

## 94/94A Series Return Air Grilles & Registers (Page 10) 96AFB Steel Fixed-Bar Filter Grille (Page 10)

Face Velocity		300	400	500	600	700	800	900	1000
6 x 6	CFM	45	60	75	90	105	120	135	150
Ak .150	Ps	.010	.019	.029	.046	.060	.075	.100	.130
8 x 8	CFM	84	112	140	169	197	225	253	281
Ak .280	Ps	.010	.019	.029	.046	.060	.075	.100	.130
10 x 10	CFM	135	180	225	270	315	360	405	450
Ak .450	Ps	.011	.019	.030	.042	.057	.072	.094	.119
12 x 6	CFM	96	127	159	191	223	255	287	318
Ak .320	Ps	.011	.019	.029	.045	.059	.074	.099	.128
14 x 6	CFM	112	150	187	225	262	300	337	375
Ak .370	Ps	.011	.019	.029	.044	.058	.074	.097	.124
14 x 8	CFM	152	203	254	304	355	406	456	507
Ak .510	Ps	.011	.019	.030	.041	.056	.072	.093	.116
12 x 12	CFM	198	264	330	395	461	527	593	659
Ak .660	Ps	.011	.019	.030	.039	.054	.070	.089	.109
24 x 8	CFM	267	355	444	533	622	711	800	888
Ak .890	Ps	.011	.020	.031	.040	.055	.074	.091	.111
18 x 12	CFM	301	401	502	602	703	803	903	1004
Ak 1.000	Ps	.011	.020	.031	.041	.056	.076	.092	.112
30 x 8	CFM	336	448	560	672	784	895	1007	1119
Ak 1.120	Ps	.011	.020	.031	.041	.056	.078	.093	.114
24 x 12	CFM	406	541	676	811	946	1082	1217	1352
Ak 1.350	Ps	.011	.020	.031	.043	.058	.081	.095	.116
18 x 18	CFM	458	611	764	917	1069	1222	1375	1528
Ak 1.530	Ps	.011	.020	.032	.043	.058	.083	.096	.117
30 x 12	CFM	511	682	852	1023	1193	1364	1534	1704
Ak 1.700	Ps	.011	.020	.032	.044	.059	.084	.097	.118
20 x 20	CFM	571	761	951	1141	1331	1522	1712	1902
Ak 1.900	Ps	.011	.020	.032	.044	.059	.086	.098	.119
36 x 12	CFM	618	824	1030	1236	1442	1649	1855	2061
Ak 2.060	Ps	.011	.020	.032	.045	.060	.087	.099	.120
24 x 20	CFM	690	920	1150	1380	1610	1840	2070	2300
Ak 2.300	Ps	.011	.020	.032	.045	.060	.089	.100	.120
30 x 18	CFM	781	1041	1301	1561	1822	2082	2342	2602
Ak 2.600	Ps	.011	.020	.032	.045	.060	.090	.100	.121
24 x 24	CFM	835	1114	1392	1671	1949	2228	2506	2785
Ak 2.780	Ps	.011	.020	.031	.046	.060	.090	.100	.121
36 x 18	CFM	946	1261	1576	1892	2207	2522	2838	3153
Ak 3.150	Ps	.011	.019	.031	.045	.059	.090	.099	.120
30 x 24	CFM	1057	1410	1762	2115	2467	2820	3172	3525
Ak 3.520	Ps	.011	.019	.030	.045	.058	.089	.098	.119
36 x 24	CFM	1284	1712	2140	2568	2996	3424	3852	4280
Ak 4.280	Ps	.011	.018	.028	.043	.055	.085	.092	.114
30 x 30	CFM	1341	1789	2236	2683	3130	3577	4024	4471
Ak 4.470	Ps	.011	.017	.028	.042	.054	.083	.091	.112
36 x 30	CFM	1633	2177	2721	3265	3810	4354	4898	5442
Ak 5.440	Ps	.010	.015	.024	.037	.047	.070	.079	.100
48 x 24	CFM	1751	2335	2919	3503	4086	4670	5254	5838
Ak 5.840	Ps	.009	.014	.022	.035	.043	.064	.073	.095
36 x 36	CFM	1992	2656	3320	3984	4648	5312	5976	6640
Ak 6.640	Ps	.008	.012	.017	.029	.034	.048	.059	.081
48 x 36	CFM	2742	3656	4570	5484	6398	7312	8226	9140
Ak 9.140	Ps	.008	.012	.017	.029	.034	.048	.059	.081
48 x 48	CFM	3808	5077	6346	7615	8884	10154	11423	12692
Ak 12.700	Ps	.008	.012	.017	.029	.034	.048	.059	.081

For sizes not listed and sizing tips see page(s) 76

## PFG Perforated Face Grille (Page 11)

Return Air Grille Balancing Data

To Determine CFM:

1. Use an ALNOR Velometer with No. 2220 or 2220A Tip or a 4" rotating vane anemometer. If a 4" rotating vane anemometer is used, place dial face against perforated plate, and sample in a random manner for at least 1 minute.
2. Select proper Ak from Table by unit size and instrument used for measuring velocity.
3. Determine CFM by the following equation: CFM = Ak x Average Velocity.

Sample Problem

Determine Return Airflow Rate (CFM) through a 10 x 10, using an ALNOR Velometer with Tip No. 2220 or 2220A.

Solution

1. Assume the average of 6 velocity readings taken with an ALNOR Velometer is 2000 FPM.
2. From Table, the Area Factor for a 10 x 10 using an ALNOR Velometer is Ak = .39 sq. ft.
3. CFM = Ak x Average Velocity = .39 sq. ft. x 2000 FPM = 780 CFM

Neck Velocity			200	300	400	500	600	650	700	750	800	900
S.P. Drop w/OBD			.012	.027	.049	.078	.110	.130	.150	.170	.190	.240
Size	Ak ALNOR	Ak 4" ROT. Vane	Air Capacities - CFM									
10 x 10	.39	.55	140	210	285	350	415	450	485	520	555	625
12 x 12	.46	.79	200	300	400	500	600	650	700	750	800	900
14 x 14	.62	1.07	270	410	545	680	815	885	955	1020	1090	1225
10 x 22	.71	1.21	305	460	610	765	915	995	1070	1150	1220	1375
16 x 16	.82	1.40	355	530	710	890	1065	1155	1245	1335	1425	1600
18 x 18	1.05	1.77	450	675	900	1125	1350	1460	1575	1690	1800	2030
20 x 20	1.28	2.25	555	835	1110	1390	1665	1805	1945	2080	2220	2500
22 x 22	1.55	2.70	670	1010	1345	1680	2020	2180	2350	2520	2690	3020

**Recommended Noise Criteria and Face Velocity Ranges are on page 75**