

PERFORMANCE DATA:

ALUMINUM HEAVY DUTY BAR RETURN GRILLES • GYMNASIUM • 5100-HD SERIES

MODELS: 5130H-HD, 5130V-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 .004	.002 .016	.006 .037	.010 .065	.016 .102	.022 .146	.031 .199	.040 .260	.050 .330	.062 .407
6 x 6	8 x 4 10 x 4	0.20	0.23	CFM Noise Criteria	20 -	40 15	60 21	80 27	100 31	120 35	140 37	160 40	180 44	200 49
8 x 6	10 x 5 12 x 4	0.28	0.30	CFM Noise Criteria	28 -	56 15	84 21	112 27	140 32	168 36	196 38	224 41	252 45	280 50
10 x 6	12 x 5 16 x 4	0.35	0.37	CFM Noise Criteria	35 -	70 16	105 22	140 28	175 33	210 37	245 39	280 42	315 46	350 51
8 x 8	14 x 5	0.38	0.40	CFM Noise Criteria	38 -	76 16	114 22	152 28	190 33	228 38	266 40	304 43	342 47	380 51
12 x 6	18 x 4	0.42	0.45	CFM Noise Criteria	42 -	84 17	126 23	168 29	210 34	252 38	294 41	336 44	378 48	420 52
12 x 8	16 x 6 24 x 4	0.58	0.59	CFM Noise Criteria	58 -	116 17	174 23	232 29	290 34	348 38	406 41	464 45	522 49	580 53
10 x 10	14 x 7 26 x 4	0.61	0.62	CFM Noise Criteria	61 -	122 18	183 24	244 29	305 34	366 38	427 41	488 46	549 49	610 54
18 x 6	14 x 8 30 x 4 28 x 4	0.65	0.67	CFM Noise Criteria	65 -	130 18	195 24	260 30	325 35	390 39	455 42	520 46	585 50	650 54
12 x 10	16 x 8 20 x 6 24 x 5	0.74	0.74	CFM Noise Criteria	74 -	148 18	222 25	296 30	370 35	444 40	518 43	592 47	666 51	740 54
12 x 12	14 x 10 24 x 6 18 x 8 38 x 4	0.90	0.89	CFM Noise Criteria	90 -	180 19	270 25	360 31	450 36	540 40	630 43	720 48	810 51	900 54
14 x 14	16 x 12 24 x 8 20 x 10 34 x 6	1.24	1.22	CFM Noise Criteria	124 -	248 20	372 26	496 31	620 36	744 41	868 44	992 48	1116 52	1240 55
18 x 12	16 x 14 28 x 8 22 x 10 38 x 6	1.37	1.34	CFM Noise Criteria	137 -	274 20	411 26	548 32	685 37	822 42	959 45	1096 50	1233 53	1370 56
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM Noise Criteria	152 15	304 21	456 26	608 32	760 37	912 42	1064 46	1216 51	1368 54	1520 57
16 x 16	18 x 14 30 x 8 22 x 12	1.64	1.58	CFM Noise Criteria	164 15	328 21	492 27	656 33	820 38	984 42	1148 46	1312 51	1476 54	1640 57
24 x 12	18 x 16 30 x 10 20 x 14 36 x 8	1.85	1.78	CFM Noise Criteria	185 15	370 21	555 27	740 33	925 38	1110 43	1295 46	1480 51	1665 54	1850 58
18 x 18	20 x 16 28 x 12 24 x 14 32 x 10	2.10	2.01	CFM Noise Criteria	210 16	420 22	630 27	840 33	1050 38	1260 43	1470 47	1680 52	1890 55	2100 58
30 x 12	20 x 18 26 x 14 22 x 16 36 x 10	2.32	2.23	CFM Noise Criteria	232 16	464 22	696 27	928 33	1160 38	1392 43	1624 47	1856 52	2088 55	2320 59
20 x 20	24 x 18 30 x 14 26 x 16 36 x 12	2.61	2.48	CFM Noise Criteria	261 17	522 22	783 27	1044 33	1305 38	1566 43	1827 47	2088 52	2349 55	2610 59
22 x 22	24 x 20 30 x 16 26 x 18 36 x 14	3.17	3.00	CFM Noise Criteria	317 17	634 23	951 28	1268 34	1585 39	1902 44	2219 48	2536 52	2853 55	3170 59
30 x 18	24 x 22 40 x 14 34 x 16	3.54	3.34	CFM Noise Criteria	354 18	708 24	1062 28	1416 34	1770 39	2124 44	2478 48	2832 53	3186 56	3540 60
24 x 24	26 x 22 32 x 18 28 x 20 36 x 16	3.79	3.56	CFM Noise Criteria	379 18	758 24	1137 28	1516 34	1895 39	2274 44	2653 49	3032 53	3411 56	3790 60
36 x 18	32 x 20 46 x 14 40 x 16	4.27	4.01	CFM Noise Criteria	427 18	854 24	1281 29	1708 36	2135 41	2562 45	2989 49	3416 54	3843 57	4270 61
26 x 26	28 x 24 48 x 14	4.47	4.19	CFM Noise Criteria	447 19	894 25	1341 30	1788 36	2235 41	2682 45	3129 49	3576 54	4023 57	4470 61
30 x 24	28 x 26 36 x 20 32 x 22 40 x 18	4.77	4.46	CFM Noise Criteria	477 19	954 25	1431 30	1908 37	2385 42	2862 46	3339 50	3816 54	4293 58	4770 62
28 x 28	30 x 26 40 x 20 36 x 22	5.20	4.85	CFM Noise Criteria	520 19	1040 25	1560 30	2080 37	2600 42	3120 46	3640 50	4160 55	4680 58	5200 62
36 x 24	30 x 28 44 x 20 40 x 22	5.74	5.35	CFM Noise Criteria	574 19	1148 25	1722 30	2296 37	2870 42	3444 46	4018 50	4592 55	5166 59	5740 63
30 x 30	34 x 26 48 x 20 38 x 24	5.99	5.57	CFM Noise Criteria	599 20	1198 26	1797 31	2396 37	2995 42	3594 47	4193 51	4792 55	5391 59	5990 63

GRILLES AND REGISTERS

F

For performance data notes, see F146.

PERFORMANCE DATA:

ALUMINUM HEAVY DUTY BAR RETURN GRILLES • GYMNASIUM • 5100-HD SERIES

MODELS: 5130H-HD, 5130V-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 .004	.002 .016	.006 .037	.010 .065	.016 .102	.022 .146	.031 .199	.040 .260	.050 .330	.062 .407
32 x 32	36 x 30 46 x 22 38 x 28	6.84	6.34	CFM Noise Criteria	684 20	1368 26	2052 31	2736 37	3420 43	4104 47	4788 51	5472 56	6156 60	6840 64
48 x 24	34 x 34 38 x 30 36 x 32 48 x 28	7.69	7.13	CFM Noise Criteria	769 21	1538 26	2307 31	3076 37	3845 43	4614 48	5383 52	6152 56	6921 60	7690 64
36 x 36	38 x 34 46 x 28 42 x 30 48 x 26	8.69	8.02	CFM Noise Criteria	869 21	1738 27	2607 32	3476 38	4345 43	5214 48	6083 53	6952 57	7821 61	8690 65
38 x 38	42 x 34 48 x 30 44 x 34	9.70	8.94	CFM Noise Criteria	970 22	1940 27	2910 33	3880 38	4850 44	5820 49	6790 53	7760 57	8730 61	9700 65
40 x 40	42 x 36 48 x 32 46 x 34	10.77	9.90	CFM Noise Criteria	1077 22	2154 27	3231 33	4308 39	5385 45	6462 49	7539 54	8616 57	9693 62	10770 66
42 x 42	44 x 40 48 x 36 46 x 36	11.89	10.92	CFM Noise Criteria	1189 22	2378 27	3567 33	4756 39	5945 45	7134 50	8323 54	9512 58	10701 62	11890 66
44 x 44	46 x 42	13.07	11.98	CFM Noise Criteria	1307 22	2614 28	3921 34	5228 39	6535 45	7842 50	9149 54	10456 58	11763 62	13070 66
46 x 46		14.30	13.10	CFM Noise Criteria	1430 23	2860 29	4290 34	5720 40	7150 46	8580 51	10010 55	11440 59	12870 63	14300 67
48 x 48		15.59	14.26	CFM Noise Criteria	1559 23	3118 29	4677 35	6236 40	7795 46	9354 51	10913 55	12472 59	14031 63	15590 67

Performance Notes:

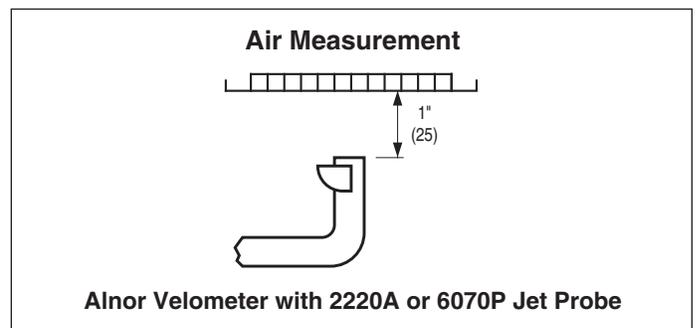
- All pressures are in inches w.g..
- Core Velocity is in feet per minute.
- Performance data is for grille with opposed blade damper. Apply the following correction factors for grille without damper.

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 10⁻¹² 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 – 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_k in FPM).
- Calculate the airflow (CFM) by multiplying the average velocity by the appropriate Ak factor.
Airflow (CFM) = Average velocity (V_k) x Ak.