

# Sidewall Registers & Grilles

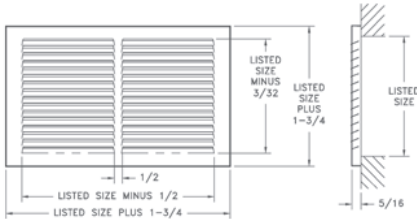


## 672 Return Air Grille

- All-steel construction
- 1/2" spaced fins set at 40 degrees
- Exceptional free area
- 5/16" Margin Turnback
- Bright White finish

672 Available Sizes (in.)												
HT	WIDTH											
	6	8	10	12	14	16	18	20	24	25	30	36
4	X	X	X	X	X		X		X		X	
6	X	X	X	X	X	X	X	X	X		X	
8		X	X	X	X	X	X	X	X		X	X
10			X	X	X	X	X	X	X		X	X
12	X		X	X	X	X	X	X	X		X	X
14		X	X	X	X	X	X	X	X		X	X
16				X	X	X	X	X	X	X	X	
18				X	X		X	X	X		X	
20			X	X	X	X		X	X	X	X	
24			X	X	X	X	X	X	X		X	
25					X	X		X		X		
30					X	X		X	X		X	

Contact factory for sizes not listed.

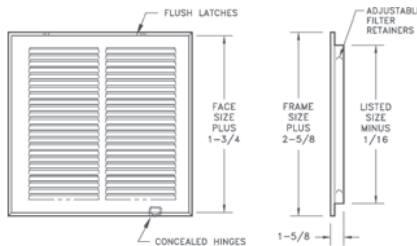


## 673 Return Air Filter Grille

- All-steel construction
- 1/2" spaced fins set at 40 degrees
- Effectively conceals filter
- Use standard 1" thick disposable filters (not included)
- Removable face for easy installation and cleaning
- Equipped with adjustable filter retainers
- Bright White finish

673 Standard Sizes (in.)												
HT	WIDTH											
	10	12	14	16	18	20	24	25	30	32	36	40
6	X		X				X		X			
8			X			X		X				
10	X					X	X		X			
12		X			X	X	X		X		X	
14			X			X	X	X	X		X	
16			X	X		X	X	X	X		X	
18		X			X	X	X		X			
20	X	X	X	X	X	X	X	X	X			X
24		X	X	X	X	X	X		X		X	
25			X	X		X		X		X		
30		X	X	X		X	X	X	X			
32				X		X		X				
36		X		X		X	X					
40						X						

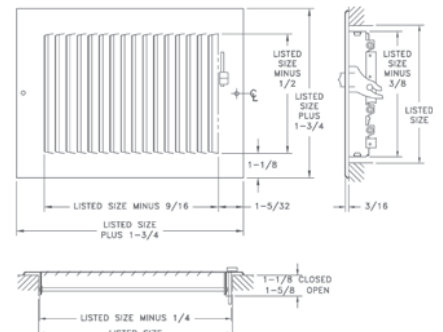
Contact factory for sizes not listed.



## 681/A681 Register

- All-steel construction
- Aluminum face steel damper (A681)
- Used for ceiling or sidewall installations
- Ideal for shallow duct installations
- One-way deflection
- 1/2" spaced fins set at 40 degrees
- Multi-shutter valve
- 1-5/8" depth when fully opened
- Interlocking valve louvers for positive shut-off
- Bright White finish

681 Available Sizes (in.)							
HT	WIDTH						
	8	10	12	14	16	18	20
4	X						
6	X	X	X	X	X	X	X



Engineering Data on Page 48-49

**672/674 Return Air Grille (Page 22, 12)**

**673 Return Air Filter Grille (Page 22)**

Face Velocity*		300	400	500	600
6 x 4	CFM	34	45	56	68
Ak .110	Ps	.020	.035	.054	.079
6 x 6	CFM	50	67	84	101
Ak .170	Ps	.019	.035	.054	.079
8 x 4	CFM	45	60	75	90
Ak .150	Ps	.019	.035	.054	.079
8 x 6	CFM	67	89	111	134
Ak .220	Ps	.019	.035	.054	.079
8 x 8	CFM	89	118	148	178
Ak .300	Ps	.019	.035	.054	.078
10 x 4	CFM	56	74	93	112
Ak .190	Ps	.019	.035	.054	.079
10 x 6	CFM	83	111	139	167
Ak .280	Ps	.019	.035	.054	.078
10 x 8	CFM	111	147	184	221
Ak .370	Ps	.019	.034	.054	.078
10 x 10	CFM	138	184	230	276
Ak .460	Ps	.019	.034	.054	.078
12 x 6	CFM	100	133	166	199
Ak .330	Ps	.019	.034	.054	.078
12 x 8	CFM	132	177	221	265
Ak .440	Ps	.019	.034	.054	.078
12 x 10	CFM	165	220	275	330
Ak .550	Ps	.019	.034	.053	.077
12 x 12	CFM	197	263	329	395
Ak .660	Ps	.019	.034	.053	.077
12 x 18	CFM	294	392	491	589
Ak .980	Ps	.019	.034	.053	.075
14 x 6	CFM	116	155	193	232
Ak .390	Ps	.019	.034	.054	.078
14 x 8	CFM	154	205	257	308
Ak .510	Ps	.019	.034	.053	.077
14 x 10	CFM	192	256	320	384
Ak .640	Ps	.019	.034	.053	.077
14 x 12	CFM	230	306	383	460
Ak .770	Ps	.019	.034	.053	.076
14 x 14	CFM	267	357	446	535
Ak .890	Ps	.019	.034	.053	.075
14 x 18	CFM	343	457	571	685
Ak 1.140	Ps	.019	.033	.052	.074

Face Velocity*		300	400	500	600
16 x 6	CFM	132	177	221	265
Ak .440	Ps	.019	.034	.054	.078
16 x 8	CFM	176	234	293	352
Ak .590	Ps	.019	.034	.053	.077
16 x 10	CFM	219	292	365	438
Ak .730	Ps	.019	.034	.053	.076
16 x 12	CFM	262	349	437	524
Ak .870	Ps	.019	.034	.053	.076
16 x 14	CFM	305	407	509	610
Ak 1.020	Ps	.019	.034	.052	.075
16 x 16	CFM	348	464	580	696
Ak 1.160	Ps	.019	.033	.052	.074
16 x 24	CFM	519	692	865	1038
Ak 1.730	Ps	.018	.033	.051	.071
16 x 25	CFM	540	720	900	1081
Ak 1.800	Ps	.018	.033	.051	.071
18 x 6	CFM	149	198	248	297
Ak .500	Ps	.019	.034	.054	.077
18 x 18	CFM	439	585	732	878
Ak 1.460	Ps	.019	.033	.052	.073
18 x 24	CFM	583	777	971	1166
Ak 1.940	Ps	.018	.032	.051	.070
20 x 6	CFM	165	220	275	330
Ak .550	Ps	.019	.034	.053	.077
20 x 10	CFM	273	364	455	546
Ak .910	Ps	.019	.034	.053	.075
20 x 12	CFM	327	435	544	653
Ak 1.090	Ps	.019	.033	.052	.074
20 x 14	CFM	380	507	634	760
Ak 1.270	Ps	.019	.033	.052	.074
20 x 20	CFM	540	720	900	1081
Ak 1.800	Ps	.018	.033	.051	.071
20 x 24	CFM	647	862	1078	1293
Ak 2.160	Ps	.018	.032	.050	.069
20 x 25	CFM	673	898	1122	1346
Ak 2.240	Ps	.018	.032	.050	.069

Face Velocity*		300	400	500	600
24 x 4	CFM	132	177	221	265
Ak .440	Ps	.019	.034	.054	.078
24 x 6	CFM	197	263	329	395
Ak .660	Ps	.019	.034	.053	.077
24 x 8	CFM	262	349	437	524
Ak .870	Ps	.019	.034	.053	.076
24 x 10	CFM	327	435	544	653
Ak 1.090	Ps	.019	.033	.052	.074
24 x 12	CFM	391	521	651	782
Ak 1.300	Ps	.019	.033	.052	.073
24 x 14	CFM	455	607	758	910
Ak 1.520	Ps	.019	.033	.051	.072
24 x 24	CFM	774	1032	1290	1548
Ak 2.580	Ps	.018	.032	.049	.067
30 x 4	CFM	165	220	275	330
Ak .550	Ps	.019	.034	.053	.077
30 x 6	CFM	246	328	410	492
Ak .820	Ps	.019	.034	.053	.076
30 x 8	CFM	327	435	544	653
Ak 1.090	Ps	.019	.033	.052	.074
30 x 10	CFM	407	543	678	814
Ak 1.360	Ps	.019	.033	.052	.073
30 x 12	CFM	487	649	812	974
Ak 1.620	Ps	.018	.033	.051	.072
30 x 14	CFM	567	756	945	1134
Ak 1.890	Ps	.018	.032	.051	.071
30 x 18	CFM	726	968	1210	1452
Ak 2.420	Ps	.018	.032	.050	.068
30 x 20	CFM	806	1074	1343	1611
Ak 2.690	Ps	.018	.031	.049	.067
30 x 24	CFM	964	1286	1607	1928
Ak 3.210	Ps	.017	.031	.048	.064
30 x 30	CFM	1201	1602	2002	2403
Ak 4.000	Ps	.017	.030	.046	.060
36 x 8	CFM	391	521	651	782
Ak 1.300	Ps	.019	.033	.052	.073

For sizes not listed and sizing tips see page 40

\*Filter grilles: Tested without filters. Typical capacity is 2 CFM per square inch of nominal filter area. Recommended face velocity is 300-450 FPM. Velocities higher will decrease filter performance, increase flow resistance, and possibly be of noise concern. Velocity measured 1" from face.

**661 & A661 2-Way Supply Register (Page 21)**

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
6 x 4	CFM	25	30	40	50	55	65	70	80
Ak .080	Throw	4.0	4.5	6.0	7.0	8.5	10.0	11.0	12.5
8 x 4	CFM	35	45	55	65	75	90	100	110
Ak .110	Throw	4.5	5.5	7.0	8.5	10.0	11.5	13.0	14.5
10 x 4 and 8 x 5	CFM	45	60	75	85	100	115	130	145
Ak .145	Throw	5.0	6.5	8.0	9.5	11.5	13.0	14.5	16.0
12 x 4 and 8 x 6	CFM	55	70	90	110	125	145	160	180
Ak .180	Throw	5.5	7.0	9.0	10.5	12.5	14.0	16.0	18.0
14 x 4	CFM	65	85	110	130	150	170	195	215
Ak .215	Throw	6.0	7.5	9.5	11.5	13.5	15.5	17.0	19.0
10 x 6 and 12 x 5	CFM	75	100	125	145	170	195	220	245
Ak .245	Throw	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
12 x 6 and 14 x 5	CFM	90	120	150	175	205	235	265	295
Ak .295	Throw	6.5	8.5	11.0	13.0	15.5	17.5	19.5	22.0
10 x 8	CFM	105	140	175	205	240	275	310	345
Ak .345	Throw	7.0	9.0	11.5	13.5	16.5	18.5	21.0	23.5
14 x 6	CFM	110	145	180	215	250	290	325	360
Ak .360	Throw	7.0	9.5	12.0	14.0	16.5	19.0	21.5	24.0

Terminal Velocity of 75 FPM

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
16 x 6 and 12 x 8	CFM	130	170	215	255	300	340	385	425
Ak .425	Throw	7.5	10.0	12.5	15.0	18.0	20.5	23.0	25.5
14 x 8	CFM	155	205	260	310	360	410	465	515
Ak .515	Throw	8.0	10.5	14.0	16.0	19.5	22.0	25.0	28.0
20 x 6	CFM	165	220	275	330	385	440	495	550
Ak .550	Throw	8.5	11.0	14.5	17.0	20.0	23.0	25.5	29.0
16 x 8	CFM	180	240	300	360	420	480	540	600
Ak .600	Throw	8.5	11.0	14.5	17.0	20.0	23.0	25.5	29.0
24 x 6 and 18 x 8	CFM	205	270	340	410	475	545	610	680
Ak .680	Throw	9.5	12.0	15.5	18.5	22.0	25.0	28.0	31.5
20 x 8	CFM	230	305	380	455	530	610	685	760
Ak .760	Throw	10.0	13.0	16.5	19.0	23.0	26.0	28.5	33.0
30 x 6	CFM	265	350	440	530	615	705	790	880
Ak .880	Throw	10.5	14.0	17.5	20.5	24.5	28.0	31.5	35.0
24 x 8	CFM	295	390	490	590	685	785	880	980
Ak .980	Throw	11.0	14.0	18.0	21.5	25.5	29.0	33.0	37.0
30 x 8	CFM	375	500	625	750	875	1000	1125	1250
Ak 1.250	Throw	12.0	16.0	20.0	24.0	28.5	32.0	37.0	41.0

**681 One-Way Sidewall/Ceiling Register**  
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**681M One-Way Sidewall/Ceiling Register**  
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Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8 x 6	CFM	40	55	70	90	100	110	125	140
Ak .140	Throw	5.0	6.0	8.0	9.0	11.0	12.0	14.0	15.0
10 x 6	CFM	55	80	95	110	130	150	165	185
Ak .185	Throw	5.0	7.0	10.0	11.0	13.0	14.0	16.0	18.0
12 x 6	CFM	70	90	115	135	160	180	205	225
Ak .225	Throw	6.0	8.0	12.0	12.0	14.0	16.0	18.0	20.0
14 x 6	CFM	85	115	145	175	205	230	260	290
Ak .290	Throw	7.0	9.0	16.0	14.0	17.0	19.0	21.0	24.0
16 x 6	CFM	100	130	165	200	230	265	295	330
Ak .330	Throw	8.0	10.0	18.0	15.0	18.0	20.0	23.0	25.0
18 x 6	CFM	115	155	195	235	275	310	350	390
Ak .390	Throw	8.0	11.0	21.0	17.0	20.0	22.0	25.0	28.0
20 x 6	CFM	130	175	220	265	310	360	395	440
Ak .440	Throw	5.0	12.0	24.0	18.0	21.0	24.0	27.0	30.0

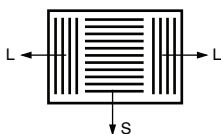
Terminal Velocity of 75 FPM

**683 Three-Way Sidewall/Ceiling Register**  
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**683M Three-Way Sidewall/Ceiling Register**  
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Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8 x 4	Total CFM	25	35	45	55	65	70	80	90
Ak .090	CFM L/S	13/6	17/9	24/11	29/13	34/16	37/17	42/19	48/22
	Throw L/S	3.0/2.5	4.0/3.0	5.0/3.5	6.0/4.0	7.0/5.0	7.5/5.5	8.5/6.5	10.0/6.5
6 x 6	Total CFM	30	40	50	65	75	85	95	105
Ak .105	CFM L/S	10/10	13/14	16/17	21/22	24/26	27/29	30/32	34/36
	Throw L/S	3.0/3.0	3.5/3.5	4.0/4.0	5.5/5.5	6.0/6.0	7.0/7.0	8.0/8.0	9.0/9.0
10 x 4	Total CFM	35	45	60	70	80	90	105	115
Ak .115	CFM L/S	21/7	29/8	38/11	45/13	51/14	58/16	67/19	74/21
	Throw L/S	4.0/2.0	5.0/2.5	6.0/3.5	7.5/4.0	8.5/4.5	9.5/5.0	11.0/6.0	12.0/6.5
12 x 4	Total CFM	40	55	70	85	100	110	125	140
Ak .140	CFM L/S	21/10	29/13	36/17	44/20	52/24	57/26	65/30	73/34
	Throw L/S	3.5/2.5	5.0/3.0	6.0/4.0	7.5/5.0	8.5/5.5	9.5/6.0	10.5/7.0	12.0/8.0
10 x 6	Total CFM	55	75	95	110	130	150	165	185
Ak .185	CFM L/S	35/10	48/14	61/17	70/20	83/23	96/27	106/30	118/33
	Throw L/S	4.5/2.5	6.5/3.5	8.0/4.0	9.0/5.0	11.0/5.5	12.5/6.5	14.0/7.5	15.5/8.0
8 x 8	Total CFM	60	80	100	120	140	160	180	200
Ak .200	CFM L/S	31/14	42/19	52/24	62/29	73/34	83/38	94/43	104/48
	Throw L/S	4.5/3.0	6.0/4.0	7.5/5.0	8.5/6.0	10.5/7.0	11.5/8.0	13.0/9.0	14.5/10.0
12 x 4	Total CFM	70	90	115	135	160	180	205	225
Ak .225	CFM L/S	36/17	47/22	60/28	70/32	83/38	94/43	107/49	117/54
	Throw L/S	4.5/3.5	6.0/4.0	8.0/5.5	9.0/6.0	11.0/7.5	12.5/8.0	14.0/6.5	15.5/10.5
14 x 6	Total CFM	85	115	145	175	205	230	260	290
Ak .290	CFM L/S	51/17	69/23	87/29	105/35	123/41	138/46	156/52	174/58
	Throw L/S	5.5/3.5	7.5/4.5	10.0/5.5	12.0/6.5	14.0/8.0	15.5/9.0	18.0/10.0	20.0/11.0
10 x 10	Total CFM	95	125	155	185	215	250	280	310
Ak .310	CFM L/S	61/17	80/23	99/28	118/33	138/39	160/45	179/50	198/56
	Throw L/S	6.0/3.5	8.0/4.5	10.0/5.5	12.0/6.5	14.0/7.5	16.5/9.0	18.0/9.5	20.0/10.5
12 x 8	Total CFM	95	130	160	190	225	255	290	320
Ak .320	CFM L/S	49/23	68/31	83/38	99/46	117/54	133/61	151/70	166/77
	Throw L/S	5.5/4.0	7.5/5.0	9.5/6.0	11.0/7.5	13.0/9.0	15.0/10.0	17.0/11.5	19.0/12.5
14 x 8	Total CFM	115	155	195	235	275	310	350	390
Ak .390	CFM L/S	69/23	93/31	117/39	141/47	165/55	186/62	210/70	234/78
	Throw L/S	6.5/4.0	9.0/5.0	11.0/6.0	13.5/7.5	16.0/9.0	18.0/10.0	20.0/11.5	22.0/12.5
12 x 12	Total CFM	140	190	235	280	330	375	425	470
Ak .470	CFM L/S	73/34	99/46	122/56	146/67	172/79	195/90	221/102	244/113
	Throw L/S	7.0/4.5	9.0/6.0	11.5/7.5	13.5/9.0	16.0/10.5	18.0/12.0	20.0/14.0	23.0/15.5
14 x 14	Total CFM	195	260	325	390	455	520	585	650
Ak .650	CFM L/S	117/39	156/52	195/65	234/78	273/91	312/104	351/117	390/130
	Throw L/S	8.5/5.0	11.5/6.5	14.0/8.0	17.0/9.5	20.0/11.5	23.0/13.0	26.0/14.5	28.0/16.0
16 x 16	Total CFM	280	370	465	560	650	745	835	930
Ak .930	CFM L/S	164/67	192/89	242/112	291/134	338/156	387/179	434/200	484/223
	Throw L/S	10.0/6.5	13.0/9.0	16.5/11.0	20.0/13.0	23.0/15.5	26.0/17.0	29.0/20.0	33.0/22.0

Terminal Velocity of 75 FPM



**682 Two-Way Sidewall/Ceiling Register**  
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**682M Two-Way Sidewall/Ceiling Register**  
(Page 23)

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8 x 4	CFM	25	35	45	55	65	70	80	90
Ak .090	Throw	2.0	3.5	4.5	5.5	6.5	7.0	8.0	9.0
6 x 6	CFM	30	40	50	65	75	85	95	105
Ak .105	Throw	3.0	3.5	4.5	6.0	7.0	8.0	9.0	10.0
10 x 4	CFM	35	45	60	70	80	90	105	115
Ak .115	Throw	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
12 x 4	CFM	40	55	70	85	100	110	125	140
Ak .140	Throw	3.5	4.5	5.5	6.5	8.0	9.0	10.0	11.5
10 x 6	CFM	55	75	95	110	130	150	165	185
Ak .185	Throw	4.0	5.0	6.5	8.0	9.0	10.5	12.0	13.0
8 x 8	CFM	60	80	100	120	140	160	180	200
Ak .200	Throw	4.0	5.5	7.0	8.0	9.5	11.0	12.5	13.5
12 x 6	CFM	70	90	115	135	160	180	205	225
Ak .225	Throw	4.5	6.0	7.5	8.5	10.5	12.0	13.0	14.5
14 x 6	CFM	85	115	145	175	205	230	260	290
Ak .290	Throw	5.0	6.5	8.5	10.0	11.5	13.5	15.0	17.0
10 x 10	CFM	95	125	155	185	215	250	280	310
Ak .310	Throw	5.0	7.0	8.5	10.0	12.0	14.0	15.5	17.0
12 x 8	CFM	95	130	160	190	225	255	290	320
Ak .320	Throw	5.5	7.0	9.0	10.5	12.5	14.0	16.0	18.0
14 x 8	CFM	115	155	195	235	275	310	350	390
Ak .390	Throw	6.0	8.0	10.0	12.0	14.0	16.0	18.0	20.0
12 x 12	CFM	140	190	235	280	330	375	425	470
Ak .470	Throw	6.5	8.5	10.5	12.5	15.0	17.0	19.0	21.0

Terminal Velocity of 75 FPM

**684 Four-Way Sidewall/Ceiling Register**  
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**684 Four-Way Sidewall/Ceiling Register**  
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Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
6 x 6	Total CFM	30	40	50	65	75	85	95	105
Ak .105	CFM L/S	4/11	6/14	8/17	10/22	12/26	14/29	15/32	17/36
	Throw L/S	2.0/3.0	2.0/3.5	3.0/4.0	3.5/5.5	4.5/6.5	5.0/7.0	5.5/8.0	6.0/9.0
8 x 8	Total CFM	60	80	100	120	140	160	180	200
Ak .200	CFM L/S	16/14	21/19	26/24	31/29	37/34	42/38	47/43	52/48
	Throw L/S	3.0/3.0	4.0/4.0	5.0/5.0	6.0/6.0	7.5/7.0	8.5/8.0	9.5/9.0	10.5/10.0
10 x 10	Total CFM	95	125	155	185	215	250	280	310
Ak .310	CFM L/S	31/17	40/23	50/28	59/33	69/39	80/45	90/50	99/56
	Throw L/S	4.5/3.5	6.0/4.5	7.0/5.5	8.5/6.5	10.0/7.5	11.0/9.0	13.0/9.5	14.5/10.5
12 x 12	Total CFM	140	190	235	280	330	375	425	470
Ak .470	CFM L/S	37/34	50/46	61/56	73/67	86/79	98/90	111/102	122/113
	Throw L/S	5.0/4.5	6.5/6.0	8.0/7.5	9.5/9.0	11.5/10.5	13.0/12.0	14.5/14.0	16.0/15.5
14 x 14	Total CFM	195	260	325	390	455	520	585	650
Ak .650	CFM L/S	59/39	78/52	98/65	117/78	137/91	156/104	176/117	195/130
	Throw L/S	6.0/5.0	8.0/6.5	10.0/8.0	12.0/9.5	14.0/11.5	16.0/13.0	18.0/14.5	20.0/16.0
16 x 16	Total CFM	280	370	465	560	650	745	835	930
Ak .930	CFM L/S	73/67	96/89	121/112	146/134	169/156	194/179	217/200	242/223
	Throw L/S	7.0/6.5	9.0/9.0	11.5/11.0					