

Engineering Data

650 & A650 Return Air Grille (Page 17, 18)

659 Return Air Filter Grille (Page 18)

Face velocity*		300	400	500	600	700
6 x 4 CFM	Ak 0.111 Ps	33	44	55	66	77
		0.010	0.018	0.029	0.041	0.056
6 x 6 CFM	Ak 0.167 Ps	50	67	83	100	117
		0.010	0.018	0.029	0.041	0.056
8 x 4 CFM	Ak 0.148 Ps	44	59	74	89	104
		0.010	0.018	0.029	0.041	0.056
8 x 6 CFM	Ak 0.223 Ps	67	89	112	134	156
		0.010	0.018	0.029	0.041	0.056
8 x 8 CFM	Ak 0.299 Ps	90	120	150	179	209
		0.010	0.018	0.029	0.041	0.056
10 x 4 CFM	Ak 0.186 Ps	56	74	93	111	130
		0.010	0.018	0.029	0.041	0.056
10 x 6 CFM	Ak 0.28 Ps	84	112	140	168	196
		0.010	0.018	0.029	0.041	0.056
10 x 8 CFM	Ak 0.375 Ps	112	150	187	225	262
		0.010	0.018	0.029	0.041	0.056
10 x 10 CFM	Ak 0.47 Ps	141	188	235	282	329
		0.010	0.018	0.029	0.041	0.056
12 x 6 CFM	Ak 0.337 Ps	101	135	168	202	236
		0.010	0.018	0.029	0.041	0.056
12 x 8 CFM	Ak 0.451 Ps	135	180	226	271	316
		0.010	0.018	0.029	0.041	0.056
12 x 10 CFM	Ak 0.566 Ps	170	226	283	339	396
		0.010	0.018	0.029	0.041	0.056
12 x 12 CFM	Ak 0.681 Ps	204	272	340	408	476
		0.010	0.018	0.029	0.041	0.056
12 x 18 CFM	Ak 1.027 Ps	308	411	513	616	719
		0.010	0.018	0.029	0.041	0.056
14 x 6 CFM	Ak 0.394 Ps	118	158	197	236	276
		0.010	0.018	0.029	0.041	0.056
14 x 8 CFM	Ak 0.527 Ps	158	211	264	316	369
		0.010	0.018	0.029	0.041	0.056
14 x 10 CFM	Ak 0.661 Ps	198	265	331	397	463
		0.010	0.018	0.029	0.041	0.056
14 x 12 CFM	Ak 0.796 Ps	239	318	398	477	557
		0.010	0.018	0.029	0.041	0.056
14 x 14 CFM	Ak 0.93 Ps	279	372	465	558	651
		0.010	0.018	0.029	0.041	0.056
14 x 18 CFM	Ak 1.2 Ps	360	480	600	720	840
		0.010	0.018	0.029	0.041	0.056

Face velocity *		300	400	500	600	700
16 x 6 CFM	Ak 0.451 Ps	135	180	226	271	316
		0.010	0.018	0.029	0.041	0.056
16 x 8 CFM	Ak 0.604 Ps	181	242	302	362	423
		0.010	0.018	0.029	0.041	0.056
16 x 10 CFM	Ak 0.757 Ps	227	303	379	454	530
		0.010	0.018	0.029	0.041	0.056
16 x 12 CFM	Ak 0.911 Ps	273	364	455	547	638
		0.010	0.018	0.029	0.041	0.056
16 x 14 CFM	Ak 1.065 Ps	320	426	533	639	746
		0.010	0.018	0.029	0.041	0.056
16 x 16 CFM	Ak 1.219 Ps	366	488	610	732	854
		0.010	0.018	0.029	0.041	0.056
16 x 24 CFM	Ak 1.84 Ps	552	736	920	1104	1288
		0.010	0.018	0.029	0.041	0.057
18 x 6 CFM	Ak 0.508 Ps	153	203	254	305	356
		0.010	0.018	0.029	0.041	0.056
18 x 18 CFM	Ak 1.548 Ps	465	619	774	929	1084
		0.010	0.018	0.029	0.041	0.057
20 x 6 CFM	Ak 0.566 Ps	170	226	283	339	396
		0.010	0.018	0.029	0.041	0.056
20 x 10 CFM	Ak 0.949 Ps	285	380	475	570	665
		0.010	0.018	0.029	0.041	0.056
20 x 12 CFM	Ak 1.142 Ps	343	457	571	685	800
		0.010	0.018	0.029	0.041	0.056
20 x 14 CFM	Ak 1.335 Ps	401	534	668	801	935
		0.010	0.018	0.029	0.041	0.056
20 x 20 CFM	Ak 1.917 Ps	575	767	959	1150	1342
		0.010	0.018	0.029	0.041	0.057
20 x 24 CFM	Ak 2.307 Ps	692	923	1153	1384	1615
		0.010	0.019	0.029	0.042	0.057
20 x 25 CFM	Ak 2.404 Ps	721	962	1202	1442	1683
		0.010	0.019	0.029	0.042	0.057

Face velocity *		300	400	500	600	700
24 x 4 CFM	Ak 0.451 Ps	135	180	226	271	316
		0.010	0.018	0.029	0.041	0.056
24 x 6 CFM	Ak 0.681 Ps	204	272	340	408	476
		0.010	0.018	0.029	0.041	0.056
24 x 8 CFM	Ak 0.911 Ps	273	364	455	547	638
		0.010	0.018	0.029	0.041	0.056
24 x 10 CFM	Ak 1.142 Ps	343	457	571	685	800
		0.010	0.018	0.029	0.041	0.056
24 x 12 CFM	Ak 1.374 Ps	412	550	687	825	962
		0.010	0.018	0.029	0.041	0.056
24 x 14 CFM	Ak 1.607 Ps	482	643	803	964	1125
		0.010	0.018	0.029	0.041	0.057
24 x 22 CFM	Ak 2.541 Ps	762	1016	1270	1524	1778
		0.010	0.019	0.029	0.042	0.057
24 x 24 CFM	Ak 2.775 Ps	832	1110	1387	1665	1942
		0.010	0.019	0.029	0.042	0.057
30 x 4 CFM	Ak 0.566 Ps	170	226	283	339	396
		0.010	0.018	0.029	0.041	0.056
30 x 6 CFM	Ak 0.853 Ps	256	341	427	512	597
		0.010	0.018	0.029	0.041	0.056
30 x 8 CFM	Ak 1.142 Ps	343	457	571	685	800
		0.010	0.018	0.029	0.041	0.056
30 x 10 CFM	Ak 1.432 Ps	430	573	716	859	1003
		0.010	0.018	0.029	0.041	0.056
30 x 12 CFM	Ak 1.723 Ps	517	689	862	1034	1206
		0.010	0.018	0.029	0.041	0.057
30 x 14 CFM	Ak 2.015 Ps	604	806	1007	1209	1410
		0.010	0.018	0.029	0.042	0.057
30 x 18 CFM	Ak 2.599 Ps	780	1040	1300	1560	1819
		0.010	0.019	0.029	0.042	0.057
30 x 20 CFM	Ak 2.892 Ps	868	1157	1446	1735	2025
		0.010	0.019	0.029	0.042	0.057
30 x 24 CFM	Ak 3.479 Ps	1044	1392	1740	2088	2436
		0.010	0.019	0.029	0.042	0.057
30 x 30 CFM	Ak 4.363 Ps	1309	1745	2181	2618	3054
		0.010	0.019	0.029	0.042	0.057
36 x 6 CFM	Ak 1.027 Ps	308	411	513	616	719
		0.010	0.018	0.029	0.041	0.056
36 x 8 CFM	Ak 1.374 Ps	412	550	687	825	962
		0.010	0.018	0.029	0.041	0.056

*Tested without filters. Typical disposable 1-inch capacity is 2 cfm per square inch of gross filter area. Recommended velocity is 300-400 fpm. Velocities higher than 500 fpm will decrease filter performance. Increase flow resistance, and possibly blow off agglomerates of collected dirt. Velocity measured 1" from face.

651 Baseboard Register (Page 18)

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8x4 Ak .11	cfm Throw	33 6	44 8	55 10	66 12	77 14	88 16	100 18	110 20
10x4 Ak .135	cfm Throw	40 6.5	54 8.5	67 10.5	80 12.5	95 15	110 17.5	120 19	135 21
12x4 & 8x6 Ak .18	cfm Throw	55 7.5	72 10	90 12.5	108 15	125 17.5	145 20.5	162 23	180 25
10x6 Ak .23	cfm Throw	70 9	92 11.5	115 14.5	140 17.5	160 20	185 23	205 25.5	230 29
12x6 Ak .29	cfm Throw	85 10	115 13	145 17	175 20	205 23.5	230 26.5	260 30	290 33
14x6 Ak .34	cfm Throw	102 11	135 14.5	170 18	205 22	240 25.5	270 29	305 32.5	340 36

Terminal Velocity of 75 fpm