

3 Way Diffusers



SUPPLY AIR SQUARE CEILING DIFFUSER

Three Way Throw

CONSTRUCTION:

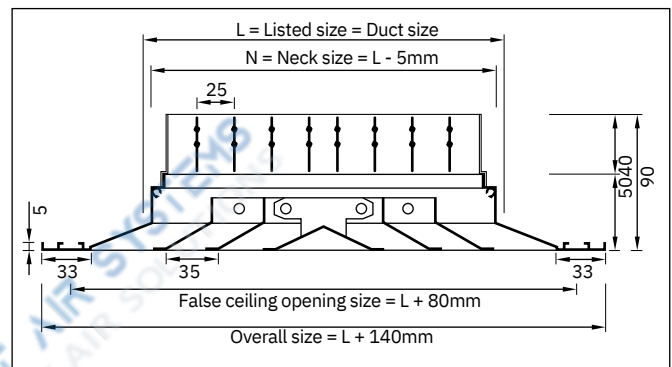
Frame and core: High quality extruded aluminium profile with 33 mm flange width.

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



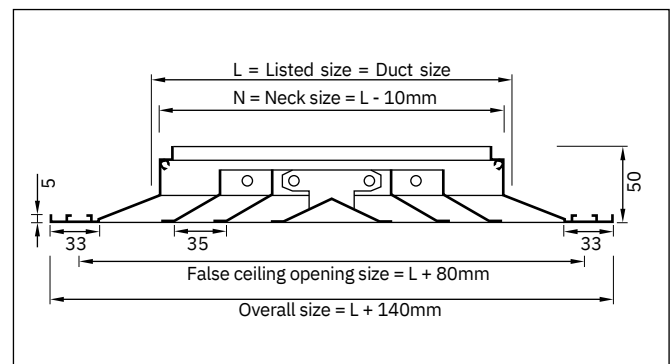
Description:

- 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.
- Frame with multicore assembly, discharges air horizontally in three 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 ACD3:

Same as ACD3+D, but without opposed blade damper and foam gasket. Suitable for return air applications.



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Three Way Throw

Table 6.3 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 0.0095	Total CFM	47	72	95	119	144	167
	Total M3/ Sec	0.0 2 3	0.0 3 4	0.0 4 5	0.0 5 6	0.0 6 8	0.079
	M 3 / Sec each side of X	0.0 0 8	0.013	0.017	0.0 21	0.0 2 5	0.0 3
	M3 / Sec in Y side	0.0 07	0.0 0 8	0.011	0.014	0.018	0.019
	P s in m m of H 2 O	0.56	0.8 5	1.72	2. 87	4.0 6	5. 2 9
	Throw in each side of X- (M)	1.2-1.8-2.4	1.8-2.4-3.1	2.4-3.1-3.7	2.7-3.4-4	3.1-3.7-4.6	3.4 - 4.3 -
	Throw in Y side - (M)	1.2-1.8-	1.8-2.6-	2.6 - 3.4 -	3.0 - 3.7-	3.5 - 4.1-	4.9
	N C	2.5 <15	3.4 16	4.0 21	4.4 27	5.0 34	3.7-4.7-
225 x 225 0.0172	Total CFM	108	161	214	269	322	5.4 39
	Total M3/ Sec	0.0 51	0.076	0.101	0.127	0.152	375
	M 3 / Sec each side of X	0.019	0.0 2 8	0.0 3 8	0.0 4 8	0.0 57	0.177
	M3 / Sec in Y side	0.013	0.0 2 0	0.0 2 5	0.0 31	0.0 3 8	0.0 6 6
	P s in m m of H 2 O	0.5 6 1.2-	1.12 1.8-	2.2 9 2.4-	3.4 5 3.1-	4. 9 2	6.72
	Throw in each side of X- (M)	1.8-2.4	2.4-3.4	3.1-4.3 2.6	4.3-5.5 3.4	4.0 - 5.5	5.8 4 5.5-
	Throw in Y side - (M)	1.2-1.8-	1.8-2.6-	- 3.4 - 4.7	- 4.8 - 6.1	-7.3 4.4 -	6.7-9.1
	N C	2.5 <15	3.7 17	24	30	6.1- 8. 2	6.1-7.5-
300 x 300 0.028	Total CFM	191	286	381	476	572	10.1 41
	Total M3/Sec	0.0 9	0.135	0.18	0. 2 25	0.27	667
	M 3 / Sec each side of X	0.0 3 3	0.0 51	0.0 6 8	0.0 8 4	0.101	0.315
	M3 / Sec in Y side	0.0 24	0.0 3 3	0.0 4 4	0.0 57	0.101	0.118
	P s in m m of H 2 O	0.5 6 2.1-	1.4 5 3.1-	2.5 9	4. 3 6	0.0 6 8	0.079
	Throw in each side of X- (M)	3.1-4.9	4.3-6.1 3.4	4.0 - 4.9	4.6 - 5.8	6.0 8	8.4 8 5.5-
	Throw in Y side - (M)	2.1-3.3-	- 4.6 - 6.5	-7.3 4.3 -	-7.9 5.1-	4.9 - 5.8 -	6.7-9.8
	N C	5.2 <15	17	5.4 - 8.0	6.3-8.5 33	9.1 5.4 - 6.6	6.2-7.7-
375 x 375 0.044	Total CFM	299	447	595	745	893	10.6 43
	Total M3/Sec	0.141	0.211	0.281	0.352	0.422	1042
	M 3 / Sec each side of X	0.0 5 3	0.079	0.105	0.132	0.158	0.4 9 2
	M3 / Sec in Y side	0.0 3 5	0.0 5 3	0.105	0.0 8 8	0.158	0.185
	P s in m m of H 2 O	0.8 4 2.4-	1.70	0.071	4. 5 9 5.8-	0.106	0.12 2
	Throw in each side of X- (M)	3.7-5.5 2.5	4.0 - 5.5	2.87 5.2-	7.0-10.1	6.6 6 6.1-	9.3 5 6.7-
	Throw in Y side - (M)	- 3.9 - 5.8	-7.6 4.3 -	6.1-8.8 5.6	6.4-7.6-	7.6-11.3	8.2-12.2
	N C	<15	5.9 - 8.2	- 6.7- 9.4	10.9 35	6.7-8.3-	7.4-9.1-
			18	28		12.5 40	13.4 44



SUPPLY AIR SQUARE

CEILING DIFFUSER

Three Way Throw

Table 6.3 (cont.) 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
450 x 450 0.067	Total CFM	430	644	858	1071	1287	15 01
	Total M3/ Sec	0.203	0.304	0.4 0 5	0.506	0.6 0 8	0.709
	M 3 / Sec each side of X	0.076	0.114	0.151	0.19	0.228	0. 2 6 7
	M3 / Sec in Y side	0.0 51	0.076	0.103	0.12 6	0.152	0.175
	P s in m m of H 2 O	0.8 4 3.1-	1.70	3.16	5.16 6.7-	7.52	10.51
	Throw in each side of X- (M)	4.6-7.6	4.6 - 0 6.4 -	6.6-7.6-10.7	8.5-12.2	7.6-9.2-13.4	8.2-10.1-14
	Throw in Y side - (M)	3. 2- 4.9 -	9.1 4.9 - 6.8	7.2-8.7-12.5	7.2-9.2-	8.3-10.2-15.4	9.1-11.3-15.6
	N C	8.1 <15	- 9.5 20	30	13.4 36	41	44
525 x 525 0.095	Total CFM	585	875	1165	1461	1757	2033
	Total M3/ Sec	0. 276	0.413	0. 5 5	0.6 9	0.8 3	0.9 6
	M 3 / Sec each side of X	0.103	0.155	0.206	0. 25 9	0.311	0. 3 6
	M3 / Sec in Y side	0.07	0.103	0.13 8	0.172	0.208	0.24
	P s in m m of H 2 O	0.8 4 3.7-	1.99 5.2-	3.5	5.4 6 7.9-	7.82	9.6 5
	Throw in each side of X- (M)	5.2-8.5 3.9	7.6-11 5.6-	7.0-8.5-12.5	9.8-14 8.5-	8.5-11-15.9	9.5-11.6-16.8
	Throw in Y side - (M)	- 5.6 - 9.2	8.2-11.9	7.6-9.3-13.7	10.4-5.4 37	9.4 -12. 5 -17.7	10.6-13.1-17.8
	N C	15	23	32	19 0 6	42	45
600 x 600 0.133	Total CFM	762	114 3	1524	0.9	2 2 87	2668
	Total M3/ Sec	0. 3 6	0. 5 4	0.72	0.338	1.08	1.26
	M 3 / Sec each side of X	0.135	0.202	0. 27	0. 2 24	0.4 0 5	0.472
	M3 / Sec in Y side	0.09	0.13 6	0.18	5.4 6	0. 270	0. 316
	P s in m m of H 2 O	0.8 4	1.99 5.8-8-	3.5	8 . 5 -11. 3	7.82	9.6 5
	Throw in each side of X- (M)	4 - 5. 8	12.2 6.2-	7.6-10-14.3	-16 .1 9.3-	9.4 -12. 5 -18	10 -13 .4 -19. 5
	Throw in Y side - (M)	-10.4 4.2-	8.3-13.1	8.4-10.9-15.4	12.1-17.6	10.2-14.0-20	11.2-15.0-21.6
	N C	6.2-10.7	26	33	38	42	45

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- 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 Three Way

Table 6.7 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.	0.023	0.029	0.035	0.04	0.046	0.058	0.069	0.0	0.0
	- P	0.7	1.12	1.48	2.02	2.59	4.14	5.96	81	92
	s in mm H ₂ O NC	<15	<15	<15	<15	19	25	30	8.2	10.67
225 x 0.051	CFM	108	135	163	188	216	271	324	34	40
	M ³ / sec.	0.051	0.064	0.077	0.089	0.102	0.128	0.156	379	432
	- P	0.76	1.23	1.68	2.20	2.96	4.58	6.62	0.179	0.204
	s in mm H ₂ O NC	<15	<15	<15	16	21	28	34	9.	
300 x 0.09	CFM	193	239	286	335	381	476	572	27	12.00
	M ³ / sec.	0.09	0.113	0.135	0.158	0.18	0.225	0.27	40	45
	- P	0.87	1.36	1.82	2.46	3.25	5.11	7.41	667	762
	s in mm H ₂ O NC	<15	<15	16	21	25	32	38	0.315	0.36
375 x 0.141	CFM	298	372	449	521	597	747	896		13.34
	M ³ / sec.	0.141	0.176	0.212	0.246	0.282	0.353	0.423	10.06	48
	- P	0.98	1.53	2.07	2.79	3.69	5.77	8.48	43	1194
	s in mm H ₂ O NC	<15	<15	19	25	32	38	43	10.4	0.564
450 x 0.203	CFM	430	538	646	752	860	1076	1289	6.04	
	M ³ / sec.	0.203	0.254	0.305	0.355	0.406	0.508	0.609	9.4	14.93
	- P	1.07	1.63	2.22	3.03	4.04	6.29	9.01	11.38	51
	s in mm H ₂ O NC	<15	17	24	31	36	40	45	47	171.9
525 x 0.276	CFM	584	730	877	1023	1168	1461	1753	150	
	M ³ / sec.	0.276	0.345	0.414	0.483	0.552	0.69	0.828	5	0.812
	- P	1.14	1.79	2.41	3.26	4.33	6.81	9.79	0.711	
	s in mm H ₂ O NC	18	25	30	36	40	44	47		16.26
600 x 0.36	CFM	762	953	1143	1334	1524	1905	2287	12.45	52
	M ³ / sec.	0.36	0.45	0.54	0.63	0.72	0.9	1.08	48	23
	- P	1.25	1.97	2.59	3.58	4.67	7.34	10.59	2045	37
	s in mm H ₂ O NC	23	30	36	40	42	46	49	0.96	1.104

- Neck velocity is measured in m/sec. 13.24 17.59
- Ps: Static pressure loss in mm of H₂O. 51 55
- Noise criteria (NC) based on a room attenuation of 10 dB. 2668 3049
- 1.26 1.44
- 14.56 19.2
- 54 58

