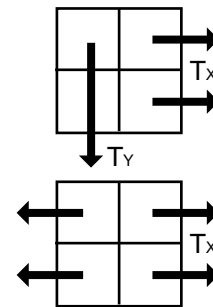


MCD Modular Ceiling Diffuser — Aluminum (Page 36, 37)

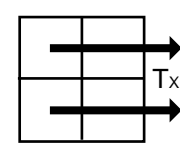
Two Way

Face Velocity		500	600	700	800	900	1000	1200	1400	1600	1800	2000
Pressure Loss		.020	.020	.030	.040	.050	.060	.090	.120	.160	.200	.250
6 x 6 Ak .090	CFM	45	55	65	70	80	90	110	125	145	160	180
	Throw X/Y	2-5/2-5	3-5/3-5	3-6/3-6	3-6/3-6	5-8/5-8	5-9/5-9	5-11/5-11	6-12/6-12	6-14/6-14	8-15/8-15	9-17/9-17
	NC	<20	<20	<20	<20	<20	<20	<20	21	24	28	34
8 x 8 Ak .150	CFM	80	95	110	130	145	160	190	225	255	290	320
	Throw X/Y	3-6/3-6	3-6/3-6	5-8/5-8	5-9/5-9	5-11/5-11	6-11/6-11	6-14/6-14	8-15/8-15	9-17/9-17	11-18/11-18	11-20/11-20
	NC	<20	<20	<20	<20	<20	<20	<20	22	26	29	35
10 x 10 Ak .250	CFM	130	155	180	210	235	260	310	365	415	470	520
	Throw X/Y	3-8/3-8	5-9/5-9	5-11/5-11	6-11/6-11	6-12/6-12	8-12/8-12	9-15/9-15	11-17/11-17	12-20/12-20	14-21/14-21	15-23/15-23
	NC	<20	<20	<20	<20	<20	<20	<20	23	27	33	36
12 x 12 Ak .370	CFM	190	230	265	305	340	380	455	530	610	685	760
	Throw X/Y	5-9/5-9	5-11/5-11	6-12/6-12	8-14/8-14	8-15/8-15	9-17/9-17	11-18/11-18	12-21/12-21	14-23/14-23	15-24/15-24	17-26/17-26
	NC	<20	<20	<20	<20	<20	<20	<20	24	28	35	37
14 x 14 Ak .520	CFM	260	310	365	415	470	520	625	730	830	935	1040
	Throw X/Y	5-11/5-11	6-12/6-12	8-14/8-14	8-17/8-17	9-18/9-18	11-20/11-20	12-21/12-21	14-23/14-23	17-24/17-24	18-27/18-27	20-29/20-29
	NC	<20	<20	<20	<20	<20	<20	<20	25	29	35	38
16 x 16 Ak .700	CFM	350	420	490	560	630	700	840	980	1120	1260	1400
	Throw X/Y	6-12/6-12	8-14/8-14	8-17/8-17	9-18/9-18	11-21/11-21	12-23/12-23	14-26/14-26	17-29/17-29	18-30/18-30	21-32/21-32	24-33/24-33
	NC	<20	<20	<20	<20	<20	<20	<20	26	30	36	39
18 x 18 Ak .900	CFM	450	540	630	720	810	900	1080	1260	1440	1620	1800
	Throw X/Y	6-14/6-14	8-17/8-17	9-18/9-18	11-21/11-21	12-23/12-23	14-24/14-24	17-27/17-27	18-30/18-30	21-33/21-33	24-35/24-35	27-36/27-36
	NC	<20	<20	<20	<20	<20	<20	<20	27	31	37	40
20 x 20 Ak 1.100	CFM	555	665	775	890	1000	1110	1330	1555	1775	2000	2220
	Throw X/Y	8-15/8-15	9-18/9-18	11-21/11-21	12-24/12-24	14-26/14-26	15-29/15-29	18-32/18-32	21-35/21-35	24-38/24-38	27-39/27-39	30-41/30-41
	NC	<20	<20	<20	<20	<20	<20	<20	28	32	39	42
22 x 22 Ak 1.330	CFM	665	800	930	1065	1195	1330	1595	1860	2130	2395	2660
	Throw X/Y	8-17/8-17	9-20/9-20	12-23/12-23	14-26/14-26	15-27/15-27	17-30/17-30	20-35/20-35	23-38/23-38	27-41/27-41	29-44/29-44	33-45/33-45
	NC	<20	<20	<20	<20	<20	<20	<20	28	32	40	46



One-Way

Face Velocity		500	600	700	800	900	1000	1200	1400	1600	1800	2000
Pressure Loss		.020	.020	.030	.040	.050	.060	.090	.120	.160	.200	.250
6 x 6 Ak .090	CFM	45	55	65	70	80	90	110	125	145	160	180
	Throw	2-6	4-6	4-8	4-8	6-10	6-12	6-14	8-16	8-18	10-20	12-22
	NC	<20	<20	<20	<20	<20	<20	<20	21	24	28	34
8 x 8 Ak .150	CFM	80	95	110	130	145	160	190	225	255	290	320
	Throw	4-8	4-8	6-10	6-12	6-14	8-14	8-18	10-20	12-22	14-24	14-26
	NC	<20	<20	<20	<20	<20	<20	<20	22	26	29	35
10 x 10 Ak .250	CFM	130	155	180	210	235	260	310	365	415	470	520
	Throw	4-10	6-12	6-14	8-14	8-16	10-16	12-20	14-22	16-26	18-28	20-30
	NC	<20	<20	<20	<20	<20	<20	<20	23	27	33	36
12 x 12 Ak .370	CFM	190	230	265	305	340	380	455	530	610	685	760
	Throw	6-12	6-14	8-16	10-18	10-20	12-20	12-22	14-24	16-28	18-30	20-30
	NC	<20	<20	<20	<20	<20	<20	<20	24	28	35	37
14 x 14 Ak .520	CFM	260	310	365	415	470	520	625	730	830	935	1040
	Throw	6-14	8-16	10-18	10-22	12-24	14-26	16-28	18-30	22-32	24-36	26-38
	NC	<20	<20	<20	<20	<20	<20	<20	25	29	35	38
16 x 16 Ak .700	CFM	350	420	490	560	630	700	840	980	1120	1260	1400
	Throw	8-16	10-18	10-22	12-24	14-28	16-30	18-34	22-38	24-40	28-42	32-44
	NC	<20	<20	<20	<20	<20	<20	<20	26	30	36	39
18 x 18 Ak .900	CFM	450	540	630	720	810	900	1080	1260	1440	1620	1800
	Throw	8-18	10-22	12-24	14-28	16-30	18-36	22-36	24-40	28-44	32-46	35-48
	NC	<20	<20	<20	<20	<20	<20	<20	27	31	37	40
20 x 20 Ak 1.100	CFM	555	665	775	890	1000	1110	1330	1555	1775	2000	2220
	Throw	10-20	12-24	14-28	16-32	18-34	20-38	24-42	28-46	32-50	36-52	40-54
	NC	<20	<20	<20	<20	<20	<20	<20	28	32	39	42
22 x 22 Ak 1.330	CFM	665	800	930	1065	1195	1330	1595	1860	2130	2395	2660
	Throw	10-22	12-26	16-30	18-34	20-36	22-40	26-46	30-50	36-54	38-58	44-60
	NC	<20	<20	<20	<20	<20	<20	<20	30	34	41	44

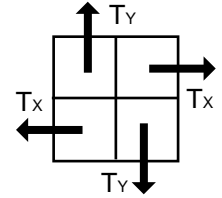


NOTES: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.
 NC re 10db room Attenuation (LW10⁻¹²W)

MCD Modular Ceiling Diffuser — Aluminum (Page 36, 37)

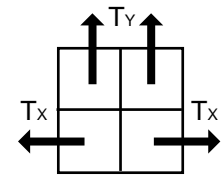
Four-Way

Face Velocity		500	600	700	800	900	1000	1200	1400	1600	1800	2000
Pressure Loss		.020	.020	.030	.040	.050	.060	.090	.120	.160	.200	.250
6 x 6 Ak .090	CFM Throw X/Y NC	45 1-3/1-3 <20	55 2-3/2-3 <20	65 2-4/2-4 <20	70 2-4/2-4 <20	80 3-5/3-5 <20	90 3-6/3-6 <20	110 3-7/3-7 21	125 4-8/4-8 24	145 4-9/4-9 28	160 5-10/5-10 31	180 6-11/6-11 34
8 x 8 Ak .150	CFM Throw X/Y NC	80 2-4/2-4 <20	95 2-4/2-4 <20	110 3-5/3-5 <20	130 3-6/3-6 <20	145 3-7/3-7 <20	160 4-7/4-7 <20	190 4-9/4-9 22	225 5-10/5-10 26	255 6-11/6-11 29	290 7-12/7-12 32	320 7-13/7-13 35
10 x 10 Ak .250	CFM Throw X/Y NC	130 2-5/2-5 <20	155 3-6/3-6 <20	180 3-7/3-7 <20	210 4-7/4-7 <20	235 4-8/4-8 <20	260 5-8/5-8 <20	310 6-10/6-10 23	365 7-11/7-11 27	415 8-13/8-13 30	470 9-14/9-14 33	520 10-15/10-15 36
12 x 12 Ak .370	CFM Throw X/Y NC	190 3-6/3-6 <20	230 3-7/3-7 <20	265 4-8/4-8 <20	305 5-9/5-9 <20	340 5-10/5-10 <20	380 6-11/6-11 <20	455 7-12/7-12 24	530 8-14/8-14 28	610 8-15/8-15 31	685 10-16/10-16 35	760 11-17/11-17 37
14 x 14 Ak .520	CFM Throw X/Y NC	260 3-7/3-7 <20	310 4-8/4-8 <20	365 5-9/5-9 <20	415 5-11/5-11 <20	470 6-12/6-12 <20	520 7-13/7-13 <20	625 8-14/8-14 25	730 9-15/9-15 29	830 11-16/11-16 32	935 12-18/12-18 35	1040 13-19/13-19 38
16 x 16 Ak .700	CFM Throw X/Y NC	350 4-8/4-8 <20	420 5-9/5-9 <20	490 5-11/5-11 <20	560 6-12/6-12 <20	630 7-14/7-14 <20	700 8-15/8-15 <20	840 9-17/9-17 26	980 11-19/11-19 30	1120 12-20/12-20 33	1260 14-21/14-21 36	1400 16-22/16-22 39
18 x 18 Ak .900	CFM Throw X/Y NC	450 4-9/4-9 <20	540 5-11/5-11 <20	630 6-12/6-12 <20	720 7-14/7-14 <20	810 8-15/8-15 <20	900 9-16/9-16 22	1080 11-18/11-18 27	1260 12-20/12-20 31	1440 14-22/14-22 34	1620 16-23/16-23 37	1800 18-24/18-24 40
20 x 20 Ak 1.100	CFM Throw X/Y NC	555 5-10/5-10 <20	665 6-12/6-12 <20	775 7-14/7-14 <20	890 8-16/8-16 <20	1000 9-17/9-17 21	1110 10-19/10-19 24	1330 12-21/12-21 28	1555 14-23/14-23 32	1775 16-25/16-25 36	2000 18-26/18-26 39	2220 20-27/20-27 42
22 x 22 Ak 1.330	CFM Throw X/Y NC	665 5-11/5-11 <20	800 6-13/6-13 <20	930 8-15/8-15 <20	1065 9-17/9-17 20	1195 10-18/10-18 23	1330 11-20/11-20 26	1595 13-23/13-23 30	1860 15-25/15-25 34	2130 18-27/18-27 38	2395 19-29/19-29 41	2660 22-30/22-30 44



Three-Way

Face Velocity		500	600	700	800	900	1000	1200	1400	1600	1800	2000
Pressure Loss		.020	.020	.030	.040	.050	.060	.090	.120	.160	.200	.250
6 x 6 Ak .090	CFM Throw NC	45 1-3/2-5 <20	55 2-3/3-5 <20	65 2-4/3-6 <20	70 2-4/3-6 <20	80 3-5/5-8 <20	90 3-6/5-9 <20	110 3-7/5-11 21	125 4-8/6-12 24	145 4-9/6-14 28	160 5-10/8-15 31	180 6-11/9-17 34
8 x 8 Ak .150	CFM Throw NC	80 2-4/3-6 <20	95 2-4/3-6 <20	110 3-5/5-8 <20	130 3-6/5-9 <20	145 3-7/5-11 <20	160 4-7/6-11 <20	190 4-9/6-14 22	225 5-10/8-15 26	255 6-11/9-17 29	290 7-12/11-18 32	320 7-13/11-20 35
10 x 10 Ak .250	CFM Throw NC	130 2-5/3-8 <20	155 3-6/5-9 <20	180 3-7/5-11 <20	210 4-7/6-11 <20	235 4-8/6-12 <20	260 5-8/8-12 <20	310 6-10/9-15 23	365 7-11/11-17 27	415 8-13/12-20 30	470 9-14/14-21 33	520 10-15/15-23 36
12 x 12 Ak .370	CFM Throw NC	190 3-6/5-9 <20	230 3-7/5-11 <20	265 4-8/6-12 <20	305 5-9/8-14 <20	340 5-10/8-15 <20	380 6-11/9-17 20	455 7-12/11-18 24	530 8-14/12-21 28	610 9-15/14-23 31	685 10-16/15-24 35	760 11-17/17-26 37
14 x 14 Ak .520	CFM Throw NC	260 3-7/5-11 <20	310 4-8/6-12 <20	365 5-9/8-14 <20	415 5-11/8-17 <20	470 6-12/9-18 <20	520 7-13/11-20 20	625 8-14/12-21 25	730 9-15/14-23 29	830 11-16/17-24 32	935 12-18/18-27 35	1040 13-19/20-29 38
16 x 16 Ak .700	CFM Throw NC	350 4-8/6-12 <20	420 5-9/8-14 <20	490 5-11/8-17 <20	560 6-12/9-18 <20	630 7-14/11-21 <20	700 8-15/12-23 21	840 9-17/14-26 26	980 11-19/17-29 30	1120 12-20/18-30 33	1260 14-21/21-32 36	1400 16-22/24-33 39
18 x 18 Ak .900	CFM Throw NC	450 4-9/6-14 <20	540 5-11/8-17 <20	630 6-12/9-18 <20	720 7-14/11-21 <20	810 8-15/12-23 20	900 9-16/14-24 22	1080 11-18/17-27 27	1260 12-20/18-30 31	1440 14-22/21-33 34	1620 16-23/24-35 37	1800 18-24/27-36 40
20 x 20 Ak 1.100	CFM Throw NC	555 5-10/8-15 <20	665 6-12/9-18 <20	775 7-14/11-21 <20	890 8-16/12-24 <20	1000 9-17/14-26 21	1110 10-19/15-29 24	1330 12-21/18-32 28	1555 14-23/21-35 32	1775 16-25/24-38 36	2000 18-26/27-39 39	2220 20-27/30-41 42
22 x 22 Ak 1.330	CFM Throw NC	665 5-11/8-17 <20	800 6-11/3/9-20 <20	930 8-15/12-23 <20	1065 9-17/14-26 20	1195 10-18/15-27 23	1330 11-20/17-30 26	1595 13-23/20-35 30	1860 15-25/23-38 34	2130 18-27/27-41 38	2395 19-29/29-44 41	2660 22-30/33-45 44



NOTES: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.
NC re 10db room Attenuation (LW10⁻¹²W)

ECBXT (Page 70)

Neck Velocity		400	500	600	700	800	900	1000	1200	1400	1600	1800	2000
22 x 22 Ak 1.343	CFM Pt	537 .028	537 .042	672 .059	806 .077	940 .098	1074 .121	1209 .146	1343 .203	1612 .267	1880 .339	2149 .419	2417 .505

- NOTES:
1. ECBXT diffuser boxes Tested with all valves fully open.
 2. Pt = Total Pressure is the sum of static pressure and velocity pressure.
 3. Ak is the effective area of the diffuser face.
 4. Tests conducted in accordance with ASHRAE 70-1991.