



REGISTERS&GRILLES

4KTA-Performance Data

4 WAY SQUARE CEILING DIFFUSER - 4KTA

METRIC SYSTEM

EFFECTIVE AREA Ak(m²)

Neck Size - mm	150x150	225x225	300x300	375x375	450x450	525x525	600x600
Effective Area-Ak m²	0,0109	0,0244	0,0435	0,0679	0,0978	0,1331	0,1739

Table-1

QUICK SELECTION TABLE

Neck Size WxH mm x mm	Effective Area m ²	AIR VELOCITY m/s													
		1,5 m/s		2,0 m/s		2,5 m/s		3,0 m/s		4,0 m/s		5,0 m/s		6,0 m/s	
150x150	0,0109	58,86	m ³ /h	78,48	m ³ /h	98,10	m ³ /h	117,72	m ³ /h	156,96	m ³ /h	196,20	m ³ /h	235,44	m ³ /h
225x225	0,0244	131,76	m ³ /h	175,68	m ³ /h	219,60	m ³ /h	263,52	m ³ /h	351,36	m ³ /h	439,20	m ³ /h	527,04	m ³ /h
300x300	0,0435	234,90	m ³ /h	313,20	m ³ /h	391,50	m ³ /h	469,80	m ³ /h	626,40	m ³ /h	783,00	m ³ /h	939,60	m ³ /h
375x375	0,0679	366,66	m ³ /h	488,88	m ³ /h	611,10	m ³ /h	733,32	m ³ /h	977,76	m ³ /h	1222,20	m ³ /h	1466,64	m ³ /h
450x450	0,0978	528,12	m ³ /h	704,16	m ³ /h	880,20	m ³ /h	1056,24	m ³ /h	1408,32	m ³ /h	1760,40	m ³ /h	2112,48	m ³ /h
525x525	0,1331	718,74	m ³ /h	958,32	m ³ /h	1197,90	m ³ /h	1437,48	m ³ /h	1916,64	m ³ /h	2395,80	m ³ /h	2874,96	m ³ /h
600x600	0,1739	939,06	m ³ /h	1252,08	m ³ /h	1565,10	m ³ /h	1878,12	m ³ /h	2504,16	m ³ /h	3130,20	m ³ /h	3756,24	m ³ /h

Flow Rate m³/h

Table-2



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V_t (m/s) Shooting Distance Correction Table

V_t (m/s)	0,25	0,375	0,5	0,625	0,75
L_t (m)	x 2	x 1,33	x 1	x 0,8	x 0,67

Table-3

Sound Level and Pressure Loss Correction Chart by Pressure Control Damper Open Position

Damper Position	100 % Open	50 % Open	25 % Open
Pt X 1.00	Pt X 1.00	Pt X 2.25	Pt X 5.90
LW + 0	LW + 0	LW +10	LW +20

Table-4

AIR DISTRIBUTION DIAGRAM

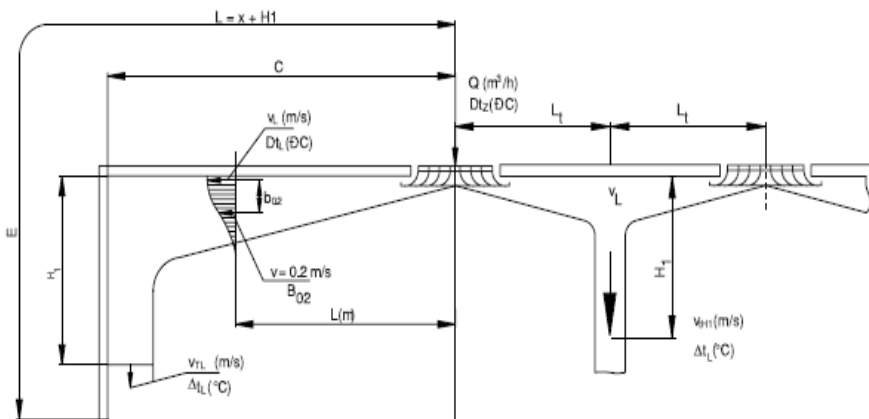


Diagram-3



IMPERIAL SYSTEM

RECOMMENDED MAXIMUM AIRFLOW

Ceiling Height, ft.	8	9	10	12	15	20
Airflow, cfm, per Side	200	350	550	900	1500	4000

Table-5

CORRECTIONS FOR MODEL TDCA (ADJUSTABLE PATTERN CONTROLLERS)

Nominal Neck Size	NC (add)		Total Pressure (Multiply)		Vertical Throw (Multiply)		
	H	V	H	V	Cooling 20 F	Heating, ΔT	
						0 F	20 F
6 x 6	3	7	1.3	1.6	1.3	1.1	0.8
9 x 9	3	7	1.5	2.3	1.4	1.2	0.72
12 x 12	3	7	1.5	2.3	1.5	1.25	0.65
15 x 15	3	7	1.5	2.3	1.55	1.27	0.62
18 x 18	3	7	1.5	2.3	1.6	1.3	0.59
21 x 21	3	7	1.5	2.3	1.65	1.35	0.57
24 x 24	3	7	1.5	2.3	1.1	1.1	0.55

Table-6

AIR DISTRIBUTION DIAGRAM

9" x 9" Model TDC / 4-Way Diffuser
 240 cfm Total
 20°F Cooling Differential

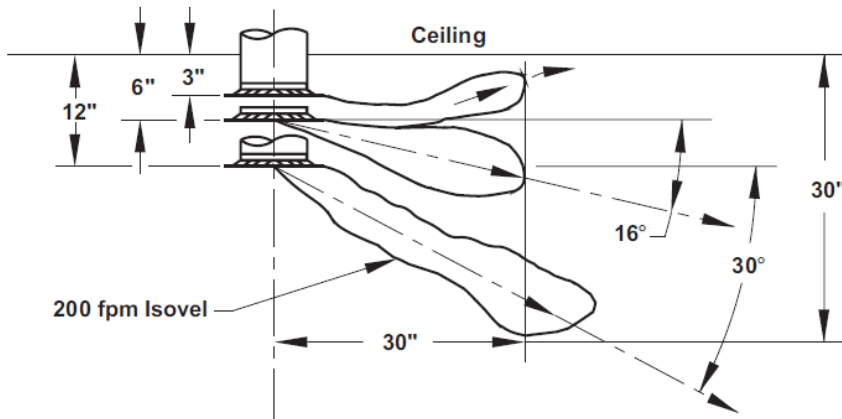


Diagram-4



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IMPERIAL PERFORMANCE DATA

		Neck Vel. Vel. Pressure Total Pressure	300 0.006 0.042	400 0.010 0.075	500 0.016 0.117	600 0.022 0.169	700 0.031 0.229	800 0.040 0.300	900 0.050 0.379
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	75	100	125	150	175	200	225
		Side	-	13	16	23	27	31	34
6 x 6 0.25 ft	S1	X	75 8-10-14	100 9-11-18	125 10-13-18	150 11-14-20	175 12-15-21	200 13-16-23	225 14-17-24
	S2&G2	X & Y	88 4-8-10	60 6-8-12	83 8-10-14	75 8-10-15	88 9-11-18	100 10-12-17	113 10-13-18
	A3	X	28 4-8-9	36 6-7-11	47 8-9-12	58 7-8-13	68 8-10-14	76 9-11-15	84 9-11-16
	A4	Y	19 3-8-8	26 4-7-9	31 8-7-10	38 7-8-11	44 7-9-12	50 8-9-13	58 8-10-14
		X & Y	19 3-8-8	26 4-7-9	31 8-7-10	38 7-8-11	44 7-9-12	50 8-9-13	58 8-10-14
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	169	225	281	338	394	450	506
		Side	-	15	21	26	30	34	37
9 x 9 0.56 ft	S1	X	169 11-15-21	225 14-17-24	281 18-19-27	338 17-21-30	394 18-23-32	450 20-24-34	506 21-26-36
	S2&G2	X & Y	84 8-9-18	113 9-11-19	141 10-14-20	168 11-16-22	197 13-17-24	225 15-18-26	253 16-18-27
	A3	X	83 8-10-14	84 9-11-18	106 10-13-18	127 11-14-20	148 12-15-21	169 13-16-23	180 14-17-24
	A4	Y	42 4-7-12	56 7-10-14	70 8-11-16	84 10-12-17	98 11-13-18	113 11-14-20	127 12-15-21
		X & Y	42 4-7-12	56 7-10-14	70 8-11-16	84 10-12-17	98 11-13-18	113 11-14-20	127 12-15-21
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	300	400	500	600	700	800	900
		Side	-	17	23	28	32	35	38
12 x 12 1.00 ft	S1	X	300 15-20-26	400 19-23-32	500 21-26-36	600 23-28-38	700 25-30-43	800 26-32-46	900 28-34-48
	S2&G2	X & Y	150 8-11-21	200 10-15-24	250 13-18-27	300 15-21-30	350 18-23-32	400 20-24-34	450 21-26-36
	A3	X	113 11-13-18	160 12-15-21	188 14-17-24	226 15-18-26	263 18-20-28	300 17-21-30	338 18-23-32
	A4	Y	75 8-10-16	100 9-13-19	125 11-15-21	150 13-16-23	175 14-17-25	200 15-18-26	225 16-20-28
		X & Y	75 8-10-16	100 9-13-19	125 11-15-21	150 13-16-23	175 14-17-25	200 15-18-26	225 16-20-28
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	469	625	781	938	1094	1250	1406
		Side	11	19	25	29	33	37	40
15 x 15 1.56 ft	S1	X	469 19-25-35	625 23-29-40	781 28-32-45	938 29-35-49	1094 31-38-53	1250 33-40-57	1406 35-43-60
	S2&G2	X & Y	234 10-14-28	313 13-18-30	391 16-24-34	469 18-26-37	547 22-28-40	625 25-30-43	703 28-32-45
	A3	X	178 13-16-23	234 15-19-27	290 17-21-30	352 18-23-33	410 20-25-36	468 22-27-38	527 23-28-40
	A4	Y	117 7-12-20	158 11-16-23	195 14-18-28	234 16-20-28	273 18-22-31	313 19-23-33	352 20-25-35
		X & Y	117 7-12-20	158 11-16-23	195 14-18-28	234 16-20-28	273 18-22-31	313 19-23-33	352 20-25-35
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	675	900	1125	1350	1575	1800	2025
		Side	12	20	26	31	35	38	41
18 x 18 2.25 ft	S1	X	675 23-30-42	900 28-34-48	1125 31-38-54	1350 34-42-58	1575 37-45-84	1800 39-48-88	2025 42-51-73
	S2&G2	X & Y	338 11-17-31	450 15-23-36	563 18-29-41	675 23-31-44	788 27-34-48	900 30-38-51	1013 31-38-54
	A3	X	253 18-20-28	338 18-23-32	422 21-25-38	508 23-28-38	591 24-30-42	675 26-32-45	759 28-34-48
	A4	Y	189 9-15-24	225 13-20-28	281 17-22-31	338 20-24-34	394 21-28-37	450 23-28-38	508 24-30-42
		X & Y	189 9-15-24	225 13-20-28	281 17-22-31	338 20-24-34	394 21-28-37	450 23-28-38	508 24-30-42
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	919	1225	1531	1838	2144	2450	2756
		Side	13	21	27	32	36	39	42
21 x 21 3.06 ft	S1	X	919 27-35-48	1225 33-40-58	1531 38-45-83	1838 40-48-88	2144 43-53-75	2450 46-56-80	2756 49-60-85
	S2&G2	X & Y	459 13-20-37	613 18-27-42	766 22-33-47	918 27-37-52	1072 31-40-58	1225 35-42-60	1378 37-45-63
	A3	X	345 19-23-32	459 22-28-37	574 24-30-42	688 26-32-48	804 28-35-49	919 31-37-53	1034 32-40-58
	A4	Y	230 10-17-28	308 16-23-32	383 19-26-38	459 23-28-40	538 25-30-43	613 27-32-46	688 28-34-48
		X & Y	230 10-17-28	308 16-23-32	383 19-26-38	459 23-28-40	538 25-30-43	613 27-32-46	688 28-34-48
Return Factors -SP = 1.1 TP NC + 1		Total cfm NC	1200	1600	2000	2400	2800	3200	3600
		Side	14	22	28	32	36	40	43
24 x 24 4.00 ft	S1	X	1200 31-39-58	1600 37-48-84	2000 42-51-72	2400 46-56-79	2800 49-60-85	3200 53-64-91	3600 58-68-87
	S2&G2	X & Y	600 15-23-42	800 20-30-48	1000 25-38-54	1200 30-42-58	1400 35-45-84	1600 39-48-88	1800 42-51-72
	A3	X	450 21-28-37	600 25-30-43	750 28-34-48	900 30-37-52	1050 33-40-58	1200 35-43-60	1350 37-45-64
	A4	Y	300 12-20-32	400 16-26-37	500 22-29-41	600 26-32-45	700 28-35-49	800 30-37-52	900 32-38-56
		X & Y	300 12-20-32	400 16-26-37	500 22-29-41	600 26-32-45	700 28-35-49	800 30-37-52	900 32-38-56

Table-7