

XAV-545

(Standard for single section assemblies)

*Grille dimensions furnished approximately 1/2" (13) undersize for default internal-mount configuration.

Ratings

Free Area: [48" × 48" (1219 × 1219) unit]: 8.2 ft² (0.76 m²)
51.2%

Performance @ Beginning Point of Water Penetration

Free Area Velocity: 680 fpm (3.45 m/s)

Air Volume Delivered: 5,577 cfm (2.63 m³/s)

Pressure Loss: 0.17 in.wg. (41 Pa)

Design Pressure: 300 psf (14.4 kPa)

Classified as a UL Windstorm Rated Assembly for static pressure, cyclic pressure, and impact resistance



Pottorff certifies that the model XAV-545 shown herein is licensed to bear the AMCA seal. The ratings shown are based on test and procedures performed in accordance with AMCA Publication 511 and comply with the requirements of the AMCA Certified Ratings Program. The AMCA Certified Ratings seal applies to water penetration, air performance and wind driven rain ratings.



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NOTE: Dimensions in parentheses () are millimeters.
Information is subject to change without notice or obligation.

The XAV-545 aluminum grille is designed in accordance with ICC 500 (2020), FEMA P-361 (2015) and FEMA P-320 (2014) guidelines for storm shelters and safe rooms. It offers exceptional protection against wind pressures and debris impacts produced by tornadoes and hurricanes. The XAV-545 is a UL Classified Windstorm Rated Assembly with a design pressure of 300 psf and has been impact-tested using 15-lb 2 × 4 timbers launched at 100 mph.

For the default flange-mount installation method, the XAV-545 may be sized to cantilever forward of the wall opening (external mount) or slip into the opening (internal mount). The XAV-545 is also available with a non-flanged frame and continuous angles for installation.

Standard Construction

Material: 6005A-T6 extruded aluminum

Frame: 5-1/2" deep × 0.25" thick (140 × 6)

Blades: 0.16" (4) Inverted V

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

Mullion: Visible

Flange:

Single Section: 5-1/2" (140) on jambs

Multiple section: Single section high - 5-1/2" (140) on top and bottom.

Single section wide - 5-1/2" (140) on jambs

Factory Finish: Mill

Minimum Size: 12" × 12" (305 × 305)

Maximum Size:

Single section: 48" × 96" (1219 × 2438)
or 96" × 56" (2438 × 1422)

Multiple section: Unlimited width × single section high
Single section wide × unlimited height

Mount Direction: Internal (flange at front, dimensions 1/2" (13) undersized)

Options

■ Factory finish:

- High Performance Fluoropolymer
- Baked Enamel ■ Prime Coat
- Clear Anodize ■ Integral Color Anodize

■ Alternate Flanges:

- Top/bottom flange (single section high only)
- Non-Flanged (includes continuous angles for installation)
- Four-sided flange (single section only)

■ **External Mount** (flange at rear, dimensions 3" (76) oversized)

■ **Alternate Bird or Insect Screens**

PERFORMANCE

XAV-545

Aluminum Grille
5-1/2" deep • Inverted V Blade

Free Area (ft²)

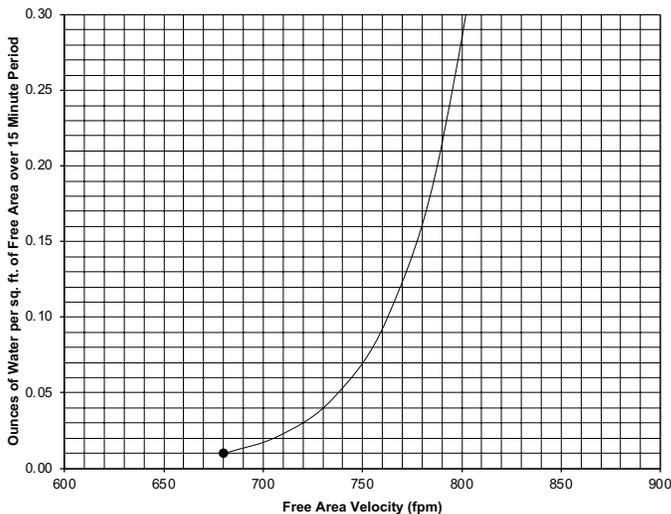
Width (Inches)

Height (Inches)	Width (Inches)														
	12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
12	0.23	0.37	0.52	0.66	0.81	0.96	1.10	1.18	1.32	1.47	1.61	1.76	1.91	2.05	2.20
18	0.47	0.77	1.07	1.38	1.68	1.98	2.28	2.44	2.74	3.04	3.35	3.65	3.95	4.25	4.56
24	0.71	1.17	1.63	2.09	2.55	3.01	3.47	3.70	4.16	4.62	5.08	5.54	6.00	6.46	6.91
30	0.95	1.57	2.18	2.80	3.42	4.03	4.65	4.96	5.57	6.19	6.81	7.42	8.04	8.66	9.27
36	1.19	1.97	2.74	3.51	4.28	5.06	5.83	6.22	6.99	7.76	8.54	9.31	10.08	10.86	11.63
42	1.43	2.36	3.29	4.22	5.15	6.08	7.01	7.48	8.41	9.34	10.27	11.20	12.13	13.06	13.99
48	1.68	2.76	3.85	4.94	6.02	7.11	8.20	8.74	9.83	10.91	12.00	13.09	14.17	15.26	16.35
54	1.92	3.16	4.40	5.65	6.89	8.13	9.38	10.00	11.24	12.49	13.73	14.97	16.22	17.46	18.70
60	2.16	3.56	4.96	6.36	7.76	9.16	10.56								
66	2.40	3.96	5.51	7.07	8.63	10.19	11.74								
72	2.64	4.36	6.07	7.78	9.50	11.21	12.92								
78	2.88	4.75	6.62	8.49	10.37	12.24	14.11								
84	3.13	5.15	7.18	9.21	11.23	13.26	15.29								
90	3.37	5.55	7.73	9.92	12.10	14.29	16.47								
96	3.61	5.95	8.29	10.63	12.97	15.31	17.65								

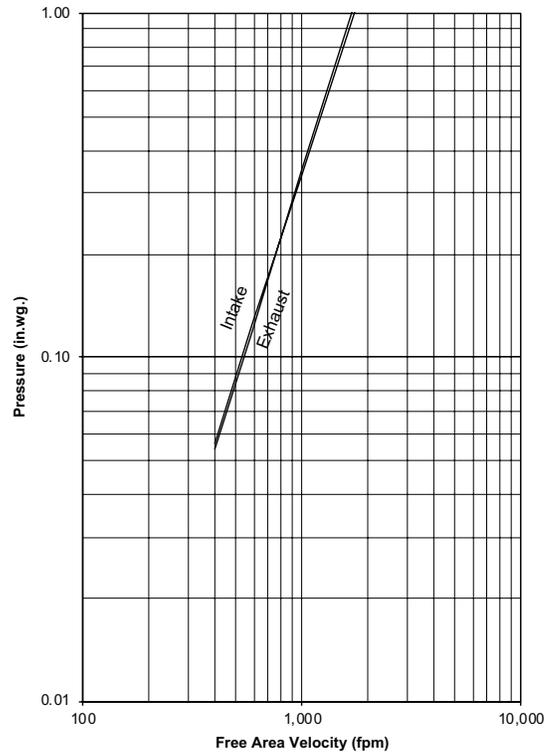
Water Penetration

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. Pottorff 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 = 680 fpm



Pressure Loss

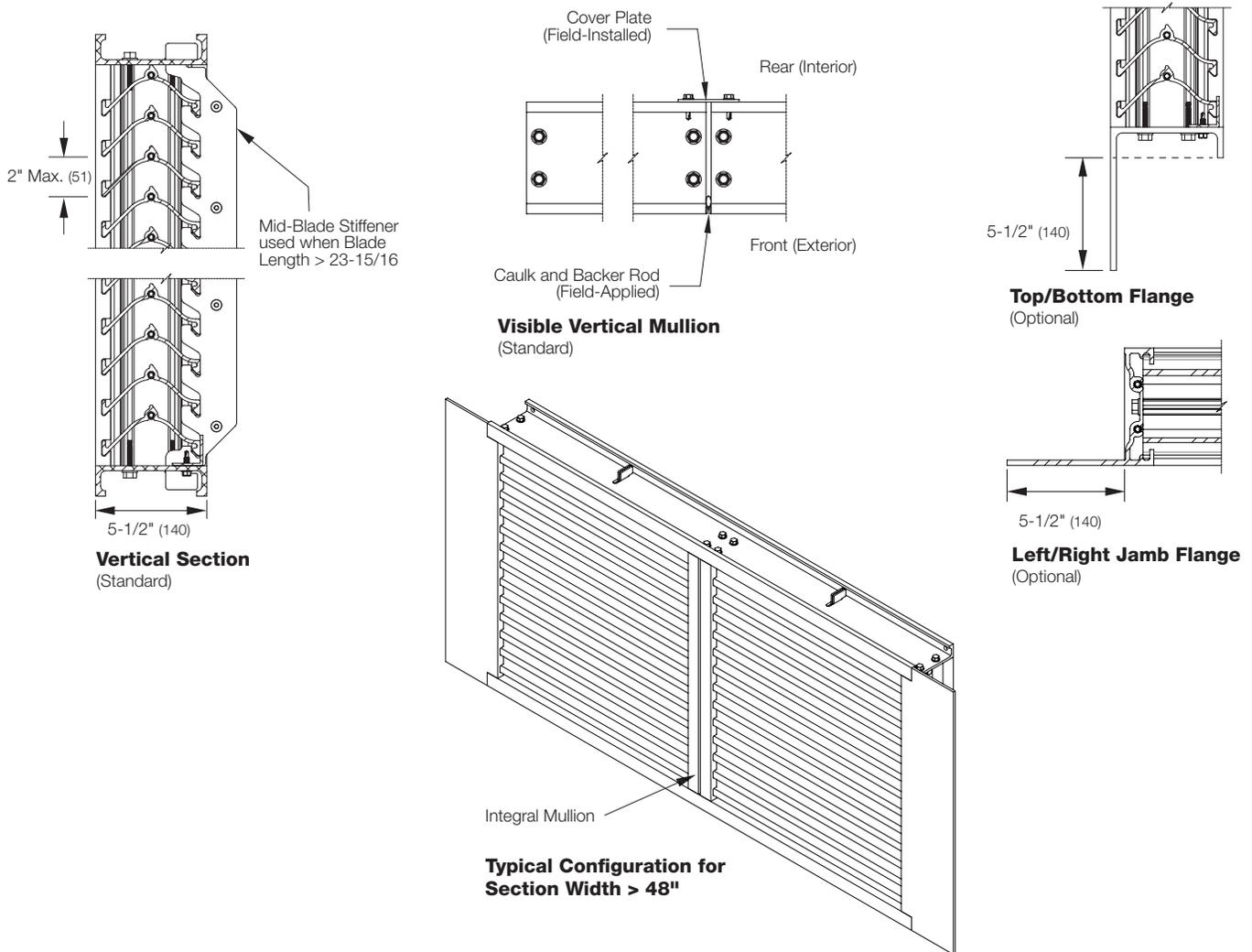


Louver Test Size = 48" x 48" (1219 x 1219)
Pressure loss tested in accordance with Figure 5.5 of AMCA Standard 500-L. Data corrected to standard air density.

XAV-545

Aluminum Grille
5-1/2" deep • Inverted V Blade

Attributes



Approximate Weight (lb)

		Width (Inches)														
		12	18	24	30	36	42	48	54	60	66	72	78	84	90	96
Height (Inches)	12	20	27	33	40	47	53	59	71	78	84	91	97	103	110	116
	18	29	38	47	57	66	75	84	102	111	119	128	137	146	155	164
	24	38	50	61	74	86	97	108	132	143	155	166	178	189	200	211
	30	47	61	75	91	105	119	133	162	176	190	204	218	232	245	259
	36	56	73	89	108	125	141	157	193	209	225	242	258	274	291	307
	42	66	84	103	125	144	163	182	223	242	261	279	298	317	336	354
	48	75	96	117	142	164	185	206	253	275	296	317	338	360	381	402
	54	84	107	131	159	183	207	231	284	307	331	355	379	402	426	450
	60	93	119	145	177	203	229	255								
	66	102	131	159	194	222	251	280								
	72	111	142	173	211	242	273	304								
	78	120	154	187	228	261	295	329								
	84	129	165	201	245	281	317	353								
	90	138	177	215	262	300	339	377								
	96	147	188	229	279	320	361	402								

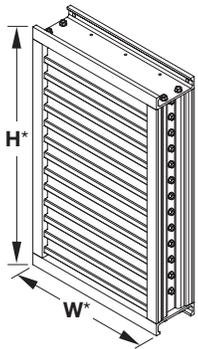
Anchor/Fastener Requirements

Method	Attachment Location	Building Substrate	Section Width	Anchor Type	Min. Edge Distance	Max. Spacing	Min. Embedment Depth
Flange-Mounted (Internal or External Mount)	Jambs	Grout-Filled CMU ¹	48" or less	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	12"	3-1/4"
			over 48"	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	6"	3-1/4"
		Concrete ²	48" or less	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	17"	3-1/4"
			over 48"	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	10"	3-1/4"
		Steel ³	48" or less	3/8" x 1" self-tapping screw ⁴	3/4"	20"	3/16"
			over 48"	3/8" x 1" self-tapping screw ⁴	3/4"	10"	3/16"
	Top/Bottom	Grout-Filled CMU ¹	Any	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	6"	3-1/4"
		Concrete ²	Any	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	10"	3-1/4"
		Steel ³	Any	3/8" self-tapping screw	3/4"	10"	3/16"
Continuous Angles (Non-Flanged, Internal Mount Only)	Jambs (Shelf Angle Anchors)	Grout-Filled CMU ¹	48" or less	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	8"	3-1/4"
			over 48"	1/2" through-bolt w/ nut & bearing plate	2-1/2"	8"	7-5/8"
		Concrete ²	48" or less	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	8"	3-1/4"
			over 48"	1/2" through-bolt w/ nut & bearing plate	2-1/2"	8"	5"
	Jambs (Cont. Angle Anchors)	Concrete ²	48" or less	3/8" x 4" Dewalt Screw-Bolt+	2-1/2"	8"	3-1/4"
			over 48"	5/8" x 5" DeWalt Screw-Bolt+	4-1/8"	12"	4"
		Steel ³	48" or less	3/8" x 1" self-tapping screw ⁴	3/4"	10"	3/16"
			over 48"	3/8" x 1" self-tapping screw ⁴	3/4"	8"	3/16"
	Top & Bottom (Shelf Angle Anchors)	Grout-Filled CMU ¹	Any	1/2" through-bolt w/ nut & bearing plate	2-1/2"	8"	7-5/8"
		Concrete ²	Any	1/2" through-bolt w/ nut & bearing plate	2-1/2"	8"	5"
	Top & Bottom (Cont. Angle Anchors)	Concrete ²	Any	5/8" x 5" Dewalt Screw-Bolt+	4-1/8"	12"	4"
		Steel ³	Any	3/8" self-tapping screw	3/4"	8"	3/16"

NOTE:

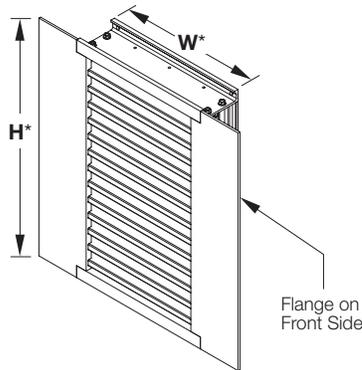
1. f'm ≥ 1500 psi required for grout-filled CMU substrates.
2. f'c ≥ 4000 psi required for concrete substrates (cracked or uncracked).
3. Steel substrates to be min. 3/16" thick with Fy ≥ 36 ksi.
4. 3/8-16 bolts, nuts, and flat washers may be substituted in place of 3/8" self-tapping screws.

Flange Options



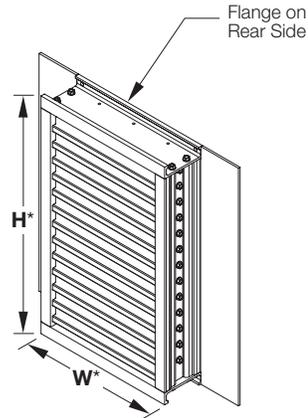
Non-Flanged

*Grille dimensions furnished approximately 1/2" (13) undersize



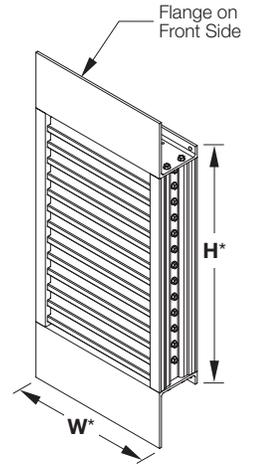
Jamb Flange/ Internal Mount

(single section wide only)
*Grille dimensions furnished approximately 1/2" (13) undersize



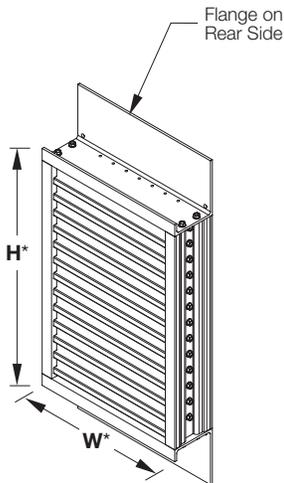
Jamb Flange/ External Mount

(single section wide only)
*Grille dimensions furnished approximately 3" (76) oversize



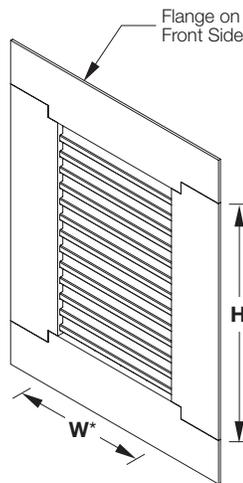
Top/Bottom Flange Internal Mount

(single section high only)
*Grille dimensions furnished approximately 1/2" (13) undersize



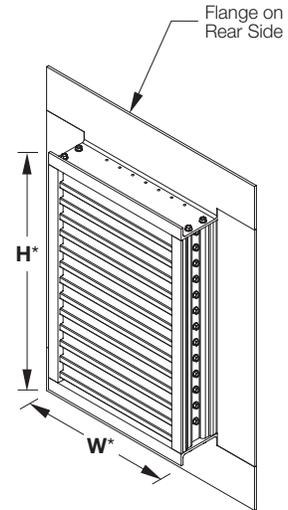
Top/Bottom Flange External Mount

(single section high only)
*Grille dimensions furnished approximately 3" (76) oversize



Four-Sided Flange Internal Mount

(single section only)
*Grille dimensions furnished approximately 1/2" (13) undersize



Four-Sided Flange External Mount

(single section only)
*Grille dimensions furnished approximately 3" (76) oversize