

PERFORMANCE DATA:

PERFORATED RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

MODELS: 51PR, 51FP, 61PR, 61FP, 67PR, 51PRC, 61PRC

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
					.006 .024	.010 .042	.016 .067	.022 .095	.031 .130	.040 .170	.051 .215	.062 .265	.090 .382
6 x 6	8 x 4 10 x 4	0.20	0.20	CFM Noise Criteria	60 -	80 -	100 -	120 15	140 21	160 26	180 32	200 37	240 44
8 x 6	10 x 5 12 x 4	0.27	0.27	CFM Noise Criteria	81 -	108 -	135 -	162 16	189 22	216 28	243 33	270 38	324 45
10 x 6	12 x 5 16 x 4	0.35	0.33	CFM Noise Criteria	105 -	140 -	175 -	210 17	245 24	280 29	315 34	350 39	420 46
8 x 8	14 x 5	0.38	0.36	CFM Noise Criteria	114 -	152 -	190 -	228 18	266 25	304 29	342 35	380 40	456 47
12 x 6	18 x 4	0.42	0.40	CFM Noise Criteria	126 -	168 -	210 -	252 18	294 25	336 30	378 35	420 40	504 47
12 x 8	16 x 6 24 x 4	0.58	0.53	CFM Noise Criteria	174 -	232 -	290 -	348 20	406 27	464 31	522 36	580 41	696 48
10 x 10	14 x 7	0.61	0.56	CFM Noise Criteria	183 -	244 -	305 -	366 20	427 27	488 31	549 37	610 42	732 49
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.60	CFM Noise Criteria	195 -	260 -	325 -	390 20	455 27	520 32	585 37	650 42	780 49
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.67	CFM Noise Criteria	222 -	296 -	370 -	444 21	518 28	592 32	666 37	740 43	888 50
12 x 12	14 x 10 24 x 6 18 x 8 38 x 4	0.90	0.80	CFM Noise Criteria	270 -	360 -	450 15	540 22	630 28	720 33	810 38	900 44	1080 51
14 x 14	16 x 12 24 x 8 20 x 10 34 x 6	1.24	1.09	CFM Noise Criteria	372 -	496 -	620 16	744 23	868 29	992 34	1116 39	1240 45	1488 52
18 x 12	16 x 14 28 x 8 22 x 10 38 x 6	1.37	1.20	CFM Noise Criteria	411 -	548 -	685 17	822 23	959 30	1096 35	1233 39	1370 45	1644 52
24 x 10	20 x 12 30 x 8	1.52	1.33	CFM Noise Criteria	456 -	608 -	760 17	912 24	1064 30	1216 35	1368 40	1520 46	1824 53
16 x 16	18 x 14 30 x 8 22 x 12	1.64	1.42	CFM Noise Criteria	492 -	656 -	820 17	984 24	1148 30	1312 35	1476 40	1640 46	1968 53
24 x 12	18 x 16 30 x 10 20 x 14 36 x 8	1.85	1.60	CFM Noise Criteria	555 -	740 -	925 17	1110 24	1295 30	1480 35	1665 40	1850 46	2220 53
18 x 18	20 x 16 28 x 12 24 x 14 32 x 10	2.10	1.80	CFM Noise Criteria	630 -	840 -	1050 17	1260 24	1470 30	1680 36	1890 40	2100 46	2520 53
30 x 12	20 x 18 26 x 14 22 x 16 36 x 10	2.32	2.00	CFM Noise Criteria	696 -	928 -	1160 17	1392 25	1624 30	1856 37	2088 41	2320 47	2784 54
20 x 20	24 x 18 30 x 14 26 x 16 36 x 12	2.61	2.22	CFM Noise Criteria	783 -	1044 -	1305 18	1566 25	1827 30	2088 37	2349 41	2610 47	3132 54
22 x 22	24 x 20 30 x 16 26 x 18 36 x 14	3.17	2.69	CFM Noise Criteria	951 -	1268 -	1585 18	1902 26	2219 31	2536 37	2853 42	3170 48	3804 55
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.00	CFM Noise Criteria	1062 -	1416 -	1770 19	2124 26	2478 32	2832 37	3186 42	3540 48	4248 55
24 x 24	26 x 22 32 x 18 28 x 20 36 x 16	3.79	3.20	CFM Noise Criteria	1137 -	1516 -	1895 19	2274 27	2653 33	3032 38	3411 43	3790 49	4548 56
36 x 18	32 x 20 46 x 14 40 x 16	4.29	3.60	CFM Noise Criteria	1287 -	1716 -	2145 19	2574 27	3003 33	3432 38	3861 43	4290 49	5148 56
26 x 26	28 x 24 36 x 20 48 x 14 40 x 18	4.47	3.76	CFM Noise Criteria	1341 -	1788 -	2235 20	2682 28	3129 34	3576 39	4025 44	4470 50	5364 57
30 x 24	28 x 26 36 x 20 32 x 22 40 x 18	4.77	4.00	CFM Noise Criteria	1431 -	1908 -	2385 21	2862 28	3339 34	3816 39	4293 44	4770 50	5724 57
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.36	CFM Noise Criteria	1560 -	2080 -	2600 21	3120 28	3640 34	4160 40	4680 44	5200 50	6240 57
36 x 24	30 x 28 44 x 20 40 x 22	5.74	4.80	CFM Noise Criteria	1722 -	2296 -	2870 22	3444 29	4018 35	4592 40	5166 45	5740 50	6888 58
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.00	CFM Noise Criteria	1797 -	2396 -	2995 22	3594 29	4193 35	4792 40	5391 45	5990 51	7188 58

For performance data notes, see F118.

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					.006 .024	.010 .042	.016 .067	.022 .095	.031 .130	.040 .170	.051 .215	.062 .265	.090 .382
32 x 32	36 x 30 46 x 22 38 x 28	6.84	5.69	CFM	2052	2736	3420	4104	4788	5472	6156	6840	8208
				Noise Criteria	-	15	23	29	36	41	46	51	58
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	6.40	CFM	2307	3076	3845	4614	5383	6152	6921	7690	9228
				Noise Criteria	-	16	24	30	36	41	47	52	59
36 x 36	38 x 34 26 x 28 42 x 30 48 x 26	8.69	7.20	CFM	2607	3476	4345	5214	6083	6952	7821	8690	10428
				Noise Criteria	-	16	24	31	37	42	47	52	59
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.02	CFM	2910	3880	4850	5820	6790	7760	8730	9700	11640
				Noise Criteria	-	17	24	31	37	42	48	53	60
40 x 40	42 x 36 48 x 32 46 x 34	10.77	8.89	CFM	3231	4308	5385	6462	7539	8616	9693	10770	12924
				Noise Criteria	-	17	24	31	38	43	49	54	61
42 x 42	44 x 40 48 x 36 46 x 38	11.89	9.80	CFM	3567	4756	5945	7134	8323	9512	10701	11890	14268
				Noise Criteria	-	18	25	32	38	43	49	54	61
44 x 44	46 x 42	13.07	10.76	CFM	3921	5228	6535	7842	9149	10456	11763	13070	15684
				Noise Criteria	-	18	25	32	38	44	49	54	61
46 x 46		14.30	11.76	CFM	4290	5720	7150	8580	10010	11440	12870	14300	17160
				Noise Criteria	-	19	26	33	39	44	49	54	61
48 x 48		15.59	12.80	CFM	4677	6236	7795	9354	10913	12472	14031	15590	18708
				Noise Criteria	-	19	26	33	39	44	49	54	61

Performance Notes:

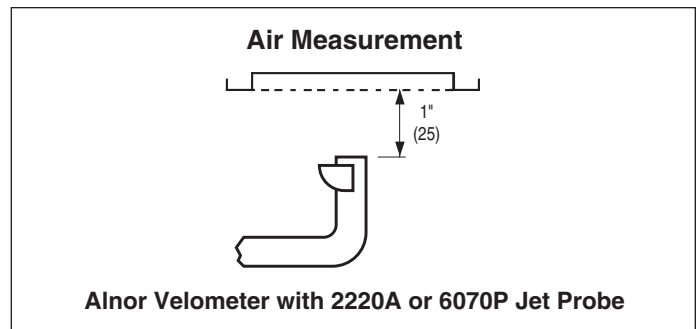
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille tested without damper. Apply the following correction factors for addition of opposed blade damper to grille.

Neg. Static Pressure Listed Value x 1.10.

Noise Criteria Add 5 dB to listed value.

4. Noise Criteria (NC) values are based on a room absorption of 10 dB, re 10⁻¹² 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

- Balancing factors are applicable with or without dampers, providing uniform airflow exists into grille or register.
- 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.
- Total the various velocity readings and divide by the number of readings taken to arrive at an average inlet velocity (V_k in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.

$$\text{Airflow (CFM)} = \text{Average velocity (V}_k\text{)} \times \text{Ak.}$$