

1 Way Diffusers



SUPPLY AIR SQUARE

CEILING DIFFUSER

One Way Throw

CONSTRUCTION:

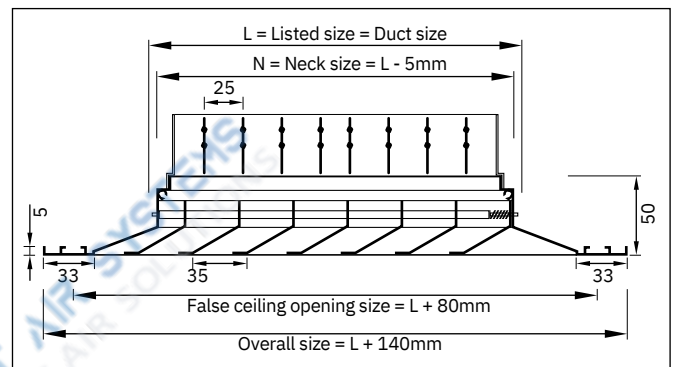
Frame and core: High quality extruded aluminium profile with 33 mm flange width.

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



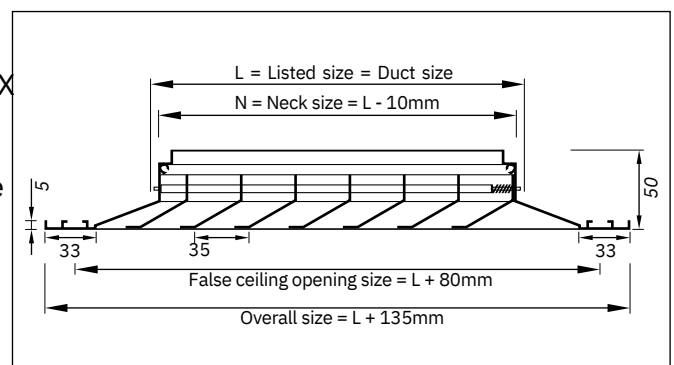
Description:

- The frame and blades are of high quality extruded aluminium profiled construction with the advantages of corrosion resistance and rigidity.
- 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.
- Discharges air horizontally in one way, either X or Y directions as per pattern arrangement.
- 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 ACD1:

Same as ACD1+D, but without opposed blade damper and foam gasket. Suitable for return air applications.



SUPPLY AIR SQUARE

CEILING DIFFUSER

One Way Throw

Table 6.1 Air flow data

Neck size in mm x mm Area factor In m ²	Neck vel in m/sec	1.0	1.5	2.0	2.5	3.0	3.5
150 x 150	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	0.6 9 1.3-	1.05	2.11	3.5 4	4.9 8	6.4 4
	s in m m H ₂ O	2-2.7 <15	2-2.8 - 3.6	2.8 - 3.7-	3.3 - 4.2- 4.9	4 - 4.7- 5.9	4.4 - 5.5 - 6. 2
	Throw in m	108	16	4.4 21	27	34	39
225 x 225	NC	108	16	4.4 21	27	34	39
	Cfm	0.0 51	161	214	269	322	375
	M 3 / sec.	0.69 1.3-2-	0.076	0.101	0.127	0.152	0.177
	P	2.7 <15	1.37	2.8	4.2 6	6.0 5	8.2 3
	s in m m H ₂ O	191	2.0 -2.8 -	2.9 - 3.7- 5.	3.8 - 5.3 - 6.8	5.1-7-9.3	7-8.6-11.6
300 x 300	Throw in m	0.0 9	3.9 17	2 24	30	36	41
	NC	0.6 9	286	381	476	572	667
	Cfm	2.4 - 3.5 -	0.135	0.18	0.2 25	0.27	0.31
	M 3 / sec.	5.5 <15	1.75	3.17	5.31	7.46	10.4
	P	299	3.6 - 5.0	4.8 - 5.9 -	5.7-7.2-9.8	6.3-7.4-11	7-8.6-12.5
375 x 375	s in m m H ₂ O	0.141	-7.1 17	8.8 26	33	38	43
	Throw in m	1.03 2.7-	447	595	745	893	1042
	NC	4.1-6.2	0.211	0.2 81	0.3 52	0.422	0.4 9 2
	Cfm	<15	2.0 9	3.52 6.2-	5.6 6	8.18	11.46
	M 3 / sec.	430	4.6 - 6.4 -	7.3-10.6	7.2-8.7-12.5	7.8-9-7-14.5	8.6-10.5-15.6
450 x 450	P	0.203	8.8 18	28	35	40	44
	s in m m H ₂ O	1.03	644	858	1071	1287	15 01
	Throw in m	3.5 - 5.2-	0.304	0.4 0 5	0.506	0.6 0 8	0.709
	NC	8.5 <15	2.0 9 5.3-	3.8 6 7.9-	6.3 8	9.24	11.46
	Cfm	585	7.4-10.6	9.1-12.8	8.3-10.5-5-15	9.7-11.8-17	10.5 -13 -18
525 x 525	M 3 / sec.	0.276	20	30	36	41	44
	P	1.03 4.1-	875	1165	1461	1757	2033
	s in m m H ₂ O	5.8-9.5 15	0.413	0.5 5	0.6 9	0.8 3	0.9 6
	Throw in m	762	2.4 5 6-	4.2 2 8.4-	6.74	9.6	11.83
	NC	0.3 6	8.8-12.6	10.2-15	9.8-12-17.4	10.9-14-20	12-14.8-21.5
600 x 600	Cfm	1.03 4.5-	23	32	37	42	45
	M 3 / sec.	6.5-11.6	114 3	1524	19 0 6	2 2 87	2668
	P	16	0.5 4	0.72	0.9	1.08	1.26
	s in m m H ₂ O		2.4 5 6.7-	4.2 2 9.1-	6.74	9.6	11.83
	Throw in m		9.1-14 26	12-17.1	10.5-14-20	12-16-23	12.8-17.2-24
0.139	NC			33	38	42	45
	Cfm						
	M 3 / sec.						
0.0098	P						
	s in m m H ₂ O						
	Throw in m						

- Neck velocity is measured in m/sec.
- Ps: Static pressure loss across the diffuser in mm of H₂O.
- Throw (meters) is measured for a 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

One Way

Table 6.5 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	CFM	49	61	74	85	97	123	146	171	195
	M ³ / sec.	0.023	0.029	0.035	0.04	0.046	0.058	0.069	0.08	0.09
150	- P	0.65	1.04	1.51	2.06	2.66	4.25	6.12	81	92
	s in mm H ₂ O	<15	<15	<15	<15	19	25	30	8.54	11.18
0.023 x	NC	108	135	163	188	216	271	324	34	40
	CFM	0.051	0.064	0.077	0.089	0.102	0.128	0.153	379	432
225	M ³ / sec.	0.70	1.14	1.72	2.25	3.04	4.71	6.79	0.179	0.204
	- P	<15	<15	<15	16	21	28	34	9.6	
0.051 x	NC	193	239	286	335	381	476	572	5.40	12.57
	CFM	0.09	0.113	0.135	0.158	0.18	0.225	0.27	667	45
300 x	M ³ / sec.	0.81	1.26	1.85	2.51	3.34	5.25	7.61	0.315	762
	- P	<15	<15	16	21	25	32	38		0.36
300 0.09	s in mm H ₂ O	<15	<15	16	21	25	32	38		0.36
	NC	298	372	449	521	597	747	896	10.47	13.97
375 x	CFM	0.141	0.176	0.212	0.246	0.282	0.353	0.423	43	48
	M ³ / sec.	0.91	1.42	2.11	2.85	3.79	5.93	8.7	10.4	1194
375	- P	<15	<15	19	25	32	38	43	6.04	0.564
	s in mm H ₂ O	<15	<15	19	25	32	38	43	6.04	0.564
0.141 x	NC	430	538	646	752	860	1076	1289	9.4	
	CFM	0.203	0.254	0.305	0.355	0.406	0.508	0.609	11.85	15.64
450 x	M ³ / sec.	0.99	1.52	2.27	3.09	4.14	6.46	9.24	47	51
	- P	<15	17	24	31	36	40	45	15.0	171.9
0.203 x	s in mm H ₂ O	<15	17	24	31	36	40	45	15.0	171.9
	NC	584	730	877	1023	1168	1461	1753	5	
525 x	CFM	0.276	0.345	0.414	0.483	0.552	0.69	0.828	0.711	0.812
	M ³ / sec.	1.06	1.66	2.45	3.33	4.44	6.99	10.05		
525	- P	18	25	30	36	40	44	47	12.95	17.04
	s in mm H ₂ O	18	25	30	36	40	44	47	12.95	17.04
0.276 x	NC	762	953	1143	1334	1524	1905	2287	48	52
	CFM	0.36	0.45	0.54	0.63	0.72	0.9	1.08	2045	23
600 x	M ³ / sec.	1.16	1.82	2.64	3.65	4.79	7.54	10.87	0.96	37
	- P	23	30	36	40	42	46	49	6	1.104
600 0.36	s in mm H ₂ O	23	30	36	40	42	46	49	6	1.104
	NC									

• Neck velocity is measured in m/sec.

• Ps: Static pressure loss in mm of H₂O.

• Noise criteria (NC) based on a room attenuation of 10 dB.

13.78
51 18.44
2668 55
1.26 3049
15.16 1.44
54 20.12
58

