

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

GRILLES AND REGISTERS



For performance data notes, see F118.

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
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:

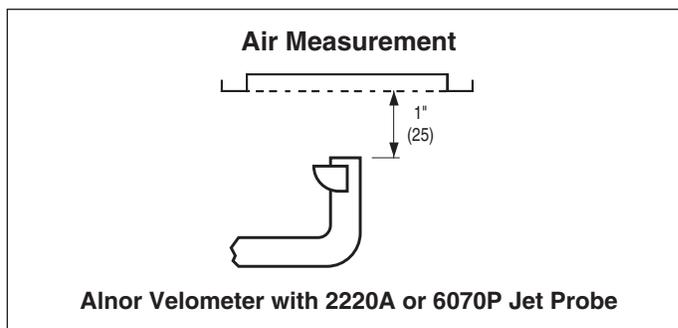
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille tested without damper. Apply the following correction factors for addition of opposed blade damper to grille.

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 – 2023.



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.

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