

## PERFORMANCE DATA:

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

#### MODELS: 5145H, 6145H, 6745H, 5145V, 6145V, 6745V, 51FB45, 61FB45, 67FB45

Listed Duct Size (inches)	Alternate Sizes (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .003	200 .002 .014	300 .006 .031	400 .010 .055	500 .016 .086	600 .022 .124	700 .031 .168	800 .040 .220	900 .050 .278	1000 .062 .344
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 -	60 -	80 -	100 -	120 19	140 24	160 28	180 32	200 36
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 -	84 -	112 -	140 15	168 20	196 25	224 29	252 33	280 37
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 -	105 -	140 -	175 16	210 21	245 26	280 30	315 34	350 38
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 -	114 -	152 -	190 17	228 22	266 27	304 31	342 35	380 39
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 18	252 23	294 27	336 32	378 36	420 40
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 19	348 24	406 28	464 33	522 37	580 41
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 19	366 24	427 29	488 34	549 37	610 41
18 x 6	14 x 8    30 x 4 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 15	325 20	390 25	455 30	520 34	585 38	650 41
12 x 10	16 x 8    20 x 6 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 15	370 20	444 25	518 30	592 35	666 39	740 42
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 16	450 21	540 26	630 31	720 36	810 39	900 42
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 16	620 21	744 26	868 31	992 36	1116 40	1240 43
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 17	685 22	822 27	959 32	1096 37	1233 40	1370 43
24 x 10	20 x 12    30 x 8	1.52	1.49	CFM Noise Criteria	152 -	304 -	456 -	608 17	760 22	912 27	1064 32	1216 38	1368 41	1520 44
16 x 16	18 x 14    30 x 8 22 x 12	1.64	1.58	CFM Noise Criteria	164 -	328 -	492 -	656 18	820 23	984 28	1148 33	1312 38	1476 41	1640 44
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 18	925 23	1110 28	1295 33	1480 38	1665 41	1850 45
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 18	1050 23	1260 29	1470 34	1680 39	1890 42	2100 45
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 19	1160 24	1392 29	1624 34	1856 39	2088 42	2320 46
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 19	1305 24	1566 30	1827 35	2088 40	2349 43	2610 46
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 20	1585 25	1902 31	2219 35	2536 40	2853 43	3170 47
30 x 18	24 x 22    40 x 14 34 x 16	3.54	3.34	CFM Noise Criteria	354 -	708 -	1062 -	1416 20	1770 25	2124 31	2478 36	2832 41	3186 44	3540 48
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 20	1895 25	2274 31	2653 36	3032 41	3411 44	3790 48
36 x 18	32 x 20    46 x 14 40 x 16	4.27	4.01	CFM Noise Criteria	427 -	854 -	1281 -	1708 21	2135 26	2562 32	2989 37	3416 42	3843 45	4270 49
26 x 26	28 x 24    48 x 14	4.47	4.19	CFM Noise Criteria	447 -	894 -	1341 -	1788 21	2235 26	2682 32	3129 37	3576 42	4023 45	4470 49
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 15	1908 22	2385 27	2862 33	3339 38	3816 42	4293 46	4770 50
28 x 28	30 x 26    40 x 20 36 x 22	5.20	4.85	CFM Noise Criteria	520 -	1040 -	1560 15	2080 22	2600 27	3120 33	3640 38	4160 43	4680 46	5200 50
36 x 24	30 x 28    44 x 20 40 x 22	5.74	5.35	CFM Noise Criteria	574 -	1148 -	1722 15	2296 22	2870 28	3444 34	4018 38	4592 43	5166 47	5740 51
30 x 30	34 x 26    48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 -	1198 -	1797 15	2396 22	2995 28	3594 34	4193 39	4792 43	5391 47	5990 51

GRILLES AND REGISTERS

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For performance data notes, see F42.

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### MODELS: 5145H, 6145H, 6745H, 5145V, 6145V, 6745V, 51FB45, 61FB45, 67FB45

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	46 x 22	6.84	6.34	CFM Noise Criteria	684 -	1368 -	2052 16	2736 23	3420 29	4104 35	4788 39	5472 44	6156 48	6840 52
48 x 24	34 x 34 36 x 32	38 x 30 48 x 28	7.69	7.13	CFM Noise Criteria	769 -	1538 -	2307 17	3076 23	3845 29	4614 35	5383 40	6152 44	6921 48	7690 52
36 x 36	38 x 34 42 x 30	46 x 28 48 x 26	8.69	8.02	CFM Noise Criteria	869 -	1738 -	2607 17	3476 24	4345 29	5214 36	6083 41	6952 45	7821 49	8690 53
38 x 38	42 x 34 44 x 34	48 x 30	9.70	8.94	CFM Noise Criteria	970 -	1940 -	2910 18	3880 24	4850 30	5820 36	6790 41	7760 45	8730 49	9700 53
40 x 40	42 x 36 46 x 34	48 x 32	10.77	9.90	CFM Noise Criteria	1077 -	2154 -	3231 18	4308 24	5385 30	6462 36	7539 42	8616 45	9693 50	10770 54
42 x 42	46 x 42		11.89	10.92	CFM Noise Criteria	1189 -	2378 -	3567 19	4756 25	5945 31	7134 37	8323 42	9512 46	10701 50	11890 54
44 x 44			13.07	11.98	CFM Noise Criteria	1307 -	2614 -	3921 19	5228 25	6535 31	7842 37	9149 42	10456 46	11763 50	13070 54
46 x 46			14.30	13.10	CFM Noise Criteria	1430 -	2860 -	4290 20	5720 26	7150 32	8580 38	10010 43	11440 47	12870 51	14300 55
48 x 48			15.59	14.26	CFM Noise Criteria	1559 -	3118 -	4677 20	6236 26	7795 32	9354 38	10913 43	12472 47	14031 51	15590 55

#### Performance Notes:

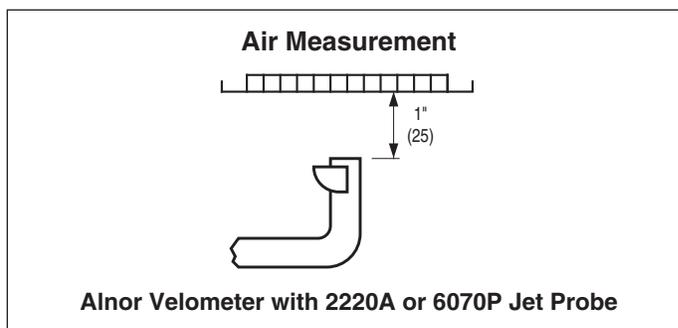
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

**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 an Noise Criteria 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<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.