-	2	2.7	4.0	7.0	9.0	22	-	-
		Noise Rating (NR)	-	-	<20	21	27	37	46	>50	-	-
150 x 600	0.090 (0.037)	Face Velocity, m/s	-	-	3.0	3.8	4.5	6.0	7.5	11.3	-	-
		Total Pressure Loss, Pa	-	-	<2	2.5	3.0	5.0	8.0	18	-	-
		Noise Rating (NR)	-	-	<20	<20	23	35	42	>50	-	-
150 x 800	0.12 (0.054)	Face Velocity, m/s	-	-	-	-	3.1	4.1	5.1	7.7	10.3	-
		Total Pressure Loss, Pa	-	-	-	-	<2	2.7	4.0	9.0	15	-
		Noise Rating (NR)	-	-	-	-	<20	25	34	46	>50	-

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25	NR35	NR40	NR50						
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1500 420	2000 560	
200 x 500	0.1 (0.045)	Face Velocity, m/s	-	-	-	-	3.7	4.9	6.2	9.3	12.3	-
		Total Pressure Loss, Pa	-	-	-	-	2.5	3.7	5.5	12	22	-
		Noise Rating (NR)	-	-	-	-	<20	28	37	50	>50	-
200 x 600	0.12 (0.054)	Face Velocity, m/s	-	-	-	-	-	4.1	5.1	7.7	10.3	-
		Total Pressure Loss, Pa	-	-	-	-	-	2.6	4.0	9.0	16	-
		Noise Rating (NR)	-	-	-	-	-	22	30	43	>50	-
200 x 800	0.16 (0.071)	Face Velocity, m/s	-	-	-	-	-	3.1	3.9	5.9	7.8	-
		Total Pressure Loss, Pa	-	-	-	-	-	<2	2.5	4.7	9.0	-
		Noise Rating (NR)	-	-	-	-	-	<20	23	34	47	-
200 x 1000	0.2 (0.092)	Face Velocity, m/s	-	-	-	-	-	-	3.0	4.5	6.0	-
		Total Pressure Loss, Pa	-	-	-	-	-	-	<2	3.0	5.0	-
		Noise Rating (NR)	-	-	-	-	-	-	<20	25	37	-

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25	NR35	NR40	NR50						
			250 70	300 84	400 112	500 140	600 168	800 224	1000 280	1500 420	2000 560	
300 x 500	0.15 (0.071)	Face Velocity, m/s	-	-	-	-	-	3.1	3.9	5.9	7.8	-
		Total Pressure Loss, Pa	-	-	-	-	-	<2	2.5	4.7	9.0	-
		Noise Rating (NR)	-	-	-	-	-	<20	23	34	47	-
300 x 600	0.18 (0.084)	Face Velocity, m/s	-	-	-	-	-	-	3.3	5.0	6.6	-
		Total Pressure Loss, Pa	-	-	-	-	-	-	<2	3.8	6.2	-
		Noise Rating (NR)	-	-	-	-	-	<20	30	43	-	-
300 x 800	0.24 (0.114)	Face Velocity, m/s	-	-	-	-	-	-	-	3.7	4.9	-
		Total Pressure Loss, Pa	-	-	-	-	-	-	-	2.5	3.7	-
		Noise Rating (NR)	-	-	-	-	-	-	-	20	32	-
300 x 1000	0.3 (0.143)	Face Velocity, m/s	-	-	-	-	-	-	-	-	3.9	-
		Total Pressure Loss, Pa	-	-	-	-	-	-	-	-	2.5	-
		Noise Rating (NR)	-	-	-	-	-	-	-	-	23	-

Single Deflection Grille

ALUMINIUM TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.2mm thick, unless otherwise stated.
2. The margin to be in 28mm from the neck height to the edge.
3. Frame height to be in 40mm.
4. The corner of the frame should be pressed with a 90° corner piece to ensure the frames are in 90°.
5. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in extruded aluminium.
2. Vanes to be in 1.0mm thick aerofoil design to provide a better air pattern.
3. Vanes are arranged with single layer only and able to be adjusted individually.
4. Vanes pitch to be in 20mm.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grill to be in 56%.
2. Vanes angle should be with pre-set 90° and adjustable individually.
3. Single Deflection Grilles are designed to be installed as wall mounted as an exhaust or return opening.

GALVANIZED STEEL TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in galvanized steel. Frame thickness should be in minimum 0.6mm thick, unless otherwise stated.
2. The margin to be in 30mm from the neck height to the edge.
3. Frame height to be in 40mm.
4. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in extruded aluminium.
2. Vanes to be in 1.0mm thick aerofoil design to provide a better air pattern.
3. Vanes are arranged with single layer only and able to be adjusted individually.
4. Vanes pitch to be in 20mm.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grill to be in 56%.
2. Vanes angle should be with pre-set 90° and adjustable individually.
3. Single Deflection Grilles are designed to be installed as wall mounted as an exhaust or return opening.

Double Deflection Grille

ALUMINIUM TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in extruded aluminium. Frame thickness should be in minimum 1.2mm thick, unless otherwise stated.
2. The margin to be in 28mm from the neck height to the edge.
3. Frame height to be in 50mm.
4. The corner of the frame should be pressed with a 90° corner piece to ensure the frames are in 90°.
5. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in extruded aluminium.
2. Vanes to be in 1.0mm thick aerofoil design to provide a better air pattern.
3. Vanes are arranged with double layer and able to be adjusted 4 directional individually.
4. Vanes pitch to be in 20mm.

Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

Performance

1. Free area of the grill to be in 52%.
2. Vanes angle should be with pre-set 90° and adjustable individually to achieved to required air pattern.
3. Double Deflection Grilles are designed to be installed as wall mounted as a supply air or return air opening.

GALVANIZED STEEL TECHNICAL SPECIFICATION

Frame Construction

1. Frame to be in galvanized steel. Frame thickness should be in minimum 0.6mm thick, unless otherwise stated.
2. The margin to be in 30mm from the neck height to the edge.
3. Frame height to be in 50mm.
4. Removable core designs are available upon request.

Vanes Construction

1. Vanes to be in extruded aluminium.
2. Vanes to be in 1.0mm thick aerofoil design to provide a better air pattern.
3. Vanes are arranged with Double layer and able to be adjusted 4 directional individually.
4. Vanes pitch to be in 20mm.

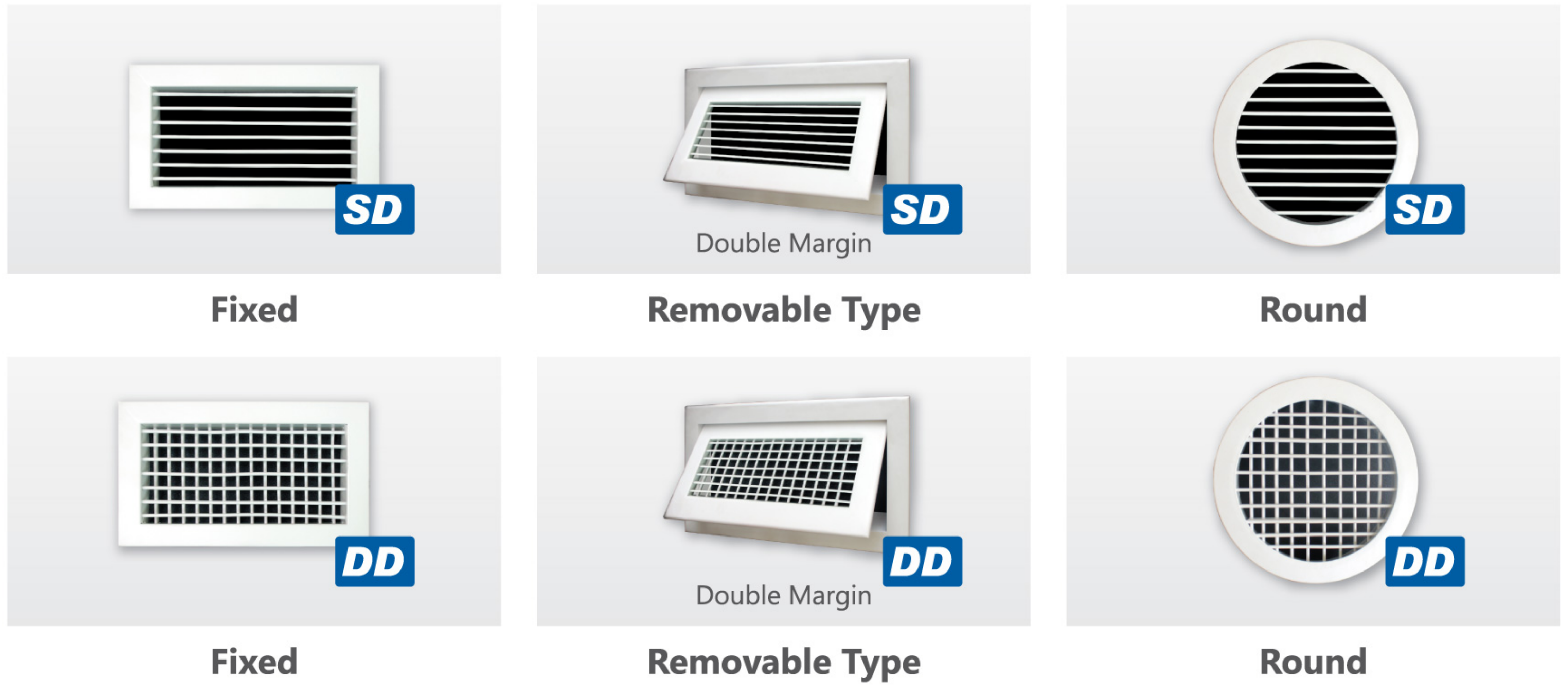
Finishing

1. Finishing should be in powder coated RAL 9010 SG white matt, unless otherwise stated.

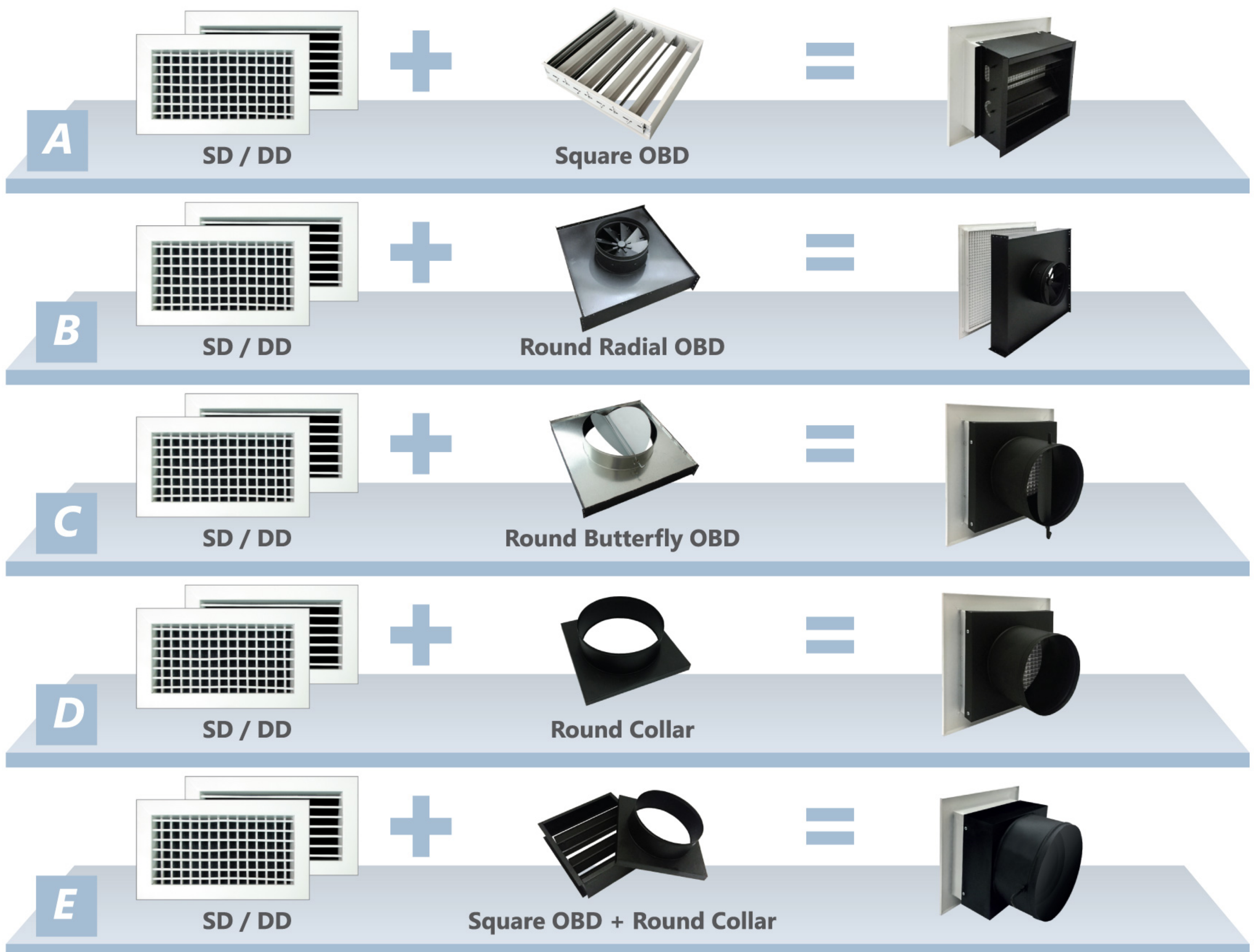
Performance

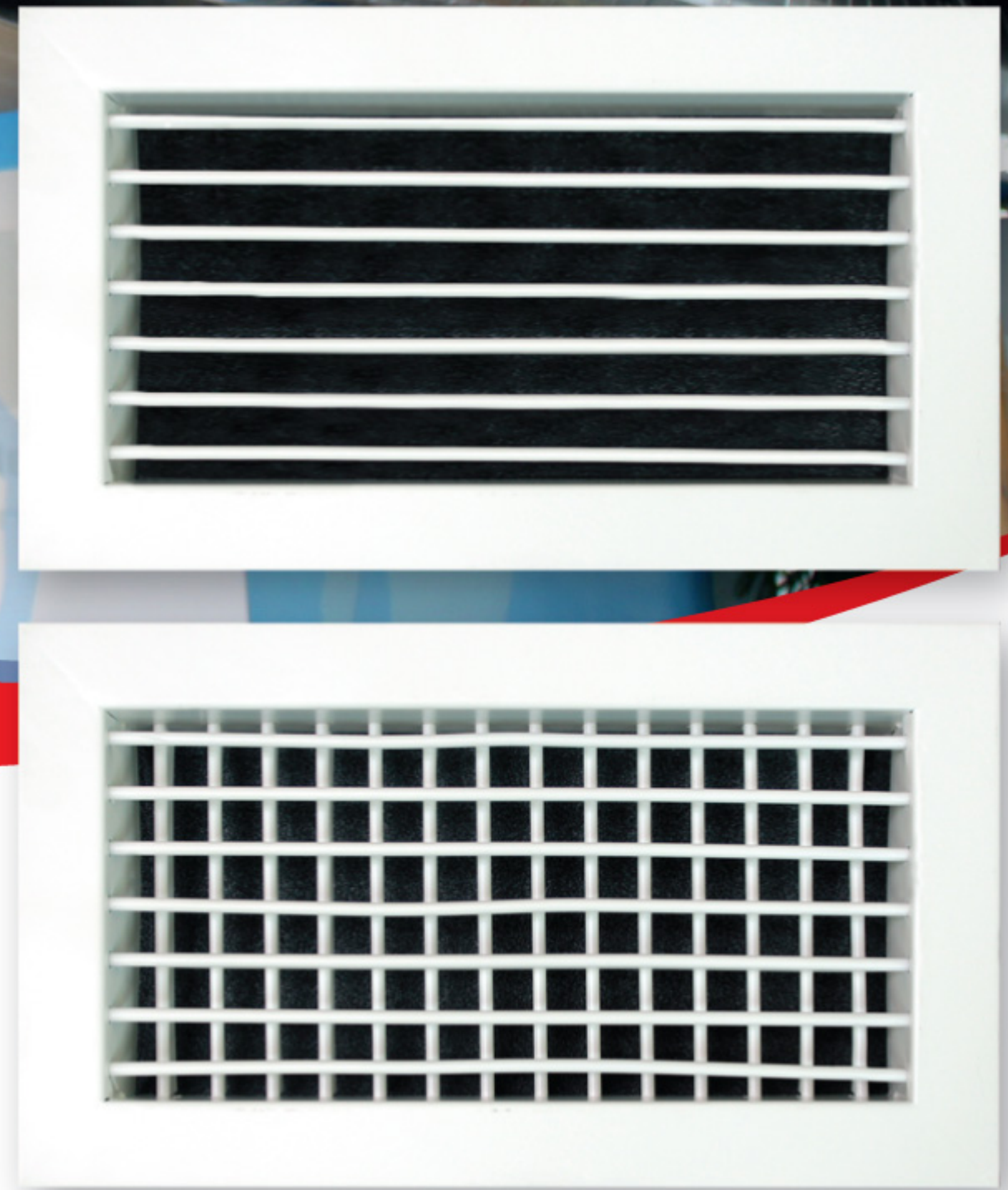
1. Free area of the grill to be in 52%.
2. Vanes angle should be with pre-set 90° and adjustable individually to achieved required air throw pattern.
3. Double Deflection Grilles are designed to be installed as wall mounted as a supply air or return air opening.

AVAILABLE TYPES



GRILLE + ACCESSORIES COMBINATION









SD & DD

Single & Double Deflection

Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



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TAG *Transfer Air Grille*



MADE IN MALAYSIA



Introduction

Applicable for air transfer applications between two area, Prudentaire Vision-Proof Transfer Air Grille addresses the combined requirements of air flow, privacy and aesthetics. Tested with reference to ASHRAE Standard 130-2008 in Prudentaire Laboratory, the Transfer air grille offers maximum air flow and minimum static pressure drop with low sound level conditions.

For darkroom applications, back to back 2-grilles configuration in matt black finish could be used for no light penetration conditions. Alternatively, Prudentaire Light-Proof Transfer Air Grille can be used at a reduced grille depth.

With highly customizable blade profiles and pitch distance, Prudentaire Transfer Air Grille is able to meet varying site requirements with appropriate modifications.

CONSTRUCTIONS & MATERIALS

- Average % effective area
- Highly customizable effective area
- Vision proof blade construction
- Blade pitch of 25mm (Customizable upon request)
- Grille sizing :
 - i) Minimum size : 100mm x 100mm
 - ii) Maximum size : 2400mm x 1200mm
 - iii) For Length > 600mm, grille supplied in sections

Frames



Extruded Aluminium



Stainless Steel (Upon request)



Galvanized Steel (Upon request)

Vanes



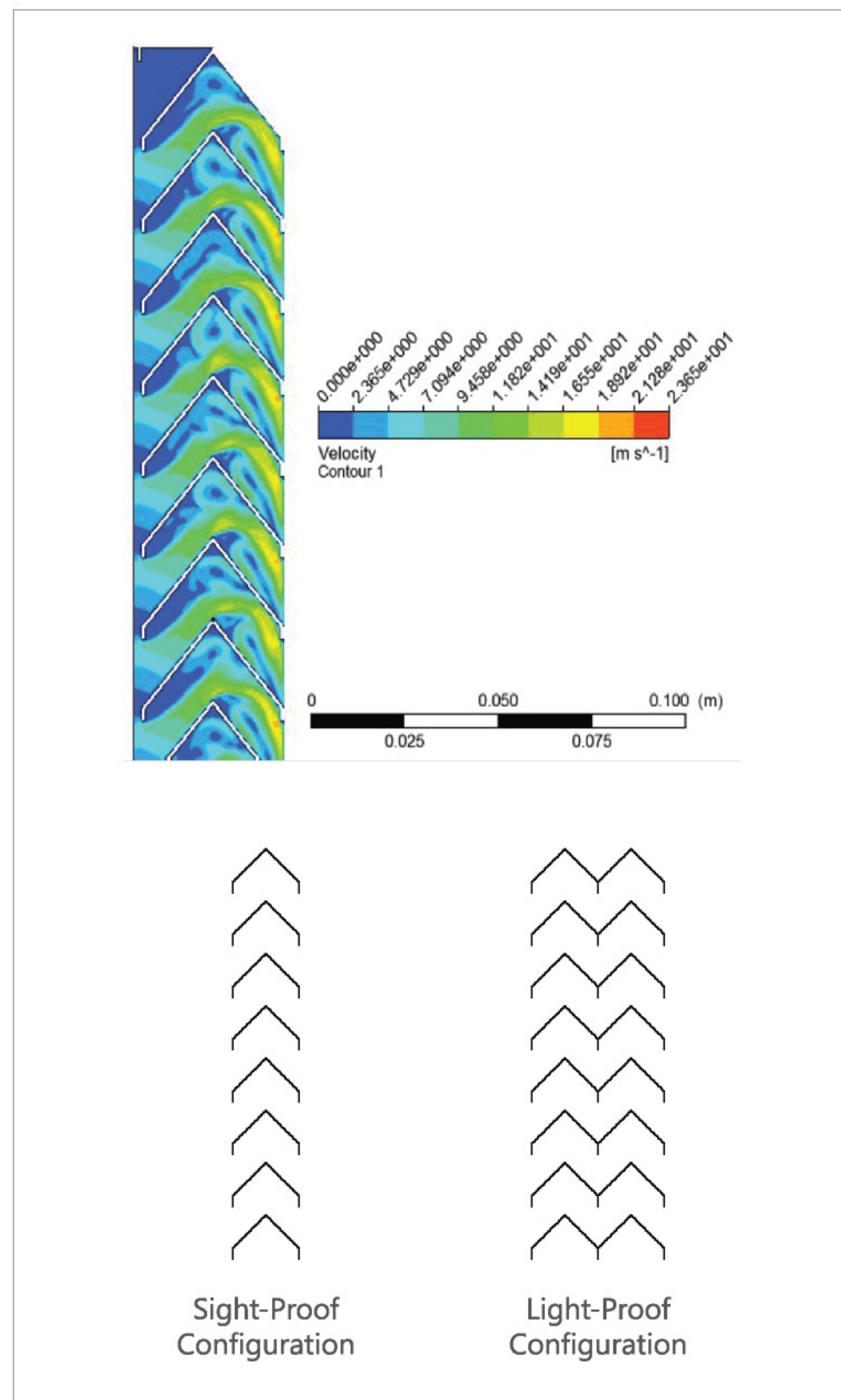
Extruded Aluminium



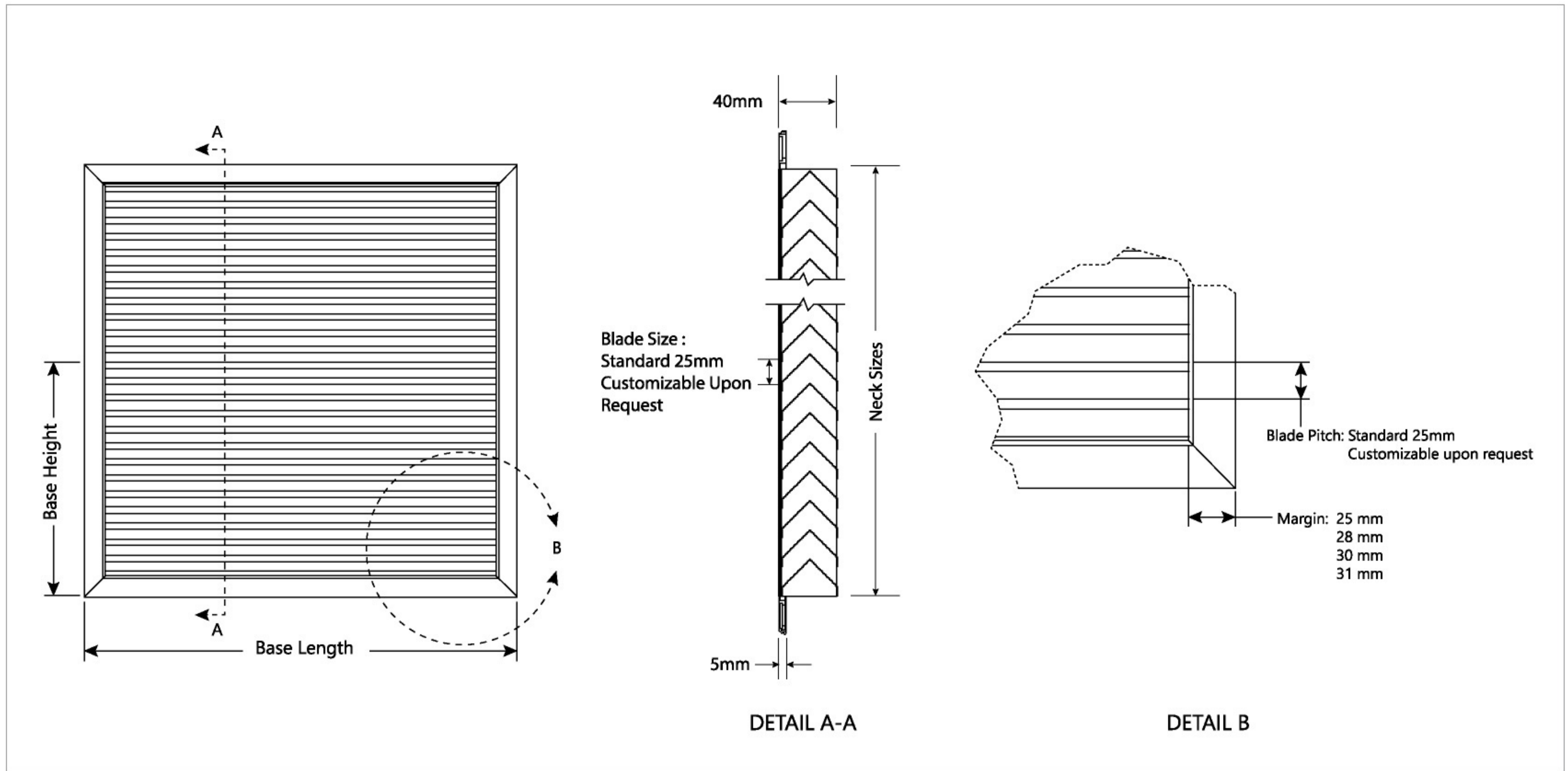
Stainless Steel (Upon request)



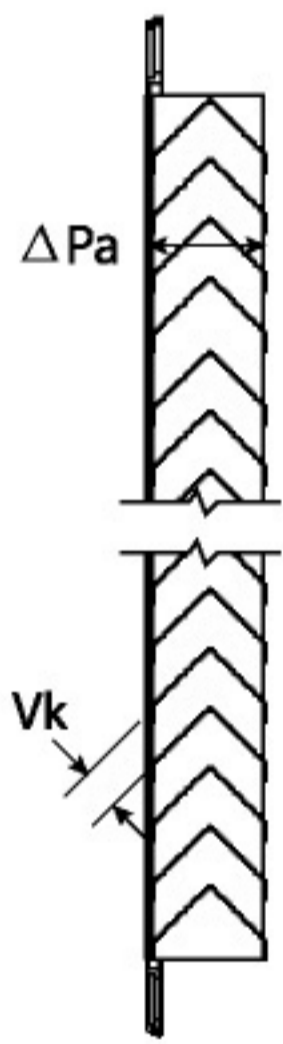
Galvanized Steel (Upon request)



DIMENSIONS



Extract



Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Unit Volume Flowrate, m ³ /hr Unit Volume Flowrate, l/s	NR25	NR35	NR40	NR50					
			250 70	400 112	600 168	800 224	1000 280	2000 560	2500 700	3000 840	4000 1120
100 x 400	0.04 (0.012)	Face Velocity, m/s	5.8	9.3	13.9	-	-	-	-	-	-
		Total Pressure Loss, Pa	17	40	90	-	-	-	-	-	-
		Noise Rating (NR)	30	46	>50	-	-	-	-	-	-
100 x 500	0.05 (0.015)	Face Velocity, m/s	4.6	7.4	11.1	-	-	-	-	-	-
		Total Pressure Loss, Pa	10	25	55	-	-	-	-	-	-
		Noise Rating (NR)	23	37	53	-	-	-	-	-	-

Grille Neck Size, mm	Neck Area (Eff. Area) m ²	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	NR25	NR35	NR40	NR50					
			5.8 17 30	9.3 40 46	13.9 90 >50	- - -	- - -	- - -	- - -	- - -	- - -
150 x 250	0.0375 (0.012)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	5.8 17 30	9.3 40 46	13.9 90 >50	- - -	- - -	- - -	- - -	- - -	- - -
150 x 300	0.045 (0.015)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	4.6 10 23	7.4 25 37	11.1 55 53	- - -	- - -	- - -	- - -	- - -	- - -
150 x 400	0.06 (0.020)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	3.5 5.5 <20	5.6 15 30	11.1 55 44	11.1 55 >50	- - -	- - -	- - -	- - -	- - -
150 x 500	0.075 (0.025)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	2.8 5.0 <20	4.4 9.0 24	6.7 17.5 36	8.9 35 47	11.1 55 >50	- - -	- - -	- - -	- - -
150 x 600	0.09 (0.029)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	3.8 7.0 <20	5.7 15 31	7.7 27 43	9.6 45 51	- - -	- - -	- - -	- - -
150 x 800	0.12 (0.041)	Face Velocity, m/s Total Pressure Loss, Pa Noise Rating (NR)	- - -	- - -	4.1 7.5 21	5.4 13 33	6.8 18 40	13.6 90 >50	- - -	- - -	- - -



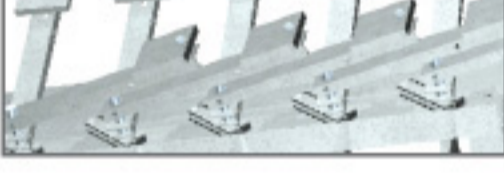




* For darkroom applications (back to back grille configuration), the pressure drop would be double at listed flowrates and NR values.

* The effective area given is to the best estimation & knowledge of Prudentaire's engineers at the point of entry.

TAG | *Transfer Aire Grille*



Products Range

- Grilles 
- Diffusers 
- Dampers 
- Fire & Smoke Protection 
- VAV 
- Others 
- Accessories 



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