

Miami-Dade Qualified Wind-Driven Rain Louver

Application and Design

EHH-601D is a **Florida Product Approved and Miami-Dade Qualified** stationary horizontal blade wind driven rain extruded aluminum louver designed to protect air intake and exhaust openings in building exterior walls. EHH-601D is tested in accordance with AMCA 500-L Air Performance, Water Penetration and Wind Driven Rain. EHH-601D is tested in accordance with AMCA 540 Test Method for Louvers Impacted by Wind Borne Debris (Basic Protection, Missile Level D and Enhanced Protection, Missile Level E). When combined with the optional factory attached VCD-40 damper in the closed position EHH-601D is tested in accordance with AMCA 550 High Velocity Wind Driven Rain. **EHH-601D is licensed to bear the AMCA seal allowing design professionals to select and apply with confidence.** EHH-601D is tested and qualified per the following Florida test protocols: TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure), TAS 203 (Cyclic Wind Loading) and, when combined with the optional factory attached VCD-40 damper in the closed position, TAS 100A (Wind Driven Rain). Per Miami-Dade EHH-601D may be installed in locations where the space behind the louver is designed to accept water penetration and houses water resistant/water proof equipment, components or supplies unless when combined with the optional factory attached VCD-40 damper in the closed position.

Standard Construction

- Frame** Heavy gauge extruded 6063-T5 aluminum, 6 in. x 0.081 in. nominal wall thickness, front 1.5 in. flange (optional on channel frame installation)
- Blades** Horizontal rain resistant style, heavy gauge extruded 6063-T5 aluminum, 0.081 in. nominal wall thickness, positioned on approximately 2 in. blade spacing
- Construction** Welded & Mechanically Fastened
- Birdscreen** 3/4 in. x 0.051 in. flattened expanded aluminum in removable frame, inside mount (rear), mill finish only
- Finish** Mill
- Mounting Sleeve** . . . Heavy gauge aluminum with front flange and rear aluminum angles, mill finish only

Minimum Rough

Opening Size 12 in. W x 7 in. H

Maximum Rough Opening Size

Flange/Sleeve 1,000 in. W x 144.50 in. H

Maximum Rough Opening Size

Channel Frame 1,000 in. W x 144.50 in. H

Maximum Single Section Rough Opening Size

Flange/Sleeve 72.50 in. W x 144.50 in. H

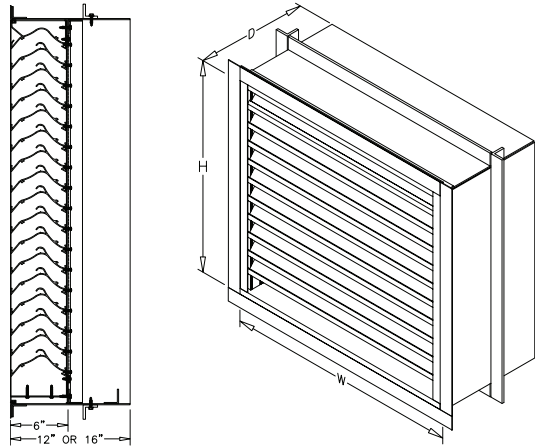
Maximum Single Section Rough Opening Size

Channel Frame 72.75 in. W x 144.50 in. H

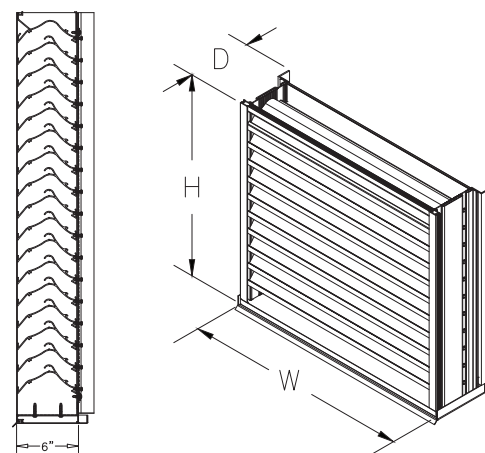
Options (at additional cost)

- A variety of bird and insect screens
- Flange Frame (Channel Frame Installation)
- Blank-off panel
- Filter rack
- Security bars
- A variety of architectural finishes including:
 - Clear anodize
 - Integral color anodize
 - Baked enamel
 - Kynar

Flange/Sleeve Installation



Channel Frame Installation



Optional factory attached VCD-40 damper (complies with Miami-Dade TAS-100A)

- May be installed in locations up to 33 ft. above grade where the space behind the louver is **not** designed to accept water penetration and houses non-water resistant/water proof equipment, components or supplies.
- Parallel blade action
- Plated steel blade linkage
- Silicone blade seals
- Stainless steel compression jamb seals
- 1/2 in. diameter plated steel axles
- Synthetic (acetal) sleeve bearings
- Manual quadrant actuator (in airstream)
- Mill finish only

Minimum Rough Opening Size 12 in. W x 13.125 in. H

Maximum Rough Opening Size

Flange/Sleeve 1,000 in. W x 144.50 in. H

Maximum Rough Opening Size

Channel Frame 1,000 in. W x 144.50 in. H

Maximum Single Section

Rough Opening Size Flange/Sleeve 36.50 in. W x 144.50 in. H

Maximum Single Section

Rough Opening Size Channel Frame 36.75 in. W x 144.50 in. H

Operable damper blades on optional VCD-40 damper in the closed position.

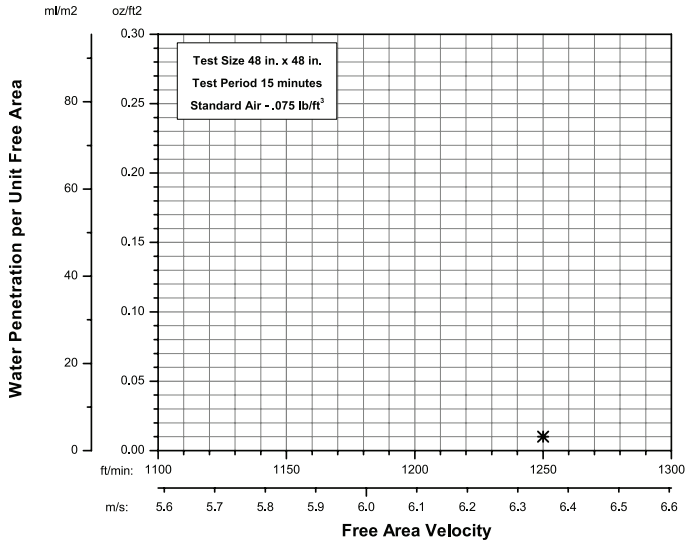
PERFORMANCE DATA

EHH-601D

Florida Product Approval No: FL10088.1
 Miami-Dade NOA No.: 17-0919.05, EXP. 12/6/22
 AMCA 540 and 550 Listed
 Maximum Wind-load: 150 PSF

Water Penetration

Test Size 48 in. x 48 in. Test Duration of 15 min



The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through 0.01 oz. of water (penetration) per sq. ft. of louver free area. ***The beginning point of water penetration for Model EHH-601D is above 1250 fpm free area velocity.** These performance ratings do not guarantee a louver to be weather-proof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.

AMCA
INTERNATIONAL
LISTED

Greenheck Fan Corporation certifies that the EHH-601D louvers shown herein are licensed to bear the AMCA Seal. The ratings shown are based on tests 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 air performance, water penetration, and wind-driven rain ratings.

AMCA
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IMPACT RESISTANT LOUVER
Enhanced Protection Level E

This label does not signify AMCA airflow performance certification.

Without factory attached VCD-40 damper

AMCA
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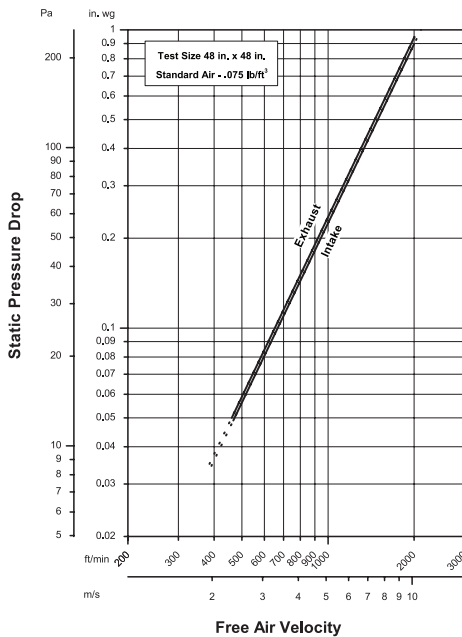
HIGH VELOCITY RAIN RESISTANT WITH BLADES FULLY CLOSED AND IMPACT RESISTANT LOUVER
Enhanced Protection Level E

This label does not signify AMCA airflow performance certification.

With factory attached VCD-40 damper in the closed position

Greenheck Fan Corporation certifies that the EHH-601D louvers shown herein are approved to bear the AMCA Listing Label. The Ratings shown are based on tests and procedures performed in accordance with AMCA Publications and comply with the requirements of the AMCA Listing Label Program. The AMCA Listing Label applies to Wind Borne Debris Impact Resistant and High Velocity Wind Driven Rain Resistant Louvers (with the optional VCD-40 damper in the closed position).

Airflow Resistance (Standard Air - .075 lb/ft³)



Model EHH-601D resistance to airflow (pressure drop) varies depending on louver application (air intake or air exhaust). Free area velocities (shown) are higher than average velocity through the overall louver size. See louver selection information. (Test Figure 5.5-6.5)

Discharge Loss Coefficient Classifications		Wind-driven Rain Penetration Classes	
Class	Discharge Loss Coefficient	Class	Effectiveness
1	0.4 and Above	A	1 to 0.99
2	0.3 to 0.399	B	0.989 to 0.95
3	0.2 to 0.299	C	0.949 to 0.80
4	0.199 and Below	D	Below 0.80

Wind-Driven Rain Performance

75mm/h (3 in/hr) Rainfall & 13 m/s (29 mph) Wind Velocity				200mm/h (8 in/hr) Rainfall & 22 m/s (50 mph) Wind Velocity			
Ventilation Air Core Velocity m/s (fpm)	Free Area Velocity m/s (fpm)	Water Penetration Effectiveness %	Water Penetration Classification	Ventilation Air Core Velocity m/s (fpm)	Free Area Velocity m/s (fpm)	Water Penetration Effectiveness %	Water Penetration Classification
0.0 (0)	0.0 (0)		A	0.0 (0)	0.0 (0)		A
0.5 (98)	0.9 (181)		A	0.5 (100)	0.9 (185)	99.2	A
1.0 (197)	1.9 (365)		A	1.0 (194)	1.8 (359)	99.2	A
1.5 (295)	2.8 (546)		A	1.5 (291)	2.7 (539)	99.2	A
1.9 (376)	3.5 (696)	99.9	A	2.0 (401)	3.8 (742)	98.6	B
2.4 (472)	4.4 (874)	99.7	A	2.6 (505)	4.7 (935)	98.2	B
2.9 (579)	5.4 (1072)	99	A	2.9 (573)	5.4 (1061)	97.9	B
3.5 (684)	6.4 (1266)	98.9	B	3.5 (687)	6.5 (1272)	96.3	B
3.9 (769)	7.2 (1423)	98.2	B	4.0 (779)	7.3 (1442)	92.7	C
4.4 (868)	8.2 (1607)	90.2	C	4.4 (874)	8.2 (1618)	86.8	C
5.0 (993)	9.3 (1838)	80.6	C	4.9 (962)	9.0 (1781)	81.2	C

Discharge Loss Coefficient Class (Intake) = 2

Weather louvers are classified by their ability to reject simulated rain based on the amount of water penetration per square meter (square foot) of louver core area while the louver is subjected to a selected rainfall rate, wind velocity, and intake core velocity. Ratings include the effect of a sill pan.



Note: AMCA licensed performance data shown herein pertains only to the louver and does not include effects of the factory attached VCD-40 damper. AMCA 550 Listing shown herein pertains only to the EHH-601D louver with factory attached VCD-40 damper.

PERFORMANCE DATA

EHH-601D

Florida Product Approval No: FL10088.1
 Miami-Dade NOA No.: 17-0919.05, EXP. 12/6/22
 AMCA 540 and 550 Listed
 Maximum Wind-load: 150 PSF

Free Area Chart (sq. ft.)

Louver Height Inches	Louver Width in Inches											
	12	18	24	30	36	42	48	54	60	66	72	72.75
7	0.08	0.13	0.19	0.24	0.30	0.34	0.39	0.44	0.50	0.55	0.60	0.61
12	0.23	0.38	0.53	0.69	0.84	0.95	1.10	1.26	1.41	1.56	1.71	1.73
18	0.46	0.75	1.05	1.35	1.65	1.88	2.18	2.48	2.77	3.07	3.37	3.41
24	0.68	1.13	1.57	2.02	2.47	2.80	3.25	3.69	4.14	4.59	5.04	5.09
30	0.90	1.50	2.09	2.69	3.28	3.73	4.32	4.91	5.51	6.10	6.70	6.77
36	1.05	1.75	2.44	3.13	3.82	4.34	5.04	5.73	6.42	7.11	7.81	7.89
42	1.28	2.12	2.96	3.80	4.64	5.27	6.11	6.95	7.79	8.63	9.47	9.57
48	1.50	2.49	3.48	4.46	5.45	6.19	7.18	8.17	9.16	10.14	11.13	11.25
54	1.73	2.86	4.00	5.13	6.27	7.12	8.25	9.39	10.52	11.66	12.79	12.93
60	1.95	3.23	4.52	5.80	7.08	8.04	9.32	10.61	11.89	13.17	14.45	14.61
66	2.17	3.60	5.03	6.46	7.89	8.97	10.40	11.83	13.26	14.69	16.12	16.30
72	2.32	3.85	5.38	6.91	8.44	9.58	11.11	12.64	14.17	15.70	17.22	17.42
78	2.55	4.22	5.90	7.58	9.25	10.51	12.18	13.86	15.54	17.21	18.89	19.10
84	2.77	4.60	6.42	8.24	10.07	11.43	13.26	15.08	16.90	18.73	20.55	20.78
90	3.00	4.97	6.94	8.91	10.88	12.36	14.33	16.30	18.27	20.24	22.21	22.46
96	3.22	5.34	7.46	9.58	11.69	13.28	15.40	17.52	19.64	21.76	23.87	24.14
102	3.37	5.59	7.80	10.02	12.24	13.90	16.12	18.33	20.55	22.77	24.98	25.26
108	3.60	5.96	8.32	10.69	13.05	14.82	17.19	19.55	21.92	24.28	26.64	26.94
114	3.82	6.33	8.84	11.35	13.87	15.75	18.26	20.77	23.28	25.79	28.31	28.62
120	4.04	6.70	9.36	12.02	14.68	16.67	19.33	21.99	24.65	27.31	29.97	30.30
126	4.27	7.07	9.88	12.69	15.49	17.60	20.41	23.21	26.02	28.82	31.63	31.98
132	4.49	7.45	10.40	13.35	16.31	18.52	21.48	24.43	27.39	30.34	33.29	33.66
138	4.64	7.69	10.75	13.80	16.85	19.14	22.19	25.24	28.30	31.35	34.40	34.78
144	4.87	8.07	11.27	14.47	17.67	20.06	23.26	26.46	29.66	32.86	36.06	36.46
144.5	4.87	8.07	11.27	14.47	17.67	20.06	23.26	26.46	29.66	32.86	36.06	36.46

Core Area Chart (sq. ft.)

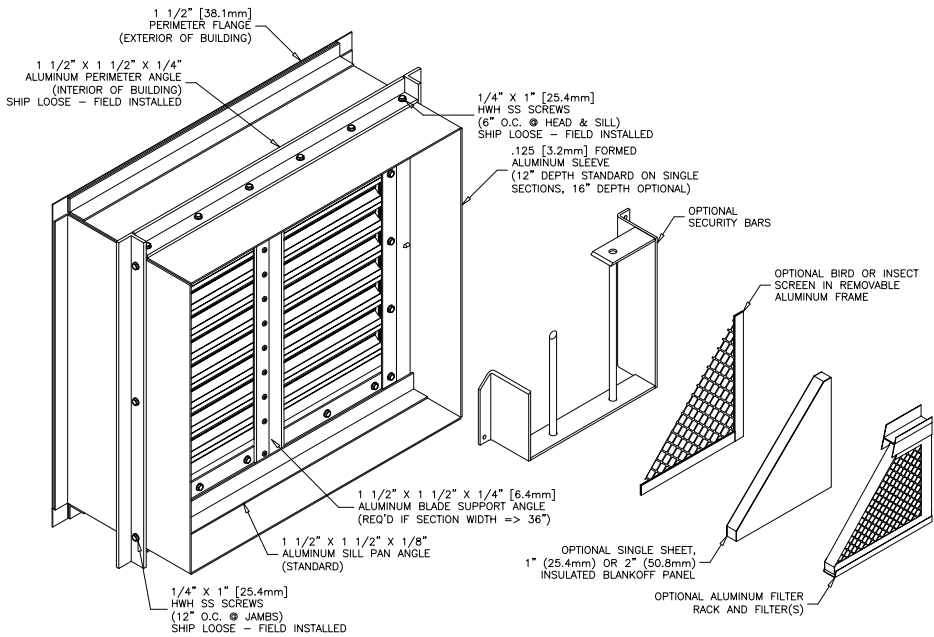
Louver Height Inches	Louver Width in Inches											
	12	18	24	30	36	42	48	54	60	66	72	72.75
7	0.17	0.29	0.40	0.52	0.63	0.75	0.86	0.98	1.09	1.21	1.32	1.33
12	0.49	0.81	1.14	1.46	1.78	2.11	2.43	2.75	3.07	3.40	3.72	3.76
18	0.87	1.44	2.02	2.59	3.16	3.74	4.31	4.88	5.45	6.03	6.60	6.67
24	1.25	2.07	2.90	3.72	4.54	5.37	6.19	7.01	7.83	8.66	9.48	9.58
30	1.63	2.70	3.78	4.85	5.92	7.00	8.07	9.14	10.22	11.29	12.36	12.50
36	2.01	3.33	4.66	5.98	7.30	8.63	9.95	11.27	12.60	13.92	15.24	15.41
42	2.39	3.97	5.54	7.11	8.68	10.26	11.83	13.40	14.98	16.55	18.12	18.32
48	2.77	4.60	6.42	8.24	10.06	11.89	13.71	15.53	17.36	19.18	21.00	21.23
54	3.15	5.23	7.30	9.37	11.44	13.52	15.59	17.66	19.74	21.81	23.88	24.14
60	3.53	5.86	8.18	10.50	12.82	15.15	17.47	19.79	22.12	24.44	26.76	27.05
66	3.91	6.49	9.06	11.63	14.20	16.78	19.35	21.92	24.50	27.07	29.64	29.96
72	4.29	7.12	9.94	12.76	15.58	18.41	21.23	24.05	26.88	29.70	32.52	32.88
78	4.67	7.75	10.82	13.89	16.97	20.04	23.11	26.18	29.26	32.33	35.40	35.79
84	5.05	8.38	11.70	15.02	18.35	21.67	24.99	28.31	31.64	34.96	38.28	38.70
90	5.43	9.01	12.58	16.15	19.73	23.30	26.87	30.44	34.02	37.59	41.16	41.61
96	5.81	9.64	13.46	17.28	21.11	24.93	28.75	32.57	36.40	40.22	44.04	44.52
102	6.19	10.27	14.34	18.41	22.49	26.56	30.63	34.70	38.78	42.85	46.92	47.43
108	6.57	10.90	15.22	19.54	23.87	28.19	32.51	36.83	41.16	45.48	49.80	50.34
114	6.95	11.53	16.10	20.67	25.25	29.82	34.39	38.97	43.54	48.11	52.68	53.26
120	7.33	12.16	16.98	21.80	26.63	31.45	36.27	41.10	45.92	50.74	55.56	56.17
126	7.72	12.79	17.86	22.93	28.01	33.08	38.15	43.23	48.30	53.37	58.44	59.08
132	8.10	13.42	18.74	24.06	29.39	34.71	40.03	45.36	50.68	56.00	61.32	61.99
138	8.48	14.05	19.62	25.19	30.77	36.34	41.91	47.49	53.06	58.63	64.20	64.90
144	8.86	14.68	20.50	26.32	32.15	37.97	43.79	49.62	55.44	61.26	67.08	67.81
144.5	8.89	14.73	20.57	26.42	32.26	38.11	43.95	49.79	55.64	61.48	67.32	68.06



OPTION DRAWINGS

EHH-601D

Florida Product Approval No: FL10088.1
 Miami-Dade NOA No.: 17-0919.05, EXP. 12/6/22
 AMCA 540 and 550 Listed/
 Maximum Wind-load: 150 PSF

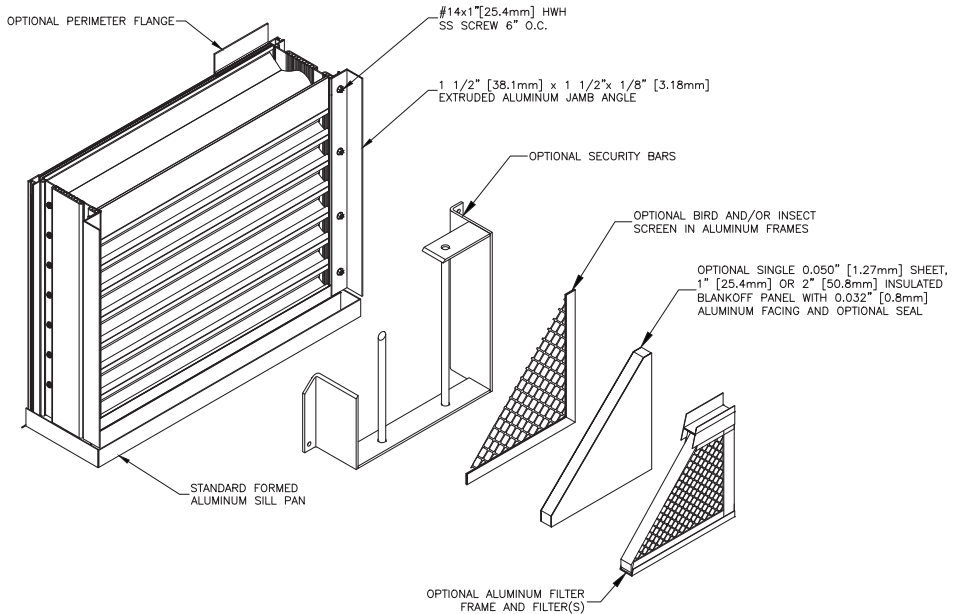


Single Section Wide Flange/Sleeve Installation

- Min. structure depth 4 in.
- Max. structure depth 10.5 in. (12 in. sleeve)
- Max. structure depth 14.5 in. (16 in. sleeve)

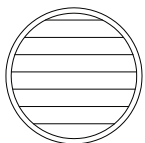
Single Section Wide Channel Frame Installation

- Reference the Installation, Operations and Maintenance Instructions (IOM)

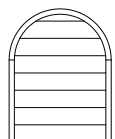


QUALIFIED SHAPES

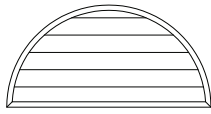
- Only available without damper
- Only available in single section configurations
- Anodize finish is not available
- AMCA license performance data is void



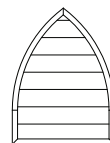
Round



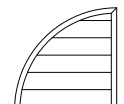
Round Top



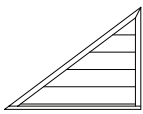
Half Round



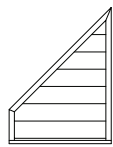
Cathedral



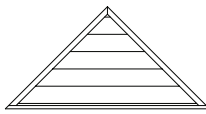
1/4 Round



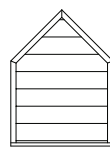
Triangle



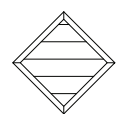
Slope Top



Pyramid



House

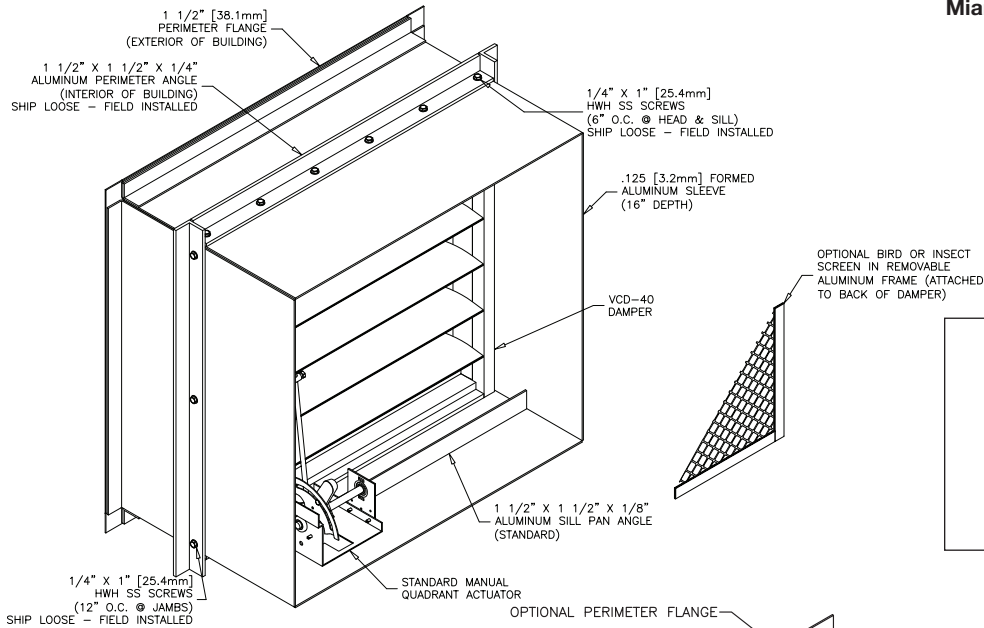


Diamond

OPTION DRAWINGS

EHH-601D with VCD-40

Florida Product Approval No: FL10088.1
 Miami-Dade NOA No.: 17-0919.05, EXP. 12/6/22
 AMCA 540 and 550 Listed
 Maximum Wind-load: 150 PSF

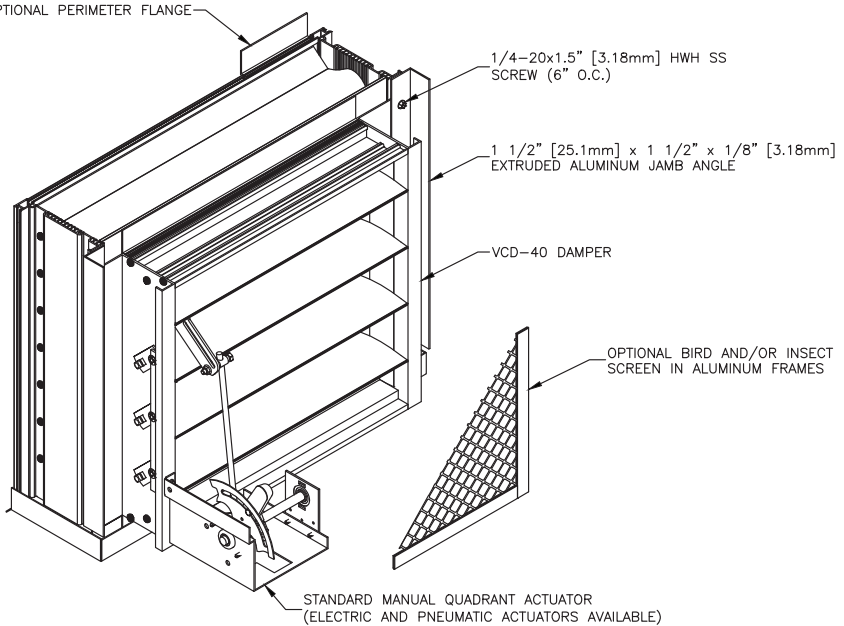


Single Section Wide Flange/Sleeve Installation with VCD-40 Damper

- Min. structure depth 4 in.
- Max. structure depth 14.5 in.

Single Section Wide Channel Frame Installation with VCD-40 Damper

- Reference the Installation, Operations and Maintenance Instructions (IOM)



Building Condition/Substrate Limitations

Flange/Sleeve Installation

- All wood substrate shall be G= 0.55 density or better
- All metal stud substrate should be min. 16 Ga. FY= 50 KSI
- All structural steel substrate shall be min. 0.25 in. thick FY= 36 KSI
- All concrete substrate shall be min. 3000 PSI
- Concrete masonry shall be ASTM C90, Type II, 2000 PSI, grout-filled

Channel Installation

- All metal stud substrate should be min. 10 Ga. FY= 36 KSI
- All structural steel substrate shall be min. 0.125 in. thick FY= 36 KSI
- All concrete substrate shall be min. 4000 PSI (2000 PSI allowed with SDR)
- Concrete masonry shall be ASTM C90, Type II, 2000 PSI, grout-filled

For additional information, including multiple section installation details, reference the Installation, Operation and Maintenance (IOM) manuals.

