

Directional Diffusers



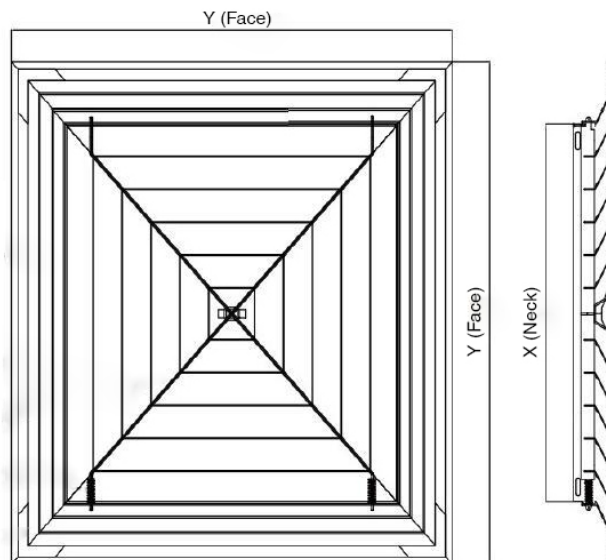
The square cone type directional diffuser is all aluminium construction and has been designed to meet modern building requirements. Standard frame configurations are available which are suitable for T-bar, tile or plaster ceilings. To maximize versatility, the diffusers allow different blow patterns. The core section is removable for easy installation and maintenance. As with all Bradflo air products, this diffuser offers maximum air flow characteristics whilst maintaining low noise levels.

Finish

The standard finish is powdercoat white, baked at a temperature of 180 degrees C. Other colours are available as specials upon request.

Note: Blanking plates are available for all diffuser types as a special order.

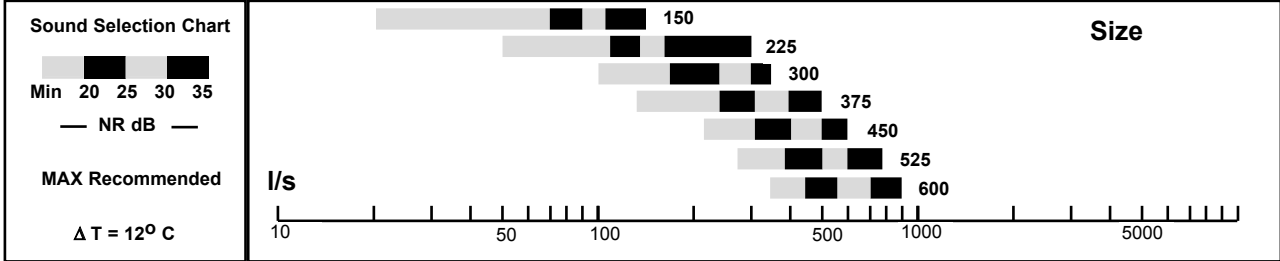
Refer to following pages for performance data.



Code	Description	Nominal Neck Size (mm)	X (mm)	Y (mm)
3214037	4 WAY LAY-IN AIR DIFFUSER 150X150MM	150 (6")	146	294
3215216	4 WAY LAY-IN AIR DIFFUSER 225X225MM	225 (9")	221	369
1604688	4 WAY LAY-IN AIR DIFFUSER 300X300MM	300 (12")	296	444
1604690	4 WAY LAY-IN AIR DIFFUSER 595X595MM	450 (18")	446	595

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Sound data

NR levels for the grille may be determined from the 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 below) to the sound level NR dB according to the formula:

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

Air pattern

(with isothermal air supply)

$$b_h = L_{0.3} \times 0.03$$

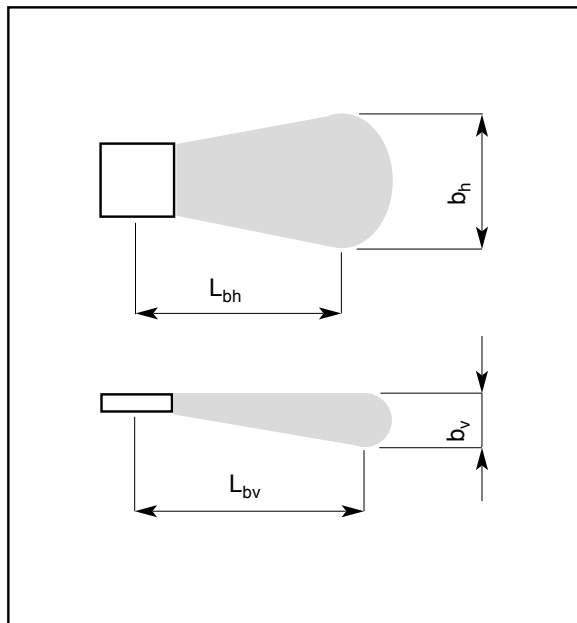
$$L_{bh} = L_{0.3} \times 0.65$$

$$b_v = L_{0.3} \times 0.06$$

$$L_{bv} = L_{0.3} \times 0.65$$

Size	Frequency (cycles per second)						
	125	250	500	1000	2000	4000	8000
150	+17	+13	+10	+8	+3	-5	-15
225	+14	+11	+10	+8	+1	-10	-16
300	+13	+9	+9	+8	-3	-15	-18
450	+13	+9	+11	+7	-6	-21	-21
525	+12	+8	+10	+7	-4	-23	-24
600	+12	+7	+9	+7	-4	-23	-24
Tol +/-	2	2	2	2	2	2	2

Correction factor K_{Ok}



Sound absorption ΔL dB

The sound absorption shown relates to a reduction of the sound power level calculated from duct to room. The end reflection is included in the values.

Size	Frequency (cycles per second)						
	125	250	500	1000	2000	4000	8000
150	14	10	5	1	0	0	0
225	13	9	4	0	0	0	0
300	10	6	2	0	0	0	0
450	9	5	1	0	0	0	0
525	7	3	1	0	0	0	0
600	6	3	1	0	0	0	0
Tol +/-	2	2	2	2	2	2	2

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Directional Diffusers

Engineering Graphs

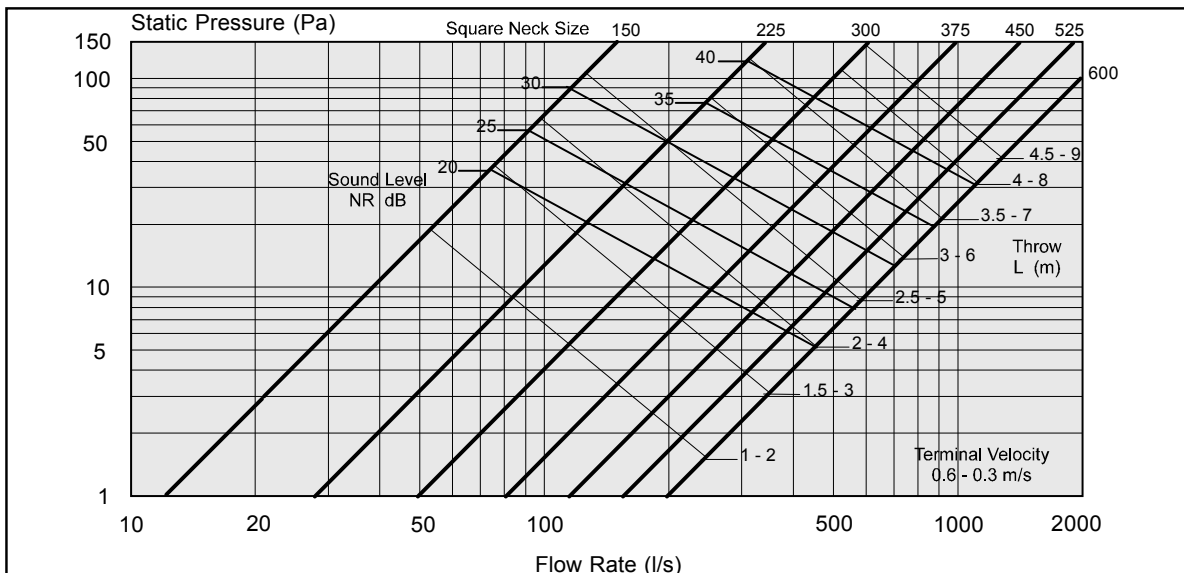
Throws shown are to a terminal velocity of 0.60 m/s and 0.30 m/s.

The following graphs apply to all Bradflo Directional Diffusers in sections 2.31 to 2.37.

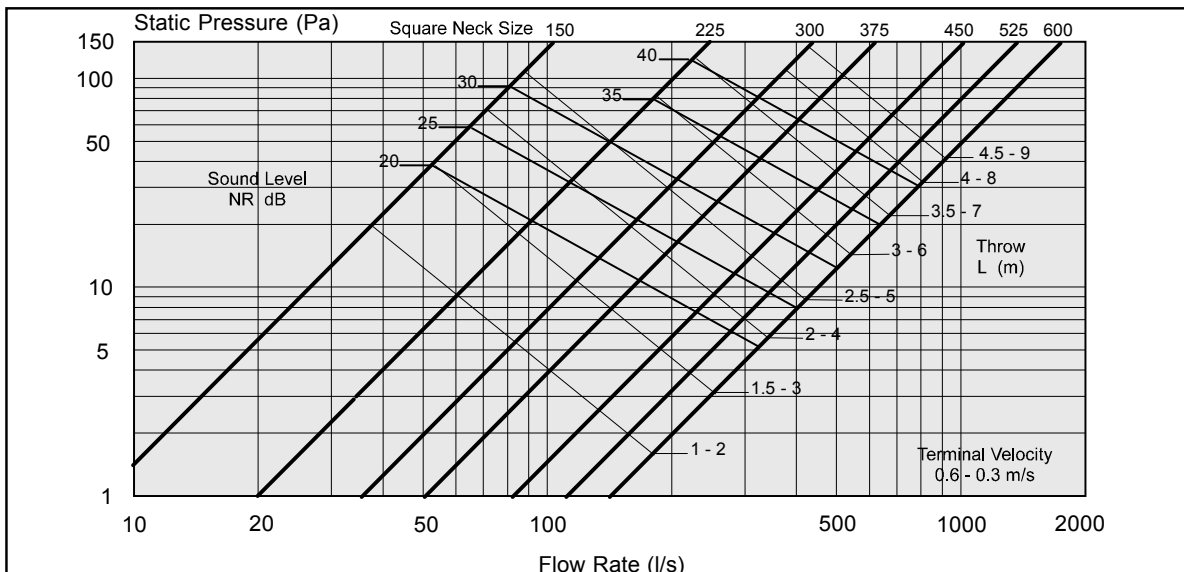
Terminal velocity	Approximate air velocity in room
0.60 m/s	0.30 m/s
0.30 m/s	0.15 m/s

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

4-way pattern (square)



4-way pattern (square) blanked to 3-way blow



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Engineering Graphs

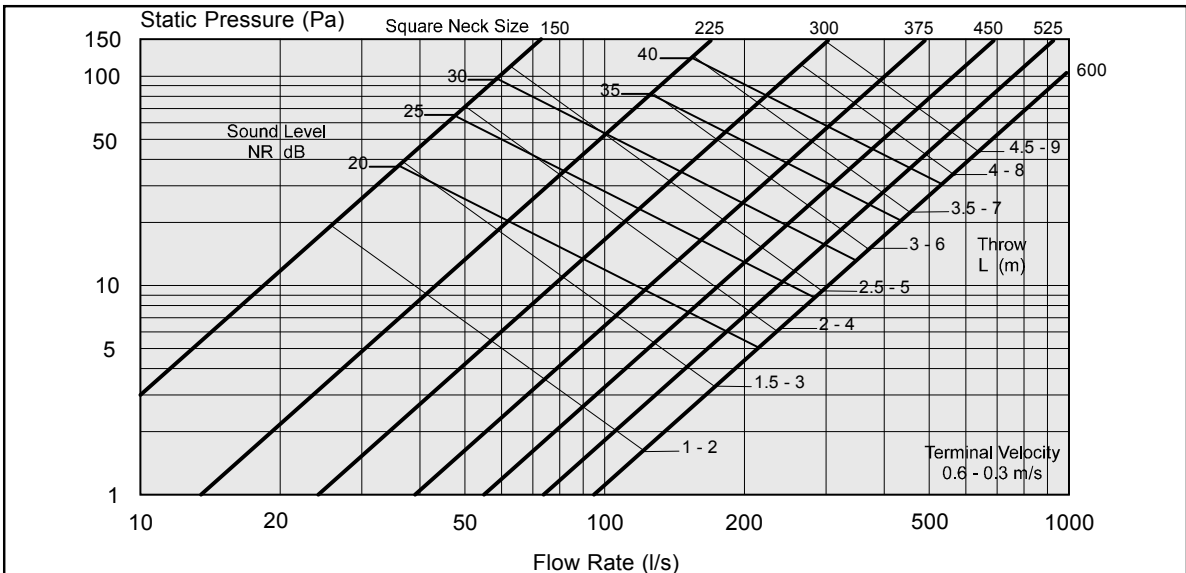
Throws shown are to a terminal velocity of 0.60 m/s and 0.30 m/s.

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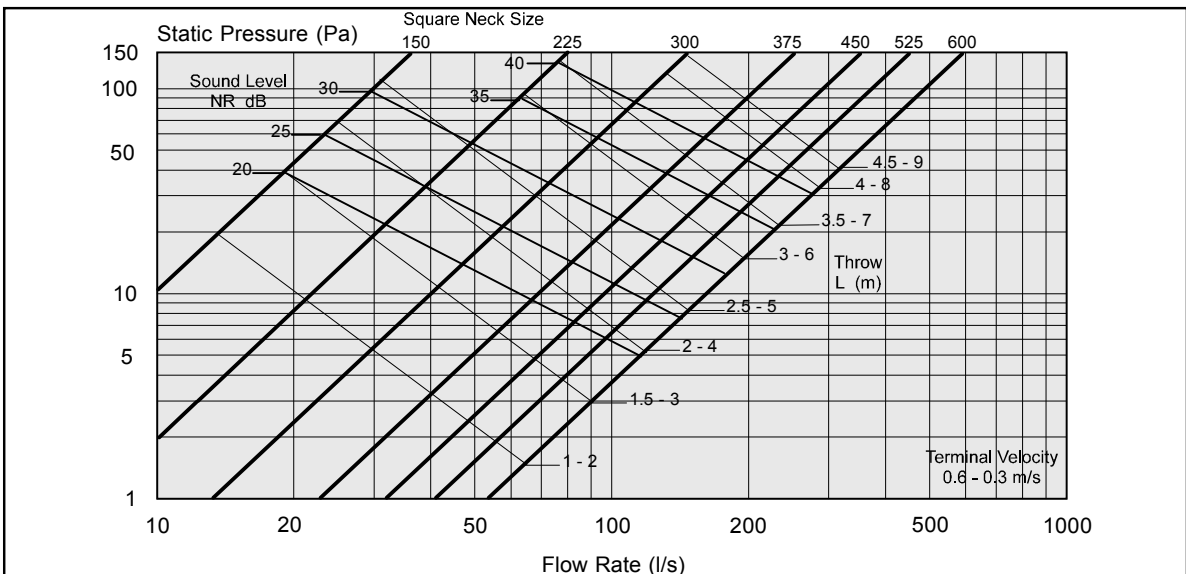
Terminal velocity	Approximate air velocity in room
0.60 m/s	0.30 m/s
0.30 m/s	0.15 m/s

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

4-way pattern (square) blanked to a 2-way blow



4-way pattern (square) blanked to a 1-way blow



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