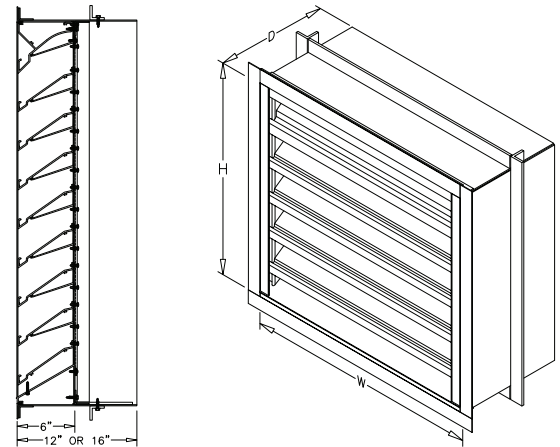


Miami-Dade Qualified Drainable Blade Louver

Application and Design

ESD-635D is a **Florida Product Approved and Miami-Dade Qualified** stationary drainable blade extruded aluminum louver designed to protect air intake and exhaust openings in building exterior walls. ESD-635D is tested in accordance with AMCA 500-L Air Performance and Water Penetration. ESD-635D 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 with 0.125 in. frame and blade material thickness). When combined with the optional factory attached VCD-40 damper in the fully closed position, the ESD-635D satisfies all requirements of the AMCA 550 High Velocity Wind Driven Rain Test. **ESD-635D is licensed to bear the AMCA seal allowing design professionals to select and apply with confidence.** ESD-635D is tested and qualified per the following Florida test protocols: TAS 201 (Large Missile Impact), TAS 202 (Uniform Static Air Pressure) and TAS 203 (Cyclic Wind Loading). Building codes may allow the ESD-635D (when combined with the optional factory attached VCD-40 damper in the fully closed position) to be installed in locations where the space behind the louver is not designed to accept water penetration and houses non-water resistant/water proof equipment, components or supplies.

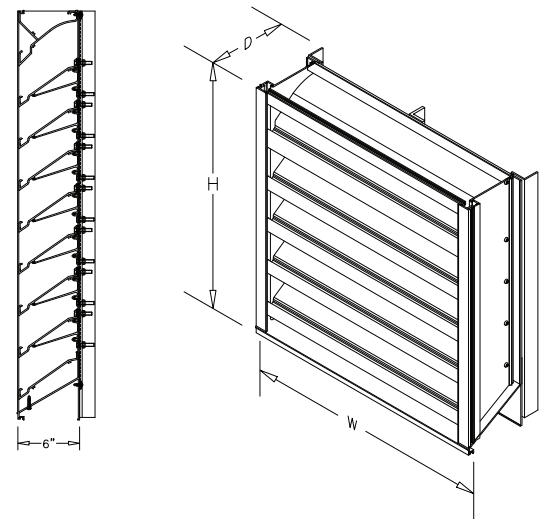
Flange/Sleeve Installation



Standard Construction

- Frame** Heavy gauge extruded 6063T5 aluminum, 6 in. x 0.125 in. nominal wall thickness, front 1.5 in. flange (optional on channel frame installation)
- Blades** Drainable design, heavy gauge extruded aluminum, 0.081 in. nominal wall thickness if RO height \leq 96.788 in. or 0.125 in. if RO height \geq 96.788 in., positioned at 37° angles on approximately 4 in. centers
- Construction** Welded and mechanically fastened
- Birdscreen** 3/4 in. x 0.051 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

Channel Frame Installation



Minimum Rough

Opening Size 12 in. W x 12 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
 - Baked enamel
 - Integral color anodize
 - Kynar

Optional factory attached VCD-40 damper

- 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 15.25 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

ESD-635D

Florida Product Approval No: FL10088.3
 Miami-Dade NOA No.: 17-0919.04, EXP. 12/6/22
AMCA 540 and 550 Listed
Maximum Wind-load: 150 PSF

Free Area Chart

Louver Height Inches	Louver Width in Inches										
	12	18	24	30	36	42	48	54	60	66	72
12	0.19	0.32	0.44	0.57	0.69	0.82	0.94	1.04	1.16	1.29	1.41
18	0.48	0.80	1.11	1.42	1.74	2.05	2.36	2.60	2.91	3.22	3.54
24	0.77	1.27	1.77	2.27	2.77	3.27	3.76	4.14	4.64	5.14	5.64
30	1.05	1.73	2.41	3.09	3.77	4.45	5.13	5.64	6.32	7.01	7.69
36	1.35	2.22	3.09	3.97	4.84	5.71	6.59	7.24	8.11	8.99	9.86
42	1.62	2.67	3.71	4.76	5.81	6.86	7.91	8.69	9.74	10.79	11.84
48	1.92	3.17	4.42	5.67	6.91	8.16	9.41	10.34	11.59	12.84	14.09
54	2.18	3.60	5.02	6.44	7.85	9.27	10.69	11.75	13.17	14.58	16.00
60	2.49	4.10	5.71	7.32	8.94	10.55	12.16	13.37	14.98	16.59	18.21
66	2.75	4.53	6.32	8.10	9.88	11.67	13.45	14.79	16.57	18.36	20.14
72	3.05	5.03	7.01	8.99	10.97	12.95	14.93	16.41	18.39	20.37	22.35
78	3.31	5.46	7.61	9.76	11.91	14.06	16.21	17.83	19.98	22.13	24.28
84	3.62	5.96	8.31	10.66	13.00	15.35	17.69	19.45	21.80	24.15	26.49
90	3.88	6.40	8.91	11.43	13.95	16.46	18.98	20.87	23.38	25.90	28.42
96	4.18	6.90	9.61	12.32	15.04	17.75	20.46	22.50	25.21	27.92	30.64
102	4.44	7.33	10.21	13.09	15.98	18.86	21.74	23.90	26.79	29.67	32.55
108	4.75	7.83	10.91	13.99	17.07	20.15	23.23	25.54	28.62	31.70	34.78
114	5.01	8.26	11.51	14.76	18.01	21.26	24.51	26.95	30.20	33.45	36.70
120	5.31	8.76	12.21	15.66	19.10	22.55	26.00	28.58	32.03	35.48	38.92
132	5.89	9.70	13.52	17.34	21.15	24.79	28.79	31.65	35.47	39.29	43.11
144	6.45	10.64	14.82	19.01	23.19	27.38	31.56	34.70	38.89	43.07	47.26



Greenheck Fan Corporation certifies that the ESD-635D 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 and water penetration ratings.



IMPACT RESISTANT LOUVER
Enhanced Protection Level E

See www.AMCA.org for all certified or listed products

This label does not signify AMCA airflow performance certification.

With 0.125 in. blade and frame material.



IMPACT RESISTANT LOUVER
Basic Protection Level D

See www.AMCA.org for all certified or listed products

This label does not signify AMCA airflow performance certification.

With 0.081 in. blade and frame material.



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

See www.AMCA.org for all certified or listed products

This label does not signify AMCA airflow performance certification.

With 0.125 in. blade and frame material and with factory attached VCD-40 damper in the fully closed position.



HIGH VELOCITY RAIN RESISTANT WITH BLADES FULLY CLOSED AND IMPACT RESISTANT LOUVER
Basic Protection Level D

See www.AMCA.org for all certified or listed products

This label does not signify AMCA airflow performance certification.

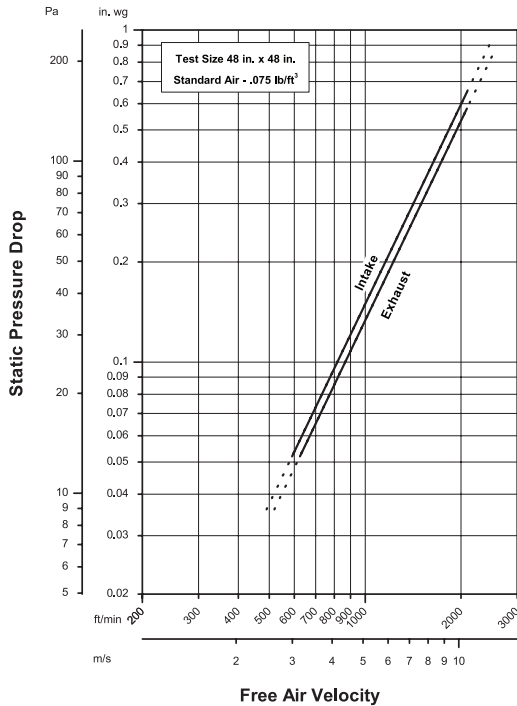
With 0.081 in. blade and frame material and with factory attached VCD-40 damper in the fully closed position.

Greenheck Fan Corporation certifies that the ESD-635D 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 Louvers and High Velocity Wind Driven Rain Resistant Louvers (with the optional VCD-40 damper in the fully closed position).



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 ESD-635D louver with factory attached VCD-40 damper in the closed position.

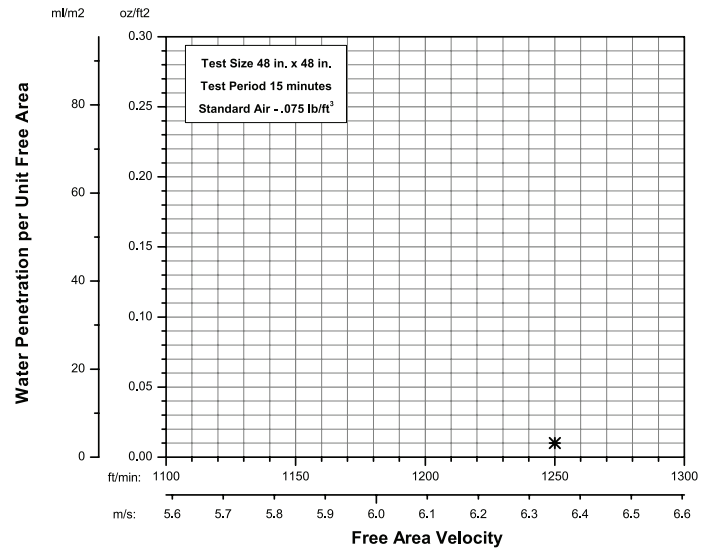
Airflow Resistance (Standard Air - .075 lb/ft³)



Model ESD-635D 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)

Water Penetration (Standard Air - .075 lb/ft³)

Test size 48 in. x 48 in. Test duration of 15 min.

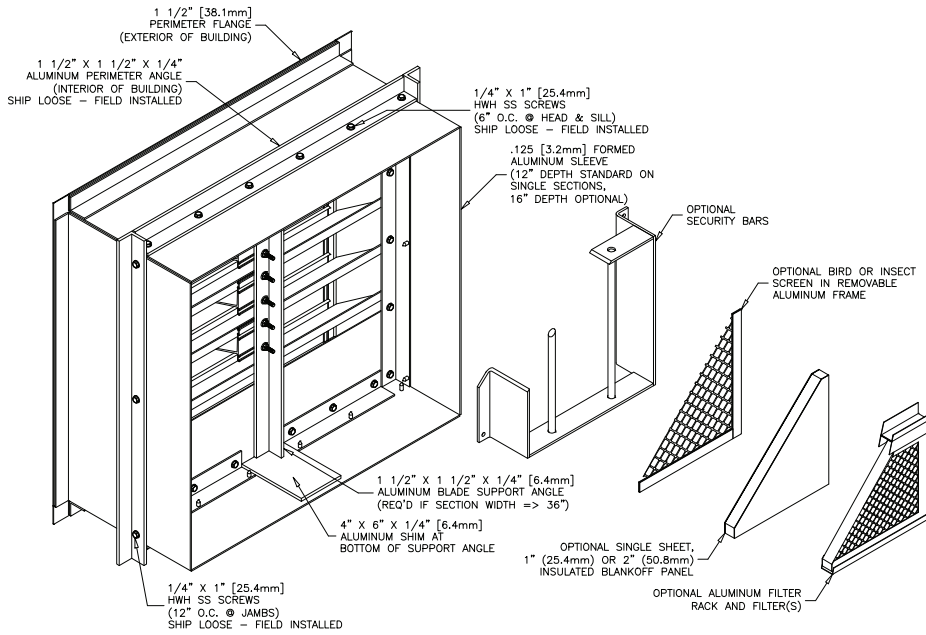


The AMCA Water Penetration Test provides a method for comparing various louver models and designs as to their efficiency in resisting the penetration of rainfall under specific laboratory test conditions. The beginning point of water penetration is defined as that velocity where the water penetration curve projects through .01 oz. of water (penetration) per sq. ft. of louver free area. ***The beginning point of water penetration for Model ESD-635D is above 1250 fpm free area velocity.** These performance ratings do not guarantee a louver to be weatherproof or stormproof and should be used in combination with other factors including good engineering judgement in selecting louvers.

OPTION DRAWINGS

ESD-635D

Florida Product Approval No: FL10088.3
 Miami-Dade NOA No.: 17-0919.04, EXP. 12/6/22
 AMCA 540 and 550 Listed
 Maximum Wind-load: 150 PSF

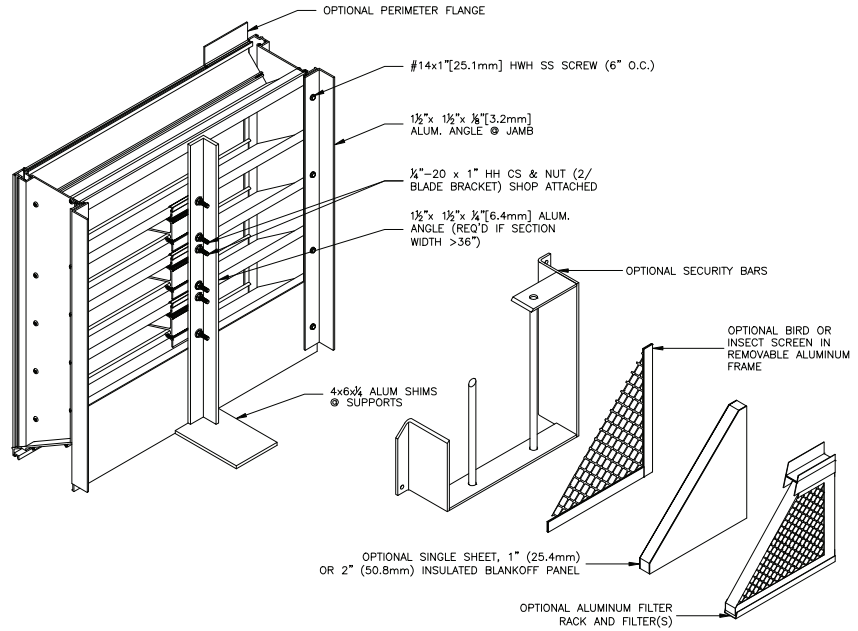


Single Section Wide Flange/Sleeve Installation

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

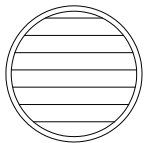
Single Section Wide Channel Frame Installation

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

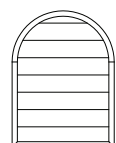


QUALIFIED SHAPES

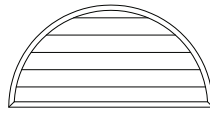
- Only available without damper
- Only available in single section configurations
- Anodize finish is not available
- AMCA license performance data is void



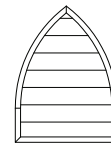
Round



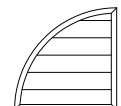
Round Top



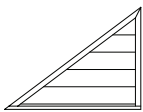
Half Round



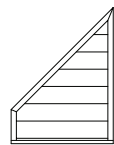
Cathedral



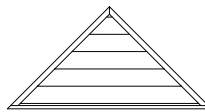
1/4 Round



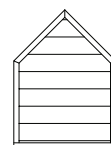
Triangle



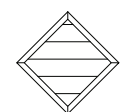
Slope Top



Pyramid



House

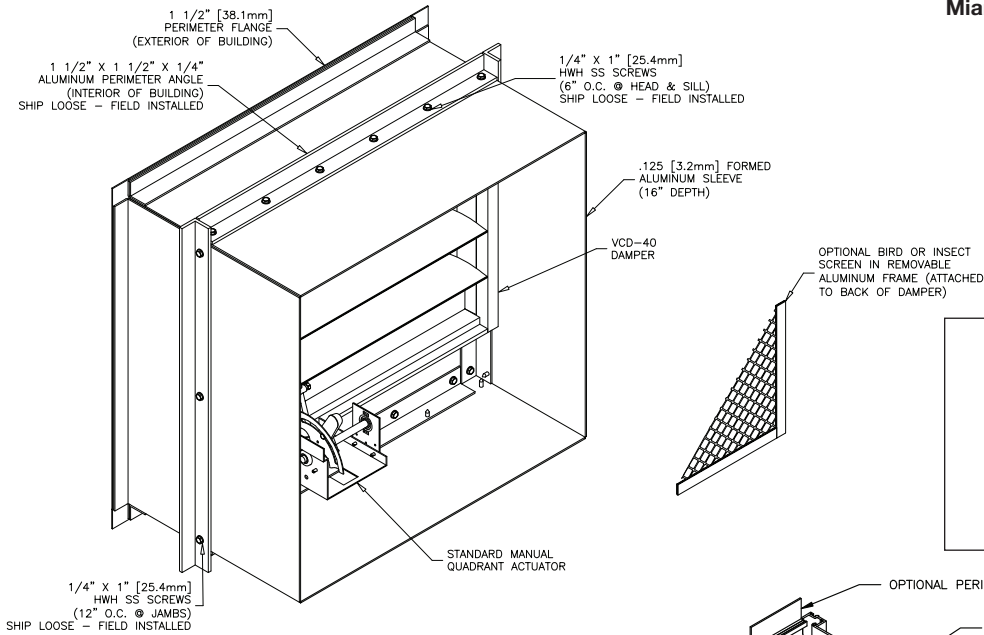


Diamond

OPTION DRAWINGS

ESD-635D with VCD-40

Florida Product Approval No: FL10088.3
 Miami-Dade NOA No.: 17-0919.04, EXP. 12/6/22
 AMCA 540 and 550 Listed
 Maximum Wind-load: 150 PSF

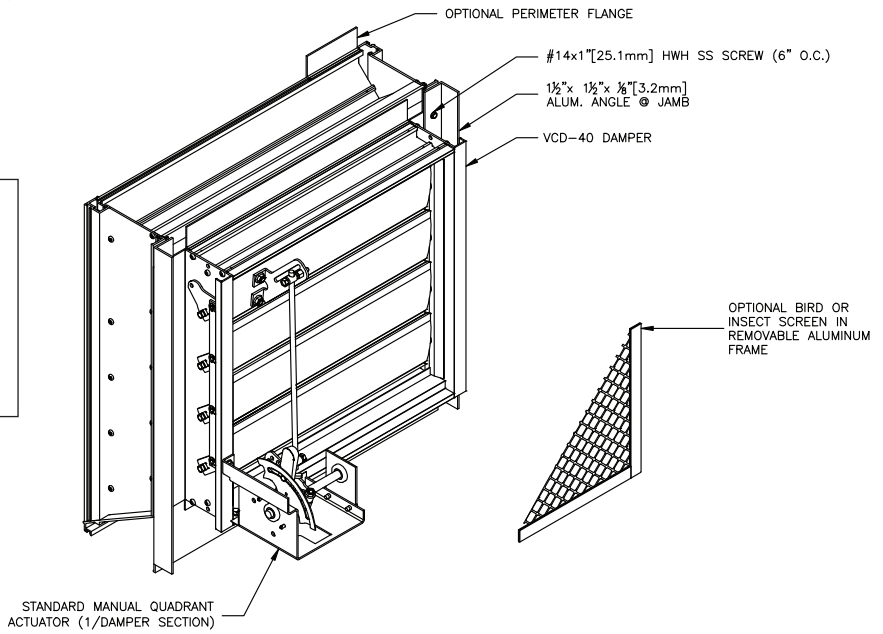


Single Section Wide Flange/Sleeve Installation with VCD-40 Damper

- 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.

