Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 3/15/2023
Return Request: 3/25/2023
Project: Johnson Regional Medical Center (OBGYN)
Supplier: Dollar Sheetmetal
Submittal: Dampers & Louvers
Submittal Number:
Drawing # and Installation: Mechanical Drawings

ARCHITECT
Studio Architects
1120 Garrison Avenue, Suite 1A
Fort Smith, AR 72901
479-782-4085

ENGINEER
HSA
7405 Ellis Street
Fort Smith, AR 72916
479-452-8922

GENERAL CONTRACTOR
Clark Contractors
15825 Cantrell Rd.
Little Rock, AR 72223
501-868-3133

MECHANICAL SUBCONTRACTOR
Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

CSUSA PROJECT NO.
23-1005
jon@comfortar.com

TO: Studio 6 Architects
chip@gostudio6.com

ATTN: Chip Johnson
RE: Johnson Regional OB-GYN Clinic
HVAC
DATE: 03/27/2023 JOB NO. 22-056

ELECTRONIC SUBMITTAL WAS REVIEWED AS FOLLOWS:

☒ CUT SHEETS	☐ NO EXCEPTIONS TAKEN	☒ APPROVED
☐ DRAWINGS	☒ NOTE MARKINGS	☐ REJECTED
☐ OTHER	☐ COMMENTS ATTACHED	☐ RESUBMIT
		☐ RESUBMIT only items marked

REMARKS:

Submittal - 23-1.0 HVAC- For Approval

ENGINEER'S REVIEW IS FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND CONTRACT DOCUMENT. MARKINGS OR COMMENTS SHALL NOT BE CONSTRUED AS RELIEVING THE CONTRACTOR FROM COMPLIANCE WITH THE PROJECT PLANS AND SPECIFICATIONS, NOR DEPARTURE THEREFROM. THE CONTRACTOR REMAINS RESPONSIBLE FOR DETAILS AND ACCURACY, FOR CONFIRMING AND CORRELATING ALL QUANTITIES AND DIMENSIONS, FOR SELECTING FABRICATION PROCESSES, FOR TECHNIQUES OF ASSEMBLY AND PERFORMING HIS WORK IN A SAFE MANNER.

SUBMITTAL

Copies To:
X File
Owner
X Architect
Other BY: Noah Sorrell

HSA Engineering Consulting Services, Inc.
7405 Ellis Street
Fort Smith, AR 72916
479.452.8922
www.hsaconsultants.com

SUBMITTAL COMMENT SHEET

PROJECT
Johnson Regional Medical Center OB-GYN Clinic

SUBMITTAL
Spec: 23
Title: HVAC

CLARK CONTRACTORS

☐ APPROVED ☑ REVIEWED
☐ APPROVED AS NOTED ☐ REJECTED
☐ REVISE & RESUBMIT

THIS SUBMITTAL HAS BEEN REVIEWED FOR COMPLIANCE WITH THE CONTRACT DOCUMENTS. APPROVAL DOES NOT RELIEVE THE SUBCONTRACTOR/SUPPLIER OF THE RESPONSIBILITY FOR CONFORMANCE TO THE QUALITY STANDARDS AS SET FORTH IN THE CONTRACT DOCUMENTS. NOR DOES IT RELIEVE THE RESPONSIBILITY FOR FIELD VERIFICATION OF ALL CONDITIONS RELATING TO THIS CONTRACT.

OK'D BY: LC DATE: 3/16/2023

Installation, Operation and Maintenance Manuals

Job Title:	**JRMC - OBGYN AD**
Engineer:	Rob May
Elevation: (ft)	256
Date:	8/04/2023
Submitted By:	Dustin Easterly
Agent Order#:	71933DE3

AIRETECH CORPORATION
7631 NORTHSHORE PL
NORTH LITTLE ROCK, AR 72118
US
Phone: (501)280-0404
Fax: (501)280-9200
Email Address: dustin@airetechcorp.com

GREENHECK
Building Value in Air.

Document 485608
Stationary, Drainable Blade Louvers
Models ESD-202, ESD-403, ESD-435, ESD-603 and ESD-635

Installation, Operation and Maintenance Manual

Please read and save these instructions for future reference. Read carefully before attempting to assemble, install, operate or maintain the product described. Protect yourself and others by observing all safety information. Failure to comply with these instructions will result in voiding of the product warranty and may result in personal injury and/or property damage.

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General Louver Installation Instructions 2
Single Section Wide x Single Section High Installation 3
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Receiving and Handling

Upon receiving louvers, check for both obvious and hidden damage. If damage is found, record all necessary information on the bill of lading and file a claim with the final carrier. Check to be sure that all parts of the shipment, including accessories are accounted for.

Safety Warning

Improper installation, adjustment, alteration, service or maintenance can cause property damage, injury or death. Read the installation, operating, and maintenance instructions thoroughly before installing or servicing this equipment.

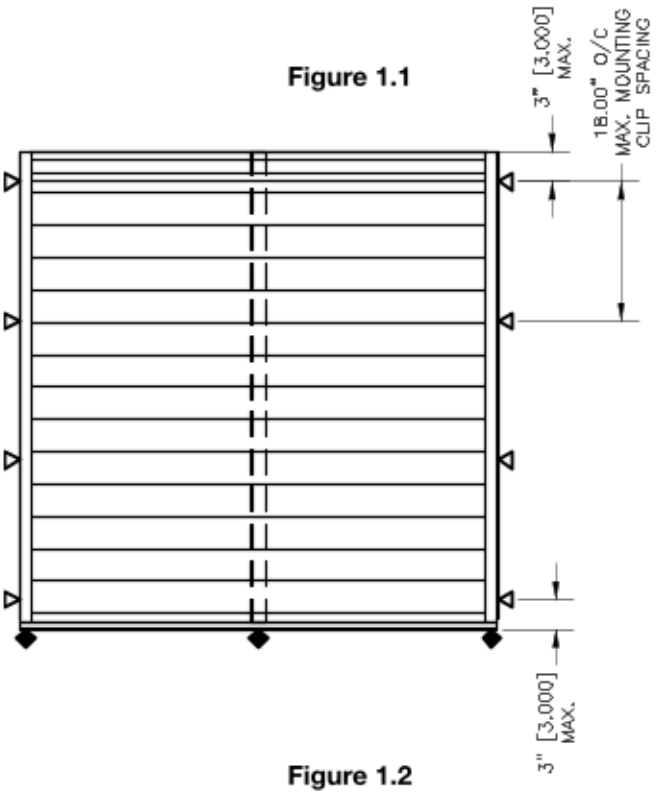
General Louver Installation Instructions

Installation Instructions

1. Locate all crates, boxes, cartons, etc.
2. Use care when handling louver sections to prevent damage. Louvers are to be carefully lifted by the louver frame or supports. Use multiple lifting points when possible to avoid deformation or distortion of louver components. **DO NOT LIFT LOUVERS BY THE LOUVER BLADES.** Use appropriate caution to prevent damage to the louver finish.
3. Remove louvers and any provided accessories from the packaging and inspect for damages. Verify louver dimensions and that all required pieces are present.
4. Single section louvers will ship fully assembled. Multiple section assemblies will ship as individual louver sections to be combined into the larger assembly at installation. Large multiple section louver assemblies may ship in multiple crates.
5. All louver sections will have a factory applied louver label affixed. This label will identify the louver size and a Tag identification if one was provided during the order process.
6. Verify that all required installation hardware is available, to include mounting angles and fasteners (customer provided or optional manufacturer provided). Inspect the opening for any damage or issues that may affect installation of the louvers. Remove any obstructions or debris as required. Adequate substrate depth must be verified.
7. Check the dimensions of the opening to verify the louver will fit correctly. Check the opening is square and plumb.

Single Section Wide x Single Section High Installation

Figure 1.1



1. Locate the optional extended sill, if provided, and place in the opening. (Extended Sill Details)
2. Locate mounting angles and fasteners required to attach the louver to the structure. Clip angles and fasteners are by others unless the optional mounting angles have been ordered from manufacturer with the louvers. Anchors to the structure are by others and are not manufacturer provided. (Mounting Clip Details)
3. Place the louver in the opening and shim around the perimeter to maintain proper spacing for backer rod and caulk joint.
4. Using the appropriate fasteners, secure the mounting angles to the back of the louver frame at the perimeter.
5. Ensure the louvers is level and in the correct location within the opening and secure the mounting angles to the structure using the correct anchor (by others) for the building substrate material.
6. Once the louver is secured to the structure, install backer rod and caulk around the perimeter of the opening at the front of the louver.

Figure 1.2

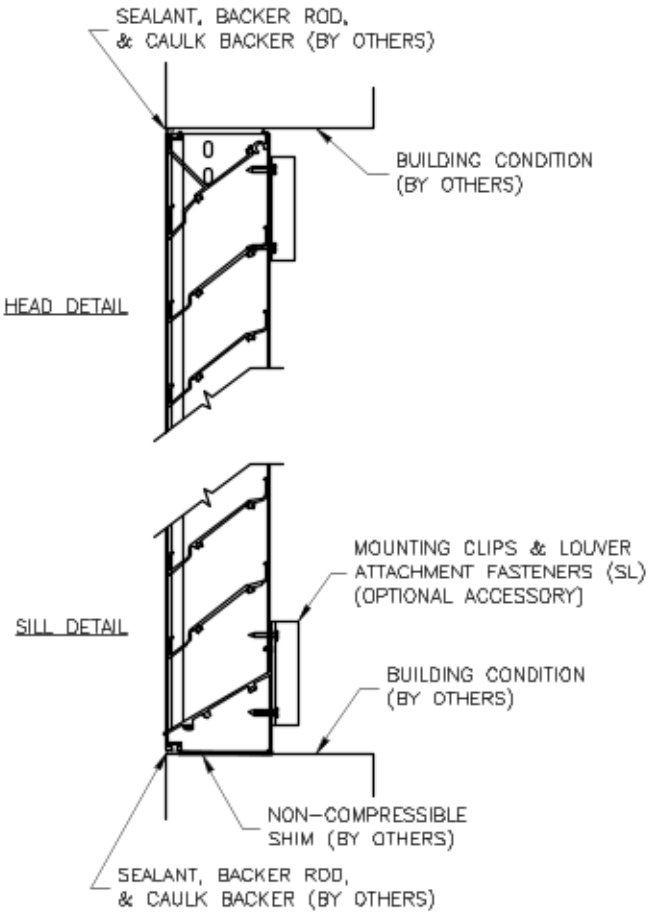
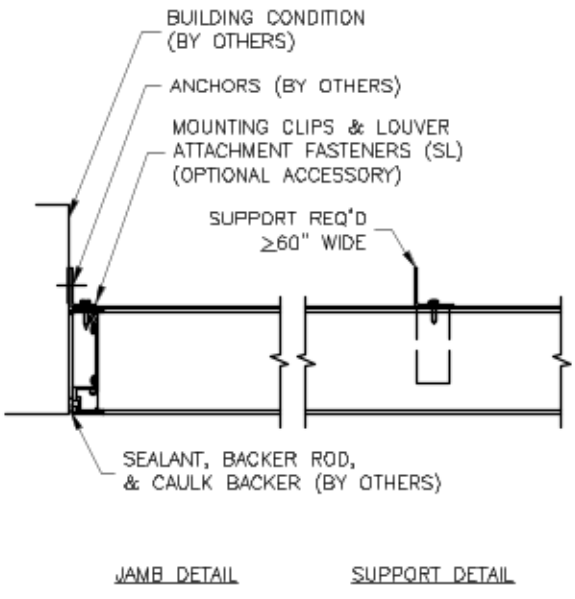


Figure 1.3



Single Section Wide x Multiple Section High Installation

Figure 2.1

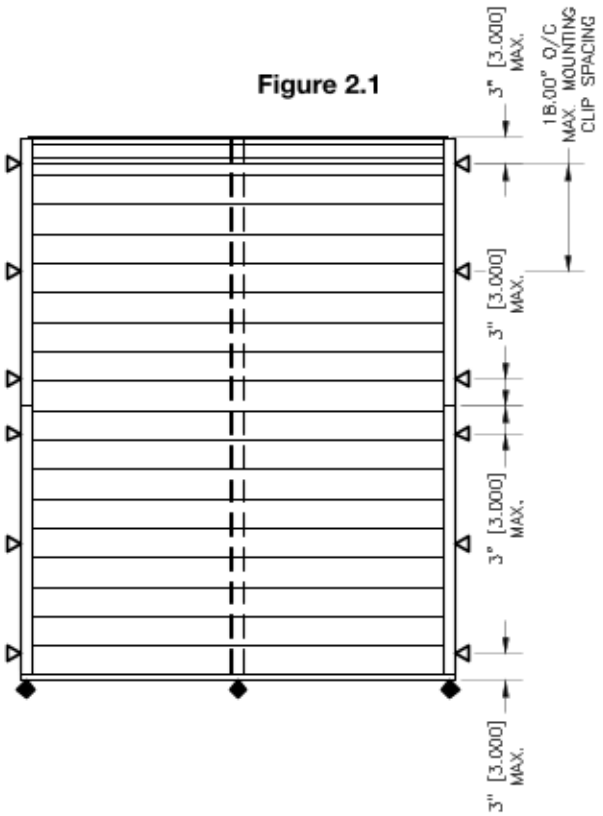
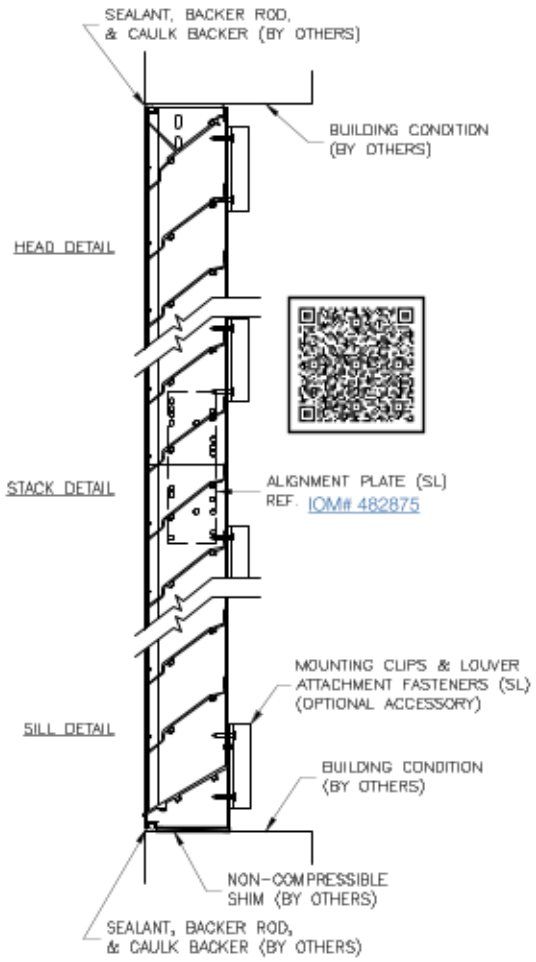
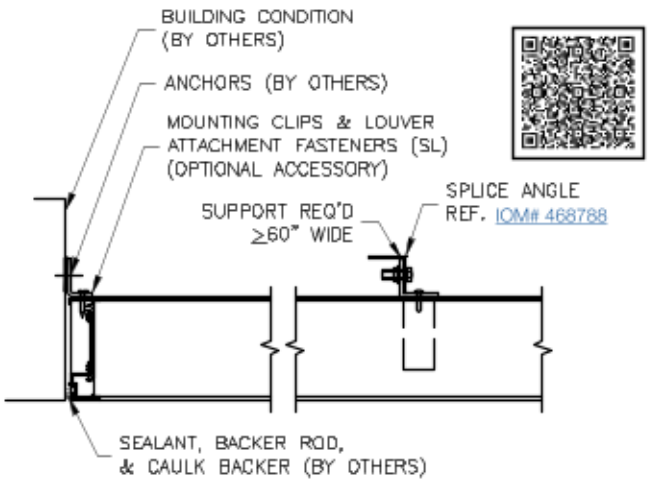


Figure 2.2



1. Locate the shipped loose Alignment Plates for the jambs. Following the provided Installation, Operation, and Maintenance Manual instructions included with the Alignment Plates, connect the upper and lower louver sections together.
2. If the louver sections are wide enough to require a blade support angle, the upper louver section and lower louver section angles will need to be spliced together. This can be accomplished by following the provided Installation, Operation, and Maintenance Manual instructions included with the shipped loose Splice Angle kit.
3. Locate the optional extended sill, if provided, and place in the opening. (Extended Sill Details)
4. Locate mounting angles and fasteners required to attach the louver to the structure. Clip angles and fasteners are by others unless the optional mounting angles have been ordered from manufacturer with the louvers. Anchors to the structure are by others and are not manufacturer provided. (Mounting Clip Details)
5. Place the louver in the opening and shim around the perimeter to maintain proper spacing for backer rod and caulk joint.
6. Using the appropriate fasteners, secure the mounting angles to the back of the louver frame at the perimeter.
7. Ensure the louvers is level and in the correct location within the opening and secure the mounting angles to the structure using the correct anchor (by others) for the building substrate material.
8. Once the louver is secured to the structure, install backer rod and caulk around the perimeter of the opening at the front of the louver.

Figure 2.3



Multiple Section Structural Support

For multiple section wide and single section high louver installation, review Tables to determine if an additional structural support will be required based on the louver section width and height of the louvers being installed. If additional support *is not* required, reference the Multiple Section Wide and Single Section High-Unsupported installation instructions. If additional support *is* required, reference the Multiple Section Wide and Single Section High-Supported installation instructions.

Table 1.1

ESD-202	
Section Width (In.)	Maximum Unsupported Height At 25 PSF Wind Load (In).
<= 36	90
<= 48	78
<= 60	70
<= 72	66
<= 84	58
<= 96	54
<= 108	52
<= 120	48

Table 1.2

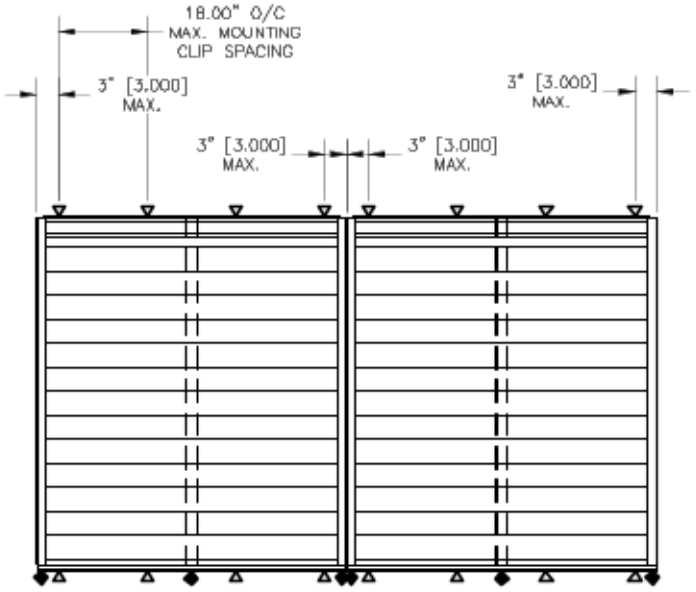
ESD-403 and ESD-435	
Section Width (In.)	Maximum Unsupported Height At 25 PSF Wind Load (In).
<= 36	120
<= 48	108
<= 60	96
<= 72	88
<= 84	82
<= 96	76
<= 108	72
<= 120	68

Table 1.3

ESD-603 and ESD-635	
Section Width (In.)	Maximum Unsupported Height At 25 PSF Wind Load (In).
<= 36	120
<= 48	120
<= 60	120
<= 72	118
<= 84	108
<= 96	84
<= 108	84
<= 120	84

Multiple Section Wide x Single Section High Installation - Unsupported

Figure 3.1



1. Locate the optional extended sill, if provided, and place in the opening. (Extended Sill Details)
2. Locate mounting angles and fasteners required to attach the louver to the structure. Clip angles and fasteners are by others unless the optional mounting angles have been ordered from manufacturer with the louvers. Anchors to the structure are by others and are not manufacturer provided. (Mounting Clip Details)
3. Place the left louver section (as viewed from the exterior) in the opening and shim around the perimeter to maintain proper spacing for backer rod and caulk joint.
4. Using the appropriate fasteners, secure the mounting angles to the back of the louver frame at the perimeter.
5. Ensure the louvers is level and in the correct location within the opening and secure the mounting angles to the structure using the correct anchor (by others) for the building substrate material.
6. Place the next louver section to the right of the first louver section and repeat steps 3-5 above to secure the louver to the structure. Follow the same procedure for any additional sections to the right.
7. Once the louver assembly is secured to the structure, install backer rod and caulk around the perimeter of the opening at the front of the louver as well as the mullion joint between the louver jambs.

Figure 3.2

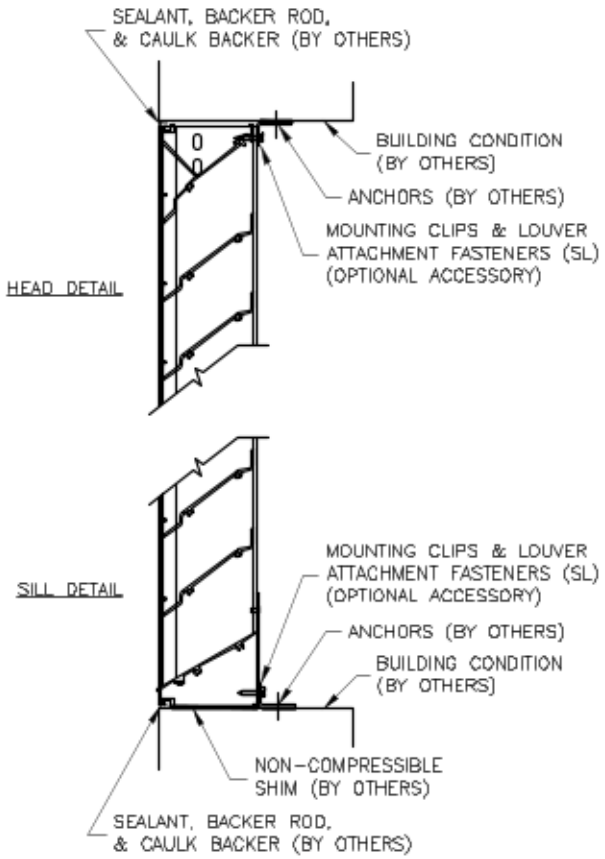
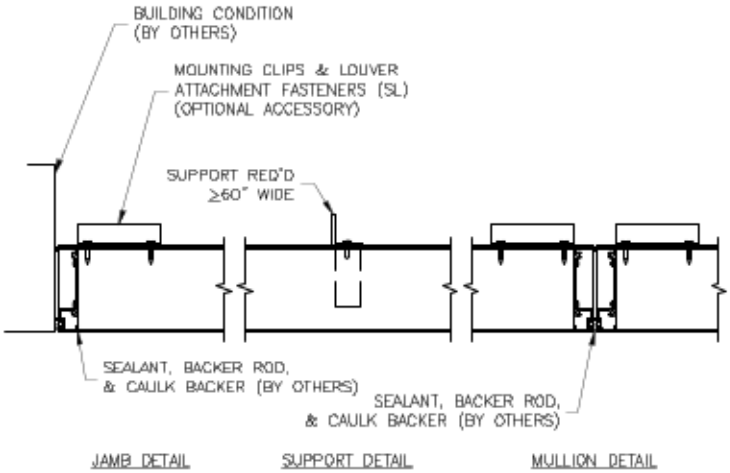


Figure 3.3



Multiple Section Wide x Single Section High Installation - Supported

Figure 4.1

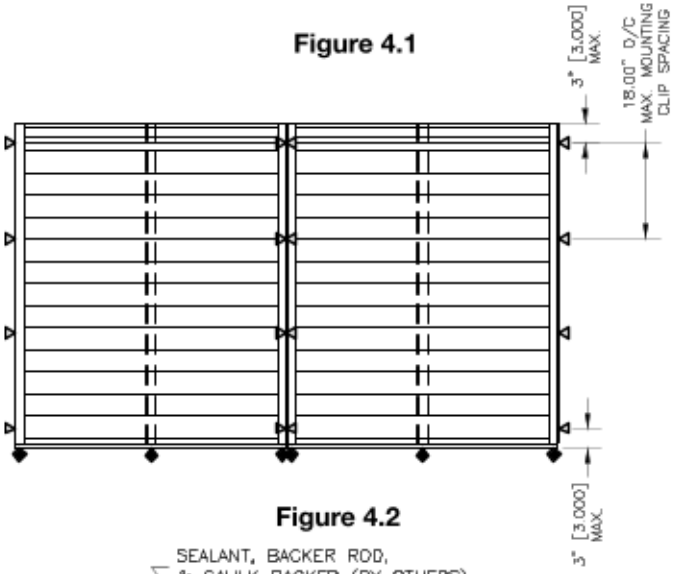


Figure 4.2

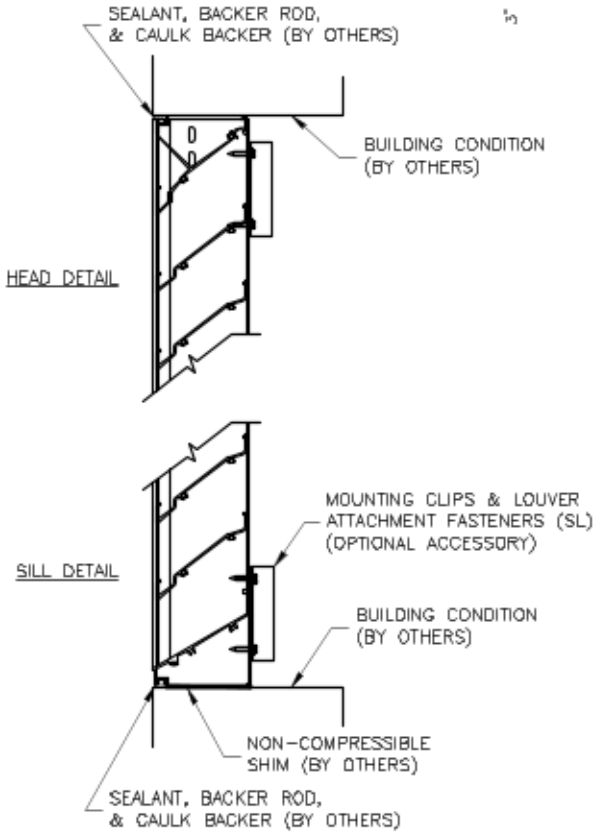
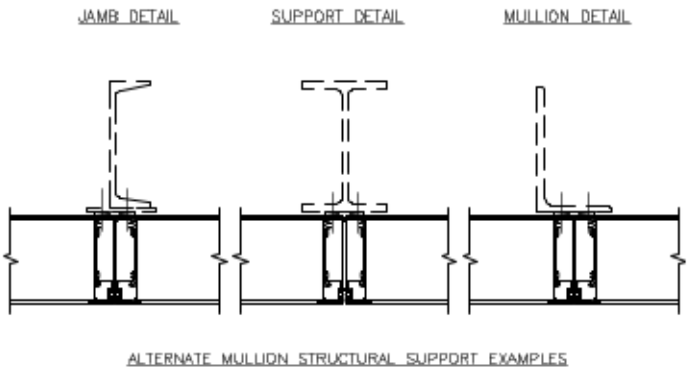
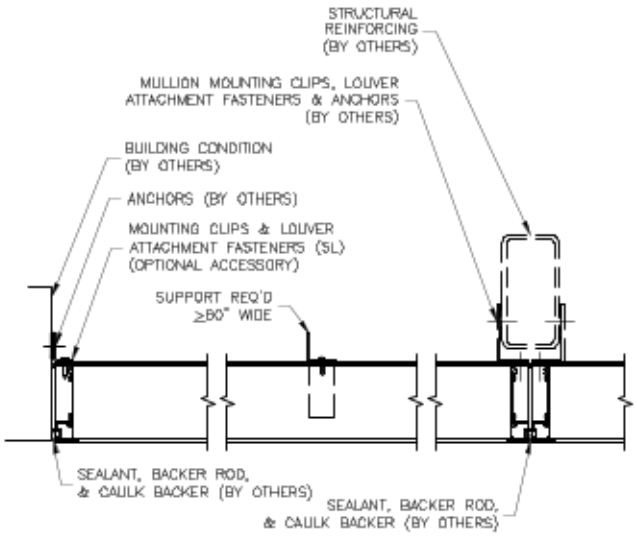


Figure 4.3
Structural Reinforcing (by others)



1. Locate the optional extended sill, if provided, and place in the opening. (Extended Sill Details)
2. Locate mounting angles and fasteners required to attach the louver to the structure. Clip angles and fasteners are by others unless the optional mounting angles have been ordered from manufacturer with the louvers. Anchors to the structure are by others and are not manufacturer provided. (Mounting Clip Details)
3. Place the left louver section (as viewed from the exterior) in the opening and shim around the perimeter to maintain proper spacing for backer rod and caulk joint.
4. Using the appropriate fasteners, secure the mounting angles to the back of the louver frame at the perimeter.
5. Ensure the louvers is level and in the correct location within the opening and secure the mounting angles to the structure using the correct anchor (by others) for the building substrate material.
6. Place the next louver section to the right of the first louver section and repeat steps 3-5 above to secure the louver to the structure. Follow the same procedure for any additional sections to the right.
7. Install additional structural supports (not by manufacturer) at the vertical louver mullions. Secure the louver frame to the structural support with the appropriate mounting angles and/or anchors (not by manufacturer).
8. Once the louver assembly is secured to the structure, install backer rod and caulk around the perimeter of the opening at the front of the louver as well as the mullion joint between the louver jambs.

Figure 4.4



Multiple Section Wide x Multiple Section High Installation

Larger opening sizes require field assembly of multiple louver sections to make up the overall opening size. Individual louver sections are designed to withstand a 25 psf wind load. Structural reinforcing members may be required to adequately support and install multiple louver sections within a large opening. Structural reinforcing members along with any associated installation hardware is not provided by manufacturer unless indicated otherwise by manufacturer.

Figure 5.1

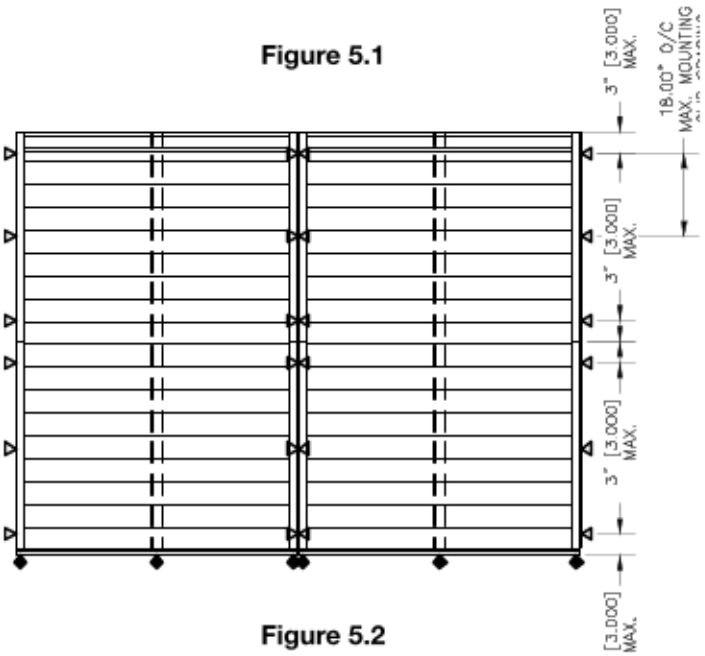
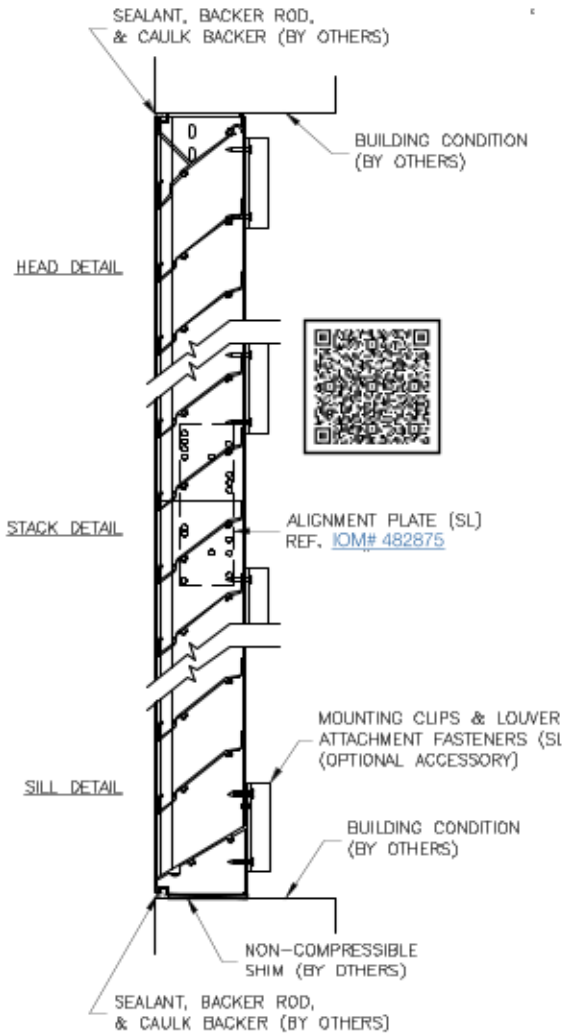


Figure 5.2



1. Locate the shipped loose Alignment Plates for the jambs. Following the provided Installation, Operation, and Maintenance Manual instructions included with the Alignment Plates, connect the upper and lower louver sections together.
2. If the louver sections are wide enough to require a blade support angle, the upper louver section and lower louver section angles will need to be spliced together. This can be accomplished by following the provided Installation, Operation, and Maintenance Manual instructions included with the shipped loose Splice Angle kit.
3. Locate the optional extended sill, if provided, and place in the opening. (Extended Sill Details)
4. Locate mounting angles and fasteners required to attach the louver to the structure. Clip angles and fasteners are by others unless the optional mounting angles have been ordered from manufacturer with the louvers. Anchors to the structure are by others and are not manufacturer provided. (Mounting Clip Details)
5. Place the combined left louver section assembly (as viewed from the exterior) in the opening and shim around the perimeter to maintain proper spacing for backer rod and caulk joint.
6. Using the appropriate fasteners, secure the mounting angles to the back of the louver frame at the perimeter.
7. Ensure the louvers is level and in the correct location within the opening and secure the mounting angles to the structure using the correct anchor (by others) for the building substrate material.
8. Place the next combined louver section to the right of the first louver section. Shim around the perimeter to maintain proper spacing for backer rod and caulk joint. Repeat steps 6-7 above to secure the louver to the structure.
9. Follow the same procedure for any additional sections to the right.
10. Additional structural supports (not designed or provided by manufacturer) may be required and will need to be installed behind the louver mullions at this point. The louvers must be secured to the structural support using the appropriate mounting angles and fasteners (by others)
11. Once the louver is secured to the structure, install backer rod and caulk around the perimeter of the opening at the front of the louver.

Figure 5.3
Structural Reinforcing (by others)

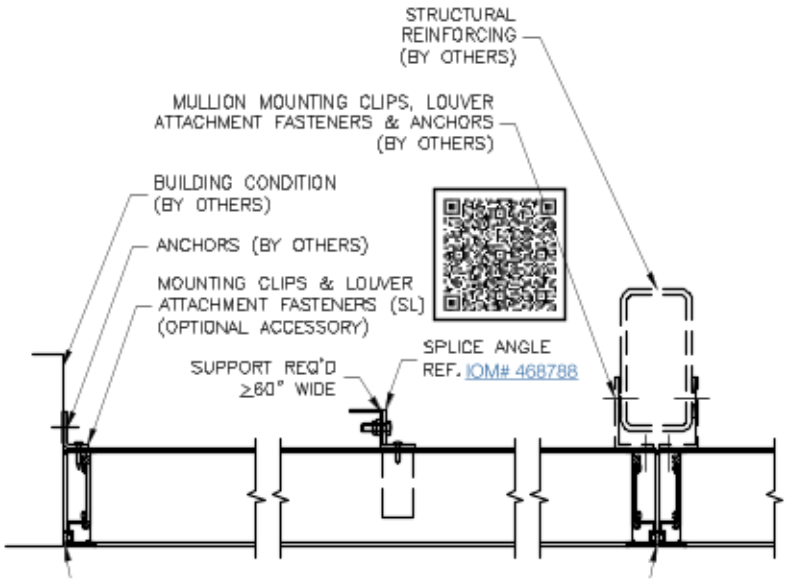
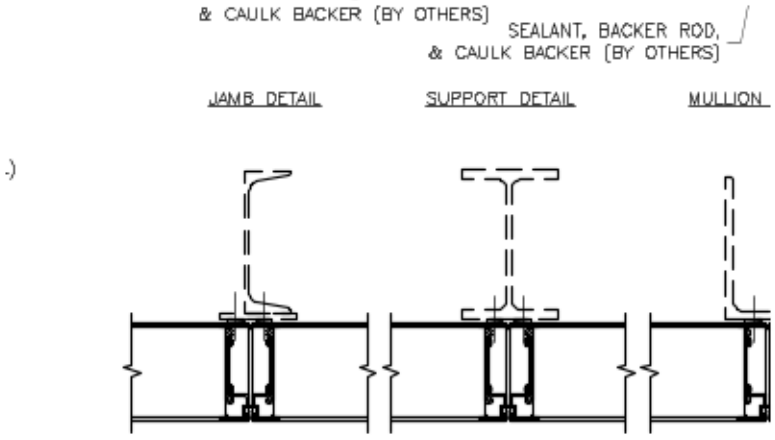


Figure 5.4



Our Commitment

As a result of our commitment to continuous improvement, Greenheck reserves the right to change specifications without notice.

Product warranties can be found online at Greenheck.com, either on the specific product page or in the literature section of the website at Greenheck.com/Resources/Library/Literature.

Greenheck's Louver Models catalog provides additional information describing the equipment, fan performance, available accessories, and specification data.

AMCA Publication 410-96, Safety Practices for Users and Installers of Industrial and Commercial Fans, provides additional safety information. This publication can be obtained from AMCA International, Inc. at www.amca.org.

GREENHECK
Building Value in Air.

Phone: 715.359.6171 • Fax: 715.355.2399 • Parts: 800.355.5354 • E-mail: gfcinfo@greenheck.com • Website: www.greenheck.com

{S. GREENHECK
Building Value in Air.

PN 451329
Hanging Vibration Isolator Kit for Models SP and CSP

Assembly Instructions

Please read these instructions carefully before attem piing to assemble the product described. Protect yourself and others by observing all safety information. Failure to comply with instructions could result in personal injury and/or property damage!

1. Upon receiving kit, check for any damage and report it immediately to the shipper. Also, check to see that all parts are accoun,ted for (see reverse side for parts list).
2. Determine desired location of mounting bracket on SP/CSP fan, 9/64 inch diameter holes are factory prepunched for attaching mounting brackets. If different locations are desired, drilling will be required.

   CAUTION: When drilling be certain not to penetrate motor or electrical components.

3. Insert neoprene grommets into large holes in mounting brackets. Thread one nut into each 1/4-20 threaded support rod (supplied by others) followed by one flat washer and a shaft sleeve. Insert end of support rod and sleeve into grommet. Install another flat washer and nut on end of support rod, refer to Figure 1.
4. Install hanging support rods using the following vibration isolator center1ine dimensions shown in table below.
5. Adjust support rods as required and tighten all fasteners.

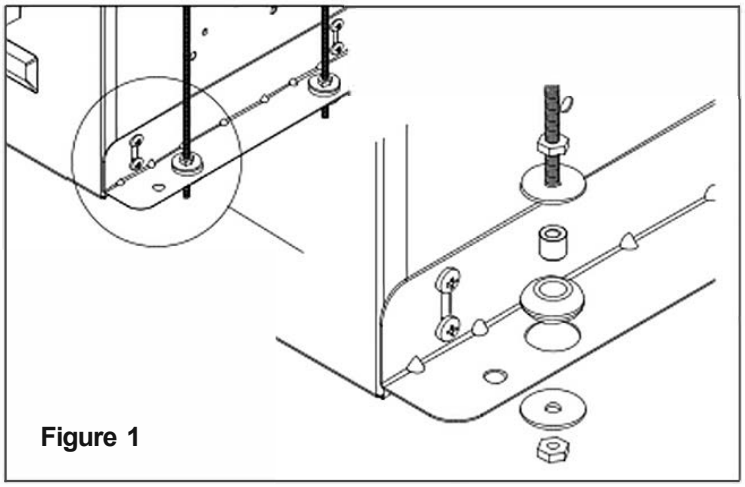


Figure 1

Isolator Centerline Dimensions		
Unit Size	A	B
B50-B200	4½ *(114)*	15⅝ *(397)*
A50-A190	5½*(140)*	14⅝ *(371)*
A200-A390	6¾ *(171)*	15½ *(394)*
A410, A510, A710,A780	9¼ *(235)*	19¼ *(497)*
A700	5½*(140)*	25¼*(638)*
A900-A1050, A1410-A1550	9¼ *(235)*	25⅛*(645)*
A1750,A2150	9¼ *(235)*	36¾ *(933)*
A3600	9¼ *(235)*	48⅛ *(1235)*

All dimensions shown in inches (millimeters).

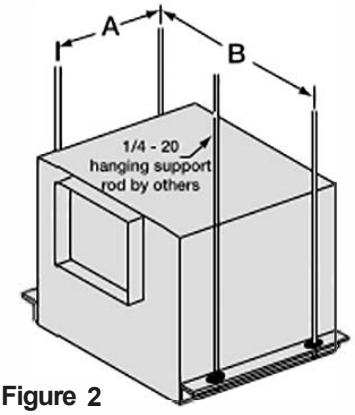


Figure 2

Maintenance

All fasteners should be checked for tightness each time maintenance checks are performed prior to restarting unit. A proper maintenance program will help these units deliver years of dependable service.

NOTE: **Make certain unit is not capable of operation during repairs.**

Dace Mfg.

orders@dacemfg.co

SUBMITTAL Feb 2015

ROUND MANUAL BALANCE DAMPER

MODEL: RMBD CO3

Purpose Description:
The round manual balancing damper is used to regulate air flow in pipe.

CONSTRUCTION:
BARREL: (B) 6" long, beaded & tapered.

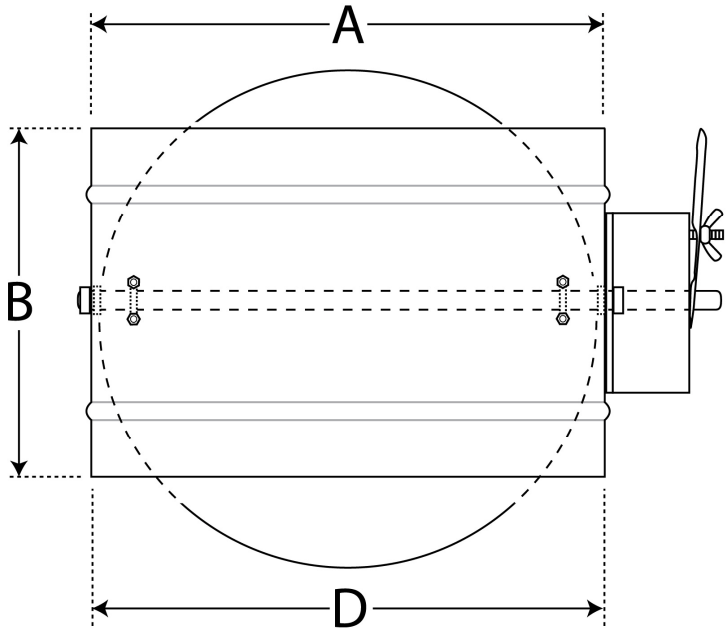
ALL DIAMETERS: (A) sized 1/8" under nominal

BODY MATERIAL:
26 gauge standard
OPTIONS:
24 gauge steel
22 gauge steel
SS 304

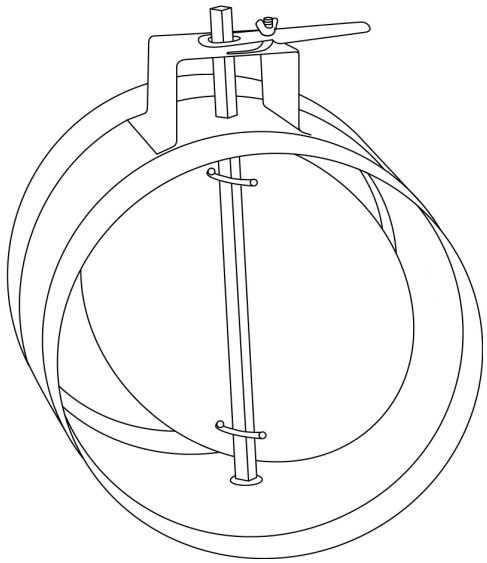
DAMPER BLADES:
26 gauge standard
OPTIONS:
24 GA,
22 GA steel,
20 gauge—16 gauge steel
SS 304

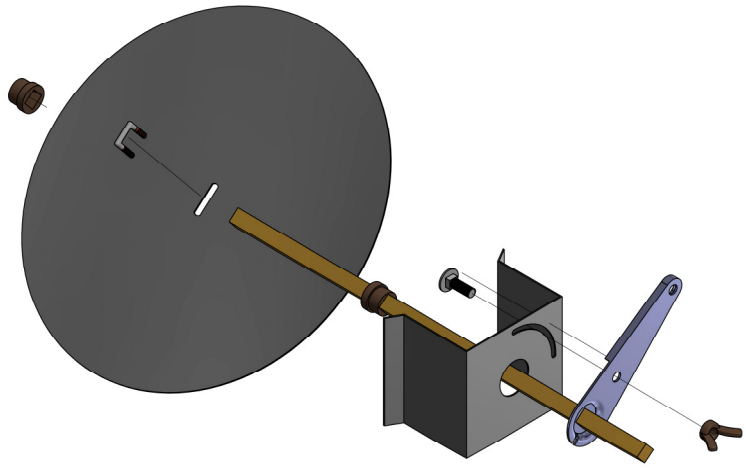
DAMPER CONTROL:
CO3 - 2" raised handle, locking quadrant, 3/8" square continuous rod, 'U' bolts, nylon bearings

All stainless steel option



RMBD–CO3





Dace Mfg.

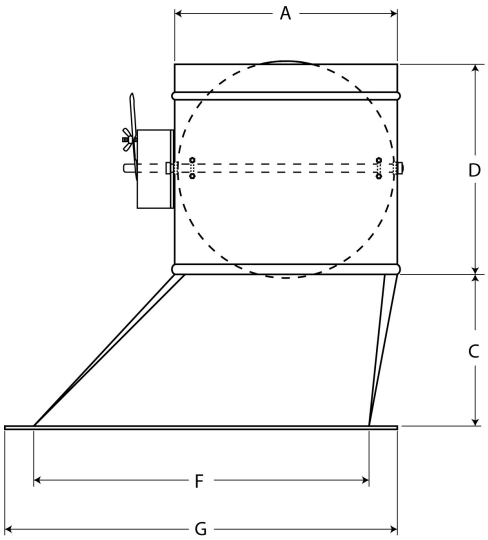
orders@dacemfg.co

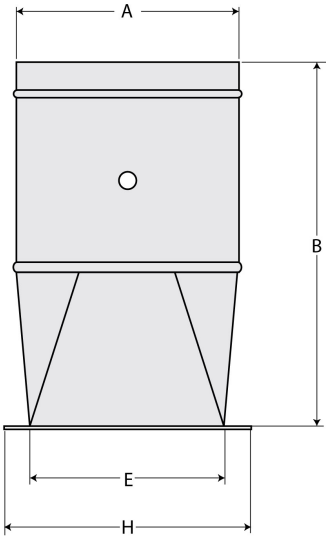
SUBMITTAL Feb 2016

SIDE TAKEOFF FITTING w DAMPER

MODEL: STOD CO3

HIGH EFFIENCY TAKEOFF





SIZE	A	B	C	D	E	F	G	H
5	4 7/8	12	6	6	5	9	11	7
6	5 7/8	12	6	6	5	9	11	7
7	6 7/8	12	6	6	6	11	13	8
8	7 7/8	12	6	6	6	12	14	8
9	8 7/8	12	6	6	7	13	15	9
10	9 7/8	12	6	6	8	14	16	10
12	11 7/8	12	6	6	10	16	18	12
14	13 7/8	12	6	6	12	18	20	14
16	15 7/8	12	6	6	14	20	22	16
18	17 7/8	12	6	6	16	22	24	18
20	19 7/8	12	6	6	18	24	26	20

STANDARD CONSTRUCTION DETAILS

- 26 gauge G90/60 corrosion resistant steel
- 1” flange with die formed corners & pre punched mounting holes
- entire unit is spot welded, SMACNA 3” WG minimum
- adhesive coated rubber perimeter gasket
- CO3 damper control: a 2” raised locking quadrant, 3/8” sq. axle, nylon bearings, fastened to the damper with U bolts.

OPTIONS IN CONSTRUCTION

- material 24 ga, 22 ga galvanized steel,
- all aluminum or all stainless steel

Printed Date: 03/08/2023
Job: JRMC - OBGYN AD
Mark: Louvers
Model: ESD-635

ESD-635 6 in. Frame, 35 deg Blade

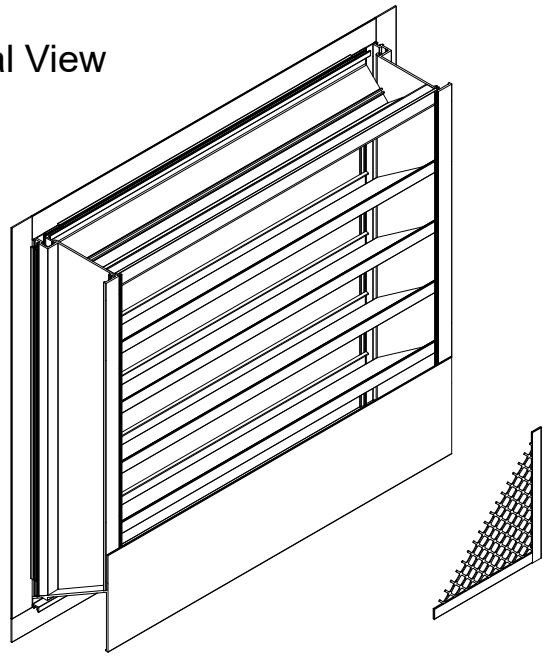
APPLICATION & DESIGN

ESD-635 is a weather louver designed to protect air intake and exhaust openings in building exterior walls. Design incorporates drain gutters in the head member and horizontal blades to channel water to the jambs where water is further channeled through vertical downspouts and out at the sloped sill. The ESD-635 is an extremely efficient louver with AMCA LICENSED PERFORMANCE DATA enabling designers to select and apply with confidence.

PRODUCT DETAILS

Frame: 6 in. x 0.081 in. Frame Thickness
Frame Type: Flanged, 1.5 in., Exterior
Blades: 0.081 in. Fixed Blade Thickness
Material: Aluminum
Sizing: 1/4 Inch Under
Shape: Rectangular
Construction: Mechanically Fastened

Internal View



OPTIONS & ACCESSORIES

Finish: Primer
Bird Screen: 0.75 in. x 0.05 in., Flat Expanded Aluminum, Internal, Match Louver Finish
Union Label: No Preference
Warranty: 1 year Standard Product Warranty

SUMMARY

ID #	TAG	QTY.	W (in.)	H (in.)	FREE AREA (ft2)	FREE AREA (%)	SECT. WIDE	SECT. HIGH	SHIP SECT.
1-1	EL-1	1	18	12	0.33	23	1	1	1
1-2	EL-2	1	18	12	0.33	23	1	1	1

Total Louver Qty: 2 **Total Weight (lb):** 11 **Louver Area (ft2):** 3

Total Ship Sect.: 2

**Weight shown is an estimate only based on the default base product configuration without options or accessories.

Larger openings may require field assembly of multiple louver panels to make up the overall opening size. Individual louver panels are designed to withstand windloads up to a maximum of 25 PSF (size and configuration dependent). Design, materials and installation of structural reinforcement required to adequately support large sections or multiple section assemblies within a large opening are not provided by Greenheck. Options and accessories including, but not limited to, screens, filter racks, louver doors, and blankoff panels are not subject to structural analysis unless indicated otherwise by Greenheck. Unless specifically indicated, the following are NOT included in the quote provided: structural steel, installation hardware (anchors, angle clips, continuous angles, shims, fasteners, inserts, backer rod and sealant), field measuring and/or installation, miscellaneous flashing, trim or enclosures, blank off panels, mullion covers or mullion hardware, hinged frames or removable subframes, custom bird/insect screen, 3-coat, metallic and/or exotic paint finishes, bituminous paints for unlike metals, any applicable taxes, stamped and sealed structural calculations seismic calculations or job specific engineered submittal drawings.

GREENHECK
Building Value in Air.

Louvers Prime Coat

Louvers and architectural products shall be cleaned, pre-treated and receive a prime coat finish suitable for field painting. Products must be thoroughly cleaned and prepared prior to field application of epoxy, urethane or other heavy-duty coatings. Greenheck does not recommend prime coat or field painting of louvers and architectural products. As such, Greenheck does not provide formal field cleaning, preparation or painting instructions or recommendations.