

## PERFORMANCE DATA:

### STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 0° DEFLECTION

#### MODELS: 61FH-HD, 61FV-HD

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 .036	.016 .057	.022 .082	.031 .111	.040 .145	.050 .183	.062 .226
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 18	140 20	160 23	180 27	200 32
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 15	168 19	196 21	224 24	252 28	280 33
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 16	210 20	245 22	280 25	315 29	350 34
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 16	228 21	266 23	304 26	342 30	380 34
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 17	252 21	294 24	336 27	378 31	420 35
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 17	348 21	406 24	464 28	522 32	580 36
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 17	366 21	427 24	488 29	549 32	610 37
18 x 6	14 x 8 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 18	390 22	455 25	520 29	585 33	650 37
12 x 10	16 x 8 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 -	370 18	444 23	518 26	592 30	666 34	740 37
12 x 12	14 x 10 18 x 8 24 x 6 38 x 4	0.90	0.89	CFM Noise Criteria	90 -	180 -	270 -	360 -	450 19	540 23	630 26	720 31	810 34	900 37
14 x 14	16 x 12 20 x 10 24 x 8 34 x 6	1.24	1.22	CFM Noise Criteria	124 -	248 -	372 -	496 -	620 19	744 24	868 27	992 31	1116 35	1240 38
18 x 12	16 x 14 20 x 10 28 x 8 38 x 6	1.37	1.34	CFM Noise Criteria	137 -	274 -	411 -	548 15	685 20	822 25	959 28	1096 33	1233 36	1370 39
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 -	608 15	760 20	912 25	1064 29	1216 34	1368 37	1520 40
16 x 16	18 x 14 22 x 12 30 x 8	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 16	820 21	984 25	1148 29	1312 34	1476 37	1640 40
24 x 12	18 x 16 20 x 14 30 x 10 36 x 8	1.85	1.78	CFM Noise Criteria	185 -	370 -	555 -	740 16	925 21	1110 26	1295 29	1480 34	1665 37	1850 41
18 x 18	20 x 16 24 x 14 28 x 12 32 x 10	2.10	2.01	CFM Noise Criteria	210 -	420 -	630 -	840 16	1050 21	1260 26	1470 30	1680 35	1890 38	2100 41
30 x 12	20 x 18 22 x 16 26 x 14 36 x 10	2.32	2.23	CFM Noise Criteria	232 -	464 -	696 -	928 16	1160 21	1392 26	1624 30	1856 35	2088 38	2320 42
20 x 20	24 x 18 26 x 16 30 x 14 36 x 12	2.61	2.48	CFM Noise Criteria	261 -	522 -	783 -	1044 16	1305 21	1566 26	1827 30	2088 35	2349 38	2610 42
22 x 22	24 x 20 26 x 18 30 x 16 36 x 14	3.17	3.00	CFM Noise Criteria	317 -	634 -	951 -	1268 17	1585 22	1902 27	2219 31	2536 35	2853 38	3170 42
30 x 18	24 x 22 34 x 16 40 x 14	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 17	1770 22	2124 27	2478 31	2832 36	3186 39	3540 43
24 x 24	26 x 22 28 x 20 32 x 18 36 x 16	3.79	3.56	CFM Noise Criteria	379 -	758 -	1137 -	1516 17	1895 22	2274 27	2653 32	3032 36	3411 39	3790 43
36 x 18	32 x 20 40 x 16 46 x 14	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 19	2135 24	2562 28	2989 32	3416 37	3843 40	4270 44
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 -	864 -	1341 -	1788 19	2235 24	2682 28	3129 32	3576 37	4023 40	4470 44
30 x 24	28 x 26 32 x 22 36 x 20 40 x 18	4.77	4.46	CFM Noise Criteria	477 -	954 -	1431 -	1908 20	2385 25	2862 29	3339 33	3816 37	4293 41	4770 45
28 x 28	30 x 26 36 x 22 40 x 20	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 -	2080 20	2600 25	3120 29	3640 33	4160 38	4680 41	5200 45
36 x 24	30 x 28 40 x 22 44 x 20	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 -	2296 20	2870 25	3444 29	4018 33	4592 38	5166 42	5740 46
30 x 30	34 x 26 38 x 24 48 x 20	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 -	2396 20	2995 25	3594 30	4193 34	4792 38	5391 42	5990 46

For performance data notes, see F163.

## PERFORMANCE DATA:

### STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 0° DEFLECTION

#### MODELS: 61FH-HD, 61FV-HD

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 .036	.016 .057	.022 .082	.031 .111	.040 .145	.050 .183	.062 .226
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	-	-	-	20	26	30	34	39	43	47
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	-	-	-	20	26	31	35	39	43	47
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	-	-	-	21	26	31	36	40	44	48
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	-	-	-	21	27	32	36	40	44	48
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	-	-	-	22	28	32	37	40	45	49
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	-	-	-	22	28	33	37	41	45	49
44 x 44	46 x 42	13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
				Noise Criteria	-	-	-	22	28	33	37	41	45	49
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
				Noise Criteria	-	-	-	23	29	34	38	42	46	50
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
				Noise Criteria	-	-	-	23	29	34	38	42	46	50

#### Performance Notes:

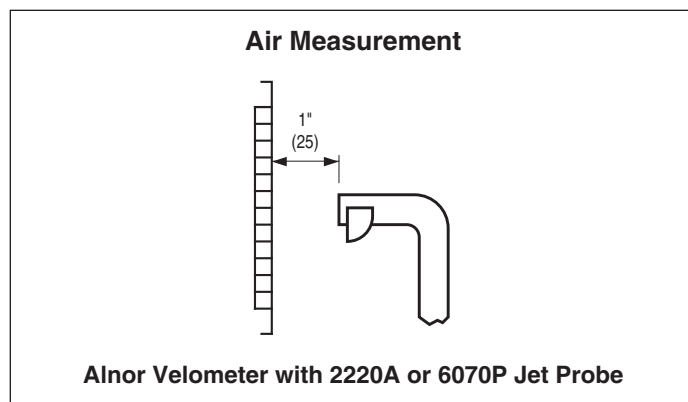
1. All pressures are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

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

**Noise Criteria** Listed value - 4.

4. Noise Criteria (NC) values are based upon 10dB room absorption, re 10<sup>-12</sup> watts. Dash (-) in space indicates an Noise Criteria 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.
- Airflow (CFM) = Average velocity (Vk) x Ak.