



ALSHARQA



CEILING DIFFUSERS

AIR OUTLETS
TECHNICAL CATALOGUE



Air Conditioning and Industries

المصرية الخليجية لأعمال التكييف - الشارقة

*egyptian gulf for the work
of air conditioning*



www.alsharqa.com

CEILING DIFFUSERS

INDEX

TOPIC	PAGES
INTRODUCTION	2
DEFINITIONS	3
NOISE CRITERIA	4
RECOMMENDED NOISE CRITERIA FOR ROOMS	5
SELECTION PROCEDURE	6-7
BASIC PERFORMANCE DATA (supply air ceiling diffusers)	8-17
BASIC PERFORMANCE DATA (return air ceiling diffusers)	18-19
PERFORATED CEILING DIFFUSERS	20
BASIC PERFORMANCE DATA (perforated supply air ceiling diffusers)	21-22
PERFORATED RETURN AIR CEILING DIFFUSERS	23
ENGINEERING DATA	24
NOTES	25-26

Ceiling Diffusers are suitable for modular ceiling systems, heating, ventilating and cooling applications. Ceiling diffusers are efficient in handling high air volumes at a relatively low noise levels to offer an even disbursement of air. Multi-core diffusers are constructed from extruded Aluminum profiles/sheets. Available in a wide range of sizes in square and rectangular shapes a wide variety of air flow patterns can be achieved to suit individual user's needs.

CEILING DIFFUSERS

DEFINITIONS

- Jet velocity(V_k) : In FPM for an outlet or inlet is the velocity measured with an approved calibrated velometer at specified locations relative to the face of the outlet or inlet.
- Terminal velocity(V_t) : In FPM is the highest sustained velocity in the mixed air stream arbitrary specified and used to determine throw.
- Velocity pressure(p_d) (Dynamic pressure) : The forward moving force of an air stream within a duct measured in mm (inch) W.G. of water.
- Static pressure(p_s) : The outward force within a duct measured in mm (inch) W.G. Of water.
- Total pressure(P_t) : The sum of the velocity pressure and the static pressure measured in mm (inch) W.G. Of water.
- Throw : Of an outlet in m (feet), is the distance from the center of the outlet to a point in mixed air stream where the highest sustained velocity of the mixed air stream has been reduced to a specified level (100 FPM & 50 FPM Terminal velocity) .
- Area factor (A_k) : Of an outlet or inlet which is also a flow factor determined from the discharge or intake velocity (V_k) and the volume flow rate (Q).

$$A_k = Q / V_k \text{ in } m^2 \text{ or } ft^2$$



NOISE CRITERIA

- The sound caused by an air outlet is directly proportional to the velocity of the air passing through it .
- Noise criteria : The sound pressure level of 8 octave bands acceptable to human ears is estimated from table (noise criteria for room).
- The room effect : Is the difference between the sound power level of a terminal and the sound pressure level sensed by human ears in the room, and is affected by room size, sound absorption characteristic of the room surfaces, ceiling height , space volume, distance of listener to terminal, terminal location and number of terminals.

Ambient Sounds:

- a. Environmental sound - Existing within the space with air condition equipment off.
- b. External sound - Entering a space from outdoors.
- c. Intruding sound - Entering from adjacent spaces.

Prior to selection of NC level from table(Noise criteria for room) , the three ambient sounds above must be considered.

APPLICATION	Recommended Delivery Velocities (m/s)
Broadcasting studios, sound and Recording studios.	1.5 - 2.5
Concert halls , Auditoriums, Library , Classrooms .	2.5 - 3.5
Apartments , residences , hotel bedrooms, Theatres, private offices, hospitals, Churches.	2.5 - 4.5
Large office, restaurants, hotels, dining Rooms, public buildings.	3.5 - 5.5
Corridors, computer-rooms, cafeterias, Department stores.	4.5 - 6
Average factories, workshops, garages Warehouses.	5 - 10

The recommended delivery velocities for different applications (ASHRAE GUIDE)

CEILING DIFFUSERS

RECOMMENDED NOISE CRITERIA FOR ROOMS

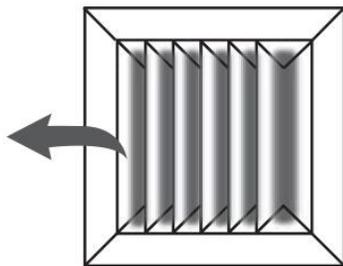
Type of Area	NC Level (dB)	Type of Area	NC Level (dB)
AUDITORIUMS Concert and Opera Halls. Studios for sound Reproduction Legitimate Theaters. Multi-purpose Halls, Movie Theatres . Lecture halls, Planetarium, TV audience studios Lobbies	20 to 25 25 To 30 30 To 35 35 To 40	SPORT ACTIVITIES INDOOR Coliseums Bowling alleys. Gymnasiums Swimming pools	 30 to 40 35 to 45 40 to 55
CHURCHES AND SCHOOLS Sanctuaries Libraries. schools and classrooms Laboratories Recreation halls .corridors and halls kitchens	20 to 30 30 to 40 35 to 45 35 to 50 40 to 50	TRANSPORTATION Ticket sales office Lounges, waiting rooms	 30 to 40 35 To 50
HOSPITALS AND CLINICS Private rooms Operating rooms. Wards Halls and corridors. Laboratories Lobbies and waiting rooms Washrooms and toilets	 25 to 35 30 to 40 35 to 45 40 to 50	HOTELS Individual rooms or suites bell rooms. Banquet rooms Halls and corridors lobbies Garages . Kitchens and laundries	 30 to 40 30 to 40 35 to 45 40 to 50
RESTAURANTS & LOUNGES Restaurants Cocktail lounges Night clubs cafeterias	 35 to 45 35 to 50 35 to 45 40 to 50	MANUFACTURING AREAS foreman's office Assembly lines .light machinery Foundries . Heavy machinery.	 40 to 50 55 to 75 55 to 75
STORES RETAIL Clothing stores . Department Stores(upper floors) Department store (main floor). Small Retail store, supermarkets	 35 to 45 40 to 50	OFFICES Board room Conference room Executive office Supervisor office . Reception room General open office Drafting rooms Halls and corridors Tabulation and computation	 20 to 30 25 to 35 30 to 40 30 to 45 35 to 50 40 to 60
		PUBLIC BUILDING Public libraries. Museums. Court rooms Post offices. General banking area, Lobbies Wash rooms and toilets	 30 to 40 35 to 45 40 to 50

The recommended NC level for different applications (ASHRAE GUIDE)

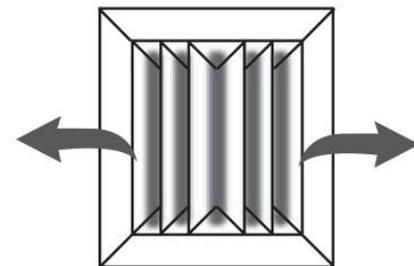
AVAILABLE AIR FLOW PATTERNS

Select among the available Square / Rectangular core styles with 1,2,3 or 4 way airflow patterns to suit air distribution requirements .
(Square / Rectangular to round adapters are also available as an option)

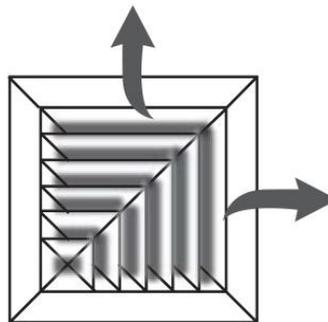
Square Ceiling Diffusers [SCD]



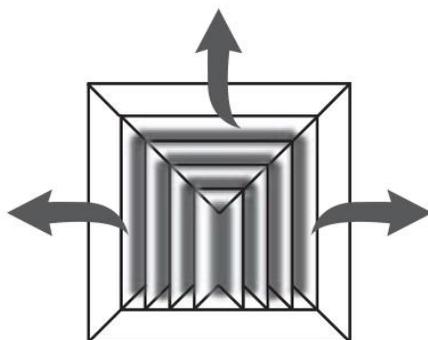
1 way-discharge



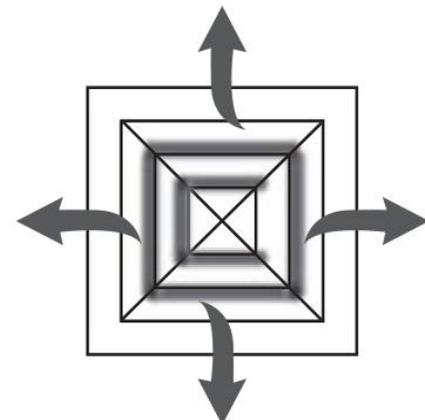
2 way-discharge
Opposite blades



2 way-discharge
corner blades



3 way-discharge

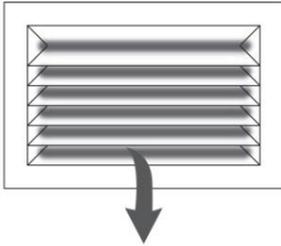


4 way-discharge

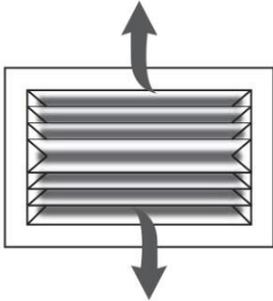
CEILING DIFFUSERS

SELECTION PROCEUDRE

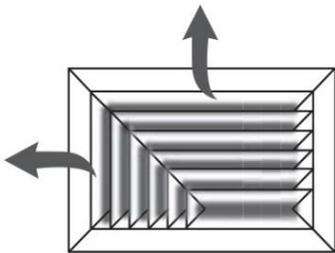
Rectangular Ceiling Diffusers [RCD]



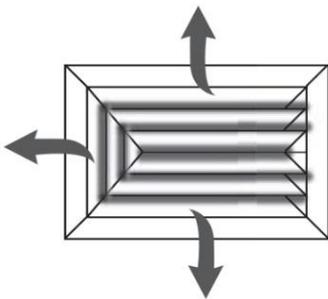
1 way-discharge
Horizontal blades



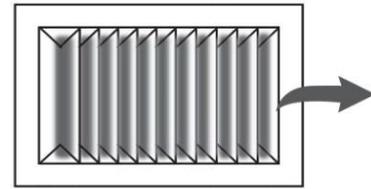
2 way-discharge
Horizontal blades



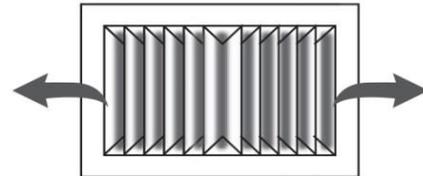
2 way-discharge
corner blades



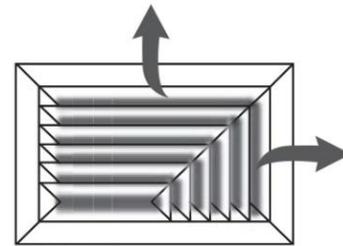
3 way-discharge



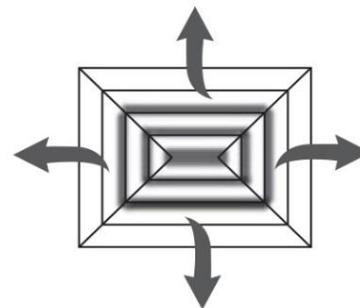
1 way-discharge
vertical blades



2 way-discharge
vertical blades



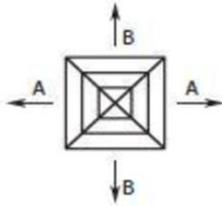
2 way-discharge
corner blades



4 way-discharge

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

SQUARE NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	63	75	100	125	150	175	200	SIZE
			S.NC	<18	<18	19	23	27	32	36	
6 X 6	0.25	SCD-4way	SCFM	16 16	19 19	25 25	31 31	37 37	44 44	50 50	6 X 6
			THROW	4 - 7	5 - 9	6 - 11	8 - 12	9 - 13	10 - 14	11 - 15	
		SCD-3way	SCFM	24 16	28 19	38 25	47 31	52 37	66 44	75 50	6 X 6
			THROW	6-12 4-7	7-13 5-9	9-14 6-11	11-15 8-12	12-16 9-13	13-17 10-14	14-19 11-15	
		SCD-2way	SCFM	-32	-38	-50	-63	-75	-88	-100	6 X 6
			THROW	8-12	9 - 13	11 - 15	12 - 17	14-19	14-20	15-21	
SCD-1way	SCFM	-63	-75	-100	-125	-150	-175	-200	6 X 6		
	THROW	13 - 17	14 - 19	15 - 12	16 - 22	17-24	18-26	19-28			
9 X 9	0.56	SCD-4way	SCFM	35 35	42 42	56 56	70 70	84 84	98 98	112 112	9 X 9
			THROW	7 - 12	8 - 13	10-14	12 - 16	13 - 17	14 - 18	15 - 19	
9 X 9	0.56	SCD-3way	SCFM	53 35	63 42	84 56	105 70	127 84	148 98	169 112	9 X 9
			THROW	10-14 7-12	7-13 5-9	9-14 6-11	11-15 8-12	12-16 9-13	13-17 10-14	14-19 11-15	
9 X 9	0.56	SCD-2way	SCFM	-70	-85	-113	-141	-168	-197	-225	9 X 9
			THROW	12-16	13 - 17	15-19	16-21	17-24	18-26	19-27	
9 X 9	0.56	SCD-1way	SCFM	-140	-75	-100	-125	-150	-394	-450	9 X 9
			THROW	16-22	17-24	19-27	20-29	22-31	23-32	25-34	
12 X 12	1.0	SCD-4way	CFM	250	300	400	500	600	700	800	12 X 12
			S.NC	<18	<18	19	23	27	32	36	
12 X 12	1.0	SCD-3way	SCFM	63 63	75 75	100 100	125 125	150 150	175 175	200 200	12 X 12
			THROW	11-15	12-16	14-16	15-20	16-22	17-23	18-24	
12 X 12	1.0	SCD-2way	SCFM	94 63	112 75	150 100	188 125	225 150	263 175	300 200	12 X 12
			THROW	13-17 11-15	14-19 12-16	16-22 14-18	17-23 15-20	19-25 11-22	20-27 17-23	21-29 18-24	
12 X 12	1.0	SCD-1way	SCFM	-125	-150	-200	-250	-300	-350	-400	12 X 12
			THROW	15-20	16-22	18-24	19-28	21-29	21-31	24-33	
12 X 12	1.0	SCD-1way	SCFM	-250	-300	-400	-500	-600	-700	-800	12 X 12
			THROW	19-28	21-19	24-33	26-36	28-38	29-41	30-44	

Note

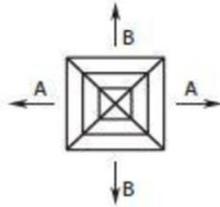
SIZE : Is the nominal neck size in inches
 NICK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

CEILING DIFFUSERS

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

SQUARE NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
		250	300	400	500	600	700
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

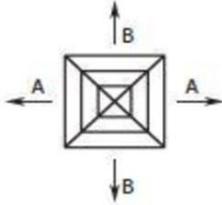
SIZE	NECK AREA	PATTERN	CFM	390	469	625	781	938	1095	1250	SIZE
			S.NC	19	22	28	33	37	44	49	
15 X 15	1.56	SCD-4way	SCFM	98 98	117 117	156 156	195 195	234 234	273 273	312 312	15
			THROW	14-18	16-19	18-22	19-24	20-27	21-28	22-29	
		SCD-3way	SCFM	146 98	176 117	234 156	293 195	352 234	411 273	469 312	X
			THROW	17-12 14-18	18-23 16-19	20-27 18-22	21-28 19-24	22-30 20-27	23-32 21-28	23-33 22-29	
		SCD-2way	SCFM	-195	-235	-313	-391	-469	-548	-625	15
			THROW	19-24	20-27	22-29	22-13	23-33	24-35	26-39	
SCD-1way	SCFM	-390	-469	625	-781	-938	-1095	-1250	15		
	THROW	22-31	23-33	26-39	27-42	29-46	30-48	32-51			
SIZE	NECK AREA	PATTERN	CFM	562	675	900	1125	1350	1575	1800	SIZE
			S.NC	<18	24	30	35	40	45	51	
18 X 18	2.25	SCD-4way	SCFM	141 141	168 168	225 225	281 281	337 337	394 394	450 450	18
			THROW	17-22	20-23	22-27	23-29	25-31	26-32	28-33	
		SCD-3way	SCFM	211 141	253 168	338 225	422 281	506 337	591 394	675 450	X
			THROW	22-27 17-22	22-28 20-23	25-31 22-27	27-32 23-29	28-33 25-31	29-35 26-32	30-36 28-32	
		SCD-2way	SCFM	-281	-338	-450	-563	-675	-788	-900	18
			THROW	23-29	25-31	28-33	28-34	30-36	31-38	32-40	
SCD-1way	SCFM	-562	-675	-900	-1125	-1350	-1575	-1800	18		
	THROW	28-34	30-36	32-40	33-43	35-47	36-50	38-54			
SIZE	NECK AREA	PATTERN	CFM	765	919	1225	1530	1838	2144	2450	SIZE
			S.NC	22	25	30	36	42	48	54	
21 X 21	3.06	SCD-4way	SCFM	191 191	230 230	306 306	383 383	460 460	536 536	613 613	21
			THROW	20-26	23-27	26-32	28-34	29-37	31-38	33-40	
		SCD-3way	SCFM	287 191	345 230	459 306	574 383	690 460	804 536	919 613	X
			THROW	24-29 20-26	27-33 23-27	29-37 26-32	31-39 28-34	33-41 29-37	35-43 31-38	36-45 33-40	
		SCD-2way	SCFM	-383	-460	-613	-675	-919	-1072	-1225	21
			THROW	28-34	29-37	33-40	34-42	36-45	36-46	38-48	
SCD-1way	SCFM	-765	-919	-1225	-1530	-1838	-2144	-2450	21		
	THROW	34-42	36-45	38-48	39-50	40-53	42-52	44-58			

Note

SIZE : Is the nominal neck size in inches
 NECK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

SQUARE NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	1000	1200	1600	2000	2400	2800	3200	SIZE	
			S.NC	22	26	31	37	43	49	55		
24	X	4.0	SCD-4way	SCFM	250 250	300 300	400 400	500 500	600 600	700 700	800 800	24
				THROW	23-29	26-30	29-35	31-37	32-40	34-43	36-47	
24	X	4.0	SCD-3way	SCFM	375 250	450 300	600 400	750 600	900 600	1050 700	1200 800	24
				THROW	26-32 23-29	30-36 26-30	32-40 29-35	34-42 31-37	37-44 32-40	39-49 34-43	41-53 37-47	
24	X	4.0	SCD-2way	SCFM	-500	-600	-800	-1000	-1200	-1400	-1600	24
				THROW	30-36	34-39	37-45	38-47	41-49	44-54	46-58	
24	X	4.0	SCD-1way	SCFM	-1000	-1200	-1600	-2000	-2400	-2800	-3200	24
				THROW	35-42	39-46	41-50	44-54	47-58	50-61	52-64	

RECTANGULAR NECK

SIZE	NECK AREA	PATTERN	CFM	94	113	150	188	226	262	300	SIZE	
			S.NC	<18	<18	20	24	28	33	37		
6	X	0.375	SCD-4way	SCFM	16 31	19 37	25 50	31 63	37 76	44 87	50 100	6
				THROW	4-7 6-11	5-8 7-12	5-9 9-14	6-11 10-14	7-12 12-16	8-13 13-17	9-14 14-18	
9	X	0.375	SCD-3way	SCFM	16 39	19 47	25 63	31 79	37 95	44 109	50 125	9
				THROW	4-7 7-12	5-8 8-13	5-9 10-14	6-11 12-16	7-12 13-17	8-13 14-18	9-14 15-20	
9	X	0.375	SCD-2way	SCFM	-47	-56	-75	-94	-113	-131	-150	9
				THROW	8-13	9-14	11-16	13-17	14-18	15-20	16-21	
9	X	0.375	SCD-1way	SCFM	-94	-113	-150	-188	-226	-267	-300	9
				THROW	13-17	14-18	16-21	17-22	18-24	18-25	19-26	

SIZE	NECK AREA	PATTERN	CFM	125	150	200	250	300	350	400	SIZE	
			S.NC	<18	19	23	28	32	38	43		
6	X	0.5	SCD-4way	SCFM	16 47	19 56	25 75	31 94	37 113	44 131	50 150	6
				THROW	4-7 9-14	5-8 9-14	5-9 11-16	6-11 13-17	7-12 14-18	8-13 15-20	9-14 16-21	
12	X	0.5	SCD-3way	SCFM	16 55	19 66	25 88	31 110	37 132	44 153	50 175	12
				THROW	4-7 9-14	5-8 10-15	5-9 12-17	6-11 13-18	7-12 15-20	8-13 16-21	9-14 16-22	
12	X	0.5	SCD-2way	SCFM	-63	-75	-100	-125	-150	-175	-200	12
				THROW	10-14	11-16	14-18	15-20	16-21	16-22	17-23	
12	X	0.5	SCD-1way	SCFM	-125	-150	-200	-250	-300	-350	-200	12
				THROW	15-20	16-21	17-23	18-24	19-26	20-27	20-29	

Note

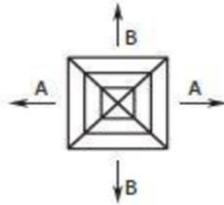
SIZE : Is the nominal neck size in inches
 NICK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$:Supply pressure drop in inches W.G
 SCFM :Side CFM
 THROW :IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC :Room NC for supply based on 8 db room effect

CEILING DIFFUSERS

BASIC PERFORMANCE DATA(supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	156	188	250	312	376	438	500	SIZE	
			S.NC	<18	19	25	30	34	39	44		
6 X 15	0.25	SCD-4way	SCFM	16 62	19 75	25 100	31 125	37 151	44 175	50 200	6	
			THROW	4-7 10-14	5-8 11-16	5-9 14-18	6-11 15-20	7-12 16-21	8-13 16-22	9-14 17-23		
		SCD-3way	SCFM	16 70	19 85	25 113	31 141	37 170	44 197	50 225	X	
			THROW	4-7 10-15	5-8 12-17	5-9 14-18	6-11 15-20	7-12 16-21	8-13 17-22	9-14 18-23		
		15	SCD-2way	SCFM	-88	-94	-125	-156	-188	-219	-250	15
				THROW	12-17	13-18	15-20	16-21	17-22	18-23	18-24	
				SCFM	-156	-188	-250	-312	-376	-438	-500	
				THROW	16-21	17-22	18-24	19-26	20-27	21-29	22-31	
SIZE	NECK AREA	PATTERN	CFM	188	225	300	375	450	526	600	SIZE	
			S.NC	<18	20	26	31	35	40	46		
6 X 18	0.75	SCD-4way	SCFM	16 78	19 94	25 125	31 157	37 188	44 219	50 250	6	
			THROW	4-7 12-17	5-8 13-17	5-9 15-20	6-11 16-21	7-12 17-22	8-13 18-23	9-14 18-24		
		SCD-3way	SCFM	16 86	19 103	25 238	31 172	37 207	44 241	50 275	X	
			THROW	-94	5-8 14-18	5-9 15-20	6-11 16-22	7-12 17-23	8-13 18-24	9-14 18-25		
		18	SCD-2way	SCFM	13-18	-113	-150	-188	-225	-263	-300	18
				THROW	13-18	14-19	16-21	17-22	18-23	19-24	19-26	
				SCFM	-188	-225	-300	-375	-450	-526	-600	
				THROW	17-22	18-23	19-26	20-27	21-29	22-31	23-33	
SIZE	NECK AREA	PATTERN	CFM	219	262	350	524	524	612	700	SIZE	
			S.NC	18	22	28	33	37	42	47		
6 X 21	0.875	SCD-4way	SCFM	16 94	19 112	25 150	31 188	37 225	44 262	50 300	6	
			THROW	4-7 13-18	5-8 14-19	5-9 16-21	6-11 17-22	7-12 18-23	8-13 19-24	9-14 19-26		
		SCD-3way	SCFM	16-102	19 122	25 163	31 204	37 244	44 284	50 325	X	
			THROW	4-7 14-18	5-8 15-20	5-9 16-21	6-11 17-22	7-12 18-24	8-13 19-25	9-14 19-27		
		21	SCD-2way	SCFM	-100	-131	-175	-219	-262	-306	-350	21
				THROW	14-18	15-20	16-22	18-22	19-24	19-26	20-27	
				SCFM	-219	-262	-350	-348	-524	-612	-700	
				THROW	18-23	19-23	20-27	21-29	22-31	23-33	24-35	

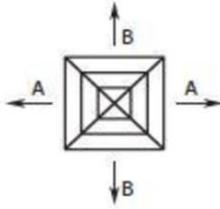
Note

SIZE : Is the nominal neck size in inches
 NECK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	251	300	400	501	600	700	800	SIZE
			S.NC	18	22	29	35	39	43	48	
6 X 24	1.0	SCD-4way	SCFM	16 110	19 131	125 175	31 220	37 263	44 306	50 350	6 X 24
			THROW	4-7 14-19	5-8 15-21	5-9 17-23	6-11 19-24	7-12 20-26	8-13 21-27	9-14 22-29	
		SCD-3way	SCFM	16 118	19 141	25 188	31 235	37 282	44 328	50 375	
			THROW	4-7 15-20	5-8 18-24	5-9 18-24	6-11 20-25	7-12 25-27	8-13 22-28	9-14 22-29	
		SCD-2way	SCFM	-126	-150	-200	-250	-300	-350	-400	
			THROW	15-20	16-22	18-25	20-25	22-28	22-29	24-30	
		SCD-1way	SCFM	-251	-300	-400	-501	-600	-700	-800	
			THROW	19-24	20-25	22-28	24-29	25-32	27-34	29-38	
9 X 12	0.75	SCD-4way	SCFM	35 59	42 71	56 94	70 118	85 140	98 165	113 187	9 X 12
			THROW	6-12 9-14	7-13 11-16	9-14 13-18	11-16 14-19	12-17 17-22	13-18 16-21	14-19 17-22	
SCD-3way	SCFM	35 77	42 92	56 122	70 153	85 183	98 214	113 244			
	THROW	6-12 11-17	7-13 13-18	9-14 14-19	11-16 16-21	12-17 17-22	13-18 18-23	14-19 18-24			
SCD-2way	SCFM	-94	-113	-150	-188	-225	-263	-300			
	THROW	13-18	14-19	16-21	17-22	18-23	19-24	19-26			
SCD-1way	SCFM	-188	-225	-300	-375	-450	-526	-600			
	THROW	17-22	18-23	19-26	20-27	21-29	22-31	23-33			
9 X 15	0.25	SCD-4way	SCFM	35 82	42 99	56 132	70 164	85 196	98 230	113 265	9 X 15
			THROW	6-12 12-17	7-13 13-18	9-14 15-20	11-16 16-21	12-17 17-22	13-18 18-23	14-19 19-24	
SCD-3way	SCFM	35 100	42 120	56 160	70 199	85 239	96 279	113 322			
	THROW	6-12 13-18	7-13 14-19	9-14 16-21	11-16 17-22	12-17 18-23	13-18 19-24	14-19 19-26			
SCD-2way	SCFM	-117	-141	-188	-234	-281	-328	-378			
	THROW	14-19	15-20	17-22	12-23	19-24	19-26	20-27			
SCD-1way	SCFM	-234	-281	-375	-468	-562	-656	-756			
	THROW	18-23	19-24	20-27	21-29	22-32	23-34	24-36			

Note

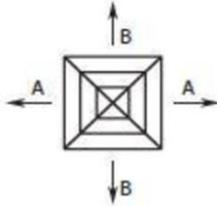
SIZE : Is the nominal neck size in inches
 NECK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

CEILING DIFFUSERS

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	281	337	450	562	674	788	900	SIZE
			S.NC	<18	22	28	33	36	42	47	
9 X 18	0.25	SCD-4way	SCFM	35 106	42 127	56 169	70 211	85 252	98 296	113 337	9
			THROW	6-12 13-18	7-13 14-19	9-14 16-21	11-16 17-22	12-17 18-23	13-18 19-25	14-19 19-26	
		SCD-3way	SCFM	35 123	42 148	56 197	70 264	85 252	96 345	113 384	X
			THROW	6-12 14-19	7-13 15-20	9-14 17-22	11-16 18-23	12-17 19-25	13-18 19-26	14-19 20-27	
		SCD-2way	SCFM	-141	-164	-225	-281	-337	-394	-450	18
			THROW	15-20	16-21	17-23	19-25	19-26	20-27	21-29	
SCD-1way	SCFM	-281	-337	-450	-562	-674	-788	-900	18		
	THROW	19-25	19-26	21-29	22-32	23-34	24-37	25-39			
SIZE	NECK AREA	PATTERN	CFM	63	394	525	656	788	918	1050	SIZE
			S.NC	18	22	28	33	38	41	45	
6 X 21	1.31	SCD-4way	SCFM	35 129	42 155	56 207	70 258	85 309	98 361	113 412	9
			THROW	6-12 14-19	7-13 15-20	9-14 17-22	11-16 18-23	12-17 19-25	13-18 20-26	14-19 20-27	
		SCD-3way	SCFM	35 147	42 176	56 235	70 293	85 309	98 410	113 469	X
			THROW	6-12 15-20	7-13 16-21	9-14 18-23	11-16 19-25	12-17 19-26	13-18 20-27	14-19 21-29	
		SCD-2way	SCFM	-164	-197	-263	-328	-394	-459	-525	21
			THROW	16-21	17-22	18-24	19-26	20-27	21-29	21-30	
SCD-1way	SCFM	-328	-394	-525	-656	-788	-918	-1050	21		
	THROW	19-26	20-27	21-30	22-33	24-37	25-39	25-40			
SIZE	NECK AREA	PATTERN	CFM	375	450	600	750	900	1050	1200	SIZE
			S.NC	18	23	30	35	41	45	50	
9 X 24	1.5	SCD-4way	SCFM	35 153	42 183	56 244	70 305	85 365	98 427	113 487	9
			THROW	6-12 15-20	7-13 16-21	9-14 18-23	11-16 19-24	12-17 20-26	13-18 21-27	15-20 21-28	
		SCD-3way	SCFM	35 170	42-204	56 272	70 340	85 408	98 476	113 544	X
			THROW	6-12 16-21	7-13 17-22	9-14 19-24	11-16 20-25	12-17 21-27	13-18 21-28	15-20 22-29	
		SCD-2way	SCFM	-188	-225	-300	-375	-450	-525	-600	24
			THROW	17-22	18-23	20-25	21-26	22-28	23-29	24-30	
SCD-1way	SCFM	-375	-450	-600	-750	-900	-1050	-1200	24		
	THROW	20-27	22-28	24-31	25-33	27-36	28-38	30-40			

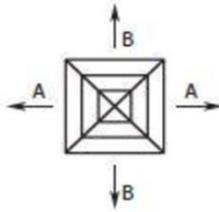
Note

SIZE : Is the nominal neck size in inches
 NECK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	312	375	500	624	750	876	1000	SIZE
			S.NC	<18	21	28	33	36	40	45	
12 X 15	1.25	SCD-4way	SCFM	35 121	42 146	56 194	70 242	85 290	98 340	113 387	12 X 15
			THROW	6-12 14-19	7-13 15-20	9-14 17-22	11-16 18-23	12-17 19-24	13-18 19-26	14-19 20-27	
		SCD-3way	SCFM	35 139	42 167	56 222	70 277	85 333	96 396	113 444	12 X 15
			THROW	6-12 15-20	7-13 16-21	9-14 17-23	11-16 18-25	12-17 19-26	13-18 20-27	14-19 11-15	
		SCD-2way	SCFM	-156	-188	-250	-312	-375	-438	-500	12 X 15
			THROW	16-21	17-22	18-13	19-24	20-36	21-28	21-13	
SCD-1way	SCFM	-312	-375	-500	-624	-750	-876	-1000	12 X 15		
	THROW	19-24	20-26	21-30	22-32	23-35	25-38	25-40			
SIZE	NECK AREA	PATTERN	CFM	375	450	600	750	900	1050	1200	SIZE
			S.NC	<18	23	29	33	38	43	48	
12 X 18	1.5	SCD-4way	SCFM	35 153	42 183	56 244	70 305	85 365	98 427	113 487	12 X 18
			THROW	6-12 15-20	7-13 17-22	9-14 18-23	11-16 19-24	12-17 20-26	13-18 21-29	14-19 21-31	
		SCD-3way	SCFM	35 170	42 204	56 272	70 340	85 408	98 476	113 544	12 X 18
			THROW	6-12 16-21	7-13 17-22	9-14 18-24	11-16 19-26	12-17 20-27	13-18 21-29	14-19 22-31	
		SCD-2way	SCFM	-188	-225	-300	-375	-450	-525	-600	12 X 18
			THROW	17-22	17-23	18-24	20-26	21-29	22-30	22-33	
SCD-1way	SCFM	-375	-450	-600	-750	-900	-1050	-1200	12 X 18		
	THROW	20-26	21-29	22-33	23-35	25-38	26-40	27-42			
SIZE	NECK AREA	PATTERN	CFM	438	525	700	875	1050	1224	1400	SIZE
			S.NC	20	24	30	34	39	45	49	
12 X 21	1.75	SCD-4way	SCFM	35 148	42 221	56 294	70 368	85 440	98 514	113 587	12 X 21
			THROW	6-12 17-22	7-13 17-23	9-14 18-24	11-16 20-26	12-17 21-29	13-18 22-30	14-19 22-32	
		SCD-3way	SCFM	35 202	42 242	56 322	70 403	85 483	98 563	113 644	12 X 21
			THROW	6-12 17-22	7-13 18-23	9-14 19-24	11-16 20-26	12-17 21-29	13-18 22-31	14-19 22-32	
		SCD-2way	SCFM	-219	-263	-350	-438	-525	-612	-700	12 X 21
			THROW	17-23	18-24	19-26	21-28	22-30	22-31	23-33	
SCD-1way	SCFM	-438	-525	-700	-875	-1050	-1224	-1400	12 X 21		
	THROW	21-28	22-30	23-33	24-26	26-40	27-42	28-44			

Note

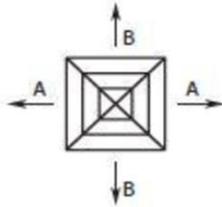
SIZE : Is the nominal neck size in inches
 NECK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

CEILING DIFFUSERS

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
		250	300	400	500	600	700
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	500	600	800	1000	1200	1400	1600	SIZE	
			S.NC	22	26	32	37	40	45	50		
12	X	0.25	SCD-4way	SCFM	63 187	75 225	100 300	125 375	150 450	175 525	200 600	12
			THROW	6-12 18-23	7-13 18-24	9-14 19-25	11-16 20-27	12-17 22-30	13-18 23-31	14-19 24-33		
24	X	0.25	SCD-3way	SCFM	63 219	75 263	100 350	125 438	150 525	175 613	200 700	24
			THROW	6-12 18-23	7-13 19-24	9-14 20-25	11-16 21-28	12-17 22-30	13-18 24-32	14-19 25-34		
24	X	0.25	SCD-2way	SCFM	-250	-300	-400	-500	-600	-700	-800	24
			THROW	18-24	19-25	20-26	22-30	23-33	25-35	26-39		
24	X	0.25	SCD-1way	SCFM	-500	-600	-800	-1000	-1200	-1400	-1600	24
			THROW	21-31	22-33	24-34	27-39	28-42	30-44	32-47		
SIZE	NECK AREA	PATTERN	CFM	469	562	750	938	1125	1312	1500	SIZE	
			S.NC	18	23	29	34	39	43	47		
15	X	1.875	SCD-4way	SCFM	98 137	118 163	156 219	196 273	235 328	274 382	312 438	15
			THROW	14-18 17-21	16-19 18-22	18-22 19-25	19-24 22-30	20-26 22-29	21-27 23-31	22-29 24-34		
18	X	1.875	SCD-3way	SCFM	98 186	118 222	156 297	196 371	235 445	274 382	312 594	18
			THROW	14-18 19-24	16-19 19-25	18-22 20-27	19-24 22-30	20-26 23-33	21-27 24-35	22-29 25-37		
18	X	1.875	SCD-2way	SCFM	-235	-281	-275	-469	-563	-656	-750	18
			THROW	20-26	21-27	22-30	23-34	24-36	25-38	26-40		
18	X	1.875	SCD-1way	SCFM	-469	-562	-750	-938	-1125	-1312	-1500	18
			THROW	23-34	24-36	26-40	28-44	30-47	31-49	32-51		
SIZE	NECK AREA	PATTERN	CFM	548	655	875	1095	1312	1529	1750	SIZE	
			S.NC	19	23	29	35	40	44	48		
15	X	2.185	SCD-4way	SCFM	98 176	118 210	156 282	196 352	235 421	274 491	312 563	15
			THROW	14-18 17-22	16-19 18-23	18-22 19-25	19-25 21-28	20-26 23-30	21-27 24-32	22-29 25-35		
21	X	2.185	SCD-3way	SCFM	98 225	118 269	156 360	196 450	235 539	274 628	312 719	21
			THROW	14-18 18-23	16-19 19-24	18-22 20-26	19-25 22-29	20-26 24-31	21-27 25-33	22-29 26-37		
21	X	2.185	SCD-2way	SCFM	-274	-328	-438	-548	-656	-765	-875	21
			THROW	19-24	20-25	21-28	23-32	25-34	26-38	28-41		
21	X	2.185	SCD-1way	SCFM	-548	-655	-875	-1095	-1312	-1529	-1750	21
			THROW	23-32	25-35	27-39	30-44	33-47	35-51	37-56		

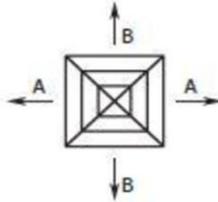
Note

SIZE : Is the nominal neck size in inches
 NICK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	628	748	1000	1252	1499	1746	2000	SIZE
			S.NC	21	24	30	36	41	45	50	
15	X	2.5	SCFM	98 216	118 256	156 344	196 430	235 515	274 599	312 688	15
			THROW	14-18 17-23	16-19 19-24	18-22 20-26	19-25 22-29	20-26 24-32	21-27 25-34	22-29 26-36	
24	X	2.5	SCFM	98 256	118 315	156 422	196 528	235 632	274 736	312 844	24
			THROW	14-18 18-24	16-19 19-25	18-22 20-27	19-25 22-30	20-26 25-33	21-27 26-35	22-29 27-38	
24	X	2.5	SCFM	-314	-374	-500	-626	-750	-873	-1000	24
			THROW	19-25	20-26	21-28	23-33	25-35	26-37	15-21	
24	X	2.5	SCFM	-628	-748	-1000	-1252	-1499	-1764	-2000	24
			THROW	21-33	25-36	27-40	29-45	32-48	36-53	39-59	

SIZE	NECK AREA	PATTERN	CFM	655	788	1050	1313	1575	1838	2138	SIZE
			S.NC	18	24	30	36	41	45	50	
18	X	2.625	SCFM	141 187	186 226	225 300	281 376	337 451	394 525	450 619	18
			THROW	8-15 11-18	9-16 13-20	10-17 15-22	12-18 17-24	14-20 19-27	15-21 21-29	17-23 24-33	
21	X	2.625	SCFM	141 257	168 310	225 413	281 516	337 619	394 722	450 844	21
			THROW	8-15 12-19	9-16 14-21	10-17 16-23	12-18 18-25	14-20 21-29	15-21 22-30	17-23 25-35	
21	X	2.625	SCFM	-328	-394	-525	-657	-788	-919	-1069	21
			THROW	13-20	15-22	17-24	19-28	22-33	24-37	27-40	
21	X	2.625	SCFM	-655	-788	-1050	-1313	-1575	-1838	-2138	21
			THROW	16-25	18-28	20-31	23-34	26-38	28-41	31-46	

SIZE	NECK AREA	PATTERN	CFM	748	901	1200	1500	1800	2100	2400	SIZE
			S.NC	20	25	31	37	42	46	51	
18	X	3.0	SCFM	141 233	168 283	225 375	281 469	337 563	394 656	450 750	18
			THROW	8-15 11-19	9-16 14-21	10-17 16-23	12-18 18-25	14-20 20-28	16-22 22-30	18-25 26-34	
24	X	3.0	SCFM	141 304	168 367	225 488	281 610	337 732	394 853	450 975	24
			THROW	8-15 11-20	9-16 14-22	10-17 16-24	12-18 18-26	14-20 21-29	16-22 22-31	18-25 27-35	
24	X	3.0	SCFM	-374	-451	-600	-750	-900	-1050	-1200	24
			THROW	12-21	15-23	17-25	19-28	22-34	24-37	29-42	
24	X	3.0	SCFM	-748	-901	-1200	-1500	-1800	-2100	-2400	24
			THROW	15-25	18-27	20-29	23-33	26-39	29-43	34-49	

Note

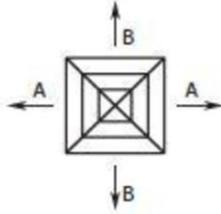
SIZE : Is the nominal neck size in inches
 NECK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

CEILING DIFFUSERS

BASIC PERFORMANCE DATA (supply air ceiling diffusers)

RECTANGULAR NECK



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
		250	300	400	500	600	700
$\Delta P(s)$	0.018	0.026	0.046	0.072	0.104	0.142	0.186

SIZE	NECK AREA	PATTERN	CFM	871	1053	1400	1748	2100	2452	2800	SIZE
			S.NC	21	25	30	35	40	46	51	
21	X	SCD-4way	SCFM	191 245	230 297	306 394	383 491	460 590	536 690	613 787	21
			THROW	12-16 17-21	14-17 19-24	15-19 21-25	16-20 24-29	18-22 27-32	19-24 29-35	20-25 31-37	
SCD-3way		SCFM	191 340	230 412	306 547	383 683	460 820	536 958	613 1094	X	
		THROW	12-16 18-22	14-17 20-25	15-19 22-27	16-20 25-31	18-22 28-33	19-24 29-35	20-25 33-40		
24		SCD-2way	SCFM	-436	-527	-700	-874	-1050	-1226	-1400	24
			THROW	19-23	22-26	23-29	27-33	29-35	31-38	34-42	
	SCD-1way	SCFM	-871	-1053	-1400	-1748	-2100	-2452	-2800		
		THROW	22-26	25-30	27-34	31-38	33-42	35-45	38-51		

Note

SIZE : Is the nominal neck size in inches
 NICK AREA : Is in square feet
 PATTERN : Is flow pattern as detailed previously

$\Delta P(s)$: Supply pressure drop in inches W.G
 SCFM : Side CFM
 THROW : IN feet corresponding to 100 & 50 FPM terminal velocity
 SNC : Room NC for supply based on 8 db room effect

BASIC PERFORMANCE DATA (return ceiling diffusers)

SIZE	NECK AREA	NECK VELOCITY	250	300	400	500	600	700	800
		$\Delta P_{(R)}$	0.021	0.031	0.055	0.086	0.125	0.170	0.220
6 X 6	0.25	CFM	63	75	100	125	150	175	200
		R.NC	<18	18	20	24	28	33	37
9 x 9	0.56	CFM	140	169	225	281	338	394	450
		R.NC	18	20	24	29	33	39	42
12 X 12	1.0	CFM	250	300	400	500	600	700	800
		R.NC	<18	23	29	34	38	43	47
15 X 15	1.56	CFM	390	469	625	781	938	1095	1250
		R.NC	22	25	31	36	40	47	52
8 X 18	2.25	CFM	562	675	900	1125	1350	1575	1800
		R.NC	20	28	34	39	44	49	55
21 x 21	3.06	CFM	765	919	1225	1530	1838	2144	2450
		R.NC	26	29	34	40	46	54	60
24 X 24	4.0	CFM	1000	1200	1600	2000	2400	2800	3200
		R.NC	24	29	34	41	47	54	59
6 x 9	0.375	CFM	94	113	150	188	226	262	300
		R.NC	<18	<18	21	25	29	34	38
6 x 12	0.5	CFM	125	150	200	250	300	350	400
		R.NC	<18	20	24	29	33	39	44
6 x 15	0.625	CFM	156	188	250	312	376	438	500
		R.NC	<18	21	27	32	36	41	46
6 x 18	0.75	CFM	188	225	300	375	450	526	600
		R.NC	<18	22	28	33	37	42	48
6 x 21	0.875	CFM	219	262	350	438	524	612	700
		R.NC	20	24	30	35	39	44	49
6 x 24	1.0	CFM	251	300	400	501	600	700	800
		R.NC	20	24	31	37	41	45	50
9 x 12	0.75	CFM	188	225	300	375	450	526	600
		R.NC	<18	21	27	32	36	41	47
9 x 15	0.938	CFM	234	281	375	468	562	656	756
		R.NC	<18	22	27	33	37	42	45
9 x 18	1.125	CFM	281	337	450	562	674	788	900
		R.NC	18	24	30	35	38	44	49

CEILING DIFFUSERS

BASIC PERFORMANCE DATA(return ceiling diffusers)

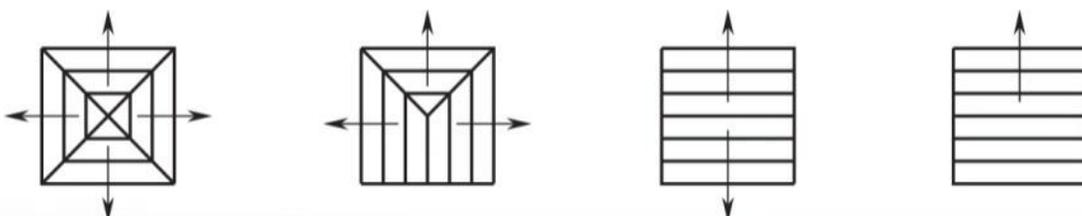
SIZE	NECK AREA	NECK VELOCITY	250	300	400	500	600	700	800
		$\Delta P_{(R)}$	0.021	0.031	0.055	0.086	0.125	0.170	0.220
9 X 21	1.31	CFM	328	394	525	656	788	918	1050
		RNC	21	25	31	36	41	44	48
9 x 24	1.5	CFM	375	450	600	750	900	1050	1200
		RNC	21	26	33	38	44	48	53
12 x 15	1.25	CFM	312	375	500	624	750	876	1000
		RNC	20	24	31	36	39	43	48
12 x 18	1.5	CFM	375	450	600	750	900	1050	1200
		RNC	22	26	32	36	41	46	51
12 x 21	1.75	CFM	438	525	700	875	1050	1224	1400
		RNC	23	27	33	36	42	48	52
12 x 24	2.0	CFM	500	600	800	1000	1200	1400	1600
		RNC	25	29	35	40	43	48	53
15 x 18	1.875	CFM	469	562	750	938	1125	1312	1500
		RNC	21	26	32	37	42	46	50
15 x 21	2.185	CFM	548	655	875	1095	1312	1529	1750
		RNC	22	26	32	38	43	47	51
15 x 24	2.5	CFM	628	748	1000	1252	1499	1746	2000
		RNC	24	28	33	39	44	48	53
18 x 21	2.625	CFM	655	788	1050	1313	1575	1838	2138
		RNC	21	27	33	39	44	48	54
18 x 24	3.0	CFM	748	901	1200	1500	1800	2100	2400
		RNC	23	28	34	40	45	49	55
21 x 24	3.5	CFM	871	1053	1400	1748	2100	2452	2800
		RNC	24	28	33	38	43	49	54

Note

SIZE :Is the nominal neck size in inches.
 NICK AREA :Is in square feet.

$\Delta P(s)$:Return pressure drop in inches W.G.
 RNC :Room NC for return based on 8 db room effect.

For Square / Rectangular core styles with 1,2,3 or 4way airflow patterns



GENERAL

perforated ceiling diffusers are designed especially for installation where a smooth air flow as well as a symmetrical air diffusion is required to meet with a certain HVAC application, and yet with a pleasing appearance to suit architectural requirements to flush outlets and concealed fixing method.



Perforated Ceiling Diffuser
(SCDP – 4 ways)

DESCRIPTION

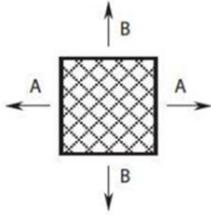
perforated ceiling diffuser is a multi-vane type with a fully and easily removable perforated face with 4 mm diameter holes, 6 mm pitches and 40% of its face open, with square or round neck and can be supplied in 1,2,3&4 way airflow patterns for all air distribution requirements. The diffuser can also be supplied with an opposed blade damper section (for supply diffusers only) which in turn is fixed to the outer frame of the diffuser and is lever operated from the face of the diffuser. Key operated opposed blades damper can also be supplied upon request. The damper frame is separated from its blades by using nylon bushings to eliminate corrosion and vibration. perforated ceiling diffuser is available in square and rectangular patterns for supply-air as well as for return-air and which in turn is supplied without opposed blade damper as standard.

MATERIAL AND FINISH

High quality extruded aluminum in silver anodized matt finish. Perforated face is of aluminum sheet 1.5 mm thickness. White polyester powder coating finish or any other RAL standard color are also available upon your requirement

CEILING DIFFUSERS

BASIC PERFORMANCE DATA(perforated supply air ceiling diffusers)



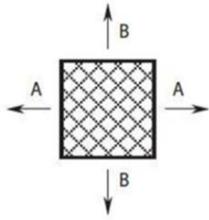
NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
	250	300	400	500	600	700	800
$\Delta P(s)$	0.015	0.023	0.041	0.066	0.94	0.13	0.172

SIZE	NECK AREA	PATTERN	CFM	63	75	100	125	150	175	200	SIZE
			S.NC	<18	20	22	25	29	34	38	
6 X 6	0.25	SCDP-4way	THROW	2-4	3-5	4-6	5-7	6-8	7-9	8-10	6 X 6
		SCDP-3way	THROW	2-4	3-5	4-6	5-7	6-7	6-8	7-9	
		SCDP-2way	THROW	2-3	2-4	3-5	4-6	5-6	5-7	6-8	
		SCDP-1way	THROW	2	2-3	3-4	3-5	4-5	5-6	6-7	
SIZE	NECK AREA	PATTERN	CFM	140	169	225	281	338	394	450	SIZE
			S.NC	<18	20	23	26	31	36	42	
9 X 9	0.5	SCDP-4way	THROW	3-5	5-7	7-9	8-11	10-12	11-14	13-16	9 X 9
		SCDP-3way	THROW	3-5	4-6	5-8	7-10	9-11	10-12	11-14	
		SCDP-2way	THROW	2-4	4-5	5-7	6-9	8-10	9-11	10-12	
		SCDP-1way	THROW	2-3	3-5	4-6	5-7	7-9	8-10	9-11	
SIZE	NECK AREA	PATTERN	CFM	250	300	400	500	600	700	800	SIZE
			S.NC	19	22	25	28	34	39	45	
12 X 12	1.0	SCDP-4way	THROW	4-6	6-8	8-11	10-14	12-16	14-19	16-22	12 X 12
		SCDP-3way	THROW	4-6	5-7	7-10	9-13	11-14	12-17	14-19	
		SCDP-2way	THROW	3-5	4-6	6-8	8-11	10-13	11-15	12-17	
		SCDP-1way	THROW	3-4	4-5	5-7	7-9	8-11	10-14	11-15	

CEILING DIFFUSERS

ALSHARQA
AIR OUTLETS

BASIC PERFORMANCE DATA(perforated supply air ceiling diffusers)



NECK VELOCITY	A B	A B	A B	A B	A B	A B	A B
		250	300	400	500	600	700
$\Delta P(s)$	0.015	0.023	0.041	0.066	0.94	0.13	0.172

SIZE	NECK AREA	PATTERN	CFM	390	469	625	781	938	1095	1250	SIZE
			S.NC	20	23	27	32	38	44	50	
15 X 15	1.56	SCDP-4way	THROW	5-7	8-10	10-13	12-16	15-20	18-23	20-26	15 X 15
		SCDP-3way	THROW	5-6	7-9	9-11	11-14	13-18	16-21	18-23	
		SCDP-2way	THROW	4-5	6-8	8-10	10-12	11-16	14-18	16-20	
		SCDP-1way	THROW	3-4	5-7	7-9	9-11	10-14	12-16	14-18	

CEILING DIFFUSERS

PERFORATED RETURN AIR CEILING DIFFUSERS

SIZE	NECK AREA	NECK VELOCITY	250	300	400	500	600	700	800	SIZE
		$\Delta P(R)$	0.019	0.032	0.059	0.091	0.115	0.148	0.198	
6x6	0.25	CFM	63	75	100	125	150	175	200	6x6
		R.NC	<18	20	23	26	30	36	39	
9x9	0.56	CFM	140	169	225	281	338	394	450	9x9
		R.NC	19	21	24	27	32	37	43	
12x12	1.0	CFM	250	300	400	500	600	700	800	12x12
		R.NC	20	23	26	30	35	40	47	
15x15	1.56	CFM	390	469	625	781	938	1095	1250	15x15
		R.NC	21	24	29	35	40	46	52	

Note

SIZE :Is the nominal neck size in inches.

NICK AREA :Is in square feet.

PATTERN :Is flow pattern as detailed previously.

$\Delta P(s)$:Supply pressure drop in inches W.G.

$\Delta P(R)$:Return pressure drop in inches W.G.

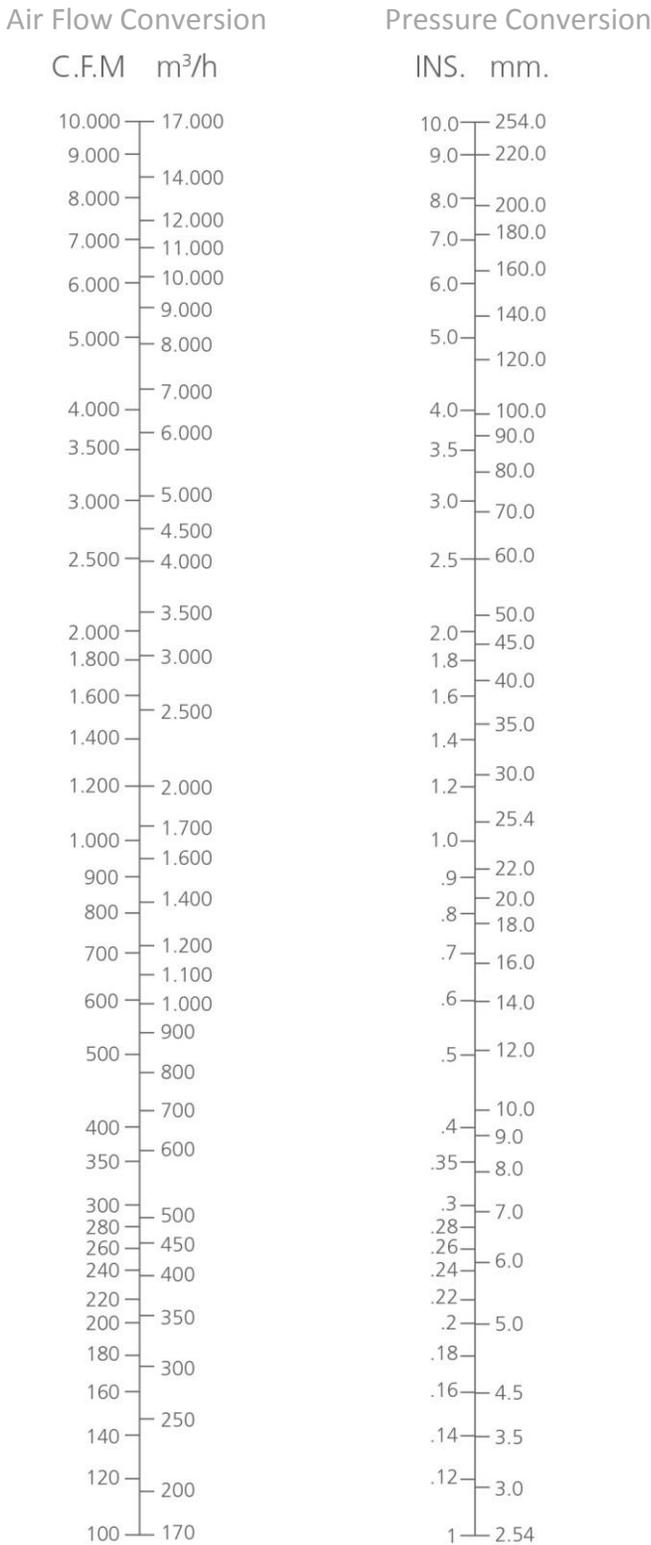
THROW :In feet corresponding to 100 & 50

FPM terminal velocity.

SNC :Room NC for supply based on 8 db room effect.

RNC :Room NC for return based on 8 db room effect

Airflow / Pressure Conversion Chart



Recommended Air Changes Per Hour
(For Ventilation)

Assembly rooms	4 - 8
Bakeries	20 - 30
Banks/Building societies	4 - 8
Bathrooms	6 - 10
Bedrooms	2 - 4
Billiard rooms	6 - 8
Boiler rooms	15 - 30
Cafes and coffee bars	10 - 12
Canteens	8 - 12
Cellars	3 - 10
Churches	1 - 3
Cinemas and theatres	10 - 15
Club rooms	12 minimum
Compressor rooms	10 - 12
Conference rooms	8 - 12
Dance halls	12 minimum
Electroplating shops	10 - 12
Engine rooms	15 - 30
Entrance halls, corridors	3 - 5
Factories and workshops	8 - 10
Foundries	15 - 30
Garages	6 - 8
Glasshouses	25 - 60
Gymnasiums	6 minimum
Hairdressing salons	10 - 15
Hospitals - sterilizing	15 - 25
Kitchens - domestic	15 - 20
- commercial	30 minimum
Laboratories	6 - 15
Laundries	10 - 30
Lavatories	6 - 15
Lecture theatres	5 - 8
Libraries	3 - 5
Living rooms	3 - 6
Offices	6 - 10
Paint shops (not cellulose)	10 x 20
Photo and X-ray darkrooms	10 - 15
Public house bars	12 minimum
Recording control rooms	15 - 25
Recording studios	10 - 12
Restaurants	5 - 7
Schoolrooms	5 - 7
Shops and supermarkets	8 - 5
Shower baths	15 - 20
Stores and warehouses	3 - 6
Squash courts	4 minimum
Swimming baths	10 - 15
Utility rooms	15 - 20
Welding shops	15 - 30

Increase by 50% where heavy smoking occurs or if the room is in underground.



Air Conditioning and Industries

المصرية الخليجية لأعمال التكييف - الشارقة
*egyptian gulf for the work
of air conditioning*

Administration: 53 B2 omarat ElFarokya, ElNozha ElGedida, Cairo

Factory: piece No 134 in 250 Fdan-Badr city -Egypt

Tel. Fax : (202) 2623 2292 - 010000 30 528

Mobile: 010064 17 304 - 010000 30 581

E-mail: info@alsharqa.com

www.alsharqa.com

