



DL *Drum Louver Diffuser*





Introduction

Prudent Aire Drum Louver Diffuser are designed for high capacity supply air outlet with adjustable blades for jet or diffused air patterns and vertical directional control and able to deliver air with extremely long throw with low noise.

With the rotational drum (30° up from centerline to 30° down), Drum Louver are facilitate complete air coverage in the occupied area and suited for accurate directional control of conditioned air within large spaces such as mall, exhibit halls and large office building entrances.

CONSTRUCTIONS & MATERIALS

- Standard 92% free area
- Adjustable vanes within a rotatable drum
- Drum is adjustable through 60°
- Felt seal between drum and frame to minimized leakage
- Optional Opposed blade damper available

Frame



Extruded Aluminium

Drum



Extruded Aluminium

Vanes



Extruded Aluminium

Surface Finishing



White (Matt)

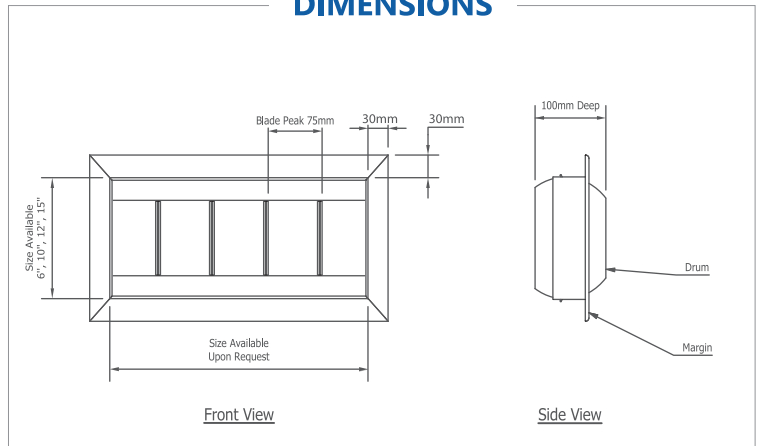


White (Matt)

STANDARD SIZE AVAILABLE

6"	10"	12"	15"
Width x Height			
250 x 150	500 x 250	500 x 300	375 x 375
300 x 150	650 x 250	650 x 300	500 x 375
450 x 150	750 x 250	750 x 300	650 x 375
600 x 150	900 x 250	900 x 300	750 x 375
750 x 150	1000 x 250	1000 x 300	1000 x 375
900 x 150	1200 x 250	1200 x 300	1250 x 375
1200 x 150	1500 x 250	1250 x 300	1500 x 375
1500 x 150	1500 x 250	1500 x 300	1750 x 375
-	1750 x 250	1750 x 300	-

DIMENSIONS

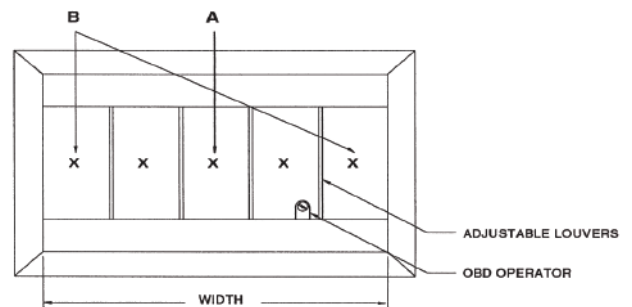
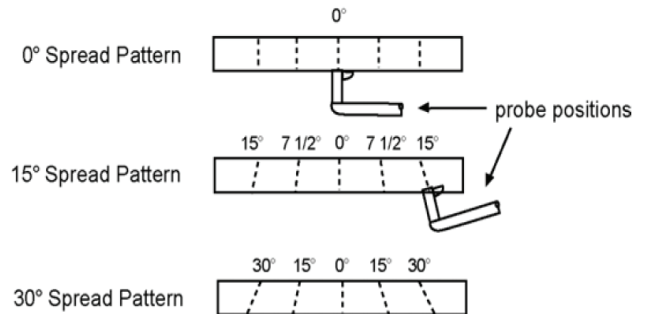
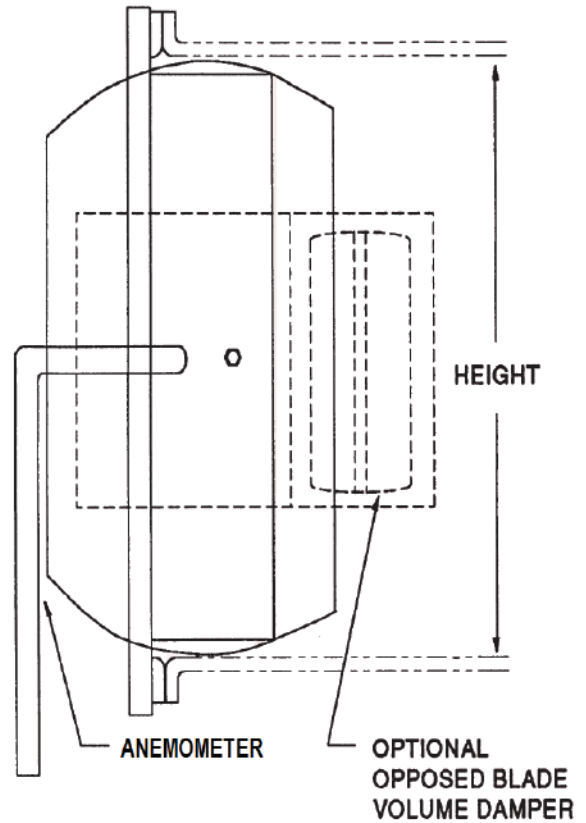


AIR FLOW MEASUREMENTS

1. An anemometer is required for balancing the Drum Louver.
2. Measure velocity at the center louver opening (A) and at the two end louver openings (B). Hold probe perpendicular and centered on the louver opening.
3. Use the maximum velocity measured at each probe location. If velocity measurements are within 5%, calculate the average face velocity using the three measurements. If velocity measurements are not within 5%, take additional measurements at each louver opening and calculate the average face velocity using all measurements.
4. From the table for the spread angle used, determined the balancing factor (Ak) using the size of the grille.
5. Calculate the air volume (CFM) by multiplying the average face velocity (Vk, ft/min) and the balancing factor (Ak, sq.ft).

CFM = Vk x Ak

Size	Spread Pattern (Degrees)		
	0°	15°	30°
250 x 150	0.15	0.15	0.13
300 x 150	0.20	0.19	0.17
450 x 150	0.31	0.29	0.25
600 x 150	0.41	0.39	0.33
750 x 150	0.51	0.48	0.42
900 x 150	0.61	0.58	0.50
1200 x 150	0.81	0.77	0.67
1500 x 150	1.02	0.96	0.83
500 x 250	0.58	0.55	0.48
650 x 250	0.72	0.69	0.59
750 x 250	0.87	0.83	0.71
900 x 250	1.01	0.96	0.83
1000 x 250	1.16	1.1	0.95
1250 x 250	1.45	1.38	1.19
1500 x 250	1.74	1.65	1.42
1750 x 250	2.03	1.93	1.66
500 x 300	0.64	0.61	0.53
650 x 300	0.80	0.76	0.66
750 x 300	0.96	0.91	0.79
900 x 300	1.12	1.07	0.92
1000 x 300	1.28	1.22	1.05
1250 x 300	1.60	1.52	1.31
1500 x 300	1.92	1.83	1.58
1750 x 300	2.24	2.13	1.84



TECHNICAL PERFORMANCE DATA

PERFORMANCE DATA: DL 6" HEIGHT (150MM)

Size	Unit Air Volume (CFM)	200	400	600	800	1000	1500	2000	3000	4000
250 x 150	Face Velocity (m/s)	1.4	2.7	4.2	5.6	-	-	-	-	-
	Diff. Pressure (Pa)	10	47	107	186	-	-	-	-	-
	Throw Disc. @ 0.5m/s (m)	1.1	3.7	5.6	7	-	-	-	-	-
	Noise Rating (NR)	10	24	42	59	-	-	-	-	-
450 x 150	Face Velocity (m/s)	-	1.4	2.1	2.8	3.6	-	-	-	-
	Diff. Pressure (Pa)	-	11	29	51	79	-	-	-	-
	Throw Disc. @ 0.5m/s (m)	-	3.7	5.8	6.8	7.5	-	-	-	-
	Noise Rating (NR)	-	12	15	28	38	-	-	-	-
750 x 150	Face Velocity (m/s)	-	-	1.2	1.7	2.2	3.3	4.4	-	-
	Diff. Pressure (Pa)	-	-	8	18	29	65	116	-	-
	Throw Disc. @ 0.5m/s (m)	-	-	6	6.9	7.6	9.2	10.6	-	-
	Noise Rating (NR)	-	-	<10	11	15	32	45	-	-
1500 x 150	Face Velocity (m/s)	-	-	-	-	1.1	1.6	2.2	3.3	4.4
	Diff. Pressure (Pa)	-	-	-	-	3	16	29	67	119
	Throw Disc. @ 0.5m/s (m)	-	-	-	-	7.8	9.4	10.8	13	15.2
	Noise Rating (NR)	-	-	-	-	<10	14	22	40	53

PERFORMANCE DATA: DL 10" HEIGHT (250MM)

Size	Unit Air Volume (CFM)	800	1000	1500	2000	3000	4000	5000	6000	8000
500 x 250	Face Velocity (m/s)	1.6	2.0	3.0	4.1	-	-	-	-	-
	Diff. Pressure (Pa)	12	17	38	67	-	-	-	-	-
	Throw Disc. @ 0.5m/s (m)	6.7	7.5	9.5	11	-	-	-	-	-
	Noise Rating (NR)	13	16	32	45	-	-	-	-	-
1000 x 250	Face Velocity (m/s)	-	1.2	1.8	2.4	3.7	5.0	-	-	-
	Diff. Pressure (Pa)	-	<10	12	30	66	90	-	-	-
	Throw Disc. @ 0.5m/s (m)	-	8.5	9.7	10.9	13.3	15.7	-	-	-
	Noise Rating (NR)	-	<10	16	24	40	56	-	-	-
1250 x 250	Face Velocity (m/s)	-	-	-	1.6	2.5	3.3	4.2	5.0	-
	Diff. Pressure (Pa)	-	-	-	12	26	46	71	103	-
	Throw Disc. @ 0.5m/s (m)	-	-	-	10.9	13.5	15	16.7	18.3	-
	Noise Rating (NR)	-	-	-	14	28	40	51	59	-
1750 x 250	Face Velocity (m/s)	-	-	-	-	1.8	2.3	3.0	3.6	4.8
	Diff. Pressure (Pa)	-	-	-	-	14	23	38	52	94
	Throw Disc. @ 0.5m/s (m)	-	-	-	-	13.1	15	17	18.5	21.5
	Noise Rating (NR)	-	-	-	-	17	28	38	45	58

TECHNICAL PERFORMANCE DATA

PERFORMANCE DATA: DL 12" HEIGHT (300MM)

Size	Unit Air Volume (CFM)	1000	1500	2000	3000	4000	5000	6000	8000	10000
500 x 300	Face Velocity (m/s)	1.7	2.5	3.4	5.2	-	-	-	-	-
	Diff. Pressure (Pa)	11	26	45	100	-	-	-	-	-
	Throw Disc. @ 0.5m/s (m)	7.6	9.5	10.7	13.1	-	-	-	-	-
	Noise Rating (NR)	13	25	38	57	-	-	-	-	-
1000 x 300	Face Velocity (m/s)	-	1.2	1.7	2.6	3.5	4.4	-	-	-
	Diff. Pressure (Pa)	-	6	11	27	46	72	-	-	-
	Throw Disc. @ 0.5m/s (m)	-	9.3	10.6	13.2	15.3	17.1	-	-	-
	Noise Rating (NR)	-	<10	15	29	42	52	-	-	-
1250 x 300	Face Velocity (m/s)	-	-	1.4	2.2	3.0	3.8	4.6	-	-
	Diff. Pressure (Pa)	-	-	5	20	35	56	77	-	-
	Throw Disc. @ 0.5m/s (m)	-	-	11.7	13.3	15.3	17	18.7	-	-
	Noise Rating (NR)	-	-	11	23	35	45	55	-	-
1750 x 300	Face Velocity (m/s)	-	-	-	1.5	2.0	2.5	2.9	4.0	5.0
	Diff. Pressure (Pa)	-	-	-	8	15	24	47	61	95
	Throw Disc. @ 0.5m/s (m)	-	-	-	13.4	7.8	16.8	18.4	21.3	23.8
	Noise Rating (NR)	-	-	-	11	22	31	39	51	61

PERFORMANCE DATA: DL 15" HEIGHT (375MM)

Size	Unit Air Volume (CFM)	1000	1500	2000	3000	4000	6000	8000	10000	12000
375 x 375	Face Velocity (m/s)	1.8	2.7	4.3	5.5	-	-	-	-	-
	Diff. Pressure (Pa)	1.0	24	57	94	-	-	-	-	-
	Throw Disc. @ 0.5m/s (m)	7.5	9.3	11.2	12.9	-	-	-	-	-
	Noise Rating (NR)	14	27	48	60	-	-	-	-	-
750 x 375	Face Velocity (m/s)	-	1.0	1.2	2.0	2.8	4.4	-	-	-
	Diff. Pressure (Pa)	-	<10	<10	<10	24	55	-	-	-
	Throw Disc. @ 0.5m/s (m)	-	10.1	11.1	12.9	14.7	18.3	-	-	-
	Noise Rating (NR)	-	18	22	30	38	54	-	-	-
1250 x 375	Face Velocity (m/s)	-	-	1.2	1.7	2.2	3.4	4.5	-	-
	Diff. Pressure (Pa)	-	-	<10	<10	16	37	37	-	-
	Throw Disc. @ 0.5m/s (m)	-	-	11.2	13.1	15.0	18.4	18.4	-	-
	Noise Rating (NR)	-	-	<10	15	26	42	55	-	-
1750 x 375	Face Velocity (m/s)	-	-	-	-	1.6	2.4	3.2	4.1	4.8
	Diff. Pressure (Pa)	-	-	-	-	<10	19	34	52	75
	Throw Disc. @ 0.5m/s (m)	-	-	-	-	15.3	18.5	21.5	23.8	26.0
	Noise Rating (NR)	-	-	-	-	14	30	42	52	60

- All data is based on tests conducted in accordance with ANSI/ASHARE Standard 70-2006
- Throw distance is based on isothermal air 0.5 m/s terminal velocity.
- Listed size is slightly less than the minimum allowed duct dimensions.
- Each NR value represents the noise rating that will not be exceeded by the sound pressure in any of the octave bands, 2nd through 7th. Each NR value is based on a room absorption of 10dB, re 10-12 watts.
- Throw distance is based on a 15° upward deflection. For 0° upward deflection multiply throw values shown by 1.2. For 30° upward deflection multiply throw values shown by 0.8.

Variable Air Volume Applications

Deflection	Throw Dis	Diff Pressure	NR
0°	1.2	0.8	-4
30°	0.8	1.43	+4

- All Prudent Aire supply grilles can be applied to variable air volume systems with excellent result. For detailed selection methods, consult your Prudent Aire representative.



DL | Drum Louvre Diffuser



Products Range

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- Diffusers  ◀
- Dampers 
- Fire & Smoke Protection 
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- Others 
- Accessories 



Prudent Aire Engineering Sdn Bhd 657301-P
 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