

2V/2H/1V/1H

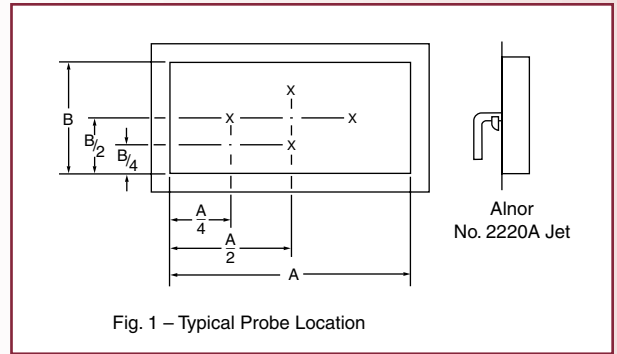
Double & Single Deflection Supply Grilles

BALANCING PROCEDURE

PROCEDURE AND DATA FOR BALANCING SUPPLY REGISTERS AND GRILLES USING ALNOR VELOMETER WITH NO. 2220A JET

1. Measure velocity at several locations near the face of the supply. (Typical probe locations are shown Fig. 1. Enough locations should be chosen to assure measurement of representative velocities.) Hold probe against grille face and rotate probe until maximum velocity reading is obtained at each location.
2. Calculate the average face velocity using the maximum velocity measured at each probe location.
3. From the table for the spread angle used determine the Balancing Area Factor (Ak) using the width and height of the grille.
4. Calculate the air volume by multiplying the average face velocity and the balancing area factor.

CFM=Average Velocity x Ak



2V/2H/1V/1H

Double & Single Deflection Supply Grilles

BALANCING FACTORS

3/4" SPACING

0° SPREAD

Grille Width, in.	Grille Height, in.																		
	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	36	40	44	48
4	.06																		
5	.08	.10																	
6	.09	.12	.15																
8	.13	.17	.21	.29															
10	.17	.21	.26	.36	.46														
12	.20	.26	.32	.44	.56	.68													
14	.24	.31	.38	.52	.66	.81	.95												
16	.27	.35	.44	.60	.76	.93	1.10	1.25											
18	.31	.40	.49	.68	.86	1.05	1.23	1.42	1.60										
20	.34	.45	.55	.76	.96	1.17	1.37	1.60	1.80	2.00									
22	.38	.49	.61	.83	1.06	1.29	1.50	1.75	1.95	2.20	2.40								
24	.41	.54	.66	.91	1.16	1.41	1.65	1.90	2.15	2.40	2.65	2.90							
26	.45	.58	.72	.99	1.26	1.55	1.80	2.10	2.35	2.60	2.9	3.15	3.45						
28		.63	.78	1.01	1.36	1.65	1.95	2.25	2.55	2.80	3.10	3.40	3.70	4.00					
30		.68	.83	1.15	1.46	1.75	2.10	2.40	2.70	3.05	3.35	3.65	3.95	4.30	4.60				
36			1.00	1.38	1.75	2.15	2.50	2.90	3.25	3.65	4.00	4.40	4.80	5.20	5.50	6.70			
40				1.55	1.95	2.40	2.80	3.20	3.65	4.10	4.50	4.90	5.30	5.70	6.20	7.40	8.30		
44				1.70	2.10	2.60	3.10	3.55	4.05	4.50	5.00	5.40	5.90	6.30	6.80	8.20	9.10	9.7	
48				1.85	2.35	2.85	3.40	3.90	4.40	4.90	5.40	5.90	6.40	6.90	7.40	8.90	9.90	11.0	12.0
52				2.05	2.55	3.05	3.60	4.15	4.70	5.30	5.80	6.40	6.90	7.40	7.90	9.70	10.8	12.0	13.0
56				2.20	2.75	3.30	3.80	4.40	5.00	5.60	6.2	6.80	7.40	7.90	8.50	10.5	11.6	12.8	14.0
60					2.95	3.55	4.00	4.70	5.40	6.00	6.6	7.30	7.90	8.40	9.10	11.2	12.5	13.7	15.0

2V/2H/1V/1H

Double & Single Deflection Supply Grilles

BALANCING FACTORS

Supply Grilles and Registers

3/4" SPACING

22-1/2° SPREAD

Grille Width, in.									Grille Height, in.										
	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	36	40	44	48
4	.04																		
5	.06	.08																	
6	.08	.10	.13																
8	.11	.14	.18	.25															
10	.14	.18	.23	.32	.41														
12	.18	.23	.28	.38	.49	.60													
14	.21	.27	.33	.46	.58	.71	.83												
16	.24	.31	.38	.52	.67	.82	.96	1.10											
18	.27	.35	.43	.60	.76	.93	1.09	1.26	1.45										
20	.31	.40	.49	.67	.85	1.05	1.23	1.41	1.60	1.80									
22	.35	.45	.54	.74	.95	1.16	1.36	1.55	1.80	2.00	2.25								
24	.38	.49	.60	.81	1.05	1.27	1.49	1.70	1.95	2.20	2.45	2.70							
26	.42	.53	.65	.90	1.13	1.38	1.65	1.85	2.15	2.40	2.65	2.90	3.20						
28		.58	.70	.97	1.23	1.49	1.75	2.05	2.30	2.60	2.85	3.15	3.45	3.70					
30		.62	.76	1.05	1.32	1.60	1.90	2.20	2.50	2.80	3.10	3.4	3.70	4.00	4.40				
36			.93	1.25	1.60	1.95	2.30	2.70	3.05	3.40	3.70	4.10	4.55	4.9	5.35	6.50			
40			1.04	1.41	1.80	2.20	2.60	3.05	3.40	3.80	4.15	4.6	5.10	5.50	5.90	7.30	8.30		
44				1.60	2.00	2.45	2.85	3.40	3.80	4.25	4.60	5.10	5.60	6.10	6.60	8.20	9.10	9.70	
48				1.75	2.20	2.65	3.15	3.70	4.15	4.70	5.10	5.60	6.20	6.60	7.20	8.90	9.90	11.0	12.0
52				1.85	2.40	2.90	3.45	4.05	4.55	5.10	5.60	6.10	6.70	7.10	7.80	9.70	10.8	12.0	13.0
56					2.60	3.15	3.70	4.35	4.90	5.50	6.10	6.70	7.30	7.70	8.50	10.5	11.6	12.8	14.0
60					2.80	3.40	4.00	4.70	5.30	5.90	6.60	7.30	7.90	8.4	9.10	11.2	12.5	13.7	15.0

3/4" SPACING

45° SPREAD

Grille Width, in.									Grille Height, in.										
	4	5	6	8	10	12	14	16	18	20	22	24	26	28	30	36	40	44	48
4	.02																		
5	.03	.05																	
6	.04	.06	.08																
8	.07	.09	.13	.18															
10	.09	.13	.17	.25	.32														
12	.13	.17	.21	.30	.39	.49													
14	.15	.21	.26	.36	.47	.58	.69												
16	.18	.25	.30	.42	.55	.68	.81	.94											
18	.21	.28	.34	.49	.63	.76	.92	1.10	1.25										
20	.24	.32	.39	.55	.70	.88	1.07	1.23	1.41	1.58									
22	.27	.36	.44	.61	.78	.98	1.19	1.37	1.57	1.78	2.00								
24	.30	.39	.49	.68	.87	1.10	1.30	1.52	1.74	1.98	2.22	2.45							
26	.33	.43	.53	.75	.97	1.20	1.42	1.65	1.90	2.15	2.38	2.68	3.00						
28		.47	.58	.82	1.07	1.30	1.55	1.82	2.05	2.35	2.62	2.95	3.23	3.52					
30		.51	.63	.88	1.14	1.41	1.70	1.98	2.23	2.55	2.85	3.20	3.50	3.80	4.10				
36			.76	1.10	1.41	1.74	2.05	2.40	2.78	3.20	3.55	3.90	4.30	4.70	5.10	6.20			
40				1.22	1.60	1.96	2.35	2.75	3.20	3.60	4.00	4.50	5.05	5.40	5.75	7.00	7.85		
44				1.37	1.77	2.18	2.64	3.07	3.55	4.00	4.40	5.00	5.55	6.00	6.35	7.85	8.80	9.40	
48				1.52	1.96	2.40	2.93	3.40	3.90	4.45	4.90	5.55	6.10	6.50	7.00	8.40	9.80	10.4	11.6
52				1.65	2.12	2.60	3.15	3.65	4.30	4.75	5.30	5.90	6.40	7.00	7.60	9.20	10.0	11.4	12.6
56				1.80	2.32	2.85	3.40	3.95	4.60	5.10	5.70	6.40	7.00	7.60	8.20	10.0	11.1	12.4	13.6
60				1.94	2.50	3.10	3.70	4.30	4.90	5.50	6.20	7.00	7.60	8.20	9.00	11.0	12.2	13.4	14.6