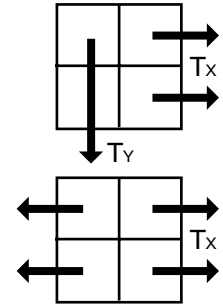


## MCD Modular Ceiling Diffuser — Aluminum (Page 36, 37)

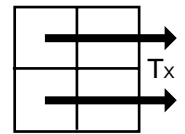
### Two Way

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	21	24	28	31	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	22	26	29	32	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	23	27	30	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	24	28	31	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	25	29	32	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	21	26	30	33	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	22	27	31	34	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	24	28	32	36	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	22	25	28	32	36	40	43



### 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	21	24	28	31	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	22	26	29	32	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	23	27	30	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	24	28	31	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	25	29	32	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	21	26	30	33	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	22	27	31	34	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	21	24	28	32	36	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	23	26	30	34	38	41	44

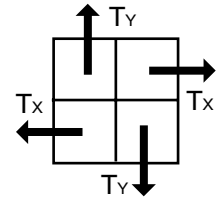


NOTES: The minimum Throw Dimension is based on a terminal velocity of 250 FPM. The maximum Throw Dimension is based on a terminal velocity of 125 FPM.  
NC re 10db room Attenuation (LW10<sup>-1</sup>W)

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

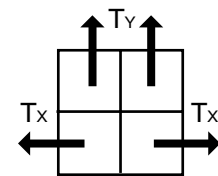
### Four-Way

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



### Three-Way

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

## ECBXT (Page 70)

### 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.