

## PERFORMANCE DATA:

### CURVED SPIRAL DUCT RETURN GRILLES • 6100C/5100C SERIES

#### MODELS: 6145HC, 6155HC, 5145HC, 5155HC

Listed Duct Size (inches)	Alternate Size (inches)	Core Area (sq. ft.)	Ak Factor	Core Velocity Velocity Pressure Neg. Static Pressure	100 .001 .003	200 .002 .013	300 .006 .028	400 .010 .050	500 .016 .078	600 .022 .113	700 .031 .153	800 .040 .200	900 .050 .253	1000 .062 .313
10 x 3		0.15	0.18	CFM Noise Criteria	15 -	30 -	45 -	60 -	75 -	90 15	105 20	120 24	135 28	150 32
12 x 3		0.19	0.22	CFM Noise Criteria	19 -	38 -	57 -	76 -	95 -	114 15	133 20	152 24	171 28	190 32
10 x 4	14 x 3	0.22	0.25	CFM Noise Criteria	22 -	44 -	66 -	88 -	110 -	132 16	154 21	176 25	198 29	220 33
12 x 4	16 x 3	0.27	0.29	CFM Noise Criteria	27 -	54 -	81 -	108 -	135 -	162 16	189 21	216 25	243 29	270 33
18 x 3		0.29	0.31	CFM Noise Criteria	29 -	58 -	87 -	116 -	145 -	174 17	203 22	232 26	261 30	290 34
20 x 3	10 x 6 14 x 4	0.32	0.34	CFM Noise Criteria	32 -	64 -	96 -	128 -	160 -	192 17	224 22	256 26	288 30	320 34
16 x 4	22 x 3	0.36	0.38	CFM Noise Criteria	36 -	72 -	108 -	144 -	180 -	216 18	252 23	288 27	324 31	360 35
12 x 6	18 x 4 24 x 3	0.42	0.45	CFM Noise Criteria	42 -	84 -	126 -	168 -	210 -	252 19	294 23	336 28	378 32	420 36
20 x 4	28 x 3	0.45	0.47	CFM Noise Criteria	45 -	90 -	135 -	180 -	225 -	270 19	315 23	360 28	405 32	450 36
14 x 6	10 x 8 22 x 4	0.50	0.51	CFM Noise Criteria	50 -	100 -	150 -	200 -	250 15	300 20	350 24	400 29	450 33	500 37
12 x 8	16 x 6 24 x 4 32 x 3	0.58	0.59	CFM Noise Criteria	58 -	116 -	174 -	232 -	290 15	348 20	406 24	464 29	522 33	580 37
10 x 10	26 x 4 34 x 3	0.61	0.62	CFM Noise Criteria	61 -	122 -	183 -	244 -	305 15	366 20	427 25	488 30	549 33	610 37
18 x 6	14 x 8 28 x 4 30 x 4 36 x 3	0.65	0.67	CFM Noise Criteria	65 -	130 -	195 -	260 -	325 16	390 21	455 26	520 30	585 34	650 37
12 x 10	20 x 6 30 x 4	0.74	0.74	CFM Noise Criteria	74 -	148 -	222 -	296 -	370 16	444 21	518 26	592 31	666 35	740 38
22 x 6	16 x 8 34 x 4	0.80	0.80	CFM Noise Criteria	80 -	160 -	240 -	320 -	400 16	480 21	560 26	640 31	720 35	800 38
12 x 12	14 x 10 18 x 8 24 x 6 36 x 4	0.90	0.89	CFM Noise Criteria	90 -	180 -	270 -	360 -	450 17	540 22	630 27	720 32	810 35	900 38
18 x 10	30 x 6	1.13	1.12	CFM Noise Criteria	113 -	226 -	339 -	452 -	565 17	678 22	791 27	904 32	1017 36	1130 39
24 x 8	16 x 12 20 x 10 24 x 8 34 x 6	1.20	1.19	CFM Noise Criteria	120 -	240 -	360 -	480 -	600 17	720 22	840 27	960 32	1080 36	1200 39

GRILLES AND REGISTERS

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For performance table notes, see page F62.

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Listed Duct Size (inches)	Alternate Size (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 .013	.006 .028	.010 .050	.016 .078	.022 .113	.031 .153	.040 .200	.050 .253	.062 .313
18 x 12	22 x 10 28 x 8 36 x 6	1.37	1.34	CFM	137	274	411	548	685	822	959	1096	1233	1370
				Noise Criteria	-	-	-	-	18	23	28	33	36	39
24 x 10	20 x 12 30 x 8	1.52	1.49	CFM	152	304	456	608	760	912	1064	1216	1368	1520
				Noise Criteria	-	-	-	-	18	23	28	34	37	40
32 x 8	22 x 12 26 x 10	1.61	1.59	CFM	161	322	483	644	805	966	1127	1288	1449	1610
				Noise Criteria	-	-	-	-	19	24	29	34	37	40
24 x 12	30 x 10 36 x 8	1.85	1.78	CFM	185	370	555	740	925	1110	1295	1480	1665	1850
				Noise Criteria	-	-	-	-	19	24	29	34	37	41
32 x 10	28 x 12	2.04	1.96	CFM	204	408	612	816	1020	1224	1428	1632	1836	2040
				Noise Criteria	-	-	-	-	19	25	30	35	38	41
30 x 12	36 x 10	2.32	2.23	CFM	232	464	696	928	1160	1392	1624	1856	2088	2320
				Noise Criteria	-	-	-	15	20	25	30	35	38	42
32 x 12	38 x 10 48 x 8	2.48	2.38	CFM	248	496	744	992	1240	1488	1736	1984	2232	2480
				Noise Criteria	-	-	-	15	20	26	31	36	39	42
40 x 10		2.56	2.44	CFM	256	512	768	1024	1280	1536	1792	2048	2304	2560
				Noise Criteria	-	-	-	15	20	26	31	36	39	42
36 x 12	44 x 10	2.79	2.66	CFM	279	558	837	1116	1395	1674	1953	2232	2511	2790
				Noise Criteria	-	-	-	16	21	27	31	36	39	43
48 x 10		3.08	2.92	CFM	308	616	924	1232	1540	1848	2156	2464	2772	3080
				Noise Criteria	-	-	-	16	21	27	31	36	39	43

#### Performance Notes:

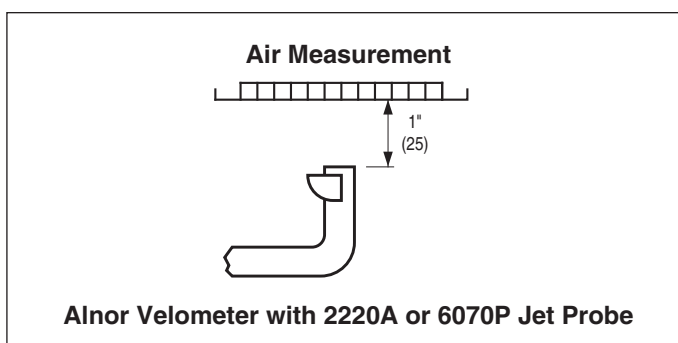
1. All pressure are in inches w.g..
2. Core Velocity is in feet per minute.
3. Performance data is based on Model 6145HC. For Model 6155HC apply the following correction factors:

**Negative Static Pressure** Listed Value x 1.3.

**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.