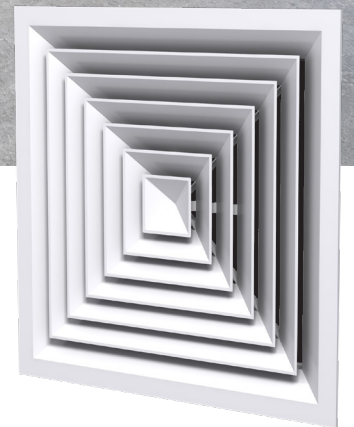


# SMD/AMD

MODULAR LOUVERED FACE DIFFUSER



# SMD/AMD

## Modular Louvered Face Diffuser

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High capacity, modular louvered face directional diffusers blend harmoniously with architectural details and are available with a wide array of frame styles for easy integration with modular ceiling systems. The SMD/AMD features large square and rectangular inlets for reduced inlet velocity, resulting in low sound and pressure drop even at high airflows. The modular louvered face diffuser is highly configurable with multiple core styles, airflow patterns, and optional features to tailor this product to specific applications.



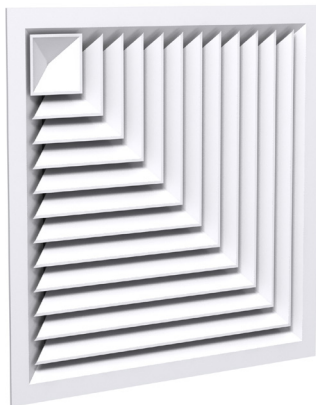
*4-way discharge*



*3-way discharge*



*2-way discharge*



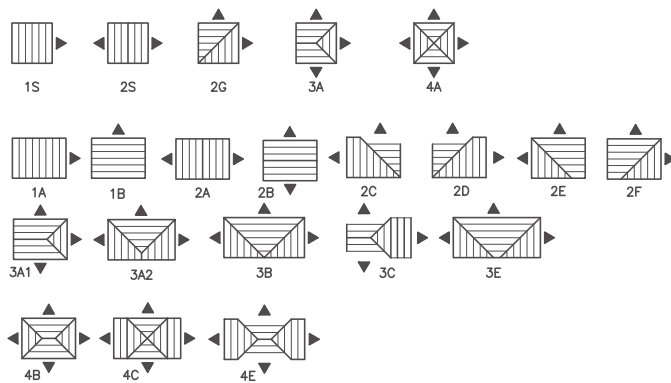
*2-way corner discharge*



*1-way discharge*

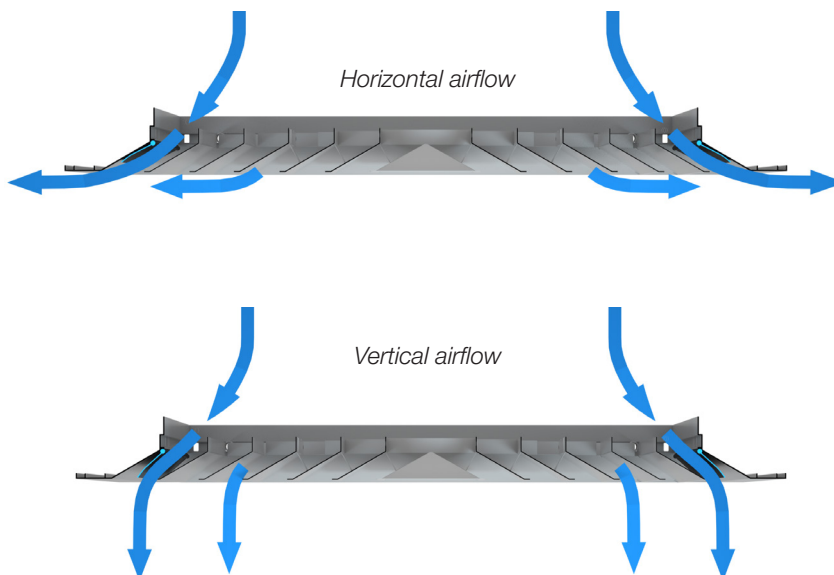
### VARIETY OF CORE STYLES

- + Available in a wide variety of core styles, the modular design of this diffuser allows for the customization of each unit to accommodate specific airflow requirements.
- + The various core styles allow for 1-way, 2-way, 2-way corner, 3-way, or 4-way airflow.
- + The directional core is easily removable at the diffuser face without the need for special tools.



### ADJUSTABLE PATTERN DEFLECTORS

Optional pattern deflectors provide horizontal or vertical air pattern. The pattern deflectors allow for field adjustment of the diffuser to optimize thermal comfort.



### TYPICAL APPLICATIONS

The SMD/AMD is well suited to applications that require large volumes of airflow at low sound and pressure drop. Concentrated airflow is discharged from each active side of the diffuser, resulting in longer throws that are ideal for high ceiling applications.

### CONSTRUCTION

- + Material
  - Steel (SMD)
  - Aluminum (AMD)
  - Extruded Aluminum (AMDE)
- + Options
  - Adjustable pattern deflectors (SMDA/AMDA)
  - High induction construction (SMX/AMX/AMEX)
  - Plaque face construction (SMDP)
  - Security construction (MSD)
  - Light commercial construction (LCMD)
  - Fire rated construction (SMD-FR/SMDA-FR/SMX-FR)

## HIGH INDUCTION CONSTRUCTION

The high induction louvered directional diffusers are designed for high cooling load applications. Internally mounted discharge vanes are engineered to create a high rate of induction that will rapidly mix warm room air with cool supply air. This rapid mixing quickly equalizes the temperature differential between the two air masses, minimizing the chance of uncomfortable drafts.



## PLAQUE FACE CONSTRUCTION

The plaque face construction combines a simple and unobtrusive plaque design with louvered slots that deliver large volumes of air with relatively low sound and pressure drop.

The louvered plaque ceiling diffuser is compatible with 24 in. x 24 in. ceiling grids and is available with 1, 2, or 3 slots in order to meet a wide range of performance requirements.



## SECURITY CONSTRUCTION

For minimum-security areas, such as mental health facilities, offices, and public areas, the SMD diffuser can be combined with a lattice faceplate to prevent access to ductwork and protects pattern controllers from damage and removal. The minimum security SMD can be mounted using either security screws or an optional rear mounting plate with tamperproof bolts.





# SMD/AMD

## Modular Louvered Face Diffuser

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### LIGHT COMMERCIAL CONSTRUCTION

The light commercial modular diffuser is an economical option that features extruded aluminum construction, 1 in. louver spacing and an easy to remove, spring-loaded core for concealed mounting.



### FIRE RATED CONSTRUCTION

Optional Fire Rated Assembly listing in the UL Fire Resistance Directory. Fire rated models meet UL time vs. temperature test criteria and NFPA 90A requirements.

Fire rated construction incorporates a thermal blanket and fire damper for use in fire rated T-bar ceiling applications. The butterfly-type fire damper is available with either a 165°F or 212°F fusible link.



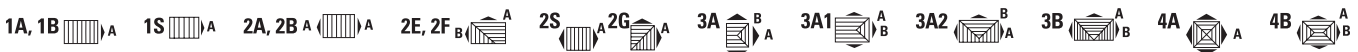
# PERFORMANCE DATA

## SMD/AMD

Neck Velocity (fpm)		300	400	500	600	700	800	900	
Velocity Pressure (in. w.g.)		0.006	0.01	0.016	0.022	0.031	0.04	0.05	
Total Pressure (in. w.g.)		0.036	0.065	0.099	0.144	0.196	0.256	0.324	
Duct Size	Flow Rate (cfm)	75	100	125	150	175	200	225	
	Sound (NC)	-	-	17	23	27	31	36	
6 in. x 6 in.		A	B	A	B	A	B	A	B
Duct Area	4A	cfm/Side	19	25	31	38	44	50	56
		Throw (ft)	4-6-12	5-8-15	7-10-16	8-12-18	9-14-19	11-15-21	12-16-22
	3A	cfm/Side	19	25	31	38	44	50	56
		Throw (ft)	4-6-12	5-8-15	7-10-16	8-12-18	9-14-19	11-15-21	12-16-22
	2S, 2G	cfm/Side	38	50	63	75	88	100	113
	Throw (ft)	6-8-15	7-11-18	9-14-20	11-15-22	13-17-24	15-18-25	15-19-27	
1S	cfm/Side	75	100	125	150	175	200	225	
	Throw (ft)	8-12-19	11-15-22	13-17-24	15-19-27	17-20-29	18-22-31	19-23-33	
9 in. x 9 in.		A	B	A	B	A	B	A	B
Duct Area	4A	cfm/Side	42	56	71	85	99	113	127
		Throw (ft)	6-9-16	8-12-18	10-15-21	12-16-23	14-17-24	15-18-26	16-20-28
	3A	cfm/Side	42	56	71	85	99	113	127
		Throw (ft)	6-9-16	8-12-18	10-15-21	12-16-23	14-17-24	15-18-26	16-20-28
	2S, 2G	cfm/Side	85	113	141	169	197	225	254
	Throw (ft)	8-13-19	11-16-22	14-18-25	16-19-28	17-21-30	18-22-32	19-24-34	
1S	cfm/Side	169	225	282	338	394	450	507	
	Throw (ft)	12-17-24	16-19-27	18-22-31	19-24-34	21-26-36	22-27-39	21-29-41	
12 in. x 12 in.		A	B	A	B	A	B	A	B
Duct Area	4A	cfm/Side	75	100	125	150	175	200	225
		Throw (ft)	8-12-19	11-15-22	13-17-24	15-19-27	17-20-29	18-22-31	19-23-33
	3A	cfm/Side	75	100	125	150	175	200	225
		Throw (ft)	8-12-19	11-15-22	13-17-24	15-19-27	17-20-29	18-22-31	19-23-33
	2S, 2G	cfm/Side	150	200	250	300	350	400	450
	Throw (ft)	11-16-23	15-19-26	17-21-30	19-23-32	20-25-35	22-26-37	23-28-40	
1S	cfm/Side	300	400	500	600	700	800	900	
	Throw (ft)	16-20-28	19-23-32	21-26-36	23-28-40	25-30-43	26-32-46	28-34-48	
15 in. x 15 in.		A	B	A	B	A	B	A	B
Duct Area	4A	cfm/Side	117	156	195	234	273	313	352
		Throw (ft)	10-15-21	13-17-25	16-20-28	17-21-30	19-23-33	20-25-35	21-26-37
	3A	cfm/Side	117	156	195	234	273	313	352
		Throw (ft)	10-15-21	13-17-25	16-20-28	17-21-30	19-23-33	20-25-35	21-26-37
	2S, 2G	cfm/Side	234	313	391	469	547	625	703
	Throw (ft)	14-18-26	17-21-30	19-24-34	21-26-37	23-28-40	25-30-43	26-32-45	
1S	cfm/Side	468	625	781	938	1094	1250	1406	
	Throw (ft)	18-22-32	21-26-37	24-29-41	26-32-45	28-34-48	30-37-52	32-39-55	
18 in. x 18 in.		A	B	A	B	A	B	A	B
Duct Area	4A	cfm/Side	169	225	281	338	394	450	506
		Throw (ft)	12-17-24	16-19-27	18-22-31	19-24-34	21-26-36	22-27-39	24-29-41
	3A	cfm/Side	169	225	281	338	394	450	506
		Throw (ft)	12-17-24	16-19-27	18-22-31	19-24-34	21-26-36	22-27-39	24-29-41
	2S, 2G	cfm/Side	338	450	563	675	788	900	1013
	Throw (ft)	17-20-29	19-24-33	22-26-37	24-29-41	25-31-44	27-33-47	29-35-50	
1S	cfm/Side	675	900	1125	1350	1575	1800	2025	
	Throw (ft)	20-25-35	23-29-41	26-32-45	29-35-50	31-38-54	33-41-58	35-43-61	
21 in. x 21 in.		A	B	A	B	A	B	A	B
Duct Area	4A	cfm/Side	230	306	383	459	536	613	689
		Throw (ft)	14-18-26	17-21-30	19-24-33	21-26-37	23-28-40	24-30-42	26-32-45
	3A	cfm/Side	230	306	383	459	536	613	689
		Throw (ft)	14-18-26	17-21-30	19-24-33	21-26-37	23-28-40	24-30-42	26-32-45
	2S, 2G	cfm/Side	459	613	766	919	1072	1225	1378
	Throw (ft)	18-22-32	21-26-36	24-29-41	26-32-45	28-34-48	30-36-52	32-39-55	
1S	cfm/Side	918	1225	1531	1837	2143	2450	2756	
	Throw (ft)	22-27-38	26-31-44	29-35-50	31-38-54	34-42-59	36-44-63	38-47-67	

For Performance Notes and Return Factors, see end of section.

## Core Style Legend



# PERFORMANCE DATA

## SMD/AMD

Neck Velocity (fpm)		300	400	500	600	700	800	900								
Velocity Pressure (in. w.g.)		0.006	0.01	0.016	0.022	0.031	0.04	0.05								
Total Pressure (in. w.g.)		0.036	0.065	0.099	0.144	0.196	0.256	0.324								
Duct Size 24 in. x 24 in.		1200		1600		2000		2400		2800		3200		3600		
Flow Rate (cfm)		15		24		31		37		41		45		49		
Sound (NC)		A B		A B		A B		A B		A B		A B		A B		
Duct Area 4.00 ft²	4A	cfm/Side	300	400	500	600	700	800	900							
		Throw (ft)	16-20-28	19-23-32	21-26-36	23-28-40	25-30-43	26-32-46	28-34-48							
	3A	cfm/Side	300	450	400	600	500	750	600	900	700	1050	800	1200	900	1350
		Throw (ft)	16-20-28	18-22-31	19-23-32	21-26-36	21-26-36	23-29-41	23-28-40	26-31-44	25-30-43	28-34-48	26-32-46	30-36-51	28-34-48	31-38-54
	2S, 2G	cfm/Side	600		800		1000		1200		1400		1600		1800	
	Throw (ft)	20-24-34		23-28-39		25-31-44		28-34-48		30-37-52		32-39-56		34-42-59		
1S	cfm/Side	1200		1600		2000		2400		2800		3200		3600		
	Throw (ft)	24-29-41		28-34-48		31-38-54		34-41-59		37-45-63		39-48-68		41-51-72		
Duct Size 9 in. x 6 in.		112		150		187		225		263		300		337		
Flow Rate (cfm)		-		-		20		26		30		34		38		
Sound (NC)		A B		A B		A B		A B		A B		A B		A B		
Duct Area 0.38 ft²	4B	cfm/Side	37	18	50	25	62	31	75	37	87	44	100	50	112	56
		Throw (ft)	6-8-15	4-6-12	7-11-18	5-8-15	9-14-20	7-10-16	11-15-22	8-12-18	13-17-24	9-14-20	15-18-25	11-15-21	15-19-27	12-16-22
	3A2	cfm/Side	35	42	47	55	58	70	70	84	82	98	94	112	105	126
		Throw (ft)	5-8-15	6-9-16	7-11-18	8-12-18	9-13-20	10-15-21	11-15-21	12-16-22	13-16-23	14-17-24	14-18-25	15-18-26	15-19-26	16-19-28
	2A, 2B	cfm/Side	56		75		93		112		131		150		168	
		Throw (ft)	7-10-17		9-14-20		11-16-22		14-17-24		15-19-26		16-20-28		17-21-30	
2E, 2F	cfm/Side	75	37	100	50	125	62	150	75	175	87	200	100	225	112	
	Throw (ft)	8-12-19	6-8-15	11-15-22	7-11-18	13-17-24	9-14-20	15-19-27	11-15-22	17-20-29	13-17-24	18-22-31	15-18-25	19-23-33	15-19-27	
1A, 1B	cfm/Side	112		150		187		225		263		300		337		
	Throw (ft)	10-14-21		13-17-24		16-19-27		17-21-30		19-23-32		20-24-35		21-26-37		
Duct Size 12 in. x 6 in.		150		200		250		300		350		400		450		
Flow Rate (cfm)		-		-		21		27		31		35		39		
Sound (NC)		A B		A B		A B		A B		A B		A B		A B		
Duct Area 0.5 ft²	4B	cfm/Side	56	18	75	25	94	31	113	37	131	44	150	50	169	56
		Throw (ft)	7-10-17	4-6-12	9-14-20	5-8-15	12-16-22	7-10-16	14-17-25	8-12-18	15-19-27	9-14-20	16-20-28	11-15-21	17-21-30	12-16-22
	3A1	cfm/Side	66	18	87	25	109	31	131	37	153	44	175	50	197	56
		Throw (ft)	7-11-18	4-6-12	10-15-21	5-8-15	12-16-23	7-10-16	15-18-26	8-12-18	16-20-28	9-14-20	17-21-30	11-15-21	18-22-31	12-16-22
	3B	cfm/Side	75	37	100	50	126	62	150	75	176	67	200	100	226	112
		Throw (ft)	8-12-19	6-8-15	11-15-22	7-11-18	13-17-24	9-14-20	15-19-27	11-15-22	17-20-29	10-15-21	18-22-31	15-18-25	19-23-33	15-19-27
	2A, 2B	cfm/Side	75		100		125		150		175		200		225	
		Throw (ft)	8-12-19		11-15-22		13-17-24		15-19-27		17-20-29		18-22-31		19-23-33	
2E, 2F	cfm/Side	112	37	160	50	188	62	225	75	263	87	300	100	338	112	
	Throw (ft)	10-14-21	6-8-15	14-18-25	7-11-18	16-19-27	9-14-20	17-21-30	11-15-22	19-23-32	13-17-24	20-24-35	15-18-25	21-26-37	15-19-27	
1A, 1B	cfm/Side	150		200		250		300		350		400		450		
	Throw (ft)	11-16-23		15-19-26		17-21-30		19-23-32		20-25-35		22-26-37		23-28-40		
Duct Size 15 in. x 6 in.		188		250		312		375		438		500		563		
Flow Rate (cfm)		-		15		22		28		32		36		40		
Sound (NC)		A B		A B		A B		A B		A B		A B		A B		
Duct Area 0.63 ft²	4B	cfm/Side	75	18	100	25	125	31	150	37	175	44	200	50	225	56
		Throw (ft)	8-12-19	4-6-11	11-15-22	5-8-15	13-17-24	7-10-16	15-19-27	8-12-18	17-20-29	9-14-19	18-22-31	11-15-21	19-23-33	12-15-22
	3A1	cfm/Side	84	18	112	25	140	31	169	37	197	44	225	50	253	56
		Throw (ft)	8-13-19	4-6-11	11-16-22	5-8-15	14-18-25	7-10-16	16-19-28	8-12-18	17-21-30	9-14-19	18-22-32	11-15-21	19-24-34	12-15-22
	2A, 2B	cfm/Side	94		125		156		187		219		250		281	
		Throw (ft)	9-13-20		12-16-23		15-18-26		16-20-28		18-22-31		19-23-33		20-25-35	
	2E, 2F	cfm/Side	150	37	200	50	250	62	300	75	350	87	400	100	450	112
		Throw (ft)	11-16-23	6-8-15	15-19-26	7-11-18	17-21-30	9-14-20	19-23-32	11-15-22	20-25-35	13-17-24	22-26-37	15-18-25	23-28-40	15-19-27
1A, 1B	cfm/Side	188		250		312		375		438		500		563		
	Throw (ft)	13-17-24		16-20-28		18-22-32		20-24-35		22-26-37		23-28-40		24-30-42		
Duct Size 18 in. x 6 in.		225		300		375		450		525		600		675		
Flow Rate (cfm)		-		16		23		29		33		37		41		
Sound (NC)		A B		A B		A B		A B		A B		A B		A B		
Duct Area 0.75 ft²	4B	cfm/Side	94	18	125	25	156	31	188	37	218	44	250	50	281	56
		Throw (ft)	9-13-20	4-6-12	12-16-23	5-8-15	15-18-26	7-10-16	16-20-28	8-12-18	18-22-31	9-14-20	19-23-33	20-25-35	21-26-37	12-16-22
	3A1	cfm/Side	103	18	137	25	172	31	206	37	240	44	275	50	309	56
		Throw (ft)	9-14-21	4-6-12	12-17-24	5-8-15	15-19-27	7-10-16	17-21-29	8-12-18	18-22-31	9-14-20	19-24-34	11-15-21	21-25-36	12-16-22
	2A, 2B	cfm/Side	112		150		187		225		262		300		337	
		Throw (ft)	10-14-21		13-17-24		16-19-27		17-21-30		19-23-32		20-24-35		21-26-37	
	2E, 2F	cfm/Side	187	37	250	50	313	62	375	75	438	87	500	100	563	112
		Throw (ft)	12-17-24	6-8-15	16-20-28	8-11-18	18-22-32	9-14-20	20-24-35	11-16-22	22-26-37	13-17-24	23-28-40	15-18-25	24-30-42	16-19-27
1A, 1B	cfm/Side	225		300		375		450		525		600		675		
	Throw (ft)	14-18-26		17-21-30		19-24-33		21-26-36		23-28-39		24-30-42		26-32-45		

For Performance Notes and Return Factors, see end of section.

## Core Style Legend





# PERFORMANCE DATA

## SMD/AMD

Neck Velocity (fpm)		300		400		500		600		700		800		900			
Velocity Pressure (in. w.g.)		0.006		0.01		0.016		0.022		0.031		0.04		0.05			
Total Pressure (in. w.g.)		0.036		0.065		0.099		0.144		0.196		0.256		0.324			
Duct Size	Flow Rate (cfm)	262		350		437		525		612		700		787			
21 in. x 6 in.	Sound (NC)	-		16		23		29		33		37		41			
Duct Area 0.88 ft <sup>2</sup>	4B	cfm/Side	112	18	150	25	187	31	225	37	262	44	300	50	337	56	
	Throw (ft)	10-14-21	4-6-11	13-17-24	5-8-15	16-19-27	7-10-16	17-21-30	8-12-18	19-23-32	9-14-20	20-24-34	11-15-21	21-26-37	12-16-22		
	3A1	cfm/Side	122	18	162	25	203	31	244	37	284	44	325	50	365	56	
	Throw (ft)	10-15-22	4-6-11	13-18-25	5-8-15	16-20-28	7-10-16	18-22-31	8-12-18	19-23-33	9-14-20	20-25-35	11-15-21	22-26-37	12-16-22		
	2A, 2B	cfm/Side	131		175		218		262		306		350		393		
	Throw (ft)	10-16-22		14-18-25		16-20-28		18-22-31		19-24-34		21-25-36		22-27-38			
Duct Area 1.00 ft <sup>2</sup>	2E, 2F	cfm/Side	225	37	300	50	375	62	450	75	525	87	600	100	675	112	
	Throw (ft)	14-18-26	6-8-15	17-21-30	8-11-18	19-23-33	9-14-20	21-26-36	11-16-22	23-28-39	13-17-24	24-30-42	15-18-25	26-32-45	15-19-27		
	1A, 1B	cfm/Side	262		350		437		525		612		700		787		
	Throw (ft)	15-19-27		18-22-31		20-25-35		22-27-38		24-29-41		25-31-44		27-33-47			
	Duct Size	Flow Rate (cfm)	300		400		500		600		700		800		900		
	24 in. x 6 in.	Sound (NC)	-		17		24		30		34		38		42		
Duct Area 0.88 ft <sup>2</sup>	4B	cfm/Side	131	18	175	25	219	31	263	37	306	44	350	50	394	56	
	Throw (ft)	10-16-22	4-6-12	14-18-25	5-8-15	16-20-28	7-10-16	18-22-31	8-12-18	19-24-34	9-14-20	21-25-36	11-15-21	22-27-38	12-16-22		
	3A1	cfm/Side	141	18	187	25	234	31	281	37	328	44	375	50	422	56	
	Throw (ft)	11-16-23	4-6-12	14-18-26	5-8-15	17-21-29	7-10-16	18-22-32	8-12-18	20-24-34	9-14-20	21-26-37	11-15-21	23-28-39	12-16-22		
	2A, 2B	cfm/Side	150		200		250		300		350		400		450		
	Throw (ft)	11-16-23		15-19-26		17-21-30		19-23-32		20-25-35		22-26-37		23-28-40			
Duct Area 1.00 ft <sup>2</sup>	2E, 2F	cfm/Side	260	37	350	50	438	62	525	75	613	87	700	100	788	112	
	Throw (ft)	15-19-27	6-8-15	18-22-31	8-11-18	20-25-35	9-14-20	22-27-38	11-16-22	24-29-41	13-17-24	25-31-44	15-18-25	27-33-47	16-19-27		
	1A, 1B	cfm/Side	300		400		500		600		700		800		900		
	Throw (ft)	16-20-28		19-23-32		21-26-36		23-28-40		25-30-43		26-32-46		28-34-48			
	Duct Size	Flow Rate (cfm)	225		300		375		450		525		600		675		
	12 in. x 9 in.	Sound (NC)	-		16		23		29		33		37		41		
Duct Area 0.75 ft <sup>2</sup>	4B	cfm/Side	70	42	94	56	117	70	141	84	164	98	188	112	211	126	
	Throw (ft)	8-11-18	6-9-16	10-15-21	8-12-18	13-17-24	10-15-21	15-19-26	12-16-22	16-20-28	14-17-24	17-21-30	15-18-26	19-23-32	16-19-28		
	3A1	cfm/Side	91	42	121	56	152	70	183	84	213	98	244	112	274	126	
	Throw (ft)	9-13-20	6-9-16	12-16-23	8-12-18	15-18-26	10-15-21	16-20-28	12-16-22	18-22-31	14-17-24	19-23-33	15-18-26	20-24-35	16-19-28		
	3A2	cfm/Side	75	75	100	100	125	125	150	150	175	175	200	200	225	225	
	Throw (ft)	8-12-19	8-12-19	11-15-22	11-15-22	13-17-24	13-17-24	15-19-27	15-19-27	17-20-29	17-20-29	18-22-31	18-22-31	19-23-33	19-23-33		
Duct Area 0.94 ft <sup>2</sup>	2A, 2B	cfm/Side	112		150		187		225		262		300		337		
	Throw (ft)	10-14-21		13-17-24		16-19-27		17-21-30		19-23-32		20-24-35		21-26-37			
	2E, 2F	cfm/Side	141	84	188	112	234	141	281	169	328	197	375	225	422	253	
	Throw (ft)	11-16-23	8-13-19	14-18-26	11-16-22	17-21-29	14-18-25	18-22-32	16-20-28	20-24-34	17-21-30	21-26-37	18-23-32	22-28-39	20-24-34		
	1A, 1B	cfm/Side	225		300		375		450		525		600		675		
	Throw (ft)	14-18-26		17-21-30		19-24-33		21-26-36		23-28-39		24-30-42		26-32-45			
Duct Size	Flow Rate (cfm)	281		375		470		563		656		750		845			
15 in. x 9 in.	Sound (NC)	-		17		24		30		34		38		42			
Duct Area 0.94 ft <sup>2</sup>	4B	cfm/Side	98	42	131	56	165	70	198	84	230	98	263	112	296	126	
	Throw (ft)	9-14-20	6-9-16	12-17-23	8-12-18	15-19-26	10-15-21	17-20-29	12-16-23	18-22-31	14-17-24	19-24-33	15-18-26	20-25-35	16-20-28		
	3A1	cfm/Side	120	42	159	56	200	70	240	84	279	98	319	112	359	126	
	Throw (ft)	10-15-21	6-9-16	13-17-25	8-12-18	16-20-28	10-15-21	18-21-30	12-16-23	19-23-33	14-17-24	20-25-35	15-18-26	21-26-37	16-20-28		
	3A2	cfm/Side	82	117	110	155	137	196	165	233	192	272	219	312	247	351	
	Throw (ft)	8-12-19	10-15-21	11-16-22	13-17-25	14-18-25	16-20-28	16-19-27	17-21-30	17-21-30	19-23-33	18-22-32	20-25-35	19-24-34	21-26-37		
Duct Area 1.13 ft <sup>2</sup>	2A, 2B	cfm/Side	140		187		235		281		328		375		422		
	Throw (ft)	11-16-22		14-18-26		17-21-29		18-23-32		20-24-34		21-26-37		23-28-39			
	2E, 2F	cfm/Side	197	84	263	112	329	141	394	169	459	197	525	225	592	253	
	Throw (ft)	13-18-25	8-13-19	17-20-29	11-16-22	19-23-32	14-18-25	20-25-35	16-19-28	22-27-38	17-21-30	23-29-40	18-22-32	25-30-43	19-24-34		
	1A, 1B	cfm/Side	281		375		470		563		656		750		845		
	Throw (ft)	15-19-27		18-22-32		20-25-35		22-27-39		24-30-42		26-32-45		27-34-48			
Duct Size	Flow Rate (cfm)	337		450		562		675		787		900		1012			
18 in. x 9 in.	Sound (NC)	-		18		25		31		35		39		43			
Duct Area 1.13 ft <sup>2</sup>	4B	cfm/Side	126	42	169	56	211	70	254	84	296	98	338	112	380	126	
	Throw (ft)	10-15-22	6-9-16	14-18-25	8-12-19	16-20-28	10-15-21	18-22-31	12-16-23	19-24-34	14-17-25	21-25-36	15-19-26	22-27-38	16-20-28		
	3A1	cfm/Side	147	42	197	56	246	70	295	84	345	98	394	112	443	126	
	Throw (ft)	11-16-23	6-9-16	15-19-26	8-12-19	17-21-29	10-15-21	19-23-32	12-16-23	20-25-35	14-17-25	22-26-37	15-19-26	23-28-40	16-20-28		
	3B	cfm/Side	168	84	225	112	281	141	337	169	394	197	450	225	506	253	
	Throw (ft)	12-17-24	8-13-19	16-19-27	11-16-22	18-22-31	14-18-25	19-24-34	16-19-28	21-26-36	17-21-30	22-27-39	18-22-32	24-29-41	19-24-34		
Duct Area 1.13 ft <sup>2</sup>	2A, 2B	cfm/Side	168		225		281		337		394		450		506		
	Throw (ft)	12-17-24		16-19-27		18-22-31		19-24-34		21-26-36		22-27-39		24-29-41			
	2E, 2F	cfm/Side	253	84	338	112	421	141	506	169	591	197	675	225	759	253	
	Throw (ft)	15-19-27	8-13-19	18-22-31	11-16-22	20-24-34	14-18-25	22-27-38	16-19-28	23-29-41	17-21-30	25-31-43	18-22-32	27-33-46	19-24-34		
	1A, 1B	cfm/Side	337		450		562		675		787		900		1012		
	Throw (ft)	17-20-29		19-24-33		22-26-37		24-29-41		25-31-44		27-33-47		29-35-50			

For Performance Notes and Return Factors, see end of section.



# PERFORMANCE DATA

## SMD/AMD

Neck Velocity (fpm)		300		400		500		600		700		800		900			
Velocity Pressure (in. w.g.)		0.006		0.01		0.016		0.022		0.031		0.04		0.05			
Total Pressure (in. w.g.)		0.036		0.065		0.099		0.144		0.196		0.256		0.324			
Duct Size		393		524		655		786		917		1050		1180			
Flow Rate (cfm)		-		18		25		31		35		39		43			
Sound (NC)		-		18		25		31		35		39		43			
Duct Area 1.31 ft <sup>2</sup>	4B	cfm/Side	154	42	206	56	258	70	309	84	360	98	413	112	464	126	
		Throw (ft)	11-16-23	6-9-16	15-19-27	8-12-18	17-21-30	10-14-20	19-23-33	12-16-22	20-25-35	14-17-24	22-27-38	15-18-26	23-28-40	16-19-27	
	3A1	cfm/Side	175	42	234	56	292	70	351	84	410	98	468	112	527	126	
		Throw (ft)	12-17-24	6-9-16	16-20-28	8-12-18	18-22-31	10-14-20	20-24-34	12-16-22	21-26-37	14-17-24	23-28-39	15-18-26	24-29-41	16-19-27	
	2A, 2B	cfm/Side	196		262		327		393		458		525		590		
		Throw (ft)	13-17-25		17-20-29		18-23-32		20-25-35		22-27-38		23-29-40		25-30-43		
Duct Area 1.50 ft <sup>2</sup>	2E, 2F	cfm/Side	308	84	412	112	514	141	617	169	720	197	825	225	927	253	
		Throw (ft)	16-20-28	8-13-20	19-23-33	11-16-23	21-26-36	14-18-25	23-28-40	16-20-28	25-30-43	17-21-30	27-33-46	18-23-32	28-35-49	20-24-34	
	1A, 1B	cfm/Side	393		524		655		786		917		1050		1180		
		Throw (ft)	17-21-30		20-25-35		22-28-39		25-30-43		27-33-46		28-35-49		30-37-52		
	Duct Size	Flow Rate (cfm)	450		600		750		900		1050		1200		1350		
		Sound (NC)	-		19		26		32		36		40		44		
Duct Area 1.50 ft <sup>2</sup>	4B	cfm/Side	183	42	244	56	305	70	366	84	427	98	488	112	549	126	
		Throw (ft)	12-17-24	6-9-16	16-20-28	8-12-19	18-22-31	10-15-21	20-24-34	12-16-23	21-26-37	14-17-25	23-28-40	15-19-26	24-30-42	16-20-28	
	3A1	cfm/Side	204	42	272	56	340	70	408	84	476	98	544	112	612	126	
		Throw (ft)	13-18-25	6-9-16	17-20-29	8-12-19	19-23-32	10-15-21	20-25-35	12-16-23	22-27-38	14-17-25	24-29-41	15-19-26	25-31-43	16-20-28	
	2A, 2B	cfm/Side	225		300		375		450		525		600		675		
		Throw (ft)	14-18-26		17-21-30		19-24-33		21-26-36		23-28-39		24-30-42		26-32-45		
Duct Area 1.50 ft <sup>2</sup>	2E, 2F	cfm/Side	365	84	488	112	609	141	731	169	853	197	975	225	1097	253	
		Throw (ft)	17-21-30	8-12-19	20-24-34	11-16-22	22-27-38	14-18-25	24-30-42	16-19-27	26-32-45	17-21-30	28-34-48	18-22-32	30-36-51	19-24-34	
	1A, 1B	cfm/Side	450		600		750		900		1050		1200		1350		
		Throw (ft)	18-22-31		21-26-36		23-29-41		26-31-44		28-34-48		30-36-51		31-38-54		
	Duct Size	Flow Rate (cfm)	375		500		625		750		875		1000		1125		
		Sound (NC)	-		19		26		32		36		40		44		
Duct Area 1.25 ft <sup>2</sup>	4B	cfm/Side	112	75	150	100	187	125	225	150	262	175	300	200	337	225	
		Throw (ft)	10-14-21	8-12-19	13-17-24	11-15-22	16-19-27	13-17-24	17-21-30	15-19-27	19-23-32	17-20-29	20-24-35	18-22-31	21-26-37	19-23-33	
	3A1	cfm/Side	150	75	200	100	250	125	300	150	350	175	400	200	450	225	
		Throw (ft)	11-16-23	8-12-19	15-19-26	11-15-22	17-21-30	13-17-24	19-23-32	15-19-27	20-25-35	17-20-29	22-26-37	18-22-31	23-28-40	19-23-33	
	3A2	cfm/Side	129	117	172	156	215	195	258	234	301	273	344	312	387	351	
		Throw (ft)	10-16-22	10-15-21	14-18-25	13-17-25	16-20-28	16-20-28	18-22-31	17-21-30	19-24-34	19-23-33	21-25-36	20-25-35	22-27-38	21-26-37	
Duct Area 1.50 ft <sup>2</sup>	2A, 2B	cfm/Side	187		250		312		375		437		500		562		
		Throw (ft)	12-17-24		16-20-28		18-22-32		20-24-35		22-26-37		23-28-40		24-30-42		
	2E, 2F	cfm/Side	225	150	300	200	375	250	450	300	525	350	600	400	675	450	
		Throw (ft)	14-18-26	11-16-23	17-21-30	15-19-26	19-24-33	17-21-30	21-26-36	19-23-32	23-28-39	20-25-35	24-30-42	22-26-37	26-32-45	23-28-40	
	1A, 1B	cfm/Side	375		500		625		750		875		1000		1125		
		Throw (ft)	17-21-30		20-24-34		22-27-38		24-30-42		26-32-45		28-34-49		30-36-52		
Duct Size	Flow Rate (cfm)	450		600		750		900		1050		1200		1350			
	Sound (NC)	-		20		27		33		37		41		45			
Duct Area 1.50 ft <sup>2</sup>	4B	cfm/Side	150	75	200	100	250	125	300	150	350	175	400	200	450	225	
		Throw (ft)	11-16-23	8-12-19	15-19-27	10-15-22	17-21-30	13-17-24	19-23-33	15-19-27	20-25-35	17-20-29	22-27-38	18-22-31	23-28-40	19-23-32	
	3A1	cfm/Side	187	75	250	100	312	125	375	150	437	175	500	200	562	225	
		Throw (ft)	12-17-24	8-12-19	16-20-28	10-15-22	18-22-31	13-17-24	20-24-35	15-19-27	22-26-37	17-20-29	23-28-40	18-22-31	24-30-42	19-23-32	
	3A2	cfm/Side	141	168	187	225	234	281	281	337	328	394	375	450	422	506	
		Throw (ft)	11-16-23	12-17-24	14-18-26	16-19-27	17-21-29	18-22-31	18-23-32	19-24-34	20-24-34	21-26-36	21-26-37	22-27-39	23-28-39	24-29-41	
Duct Area 1.50 ft <sup>2</sup>	2A, 2B	cfm/Side	225		300		375		450		525		600		675		
		Throw (ft)	14-18-26		17-21-30		19-24-33		21-26-36		23-28-39		24-30-42		26-32-45		
	2E, 2F	cfm/Side	300	150	400	200	500	250	600	300	700	350	800	400	900	450	
		Throw (ft)	16-20-28	11-16-23	19-23-32	15-19-27	21-25-36	17-21-30	23-28-39	19-23-33	25-30-43	20-25-35	26-32-46	22-27-38	28-34-48	23-28-40	
	1A, 1B	cfm/Side	450		600		750		900		1050		1200		1350		
		Throw (ft)	18-22-31		21-26-36		23-29-41		26-31-44		28-34-48		30-36-51		31-38-54		
Duct Size	Flow Rate (cfm)	525		700		875		1050		1225		1400		1575			
	Sound (NC)	-		20		27		33		37		41		45			
Duct Area 1.75 ft <sup>2</sup>	4B	cfm/Side	187	75	250	100	312	125	375	150	437	175	500	200	562	225	
		Throw (ft)	12-17-24	8-12-19	16-20-28	11-15-22	18-22-31	13-17-24	20-24-35	15-19-27	22-26-37	17-20-29	23-28-40	18-22-31	24-30-42	19-23-33	
	3A1	cfm/Side	225	75	300	100	375	125	450	150	525	175	600	200	675	225	
		Throw (ft)	14-18-26	8-12-19	17-21-30	11-15-22	19-23-33	13-17-24	21-26-36	15-19-27	23-28-39	17-20-29	24-30-42	18-22-31	26-32-45	19-23-33	
	3A2	cfm/Side	148	230	197	306	246	382	295	460	345	535	394	612	443	688	
		Throw (ft)	11-16-23	14-18-26	15-19-26	17-21-30	17-21-30	19-24-33	19-23-32	21-26-37	20-25-35	23-28-39	22-26-37	24-30-42	23-28-40	26-32-45	
Duct Area 1.75 ft <sup>2</sup>	2A, 2B	cfm/Side	262		350		437		525		612		700		787		
		Throw (ft)	15-19-27		18-22-31		20-25-35		22-27-38		24-29-41		25-31-44		27-33-47		
	2E, 2F	cfm/Side	375	150	500	200	625	250	750	300	875	350	1000	400	1125	450	
		Throw (ft)	17-21-30	11-16-23	20-24-34	15-19-26	22-27-39	17-21-30	24-30-42	19-23-32	26-32-46	20-25-35	28-34-49	22-26-37	30-37-52	23-28-40	
	1A, 1B	cfm/Side	525		700		875		1050		1225		1400		1575		
		Throw (ft)	19-23-33		22-27-38		24-30-42		27-33-46		29-35-50		31-38-54		33-40-57		

For Performance Notes and Return Factors, see end of section.

# PERFORMANCE DATA

## SMD/AMD

Neck Velocity (fpm)		300		400		500		600		700		800		900	
Velocity Pressure (in. w.g.)		0.006		0.01		0.016		0.022		0.031		0.04		0.05	
Total Pressure (in. w.g.)		0.036		0.065		0.099		0.144		0.196		0.256		0.324	
Duct Size 24 in. x 12 in.	Flow Rate (cfm)	600		800		1000		1200		1400		1600		1800	
	Sound (NC)	-		21		28		34		38		42		46	
Duct Area 2.00 ft <sup>2</sup>	4B cfm/Side Throw (ft)	225	75	300	100	375	125	450	150	525	175	600	200	675	225
	14-18-26	8-12-19	17-21-30	10-15-22	19-23-33	13-17-24	21-26-36	15-19-26	23-28-39	16-20-29	24-30-42	18-22-30	26-31-44	19-23-32	
	3A1 cfm/Side Throw (ft)	262	75	350	100	437	175	525	150	612	175	700	200	787	225
	15-19-27	8-12-19	18-22-31	10-15-22	20-25-35	16-20-29	22-27-38	15-19-26	24-29-41	16-20-29	25-31-44	18-22-30	27-33-47	19-23-32	
	3B cfm/Side Throw (ft)	300	150	400	200	500	250	600	300	700	350	800	400	900	450
	16-20-28	11-16-23	19-23-32	15-19-26	21-26-36	17-21-30	23-28-40	19-23-32	25-30-43	20-25-35	26-32-46	22-26-37	28-34-48	23-28-40	
	2A, 2B cfm/Side Throw (ft)	300		400		500		600		700		800		900	
16-20-28		19-23-32		21-26-36		23-28-40		25-30-43		26-32-46		28-34-48			
2E, 2F cfm/Side Throw (ft)	450	150	600	200	750	250	900	300	1050	350	1200	400	1350	450	
18-22-31	11-16-23	21-26-36	15-19-26	23-29-41	17-21-30	26-31-44	19-23-32	28-34-48	20-25-35	30-36-51	22-26-37	31-38-54	23-28-40		
1A, 1B cfm/Side Throw (ft)	600		800		1000		1200		1400		1600		1800		
20-24-34		23-28-39		25-31-44		28-34-48		30-37-52		32-39-56		34-42-59			
Duct Size 18 in. x 15 in.	Flow Rate (cfm)	562		750		937		1125		1312		1500		1687	
Duct Area 1.88 ft <sup>2</sup>	4B cfm/Side Throw (ft)	164	117	219	156	273	195	328	234	383	273	438	312	492	351
	12-17-24	10-15-21	16-19-27	13-17-25	18-21-30	16-19-28	19-24-33	17-21-30	21-25-36	19-23-33	22-27-38	20-25-35	24-29-41	21-26-37	
	3A1 cfm/Side Throw (ft)	222	117	297	156	371	195	445	234	519	273	594	312	668	351
	14-18-26	10-15-21	17-21-30	13-17-25	19-23-33	16-19-28	21-26-36	17-21-30	23-28-39	19-23-33	24-30-42	20-25-35	26-31-44	21-26-37	
	3A2 cfm/Side Throw (ft)	197	168	262	225	328	281	394	337	459	394	525	450	590	506
	13-18-25	12-17-24	17-20-29	16-19-27	18-23-32	18-22-31	20-25-35	19-24-34	22-27-38	21-26-36	23-29-40	22-27-39	25-30-43	24-29-41	
	2A, 2B cfm/Side Throw (ft)	281		375		468		562		656		750		843	
15-19-27		18-22-32		20-25-35		22-27-39		24-30-42		26-32-45		27-34-48			
2E, 2F cfm/Side Throw (ft)	329	234	438	312	547	390	657	468	766	546	876	624	985	702	
16-20-29	14-18-26	19-23-33	17-21-30	21-26-37	19-24-34	23-29-40	21-26-37	25-31-44	23-28-40	27-33-47	24-30-42	29-35-50	26-32-45		
1A, 1B cfm/Side Throw (ft)	562		750		937		1125		1312		1500		1687		
19-24-33		22-27-39		25-31-43		27-33-47		29-36-51		32-39-55		33-41-58			
Duct Size 21 in. x 15 in.	Flow Rate (cfm)	655		875		1092		1312		1532		1750		1970	
Duct Area 2.19 ft <sup>2</sup>	4B cfm/Side Throw (ft)	210	117	281	156	351	195	422	234	493	273	563	312	634	351
	13-18-25	10-15-21	17-21-29	13-17-25	19-23-33	16-19-28	21-25-36	17-21-30	22-27-39	19-23-33	24-29-41	20-25-35	25-31-44	21-26-37	
	3A1 cfm/Side Throw (ft)	269	117	359	156	448	195	539	234	629	273	719	312	809	351
	15-19-27	10-15-21	18-22-31	13-17-25	20-25-35	16-19-28	22-27-38	17-21-30	24-29-41	19-23-33	26-31-44	20-25-35	27-33-47	21-26-37	
	3A2 cfm/Side Throw (ft)	213	230	284	306	355	382	426	460	498	535	569	612	641	688
	13-18-25	14-18-26	17-21-29	17-21-30	19-23-33	19-24-33	21-25-36	21-26-37	22-27-39	23-28-40	24-29-41	24-30-42	25-31-44	26-32-45	
	2A, 2B cfm/Side Throw (ft)	327		437		546		656		766		875		985	
16-20-29		19-23-33		22-27-39		23-29-41		25-31-44		27-33-47		29-35-50			
2E, 2F cfm/Side Throw (ft)	422	234	563	312	702	390	844	468	986	546	1126	624	1268	702	
18-22-31	14-18-26	21-25-36	17-21-30	23-28-40	19-24-34	25-31-44	21-26-37	27-33-47	23-28-40	29-36-50	24-30-42	31-38-53	26-32-45		
1A, 1B cfm/Side Throw (ft)	655		875		1092		1312		1532		1750		1970		
20-25-35		23-29-40		26-32-45		29-35-49		31-38-53		33-40-57		35-43-61			
Duct Size 24 in. x 15 in.	Flow Rate (cfm)	750		1000		1250		1500		1750		2000		2250	
Duct Area 2.50 ft <sup>2</sup>	4B cfm/Side Throw (ft)	258	117	344	156	430	195	516	234	602	273	688	312	774	351
	15-19-27	10-15-21	18-22-31	13-17-25	20-25-35	16-19-27	22-27-38	17-21-30	24-29-41	19-23-32	25-31-44	20-25-35	27-33-46	21-26-37	
	3A1 cfm/Side Throw (ft)	316	117	422	156	527	195	633	234	738	273	844	312	949	351
	16-20-28	10-15-21	19-23-33	13-17-25	21-26-37	16-19-27	23-28-40	17-21-30	25-31-43	19-23-32	27-33-46	20-25-35	28-35-49	21-26-37	
	3A2 cfm/Side Throw (ft)	225	300	300	400	375	500	450	600	525	700	600	800	675	900
	14-18-26	16-20-28	17-21-30	19-23-32	19-24-33	21-26-36	21-26-36	23-28-40	23-28-39	25-30-43	24-30-42	26-32-46	26-32-45	28-34-48	
	2A, 2B cfm/Side Throw (ft)	375		500		625		750		875		1000		1125	
17-21-30		20-24-34		22-27-38		24-30-42		26-32-45		28-34-49		30-36-52			
2E, 2F cfm/Side Throw (ft)	516	234	688	312	860	390	1032	468	1204	546	1376	624	1548	702	
19-23-33	14-18-26	22-27-38	17-21-30	24-30-42	19-24-34	27-33-46	21-26-37	29-35-50	23-28-40	31-38-53	25-30-43	33-40-56	26-32-45		
1A, 1B cfm/Side Throw (ft)	750		1000		1250		1500		1750		2000		2250		
21-26-36		24-30-42		27-33-47		30-36-51		32-39-55		34-42-59		36-44-63			

For Performance Notes and Return Factors, see end of section.

## Core Style Legend



# PERFORMANCE DATA

## SMD/AMD

Neck Velocity (fpm)		300		400		500		600		700		800		900		
Velocity Pressure (in. w.g.)		0.006		0.01		0.016		0.022		0.031		0.04		0.05		
Total Pressure (in. w.g.)		0.036		0.065		0.099		0.144		0.196		0.256		0.324		
Duct Size 21 in. x 18 in.	Flow Rate (cfm) Sound (NC)	787		1050		1310		1575		1840		2100		2360		
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Duct Area 2.63 ft <sup>2</sup>	4B	cfm/Side Throw (ft)	225 14-18-26	169 12-17-24	300 17-21-30	225 16-19-28	374 19-23-33	281 18-22-31	450 21-26-36	337 19-24-34	526 23-28-39	394 21-26-36	600 24-30-42	450 22-28-39	674 26-31-44	506 24-29-41
	3A1	cfm/Side Throw (ft)	309 16-20-28	169 12-17-24	412 19-23-33	225 16-19-28	514 21-26-36	281 18-22-31	619 23-28-40	337 19-24-34	723 25-31-43	394 21-26-36	825 27-33-46	450 22-28-39	927 28-35-49	506 24-29-41
	3B	cfm/Side Throw (ft)	279 15-19-27	230 14-18-26	372 18-22-32	306 17-21-30	464 20-25-35	382 19-24-33	557 22-27-39	460 21-26-37	652 24-30-42	535 23-28-40	744 26-32-45	612 24-30-42	836 27-34-48	688 26-32-45
	2A, 2B	cfm/Side Throw (ft)	393 17-21-30		525 20-25-35		655 22-28-39		787 25-30-43		920 27-33-46		1050 28-35-49		1180 30-37-52	
	2E, 2F	cfm/Side Throw (ft)	450 18-22-31	338 17-20-29	600 21-26-36	450 19-24-33	750 23-29-41	560 21-26-37	900 26-31-44	675 24-29-41	1060 28-34-48	790 26-31-44	1200 30-36-51	900 27-33-47	1350 31-38-54	1010 29-35-50
	1A, 1B	cfm/Side Throw (ft)	787 21-26-37		1050 25-30-42		1310 27-34-47		1575 30-37-52		1840 32-40-56		2100 35-42-60		2360 37-45-64	

Duct Size 24 in. x 18 in.	Flow Rate (cfm) Sound (NC)	900		1200		1500		1800		2100		2400		2700		
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Duct Area 3.00 ft <sup>2</sup>	4B	cfm/Side Throw (ft)	281 15-19-27	169 12-17-24	375 18-22-32	225 16-19-27	469 20-25-35	281 18-22-31	563 22-27-39	337 19-24-33	656 24-30-42	394 21-26-36	750 26-32-45	450 22-27-39	844 27-34-48	506 24-29-41
	3A1	cfm/Side Throw (ft)	366 17-21-30	169 12-17-24	487 20-24-34	225 16-19-27	609 22-27-38	281 18-22-31	731 24-30-42	337 19-24-33	853 26-32-45	394 21-26-36	975 28-34-48	450 22-27-39	1098 30-36-51	506 24-29-41
	3B	cfm/Side Throw (ft)	300 16-20-28	300 16-20-28	400 19-23-32	400 19-23-32	500 21-26-36	500 21-26-36	600 23-28-40	600 23-28-40	700 25-30-43	700 25-30-43	800 26-32-46	800 26-32-46	900 28-34-49	900 28-34-49
	2A, 2B	cfm/Side Throw (ft)	450 18-22-31		600 21-26-36		750 23-29-41		900 26-31-44		1050 28-34-48		1200 30-36-51		1350 31-38-54	
	2E, 2F	cfm/Side Throw (ft)	562 19-24-33	338 17-20-29	750 22-27-39	450 19-24-33	938 25-31-43	562 21-26-37	1125 27-33-47	675 24-29-41	1313 30-36-51	787 25-31-44	1500 32-39-55	900 27-33-47	1688 33-41-58	1012 29-35-50
	1A, 1B	cfm/Side Throw (ft)	900 22-27-38		1200 25-31-44		1500 28-35-49		1800 31-38-54		2100 34-41-58		2400 36-44-62		2700 38-47-66	

Duct Size 24 in. x 21 in.	Flow Rate (cfm) Sound (NC)	1050		1400		1750		2100		2450		2800		3150		
		A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Duct Area 3.50 ft <sup>2</sup>	4B	cfm/Side Throw (ft)	295 16-20-28	230 14-18-26	394 19-23-32	306 17-21-30	493 21-25-36	382 19-24-33	590 23-28-39	460 21-26-37	690 25-30-43	535 23-28-39	788 26-32-45	612 24-30-42	887 28-34-48	688 26-32-45
	3A1	cfm/Side Throw (ft)	410 18-22-31	230 14-18-26	547 20-25-35	306 17-21-30	684 23-28-39	382 19-24-33	820 25-31-43	460 21-26-37	957 27-33-47	535 23-28-39	1094 29-35-50	612 24-30-42	1231 31-37-53	688 26-32-45
	3B	cfm/Side Throw (ft)	375 17-21-30	300 16-20-28	500 20-24-34	400 19-23-32	625 22-27-38	400 19-23-32	750 24-30-42	600 23-28-39	875 26-32-45	700 25-30-43	1000 28-34-49	800 26-32-45	1125 30-36-52	900 28-34-48
	2A, 2B	cfm/Side Throw (ft)	525 19-23-33		700 22-27-38		875 24-30-42		1050 27-33-46		1225 29-35-50		1400 31-38-54		1575 33-40-57	
	2E, 2F	cfm/Side Throw (ft)	591 20-24-34	459 18-22-32	788 23-28-39	612 21-26-36	986 25-31-44	764 23-29-41	1180 28-34-48	920 26-32-45	1380 30-37-52	1070 28-34-48	1576 32-39-55	1224 30-36-51	1774 34-42-59	1376 31-39-55
	1A, 1B	cfm/Side Throw (ft)	1050 23-28-40		1400 27-33-46		1750 30-36-52		2100 33-40-56		2450 35-43-61		2800 38-46-65		3150 40-49-69	

## SMD/AMD Return Factors

Duct Size	"-" SP	NC	Duct Size	"-" SP	NC	Duct Size	"-" SP	NC	Duct Size	"-" SP	NC
6 x 6	0.73 x Listed TP	Listed NC	9 x 6	0.87 x Listed TP	Listed NC - 1	15 x 9	1.20 x Listed TP	Listed NC + 3	24 x 12	1.80 x Listed TP	Listed NC + 5
9 x 9	0.87 x Listed TP	Listed NC + 2	12 x 6	1.13 x Listed TP	Listed NC + 1	18 x 9	1.47 x Listed TP	Listed NC + 3	18 x 15	1.40 x Listed TP	Listed NC + 4
12 x 12	0.93 x Listed TP	Listed NC + 4	15 x 6	1.33 x Listed TP	Listed NC + 1	21 x 9	1.73 x Listed TP	Listed NC + 4	21 x 15	1.47 x Listed TP	Listed NC + 5
15 x 15	1.27 x Listed TP	Listed NC + 4	18 x 6	1.87 x Listed TP	Listed NC + 2	24 x 9	2.00 x Listed TP	Listed NC + 4	24 x 15	1.80 x Listed TP	Listed NC + 6
18 x 18	1.47 x Listed TP	Listed NC + 6	21 x 6	2.27 x Listed TP	Listed NC + 3	15 x 12	1.13 x Listed TP	Listed NC + 2	21 x 18	1.53 x Listed TP	Listed NC + 5
21 x 21	1.80 x Listed TP	Listed NC + 8	24 x 6	2.73 x Listed TP	Listed NC + 4	18 x 12	1.33 x Listed TP	Listed NC + 3	24 x 18	1.73 x Listed TP	Listed NC + 6
24 x 24	1.89 x Listed TP	Listed NC + 8	12 x 9	2.73 x Listed TP	Listed NC + 4	21 x 12	1.53 x Listed TP	Listed NC + 5	24 x 21	1.47 x Listed TP	Listed NC + 7

### Performance Notes:

- Tested in accordance with ASHRAE Standard 70 – 2006 Method of Testing for Rating the Performance of Air Outlets and Inlets.
- Airflow is in cubic feet per minute [cfm].
- NC, sound pressure levels, are based on a room absorption of 10 dB re 10<sup>-12</sup> Watts, and a single diffuser/grille.
- Blanks "-" indicate an NC level below 15.
- All pressures are in inches of water column [in. w.g.].
- Pressures not listed can be calculated using the following formula:  
$$P_{total} = P_{static} + P_{velocity}$$
- Throw data is based on supply air and room air being at isothermal conditions.
- Throw data is given in feet [ft] to terminal velocities of:  
150 fpm (minimum)  
100 fpm (middle)  
50 fpm (maximum)
- Performance Data is tabulated for supply air applications.
- Performance Data assumes the SMD / AMD is ceiling mounted for maximum ceiling effect. When no ceiling is present, the horizontal flow will be reduced by approximately 25%, producing a downward projection.
- Does not include effects of ceiling radiation damper (SMD-FR).

# PERFORMANCE DATA

## SMDA/AMDA – Adjustable Pattern Controllers

### Louvered Face Directional Diffuser with Adjustable Pattern Controllers Performance Factors

Duct Size	Sound NC (Add)		Pressure TP (Multiply)		Throw Vertical (Multiply)			
	H	V	H	V	Cooling ΔT °F		Heating ΔT °F	
					20	0	20	40
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	1.5	1.1	0.7	0.5

### Performance Correction Factors for SR Adaptors

AMD SMD Size	Round Neck	TP Correction (Multiply)	NC Correction (Add)	Throw Correction (Multiply)		
				VT 150	VT 100	VT 50
6 x 6	5	1.65	7	1.10	1.10	1.15
9 x 9	6	3.5	17	1.15	1.15	1.20
9 x 9	8	1.4	4	1.10	1.10	1.10
12 x 12	8	3.5	17	1.15	1.15	1.20
12 x 12	10	1.65	7	1.10	1.10	1.15
15 x 15	10	3.5	17	1.15	1.15	1.20
15 x 15	12	1.9	9	1.10	1.10	1.15
15 x 15	14	1.25	3	1.05	1.05	1.10
18 x 18	12	3.5	17	1.15	1.15	1.20
18 x 18	14	2.0	10	1.10	1.10	1.15
18 x 18	16	1.45	5	1.10	1.10	1.10
21 x 21	14	3.7	17	1.15	1.15	1.20
21 x 21	16	2.25	11	1.10	1.10	1.15
21 x 21	18	1.6	6	1.10	1.10	1.10
21 x 21	20	1.2	3	1.05	1.05	1.10
24 x 24	16	3.5	17	1.15	1.15	1.20
24 x 24	18	2.35	12	1.10	1.10	1.15
24 x 24	20	1.65	7	1.10	1.10	1.15
24 x 24	22	1.33	4	1.05	1.05	1.10

### Performance Notes:

To obtain performance data for the SMD diffuser with adjustable pattern controllers, apply the correction factors listed opposite to the data listed for square SMD, core style 4A.

Correction factors apply as follows:

1. Sound: NC = listed + correction factor.
2. Pressure drop: TP = listed x correction factor.
3. Does not include effects of ceiling radiation damper (SMDA-FR)

Note: The throw factor is applied only to the listed throw at 50 fpm terminal velocity (V<sub>t</sub>).

### Example, Imperial Units:

SMD with adjustable pattern controllers, 12 in. x 12 in., 600 cfm, heating application, 40 °F ΔT, vertical projection.

$$NC = 30 + 7 = 37$$

$$TP = 0.144 \times 2.3 = 0.33$$

$$Throw = 27 \times 0.6 = 16ft V_t 50 fpm.$$

Note: Total pressure and throw obtained from performance data.

### Example, Metric Units:

SMD with adjustable pattern controllers, 305 mm x 305 mm, 283 cfm, heating application, 22 °C ΔT, vertical projection.

$$NC = 30 + 7 = 37 NC$$

$$TP = 36 \times 2.3 = 82.8 Pa$$

$$Throw = 8.1 \times 0.6 = 4.86m VT 0.25 m/s.$$

Note: Total pressure and throw obtained from performance data.

## Core Style Legend





# SMD/AMD

## Modular Louvered Face Diffuser

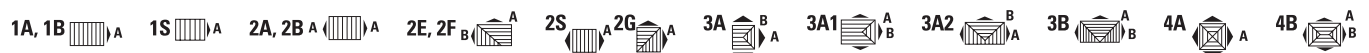
# PERFORMANCE DATA

## SMX/AMX – High Induction Construction

Neck Velocity (fpm)		300	400	500	600	700	800	900								
Velocity Pressure (in. w.g.)		0.006	0.01	0.016	0.022	0.031	0.04	0.05								
Total Pressure (in. w.g.)		0.038	0.068	0.106	0.153	0.208	0.272	0.344								
Duct Size	Flow Rate (cfm)	75		100		125		150		175		200		225		
6 in. x 6 in.		A	B	A	B	A	B	A	B	A	B	A	B	A	B	
Duct Area 0.25 ft <sup>2</sup>	4A	19		25		31		38		44		50		56		
		-		-		-		20		25		30		33		
		Throw (ft)	3-4-8		3-5-10		4-6-13		5-8-14		6-9-15		7-10-16		8-11-17	
	3A	19	28	25	38	31	47	38	56	44	66	50	75	56	84	
		-		-		-		20		25		30		33		
		Throw (ft)	3-4-8	3-5-9	3-5-10	4-6-12	4-6-13	5-8-14	5-8-14	6-9-16	6-9-15	7-11-17	7-10-16	8-12-18	8-11-17	9-14-19
Duct Area 0.56 ft <sup>2</sup>	2S, 2G	38		50		63		75		88		100		113		
		-		-		20		26		30		35		38		
		Throw (ft)	4-5-11		5-7-14		6-9-16		7-11-17		8-13-19		10-14-20		11-15-21	
	1S	75		100		125		150		175		200		225		
		-		-		21		27		32		36		40		
		Throw (ft)	5-8-15		7-10-17		8-13-19		10-15-21		12-16-23		14-17-24		15-18-26	
9 in. x 9 in.		169		225		281		338		394		450		506		
Duct Area 0.56 ft <sup>2</sup>	4A	42		56		70		84		98		113		127		
		-		-		21		27		32		37		41		
		Throw (ft)	4-6-11		5-8-15		6-10-16		8-11-18		9-13-19		10-15-21		11-15-22	
	3A	42	63	56	84	70	105	84	127	98	148	113	169	127	190	
		-		-		21		27		32		37		41		
		Throw (ft)	4-6-11	5-7-14	5-8-15	6-9-16	6-10-16	8-12-18	8-11-18	9-14-20	9-13-19	11-15-22	10-15-21	12-16-23	11-15-22	14-17-25
Duct Area 1 ft <sup>2</sup>	2S, 2G	84		113		141		169		197		225		253		
		-		19		26		32		37		41		45		
		Throw (ft)	5-8-15		7-11-18		9-13-20		11-15-22		13-17-24		14-18-25		15-19-27	
	1S	169		225		281		338		394		450		506		
		-		20		27		33		38		42		45		
		Throw (ft)	8-11-19		10-15-22		13-17-25		15-19-27		17-21-29		18-22-31		19-23-33	
12 in. x 12 in.		300		400		500		600		700		800		900		
Duct Area 1 ft <sup>2</sup>	4A	75		100		125		150		175		200		225		
		-		19		26		32		37		42		46		
		Throw (ft)	5-8-15		7-10-17		8-13-19		10-15-21		12-16-23		14-17-24		15-18-26	
	3A	75	113	100	150	125	188	150	225	175	263	200	300	225	338	
		-		19		26		32		37		42		46		
		Throw (ft)	5-8-15	6-9-17	7-10-17	8-12-19	8-13-19	10-15-22	10-15-21	12-17-24	12-16-23	14-18-26	14-17-24	16-19-28	15-18-26	17-21-29
Duct Area 1.56 ft <sup>2</sup>	2S, 2G	150		200		250		300		350		400		450		
		-		23		30		36		41		45		49		
		Throw (ft)	7-11-18		10-14-21		12-17-24		14-18-26		16-20-28		17-21-30		18-23-32	
	1S	300		400		500		600		700		800		900		
		-		24		31		36		41		46		49		
		Throw (ft)	10-15-23		14-18-26		17-21-29		18-23-32		20-24-35		21-26-37		23-28-39	
15 in. x 15 in.		469		625		781		938		1094		1250		1406		
Duct Area 1.56 ft <sup>2</sup>	4A	117		156		195		234		273		313		352		
		-		23		30		36		41		46		50		
		Throw (ft)	6-10-17		8-13-20		11-16-22		13-17-24		15-18-26		16-20-28		17-21-30	
	3A	117	176	156	234	195	293	234	352	273	410	313	469	352	527	
		-		23		30		36		41		46		50		
		Throw (ft)	6-10-17	8-12-19	8-13-20	10-16-22	11-16-22	13-18-25	13-17-24	16-19-27	15-18-26	17-21-29	16-20-28	18-22-31	17-21-30	19-24-33
Duct Area 1.56 ft <sup>2</sup>	2S, 2G	234		313		391		469		547		625		703		
		-		27		34		39		44		49		52		
		Throw (ft)	9-13-21		12-17-24		15-19-27		17-21-30		19-23-32		20-24-34		21-26-36	
	1S	469		625		781		938		1094		1250		1406		
		-		27		34		39		44		49		52		
		Throw (ft)	13-18-26		17-21-30		19-24-33		21-26-37		23-28-40		24-30-42		26-32-45	

For Performance Notes and Return Factors, see end of section.

## Core Style Legend



# PERFORMANCE DATA

## SMX/AMX – High Induction Construction

Neck Velocity (fpm)		300		400		500		600		700		800		900	
Velocity Pressure (in. w.g.)		0.006		0.01		0.016		0.022		0.031		0.04		0.05	
Total Pressure (in. w.g.)		0.038		0.068		0.106		0.153		0.208		0.272		0.344	
Duct Size	Flow Rate (cfm)	675		900		1125		1350		1575		1800		2025	
18 in. x 18 in.		A	B	A	B	A	B	A	B	A	B	A	B	A	B
4A	cfm/Side	169		225		281		338		394		450		506	
	Sound (NC)	17		26		34		40		45		49		53	
	Throw (ft)	8-11-19		10-15-22		13-17-25		15-19-27		17-21-29		18-22-31		19-23-33	
3A	cfm/Side	169	253	225	338	281	422	338	506	394	591	450	675	506	759
	Sound (NC)	17		26		34		40		45		49		53	
	Throw (ft)	8-11-19	9-14-22	10-15-22	12-18-25	13-17-25	16-20-28	15-19-27	18-22-30	17-21-29	19-23-33	18-22-31	20-25-35	19-23-33	22-26-37
2S, 2G	cfm/Side	338		450		563		675		788		900		1013	
	Sound (NC)	20		29		36		42		47		51		55	
	Throw (ft)	11-16-23		14-19-27		17-21-30		19-23-33		21-25-36		22-27-38		23-29-41	
1S	cfm/Side	675		900		1125		1350		1575		1800		2025	
	Sound (NC)	20		29		36		42		47		51		55	
	Throw (ft)	15-20-29		19-24-33		22-26-37		24-29-41		25-31-44		27-33-47		29-35-50	
21 in. x 21 in.		919		1225		1532		1838		2144		2450		2757	
4A	cfm/Side	230		306		383		459		536		613		689	
	Sound (NC)	19		29		36		42		48		52		56	
	Throw (ft)	9-13-21		12-17-24		15-19-27		17-21-30		18-23-32		20-24-34		21-26-36	
3A	cfm/Side	230	345	306	459	383	574	459	689	536	804	613	919	689	1034
	Sound (NC)	19		29		36		42		48		52		56	
	Throw (ft)	9-13-21	11-16-24	12-17-24	14-19-27	15-19-27	18-22-30	17-21-30	19-24-33	18-23-32	21-25-36	20-24-34	22-27-39	21-26-36	24-29-41
2S, 2G	cfm/Side	459		613		766		919		1072		1225		1378	
	Sound (NC)	23		32		39		45		49		54		57	
	Throw (ft)	13-18-26		17-21-30		19-23-33		21-26-36		23-28-39		24-30-42		26-32-45	
1S	cfm/Side	919		1225		1532		1838		2144		2450		2757	
	Sound (NC)	23		32		39		45		49		54		57	
	Throw (ft)	18-22-32		21-26-37		24-29-41		26-32-45		28-34-48		30-37-52		32-39-55	
24 in. x 24 in.		1200		1600		2000		2400		2800		3200		3600	
4A	cfm/Side	300		400		500		600		700		800		900	
	Sound (NC)	22		31		39		45		50		54		58	
	Throw (ft)	10-15-23		14-18-26		17-21-29		18-23-32		20-24-35		21-26-37		23-28-39	
3A	cfm/Side	300	450	400	600	500	750	600	900	700	1050	800	1200	900	1350
	Sound (NC)	22		31		39		45		50		54		58	
	Throw (ft)	10-15-23	12-18-26	14-18-26	17-21-30	17-21-29	19-23-33	18-23-32	21-26-36	20-24-35	23-28-39	21-26-37	24-30-42	23-28-39	26-31-44
2S, 2G	cfm/Side	600		800		1000		1200		1400		1600		1800	
	Sound (NC)	25		34		41		47		51		56		59	
	Throw (ft)	14-20-28		19-23-32		21-25-36		23-28-39		25-30-43		26-32-46		28-34-48	
1S	cfm/Side	1200		1600		2000		2400		2800		3200		3600	
	Sound (NC)	25		34		41		47		51		56		59	
	Throw (ft)	20-24-34		23-28-40		26-31-44		28-34-49		30-37-52		32-40-56		34-42-59	
9 in. x 6 in.		113		150		188		225		263		300		338	
4B	cfm/Side	37	18	50	24	62	30	74	36	87	42	99	48	111	54
	Sound (NC)	-		-		18		24		29		33		37	
	Throw (ft)	4-5-2011	2-4-07	5-7-14	3-5-10	6-9-16	4-6-12	7-11-17	5-7-14	8-12-18	6-9-15	10-14-20	7-10-16	11-15-21	7-11-17
3A2	cfm/Side	35	43	47	57	58	71	70	86	81	100	93	114	105	128
	Sound (NC)	-		-		18		24		29		33		37	
	Throw (ft)	3-5-2010	4-6-11	5-7-14	5-8-15	6-9-15	6-10-16	7-10-17	8-11-18	8-12-18	9-13-19	9-14-19	10-15-21	10-15-21	11-15-22
2A, 2B	cfm/Side	56		75		94		113		131		150		169	
	Sound (NC)	-		16		23		29		34		38		41	
	Throw (ft)	4-7-13		6-9-16		7-11-18		9-13-19		10-15-21		12-16-22		13-17-24	
1A, 1B	cfm/Side	113		150		188		225		263		300		338	
	Sound (NC)	-		17		24		30		35		39		43	
	Throw (ft)	6-9-17		8-12-19		10-15-22		12-17-24		14-18-26		16-19-28		17-21-29	

For Performance Notes and Return Factors, see end of section.

## Core Style Legend



# PERFORMANCE DATA

## SMX/AMX – High Induction Construction

Neck Velocity (fpm)		300		400		500		600		700		800		900			
Velocity Pressure (in. w.g.)		0.006		0.01		0.016		0.022		0.031		0.04		0.05			
Total Pressure (in. w.g.)		0.038		0.068		0.106		0.153		0.208		0.272		0.344			
Duct Size	Flow Rate (cfm)	150		200		250		300		350		400		450			
		A	B	A	B	A	B	A	B	A	B	A	B	A	B		
12 in. x 6 in.	4B	cfm/Side	56	18	74	24	93	30	111	36	130	42	148	48	167	54	
		Sound (NC)	-	-	-	-	20	-	26	-	31	-	36	-	40	-	
		Throw (ft)	4-7-13	2-4-07	6-9-16	3-5-10	7-11-18	4-6-12	9-13-19	5-7-14	10-15-21	6-9-15	12-16-22	7-10-16	13-17-24	7-11-17	
	3B	cfm/Side	75	38	100	50	125	63	150	75	175	88	200	100	225	113	
		Sound (NC)	-	-	-	-	20	-	26	-	31	-	36	-	40	-	
		Throw (ft)	5-8-15	4-5-11	7-10-17	5-7-14	8-13-19	6-9-16	10-15-21	7-11-17	12-16-23	8-13-19	14-17-24	10-14-20	15-18-26	11-15-21	
	0.5 ft <sup>2</sup>	2A, 2B	cfm/Side	75	-	100	-	125	-	150	-	175	-	200	-	225	-
		Sound (NC)	-	-	18	-	25	-	31	-	36	-	40	-	44	-	
		Throw (ft)	5-8-15	-	7-10-17	-	8-13-19	-	10-15-21	-	12-16-23	-	14-17-24	-	15-18-26	-	
	1A, 1B	cfm/Side	150	-	200	-	250	-	300	-	350	-	400	-	450	-	
		Sound (NC)	-	-	19	-	26	-	32	-	37	-	41	-	45	-	
		Throw (ft)	7-11-18	-	10-14-21	-	12-17-24	-	14-18-26	-	16-20-28	-	17-21-30	-	18-23-32	-	
15 in. x 6 in.	4B	cfm/Side	75	19	100	25	125	31	150	38	175	44	200	50	225	56	
		Sound (NC)	-	-	15	-	22	-	28	-	33	-	38	-	42	-	
		Throw (ft)	5-8-15	3-4-08	7-10-17	3-5-10	8-13-19	4-6-13	10-15-21	5-8-14	12-16-23	6-9-15	14-17-24	7-10-16	15-18-26	8-11-17	
	3A1	cfm/Side	84	19	113	25	141	31	169	38	197	44	225	50	253	56	
		Sound (NC)	-	-	15	-	22	-	28	-	33	-	38	-	42	-	
		Throw (ft)	5-8-15	3-4-08	7-11-18	3-5-10	9-13-20	4-6-13	11-15-22	5-8-14	13-17-24	6-9-15	14-18-25	7-10-16	15-19-27	8-11-17	
	0.63 ft <sup>2</sup>	2A, 2B	cfm/Side	94	-	125	-	156	-	188	-	219	-	250	-	281	-
		Sound (NC)	-	-	20	-	27	-	32	-	37	-	42	-	45	-	
		Throw (ft)	6-9-16	-	8-11-18	-	9-14-21	-	11-16-23	-	13-17-24	-	15-18-26	-	16-20-28	-	
	1A, 1B	cfm/Side	188	-	250	-	313	-	375	-	438	-	500	-	563	-	
		Sound (NC)	-	-	21	-	28	-	33	-	38	-	42	-	46	-	
		Throw (ft)	8-12-20	-	11-16-23	-	13-18-25	-	16-20-28	-	17-21-30	-	19-23-32	-	20-24-34	-	
18 in. x 6 in.	4B	cfm/Side	95	18	126	24	158	30	189	36	221	42	252	48	284	54	
		Sound (NC)	-	-	16	-	24	-	30	-	35	-	39	-	43	-	
		Throw (ft)	6-9-16	2-4-07	8-11-18	3-5-10	9-14-21	4-6-12	11-16-23	5-7-14	13-17-24	6-9-15	15-18-26	7-10-16	16-20-28	7-11-17	
	3A1	cfm/Side	104	18	138	24	173	30	207	36	242	42	276	48	311	54	
		Sound (NC)	-	-	16	-	24	-	30	-	35	-	39	-	43	-	
		Throw (ft)	6-9-16	2-4-07	8-12-19	3-5-10	10-15-21	4-6-12	12-16-23	5-7-14	14-18-25	6-9-15	16-19-27	7-10-16	16-20-28	7-11-17	
	0.75 ft <sup>2</sup>	2A, 2B	cfm/Side	113	-	150	-	188	-	225	-	263	-	300	-	338	-
		Sound (NC)	-	-	21	-	28	-	34	-	39	-	43	-	47	-	
		Throw (ft)	6-9-17	-	8-12-19	-	10-15-22	-	12-17-24	-	14-18-26	-	16-19-28	-	17-21-29	-	
	1A, 1B	cfm/Side	225	-	300	-	375	-	450	-	525	-	600	-	675	-	
		Sound (NC)	-	-	22	-	29	-	35	-	39	-	44	-	47	-	
		Throw (ft)	9-13-21	-	12-17-24	-	15-19-27	-	17-21-29	-	18-22-32	-	20-24-34	-	21-25-36	-	
12 in. x 9 in.	4B	cfm/Side	70	43	93	57	116	71	140	86	163	100	186	114	209	128	
		Sound (NC)	-	-	16	-	24	-	30	-	35	-	39	-	43	-	
		Throw (ft)	5-7-15	4-6-11	7-10-17	5-8-15	8-12-19	6-10-16	10-15-21	8-11-18	11-16-22	9-13-19	13-17-24	10-15-21	15-18-25	11-15-22	
	3A2	cfm/Side	74	74	99	99	124	124	149	149	173	173	198	198	223	223	
		Sound (NC)	-	-	16	-	24	-	30	-	35	-	39	-	43	-	
		Throw (ft)	5-8-15	5-8-15	7-10-17	7-10-17	8-13-19	8-13-19	10-15-21	10-15-21	12-16-23	12-16-23	13-17-24	13-17-24	15-18-26	15-18-26	
	0.75 ft <sup>2</sup>	2A, 2B	cfm/Side	113	-	150	-	188	-	225	-	263	-	300	-	338	-
		Sound (NC)	-	-	21	-	28	-	34	-	39	-	43	-	47	-	
		Throw (ft)	6-9-17	-	8-12-19	-	10-15-22	-	12-17-24	-	14-18-26	-	16-19-28	-	17-21-29	-	
	1A, 1B	cfm/Side	225	-	300	-	375	-	450	-	525	-	600	-	675	-	
		Sound (NC)	-	-	22	-	29	-	35	-	39	-	44	-	47	-	
		Throw (ft)	9-13-21	-	12-17-24	-	15-19-27	-	17-21-29	-	18-22-32	-	20-24-34	-	21-25-36	-	

### Performance Notes:

- Tested in accordance with ASHRAE Standard 70 – 2006 Method of Testing for Rating the Performance of Air Outlets and Inlets.
- Airflow is in cubic feet per minute [cfm].
- NC, sound pressure levels, are based on a room absorption of 10 dB re 10<sup>-12</sup> Watts, and a single diffuser/grille.
- Blanks "-" indicate an NC level below 15.
- All pressures are in inches of water column [in. w.g.].
- Pressures not listed can be calculated using the following formula:  
Ptotal = Pstatic + Pvelocity
- Throw data is based on supply air and room air being at isothermal conditions
- Throw data is given in feet [ft] to terminal velocities of:  
150 fpm (minimum)  
100 fpm (middle)  
50 fpm (maximum)
- Additional performance data for other patterns and rectangular sizes available upon request.
- Does not include effects of ceiling radiation damper (SMX-FR).

## Core Style Legend



# PERFORMANCE DATA

## MSD – Security Construction

Neck Size	Neck Velocity (fpm)	300	400	500	600	700	800	900
	Velocity Pressure (in. w.g.)	0.006	0.01	0.016	0.022	0.031	0.04	0.05
	Total Pressure (in. w.g.)	0.042	0.074	0.115	0.166	0.226	0.296	0.374
6 x 6	Flow Rate (cfm)	75	100	125	150	175	200	225
	Sound (NC)	-	-	21	28	33	38	42
	Throw (ft)	2-5-9	4-6-10	5-8-11	6-9-13	7-10-14	8-10-15	9-11-15
9 x 9	Flow Rate (cfm)	169	225	281	338	394	450	506
	Sound (NC)	-	18	26	33	38	43	47
	Throw (ft)	3-5-11	5-7-15	6-9-17	7-11-19	9-13-20	10-15-22	11-16-23
12 x 12	Flow Rate (cfm)	300	400	500	600	700	800	900
	Sound (NC)	-	22	30	36	41	46	50
	Throw (ft)	3-6-13	5-8-17	7-10-21	8-13-25	10-15-27	11-17-29	13-19-31
15 x 15	Flow Rate (cfm)	469	625	781	938	1094	1250	1406
	Sound (NC)	-	24	32	39	44	49	53
	Throw (ft)	3-7-14	6-9-19	8-12-23	9-14-28	11-16-32	12-19-36	14-21-38
18 x 18	Flow Rate (cfm)	675	900	1125	1350	1575	1800	2025
	Sound (NC)	17	27	35	41	46	51	55
	Throw (ft)	4-8-15	6-10-20	8-13-25	10-15-30	12-18-35	13-20-40	15-23-45
21 x 21	Flow Rate (cfm)	919	1225	1531	1838	2144	2450	2756
	Sound (NC)	18	29	36	43	48	53	57
	Throw (ft)	4-8-16	7-11-22	9-14-27	11-16-32	13-19-38	14-22-43	16-24-49
24 x 24	Flow Rate (cfm)	1200	1600	2000	2400	2800	3200	3600
	Sound (NC)	20	30	38	44	50	55	59
	Throw (ft)	4-9-17	7-12-23	10-14-29	12-17-35	13-20-40	15-23-46	17-26-52

### Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on a room absorption of -10 dB, re 10<sup>-12</sup> watt s and one diffuser.
7. Performance data is tabulated for supply air applications.
8. Blanks "-" indicate an NC level below 15.
9. Corrections for return application: add 5 To listed NC; multiply listed total pressure by 1.40 to obtain negative static pressure.
10. Performance data is based on L4 faceplate pattern.



# PERFORMANCE DATA

## SMDP – Plaque Face, 1 Slot

6	Flow Rate (cfm)	<b>39</b>	<b>59</b>	<b>79</b>	<b>98</b>	<b>118</b>	<b>137</b>	<b>157</b>	<b>196</b>	<b>236</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.006	0.014	0.025	0.039	0.056	0.077	0.100	0.156	0.225
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	-	-	-	18	22	28	33
Throw (ft) 150, 100, 50	0-1-2	1-1-4	1-2-5	2-3-7	2-4-8	3-5-9	4-5-10	4-7-11	5-8-13	
8	Flow Rate (cfm)	<b>70</b>	<b>105</b>	<b>140</b>	<b>174</b>	<b>209</b>	<b>244</b>	<b>279</b>	<b>349</b>	<b>419</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.014	0.032	0.058	0.090	0.130	0.176	0.230	0.360	0.518
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	-	21	26	30	33	40	45
Throw (ft) 150, 100, 50	1-2-5	2-4-7	3-5-9	4-6-11	5-7-12	5-8-13	6-9-14	8-11-15	9-12-17	
10	Flow Rate (cfm)	<b>109</b>	<b>164</b>	<b>218</b>	<b>273</b>	<b>327</b>	<b>382</b>	<b>436</b>	<b>545</b>	<b>654</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.027	0.062	0.110	0.172	0.247	0.337	0.440	0.687	0.990
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	16	24	30	35	39	43	49	54
Throw (ft) 150, 100, 50	2-4-7	4-5-10	5-7-12	6-9-14	7-10-15	9-11-16	10-12-17	11-14-19	12-15-21	

## SMDP – Plaque Face, 2 Slot

6	Flow Rate (cfm)	<b>39</b>	<b>59</b>	<b>79</b>	<b>98</b>	<b>118</b>	<b>137</b>	<b>157</b>	<b>196</b>	<b>236</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.004	0.009	0.016	0.025	0.036	0.049	0.064	0.100	0.144
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	-	-	-	-	16	22	27
Throw (ft) 150, 100, 50	0-0-1	0-0-2	0-1-3	0-1-4	1-2-5	1-2-6	1-3-7	2-4-9	3-5-11	
8	Flow Rate (cfm)	<b>70</b>	<b>105</b>	<b>140</b>	<b>174</b>	<b>209</b>	<b>244</b>	<b>279</b>	<b>349</b>	<b>419</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.007	0.016	0.028	0.044	0.063	0.086	0.112	0.175	0.252
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	-	-	18	22	26	32	37
Throw (ft) 150, 100, 50	0-1-2	1-1-5	1-2-6	2-3-8	2-5-10	3-6-11	4-6-13	5-8-15	6-10-17	
10	Flow Rate (cfm)	<b>109</b>	<b>164</b>	<b>218</b>	<b>273</b>	<b>327</b>	<b>382</b>	<b>436</b>	<b>545</b>	<b>654</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.011	0.024	0.043	0.067	0.097	0.132	0.172	0.269	0.387
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	15	21	26	30	34	39	44
Throw (ft) 150, 100, 50	1-1-5	1-3-7	2-5-10	4-6-12	5-7-15	6-9-16	7-10-17	8-12-19	10-15-21	
12	Flow Rate (cfm)	<b>157</b>	<b>236</b>	<b>314</b>	<b>393</b>	<b>471</b>	<b>550</b>	<b>628</b>	<b>785</b>	<b>942</b>
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.015	0.034	0.061	0.096	0.138	0.187	0.245	0.382	0.550
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	21	27	32	36	40	46	51
Throw (ft) 150, 100, 50	1-3-7	3-5-11	5-7-14	6-9-16	7-11-18	8-13-19	10-14-21	12-16-23	14-18-25	

### Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on a room absorption of -10 dB, re 10<sup>-12</sup> watt s and one diffuser.
7. Blanks "-" indicate an NC level below 15.

## Core Style Legend



# PERFORMANCE DATA

## SMDP – Plaque Face, 3 Slot

8	Flow Rate (cfm)	70	105	140	174	209	244	279	349	419
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.006	0.013	0.023	0.035	0.051	0.069	0.090	0.141	0.203
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	-	16	21	25	29	35	40
Throw (ft) 150, 100, 50	0-0-2	0-1-4	1-2-6	1-3-7	-4-9	2-5-10	3-6-12	5-7-15	6-9-17	
10	Flow Rate (cfm)	109	164	218	273	327	382	436	545	654
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.007	0.017	0.030	0.046	0.067	0.091	0.119	0.186	0.268
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	-	19	24	28	32	37	42
Throw (ft) 150, 100, 50	0-1-4	1-2-7	2-4-9	3-6-12	4-7-14	5-8-16	6-9-17	8-12-19	9-14-21	
12	Flow Rate (cfm)	157	236	314	393	471	550	628	785	942
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.009	0.021	0.037	0.058	0.084	0.114	0.149	0.233	0.335
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	16	21	26	30	34	40	45
Throw (ft) 150, 100, 50	1-2-7	2-5-10	4-7-13	6-8-16	7-10-18	8-12-19	9-13-21	11-16-23	13-18-25	
14	Flow Rate (cfm)	214	321	427	534	641	748	855	1068	1282
	Neck Velocity (fpm)	200	300	400	500	600	700	800	1000	1200
	Total Pressure (in. w.g.)	0.011	0.025	0.045	0.070	0.101	0.138	0.180	0.281	0.405
	Velocity Pressure (in. w.g.)	0.002	0.006	0.010	0.016	0.022	0.031	0.040	0.062	0.090
	Sound (NC)	-	-	17	23	28	32	36	42	47
Throw (ft) 150, 100, 50	2-4-9	4-7-14	6-9-17	8-11-19	9-14-21	11-16-22	12-17-24	15-19-27	17-21-29	

### Performance Notes:

1. Tested in accordance with ASHRAE Standard 70-2006 "Method of testing for Rating the Performance of Air Outlets and Inlets."
2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150 fpm (minimum), 100 fpm (middle) and 50 fpm (maximum).
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on a room absorption of -10 dB, re 10<sup>-12</sup> watt s and one diffuser.
7. Blanks "-" indicate an NC level below 15.

## Core Style Legend



## PERFORMANCE DATA

### LCMD – Light Commercial Construction

Neck Velocity (fpm)		300	400	500	600	700	800	900									
Velocity Pressure (in. w.g.)		0.006	0.01	0.016	0.022	0.031	0.04	0.05									
Total Pressure (in. w.g.)		0.049	0.086	0.135	0.195	0.265	0.346	0.438									
Duct Size	Flow Rate (cfm)	75		100		125		150		175		200		225		255	
6 in. x 6 in.	Sound (NC)	-		18		23		26		30		33		35		38	
Duct Area 0.25 ft <sup>2</sup>	4A	19		25		31		38		44		50		56		62	
	3A	19 28		25 38		31 47		38 56		44 66		50 75		56 84		62 92	
	2S, 2G	38		50		63		75		88		100		113		126	
	1S	75		100		125		150		175		200		225		255	
8 in. x 8 in.	Flow Rate (cfm)	133		178		222		266		311		355		400		444	
8 in. x 8 in.	Sound (NC)	-		21		26		30		33		36		38		41	
Duct Area 0.444 ft <sup>2</sup>	4A	33		45		56		67		78		89		100		111	
	3A	33 50		45 67		56 83		67 100		78 117		89 133		100 150		111 166	
	2S, 2G	67		89		111		133		156		178		200		222	
	1S	133		178		222		266		311		355		400		444	
10 in. x 10 in.	Flow Rate (cfm)	208		278		347		416		486		555		625		694	
10 in. x 10 in.	Sound (NC)	17		23		28		32		35		38		41		44	
Duct Area 0.694 ft <sup>2</sup>	4A	52		70		87		104		122		139		156		173	
	3A	52 78		70 104		87 130		104 156		122 182		139 208		156 234		173 261	
	2S, 2G	104		139		174		208		243		278		313		347	
	1S	208		278		347		416		486		555		625		694	
12 in. x 12 in.	Flow Rate (cfm)	300		400		500		600		700		800		900		1000	
12 in. x 12 in.	Sound (NC)	19		25		30		34		37		40		43		46	
Duct Area 1 ft <sup>2</sup>	4A	75		100		125		150		175		200		225		250	
	3A	75 113		100 150		125 188		150 225		175 263		200 300		225 338		250 375	
	2S, 2G	150		200		250		300		350		400		450		500	
	1S	300		400		500		600		700		800		900		1000	
14 in. x 14 in.	Flow Rate (cfm)	408		544		680		816		952		1088		1224		1360	
14 in. x 14 in.	Sound (NC)	21		27		32		36		39		42		44		46	
Duct Area 1.36 ft <sup>2</sup>	4A	102		136		170		204		238		272		306		340	
	3A	102 153		136 204		170 255		204 306		238 357		272 408		306 459		340 510	
	2S, 2G	204		272		340		408		476		544		612		680	
	1S	408		544		680		816		952		1088		1224		1360	
16 in. x 16 in.	Flow Rate (cfm)	531		708		885		1062		1239		1416		1593		1770	
16 in. x 16 in.	Sound (NC)	22		29		33		37		40		43		46		49	
Duct Area 1.77 ft <sup>2</sup>	4A	133		177		221		266		310		354		398		442	
	3A	133 199		177 266		221 332		266 398		310 465		354 531		398 597		442 663	
	2S, 2G	266		354		442		531		620		708		797		885	
	1S	531		708		885		1062		1239		1416		1593		1770	

For Performance Notes and Return Factors, see end of section.

### Core Style Legend



# PERFORMANCE DATA

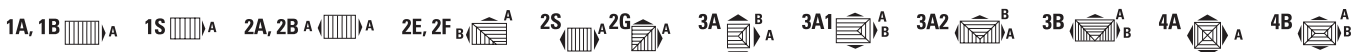
## LCMD – Light Commercial Construction

Neck Velocity (fpm)		300	400	500	600	700	800	900
Velocity Pressure (in. w.g.)		0.006	0.01	0.016	0.022	0.031	0.04	0.05
Total Pressure (in. w.g.)		0.049	0.086	0.135	0.195	0.265	0.346	0.438
Duct Size 18 in. x 18 in.	Flow Rate (cfm)	675	900	1125	1350	1575	1800	2025
	Sound (NC)	24	30	35	38	42	45	47
Duct Area 2.25 ft <sup>2</sup>	4A cfm/Side Throw (ft)	169 9-13-25	225 12-17-28	281 15-22-32	338 17-25-35	44 20-27-38	394 23-28-40	506 25-30-43
	3A cfm/Side Throw (ft)	169 253 9-13-25 11-16-28	225 338 12-17-28 14-21-32	281 422 15-22-32 18-25-36	338 506 17-25-35 21-28-39	394 591 20-27-38 24-30-42	450 675 23-28-40 26-32-45	506 759 25-30-43 28-34-48
	2S, 2G cfm/Side Throw (ft)	338 12-19-30	450 16-24-35	563 21-27-39	675 24-30-42	788 26-32-46	900 28-35-49	1013 30-37-52
	1S cfm/Side Throw (ft)	675 17-26-36	900 23-30-42	1125 27-33-47	1350 30-36-52	1575 32-39-56	1800 34-42-60	2025 36-45-63
Duct Size 20 in. x 20 in.	Flow Rate (cfm)	831	1108	1385	1162	1939	2216	2493
	Sound (NC)	25	31	36	40	43	46	48
Duct Area 2.77 ft <sup>2</sup>	4A cfm/Side Throw (ft)	208 10-15-26	277 13-19-30	346 16-24-34	416 19-26-37	485 23-28-40	554 25-30-43	623 26-32-45
	3A cfm/Side Throw (ft)	208 312 10-15-26 12-18-29	277 416 13-19-30 16-24-34	346 519 16-24-34 20-27-38	416 623 19-26-37 24-29-41	485 727 23-28-40 26-32-45	554 831 25-30-43 28-34-48	623 935 26-32-45 29-36-51
	2S, 2G cfm/Side Throw (ft)	416 14-21-32	554 18-26-37	693 23-29-41	831 26-32-45	970 28-34-48	1108 30-37-52	1247 32-39-55
	1S cfm/Side Throw (ft)	831 19-27-39	1108 26-32-45	1385 29-35-50	1662 32-39-55	1939 34-42-59	2216 36-45-63	2493 39-47-67
Duct Size 22 in. x 22 in.	Flow Rate (cfm)	1008	1344	1680	2016	2352	2688	3024
	Sound (NC)	26	32	37	41	44	47	49
Duct Area 3.36 ft <sup>2</sup>	4A cfm/Side Throw (ft)	252 11-16-28	336 14-21-32	420 18-25-36	504 21-28-39	588 24-30-42	672 26-32-45	756 28-34-48
	3A cfm/Side Throw (ft)	252 378 11-16-28 13-20-31	336 504 14-21-32 17-25-36	420 630 18-25-36 22-28-40	504 756 21-28-39 25-31-44	588 882 24-30-42 27-33-47	672 1008 26-32-45 29-36-50	756 1134 28-34-48 31-38-54
	2S, 2G cfm/Side Throw (ft)	504 15-23-34	672 20-27-39	840 25-31-43	1008 27-34-47	1176 30-36-51	1344 32-39-55	1512 34-41-58
	1S cfm/Side Throw (ft)	1008 21-29-41	1344 27-33-47	1680 30-37-53	2016 33-41-58	2352 36-44-62	2688 39-47-67	3024 41-50-71
Duct Size 24 in. x 24 in.	Flow Rate (cfm)	1200	1600	2000	2400	2800	3200	3600
	Sound (NC)	27	33	38	42	45	48	50
Duct Area 4 ft <sup>2</sup>	4A cfm/Side Throw (ft)	300 12-17-29	400 16-23-33	500 19-26-37	600 23-29-41	700 26-31-44	800 27-33-47	900 29-35-50
	3A cfm/Side Throw (ft)	300 450 12-17-29 14-21-32	400 600 16-23-33 19-27-38	500 750 19-26-37 24-30-42	600 900 23-29-41 27-32-46	700 1050 26-31-44 29-35-50	800 1200 27-33-47 31-38-53	900 1350 29-35-50 32-40-56
	2S, 2G cfm/Side Throw (ft)	600 16-25-35	800 22-29-41	1000 26-32-46	1200 29-35-50	1400 31-38-54	1600 33-41-58	1800 35-43-61
	1S cfm/Side Throw (ft)	1200 23-30-43	1600 29-35-50	2000 32-39-55	2400 35-43-61	2800 38-46-66	3200 41-50-70	3600 43-53-74

### Performance Notes:

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2. Air flow is in cfm.
3. All pressures are in in. w.g.
4. Throw values are measured in feet for terminal velocities of 150-100-50 fpm.
5. Throw data is based on supply air and room air being at isothermal conditions.
6. NC values are based on a room absorption of -10 dB, re 10<sup>-12</sup> watt s and one diffuser.
7. Blanks "-" indicate an NC level below 15.

## Core Style Legend









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