Application and Design

ESD-635DE is a Florida Product Approved and Miami-Dade Approved stationary drainable blade extruded aluminum louver designed to protect air intake and exhaust openings in building exterior walls. ESD-635DE is tested in accordance with AMCA 500-L Air Performance and Water Penetration. ESD-635DE is tested in accordance with AMCA 540 Test Method for Louvers Impacted by Wind Borne Debris (Basic Protection, Missile Level D). When combined with the optional factory attached VCD-40 damper in the fully closed position, the ESD-635DE satisfies all requirements of the AMCA 550 High Velocity Wind Driven Rain Test. ESD-635DE is licensed to bear the AMCA seal allowing design professionals to select and apply with confidence. ESD-635DE is tested and approved 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 ESD-635DE (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.

Standard Construction

Frame . . . . . . Heavy gauge extruded 6063T5 aluminum, 6 in. x 0.081 in. nominal wall thickness

Blades . . . . . . Drainable design, heavy gauge extruded aluminum, 0.081 in. nominal wall thickness positioned at 37º angles on approximately 4 in. centers

Construction . . . . Mechanically fastened

Birdscreen . . . . 3/4 in. x 0.051 flattened expanded aluminum in removable frame, inside mount (rear), mill finish only

Finish . . . . . . . Mill

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

Maximum Rough Opening Size

Channel Frame . . . . 48.75 in. W x 48.50 in. H

Flange/Sleeve . . . . 48.50 in. W x 48.50 in. H

Options (at additional cost)

• Factory attached VCD-40 control damper
• A variety of bird and insect screens
• Flange Frame (Channel Frame Installation)
• Mounting sleeve
• Blank off panel
• Filter rack
• Security bars
• A variety of architectural finishes including:
  Clear anodize
  Integral color anodize
  Baked enamel
  Kynar

  1Operable damper blades on optional VCD-40 damper in the closed position.
Free Area Chart

<table>
<thead>
<tr>
<th>Louver Height (Inches)</th>
<th>12</th>
<th>18</th>
<th>24</th>
<th>30</th>
<th>36</th>
<th>42</th>
<th>48</th>
</tr>
</thead>
<tbody>
<tr>
<td>12</td>
<td>0.19</td>
<td>0.32</td>
<td>0.44</td>
<td>0.57</td>
<td>0.69</td>
<td>0.82</td>
<td>0.94</td>
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<tr>
<td>18</td>
<td>0.48</td>
<td>0.80</td>
<td>1.11</td>
<td>1.42</td>
<td>1.74</td>
<td>2.05</td>
<td>2.36</td>
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<tr>
<td>24</td>
<td>0.77</td>
<td>1.27</td>
<td>1.77</td>
<td>2.27</td>
<td>2.77</td>
<td>3.27</td>
<td>3.76</td>
</tr>
<tr>
<td>30</td>
<td>1.05</td>
<td>1.73</td>
<td>2.41</td>
<td>3.09</td>
<td>3.77</td>
<td>4.45</td>
<td>5.13</td>
</tr>
<tr>
<td>36</td>
<td>1.35</td>
<td>2.22</td>
<td>3.09</td>
<td>3.97</td>
<td>4.84</td>
<td>5.71</td>
<td>6.59</td>
</tr>
<tr>
<td>42</td>
<td>1.62</td>
<td>2.67</td>
<td>3.71</td>
<td>4.76</td>
<td>5.81</td>
<td>6.86</td>
<td>7.91</td>
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<tr>
<td>48</td>
<td>1.92</td>
<td>3.17</td>
<td>4.42</td>
<td>5.67</td>
<td>6.91</td>
<td>8.16</td>
<td>9.41</td>
</tr>
</tbody>
</table>

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

Model ESD-635DE 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./ft.3)
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 AMCA Water Penetration Test is 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.

Greenheck Fan Corporation certifies that the ESD-635DE 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.

Greenheck Fan Corporation certifies that the ESD-635DE 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-635DE louver with factory attached VCD-40 damper in the closed position.
**OPTION DRAWINGS**

**ESD-635DE**
Florida Product Approval No: FL19675  
Miami-Dade NOA No.: 19-0516.08, EXP. 2/4/2021  
AMCA 540 and 550 Listed

**Maximum Wind-load:** +/-150 PSF

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**Flange/Sleeve Installation (optional)**

- **Min. Structure Depth**: 6.0 in.
- **Max. Structure Depth**: 10.5 in. (12 in. sleeve)  
  - 14.5 in. (16 in. sleeve)

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**Channel Frame Installation (default)**

- **Min. Structure Depth**:
  - 6.8 in. (wood substrate)  
  - 5.9 in. (steel substrate)  
  - 5.8 in. (aluminum substrate)  
  - 6.3 in. (concrete substrate)  
  - 7.3 in. (CMU substrate)
- **Max. Structure Depth**: unlimited

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**OPTIONAL SECURITY BARS**

**OPTIONAL ALUMINUM FILTER FRAME AND FILTER(S)**

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**OPTIONAL BIRD AND/OR INSECT SCREEN IN ALUMINUM FRAMES**

**OPTIONAL SINGLE SHEET, 1" [25.4mm] or 2" [50.8mm] INSULATED BLANKOFF PANEL WITH 0.032" [0.8mm] ALUMINUM FACING AND OPTIONAL SEAL**

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**1/4-20 x 1.5" [3.18mm] STEEL HI-MECOAT**

- *MIN. SCREWS 5/8", 0.C. TYPICAL ALONG JAMS (SHIIX LOOGE-FOLED INSTALLED)*

**1 1/2" [38.1mm] x 1 1/2" x 1 1/8"**

- *[3.1mm] EXTENDED ALUMINUM JAM (INTERIOR OF BUILDING)*

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**1 1/2" [38.1mm] FORMED ALUMINUM SLEEVE (12" DEEP, 5.8mm DEPTH)**

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**GREENHECK**
OPTION DRAWINGS

ESD-635DE with VCD-40

Florida Product Approval No: FL19675
Miami-Dade NOA No.: 19-0516.08, EXP. 2/4/2021
AMCA 540 and 550 Listed
Maximum Wind-load: +/- 150 PSF

For additional information reference the Installation, Operation and Maintenance (IOM) manuals.

P.O. Box 410 • Schofield, WI 54476-0410 • 715.359.6171 • greenheck.com

Greenheck Fan Corporation reserves the right to make product changes without notice.

OPTIONAL PERIMETER FLANGE

1/4-20 x 1.5" [3.1mm] STEEL Kwikcoat
HIGH SCREWS (3" O.C.) TYPICAL ALONG JAMBS (SHIP LOOSE-FIELD INSTALLED)

1/2" [12.7mm] extruded aluminum jamb
1.5" [38.1mm] ExTRUDED ALUMINUM PERIMETER ANGLE (INTERIOR OF BUILDING)

OPTIONAL VCD-40 DAMPER

OPTONAL BIRD AND/OR INSECT SCREEN IN ALUMINUM FRAMES

OPTIONAL BIRD AND/OR INSECT SCREEN IN ALUMINUM FRAMES

For additional information reference the Installation, Operation and Maintenance (IOM) manuals.

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