

## PERFORMANCE DATA:

### FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

#### MODELS: 51FH, 61FH, 67FH, 51FV, 61FV, 67FV, 51FBS, 61FBS

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100	200	300	400	500	600	700	800	900	1000
					.001 .002	.002 .009	.006 .020	.010 .035	.016 .055	.022 .079	.031 .107	.040 .140	.050 .177	.062 .219
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 16	140 18	160 21	180 25	200 30
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 -	168 17	196 19	224 22	252 26	280 31
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 -	210 18	245 20	280 23	315 27	350 32
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 -	228 19	266 21	304 24	342 28	380 32
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 15	252 19	294 22	336 25	378 29	420 33
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 15	348 19	406 22	464 26	522 30	580 34
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 15	366 19	427 22	488 27	549 30	610 35
18 x 6	14 x 8    30 x 4 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 16	390 20	455 23	520 27	585 31	650 35
12 x 10	16 x 8    20 x 6 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 -	370 16	444 21	518 24	592 28	666 32	740 35
12 x 12	14 x 10    24 x 6 18 x 8    38 x 4	0.90	0.89	CFM Noise Criteria	90 -	180 -	270 -	360 -	450 17	540 21	630 24	720 29	810 32	900 35
14 x 14	16 x 12    24 x 8 20 x 10    34 x 6	1.24	1.22	CFM Noise Criteria	124 -	248 -	372 -	496 -	620 17	744 22	868 25	992 29	1116 33	1240 36
18 x 12	16 x 14    28 x 8 22 x 10    38 x 6	1.37	1.34	CFM Noise Criteria	137 -	274 -	411 -	548 -	685 18	822 23	959 26	1096 31	1233 34	1370 37
24 x 10	20 x 12    30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 -	608 -	760 18	912 23	1064 27	1216 32	1368 35	1520 38
16 x 16	18 x 14    30 x 8 22 x 12	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 -	820 19	984 23	1148 27	1312 32	1476 35	1640 38
24 x 12	18 x 16    30 x 10 20 x 14    36 x 8	1.85	1.78	CFM Noise Criteria	185 -	370 -	555 -	740 -	925 19	1110 24	1295 27	1480 32	1665 35	1850 39
18 x 18	20 x 16    28 x 12 24 x 14    32 x 10	2.10	2.01	CFM Noise Criteria	210 -	420 -	630 -	840 -	1050 19	1260 24	1470 28	1680 33	1890 36	2100 39
30 x 12	20 x 18    26 x 14 22 x 16    36 x 10	2.32	2.23	CFM Noise Criteria	232 -	464 -	696 -	928 -	1160 19	1392 24	1624 28	1856 33	2088 36	2320 40
20 x 20	24 x 18    30 x 14 26 x 16    36 x 12	2.61	2.48	CFM Noise Criteria	261 -	522 -	783 -	1044 -	1305 19	1566 24	1827 28	2088 33	2349 36	2610 40
22 x 22	24 x 20    30 x 16 26 x 18    36 x 14	3.17	3.00	CFM Noise Criteria	317 -	634 -	951 -	1268 15	1585 20	1902 25	2219 29	2536 33	2853 36	3170 40
30 x 18	24 x 22    40 x 14 34 x 16	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 15	1770 20	2124 25	2478 29	2832 34	3186 37	3540 41
24 x 24	26 x 22    32 x 18 28 x 20    36 x 16	3.79	3.56	CFM Noise Criteria	379 -	758 -	1137 -	1516 15	1895 20	2274 25	2653 30	3032 34	3411 37	3790 41
36 x 18	32 x 20    46 x 14 40 x 16	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 17	2135 22	2562 26	2989 30	3416 35	3843 38	4270 42
26 x 26	28 x 24    48 x 14	4.47	4.19	CFM Noise Criteria	447 -	894 -	1341 -	1788 17	2235 22	2682 26	3129 30	3576 35	4023 38	4470 42
30 x 24	28 x 26    36 x 20 32 x 22    40 x 18	4.77	4.46	CFM Noise Criteria	477 -	954 -	1431 -	1908 18	2385 23	2862 27	3339 31	3816 35	4293 39	4770 43
28 x 28	30 x 26    40 x 20 36 x 22	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 -	2080 18	2600 23	3120 27	3640 31	4160 36	4680 39	5200 43
36 x 24	30 x 28    44 x 20 40 x 22	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 -	2296 18	2870 23	3444 27	4018 31	4592 36	5166 40	5740 44
30 x 30	34 x 26    48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 -	2396 18	2995 23	3594 28	4193 32	4792 36	5391 40	5990 44

GRILLES AND REGISTERS

F

For performance data notes, see F44.

## PERFORMANCE DATA:

### FIXED BLADE RETURN GRILLES AND REGISTERS • 5100, 6100 AND 6700 SERIES

#### MODELS: 51FH, 61FH, 67FH, 51FV, 61FV, 67FV, 51FBS, 61FBS

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100	200	300	400	500	600	700	800	900	1000
					.001 .003	.002 .014	.006 .031	.010 .055	.016 .086	.022 .124	.031 .168	.040 .220	.050 .278	.062 .344
32 x 32	36 x 30 38 x 28	6.84	6.34	CFM	684	1368	2052	2736	3420	4104	4788	5472	6156	6840
				Noise Criteria	-	-	-	18	24	28	32	37	41	45
48 x 24	34 x 34 36 x 32	7.69	7.13	CFM	769	1538	2307	3076	3845	4614	5383	6152	6921	7690
				Noise Criteria	-	-	-	18	24	29	33	37	41	45
36 x 36	38 x 34 42 x 30	8.69	8.02	CFM	869	1738	2607	3476	4345	5214	6083	6952	7821	8690
				Noise Criteria	-	-	-	19	24	29	34	38	42	46
38 x 38	42 x 34 44 x 34	9.70	8.94	CFM	970	1940	2910	3880	4850	5820	6790	7760	8730	9700
				Noise Criteria	-	-	-	19	25	30	34	38	42	46
40 x 40	42 x 36 46 x 34	10.77	9.90	CFM	1077	2154	3231	4308	5385	6462	7539	8616	9693	10770
				Noise Criteria	-	-	-	20	26	30	35	38	43	47
42 x 42	46 x 42	11.89	10.92	CFM	1189	2378	3567	4756	5945	7134	8323	9512	10701	11890
				Noise Criteria	-	-	-	20	26	31	35	39	43	47
44 x 44		13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
	Noise Criteria			-	-	15	20	26	31	35	39	43	47	
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
	Noise Criteria			-	-	15	21	27	32	36	40	44	48	
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
	Noise Criteria			-	-	16	21	27	32	36	40	44	48	

#### Performance Notes:

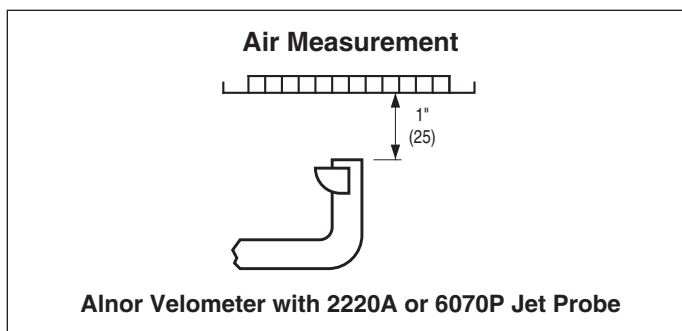
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

**Negative Static Pressure** Listed Value x 0.91.

**Noise Criteria** Listed value - 4.

4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10<sup>-12</sup> watts. Dash (-) in space indicates a Noise Criteria 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<sub>k</sub> in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.  
Airflow (CFM) = Average velocity (V<sub>k</sub>) x Ak.