

Engineering Data

681 1-Way Sidewall/Ceiling Register (Page 20)

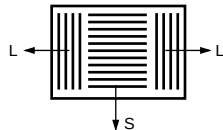
Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8x6	cfm	40	55	70	90	100	110	125	140
Ak .140	Throw	5	6	8	9	11	12	14	15
10x6	cfm	55	80	95	110	130	150	165	185
Ak .185	Throw	5	7	10	11	13	14	16	18
12x6	cfm	70	90	115	135	160	180	205	225
Ak .225	Throw	6	8	12	12	14	16	18	20
14x6	cfm	85	115	145	175	205	230	260	290
Ak .290	Throw	7	9	16	14	17	19	21	24
16x6	cfm	100	130	165	200	230	265	295	330
Ak .330	Throw	8	10	18	15	18	20	23	25
18x6	cfm	115	155	195	235	275	310	350	390
Ak .390	Throw	8	11	21	17	20	22	25	28
20x6	cfm	130	175	220	265	310	360	395	440
Ak .440	Throw	5	12	24	18	21	24	27	30

Terminal Velocity of 75 fpm

683 3-Way Sidewall/Ceiling Register (Page 21)

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8x4	Total cfm	25	35	45	55	65	70	80	90
Ak .090	cfm L/S	13/6	17/9	24/11	29/13	34/16	37/17	42/19	48/22
	Throw L/S	3/2.5	4/3	5/3.5	6/4	7/5	7.5/5.5	8.5/6	10/6.5
6x6	Total cfm	30	40	50	65	75	85	95	105
Ak .105	cfm L/S	10/10	13/14	16/17	21/22	24/26	27/29	30/32	34/36
	Throw L/S	3/3	3.5/3.5	4/4	5.5/5.5	6/6	7/7	8/8	9/9
10x4	Total cfm	35	45	60	70	80	90	105	115
Ak .115	cfm L/S	21/7	29/8	32/8/11	45/13	51/14	58/16	67/19	74/21
	Throw L/S	4/2	5/2.5	6/3.5	7.5/4	8.5/4.5	9.5/5	11/6	12/6.5
12x4	Total cfm	40	55	70	85	100	110	125	140
Ak .140	cfm L/S	21/10	29/13	36/17	44/20	52/24	57/26	65/30	73/34
	Throw L/S	3.5/2.5	5/3	6/4	7.5/5	8.5/5.5	9.5/6	10.5/7	12/8
10x6	Total cfm	55	75	95	110	130	150	165	185
Ak .185	cfm L/S	35/10	48/14	61/17	70/20	83/23	96/27	106/30	118/33
	Throw L/S	4.5/2.5	6.5/3.5	8/4	9/5	11/5.5	12.5/6.5	14/7.5	15.5
8x8	Total cfm	60	80	100	120	140	160	180	200
Ak .200	cfm L/S	31/14	42/19	52/24	62/29	73/34	83/38	94/43	104/48
	Throw L/S	4.5/3	6/4	7.5/5	8.5/6	10.5/7	11.5/8	13/9	14.5/10
12x6	Total cfm	70	90	115	135	160	180	205	225
Ak .225	cfm L/S	36/17	47/22	60/28	70/32	83/38	94/43	107/49	117/54
	Throw L/S	4.5/3.5	6/4	8/5.5	9/6	11/7.5	12.5/8	14/9.5	15.5/10.5
14x6	Total cfm	85	115	145	175	205	230	260	290
Ak .290	cfm L/S	51/17	69/23	87/29	105/35	123/41	138/46	156/52	174/58
	Throw L/S	5.5/3.5	7.5/4.5	10/5.5	12/6.5	14/8	15.5/9	18/10	20/11
10x10	Total cfm	95	125	155	185	215	250	280	310
Ak .310	cfm L/S	61/17	80/23	99/28	118/33	138/39	160/45	179/50	198/56
	Throw L/S	6/3.5	8/4.5	10/5.5	12/6.5	14/7.5	16.5/9	18/9.5	20/10.5
12x8	Total cfm	95	130	160	190	225	255	290	320
Ak .320	cfm L/S	49/23	68/31	83/38	99/46	117/54	133/61	151/70	166/77
	Throw L/S	5.5/4	7.5/5	9.5/6	11/7.5	13/9	15/10	17/11.5	19/12.5
14x8	Total cfm	115	155	195	235	275	310	350	390
Ak .390	cfm L/S	69/23	93/31	117/39	141/47	165/55	186/62	210/70	234/78
	Throw L/S	6.5/4	9/5	11/6	13.5/7.5	16/9	18/10	20/11.5	22/12.5
12x12	Total cfm	140	190	235	280	330	375	425	470
Ak .470	cfm L/S	73/34	99/46	122/56	146/67	172/79	195/90	221/102	244/113
	Throw L/S	7/4.5	9/6	11.5/7.5	13.5/9	16/10.5	18/12	20/14	23/15.5
14x14	Total cfm	195	260	325	390	455	520	585	650
Ak .650	cfm L/S	117/39	156/52	195/65	234/78	273/91	312/104	351/117	390/130
	Throw L/S	8.5/5	11.5/6.5	14/8	17/9.5	20/11.5	23/13	26/14.5	28/16
16x16	Total cfm	280	370	465	560	650	745	835	930
Ak .930	cfm L/S	164/67	192/89	242/112	291/134	338/156	387/179	434/200	484/223
	Throw L/S	10/6.5	13/9	16.5/11	20/13	23/15.5	26/17	29/20	33/22

Terminal Velocity of 75 fpm



682 2-Way Sidewall/Ceiling Register (Page 21)

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
8x4	cfm	25	35	45	55	65	70	80	90
Ak .090	Throw	2	3.5	4.5	5.5	6.5	7	8	9
6x6	cfm	30	40	50	65	75	85	95	105
Ak .105	Throw	3	3.5	4.5	6	7	8	9	10
10x4	cfm	35	45	60	70	80	90	105	115
Ak .115	Throw	3	4	5	6	7	8	9	10
12x4	cfm	40	55	70	85	100	110	125	140
Ak .140	Throw	3.5	4.5	5.5	6.5	8	9	10	11.5
10x6	cfm	55	75	95	110	130	150	165	185
Ak .185	Throw	4	5	6.5	8	9	10.5	12	13
8x8	cfm	60	80	100	120	140	160	180	200
Ak .200	Throw	4	5.5	7	8	9.5	11	12.5	13.5
12x6	cfm	70	90	115	135	160	180	205	225
Ak .225	Throw	4.5	6	7.5	8.5	10.5	12	13	14.5
14x6	cfm	85	115	145	175	205	230	260	290
Ak .290	Throw	5	6.5	8.5	10	11.5	13.5	15	17
10x10	cfm	95	125	155	185	215	250	280	310
Ak .310	Throw	5	7	8.5	10	12	14	15.5	17
12x8	cfm	95	130	160	190	225	255	290	320
Ak .320	Throw	5.5	7	9	10.5	12.5	14	16	18
14x8	cfm	115	155	195	235	275	310	350	390
Ak .390	Throw	6	8	10	12	14	16	18	20
12x12	cfm	140	190	235	280	330	375	425	470
Ak .470	Throw	6.5	8.5	10.5	12.5	15	17	19	21

Terminal Velocity of 75 fpm

684 4-Way Sidewall/Ceiling Register (Page 21)

Face Velocity		300	400	500	600	700	800	900	1000
Pressure Loss		.006	.010	.016	.022	.031	.040	.050	.062
6x6	Total cfm	30	40	50	65	75	85	95	105
Ak .105	cfm L/S	4/11	6/14	8/17	10/22	12/26	14/29	15/32	17/36
	Throw L/S	2/3	2/3.5	3/4	3.5/5.5	4.5/6.5	5/7	5.5/8	6/9
8x8	Total cfm	60	80	100	120	140	160	180	200
Ak .200	cfm L/S	16/14	21/19	26/24	31/29	37/34	42/38	47/43	52/48
	Throw L/S	3/3	4/4	5/5	6/6	7.5/7	8.5/8	9.5/9	10.5/10
10x10	Total cfm	95	125	155	185	215	250	280	310
Ak .310	cfm L/S	31/17	40/23	50/28	59/33	69/39	80/45	90/50	99/56
	Throw L/S	4.5/3.5	6/4.5	7.5/5	8.5/6.5	10/7.5	11/9	13/9.5	14.5/10.5
12x12	Total cfm	140	190	235	280	330	375	425	470
Ak .470	cfm L/S	37/34	50/46	61/56	73/67	86/79	98/90	111/102	122/113
	Throw L/S	5/4.5	6.5/6	8/7.5	9.5/9	11.5/10.5	13/12	14.5/14	16/15.5
14x14	Total cfm	195	260	325	390	455	520	585	650
Ak .650	cfm L/S	59/39	78/52	98/65	117/78	137/91	156/104	176/117	195/130
	Throw L/S	6/5	8/6.5	10/8	12/9.5	14/11.5	16/13	18/14.5	20/16
16x16	Total cfm	280	370	465	560	650	745	835	930
Ak .930	cfm L/S	73/67	96/89	121/112	146/134	169/156	194/179	217/200	242/223
	Throw L/S	7/6.5	9/9	11.5/11	14/13	16/15.5	19/17	21/20	23/22

Terminal Velocity of 75 fpm

RZ421 Register (Page 22)

Face Velocity		300	400	500	600	700	800	900	1000
2 x 12 Ak 0.084	CFM	25	34	42	50	59	67	76	84
	Ps	0.01	0.02	0.03	0.05	0.06	0.08	0.10	0.12
	Throw	2	2.5	3.5	4	4.5	5.5	6	6.5
	Spread	1.5	2	2.5	3	3	3.5	4	4.5
4 x 10 Ak 0.141	CFM	42	56	71	85	99	113	127	141
	Ps	0.02	0.02	0.03	0.04	0.06	0.07	0.09	0.11
	Throw	2	2.5	3	3.5	4.5	5	5.5	6
	Spread	0.5	1.5	2.5	3	4	5	5.5	6.5
4 x 12 Ak 0.157	CFM	47	63	79	94	110	126	141	157
	Ps	0.02	0.03	0.04	0.05	0.07	0.09	0.11	0.13
	Throw	1.5	2	2.5	3	3.5	4	4.5	5
	Spread	0.5	1.5	2.5	4	5	6	7	8

Terminal Velocity of 50 FPM