

XAV-545

(Standard for single section assemblies)
*Grille dimensions furnished approximately
1/2" (13) undersize.

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.

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 x 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)

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

Mount Direction: Internal (flange at front)

Options

■ Factory finish:

- High Performance Fluoropolymer
- Baked Enamel
- Clear Anodize
- Prime Coat
- 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)

■ Alternate Bird or Insect Screens

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

PERFORMANCE

XAV-545

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

Free Area (ft²)

		Width (Inches)						
		12	18	24	30	36	42	48
Height (Inches)	12	0.23	0.37	0.52	0.66	0.81	0.96	1.10
	18	0.47	0.77	1.07	1.38	1.68	1.98	2.28
	24	0.71	1.17	1.63	2.09	2.55	3.01	3.47
	30	0.95	1.57	2.18	2.80	3.42	4.03	4.65
	36	1.19	1.97	2.74	3.51	4.28	5.06	5.83
	42	1.43	2.36	3.29	4.22	5.15	6.08	7.01
	48	1.68	2.76	3.85	4.94	6.02	7.11	8.20
	54	1.92	3.16	4.40	5.65	6.89	8.13	9.38
	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	

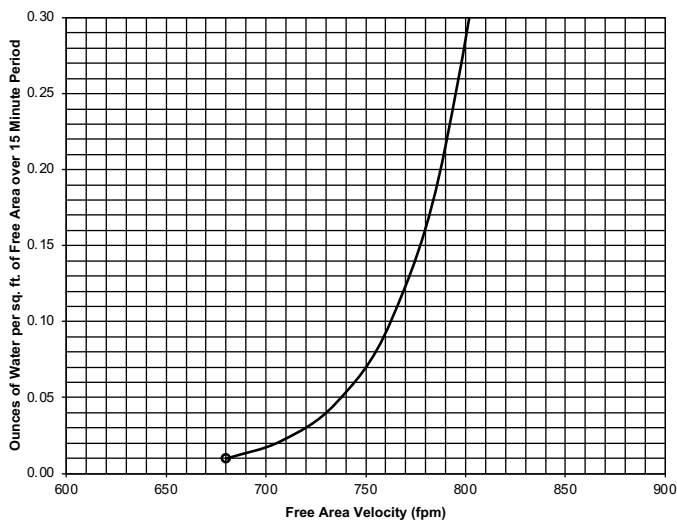
Weights (Approximate weight in lbs.)

		Width (Inches)						
		12	18	24	30	36	42	48
Height (Inches)	12	20	28	36	44	53	61	70
	18	27	37	48	58	70	80	91
	24	34	46	59	72	86	99	112
	30	42	56	70	86	103	118	133
	36	51	66	82	99	119	137	154
	42	59	77	95	113	135	155	175
	48	67	87	108	128	152	174	197
	54	75	98	121	143	169	193	218
	60	84	109	134	159	187	212	239
	66	92	119	147	174	205	233	260
	72	100	130	160	189	224	253	283
	78	108	140	173	205	242	274	306
	84	117	151	186	220	260	294	329
90	125	162	199	235	278	315	351	
96	133	172	212	251	296	335	374	

Water Penetration

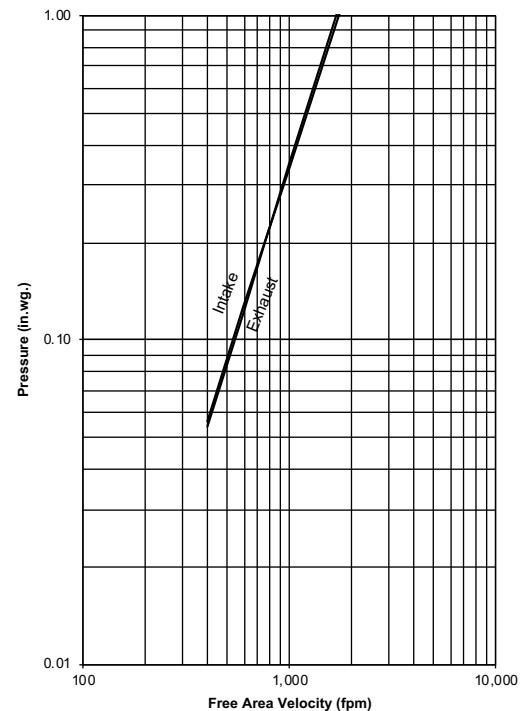
AMCA defines the beginning point of water penetration as the free area velocity at the intersection of a simple linear regression of test data and the line of 0.01 ounces of water per square foot of free area and is measured through a 48" x 48" louver during a 15 minute period. The AMCA water penetration 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



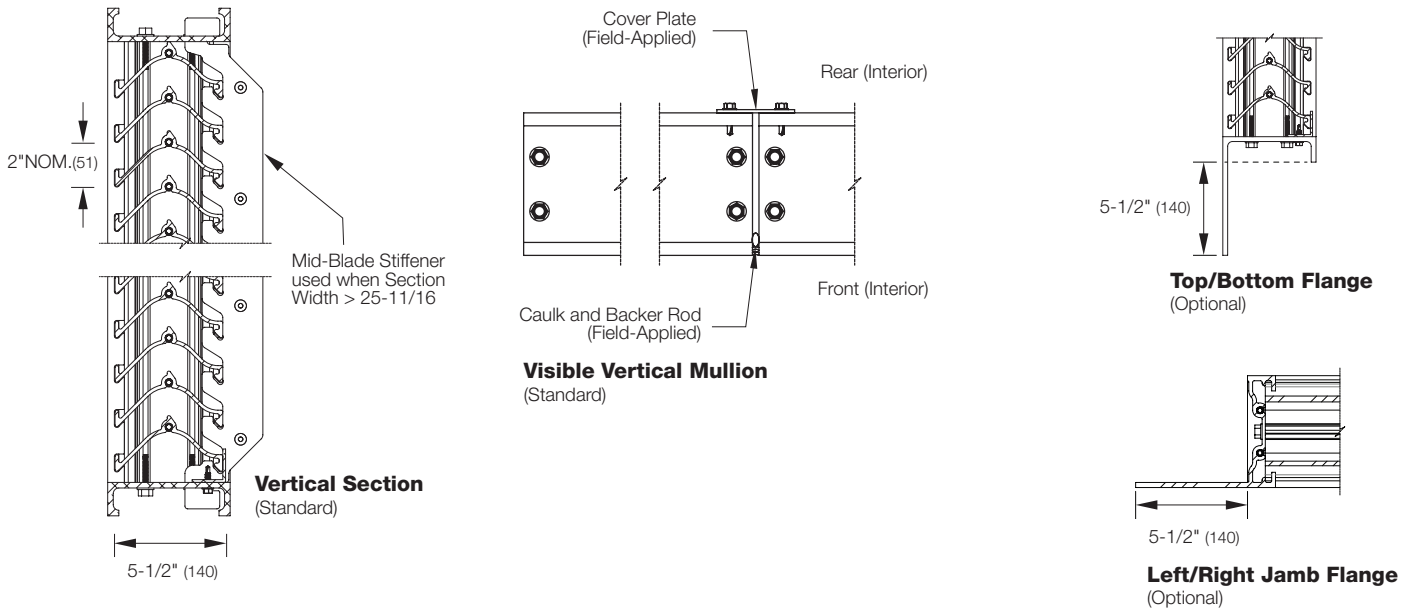
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Pressure Loss



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.

Attributes



Anchor/Fastener Requirements

Attachment Method	Attachment Location	Building Substrate	Anchor Type	Min. Edge Distance	Max. Spacing	Min. Embedment Depth
Flange-Mounted (Internal Or External Mount)	Jambs	Grout-Filled Cmu (f'm ≥ 1500 Psi)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	12"	3-1/4"
		Concrete (f'c ≥ 4000 Psi Cracked)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	17"	3-1/4"
		Steel (Min 3/16" Thick, Fy ≥ 36 Ksi)	3/8" Self-Tapping Screw, Gr. 5 Steel*	3/4"	20"	3/16"
	Top/Bottom	Grout-Filled Cmu (F'm ≥ 1500 Psi)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	6"	3-1/4"
		Concrete (f'c ≥ 4000 Psi Cracked)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	10"	3-1/4"
		Steel (Min 3/16" Thick, Fy ≥ 36 Ksi)	3/8" Self-Tapping Screw, Gr. 5 Steel*	3/4"	10"	3/16"
Continuous Angles (Non-Flanged, Internal Mount Only)	Jambs Shelf Angle Anchors	Grout-Filled Cmu (f'm ≥ 1500 Psi)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	5"	3-1/4"
		Concrete (f'c ≥ 4000 Psi, Cracked)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	8"	3-1/4"
	Jambs Cont. Angle Anchors	Concrete (f'c ≥ 4000 Psi, Cracked)	3/8" × 4" Dewalt Screw-Bolt+	2-1/2"	8"	3-1/4"
		Steel (Min 3/16" Thick, Fy ≥ 36 Ksi)	3/8" Self-Tapping Screw, Gr. 5 Steel*	3/4"	12"	3/16"
	Top & Bottom Shelf Angle Anchors	Grout-Filled Cmu (f'm ≥ 1500 Psi)	1/2" Through-Bolt W/ Nut & Bearing Plate	2-1/2"	8"	FULL
		Concrete (fc > 4000 Psi, Cracked)	1/2" Through-Bolt W/ Nut & Bearing Plate	2-1/2"	8"	FULL
Top & Bottom Cont. Angle Anchors	Concrete (f'c ≥ 4000 Psi Cracked)	5/8" × 5" Dewalt Screw-Bolt+	4-1/8"	12"	4"	
	Steel (Min 3/16" Thick, Fy ≥ 36 Ksi)	3/8" Self-Tapping Screw, Gr. 5 Steel*	3/4"	8"	3/16"	

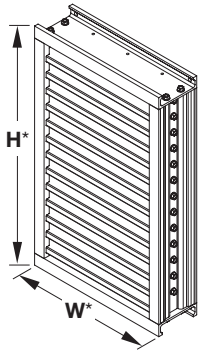
NOTE: It is acceptable to substitute 3/8 - 16 bolts, nuts, and flat washers instead of 3/8" self-tapping screws.

XAV-545

Aluminum Grille

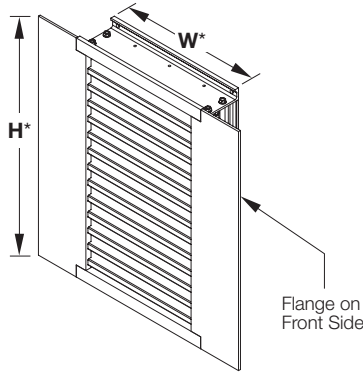
5-1/2" deep • Inverted V Blade

Flange Options



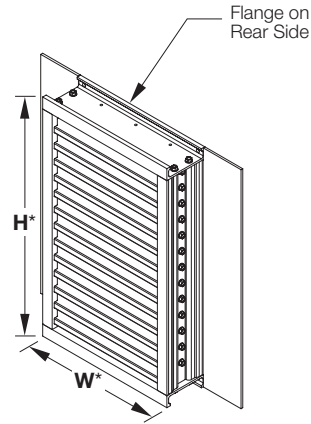
Non-Flanged

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



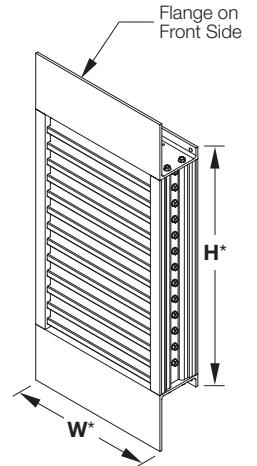
Jamb Flange/ Internal Mount

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



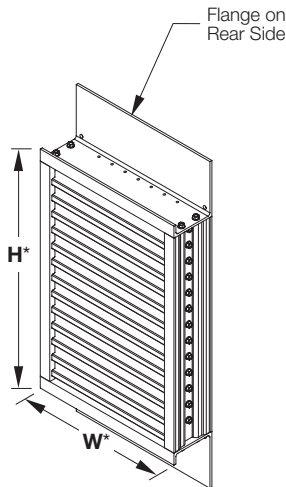
Jamb Flange/ External Mount

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



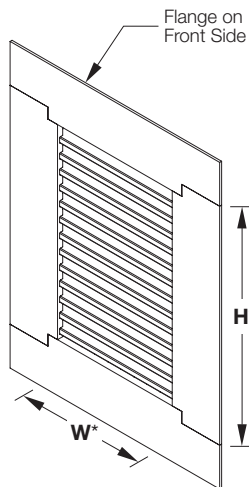
Top/Bottom Flange Internal Mount

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



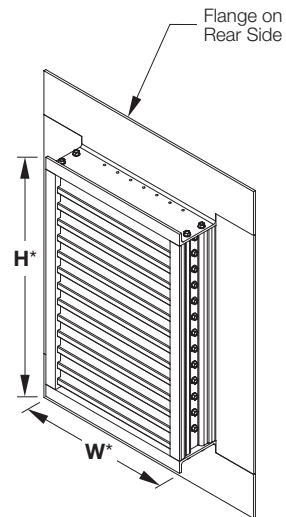
Top/Bottom Flange External Mount

(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