

## PERFORMANCE DATA:

### FIXED BLADE RETURN GRILLES AND REGISTERS • AIRFOIL BLADE 7100 SERIES

#### MODELS: 71FH, 71FV

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 .007	.006 .017	.010 .030	.016 .047	.022 .067	.031 .092	.040 .120	.050 .152	.062 .187
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 17	140 22	160 26	180 30	200 34
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 -	168 18	196 23	224 27	252 31	280 35
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 -	210 19	245 24	280 28	315 32	350 36
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 15	228 20	266 25	304 29	342 33	380 37
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 -	252 17	294 20	336 23	378 27	420 31
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 -	348 17	406 20	464 24	522 28	580 32
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 -	366 17	427 20	488 25	549 28	610 33
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 -	390 18	455 21	520 25	585 29	650 33
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 -	370 -	444 19	518 22	592 26	666 30	740 33
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 15	540 19	630 22	720 27	810 30	900 33
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 15	744 20	868 23	992 27	1116 31	1240 34
18 x 12	16 x 14 28 x 8 20 x 10 38 x 6	1.37	1.34	CFM Noise Criteria	137 -	274 -	411 -	548 -	685 16	822 21	959 24	1096 29	1233 32	1370 35
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 -	608 -	760 16	912 21	1064 25	1216 30	1368 33	1520 36
16 x 16	18 x 14 30 x 10 22 x 12 36 x 8	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 -	820 17	984 21	1148 25	1312 30	1476 33	1640 36
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 17	1110 22	1295 25	1480 30	1665 33	1850 37
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 17	1260 22	1470 26	1680 31	1890 34	2100 37
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 17	1392 22	1624 26	1856 31	2088 34	2320 38
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 17	1566 22	1827 26	2088 31	2349 34	2610 38
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 -	1585 18	1902 23	2219 27	2536 31	2853 34	3170 38
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 -	1770 18	2124 23	2478 27	2832 32	3186 35	3540 39
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 -	1895 -	2274 -	2653 -	3032 -	3411 -	3790 -
36 x 18	32 x 20 46 x 14 40 x 16	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 15	2135 20	2562 24	2989 28	3416 33	3843 36	4270 40
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 -	864 -	1341 -	1788 15	2235 20	2682 24	3129 28	3576 33	4023 36	4470 40
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 16	2385 21	2862 25	3339 29	3816 33	4293 37	4770 41
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 -	2080 16	2600 21	3120 25	3640 29	4160 34	4680 37	5200 41
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 -	2296 16	2870 21	3444 25	4018 29	4592 34	5166 38	5740 42
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 -	2396 16	2995 21	3594 26	4193 30	4792 34	5391 38	5990 42

GRILLES AND REGISTERS

F

For performance data notes, see F84.

## PERFORMANCE DATA:

### FIXED BLADE RETURN GRILLES AND REGISTERS • AIRFOIL BLADE 7100 SERIES

#### MODELS: 71FH, 71FV

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 .007	.006 .017	.010 .030	.016 .047	.022 .067	.031 .092	.040 .120	.050 .152	.062 .187
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	CFM	684	1368	2052	2736	3420	4104	4788	5472	6156	6840
				Noise Criteria	-	-	-	16	22	26	30	35	39	43
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	CFM	769	1538	2307	3076	3845	4614	5383	6152	6921	7690
				Noise Criteria	-	-	-	16	22	27	31	35	39	43
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	CFM	869	1738	2607	3476	4345	5214	6083	6952	7821	8690
				Noise Criteria	-	-	-	17	22	27	32	36	40	44
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	CFM	970	1940	2910	3880	4850	5820	6790	7760	8730	9700
				Noise Criteria	-	-	-	17	23	28	32	36	40	44
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	CFM	1077	2154	3231	4308	5385	6462	7539	8616	9693	10770
				Noise Criteria	-	-	-	18	24	28	33	36	41	45
42 x 42	44 x 40 48 x 36 46 x 38	11.89	10.92	CFM	1189	2378	3567	4756	5945	7134	8323	9512	10701	11890
				Noise Criteria	-	-	-	18	24	29	33	37	41	45
44 x 44	46 x 42	13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
				Noise Criteria	-	-	-	18	24	29	33	37	41	45
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
				Noise Criteria	-	-	-	19	25	30	34	38	42	46
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
				Noise Criteria	-	-	-	19	25	30	34	38	42	46

#### Performance Notes:

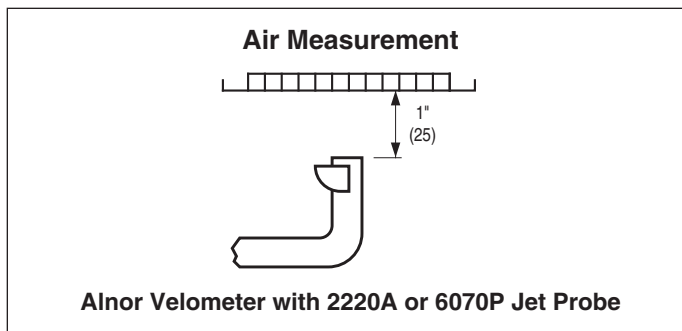
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

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

**Noise Criteria** Listed value - 4.

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:

- 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 (Vk in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.  
Airflow (CFM) = Average velocity (Vk) x Ak.