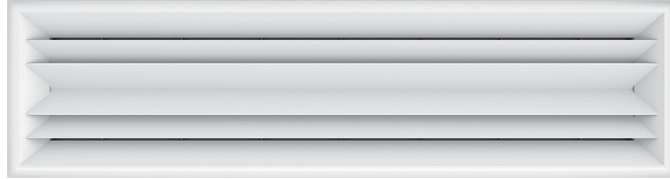


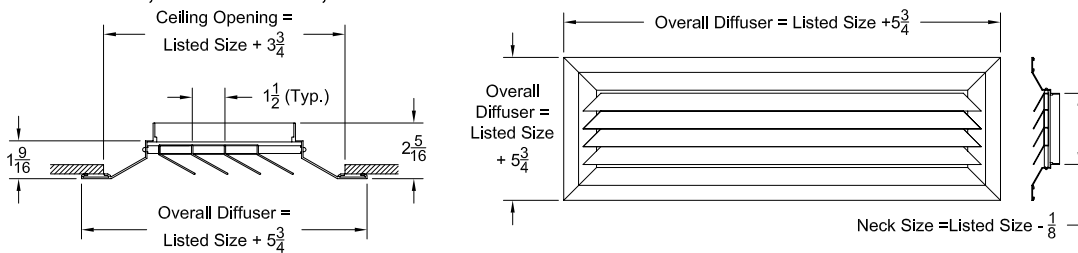
MODEL L-5000

Model L-5000 is a fixed pattern, high induction architectural linear louver diffuser. The diffuser is aluminum construction and is available with either 1-way or 2-way air discharge patterns.

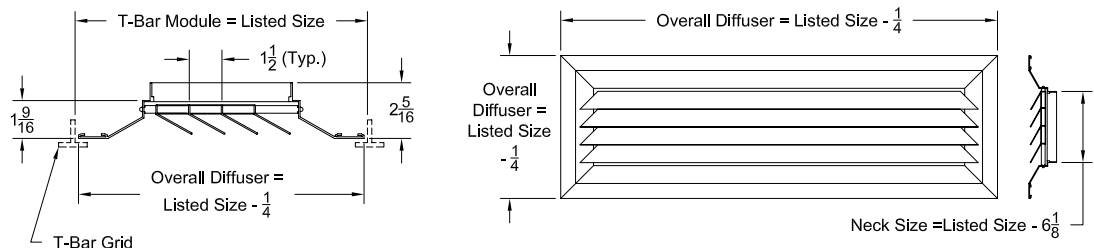
- Surface Mount units are available in lengths from 18" to 48" in 3" increments. T-bar Lay-in units are available in lengths of 18", 30" or 42"
- 1-way units are available in 3", 6", 9" and 12" widths
- 2-way units are available in 6" and 12" widths
- The louvered face is secured with spring clips making removal easy for installation



□ **Model: L-5000-1, Surface Mount, With R1L Air Pattern Controller**

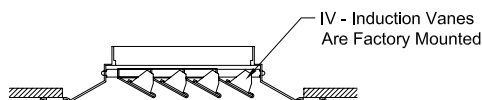


□ **Model: L-5000-6, Lay In T-Bar Mount, With R1L Air Pattern Controller**

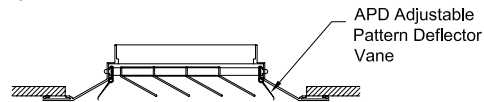


Listed Size (Available Widths)	3	6	9	12	15
Overall Diffuser Size	8 $\frac{3}{4}$	14 $\frac{3}{4}$	14 $\frac{3}{4}$	17 $\frac{3}{4}$	20 $\frac{3}{4}$
Neck Size	2 $\frac{7}{8}$	5 $\frac{7}{8}$	8 $\frac{7}{8}$	11 $\frac{7}{8}$	14 $\frac{7}{8}$

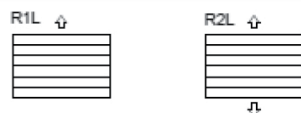
□ **Option: IV - Induction Vanes**



□ **Option: APD - Air Pattern Deflector**



* Dimension indicates the distance needed for Clearance from bottom of the duct to the ceiling line and must be maintained for proper fit



Air Patterns
"R" prefix = Rectangular Shape

SERIES L5000 SPECIFICATIONS

Air Diffusers shall be model:

L5000-1 Surface Mount

L5000-6 T-bar Lay-in

- Air Diffusers shall be aluminum model L5000 manufactured by METALAIRE. Units shall consist of a fixed-pattern louvered core fastened into a border with spring loaded latches. Core shall be removable without the use of tools. Diffusers shall be engineered for high capacity applications and include straight deflector blades (without a horizontal lip). Units with a horizontal lip at the ends of the deflector blades are not acceptable. The units shall be the size and quantity as outlined in the plans and specifications.
- Diffusers shall be available in 1 and 2-way directional air patterns.
- Units shall be designed to integrate into the specified ceiling system.

Options

ADJUSTABLE PATTERN (HORIZONTAL TO VERTICAL)

- Diffusers shall include adjustable air pattern deflector blades that allow the air pattern to be set from vertical to horizontal (Optional APD Air Pattern Deflectors). Air pattern deflector blades shall be accessible from the face and the diffuser and adjustable without the use of tools.

IV INDUCTION VANES

- Units shall include IV induction vanes factory mounted onto the back side of the deflector vanes. IV vanes shall increase the induction rate of the diffuser.

Accessories

OPTIONAL DAMPERS

- Aluminum D5A or Steel D5 opposed blade dampers shall be provided. Damper shall be adjusted using a handle accessible through the face of the diffuser.
- Screwdriver slot operators are not allowed.

Performance Specification

The manufacturer shall provide published performance data. Data shall be tested in accordance to ANSI/ASHRAE Standard 70-2006.

Paint Specification

Process shall be anodic electro-deposition using an anodic acrylic paint. Units shall undergo pre-treatment including a pressurized spray stage using an alkaline cleaner and a de-ionized water rinse.

5000 MODEL NUMBER SPECIFICATION LOUVERED FACE CEILING DIFFUSER

Model		Neck											
			18	21	24	27	30	33	36	39	42	45	48
L5000-1	Surface Mount - Extruded Aluminum	3	X	X	X	X	X	X	X	X	X	X	X
		6	X	X	X	X	X	X	X	X	X	X	X
		9	X	X	X	X	X	X	X	X	X	X	X
		12	X	X	X	X	X	X	X	X	X	X	X

Air Pattern		Available Accessories		Available Finishes	
Standard		D5	Steel Opposed Blade Damper	Standard	
R1L	Rct 1-Way long	D5A	Aluminum Opposed Blade Damper	01	White
R2L	Rct 2-Way long	L9	Square / Rectangular Equalizing Grid	Optional	
				02	Satin Silver
Available Options				03	Black
IV	Induction Vanes			24	Mill
APD	Air Pattern Deflectors			28	Custom Color
FSM	Face Screw Mount				

5000 MODEL NUMBER SPECIFICATION LOUVERED FACE CEILING DIFFUSER

Model		Neck			
		18	30	42	45
L5000-6	Lay-In - Extruded Aluminum	3	X		
		6	X	X	
		9	X	X	X
		12	X	X	X

Air Pattern		Available Accessories		Available Finishes	
Standard		D5	Steel Opposed Blade Damper	Standard	
R1L	Rct 1-Way long	D5A	Aluminum Opposed Blade Damper	01	White
R2L	Rct 2-Way long	L9	Square / Rectangular Equalizing Grid	Optional	
				02	Satin Silver
Available Options				03	Black
IV	Induction Vanes			24	Mill
APD	Air Pattern Deflectors			28	Custom Color

SERIES 5000 PERFORMANCE DATA/1-WAY RECTANGULAR PATTERN (R1L) MODEL L5000

CEILING
DIFFUSERS

LOUVERED FACE DIFFUSERS

L-5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
18 x 3	Total CFM	75	113	150	188	225	263
	Throw	4-6	6-10	8-13	11-16	13-19	15-22
	NC	20	20	20	20	24	29
21 x 3	Total CFM	88	131	175	219	263	306
	Throw	5-7	7-10	9-14	12-17	14-21	16-23
	NC	20	20	20	20	25	30
24 x 3	Total CFM	100	150	200	250	300	350
	Throw	5-7	7-11	10-15	12-18	15-22	17-24
	NC	20	20	20	20	25	30
27 x 3	Total CFM	113	169	225	281	338	394
	Throw	5-8	8-12	10-15	13-19	16-23	18-25
	NC	20	20	20	21	26	31
30 x 3	Total CFM	125	188	250	313	375	438
	Throw	5-8	8-12	11-16	14-20	16-23	19-26
	NC	20	20	20	21	26	31
33 x 3	Total CFM	138	206	275	344	413	481
	Throw	6-9	9-13	12-17	14-21	17-24	20-27
	NC	20	20	20	22	27	32
36 x 3	Total CFM	150	225	300	375	450	525
	Throw	6-9	9-14	12-18	15-22	18-25	21-28
	NC	20	20	20	22	27	32
39 x 3	Total CFM	163	244	325	406	488	569
	Throw	6-9	9-14	13-18	16-23	19-26	22-29
	NC	20	20	20	22	27	32
42 x 3	Total CFM	175	263	350	438	525	613
	Throw	7-10	10-15	13-20	16-23	20-27	23-30
	NC	20	20	20	23	28	33
45 x 3	Total CFM	188	281	375	469	563	656
	Throw	7-10	10-15	13-20	17-24	20-27	23-30
	NC	20	20	20	23	27	33
48 x 3	Total CFM	200	300	400	500	600	700
	Throw	7-10	10-15	14-21	17-24	21-28	24-31
	NC	20	20	22	24	28	34
18 x 6	Total CFM	150	225	300	300	450	525
	Throw	6-12	9-15	12-19	12-19	17-23	19-25
	NC	20	20	20	20	27	32
21 x 6	Total CFM	175	263	350	438	525	613
	Throw	6-13	9-16	13-20	15-22	18-24	20-26
	NC	20	20	20	23	28	33
24 x 6	Total CFM	200	300	400	500	600	700
	Throw	7-10	10-16	14-21	17-24	20-27	22-29
	NC	20	20	20	23	28	33
27 x 6	Total CFM	225	338	450	563	675	788
	Throw	7-11	11-17	15-22	18-25	22-29	24-31
	NC	20	20	20	23	28	33

SERIES 5000 PERFORMANCE DATA/1-WAY RECTANGULAR PATTERN (R1L) MODEL L5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
30 x 6	Total CFM	250	375	500	625	750	875
	Throw	8-12	12-17	16-23	19-26	22-29	25-32
	NC	20	20	20	23	29	34
33 x 6	Total CFM	275	413	550	688	825	963
	Throw	8-12	12-18	16-24	20-27	24-31	26-33
	NC	20	20	20	23	30	35
36 x 6	Total CFM	300	450	600	750	900	1050
	Throw	9-13	13-19	17-24	21-28	24-31	27-34
	NC	20	20	20	23	30	35
39 x 6	Total CFM	325	488	650	813	975	1138
	Throw	9-13	13-20	18-25	22-29	25-32	29-35
	NC	20	20	20	23	30	35
42 x 6	Total CFM	350	525	700	875	1050	1225
	Throw	9-14	14-21	18-25	23-30	27-34	30-37
	NC	20	20	21	24	31	36
45 x 6	Total CFM	375	563	750	938	1125	1313
	Throw	10-14	14-21	19-26	24-32	28-35	31-38
	NC	20	20	21	24	31	36
48 x 6	Total CFM	400	600	800	1000	1200	1400
	Throw	10=15	15-22	20-27	25-32	28-35	32-39
	NC	20	20	22	25	32	37
18 x 9	Total CFM	225	338	450	563	675	788
	Throw	7-14	10-18	14-21	17-24	19-26	21-28
	NC	20	20	20	24	29	34
21 x 9	Total CFM	263	394	525	656	788	919
	Throw	8-12	11-18	15-22	18-25	22-29	24-31
	NC	20	20	20	24	29	34
24 x 9	Total CFM	300	450	600	750	900	1050
	Throw	8-12	12-18	16-23	20-27	24-31	26-33
	NC	20	20	20	25	30	35
27 x 9	Total CFM	338	506	675	844	1013	1181
	Throw	9-13	13-19	17-24	21-28	25-32	28-35
	NC	20	20	22	25	31	36
30 x 9	Total CFM	375	563	750	938	1125	1313
	Throw	9-13	14-20	18-26	22-29	27-34	29-36
	NC	20	20	22	25	31	36
33 x 9	Total CFM	413	619	825	1031	1238	1444
	Throw	9-14	14-21	19-27	24-31	28-35	31-38
	NC	20	20	22	25	31	36
36 x 9	Total CFM	450	675	900	1125	1350	1575
	Throw	10-15	15-22	20-28	25-32	30-37	32-39
	NC	20	20	23	27	32	37
39 x 9	Total CFM	488	731	975	1219	1463	1706
	Throw	10-15	15-23	20-28	26-33	31-38	34-41
	NC	20	20	23	27	32	37

SERIES 5000 PERFORMANCE DATA/1-WAY RECTANGULAR PATTERN (R1L) MODEL L5000

CEILING
DIFFUSERS

LOUVERED FACE DIFFUSERS

L-5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
42 x 9	Total CFM	525	788	1050	1313	1575	1838
	Throw	11-16	16-24	21-29	27-34	32-39	35-42
	NC	20	20	23	27	32	37
45 x 9	Total CFM	563	844	1125	1406	1688	1969
	Throw	11-17	17-25	22-30	28-35	33-40	36-43
	NC	20	21	24	28	33	38
48 x 9	Total CFM	600	900	1200	1500	1800	2100
	Throw	11-17	17-25	22-30	28-35	34-41	37-44
	NC	20	21	24	28	33	38
18 x 12	Total CFM	300	450	600	750	900	1050
	Throw	8-16	12-20	15-23	18-26	21-28	23-30
	NC	20	20	20	25	30	35
21 x 12	Total CFM	350	525	700	875	1050	1225
	Throw	9-14	13-20	17-25	22-29	24-31	26-33
	NC	20	20	20	25	30	35
24 x 12	Total CFM	400	600	800	1000	1200	1400
	Throw	9-14	14-21	18--26	23-30	25-32	28-35
	NC	20	20	21	26	31	36
27 x 12	Total CFM	450	675	900	1125	1350	1575
	Throw	10-15	15-22	20-28	24-31	27-34	30-37
	NC	20	20	21	26	31	36
30 x 12	Total CFM	500	750	1000	1250	1500	1750
	Throw	10-15	15-23	20-28	26-33	28-35	32-39
	NC	20	20	22	27	32	37
33 x 12	Total CFM	550	825	1100	1375	1650	1925
	Throw	11-16	16-24	22-30	27-34	30-37	34-41
	NC	20	20	22	27	32	37
36 x 12	Total CFM	600	900	1200	1500	1800	2100
	Throw	11-17	17-25	23-31	28-35	32-39	36=43
	NC	20	20	23	28	33	38
39 x 12	Total CFM	650	975	1300	1625	1950	2275
	Throw	12-18	18-26	24-32	29-36	33-40	37-44
	NC	20	20	23	28	33	38
42 x 12	Total CFM	700	1050	1400	1750	2100	2450
	Throw	12-18	18-26	24-32	30-37	34-41	38-45
	NC	20	20	23	28	33	38
45 x 12	Total CFM	750	1125	1500	1875	2250	2625
	Throw	13-19	19-27	25-33	32-39	35-42	40-47
	NC	20	20	24	29	34	39
48 x 12	Total CFM	800	1200	1600	2000	2400	2800
	Throw	13-19	20-29	26-34	33-40	37-44	41-48
	NC	20	20	24	29	34	39

SERIES 5000 PERFORMANCE DATA/2-WAY RECTANGULAR PATTERN (R2L) MODEL L5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
18 x 3	Total CFM	75	113	150	188	225	263
	CFM/Side	38	56	75	94	113	131
	Throw	3-5	5-8	7-10	8-12	10-15	12-18
	NC	20	20	20	20	24	29
21 x 3	Total CFM	88	131	175	219	263	306
	CFM/Side	44	66	88	109	131	153
	Throw	3-6	5-8	7-11	9-13	11-16	12-19
	NC	20	20	20	20	24	29
24 x 9	Total CFM	100	150	200	250	300	350
	CFM/Side	50	75	100	125	150	175
	Throw	4-6	6-9	8-11	10-14	11-17	13-20
	NC	20	20	20	21	25	30
27 x 3	Total CFM	113	169	225	281	338	394
	CFM/Side	56	84	113	141	169	197
	Throw	4-6	6-9	8-12	10-15	12-18	14-21
	NC	20	20	20	21	25	30
30 x 3	Total CFM	125	188	250	313	375	438
	CFM/Side	63	94	125	156	188	219
	Throw	4-7	6-10	9-13	11-16	13-19	15-22
	NC	20	20	20	22	26	31
33 x 3	Total CFM	138	206	275	344	413	481
	CFM/Side	69	103	138	172	206	241
	Throw	5-7	7-10	9-13	11-17	13-20	16-23
	NC	20	20	20	22	26	31
36 x 3	Total CFM	150	225	300	375	450	525
	CFM/Side	75	113	150	188	225	263
	Throw	5-7	7-11	9-14	12-18	14-21	16-24
	NC	20	20	20	23	27	32
39 x 3	Total CFM	163	244	325	406	488	569
	CFM/Side	81	122	163	203	244	284
	Throw	5-7	7-11	10-15	12-18	15-22	17-25
	NC	20	20	20	23	27	32
42 x 3	Total CFM	175	263	350	438	525	613
	CFM/Side	88	131	175	219	263	306
	Throw	5-8	8-11	10-15	13-19	15-23	18-26
	NC	20	20	20	23	27	32
45 x 3	Total CFM	188	281	375	469	563	656
	CFM/Side	94	141	188	234	281	328
	Throw	5-8	8-12	10-16	13-20	16-24	18-27
	NC	20	20	21	24	28	33
48 x 3	Total CFM	200	300	400	500	600	700
	CFM/Side	100	150	200	250	300	350
	Throw	6-8	8-12	11-16	13-20	16-24	19-28
	NC	20	20	21	24	28	33

SERIES 5000 PERFORMANCE DATA/2-WAY RECTANGULAR PATTERN (R2L) MODEL L5000

CEILING
DIFFUSERS

LOUVERED FACE DIFFUSERS

L-5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
18 x 6	Total CFM	150	225	300	375	450	525
	CFM/Side	75	113	150	188	225	263
	Throw	4-8	7-12	10-15	12-18	14-20	16-21
	NC	20	20	20	22	27	32
21 x 6	Total CFM	175	263	350	438	525	613
	CFM/Side	88	131	175	219	263	306
	Throw	5-8	8-12	11-16	13-19	16-23	19-24
	NC	20	20	20	22	27	32
24 x 6	Total CFM	200	300	400	500	600	700
	CFM/Side	100	150	200	250	300	350
	Throw	6-9	9-13	12-17	14-21	17-24	20-25
	NC	20	20	20	23	28	33
27 x 6	Total CFM	225	338	450	563	675	788
	CFM/Side	113	169	225	281	338	394
	Throw	6-9	9-14	12-18	15-22	18-25	21-26
	NC	20	20	20	23	28	33
30 x 6	Total CFM	250	375	500	625	750	875
	CFM/Side	125	188	250	313	375	438
	Throw	6-10	10-14	13-19	16-23	19-26	22-27
	NC	20	20	21	24	29	34
33 x 6	Total CFM	275	413	550	688	825	963
	CFM/Side	138	206	275	344	413	481
	Throw	7-10	10-15	13-20	17-25	20-27	23-29
	NC	20	20	21	24	29	34
36 x 6	Total CFM	300	450	600	750	900	1050
	CFM/Side	150	225	300	375	450	525
	Throw	7-10	10-16	14-21	17-26	21-28	24-30
	NC	20	20	22	25	30	35
39 x 6	Total CFM	325	488	650	813	975	1138
	CFM/Side	163	244	325	406	488	569
	Throw	7-11	11-16	15-22	18-27	22-29	25-32
	NC	20	20	22	25	30	35
42 x 6	Total CFM	350	525	700	875	1050	1225
	CFM/Side	175	263	350	438	525	613
	Throw	8-11	11-17	15-23	19-28	23-30	26-34
	NC	20	20	22	25	30	35
45 x 6	Total CFM	375	563	750	938	1125	1313
	CFM/Side	188	281	375	469	563	656
	Throw	8-12	12-18	16-23	20-29	23-32	27-35
	NC	20	20	23	26	31	36
48 x 6	Total CFM	400	600	800	1000	1200	1400
	CFM/Side	200	300	400	500	600	700
	Throw	8-12	12-18	16-24	20-30	24-33	28-37
	NC	20	20	23	26	31	36

SERIES 5000 PERFORMANCE DATA/2-WAY RECTANGULAR PATTERN (R2L) MODEL L5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
18 x 9	Total CFM	225	338	450	563	675	788
	CFM/Side	113	169	225	281	338	394
	Throw	5-10	8-14	11-17	14-20	16-22	18-23
	NC	20	20	20	24	29	34
21 x 9	Total CFM	263	394	525	656	788	919
	CFM/Side	131	197	263	328	394	459
	Throw	5-11	8-15	12-18	14-20	17-23	19-24
	NC	20	20	20	25	30	35
24 x 9	Total CFM	300	450	600	750	900	1050
	CFM/Side	150	225	300	375	450	525
	Throw	6-10	10-15	13-19	16-22	19-23	22-27
	NC	20	20	20	25	30	35
27 x 9	Total CFM	338	506	675	844	1013	1181
	CFM/Side	169	253	338	422	506	591
	Throw	7-10	10-15	14-20	17-23	20-25	23-28
	NC	20	20	21	25	30	35
30 x 9	Total CFM	375	563	750	938	1125	1313
	CFM/Side	188	281	375	469	563	656
	Throw	7-11	11-16	14-22	18-25	22-27	25-30
	NC	20	20	22	26	31	36
33 x 9	Total CFM	413	619	825	1031	1238	1444
	CFM/Side	206	309	413	516	619	722
	Throw	8-12	11-17	15-23	19-26	23-28	26-32
	NC	20	20	22	26	31	36
36 x 9	Total CFM	450	675	900	1125	1350	1575
	CFM/Side	225	338	450	563	675	788
	Throw	9-12	12-18	16-24	20-28	24-30	27-32
	NC	20	20	23	27	32	37
39 x 9	Total CFM	488	731	975	1219	1463	1706
	CFM/Side	244	366	488	609	731	853
	Throw	8-13	12-18	16-25	20-28	25-31	28-34
	NC	20	20	23	27	32	37
42 x 9	Total CFM	525	788	1050	1313	1575	1838
	CFM/Side	263	394	525	656	788	919
	Throw	8-13	13-19	17-25	21-29	25-32	30-36
	NC	20	20	24	28	33	38
45 x 9	Total CFM	563	844	1125	1406	1688	1969
	CFM/Side	281	422	563	703	844	984
	Throw	9-13	13-20	18-26	22-30	26-34	30-37
	NC	20	20	24	28	33	38
48 x 9	Total CFM	600	900	1200	1500	1800	2100
	CFM/Side	300	450	600	750	900	1050
	Throw	9-14	14-20	18-27	22-32	27-35	31-38
	NC	20	20	24	28	33	38

CEILING
DIFFUSERS

LOUVERED FACE DIFFUSERS

L-5000

SERIES 5000 PERFORMANCE DATA/2-WAY RECTANGULAR PATTERN (R2L) MODEL L5000

CEILING
DIFFUSERS

LOUVERED FACE DIFFUSERS

L-5000

Neck Size		Neck Velocity					
		200	300	400	500	600	700
		Ps	0.006	0.013	0.022	0.035	0.05
	Pt	0.008	0.018	0.032	0.05	0.072	0.099
18 x 12	Total CFM	300	450	600	750	900	1050
	CFM/Side	150	225	300	375	450	525
	Throw	6-12	9-15	12-19	15-21	17-23	19-25
	NC	20	20	20	25	30	35
21 x 12	Total CFM	350	525	700	875	1050	1225
	CFM/Side	175	263	350	438	525	613
	Throw	6-13	9-16	13-20	15-22	18-24	20-26
	NC	20	20	21	26	31	36
24 x 12	Total CFM	400	600	800	1000	1200	1400
	CFM/Side	200	300	400	500	600	700
	Throw	7-13	10-16	14-21	17-23	20-25	23-28
	NC	20	20	21	26	31	36
27 x 12	Total CFM	450	675	900	1125	1350	1575
	CFM/Side	225	338	450	563	675	788
	Throw	7-13	11-17	15-22	18-24	22-27	24-29
	NC	20	20	22	27	32	37
30 x 12	Total CFM	500	750	1000	1250	1500	1750
	CFM/Side	250	375	500	625	750	875
	Throw	8-14	12-18	15-23	19-25	23-28	26-31
	NC	20	20	22	27	32	37
33 x 12	Total CFM	550	825	1100	1375	1650	1925
	CFM/Side	275	413	550	688	825	963
	Throw	8-14	12-18	16-24	20-26	24-30	27-32
	NC	20	20	23	28	33	38
36 x 12	Total CFM	600	900	1200	1500	1800	2100
	CFM/Side	300	450	600	750	900	1050
	Throw	8-14	13-19	17-25	21-27	25-30	28-34
	NC	20	20	23	28	33	38
39 x 12	Total CFM	650	975	1300	1625	1950	2275
	CFM/Side	325	488	650	813	975	1138
	Throw	9-15	13-20	18-26	22-28	26-31	30-35
	NC	20	20	23	28	33	38
42 x 12	Total CFM	700	1050	1400	1750	2100	2450
	CFM/Side	350	525	700	875	1050	1225
	Throw	9-15	14-21	18-27	23-29	27-32	31-36
	NC	20	21	24	29	34	39
45 x 12	Total CFM	750	1125	1500	1875	2250	2625
	CFM/Side	375	563	750	938	1125	1313
	Throw	9-15	14-21	19-28	24-30	28-33	32-38
	NC	20	21	24	29	34	39
48 x 12	Total CFM	800	1200	1600	2000	2400	2800
	CFM/Side	400	600	800	1000	1200	1400
	Throw	10-16	15-22	20-29	24-30	29-34	33-39
	NC	20	21	24	29	34	39