

## PERFORMANCE DATA:

### EGGCRATE RETURN AND EXHAUST GRILLES AND REGISTERS • 5100, 6100 & 6700 SERIES

#### MODELS: 51EC, 61EC, 67EC, 51FE, 61FE

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	300	400	500	600	700	800	900	1000	1200	1400
					.006 .012	.010 .021	.016 .033	.022 .048	.031 .065	.040 .085	.050 .107	.062 .132	.090 .190	.122 .259
6 x 6	8 x 4 10 x 4	0.20	0.25	CFM Noise Criteria	60 -	80 -	100 -	120 -	140 -	160 15	180 20	200 23	240 29	280 34
8 x 6	10 x 5 12 x 4	0.27	0.33	CFM Noise Criteria	81 -	108 -	135 -	162 -	189 -	216 17	243 21	270 24	324 30	378 35
10 x 6	12 x 5 16 x 4	0.35	0.41	CFM Noise Criteria	105 -	140 -	175 -	210 -	245 -	280 18	315 22	350 25	420 31	490 36
8 x 8	14 x 5	0.38	0.44	CFM Noise Criteria	114 -	152 -	190 -	228 -	266 15	304 18	342 23	380 26	456 32	532 37
12 x 6	18 x 4	0.42	0.50	CFM Noise Criteria	126 -	168 -	210 -	252 -	294 15	336 19	378 23	420 26	504 32	588 37
12 x 8	16 x 6 24 x 4	0.58	0.66	CFM Noise Criteria	174 -	232 -	290 -	348 -	406 17	464 20	522 24	580 27	696 33	812 38
10 x 10	14 x 7 26 x 4	0.61	0.69	CFM Noise Criteria	183 -	244 -	305 -	366 -	427 17	488 20	549 25	610 28	732 34	854 39
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.74	CFM Noise Criteria	195 -	260 -	325 -	390 -	455 17	520 21	585 25	650 28	780 34	910 39
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.82	CFM Noise Criteria	222 -	296 -	370 -	444 -	518 18	592 21	666 25	740 29	888 35	1036 40
12 x 12	14 x 10 24 x 6 18 x 8 38 x 4	0.90	0.99	CFM Noise Criteria	270 -	360 -	450 -	540 -	630 18	720 22	810 26	900 30	1080 36	1260 41
14 x 14	16 x 12 24 x 8 20 x 10 34 x 6	1.24	1.35	CFM Noise Criteria	372 -	496 -	620 -	744 -	868 19	992 23	1116 27	1240 31	1488 37	1736 42
18 x 12	16 x 14 28 x 8 20 x 10 38 x 6	1.37	1.49	CFM Noise Criteria	411 -	548 -	685 -	822 -	959 20	1096 24	1233 27	1370 31	1644 37	1918 42
24 x 10	20 x 12 30 x 8	1.52	1.65	CFM Noise Criteria	456 -	608 -	760 -	912 15	1064 20	1216 24	1368 28	1520 32	1824 38	420 43
16 x 16	18 x 14 30 x 8 22 x 12	1.64	1.76	CFM Noise Criteria	492 -	656 -	820 -	984 15	1148 20	1312 24	1476 28	1640 32	1968 38	2296 43
24 x 12	18 x 16 30 x 10 20 x 14 36 x 8	1.85	1.98	CFM Noise Criteria	555 -	740 -	925 -	1110 15	1295 20	1480 24	1665 28	1850 32	2220 38	2590 43
18 x 18	20 x 16 28 x 12 24 x 14 32 x 10	2.10	2.23	CFM Noise Criteria	630 -	840 -	1050 -	1260 15	1470 20	1680 25	1890 28	2100 32	2520 38	2940 43
30 x 12	20 x 18 26 x 14 22 x 16 36 x 10	2.32	2.48	CFM Noise Criteria	696 -	928 -	1160 -	1392 16	1624 20	1856 26	2088 29	2320 33	2784 39	3248 44
20 x 20	24 x 18 30 x 14 26 x 16 36 x 12	2.61	2.75	CFM Noise Criteria	783 -	1044 -	1305 -	1566 16	1827 20	2088 26	2349 29	2610 33	3132 39	3654 44
22 x 22	24 x 20 30 x 16 26 x 18 36 x 14	3.17	3.33	CFM Noise Criteria	951 -	1268 -	1585 -	1902 17	2219 21	2536 26	2853 30	3170 34	3804 40	4438 45
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.71	CFM Noise Criteria	1062 -	1416 -	1770 -	2124 17	2478 22	2832 26	3186 30	3540 34	4248 40	4956 45
24 x 24	26 x 22 32 x 18 28 x 20 36 x 16	3.79	3.96	CFM Noise Criteria	1137 -	1516 -	1895 -	2274 18	2653 23	3032 27	3411 31	3790 35	4548 41	5306 46
36 x 18	32 x 20 46 x 14 40 x 16	4.29	4.46	CFM Noise Criteria	1287 -	1716 -	2145 -	2574 18	3003 23	3432 27	3861 31	4290 35	5148 41	6006 46
26 x 26	28 x 24 48 x 14	4.47	4.65	CFM Noise Criteria	1341 -	1788 -	2235 -	2682 19	3129 24	3576 28	4023 32	4470 36	5364 42	6258 47
30 x 24	28 x 26 36 x 20 32 x 22 40 x 18	4.77	4.95	CFM Noise Criteria	1431 -	1908 -	2385 15	2862 19	3339 24	3816 29	4293 32	4770 36	5724 42	6678 47
28 x 28	30 x 26 40 x 20 36 x 22	5.20	5.39	CFM Noise Criteria	1560 -	2080 -	2600 -	3120 19	3640 24	4160 29	4680 32	5200 36	6240 41	7280 46
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.94	CFM Noise Criteria	1722 -	2296 -	2870 -	3444 20	4018 25	4592 29	5166 33	5740 37	6888 43	8036 48
30 x 30	34 x 26 48 x 20 38 x 24	5.99	6.19	CFM Noise Criteria	1797 -	2396 -	2995 -	3594 20	4193 25	4792 29	5391 33	5990 37	7188 43	8386 48

For performance data notes, see F107.

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					.006 .012	.010 .021	.016 .033	.022 .048	.031 .065	.040 .085	.050 .107	.062 .132	.090 .190	.122 .259
32 x 32	36 x 30 46 x 22 38 x 28	6.84	7.0	CFM	2052	2736	3420	4104	4788	5472	6156	6840	6156	6840
				Noise Criteria	—	—	15	20	26	30	34	37	34	37
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.92	CFM	2307	3076	3845	4614	5383	6152	6921	7690	6921	7690
				Noise Criteria	—	—	16	21	26	30	35	38	35	38
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.91	CFM	2607	3476	4345	5214	6083	6952	7821	8690	10428	12166
				Noise Criteria	—	—	16	22	27	31	35	38	44	49
38 x 38	42 x 34 48 x 30 44 x 34	9.70	9.93	CFM	2910	3880	4850	5820	6790	7760	8730	9700	11640	13580
				Noise Criteria	—	—	16	22	27	31	36	39	45	50
40 x 40	42 x 36 48 x 32 46 x 34	10.77	11.00	CFM	3231	4308	5385	6462	7539	8616	9693	10770	12924	15078
				Noise Criteria	—	—	16	22	28	32	37	40	46	51
42 x 42	44 x 40 48 x 36 46 x 38	11.89	12.13	CFM	3567	4756	5945	7134	8323	9512	10701	11890	6921	7690
				Noise Criteria	—	—	17	23	28	32	37	40	46	51
44 x 44	46 x 42	13.07	13.31	CFM	3921	5228	6535	7842	9149	10456	11763	13070	15684	18298
				Noise Criteria	—	—	17	23	28	33	37	40	46	51
46 x 46		14.30	14.55	CFM	4290	5720	7150	8580	10010	11440	12870	14300	17160	20020
				Noise Criteria	—	—	18	24	29	33	37	40	46	52
48 x 48		15.59	15.84	CFM	4677	6236	7795	9354	10913	12472	14031	15590	18708	21826
				Noise Criteria	—	—	18	24	29	33	37	40	46	52

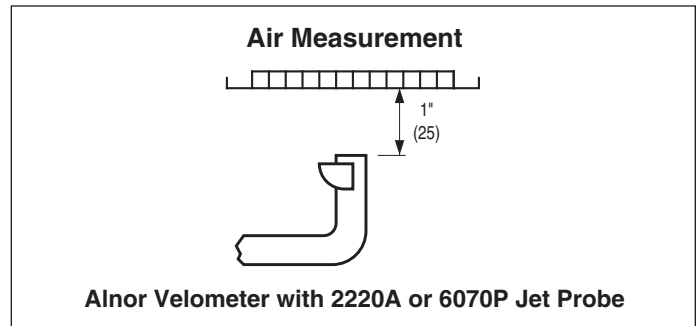
#### Performance Notes:

1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille tested without damper. Apply the following correction factors for addition of opposed blade damper to grille.

**Neg. Static Pressure** Listed Value x 1.25.

**Noise Criteria** Add + 6 to listed value.

4. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10<sup>-12</sup> watts. Dash (—) in space denotes a Noise Criteria level of less than 15.
5. Data derived from tests conducted in accordance with ANSI/ASHRAE Standard 70 – 2006.



#### Airflow Measurements

1. Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.
2. Take velocity readings at a number of locations on the inlet face (a minimum of 4), while positioning probe as shown above, one inch out from the face.
3. Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (Vk in FPM).
4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.

$$\text{Airflow (CFM)} = \text{Average velocity (Vk)} \times \text{Ak}$$