

## Model: 33 Return Grilles

### Airflow Measurements Procedure

1. Record and average at least four velocity readings taken in approximately equal areas of the grille.
2. Calculate the core area using the following equation.

$$\text{Core Area} = \{[\text{Listed Width} - 3/4 \text{ inch}] \times [\text{Listed Height} - 3/4 \text{ inch}]\} / 144$$

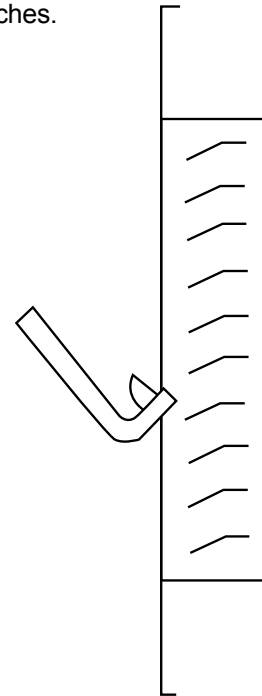
**Note:** Use 144 as the divisor when the listed width and height are shown in inches.

3. Calculate flow rate using the following equation.

$$\text{Flow Rate: CFM} = 0.479 \times (\text{Average Velocity}) \times (\text{Core Area})$$

**Note:**  $A_K = 0.479$ , regardless of grille size.:

Alnor Probe  
6070, 6000, 2220, or 2220-A



Core Area (Square Feet Factors)

Length (inches)	Width (inches)											
	6	8	10	12	14	16	18	20	24	30	36	48
6	0.19											
8	0.26	0.37										
10	0.337	0.47	0.59									
12	0.41	0.57	0.72	0.88								
14	0.48	0.67	0.85	1.04	1.22							
16	0.56	0.77	0.98	1.19	1.40	1.62						
18	0.63	0.87	1.11	1.35	1.59	1.83	2.07					
20	0.70	0.97	1.24	1.50	1.77	2.04	2.31	2.57				
22	0.77	1.07	1.37	1.66	1.96	2.25	2.55	2.84				
24	0.85	1.17	1.49	1.82	2.14	2.46	2.79	3.11	3.75			
30	1.07	1.47	1.88	2.29	2.69	3.10	3.50	3.91	4.72	5.94		
36	1.29	1.77	2.26	2.75	3.24	3.73	4.22	4.71	5.69	7.16	8.63	
42	1.50	2.08	2.65	3.22	3.80	4.37	4.94	5.51	6.66	8.38	10.10	13.54
48	1.72	2.38	3.04	3.69	4.35	5.00	5.66	6.32	7.63	9.60	11.57	15.50