

## PERFORMANCE DATA:

### STEEL HEAVY DUTY RETURN GRILLES AND REGISTERS • 45° DEFLECTION

#### MODELS: 6145H-HD, 6145V-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 .005	.002 .021	.006 .046	.010 .082	.016 .129	.022 .185	.031 .252	.040 .330	.050 .417	.062 .515
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 15	100 20	120 25	140 30	160 34	180 38	200 42
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 16	140 21	168 26	196 31	224 35	252 39	280 43
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 17	175 22	210 27	245 32	280 36	315 40	350 44
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 18	190 23	228 28	266 33	304 37	342 41	380 45
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 19	210 24	252 29	294 33	336 38	378 42	420 46
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 15	232 20	290 25	348 30	406 34	464 39	522 43	580 47
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 15	244 20	305 25	366 30	427 35	488 40	549 43	610 47
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 15	260 21	325 26	390 31	455 36	520 40	585 44	650 47
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 16	296 21	370 26	444 31	518 36	592 41	666 45	740 48
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 17	360 22	450 27	540 32	630 37	720 42	810 45	900 48
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 18	496 22	620 27	744 32	868 37	992 42	1116 46	1240 49
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 19	548 24	685 29	822 34	959 39	1096 44	1233 47	1370 50
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 19	608 24	760 29	912 34	1064 39	1216 45	1368 48	1520 51
16 x 16	18 x 14 30 x 8 22 x 12	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 20	656 25	820 30	984 35	1148 40	1312 45	1476 48	1640 51
24 x 12	18 x 16 30 x 10 20 x 14 36 x 8	1.85	1.78	CFM Noise Criteria	185 -	370 15	555 20	740 25	925 30	1110 35	1295 40	1480 45	1665 48	1850 52
18 x 18	20 x 16 28 x 12 24 x 14 32 x 10	2.10	2.01	CFM Noise Criteria	210 -	420 15	630 20	840 25	1050 30	1260 36	1470 41	1680 46	1890 49	2100 52
30 x 12	20 x 18 26 x 14 22 x 16 36 x 10	2.32	2.23	CFM Noise Criteria	232 -	464 15	696 20	928 26	1160 31	1392 36	1624 41	1856 46	2088 49	2320 53
20 x 20	24 x 18 30 x 14 26 x 16 36 x 12	2.61	2.48	CFM Noise Criteria	261 -	522 15	783 20	1044 26	1305 31	1566 37	1827 42	2088 47	2349 50	2610 53
22 x 22	24 x 20 30 x 16 26 x 18 36 x 14	3.17	3.00	CFM Noise Criteria	317 -	634 16	951 21	1268 27	1585 32	1902 38	2219 42	2536 47	2853 50	3170 54
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.34	CFM Noise Criteria	354 -	708 16	1062 21	1416 27	1770 32	2124 38	2478 43	2832 48	3186 51	3540 55
24 x 24	26 x 22 32 x 18 28 x 20 36 x 16	3.79	3.56	CFM Noise Criteria	379 -	758 16	1137 21	1516 27	1895 32	2274 38	2653 43	3032 48	3411 51	3790 55
36 x 18	32 x 20 46 x 14 40 x 16	4.27	4.01	CFM Noise Criteria	427 -	854 17	1281 22	1708 29	2135 34	2562 40	2989 45	3416 50	3843 53	4270 57
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 -	894 17	1341 22	1788 29	2235 34	2682 40	3129 45	3576 50	4023 53	4470 57
30 x 24	28 x 26 36 x 20 32 x 22 40 x 18	4.77	4.46	CFM Noise Criteria	477 -	954 18	1431 23	1908 30	2385 35	2862 41	3339 46	3816 50	4293 54	4770 58
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.85	CFM Noise Criteria	520 -	1040 18	1560 23	2080 30	2600 35	3120 41	3640 46	4160 51	4680 54	5200 58
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.35	CFM Noise Criteria	574 -	1148 18	1722 23	2296 30	2870 36	3444 42	4018 47	4592 51	5166 55	5740 59
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 18	1797 23	2396 30	2995 36	3594 42	4193 47	4792 51	5391 55	5990 59

For performance data notes, see F161.

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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 .005	.002 .021	.006 .046	.010 .082	.016 .129	.022 .185	.031 .252	.040 .330	.050 .417	.062 .515
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	15	19	24	31	37	43	47	52	56	60
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	20	25	31	37	43	48	52	56	60
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	21	25	32	37	44	49	53	57	61
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	22	26	32	38	44	49	53	57	61
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	17	22	27	33	39	45	51	54	59	63
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	23	28	34	40	46	51	55	59	63
44 x 44	46 x 42	13.07	11.98	CFM	1307	2614	3921	5228	6535	7842	9149	10456	11763	13070
				Noise Criteria	18	23	28	34	40	46	51	55	59	63
46 x 46		14.30	13.10	CFM	1430	2860	4290	5720	7150	8580	10010	11440	12870	14300
				Noise Criteria	19	24	29	35	41	47	52	56	60	64
48 x 48		15.59	14.26	CFM	1559	3118	4677	6236	7795	9354	10913	12472	14031	15590
				Noise Criteria	19	24	29	35	41	47	52	56	60	64

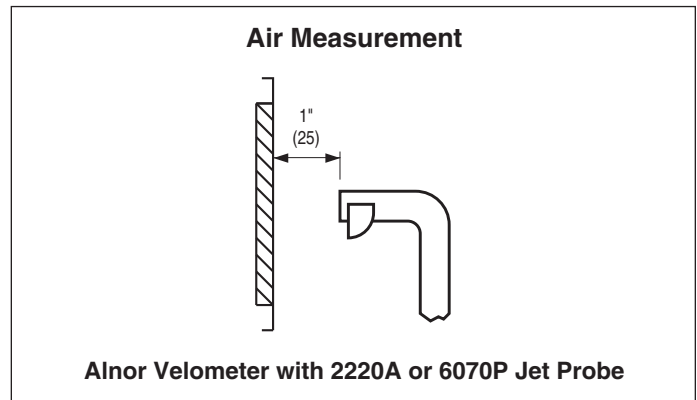
#### Performance Notes:

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 (V<sub>k</sub> in FPM).
4. Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.  
Airflow (CFM) = Average velocity (V<sub>k</sub>) x Ak.