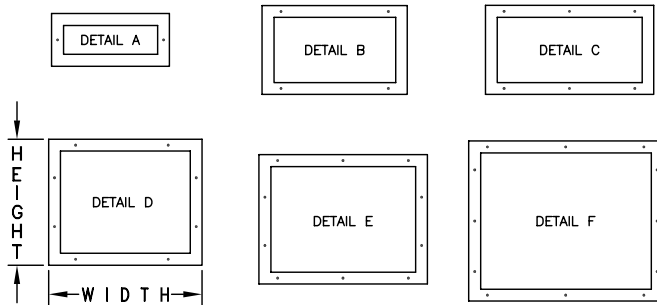
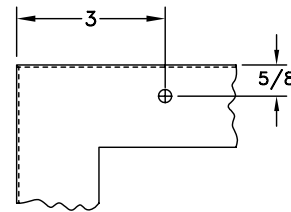


Screw Hole Location Chart 92 Series, 94 Series, 98 Series (Pages 37-41) 821, 831 (Page 36)

		W I D T H																							
		6	8	10	12	14	15	16	18	20	22	24	26	28	30	32	34	36	38	40	42	44	46	48	
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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