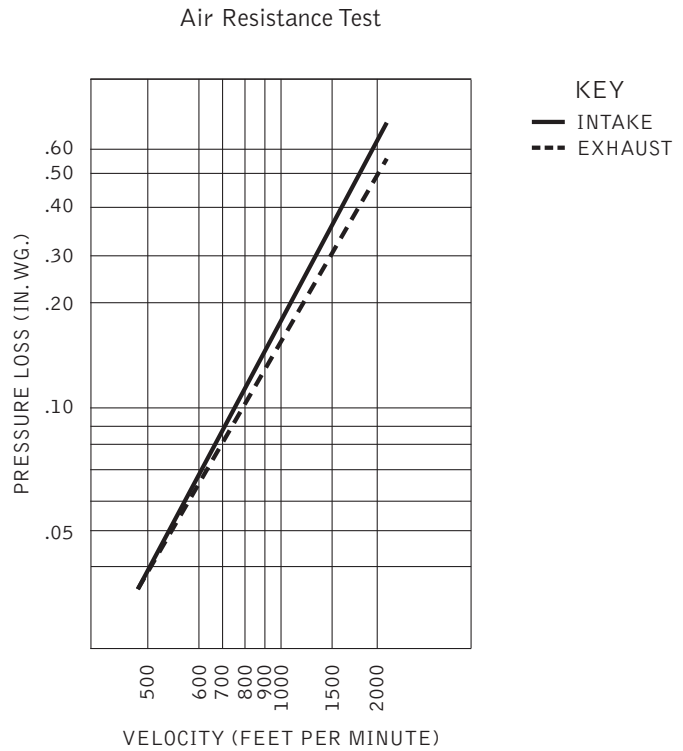
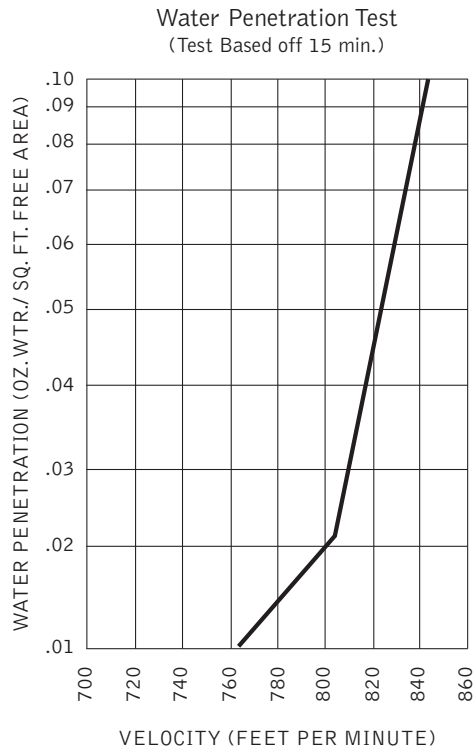


# OUTSIDE AIR LOUVERS

## 4500 Series



NOTE: Tests based on 48" × 48" size louver.  
The beginning point of water penetration is 713 FPM @ 0.01 oz/sq ft of free area.

48" × 48" Example:  
8.47 Free Area × 713 FPM = 6,040 CFM

### Louver Sizing Calculations:

$$\frac{\text{Air Flow Volume (CFM)}}{\text{Free Area velocity at beginning point of water penetration (FPM)}} = \frac{\text{Required Louver Free Area (ft}^2\text{)}}{\text{Free Area}}$$

## 4500 Series (Free Area Chart ft<sup>2</sup>)

Length in Inches	Width in Inches										
	12	18	24	30	36	42	48	54	60	66	72
12	0.26	0.53	0.81	1.08	1.35	1.63	1.90	2.17	2.45	2.72	3.00
18	0.53	0.94	1.35	1.76	2.17	2.58	3.00	3.41	3.82	4.23	4.64
24	0.81	1.35	1.90	2.45	3.00	3.54	4.09	4.64	5.18	5.73	6.28
30	1.08	1.76	2.45	3.13	3.82	4.50	5.18	5.87	6.55	7.24	7.92
36	1.35	2.17	3.00	3.82	4.64	5.46	6.28	7.10	7.92	8.74	9.56
42	1.63	2.58	3.54	4.50	5.46	6.42	7.37	8.33	9.29	10.25	11.20
48	1.90	3.00	4.09	5.18	6.28	7.37	8.47	9.56	10.66	11.75	12.84
54	2.17	3.41	4.64	5.87	7.10	8.33	9.56	10.79	12.02	13.26	14.49
60	2.45	3.82	5.18	6.55	7.92	9.29	10.66	12.02	13.39	14.76	16.13
66	2.72	4.23	5.73	7.24	8.74	10.25	11.75	13.26	14.76	16.26	17.77
72	3.00	4.64	6.28	7.92	9.56	11.20	12.84	14.49	16.13	17.77	19.41

NOTE: CFM values do not have a safety factor built in. It is recommended to oversize the louver to accommodate an additional 20% in Free Area to allow for variations in required airflows. Bird and Insect screens will negatively impact air flow when not properly maintained.