

4 Way Diffusers



SUPPLY AIR SQUARE CEILING DIFFUSER

Four Way Throw

CONSTRUCTION:

Frame and core: High quality extruded aluminium profile with 33 mm flange width.

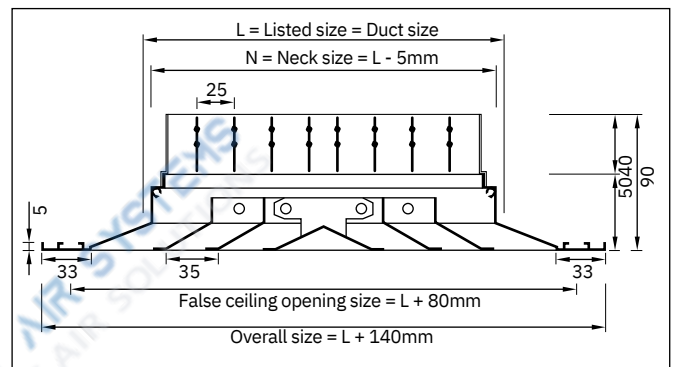
Damper frame and core: High quality extruded aluminium profile with natural aluminium finish. Black matt finish as option.

Optional diffuser frame: Stamped aluminium core.



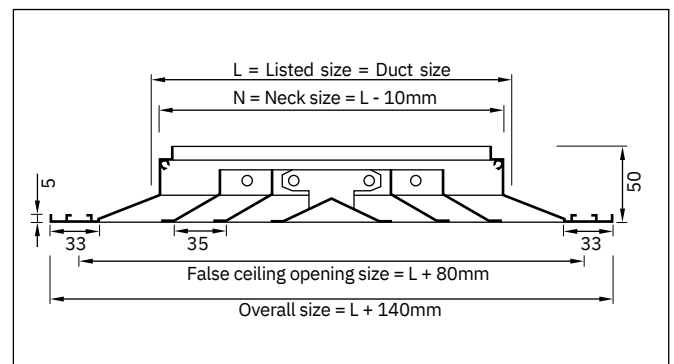
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- Diffusers shall be coned type with each cone manufactured by extruded aluminium louvered profiles or one piece die formed aluminium construction – arranged in concentric cones to deflect air equally in four directions.
- Louvered type core is fixed to the frame with aluminium pins loaded with steel springs. Core can be easily removable and interchangeable to allow for maximum flexibility in installation, maintenance and damper adjustment.
- Damper is fixed rigidly to the frame by aluminium rivets. Fixing by spring clips as option.
- Damper blades are separated from its frame by nylon bushes
- Opposed blade damper is screw operated from the face opening of the diffuser after removing the internal core. Lever operated damper as option.
- Discharge air equally in four horizontal directions.
- Foam gasket is sealed around the back of the frame as option to avoid air leakage.
- Available in rectangular sizes as option. Suitable for flush mounting in lay in type ceiling.



Model ACD4:

Same as ACD4+D, but without opposed blade damper and foam gasket. Suitable for return air applications.



SUPPLY AIR SQUARE

CEILING DIFFUSER

Four Way Throw

Table 6.4 Air flow data

Neck size in mm x mm Area factor in m2	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150 0.0093	Cfm	47	72	95	119	144	167
	M 3 / sec.	0.0 2 3	0.0 3 4	0.0 4 5	0.0 5 6	0.0 6 8	0.079
	- P	0.51	0.76 1.8-	1.52	2.5 4	3.5 6 3.1-	4.57
	s in mm H ₂ O	1.2-1.8-2.4	2.4-3.1	2.4 - 3.1- 3	2.7- 3.4 - 4	3.7-4.6 34	3.4 - 4.3 -
	Throw in m	<15	16	.7 21	27	322	4.9 39
225 x 225 0.0169	NC						
	Cfm	108	161	214	269	0.152	375
	M 3 / sec.	0.0 51	0.076	0.101	0.127	4.3 2 4-	0.177
	- P	0.51	1.0 0 1.8-	2.0 3	3.0 5	5.5-7.3	5.8 4 5.5-
	s in mm H ₂ O	1.2-1.8-2.4	2.4-3.4	2.4 - 3.1- 4.	3.1-4.3-5.5	36	6.7-9.1 41
300 x 300 0.028	Throw in m	<15	17	3 24	30	572	667
	NC	191	286	381	476	0.27	0.315
	Cfm	0.0 9	0.135	0.18	0.2 25	5.3 3	7.37
	M 3 / sec.	0.51	1.27 3.1-	2.2 9	3.81	4.9 - 5.8 -	5.5 - 6.7-
	- P	2.1-3.1-4.9	4.3-6.1	4.0 - 4.9	4.6 - 5.8 -7.9	9.1 38	9.8 43
375 x 375 0.043	s in mm H ₂ O	<15	17	-7.3 26	33	893	1042
	Throw in m	299	447	595	745	0.422	0.4 9 2
	NC	0.141	0.211	0.2 81	0.3 52	5.8 4 6.1-	8.13 6.7-
	Cfm	0.76	1.52	2.5 4	4.0 6	7.6-11.3	8.2-12.2 44
	M 3 / sec.	2.4-3.7-5.5	4.0 - 5.5	5. 2- 6.1-	5.8-7-10.1	40	15 01
450 x 450 0.065	- P	<15	-7.6 18	8.8 28	35	1287	0.709
	s in mm H ₂ O	585	875	1165	1461	0.8 3	11.6-16.8
	Throw in m	0.276	0.413	0.5 5	0.6 9	6.8 6 8.5-	45
	NC	0.76	1.78 5.2-	3.0 5 7.0-	4.8 3	11-15.9	2668
	Cfm	3.7-5.2-8.5	7.6-11 23	8.5-12.5	7.9-9.8-14	42	1.26
525 x 525 0.093	M 3 / sec.	15	114 3	32	37	2 2 87	8.3 9
	- P	762	0.5 4	1524	19 0 6	1.08	10 -13 .4
	s in mm H ₂ O	0.3 6	1.78 5.8-	0.72	0.9	6.8 6 9.4-	-19.5 45
	Throw in m	0.76	8-12.2 26	3.0 5 7.6-	4.8 3	12.5-18	
	NC	4-5.8-10.4		10-14.3	8.5-11.3-16.1	42	
600 x 600 0.13	Cfm	16		33	38		
	M 3 / sec.						
	- P						

- Neck velocity is measured in m/sec.
- Ps: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for terminal velocities of 0.75, 0.5 & 0.25 m/sec.
- Noise criteria (NC) based on a room attenuation of 10 dB.



RETURN AIR SQUARE

CEILING DIFFUSER

Four Way

Table 6.8 Air flow data

Neck size in mm x mm Neck Area in m ²	Neck vel in m/sec	1.0	1.25	1.5	1.75	2.0	2.5	3.0	3.5	4.0
150 x 0.023	CFM	49	61	74	85	97	123	146	171	195
	M 3 / sec.	0.0 2 3	0.0 2 9	0.0 3 5	0.0 4	0.0 4 6	0.0 5 8	0.0 6 9	0.0 8 1	0.0
	- P	0.6 4	1.02	1.4 5	1.98	2.51	4.01	5.72	7.9	92
	s in m m H 2 O	<15	<15	<15	<15	19	25	30	34	10.16
225 x 0.051	NC	108	135	163	188	216	271	324	379	40
	CFM	108	135	163	188	216	271	324	379	40
	M 3 / sec.	0.0 5 1	0.0 6 4	0.0 7 7	0.0 8 9	0.102	0.128	0.153	0.179	432
	- P	0.6 9	1.12	1.65	2.16	2.87	4.4 4	6.3 5	8.8 9	0.204
300 x 0.09	s in m m H 2 O	<15	<15	<15	16	21	28	34	40	
	NC	193	239	286	335	381	476	572	667	11.43
	CFM	193	239	286	335	381	476	572	667	11.43
	M 3 / sec.	0.0 9	0.113	0.135	0.158	0.18	0.2 2 5	0.27	0.315	45
375 x 0.141	- P	0.79	1.24	1.78	2.41	3.15	4.9 5	7.11	9.6 5	762
	s in m m H 2 O	<15	<15	16	21	25	32	38	43	0.3 6
	NC	298	372	449	521	597	747	896	10 4 6	12.7
	CFM	298	372	449	521	597	747	896	10 4 6	12.7
450 x 0.203	M 3 / sec.	0.141	0.176	0.212	0.24 6	0.2 8 2	0.353	0.423	0.4 9 4	48
	- P	0.8 9	1.39	2.0 3	2.74	3.5 8	5.5 9	8.13	10.9	1194
	s in m m H 2 O	<15	<15	19	25	32	38	43	47	0.564
	NC	430	538	646	752	860	1076	1289	15 0 5	
525 x 0.276	CFM	430	538	646	752	860	1076	1289	15 0 5	
	M 3 / sec.	0.203	0.25 4	0.3 0 5	0.355	0.4 0 6	0.508	0.6 0 9	0.711	14.22
	- P	0.97	1.49	2.18	2.97	3.91	6.0 9	8.6 4	11.94	51
	s in m m H 2 O	<15	17	24	31	36	40	45	48	171 9
600 x 0.36	NC	584	730	877	10 2 3	1168	1461	1753	2045	
	CFM	584	730	877	10 2 3	1168	1461	1753	2045	
	M 3 / sec.	0.276	0.345	0.414	0.4 8 3	0.5 5 2	0.6 9	0.828	0.9 6 6	0.812
	- P	1.04	1.63	2.3 6	3.2	4.19	6.6	9.3 9	12.7	
600 x 0.36	s in m m H 2 O	18	25	30	36	40	44	47	51	15.49
	NC	762	953	114 3	13 3 4	1524	19 0 5	2 2 8 7	2668	52
	CFM	762	953	114 3	13 3 4	1524	19 0 5	2 2 8 7	2668	52
	M 3 / sec.	0.3 6	0.4 5	0.5 4	0.6 3	0.72	0.9	1.08	1.26	2 3
600 x 0.36	- P	1.14	1.78	2.5 4	3.51	4.5 2	7.11	10.16	13.9	37
	s in m m H 2 O	23	30	36	40	42	46	49	54	1.104

- Neck velocity ^{NC} is measured in m/sec. 16.76
- Ps: Static pressure loss in mm of H2O. 55
- Noise criteria (NC) based on a room attenuation of 10 dB. 3049
- 1.4 4
- 18.29
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