Performance Data • Square Neck

TDC • Louvered Face • Supply • Horizontal Blow Pattern

		Neck Vel.	300		400		500		600		700		800		900	
		Vel. Pressure	0.006		0.010		0.016		0.022		0.031		0.040		0.050	
		Total Pressure	0.042		0.075		0.117		0.169		0.229		0.300		0.379	
Return Factors		Total cfm	75		100		125		150		175		200		225	
-SP = 1.1 TP		NC	-		13		16		23		27		31		34	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
6	S1	X	75	8-10-14	100	9-11-16	125	10-13-18	150	11-14-20	175	12-15-21	200	13-16-23	225	14-17-24
x	S2&G2	X & Y	38	4-6-10	50	5-8-12	63	6-10-14	75	8-10-15	88	9-11-16	100	10-12-17	113	10-13-18
6	A3	X	28	4-6-9	38	5-7-11	47	6-8-12	56	7-9-13	66	8-10-14	75	9-11-15	84	9-11-16
0.25		Y	19	3-5-8	25	4-7-9	31	6-7-10	38	7-8-11	44	7-9-12	50	8-9-13	56	8-10-14
ft²	A4	X & Y	19	3-5-8	25	4-7-9	31	6-7-10	38	7-8-11	44	7-9-12	50	8-9-13	56	8-10-14
Return Factors		Total cfm	169		225		281		338		394		450		506	
-SP = 1.1 TP		NC	-		15		21		26		30		34		37	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
9	S1	X	169	11-15-21	225	14-17-24	281	16-19-27	338	17-21-30	394	18-23-32	450	20-24-34	506	21-26-36
x	S2&G2	X & Y	84	6-9-16	113	8-11-18	141	10-14-20	169	11-16-22	197	13-17-24	225	15-18-26	253	16-19-27
9	A3	X	63	8-10-14	84	9-11-16	105	10-13-18	127	11-14-20	148	12-15-21	169	13-16-23	190	14-17-24
0.56		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
ft²	A4	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		Total cfm	300		400		500		600		700		800		900	
-SP = 1.1 TP		NC	-		17		23		28		32		35		38	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
12	S1	X	300	15-20-28	400	19-23-32	500	21-25-36	600	23-28-39	700	25-30-43	800	26-32-46	900	28-34-48
x	S2&G2	X & Y	150	8-11-21	200	10-15-24	250	13-19-27	300	15-21-30	350	18-23-32	400	20-24-34	450	21-26-36
12	A3	X	113	11-13-18	150	12-15-21	188	14-17-24	225	15-18-26	263	16-20-28	300	17-21-30	338	18-23-32
1.00		Y	75	6-10-16	100	9-13-19	125	11-15-21	150	13-16-23	175	14-17-25	200	15-19-26	225	16-20-28
ft²	A4	X & Y	75	6-10-16	100	9-13-19	125	11-15-21	150	13-16-23	175	14-17-25	200	15-19-26	225	16-20-28
Return Factors		Total cfm	469		625		781		938		1094		1250		1406	
-SP = 1.1 TP		NC	11		19		25		29		33		37		40	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
15	S1	X	469	19-25-35	625	23-29-40	781	26-32-45	938	29-35-49	1094	31-38-53	1250	33-40-57	1406	35-43-60
x	S2&G2	X & Y	234	10-14-26	313	13-19-30	391	16-24-34	469	19-26-37	547	22-28-40	625	25-30-43	703	26-32-45
15	A3	X	176	13-16-23	234	15-19-27	293	17-21-30	352	19-23-33	410	20-25-35	469	22-27-38	527	23-28-40
1.56		Y	117	7-12-20	156	11-16-23	195	14-18-26	234	16-20-28	273	18-22-31	313	19-23-33	352	20-25-35
ft²	A4	X & Y	117	7-12-20	156	11-16-23	195	14-18-26	234	16-20-28	273	18-22-31	313	19-23-33	352	20-25-35
Return Factors		Total cfm	675		900		1125		1350		1575		1800		2025	
-SP = 1.1 TP		NC	12		20		26		31		35		38		41	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
18	S1	X	675	23-30-42	900	28-34-48	1125	31-38-54	1350	34-42-59	1575	37-45-64	1800	39-48-68	2025	42-51-73
x	S2&G2	X & Y	338	11-17-31	450	15-23-36	563	19-29-41	675	23-31-44	788	27-34-48	900	30-36-51	1013	31-38-54
18	A3	X	253	16-20-28	338	18-23-32	422	21-25-36	506	23-28-39	591	24-30-42	675	26-32-45	759	28-34-48
2.25		Y	169	9-15-24	225	13-20-28	281	17-22-31	338	20-24-34	394	21-26-37	450	23-28-39	506	24-30-42
ft²	A4	X & Y	169	9-15-24	225	13-20-28	281	17-22-31	338	20-24-34	394	21-26-37	450	23-28-39	506	24-30-42
Return Factors		Total cfm	919		1225		1531		1838		2144		2450		2756	
-SP = 1.1 TP		NC	13		21		27		32		36		39		42	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
21	S1	X	919	27-35-49	1225	33-40-56	1531	36-45-63	1838	40-49-69	2144	43-53-75	2450	46-56-80	2756	49-60-85
x	S2&G2	X & Y	459	13-20-37	613	18-27-42	766	22-33-47	919	27-37-52	1072	31-40-56	1225	35-42-60	1378	37-45-63
21	A3	X	345	19-23-32	459	22-26-37	574	24-30-42	689	26-32-46	804	29-35-49	919	31-37-53	1034	32-40-56
3.06		Y	230	10-17-28	306	16-23-32	383	19-26-36	459	23-28-40	536	25-30-43	613	27-32-46	689	28-34-49
ft²	A4	X & Y	230	10-17-28	306	16-23-32	383	19-26-36	459	23-28-40	536	25-30-43	613	27-32-46	689	28-34-49
Return Factors		Total cfm	1200		1600		2000		2400		2800		3200		3600	
-SP = 1.1 TP		NC	14		22		28		32		36		40		43	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
24	S1	X	1200	31-39-56	1600	37-46-64	2000	42-51-72	2400	46-56-79	2800	49-60-85	3200	53-64-91	3600	56-68-97
x	S2&G2	X & Y	600	15-23-42	800	20-30-48	1000	25-38-54	1200	30-42-59	1400	35-45-64	1600	39-48-68	1800	42-51-72
24	A3	X	450	21-26-37	600	25-30-43	750	28-34-48	900	30-37-52	1050	33-40-56	1200	35-43-60	1350	37-45-64
4.00		Y	300	12-20-32	400	18-26-37	500	22-29-41	600	26-32-45	700	28-35-49	800	30-37-52	900	32-39-56
ft²	A4	X & Y	300	12-20-23	400	18-26-37	500	22-29-41	600	26-32-45	700	28-35-49	800	30-37-52	900	32-39-56
Return Factors		Total cfm	1875		2500		3125		3750		4375		5000		5625	
-SP = 1.1 TP		NC	16		23		29		34		38		41		45	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
30	S1	X	1875	38-49-70	2500	47-57-81	3125	52-64-90	3750	57-70-99	4375	62-75-107	5000	66-81-114	5625	70-86-121
x	S2&G2	X & Y	938	19-29-52	1250	25-38-60	1563	32-48-68	1875	38-52-74	2188	44-56-80	2500	49-60-85	2813	52-64-91
30	A3	X	703	27-33-46	938	31-38-53	1172	34-42-60	1406	38-46-65	1641	41-50-71	1875	44-53-76	2109	46-57-80
6.25		Y	469	15-25-40	625	22-33-46	781	28-37-52	938	33-40-57	1094	35-43-61	1250	38-46-66	1406	40-49-70
ft²	A4	X & Y	469	15-25-40	625	22-33-46	781	28-37-52	938	33-40-57	1094	35-43-61	1250	38-46-66	1406	40-49-70
Return Factors		Total cfm	2700		3600		4500		5400		6300		7200		8100	
-SP = 1.1 TP		NC	17		24		30		35		39		43		46	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
36	S1	X	2700	46-59-84	3600	56-68-97	4500	62-76-108	5400	68-84-118	6300	74-90-128	7200	79-97-137	8100	84-103-145
x	S2&G2	X & Y	1350	23-34-63	1800	30-46-72	2250	38-57-81	2700	46-63-89	3150	53-68-96	3600	59-72-102	4050	63-77-109
36	A3	X	1013	32-39-55	1350	37-45-64	1688	41-51-72	2025	45-55-78	2363	49-60-85	2700	52-64-91	3038	55-68-96
9.00		Y	675	18-30-48	900	27-39-56	1125	33-44-62	1350	39-48-68	1575	43-52-74	1800	45-56-79	2025	48-59-83
ft²	A4	X & Y	675	18-30-48	900	27-39-56	1125	33-44-62	1350	39-48-68	1575	43-52-74	1800	45-56-79	2025	48-59-83
Return Factors		Total cfm	4800		6400		8000		9600		11200		12800		14400	
-SP = 1.1 TP		NC	19		26		32		37		41		45		48	
NC + 1		Side	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw	cfm	Throw
48	S1	X	4800	61-79-112	6400	74-91-129	8000	83-102-144	9600	91-112-158	11200	99-121-171	12800	105-129-182	14400	112-137-193
x	S2&G2	X & Y	2400	30-46-84	3200	41-61-97	4000	51-76-108	4800	61-84-118	5600	71-90-128	6400	79-97-137	7200	84-102-145
48	A3	X	1800	43-52-74	2400	49-60-85	3000	55-68-96	3600	60-74-105	4200	65-80-113	4800	70-85-121	5400	74-91-128
16.00		Y	1200	24-40-64	1600	36-52-74	2000	44-59-83	2400	52-64-91	2800	57-69-98	3200	61-74-105	3600	64-79-111
ft²	A4	X & Y	1200	24-40-64	1600	36-52-74	2000	44-59-83	2400	52-64-91	2800	57-69-98	3200	61-74-105	3600	64-79-111

For Performance Notes, please refer to page F162.

Performance Notes

Models: TDC, TDC-AA, TDCA, TDCA-AA, TDV, TDV-AA

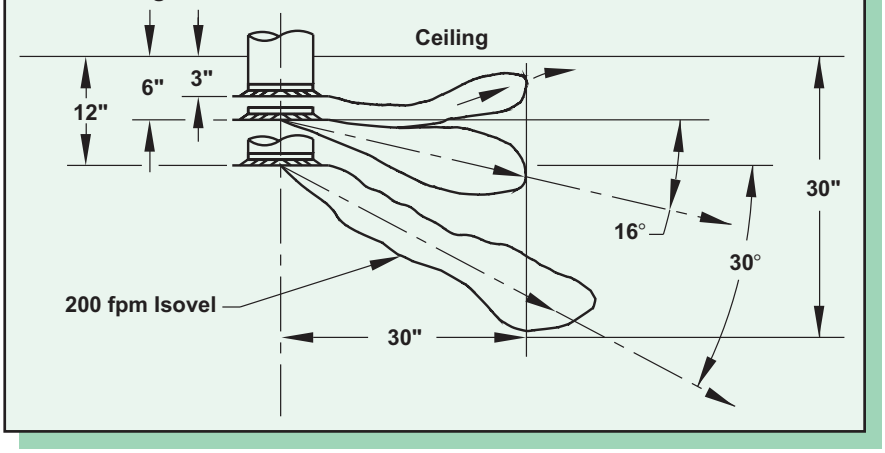
- All pressures are in inches of water. TP is total pressure, - SP is negative static pressure for return units.
- Throw values are given for terminal velocities of 150, 100 and 50 fpm. For an explanation of catalog throw data, see the section, Engineering Guidelines for catalog throw data.
- NC values are based on a room absorption of 10 dB, re 10^{-12} watts, with one diffuser operating.
- If the diffuser is used as a return inlet, the following corrections apply:
  - Negative static pressure: Multiply the factor at the upper left corner of the performance table by the total pressure listed in the table.
  - Sound: Add the NC correction at the upper left corner of the performance table to the NC value listed in the table.
  - Return Performance Example: 6 x 6 Model TDC handling: 150 cfm of return air –SP = 1.1(-TP). Return negative SP = 1.1 x (0.169) = - 0.1859 inches wg. Return NC = NC Table + 1. Return NC = 23 + 1 = 24.
- These products have been tested per ANSI/ASHRAE 70-91. Actual performance, with flexible duct inlet, may vary in the field. See the section, Engineering Guidelines for additional information.
- Data in the tables apply when the diffuser is mounted nearly flush with the ceiling for maximum ceiling effect. When no ceiling effect is present, the horizontal throw will be about 25% less than shown in the tables. The mounting distance below the ceiling will also affect the downward projection angle as indicated in the diagram at upper right.

Model TDCA Performance

- For Model TDCA diffusers (adjustable pattern controllers) apply the corrections from the table at the right to the TDC data for square neck, 4-way core styles, as follows:
  - TP = Listed value x correction
  - NC = Listed value + correction
  - Throw = Listed value x correction

Apply the throw factor to the 50 fpm terminal velocity throw only.

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



Recommended Maximum Airflow

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

Note: Although this data is based on a 20°F temperature differential during cooling, it also applies to any differential between 15°F and 25°F.

Corrections for Model TDCA (adjustable pattern controllers)

Nominal Neck Size	NC (add)		Total Pressure (Multiply)		Vertical Throw (Multiply)			
					Cooling 20° F	Heating, ΔT		
	H	V	H	V		0° F	20° F	40° F
6 x 6	3	7	1.3	1.6	1.3	1.1	0.8	0.6
9 x 9	3	7	1.5	2.3	1.5	1.2	0.9	0.6
12 x 12	3	7	1.5	2.3	1.6	1.3	1.0	0.6
15 x 15	3	7	1.5	2.3	1.7	1.3	1.0	0.6
18 x 18	3	7	1.5	2.3	1.7	1.3	0.9	0.6
21 x 21	3	7	1.5	2.3	1.7	1.3	0.8	0.5
24 x 24	3	7	1.5	2.3	1.1	1.1	0.7	0.3

Note: TDC and TDV Performance Data were obtained from tests conducted in accordance with ANSI/ASHRAE Standard 70-1991.

- Vertical adjustments are most effective with the above sizes, using an A4 pattern.