

## Application

The ECD-445 offers exceptional protection against wind-driven rain under the most severe conditions and is ideally suited for high wind areas or applications that are sensitive to wind-driven rain penetration. The ECD-445 incorporates horizontal blades and is available in a wide array of anodized and painted finishes including custom color matching.

## Standard Construction

**Material:** Mill finish 6063-T5 extruded aluminum.

**Frame:** 4" deep × 0.081" thick (102 × 2.1) channel.

**Blades:** 45° × 0.060" (1.5) thick horizontal style.

**Screen:** 1/2" × 0.063" (12.7 × 1.6) expanded and flattened aluminum.

**Mullion:** Visible.

**Minimum Size:** 6" × 8" (152 × 203)

**Maximum Size:** Single section: 60" × 120" (1524 × 3048)  
120" × 60" (3048 × 1524)  
Multiple section: Unlimited

## Options

- Factory finish:
  - High Performance 70% Fluoropolymer (Kynar®)
  - Baked Enamel
  - Clear Anodize
  - Integral Color Anodize
  - Prime Coat
- Hidden vertical mullion for continuous blade appearance.
- Flange frame:
  - 1 1/2" (38) flange
  - Custom-size flange
  - Stucco flange
  - Glazing frame
- Welded construction
- Alternate bird or insect screens
- Insulated or non-insulated blank-off panels
- Filter racks
- Hinged frame
- Head and/or sill flashing
- Installation hardware:
  - Clip angles
  - Continuous angles
- Burglar bars
- Frame closure

## Ratings

**Free Area:** [48" × 48" (1219 × 1219) unit]: 6.8 ft<sup>2</sup> (0.63 m<sup>2</sup>)  
42.7%

**Performance @ Beginning Point of Water Penetration**

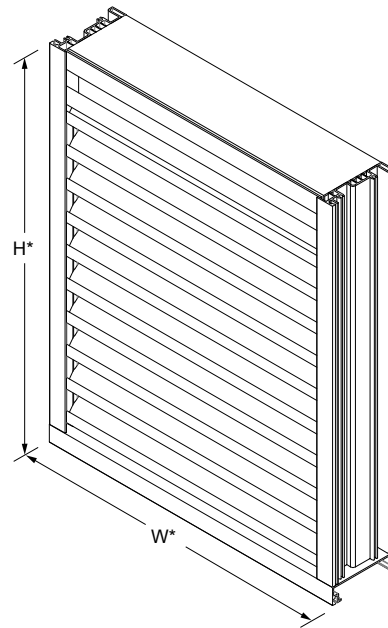
**Free Area Velocity:** Above 1250 fpm (6.35 m/s)

**Air Volume Delivered:** Above 8538 cfm (4.03 m<sup>3</sup>/s)

**Pressure Loss:** 0.32 in.wg. (79 Pa)

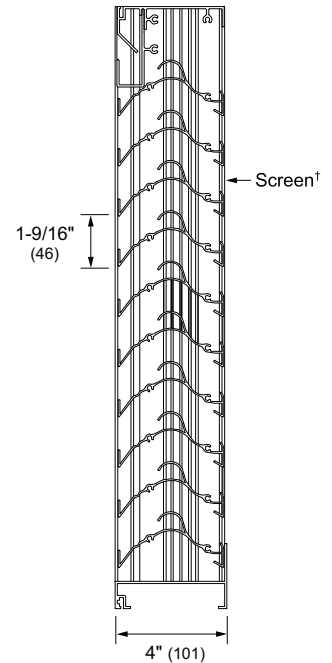
**Velocity @ 0.15 in.wg. Pressure Loss:** 845 fpm (4.29 m/s)

**Design Load:** 30 psf



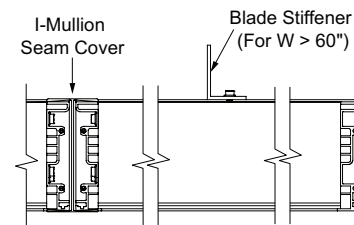
Model **ECD-445**  
(standard)

\*Louver dimensions furnished approximately 1/2" (13) undersize.

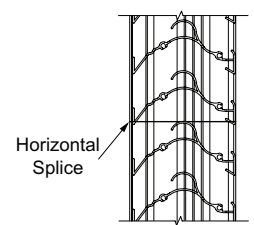


**Vertical Section**

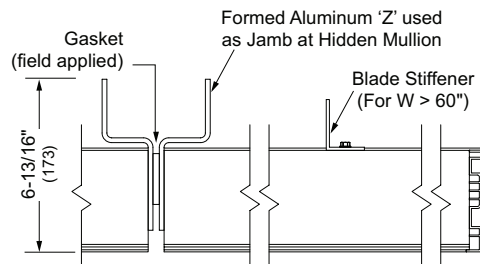
†Screen adds approximately 3/16" (5) to louver depth.



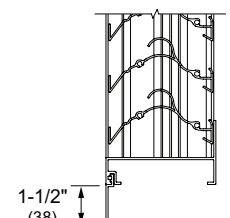
**Visible Vertical Mullion**  
(standard)



**Horizontal Mullion**  
(standard)



**Hidden Vertical Mullion**  
(optional)



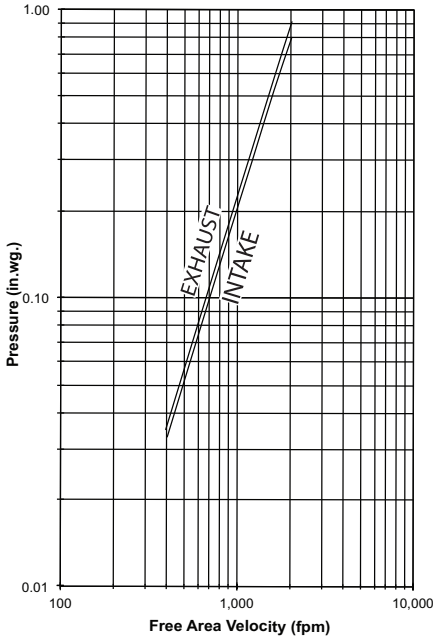
**Flange Frame**  
(optional)

**Free Area (ft<sup>2</sup>)**

Height (Inches)	Width (Inches)																			
	6	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96	102	108	114	120
8	0.1	0.1	0.2	0.3	0.4	0.4	0.5	0.6	0.7	0.7	0.8	0.9	1.0	1.1	1.1	1.2	1.3	1.4	1.4	1.5
12	0.1	0.3	0.4	0.6	0.7	0.9	1.0	1.2	1.3	1.5	1.7	1.8	2.0	2.1	2.3	2.4	2.6	2.7	2.9	3.0
18	0.2	0.5	0.7	1.0	1.3	1.5	1.8	2.1	2.3	2.6	2.9	3.2	3.4	3.7	4.0	4.2	4.5	4.8	5.1	5.3
24	0.3	0.6	1.0	1.4	1.8	2.2	2.6	3.0	3.4	3.7	4.1	4.5	4.9	5.3	5.7	6.1	6.5	6.8	7.2	7.6
30	0.4	0.9	1.4	2.0	2.5	3.1	3.6	4.2	4.7	5.2	5.8	6.3	6.9	7.4	7.9	8.5	9.0	9.6	10.1	10.7
36	0.4	1.1	1.8	2.4	3.1	3.7	4.4	5.0	5.7	6.4	7.0	7.7	8.3	9.0	9.7	10.3	11.0	11.6	12.3	12.9
42	0.5	1.3	2.1	2.8	3.6	4.4	5.2	5.9	6.7	7.5	8.3	9.0	9.8	10.6	11.4	12.1	12.9	13.7	14.5	15.2
48	0.6	1.5	2.4	3.3	4.2	5.0	5.9	6.8	7.7	8.6	9.5	10.4	11.3	12.2	13.1	13.9	14.8	15.7	16.6	17.5
54	0.7	1.7	2.8	3.8	4.9	5.9	7.0	8.0	9.1	10.1	11.1	12.2	13.2	14.3	15.3	16.4	17.4	18.5	19.5	20.6
60	0.8	1.9	3.1	4.3	5.4	6.6	7.7	8.9	10.1	11.2	12.4	13.5	14.7	15.9	17.0	18.2	19.4	20.5	21.7	22.8
66	0.9	2.1	3.4	4.7	6.0	7.2	8.5	9.8	11.1	12.3	13.6	14.9	16.2	17.5	18.7	20.0	21.3	22.6	23.8	25.1
72	1.0	2.4	3.8	5.3	6.7	8.1	9.5	11.0	12.4	13.8	15.3	16.7	18.1	19.6	21.0	22.4	23.9	25.3	26.7	28.2
78	1.0	2.6	4.1	5.7	7.2	8.8	10.3	11.9	13.4	15.0	16.5	18.1	19.6	21.2	22.7	24.3	25.8	27.4	28.9	30.5
84	1.1	2.8	4.4	6.1	7.8	9.4	11.1	12.8	14.4	16.1	17.8	19.4	21.1	22.7	24.4	26.1	27.7	29.4	31.1	32.7
90	1.2	3.0	4.7	6.5	8.3	10.1	11.9	13.7	15.4	17.2	19.0	20.8	22.6	24.3	26.1	27.9	29.7	31.5	33.2	35.0
96	1.3	3.2	5.2	7.1	9.0	11.0	12.9	14.8	16.8	18.7	20.6	22.6	24.5	26.5	28.4	30.3	32.3	34.2	36.1	38.1
102	1.4	3.4	5.5	7.5	9.6	11.6	13.7	15.7	17.8	19.8	21.9	23.9	26.0	28.0	30.1	32.1	34.2	36.2	38.3	40.3
108	1.4	3.6	5.8	7.9	10.1	12.3	14.5	16.6	18.8	21.0	23.1	25.3	27.5	29.6	31.8	34.0	36.1	38.3	40.5	42.6
114	1.5	3.8	6.1	8.4	10.7	12.9	15.2	17.5	19.8	22.1	24.4	26.6	28.9	31.2	33.5	35.8	38.1	40.3	42.6	44.9
120	1.6	4.1	6.5	8.9	11.4	13.8	16.3	18.7	21.1	23.6	26.0	28.5	30.9	33.3	35.8	38.2	40.6	43.1	45.5	48.0

**Pressure Loss**

(Data corrected to standard air density)

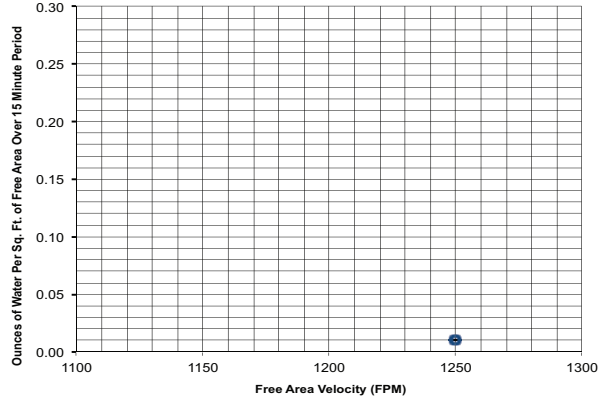


Pressure loss tested in accordance with Figure 5.5 of AMCA Standard 500-L.

**Water Penetration**

AMCA defines the beginning point of water penetration as the free area velocity at the intersection of a simple linear regression of test data and the line of 0.01 ounces of water per square foot of free area and is measured through a 48" x 48" louver during a 15 minute period. The AMCA water penetration test provides a method for comparing louver models and designs as to their efficiency in resisting the penetration of rainfall under specific lab conditions. C&S Air Products recommends that intake louvers are selected with a reasonable margin of safety below the beginning point of water penetration in order to avoid unwanted penetration during severe storm conditions.

Beginning Point of Water Penetration = Above 1250 fpm



**Wind Driven Rain Performance — AMCA 500-L Wind Driven Rain Test**

Test louver Core Area, 39<sup>3</sup>/<sub>8</sub>" x 39<sup>3</sup>/<sub>8</sub>" (1m x 1m).

Wind Velocity	Rainfall	Airflow	Core Velocity	Effectiveness Ratio	Wind Class	Discharge Class:
29 mph	3 in/hr	4062 cfm	377 fpm	99%	A	3
50 mph	8 in/hr	4323 cfm	401 fpm	95%	B	3

Wind Driven Rain Class	Effectiveness	Discharge Loss Class	Coefficient:
A	1.000 to 0.99	1	0.4 to 1.000
B	0.989 to 0.95	2	0.3 to 0.399
C	0.949 to 0.80	3	0.2 to 0.299
D	0.799 to 0.00	4	0.0 to 0.199

**NOTES**

1. Core Area is the open area of the louver face (face area less louver frame). 2. Discharge Loss Coefficient is calculated by dividing the louvers' actual airflow rate by the theoretical airflow rate for an unobstructed opening. The higher the coefficient the lower the resistance to air flow.

Information is correct at time of printing. However, we reserve the right to make changes without notice.

NOTE: Dimensions in parentheses ( ) are millimeters.