

AES Industries, Inc.

STANDARD PRODUCTS CATALOG

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Plenum Curbs

Structural Curbs

Filter Curbs

Metal Building Curbs

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Accessories

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Duct Transitions

Section 2: Dampers

Commercial Control Dampers

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Terms and Conditions

All sales by AES Industries, Inc. are made subject to the standard terms and conditions of sale. Terms and conditions appearing in the buyer's purchase order that are contrary to the following terms and conditions shall not be binding unless specifically agreed to in writing.

CREDIT APPROVAL: All orders require credit approval prior to acceptance. To establish credit, the customer must complete our credit application and mail the signed original to our office before we can process any orders.

PAYMENT TERMS: Unless otherwise stated, are 2% / 10 days / net 30. Interest at the rate of one and one half percent (1-1/2 %) per month which is eighteen percent (18%) per annum will be added to all invoices which have been billed thirty days or more. Orders (45) days past due will be placed on credit hold. Should AES Industries, Inc., at its discretion, secure or collect amounts due through legal action including filing or serving mechanics' and materialmen's lien(s), customer will pay all legal costs including reasonable attorney's fees.

MINIMUM ORDER: The minimum order charge applies to each separate product line. This includes purchase orders containing one or more product lines. Purchase orders containing more than one product line will not necessarily ship together. Large orders will be shipped in two (2) or more shipments if necessary. Orders may be requested to be shipped on a joint check bases when credit is required. Minimum order amount \$40.00.

CANCELLATIONS: Orders that have been entered into the system that are canceled before fabrication will be charged a minimum of \$25.00. Orders that are canceled after fabrication * has begun will be charged \$50.00 plus 75% - 100% of the invoice amount depending upon the degree of completion.

ORDER CHARGES: Orders that have been entered into the system that are changed before fabrication has begun will be charged a minimum of \$25.00. Orders that have been entered into the system that are changed after fabrication * has begun will be charged \$50.00 plus 75% - 100% of the invoice amount of any item affected by the change depending upon the degree of completion.

PRODUCT CHANGES: Factors beyond AES' control and continuing improvement of products, may require the changing of products from time to time. AES reserves the right to make reasonable changes of any kind in products without notice, and to deliver revised designs of products on any order. AES shall have no responsibility with respect to changes made in products sold but not manufactured by AES Industries, Inc. All dimensions and/or prices are subject to change without notice.

RETURNS: Goods may not be returned for credit unless and until AES has agreed in writing to accept them and the amount of credit has been predetermined. If goods are accepted for return, a restocking charge of 25% will be assessed for handling. All transportation costs for returned goods must be paid by the buyer.

STORAGE: AES Industries Inc. does not provide or maintain storage facilities. All charges and expenses incurred with delay in manufacturing or delivery of goods due to causes within the buyers control are the responsibility of the buyer.

FREIGHT AND DELIVERY: All shipments are F.O.B. shipping point unless AES Industries, Inc. agrees to other arrangements. Cosigners are responsible for filing freight claims. Shipping dates are approximate. AES Industries, Inc. assumes no responsibilities for delays by common carrier nor any liability for liquidated damages or penalty because of failure to ship as scheduled, unless specifically agreed to in writing. Delivery to initial carrier constitutes delivery to the buyer. AES Industries, Inc. responsibility ceases upon delivery in good order to such carrier, and all goods are shipped at buyers risk. Any shipping weights given herein or freight costs estimated upon quotation are approximate, for the buyers' convenience only and are not guaranteed by AES Industries, Inc. Any shipments which require prior notification before delivery will be charged \$25.00 for order full freight allowed or will have an additional charge of freight bill supplied by the carrier. All COD orders will be added to the costs of products being shipped. Minimum freight charge for all orders - \$25.00.

QUALIFICATION OF QUOTATIONS: We do not make quotations stating: " 1 lot per plans and specifications for \$xx.xx". We do not do take offs from job plans nor guarantee compliance with job specifications.

WHAT WE DO IS : Make quotations specifically listing (A) quantities , (B) sizes, description of products offered, (D) unit and/or total prices as requested. Any agent making quotations other than described above must bear all responsibilities for such quotes.

STANDARD LEAD TIME: 10 Days

EXPRESS PROGRAMS: 7 Day Express - 10% x NET
5 Day Express - 20% x NET
3 Day Express - 30% x NET

Note: AES will notify customer within 24 hours after receipt of purchase order if express is not available.

*All AES Industries, Inc. products are fabricated to each customers specific order. Once material has been cut it is considered unusable for future orders.

Section 1: Roof Curbs and Accessories

Section 1: ROOF CURBS and ACCESSORIES

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Roof Curb Specifications / Standard

SECTION 07721 PREFABRICATED CONVENTIONAL ROOF CURBS

PART 1 - GENERAL

1.01 SUMMARY

- A. The General Contractor shall provide all labor, material and equipment to completely install the Prefabricated Conventional Roof Curbs.
- B. The Prefabricated Conventional Roof Curbs shall be used on all roof penetrations, including but not limited to Exhaust Fans, Skylights, Pipe and Column Penetrations, and Duct Openings.

1.03 INSTALLATION

- A. The Prefabricated Conventional Roof Curbs must be installed in accordance with instructions and as detailed on drawings.
- B. Stack roof curbs at site to prevent twisting, bending, or permanent deformation.

1.05 COORDINATION

- A. The Prefabricated Conventional Roof Curb sizes and options must be coordinated by AES Industries and the General and/or Mechanical Contractor prior to fabrication.
- B. Shop drawing approval required prior to fabrication.

PART 2 - PRODUCTS

2.01 SUMMARY

- A. Subject to compliance with requirements, provide Prefabricated Conventional Roof Curbs as manufactured by the following:
 1. Model ARC-1,2, or 3 by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

2.03 FABRICATION

- A. Fabrication, General: Coated 18 gauge galvanized steel sheet curb sections, fully welded corners; 2 inch by 2 inch (nominal) pressure treated continuous wood nailers mounted to top flange of curb. Integral base plates. Factory insulated with 1-1/2" thick, 3 lb. density fiberglass insulation. All welds shop primed with galvanized paint.
- B. Minimum Height: 8" above finished roof or as specified.

2.05 OPTIONAL MATERIALS AND FEATURES

1. Sloped to match roof
2. Height as required
3. 14 Gauge galvanized
4. Aluminum
5. Stainless Steel
6. Damper trays
7. Ridge mounted
8. Extended flanges
9. Security bars
10. Fall protection
11. Temporary covers
12. Pipe penetration boots
13. Sound baffles
14. Engineered calculations
15. Isolation rails
16. Seismic / wind restraint brackets

Roof Curbs - Standard

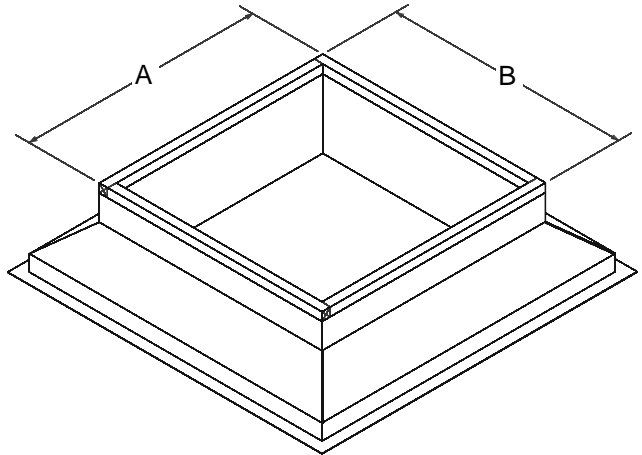
Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model ARC-1

Insulated curb for insulated roof decks,
 with 1.5 inch raised 3 inch cant.

Standard Construction

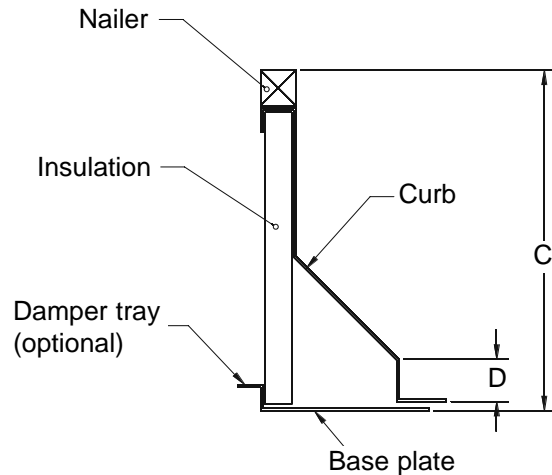
- 18ga. Galvanized Steel Construction
- 1 1/2" thick 3 lb. density Fiberglass Insulation
- Full Height Mitered and Welded Corners
- Factory installed 2x2 Pressure Treated Wood Nailer
- 9 1/2 " Height with 1 1/2" Raised Cant



Optional Construction

- Height or Slope as required
- Damper Tray
- Heavier Ga. Material
- 20ga. Liner
- .063 Aluminum Construction
- Perforated Noise Control Baffles

check all that apply



TYPICAL SECTION

QTY	A	B	C	D	ROOF SLOPE	DAMPER TRAY SIZE	COMMENTS

Roof Curbs - Standard

Customer _____ Project _____
 Ship To _____

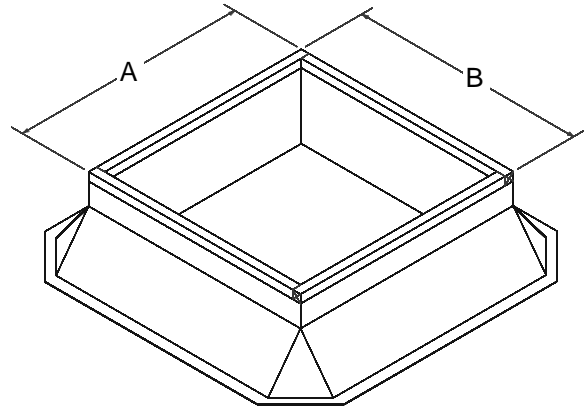
 P.O. Number _____ Approved By _____

Model ARC-2

Insulated curb for non-insulated roof decks, with 3 inch cant.

Standard Construction

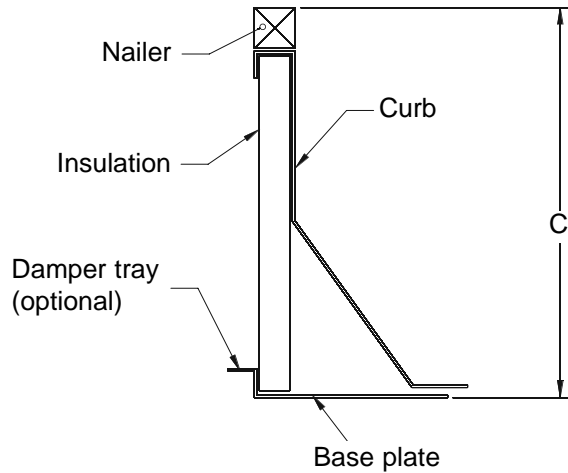
- 18ga. Galvanized Steel Construction
- 1 1/2" thick 3 lb. density Fiberglass Insulation
- Full Height Mitered and Welded Corners
- Factory installed 2x2 Pressure Treated Wood Nailer
- 8" Height with 3" Built-in Cant



Optional Construction

- Height or Slope as required
- Damper Tray
- Heavier Ga. Material
- 20ga. Liner
- .063 Aluminum Construction
- Perforated Noise Control Baffles

check all that apply



TYPICAL SECTION

QTY	A	B	C	ROOF SLOPE	DAMPER TRAY SIZE	COMMENTS

Roof Curbs - Standard

Customer _____ Project _____
 Ship To _____

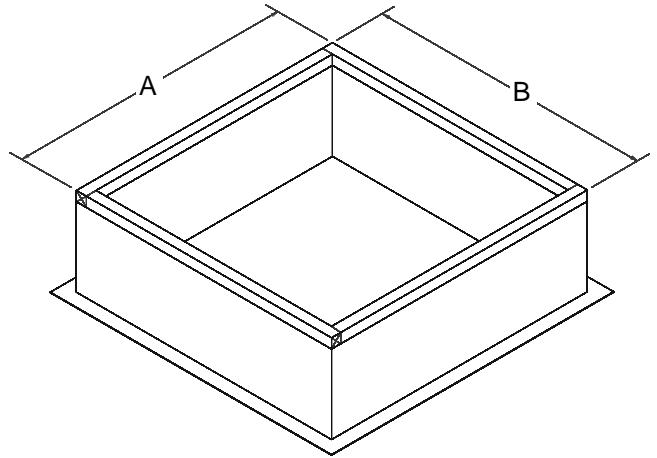
 P.O. Number _____ Approved By _____

Model ARC-3

Insulated curb (self-flashing) for single-ply roofing.

Standard Construction

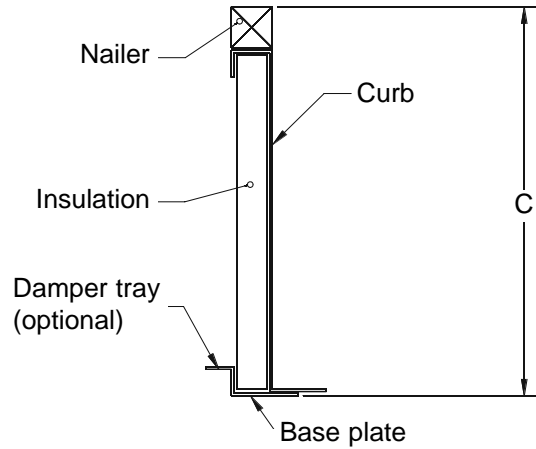
- 18ga. Galvanized Steel Construction
- 1 1/2" thick 3 lb. density Fiberglass Insulation
- Full Height Mitered and Welded Corners
- Factory installed 2x2 Pressure Treated Wood Nailer
- 12" Height



Optional Construction

- Height or Slope as required
- Damper Tray
- Heavier Ga. Material
- 20ga. Liner
- .063 Aluminum Construction
- Perforated Noise Control Baffles

check all that apply



TYPICAL SECTION

QTY	A	B	C	ROOF SLOPE	DAMPER TRAY SIZE	COMMENTS

Roof Curb Specifications / HVAC Units

SECTION 07721 PREFABRICATED HVAC ROOF CURBS

PART 1 - GENERAL

1.01 SUMMARY

A. The General Contractor shall provide all labor, material and equipment to completely install the Prefabricated HVAC Roof Curbs.

1.03 INSTALLATION

A. The Prefabricated HVAC Roof Curbs must be installed in accordance with instructions and as detailed on drawings.

B. Stack roof curbs at site to prevent twisting, bending, or permanent deformation.

1.05 COORDINATION

A. The Prefabricated HVAC Roof Curb sizes and options must be coordinated by AES Industries and the General and/or Mechanical Contractor prior to fabrication.

B. Shop drawing approval required prior to fabrication.

PART 2 - PRODUCTS

2.01 SUMMARY

A. Subject to compliance with requirements, provide Prefabricated HVAC Roof Curbs as manufactured by the following:

1. Model ARC-5 or 6, Model ADJ-1 by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

2.03 FABRICATION

A. Fabrication, General: Coated 18 gauge galvanized steel sheet curb sections, 1 inch by 4 inch (nominal) pressure treated continuous wood nailers mounted to exterior face of curb. Factory installed duct support rails per unit requirements. All welds shop primed with galvanic paint.

B. Minimum Height: 8" above finished roof or as specified.

2.05 OPTIONAL MATERIALS AND FEATURES

1. Sloped to match roof
2. Height as required
3. 14 Gauge galvanized
4. Aluminum
5. Stainless Steel
6. Ridge mounted (not avail. on ADJ-1)
7. Extended flanges
8. Security bars
9. Fall protection
10. Temporary covers
11. Engineered calculations
12. Isolation rails
13. Seismic / wind restraint brackets

Roof Curbs for HVAC Units

Customer _____ Project _____

Ship To _____

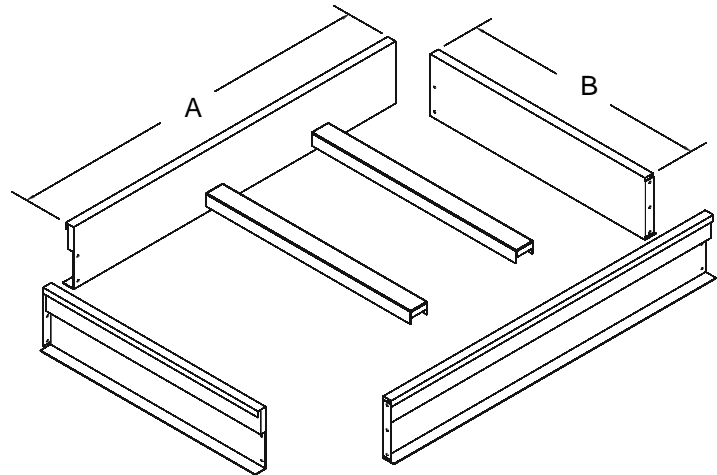
P.O. Number _____ Approved By _____

Model **ARC-5** Knock Down Curb

Non-insulated curb for field assembly on insulated roof decks.

Standard Construction

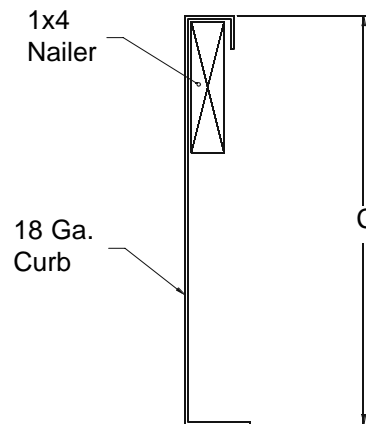
- 18ga. Galvanized Steel Construction
- Factory installed 1x4 Pressure Treated Wood Nailer
- Fasteners as Required
- 14" Height
- 1" x 1/4" thick Neoprene Gasket
- Supply and Return Duct Support Rails



Optional Construction

- No Rails (Specify A,B,C dimensions)
- .063 Aluminum Construction
- 14ga. Galvanized Steel
- Height or Slope as required
- Rigid Insulation on Exterior
- Noise Control System

check all that apply



TYPICAL SECTION

QTY	RTU Type	OR	A	B	C	COMMENTS

Roof Curbs for HVAC Units

Customer _____ Project _____

Ship To _____

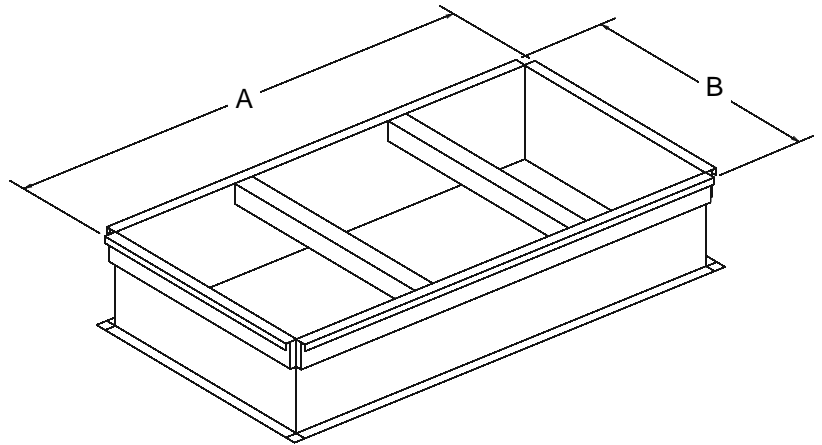
P.O. Number _____ Approved By _____

Model ARC-6

Non-insulated curb used for HVAC equipment on insulated roof deck.

Standard Construction

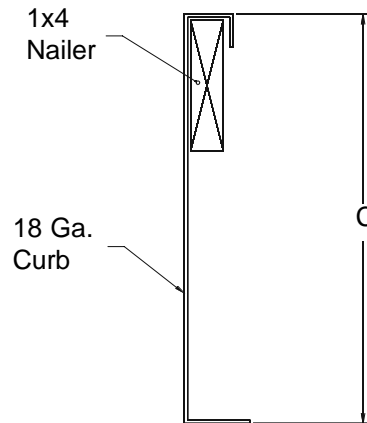
- 18ga. Galvanized Steel Construction
- Full Height Welded Corners
- Factory installed 1x4 Pressure Treated Wood Nailer
- 14 " Height
- Supply and Return Duct Support Rails



Optional Construction

- No Rails (Specify A,B,C dimensions)
- .063 Aluminum Construction
- 14ga. Galvanized Steel
- Height or Slope as required
- Rigid Insulation on Exterior
- Mitered Corners
- Noise Control System

check all that apply



TYPICAL SECTION

QTY	RTU Type	OR	A	B	C	COMMENTS

Roof Curbs for HVAC Units

Customer _____ Project _____

Ship To _____

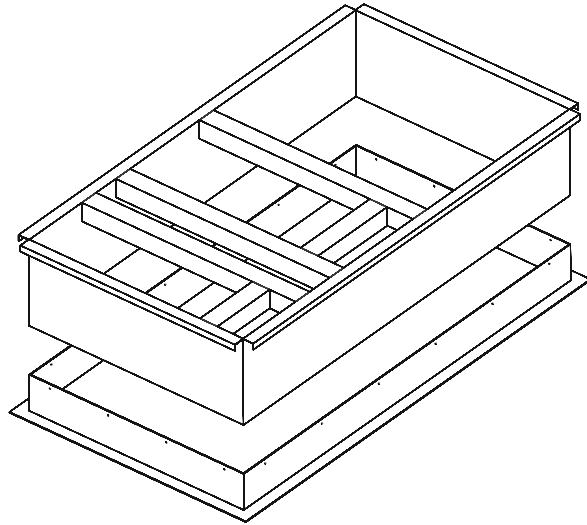
P.O. Number _____ Approved By _____

Model ADJ-1

Non-insulated adjustable pitch curb used for HVAC equipment on insulated roof deck.

Standard Construction

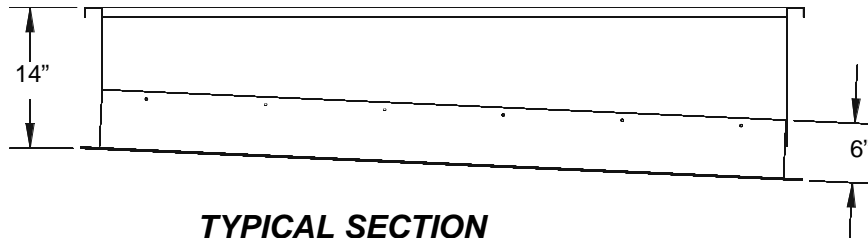
- 18ga. Galvanized Steel Construction
- Full Height Welded Corners
- Factory installed 1x4 Pressure Treated Wood Nailer
- 14 " Height
- Supply and Return Duct Support Rails
- Up to 3/4":12" Pitch Any Direction (depending on unit size)



Optional Construction

- .063 Aluminum Construction
- 14ga. Galvanized Steel
- Rigid Insulation on Exterior

check all that apply



QTY	RTU Type	COMMENTS

Roof Curb Specification / Plenum Curbs

SECTION 07721 PREFABRICATED HVAC ROOF CURBS

PART 1 - GENERAL

1.01 SUMMARY

A. The General Contractor shall provide all labor, material and equipment to completely install the Prefabricated HVAC Roof Curbs.

1.03 INSTALLATION

A. The Prefabricated HVAC Roof Curbs must be installed in accordance with instructions and as detailed on drawings.

B. Stack roof curbs at site to prevent twisting, bending, or permanent deformation.

1.05 COORDINATION

A. The Prefabricated HVAC Roof Curb sizes and options must be coordinated by AES Industries and the General and/or Mechanical Contractor prior to fabrication.

B. Shop drawing approval required prior to fabrication.

PART 2 - PRODUCTS

2.01 SUMMARY

A. Subject to compliance with requirements, provide Prefabricated HVAC Roof Curbs as manufactured by the following:

1. Model APC-1 or 2 by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

2.03 FABRICATION

A. Fabrication, General: Coated 18 gauge galvanized steel sheet curb sections, 1 inch by 4 inch (nominal) pressure treated continuous wood nailers mounted to exterior face of curb. Factory installed plenum dividers per unit requirements. Factory installed 1" fiberglass insulation. All welds shop primed with galvanic paint.

B. Minimum Height: 8" above finished roof or as specified.

2.05 OPTIONAL MATERIALS AND FEATURES

1. Sloped to match roof
2. Height as required
3. 14 Gauge galvanized
4. Aluminum
5. Stainless Steel
6. Ridge mounted
7. Extended flanges
8. Security bars
9. Temporary covers
10. Engineered calculations
11. Isolation rails
12. Seismic / wind restraint brackets

Roof Curbs - Plenum

Customer _____ Project _____
 Ship To _____

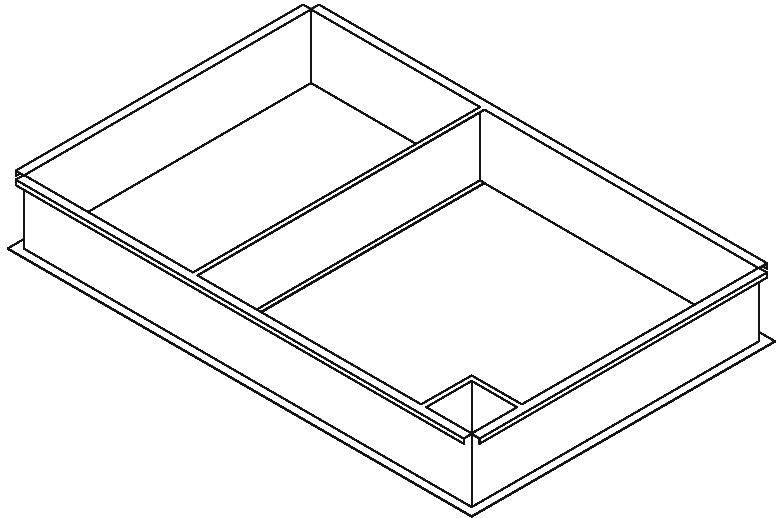
 P.O. Number _____ Approved By _____

Model APC-1

Insulated plenum curb for insulated roof decks. Openings are factory or field supplied.

Standard Construction

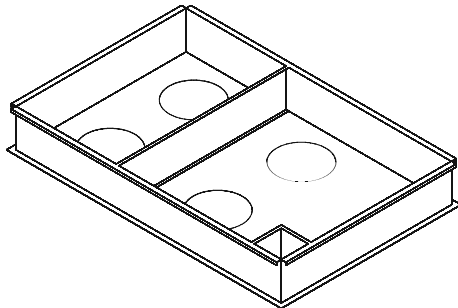
- 18ga. Galvanized Steel Construction
- 1" Duct Liner Insulation
- Full Height Welded Corners
- Factory installed 1x4 Pressure Treated Wood Nailer
- 18ga. Galvanized Bottom: Solid or Pre-Cut
- 14" Height



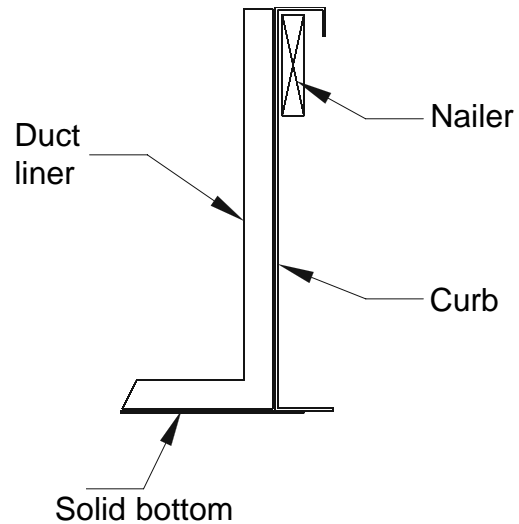
Optional Construction

- 2x4 Wood Nailer
- Height or Slope as required
- Mitered Corners
- Solid Bottom
- Round Duct Openings

check all that apply



Optional round hole with collars



TYPICAL SECTION

QTY	RTU Type	COMMENTS

Roof Curbs - Plenum

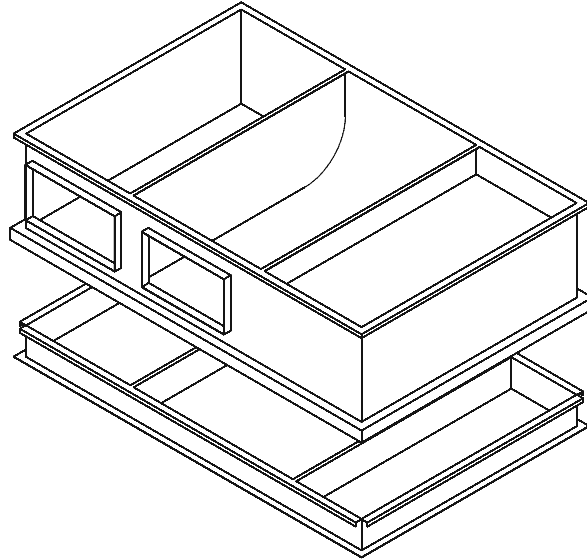
Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model APC-2

Insulated horizontal discharge plenum curb for insulated roof decks or slab mount. Side openings are factory supplied.

Standard Construction

- 14ga. Galvanized Steel Construction
- 8" High Base Curb for Flashing
- 1" Duct Liner Insulation
- Full Height Welded Corners
- Factory installed 1x4 Pressure Treated Wood Nailer on Base Curb
- 18ga. Galvanized Bottom
- 2" Flanges at Duct Openings

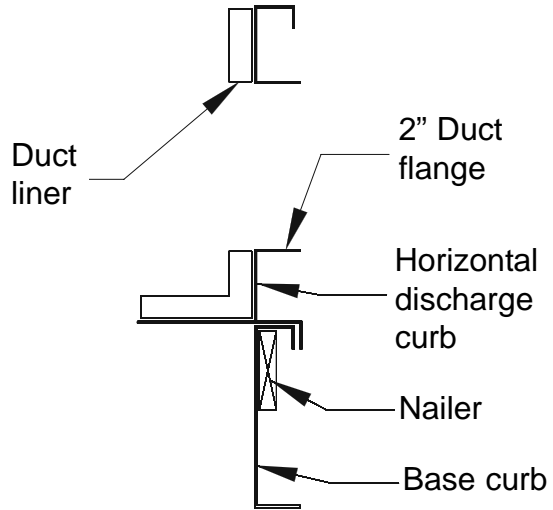


Optional Construction

- No Base Curb for Slab Mount
- Height or Slope as required

check all that apply

Submittal drawings will be engineered with information received on a per unit basis for final approval.



TYPICAL SECTION THRU OPENING

QTY	RTU Type	Supply Opening	Return Opening	Comments
		x	x	
		x	x	
		x	x	
		x	x	

Roof Curb Specification / Structural HVAC Curbs

SECTION 07721 PREFABRICATED HVAC STRUCTURAL ROOF CURBS

PART 1 - GENERAL

1.01 SUMMARY

A. The General Contractor shall provide all labor, material and equipment to completely install the Prefabricated HVAC Roof Curbs.

1.03 INSTALLATION

- A. The Prefabricated HVAC Roof Curbs must be installed in accordance with instructions and as detailed on drawings.
- B. Stack roof curbs at site to prevent twisting, bending, or permanent deformation.

1.05 COORDINATION

- A. The Prefabricated HVAC Roof Curb sizes and options must be coordinated by AES Industries and the General and/or Mechanical Contractor prior to fabrication.
- B. Shop drawing approval required prior to fabrication.

PART 2 - PRODUCTS

2.01 SUMMARY

- A. Subject to compliance with requirements, provide Prefabricated HVAC Roof Curbs as manufactured by the following:
 1. Model ASRC by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

2.03 FABRICATION

- A. **Structural Curbs:** Coated 14 gauge steel sheet curb sections, corners mitered or enclosed and fully welded; 2 inch by 4 inch (nominal dimension) pressure treated continuous wood nailers mechanically fastened with corrosion resistant fasteners at 12 inches on center to exterior face of curb. Shop prime welded connections with zinc-rich paint complying with SSPC-Paint 20.
- B. **Web Height:** Comply with local code requirements for minimum curb height, but in no case shall curb height be less than 18 inches, as measured from top of bar joist to top of curb, nor shall curb height be less than 8 inches as measured from top of roof membrane to top of curb.
- C. **Profile:** Bottom Flange, Top Flange, and Drip: As shown.
- D. Reinforce curb sections as required for design loads indicated on Drawings.
- E. **Welding:** AWS D1.1.
- F. **HVAC unit curbs:** Label curbs with "FRONT" designating the curb orientation to the front of store prior to shipment. Provide curb types as follows:
 1. Roof Top Unit (RTU) Curbs: Provide 14 gauge minimum steel sheet curb sections. Frame duct openings with 18 gauge curb sections level with perimeter curb sections, minimum height 18".

2.05 OPTIONAL MATERIALS AND FEATURES

1. Sloped to match roof
2. Height as required
3. Extended flanges
4. Security bars
5. Temporary covers
6. Engineered calculations
7. Isolation rails
8. Seismic / wind restraint brackets

Roof Curb Specification / Structural Skylight Curb

SECTION 07721 PREFABRICATED HVAC STRUCTURAL ROOF CURBS

PART 1 - GENERAL

1.01 SUMMARY

A. The General Contractor shall provide all labor, material and equipment to completely install the Prefabricated HVAC Roof Curbs.

1.03 INSTALLATION

A. The Prefabricated HVAC Roof Curbs must be installed in accordance with instructions and as detailed on drawings.

B. Stack roof curbs at site to prevent twisting, bending, or permanent deformation.

1.05 COORDINATION

A. The Prefabricated HVAC Roof Curb sizes and options must be coordinated by AES Industries and the General and/or Mechanical Contractor prior to fabrication.

B. Shop drawing approval required prior to fabrication.

PART 2 - PRODUCTS

2.01 SUMMARY

A. Subject to compliance with requirements, provide Prefabricated HVAC Roof Curbs as manufactured by the following:

1. Model ASRC by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

2.03 FABRICATION

A. Structural Skylight Curbs: Coated 14 gauge steel sheet curb sections, corners mitered or enclosed and fully welded; 2 inch by 4 inch (nominal dimension) pressure treated continuous wood nailers mechanically fastened with corrosion resistant fasteners at 12 inches on center to exterior face of curb. Shop prime welded connections with zinc-rich paint complying with SSPC-Paint 20.

B. Web Height: Comply with local code requirements for minimum curb height, but in no case shall curb height be less than 18 inches, as measured from top of bar joist to top of curb, nor shall curb height be less than 8 inches as measured from top of roof membrane to top of curb.

C. Profile: Bottom Flange, Top Flange, and Drip: As shown.

D. Internal Support Frame (Safety Screen): Provide 14 gauge, 3/4"x 3/4" maximum galvanized steel support angle to interior perimeter walls of curb, recessed from top flange 3/4" minimum. Internal support frame for safety screen to be welded to curb at 6" on center with minimum 1" welds. Support frame may be roll formed into the curb wall for a maximum 3/4"x 3/4" surface area for grid attachment .

E. Safety Screen: Shop fabricated 3/16 inch cold rolled galvanized steel rods welded in 6 inch by 6 inch grid pattern. Screen to be welded to the internal support frame at each grid point (min. 6" on center). Safety screen shall not be mounted on top of curb, or attached to curb wall without the internal support frame. For venting skylights when used, allow room at top inside face of curb for smoke vent installation. Internal support frame and Screen shall have been tested to withstand impact of 245 pound lead weight, 10-3/4 inch diameter, dropped from height of 3 feet and support concentrated load of 600 pounds after impact.

F. Shop Painting: Shop finish interior surfaces of curbs, including safety screen; PPG-6-157 dry fog coating as specified; color to match Sherwin-Williams #SW2537 "Blossom White".

Structural Roof Curbs / HVAC Units

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

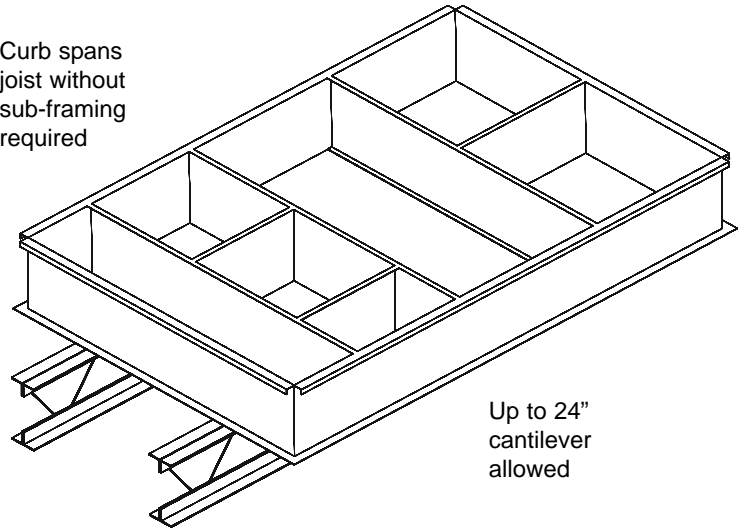
Model ASRC

Structural curb for insulated roof decks.
 No steel framing required. P.E. certified
 test data available.

Standard Construction

- Galvanized Steel Construction (Ga. determined by Equipment Weight)
- Full Height Welded Corners
- Factory installed 2x4 Pressure Treated Wood Nailers
- 14" Min. Height
- No Sub-framing Required
- Cantilever joists up to 24" (depending on unit size)

Curb spans joist without sub-framing required

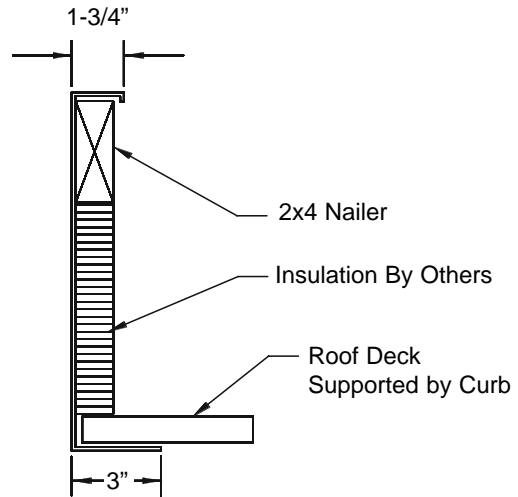


Up to 24" cantilever allowed

Optional Construction

- Exterior Isoboard Insulation
- Interior Duct Liner Insulation
- Height or Slope as required
- Noise Control System

check all that apply



TYPICAL SECTION

QTY	RTU Type	COMMENTS

Structural Roof Curbs / Skylights

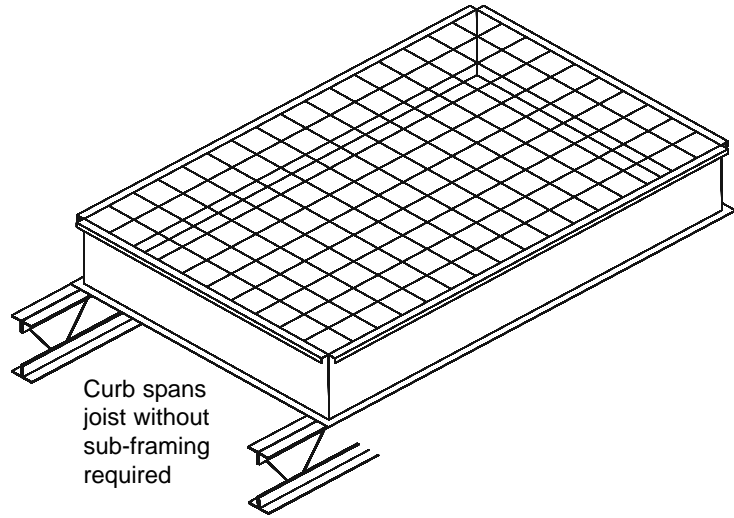
Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model ASRC

Structural curb for insulated roof decks.
 No steel framing required. P.E. certified
 test data available.

Standard Construction

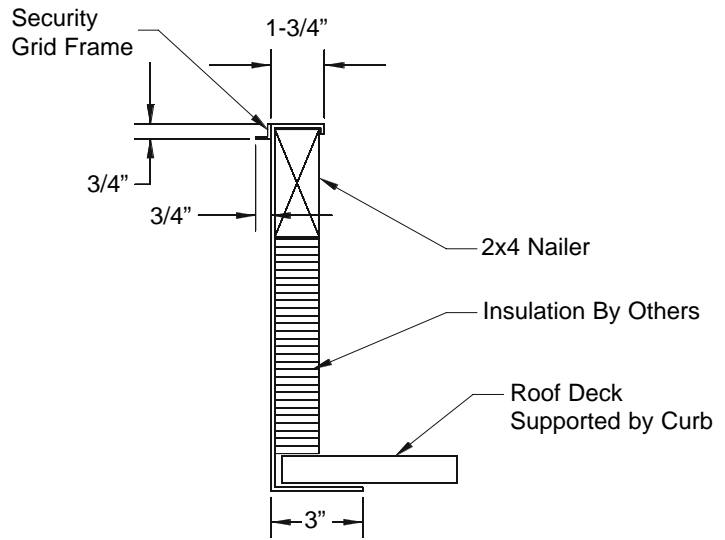
- 14 Ga. Galvanized Steel Construction
- Full Height Welded Corners
- Factory installed 2x4 Pressure Treated Wood Nailer
- 14" Min. Height
- No Sub-framing Required
- 6"x6" Security/Safety Grid Installed



Optional Construction

- 1/2" Burglar Bars
- Height or Slope as required

check all that apply



TYPICAL SECTION

QTY	Skylight Model/Size (OD)	COMMENTS

Filter Curb Specifications

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of the Filter Curb.

PART 2 PRODUCTS

2.01 Filter Curbs as manufactured by **AES Industries, Inc., Tallassee, Alabama 36023, Phone 800-786-0402.**

PART 3 CONSTRUCTION

3.01 Filter Curbs shall be constructed using 14 gauge galvanized steel, supply area openings based on 24x24x12 filter media (supplied by customer), and fully welded corners. Filter Curbs are designed to fit over existing or new roof curb.

PART 4 INSTALLATION

4.01 Filter Curbs shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Size of Curbs and required options shall be coordinated by support manufacturer with general contractor and mechanical contractor prior to fabrication.

PART 6 GUARANTEE

6.01 Filter Curbs shall be guaranteed against defects in material and/or workmanship for a period of one(1) year.

Filter Curbs

Customer _____ Project _____

Ship To _____

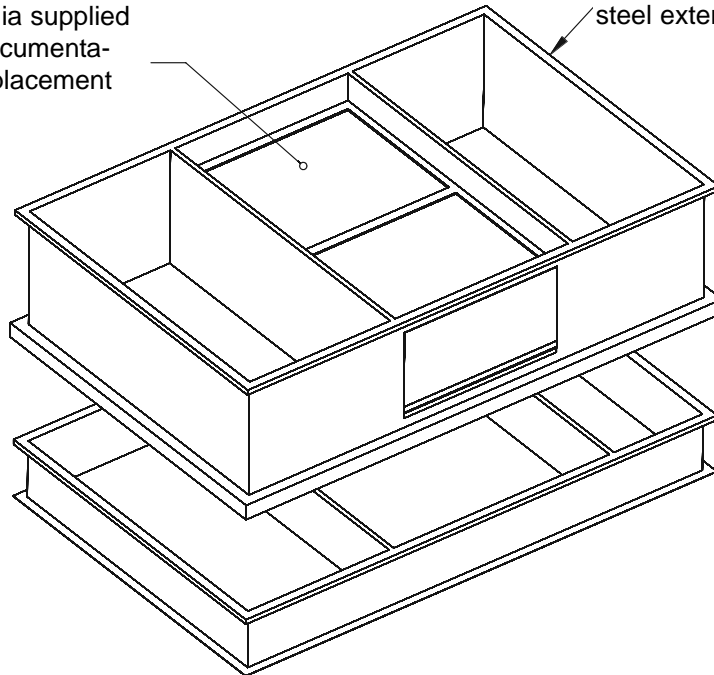
P.O. Number _____ Approved By _____

Model ABFC-1

Box filter curb. Supply area filters provide 95 percent efficiency for clean air.

24 x 24 Box media supplied with curb with documentation for future replacement by others

14 Ga. galvanized steel exterior



Base curb by AES to match filter rail locations

Based on 2000 CFM/filter and 400 CFM/ton, the filter quantities required are as follows:

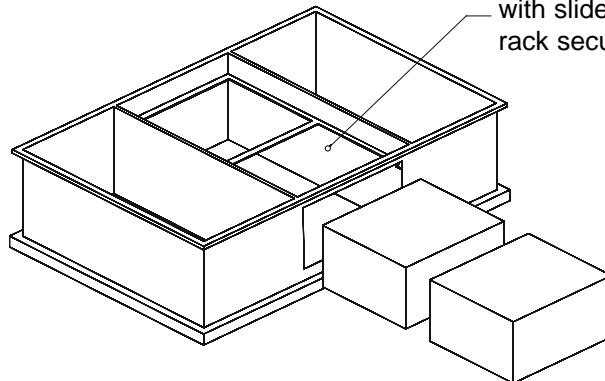
UNIT SIZE	QTY
2-5 ton units	1 filter
6-10 ton units	2 filters
12-20 ton units	4 filters

Filters are rated at 95% efficiency

Filter and curb sizes available:

FILTER HT.	CURB HT.
4"	14"
12"	24"

Internal channels with slide-out filter rack secure media



Approved submittal drawings required on a per job basis

QTY	RTU	Filter Height	Total CFM	Supply or Return Filters	COMMENTS

Metal Building Curb Specifications

SECTION 07850

PART 1 GENERAL

- 1.01** The general conditions and supplemental conditions of the contract apply to this section as if completely written herein.
- 1.02** General contractor to provide all labor, materials and equipment in connection with the complete installation of Metal Building Curbs.
- 1.03** Pre-fabricated Metal Building Curbs shall be used at all roof penetrations including but not limited to HVAC units, skylights, duct openings, pipe or column penetrations, and exhaust fans.

PART 2 PRODUCTS

- 2.01** Pre-fabricated Metal Building Curbs , Models AMBC-1 or 2 shall be provided by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

PART 3 CONSTRUCTION

- 3.01** Metal Building Curbs shall be constructed using minimum 18 gauge galvalume. All curbs shall have fully mitered and welded corners. Curbs shall be insulated with 1 1/2" thick 3 lb. density fiberglass insulation. Water crickets shall be installed on top sides of curbs to divert water. The metal thickness will convert to 14 gauge on all curbs that show more than 3000 lb. corner weight or have more than 60"(5 ft.) span.
- 3.02** Minimum height, 6" above finished roof line.
- 3.03** Slope to match slope of roof.
- 3.04** Additional Options:
- | | | | |
|-----------------------|-----------------|------------------|-------------------|
| Burglar Bars | Platform | Special Finishes | |
| Aluminum Construction | Damper Trays | Ridge Mounted | Additional Height |
| Extended Flanges | Isolation Rails | Wood Nailers | Rib Placement |
- 3.05** Curb panels will match the corrugation of the existing roof panel.

PART 4 INSTALLATION

- 4.01** Metal Building Curbs shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

- 5.01** Size of curbs and required options shall be coordinated by curb manufacturer with general contractor prior to fabrication.
- 5.02** Shop drawing bearing architects approval shall be used for fabrication of the Metal Building Curbs.

PART 6 GUARANTEE

- 6.01** Metal Building Curbs shall be guaranteed against defects in material and/or workmanship for a period of one(1) year.

Metal Building Curbs / Standard Equipment

Customer _____ Project _____

Ship To _____

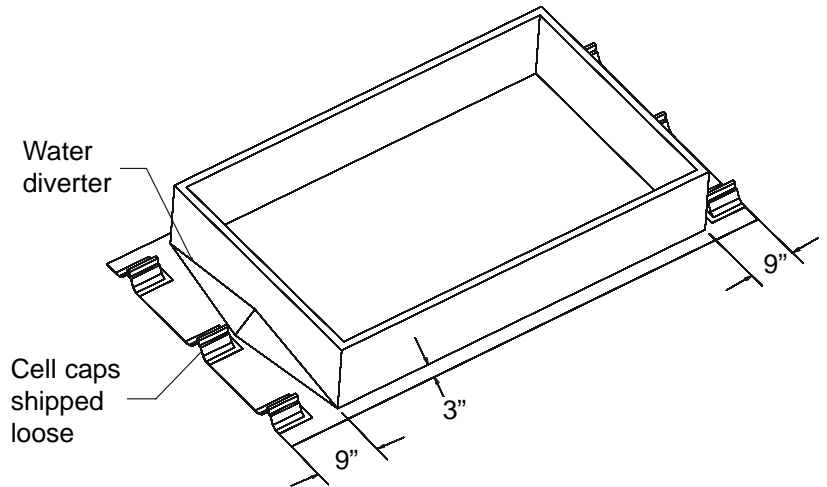
P.O. Number _____ Approved By _____

Model AMBC-1

Insulated metal building curb. Cell caps are installed in field over roof panel on both sides of curb.

Standard Construction

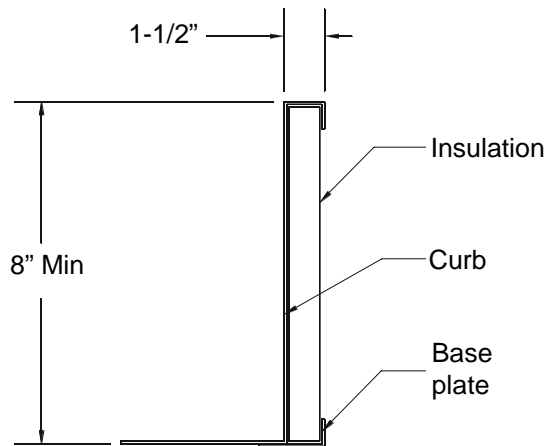
- 18ga. Galvalume Construction
- Full Height Mitered and Welded Corners
- Cell Caps supplied loose for field location
- 1 1/2", 3 lb. density Fiberglass Insulation
- Integral Cricket Water Diverter
- 8" Height
- Built-in Slope
- 1" x 1/4" thick Neoprene Gasket



Optional Construction

- Aluminum Construction
- Heavier Gauge Steel
- Installed Cell Caps
- Fasteners
- Paint Finish
- Height as required
- Perforated Noise Control Baffles

check all that apply



TYPICAL SECTION

QTY	A	B	C	ROOF SLOPE	ROOF PANEL MANUFACTURER	COMMENTS

Metal Building Curbs / Standard Equipment

Customer _____ Project _____
 Ship To _____

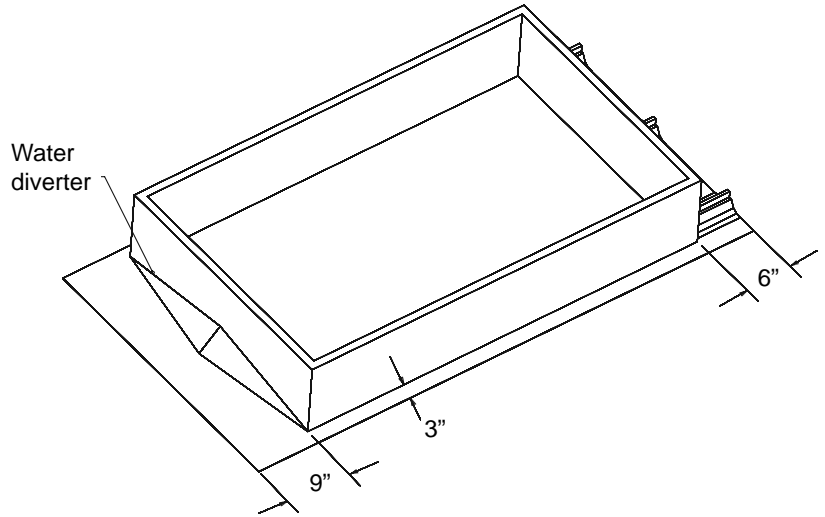
 P.O. Number _____ Approved By _____

Model AMBC-2

Insulated metal building curb. Cell caps are factory installed on low side of curb.

Standard Construction

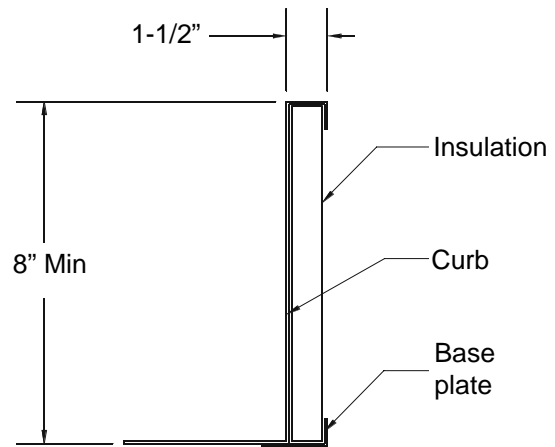
- 18ga. Galvalume Construction
- Full Height Mitered and Welded Corners
- Cell Caps Factory Welded
- 1 1/2", 3 lb. density Fiberglass Insulation
- Integral Cricket Water Diverter
- 8" Height
- Built-in Slope
- 1" x 1/4" thick Neoprene Gasket



Optional Construction

- Aluminum Construction
- Heavier Gauge Steel
- Fasteners
- Paint Finish
- Height as required
- Perforated Noise Control Baffles

check all that apply



TYPICAL SECTION

QTY	A	B	C	ROOF SLOPE	ROOF PANEL MANUFACTURER	COMMENTS

Metal Building Curbs / HVAC Units

Customer _____ Project _____

Ship To _____

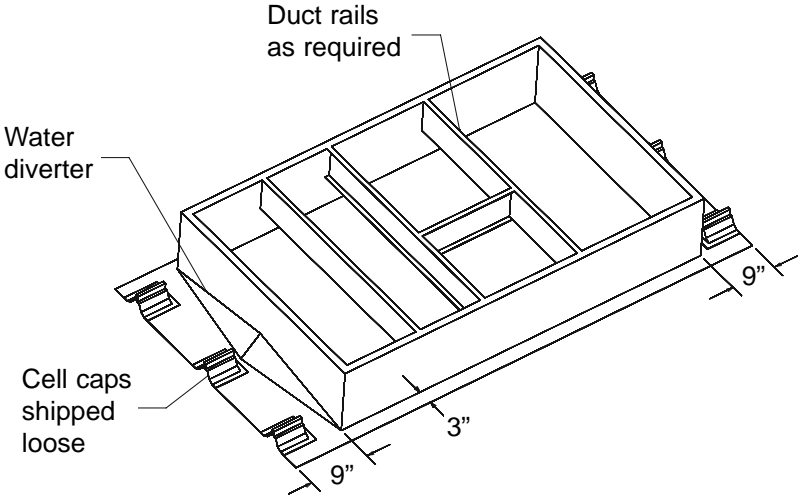
P.O. Number _____ Approved By _____

Model AMBC-1

Insulated metal building curb. Cell caps are installed in field over roof panel on both sides of curb.

Standard Construction

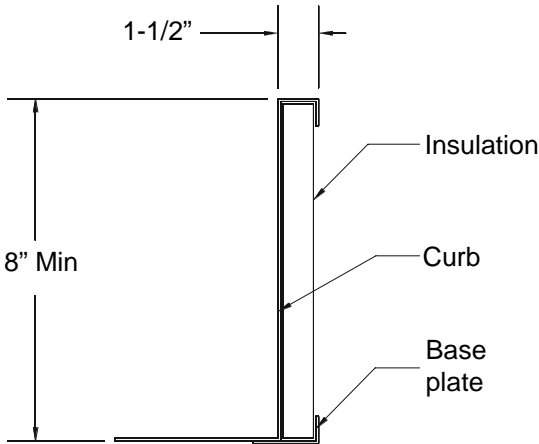
- 18ga. Galvalume Construction
- Full Height Mitered and Welded Corners
- Cell Caps supplied loose for field location
- 1 1/2", 3 lb. density Fiberglass Insulation
- Integral Cricket Water Diverter
- 8" Height
- Built-in Slope
- 1" x 1/4" thick Neoprene Gasket



Optional Construction

- Aluminum Construction
- Heavier Gauge Steel
- Installed Cell Caps
- Fasteners
- Paint Finish
- Height as required
- Perforated Noise Control Baffles

check all that apply

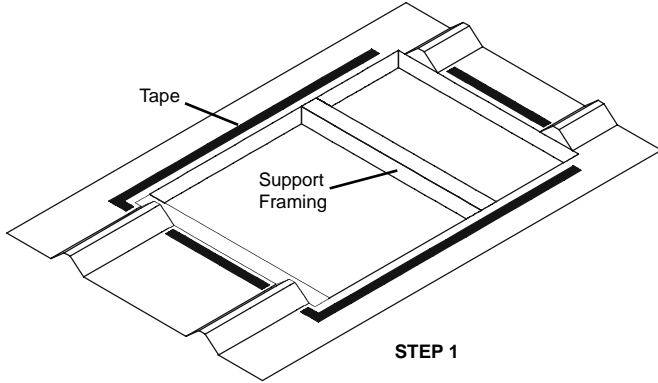


TYPICAL SECTION

QTY	RTU Type	COMMENTS

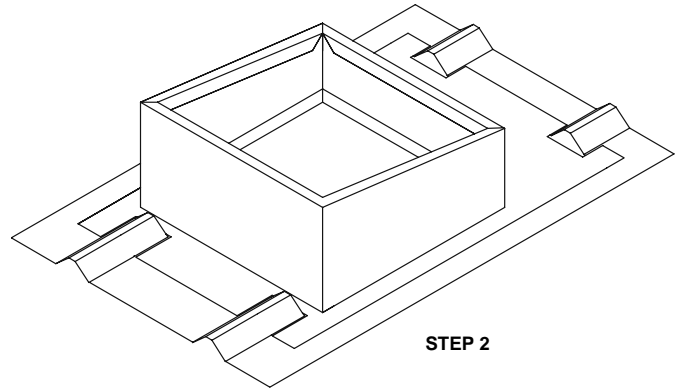
AMBC Installation Instructions

INSTALLATION INSTRUCTIONS FOR THE MODEL AMBC-1 METAL BUILDING CURB



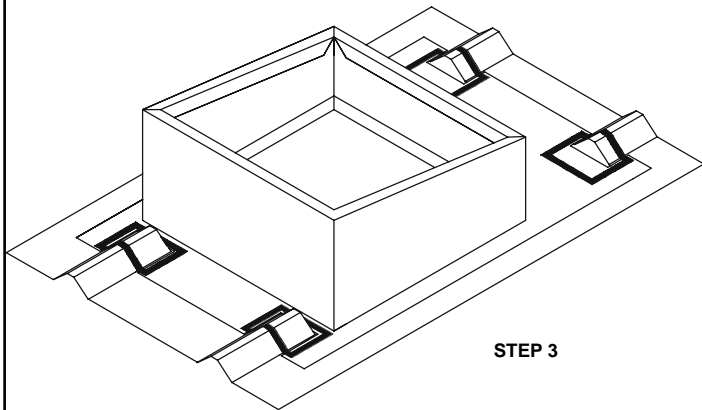
STEP 1

Locate roof opening and install support framing for roof curb and equipment loads. Place support framing so that at least two parallel curb walls rest on support framing. Loads shall not be supported by a cantilever curb section exceeding 1'-0" in length. Cut roof panels to fit opening of curb on sloping sides and overlap rib sides by 3-1/2". Apply sealant tape along edge of roof opening.



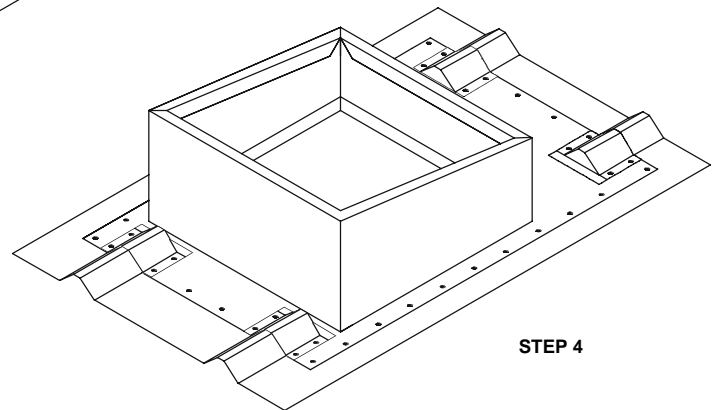
STEP 2

Align curb with support framing and cut openings in flanges at each ridge. Press curb firmly into place.



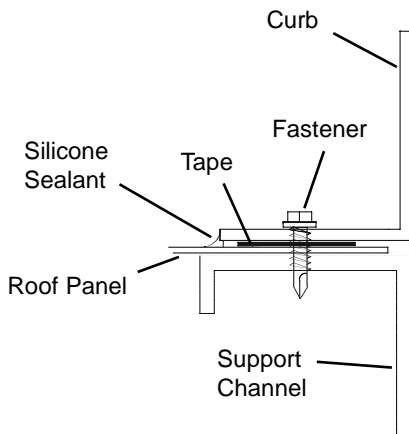
STEP 3

Apply sealant tape for each cell cap as shown.



STEP 4

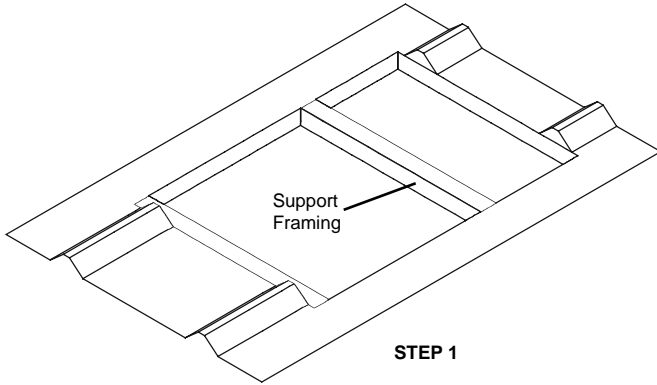
Press cell caps firmly into place. Install fasteners compatible with the roof system at a minimum of 6" O/C.



Inspect installation and fasteners. Finish all edges of curb with a good grade of silicone sealant to assure a watertight seal. **Make sure all possible openings for water are sealed.**

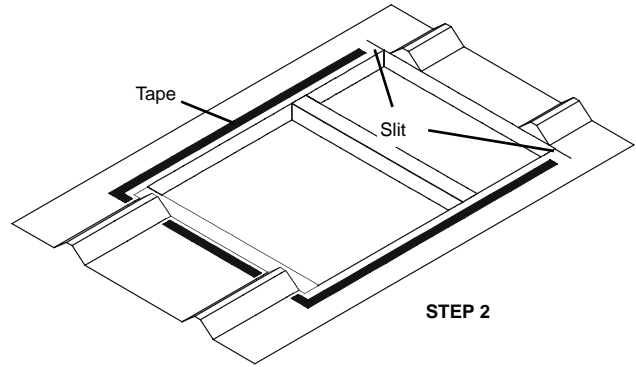
AMBC Installation Instructions

**INSTALLATION INSTRUCTIONS
FOR THE
MODEL AMBC-2
METAL BUILDING CURB**



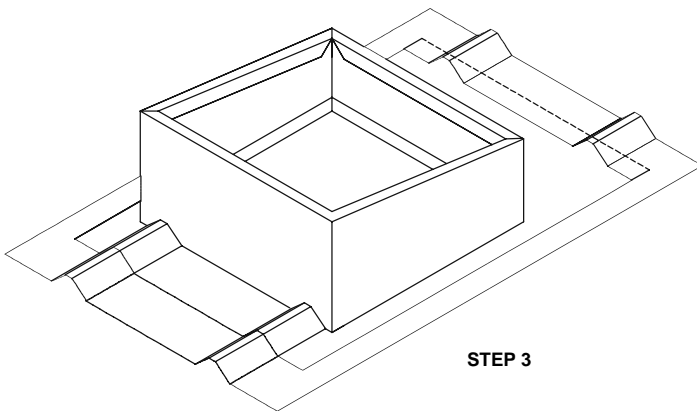
STEP 1

Locate roof opening and install support framing for roof curb and equipment loads. Place support framing so that at least two parallel curb walls rest on support framing. Loads shall not be supported by a cantilever curb section exceeding 1'-0" in length. Cut roof panels to fit opening of curb on sloping sides and overlap rib sides by 3-1/2".



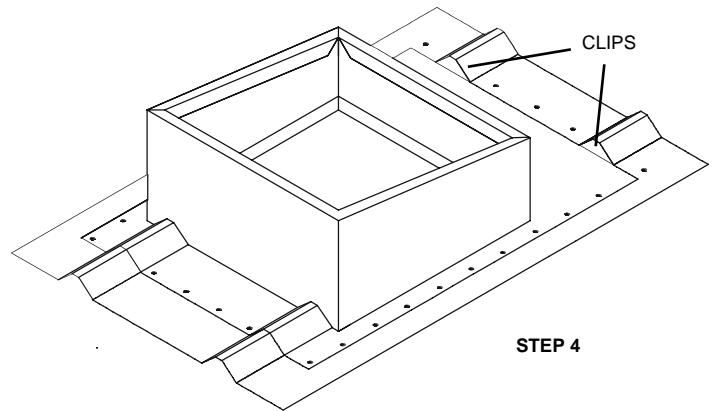
STEP 2

Make a horizontal slit at top corners of roof opening to accept base flange of roof curb. Apply sealant tape along edge of roof opening.



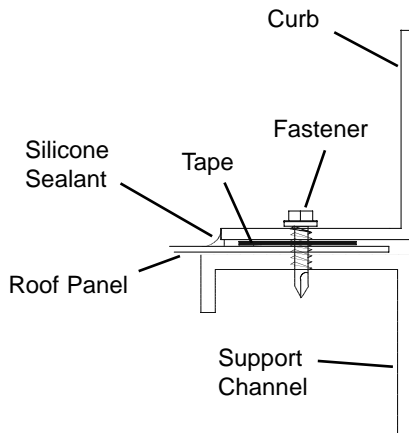
STEP 3

Slide curb under roof panel on top side and align curb with support framing. Press firmly into place.



STEP 4

Install clips (field supplied) over rib openings on top side. Install fasteners compatible with the roof system at a minimum of 6" O/C.



Inspect installation and fasteners. Finish all edges of curb with a good grade of silicone sealant to assure a watertight seal. **Make sure all possible openings for water are sealed.**

Adapter Curb Specifications

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of the Adapter Curb.

PART 2 PRODUCTS

2.01 Adapter Curbs as manufactured by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

PART 3 CONSTRUCTION

3.01 Adapter Curbs shall be constructed using minimum 14 gauge galvanized steel with fully welded corners, 1" duct liner insulation on air impacted surfaces, and 18 gauge galvanized steel turning vanes as required.

3.02 Minimum height, 14" above existing roof curb.

PART 4 INSTALLATION

4.01 Adapter Curbs shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Size of Curbs and required options shall be coordinated by support manufacturer with general contractor and mechanical contractor prior to fabrication.

PART 6 GUARANTEE

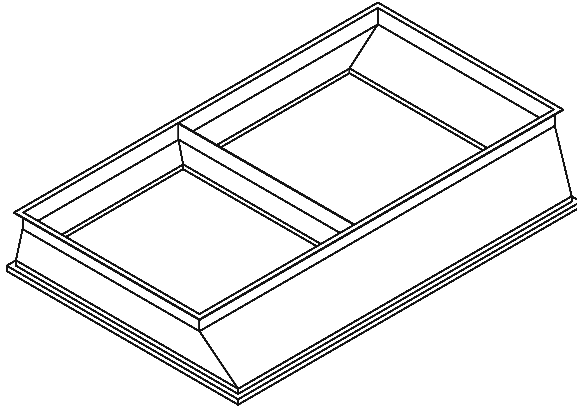
6.01 Adapter Curbs shall be guaranteed against defects in material and/or workmanship for a period of one(1) year.

Adapter Curbs

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

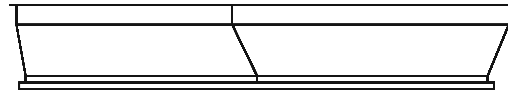
Model ARAC-1

Solid bottom Adapter Curb for existing curb with unknown location of openings. New openings are field supplied.



Standard Construction

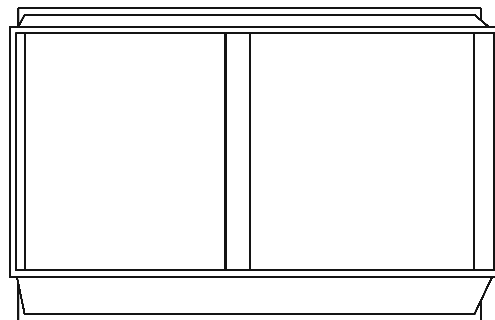
- 14ga. Galvanized Steel Plenum Adapter Curb
- Full Height Welded Corners
- 1" Duct Liner Insulation
- 12" Height
- Supply and Return Openings to match existing curb
- 1" x 1/4" thick Neoprene Gasket



Optional Construction

- Height as required
- Solid Bottom for field location of Supply and Return openings
- Isolation Rail System

check all that apply



QTY	Existing RTU	New RTU	COMMENTS

Adapter Curbs

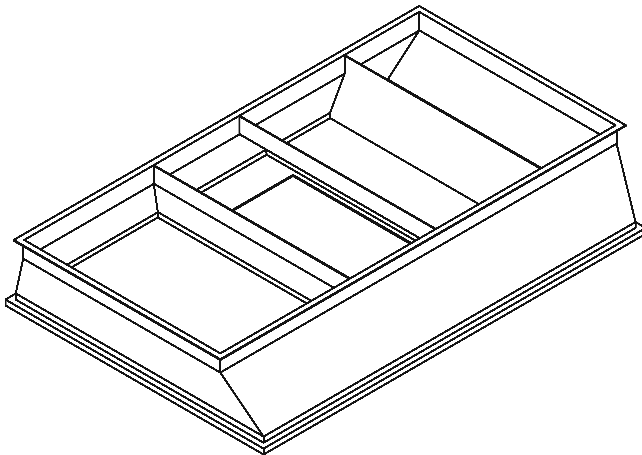
Customer _____ Project _____

Ship To _____

P.O. Number _____ Approved By _____

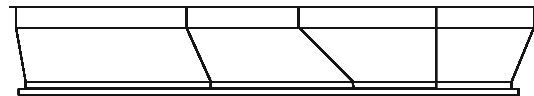
Model ARAC-2

Adapter curb for maintenance-free installation. No field modifications required.



Standard Construction

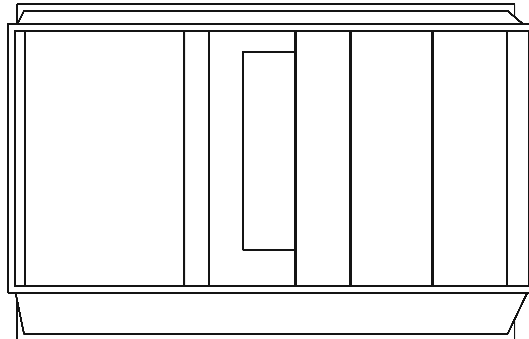
- 14ga. Galvanized Steel Rail Adapter Curb
- Full Height Welded Corners
- 1" Duct Liner Insulation
- Height as required by unit size
- 1" x 1/4" thick Neoprene Gasket



Optional Construction

Isolation Rail System

check all that apply



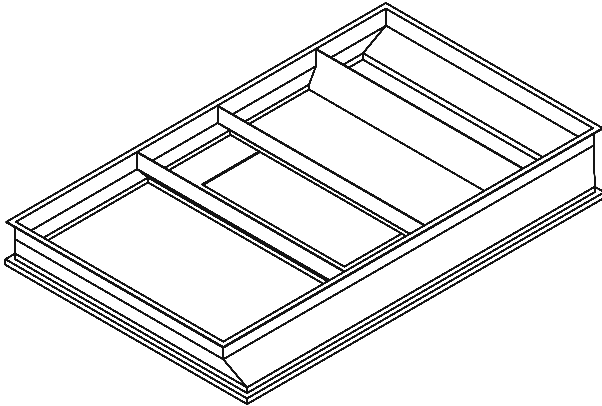
QTY	Existing RTU	New RTU	COMMENTS

Adapter Curbs

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model ARAC-3

Adapter curb for total duct replacement.
 New duct drops required by others.



Standard Construction

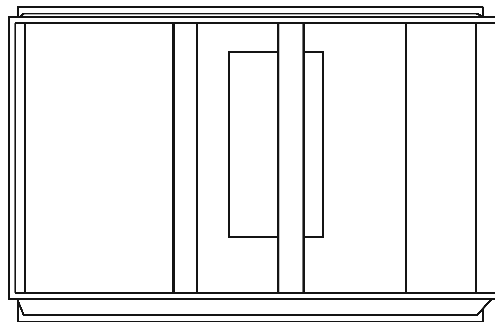
- 14ga. Galvanized Steel Rail Adapter Curb
- 3" Deep Duct Support Rails
- Old Rails Absent or Field Removed
- New Drops Field Fabricated
- Full Height Welded Corners
- 1" Duct Liner Insulation
- Height as required by unit size
- 1" x 1/4" thick Neoprene Gasket



Optional Construction

- Duct support rails shipped loose
- Full Height Duct Support Rails
- Isolation Rail System

check all that apply



QTY	Existing RTU	New RTU	COMMENTS

Adapter Curb Installation Instructions

Typical installation for AES Adapter Curbs

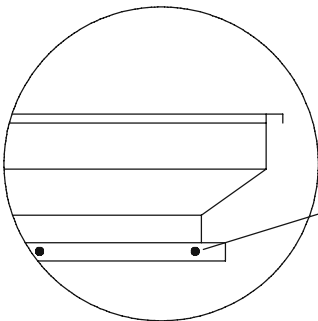
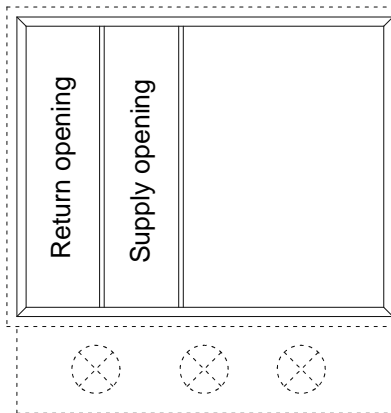
1. Remove all possible connections between existing unit and roof.
2. Remove all duct connections to unit.
3. Carefully remove existing unit.
(Do not damage curb)

Typical
connection
locations

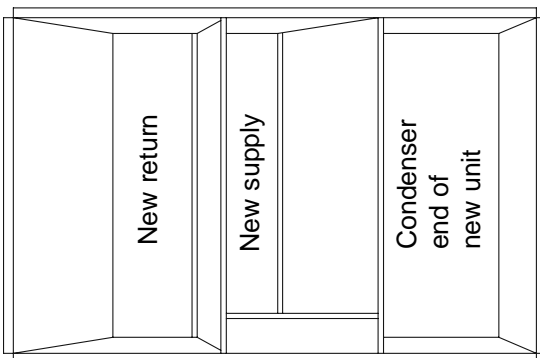
Main power

Gas

EXISTING CURB



Attach to existing
curb @ 12" OC



ADAPTER CURB

4. Install neoprene to existing curb flanges and rails.
5. Place adapter curb over existing curb as shown.
6. Attach to existing curb with #10 x 1-1/4" long self-tapping screws (w/gaskets).
7. Move all power and pipe connections to new unit locations as required.
8. Attach existing duct to adapter curb openings (maintain seal).
9. Install neoprene gasket to adapter curb flanges and openings.
10. Install new unit as per manufacturer's recommendations.

Equipment Support Specifications

SECTION 07851

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of equipment supports.

PART 2 PRODUCTS

2.01 Pre-fabricated metal equipment supports shall be provided by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

PART 3 CONSTRUCTION

3.01 Equipment supports shall be constructed using minimum 18 gauge galvanized steel, (heavier gauge if deemed necessary), internal bulkhead reinforcement, integral base plates, (specify x 4,6,8,10,12) factory installed wood nailers.

3.02 Minimum height, 8" above finished roof line.

3.03 Slope to match slope of roof.

3.04 Additional Options: Extended Base Flanges, Galvalume Construction, Ridge Mounted, Additional Height, Aluminum Construction.

PART 4 INSTALLATION

4.01 Equipment supports shall span a minimum of two structural members.

4.02 No load shall be applied to a counter levier exceeding 1'-0" in length.

4.03 Equipment supports shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Length, Height, and Width of equipment supports shall be coordinated by support manufacturer with general contractor and mechanical contractor prior to fabrication.

5.02 Shop drawing bearing architects approval shall be used for fabrication of the equipment supports.

PART 6 GUARANTEE

6.01 Equipment supports shall be guaranteed against defects in material and/or workmanship for a period of one(1) year.

Equipment Supports

Customer _____ Project _____
 Ship To _____

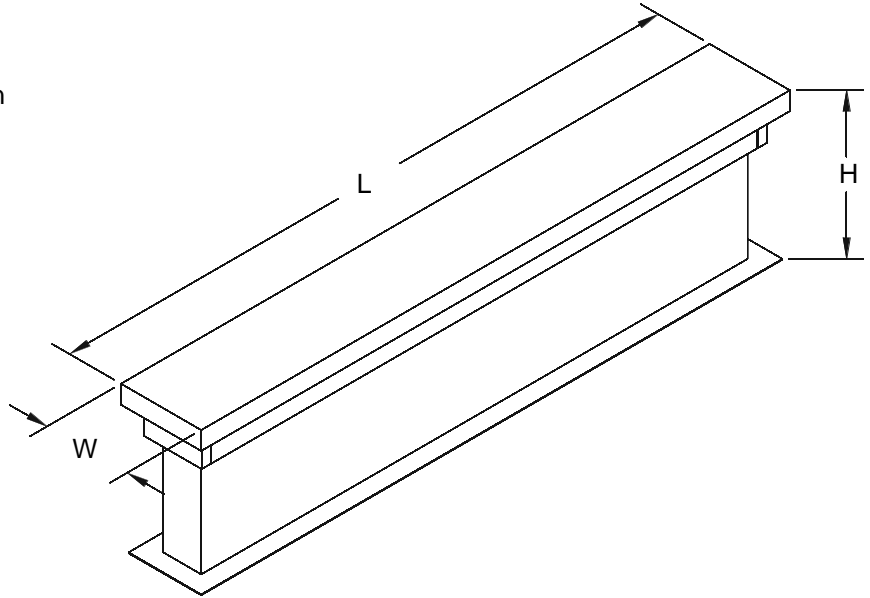
 P.O. Number _____ Approved By _____

Model AES-1

Non-insulated equipment support for insulated roof decks.

Standard Construction

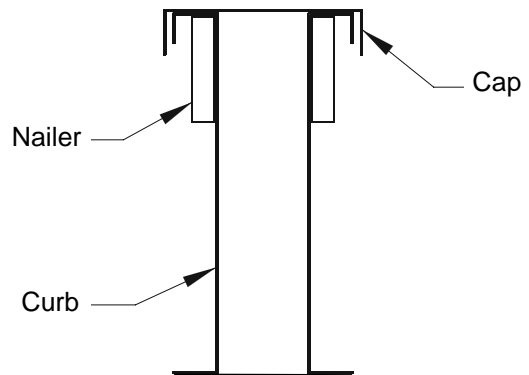
- 18ga. Galvanized Steel Construction
- 12" Height
- 4" Width
- 1x4 Pressure Treated Nailer



Optional Construction

- 14 Ga. Material
- Height or Slope as Required
- Width as Required
- 1" Isoboard Insulation

check all that apply



Qty	Tag	L	H	W	COMMENTS

Equipment Supports

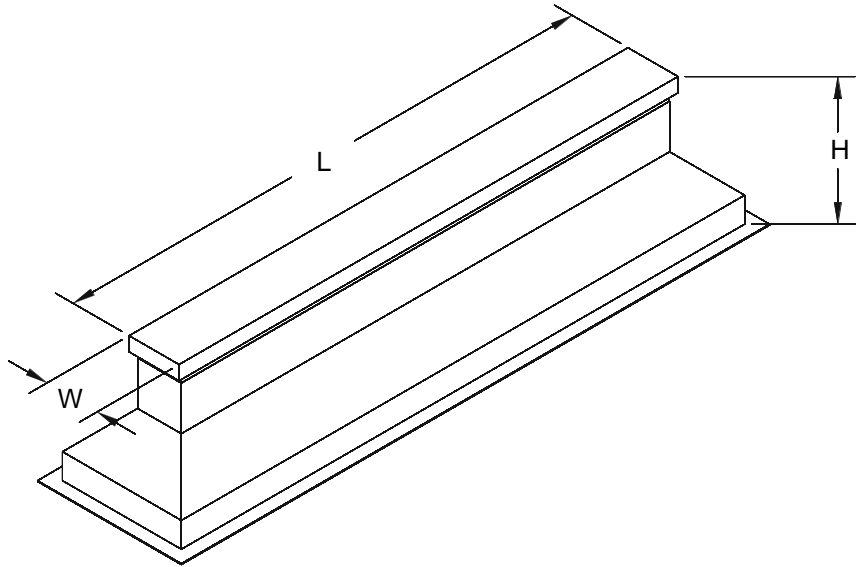
Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AES-2

Equipment support for insulated roof decks, with 2 inch raised 3 inch cant.

Standard Construction

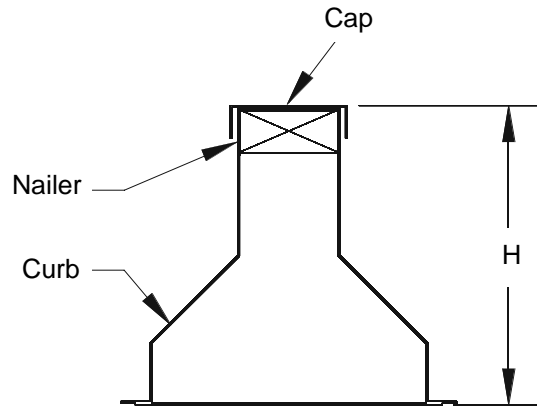
- 18ga. Galvanized Steel Construction
- 10" Height
- 4" Width
- 2" Raised Cant
- 2x4 Pressure Treated Nailer



Optional Construction

- 14 Ga. Material
- Height or Slope as Required
- Width as Required
- Variable Ht. Raised Cant

check all that apply



Qty	Tag	L	H	W	COMMENTS

Equipment Supports

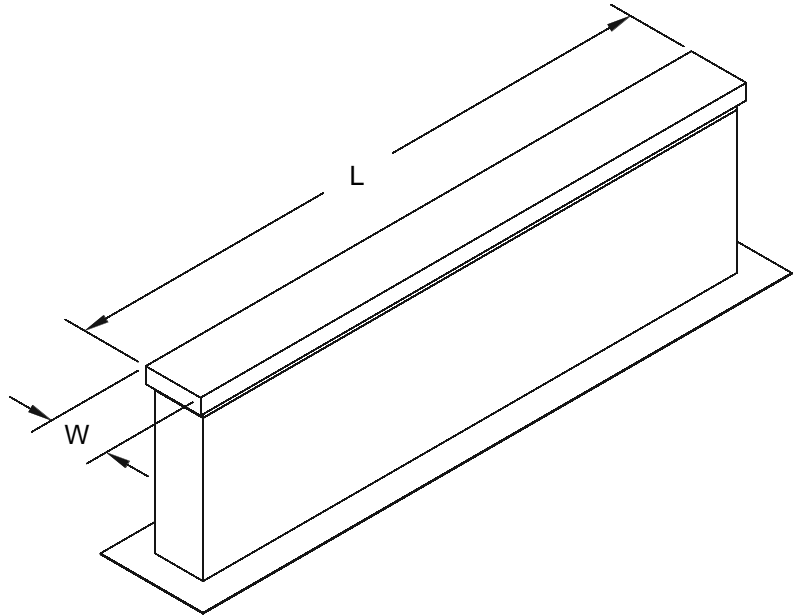
Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AES-3

Equipment support (self-flashing) for all roof decks.

Standard Construction

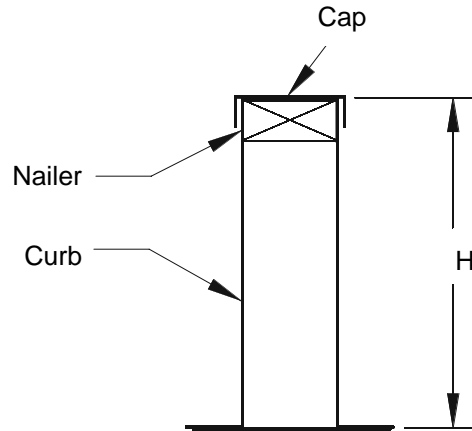
- 18ga. Galvanized Steel Construction
- 12" Height
- 4" Width
- 2x4 Pressure Treated Nailer



Optional Construction

- 14 Ga. Material
- Height or Slope as Required
- Width as Required

check all that apply



Qty	Tag	L	H	W	COMMENTS

Equipment Supports

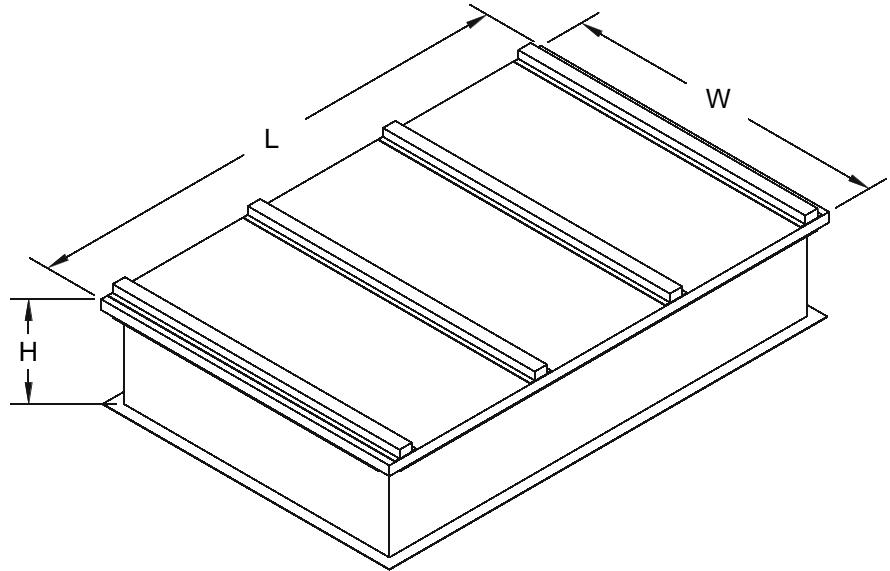
Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AES-5

Non-insulated platform
 curb for all roof decks.

Standard Construction

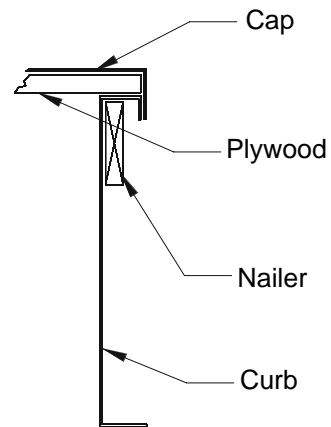
- 18ga. Galvanized Steel Construction
- 14" Height
- 3/4" Plywood Under Full Cap
- Elevated Channels Required on Unit Bases 5'x10' and Larger
- 1x4 Pressure Treated Nailer



Optional Construction

- 14 Ga. Material
- Height or Slope as Required
- Insulated Curb

check all that apply



Qty	Tag	L	H	W	COMMENTS

Isolation Rail Specifications

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of the Isolation Rails.

PART 2 PRODUCTS

2.01 Isolation Rails as purchased from **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

PART 3 CONSTRUCTION

3.01 Curb mounted roof top units shall be isolated with Amber Booth type ATIR continuous roof top isolation assembly. The ATIR shall consist of a pair of extruded aluminum rails formed to fit curb and equipment with a flexible air and weather seal, continuously joining the two rails and incorporating type SW spring isolators sized for 1", 2", or 3" static deflection.

3.02 Aluminum rails shall be caulked to the curb and furnished with an elastomeric sponge isolation pad on top for additional weather protection and high frequency noise absorption.

3.03 Flexible weather seals shall be 1/16-inch thick minimum reinforced elastomeric protected from direct sunlight and accidental puncture by extruded aluminum shield and shall be capable of being replaced completely without disturbing the unit mounting.

3.04 Springs shall be stable with a Kx/Ky (horizontal to vertical spring rate) of 1.0 or greater and be properly sized to support the load. Neoprene cushioned wind restraints to withstand 60 mph force.

3.05 Isolation assembly shall have elastomeric cushioned wind restraints that are not engaged in normal operation with sufficient capacity to resist wind load in any direction without distortion or damage to the isolated equipment.

3.06 Entire assemblies, for curb sizes up to 8' x 24' (freight limitation), shall be shipped in one piece to eliminate field joints and possible leakage.

PART 4 INSTALLATION

4.01 Isolation Rails shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Size of Rails and required options shall be coordinated by support manufacturer with general contractor and mechanical contractor prior to fabrication.

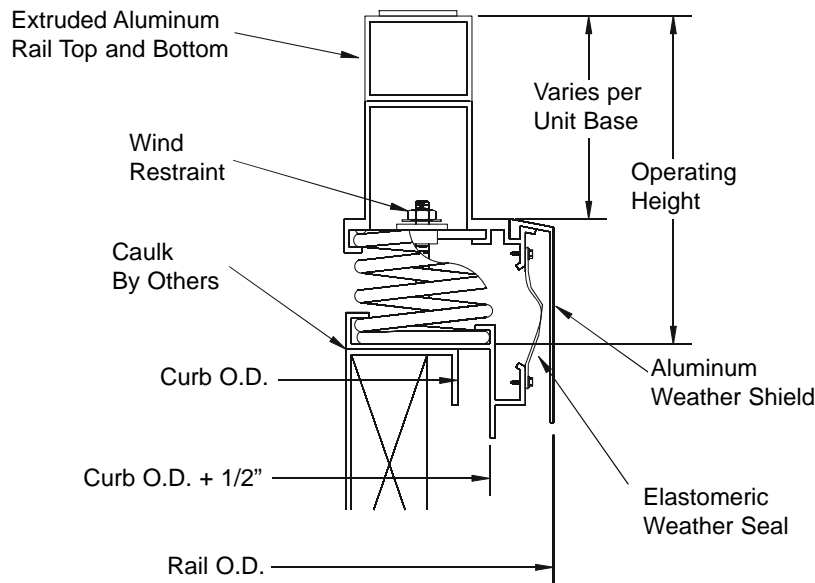
PART 6 GUARANTEE

6.01 Isolation Rails shall be guaranteed against defects in material and/or workmanship for a period of one(1) year.

Isolation Rails

Model ATIR-1,2 or 3

Amber Booth isolation rail with 1", 2" or 3" deflection for anti-vibration. For use on existing or new roof curb.



A rooftop isolation rail (ATIR) is an isolation system for applications with curb-mounted equipment requiring a weather seal.

The Amber-Booth rooftop isolation rail incorporates a continuous extruded aluminum unit support rail, stable 1" through 3" deflection springs, flexible reinforced elastomeric weather seal, and a continuous extruded aluminum curb flashing. Each rail assembly is custom engineered for the equipment. Spring spacing is matched to equipment component weights and disturbing frequencies, properly sized elastomeric isolated wind restraints are rated at 60 miles per hour.

ATIR are shipped in one piece up to commercial carrier limitations, (approximately 8' x 24') to eliminate possible leakage from field joints. Where field joints are required in oversize units, these are designed into the length members, never the corners, and splice kit assemblies are furnished by Amber-Booth. Corner joints are always shipped factory assembled with Amber-Booth's unique double flashing construction.

The reinforced elastomeric weather seal is protected from accidental puncture and direct sunlight by a continuous aluminum weather shield. The weather shield is removable so that the flexible weather seal can be replaced, if necessary, without removing the supported equipment. The isolation heart of the system utilizes stable 1", 2", or 3" deflection springs, properly sized, undamped for efficient isolation.

The standard configuration of the ATIR assembly incorporates a 1-5/8" high hat section to mate with rooftop unit mounting flange and a bottom flashing assembly for a nominal 2" wide roof curb. Adapters can be furnished to accommodate special unit mounting flanges and to match special curb configurations.

Noise Control Curbs

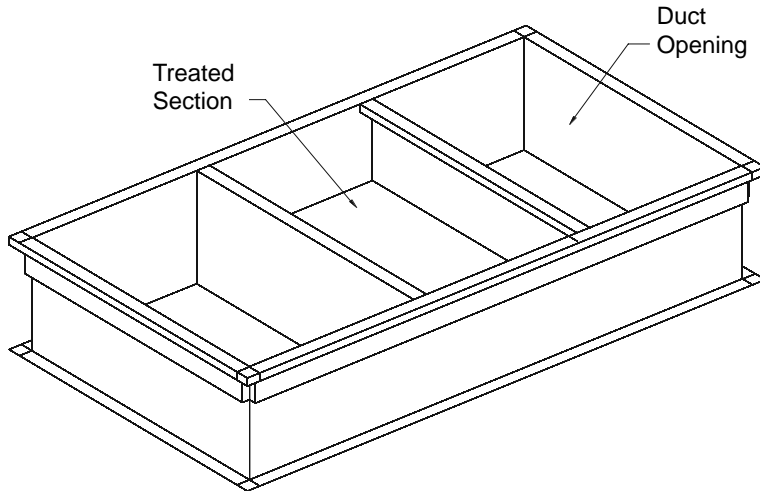
Customer _____ Project _____

Ship To _____

P.O. Number _____ Approved By _____

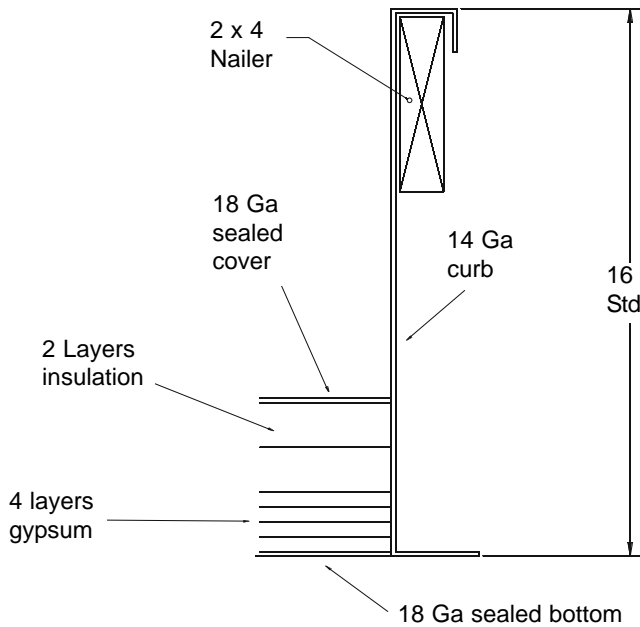
Model ANCC-1

Acoustically insulated roof curb designed to reduce equipment noise into building structure. Commonly used in libraries, classrooms, theaters, etc.



Standard Construction

- 14ga. Galvanized Steel Construction
- 2 Layers 1-1/2" thick 3 lb. density Insulation
- 4 Layers 1/2" thick Gypsum
- Full Height Supply and Return support rails
- Factory installed 1x4 Pressure Treated Nailer
- 18" Height



Optional Construction

- Factory installed Isolation Rail
- Heavier Gauge construction

check all that apply

QTY	RTU	COMMENTS

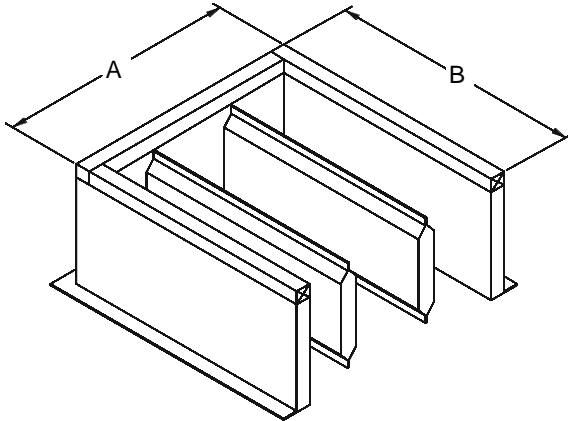
Noise Control Curbs

Customer _____ Project _____
 Ship To _____

 P.O. Number _____ Approved By _____

Model ASB-1

Insulated curb (self-flashing) with internal sound baffles for noise reduction.



Standard Construction

- 18ga. Galvanized Steel Construction
- 1-1/2" thick 3 lb. density Fiberglass Insulation
- Insulated Sound Baffles 6" O.C.
- Full Height Mitered and Welded Corners
- Factory installed 2x2 Pressure Treated Wood Nailer
- 12" Height

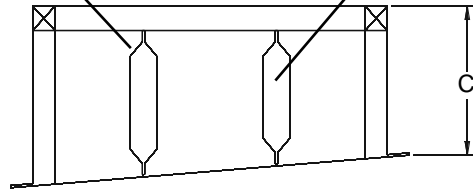
Optional Construction

- Height as required
- Heavier Ga. Material
- 20ga. Liner
- .063 Aluminum Construction

check all that apply

PERFORATED BAFFLE WALLS DESIGNED FOR UNRESTRICTED AIR FLOW

1-1/2" THICK, 3 LB. ACOUSTICAL INSULATION



TYPICAL SLOPED SECTION

QTY	A	B	C	ROOF SLOPE	COMMENTS

Expansion Joint Specifications

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of the Expansion Joint Curbing.

PART 2 PRODUCTS

2.01 Expansion Joint Curbing as manufactured by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402.**

PART 3 CONSTRUCTION

3.01 Expansion Joint Curbing shall be constructed using minimum 18 gauge galvanized steel with fully mitered and welded corners, continuous base plate, factory installed 1 1/2" thick 3lb. density insulation and pressure treated wood nailers.

3.02 Minimum height, 8" above finished roof line.

3.03 Expansion Joint Curbing shall be constructed in maximum 10' lengths, with fully mitered and welded corners at intersections and sloping end sections (if required).

3.04 Splice Plates and/or connector clips shall be provided by AES Industries, Inc.

PART 4 INSTALLATION

4.01 Expansion Joint Curbing shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Size of Curbs and required options shall be coordinated by support manufacturer with general contractor and mechanical contractor prior to fabrication.

5.02 Shop drawing bearing architects approval shall be used for fabrication of the Expansion Joints.

PART 6 GUARANTEE

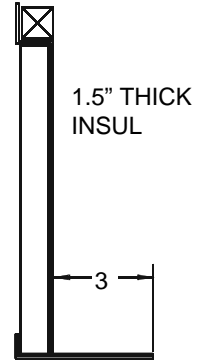
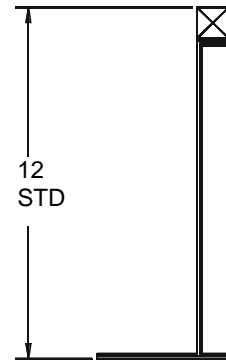
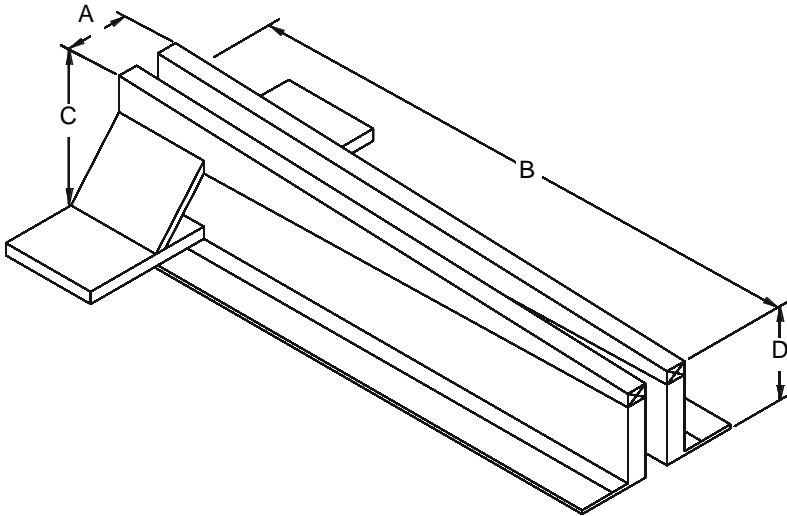
6.01 Expansion Joint Curbing shall be guaranteed against defects in material and/or workmanship for a period of five(5) years.

Expansion Joints

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AEJ-1

Insulated expansion joint for non-insulated roof decks.



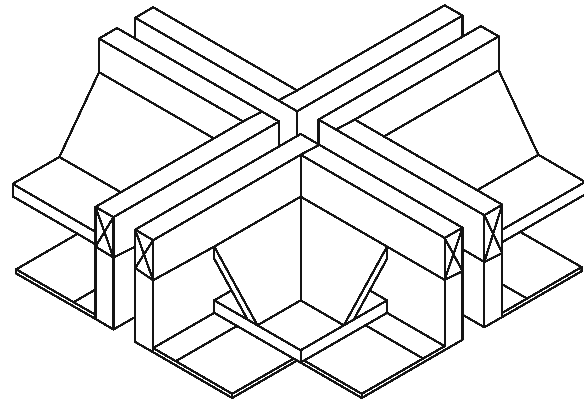
Standard Construction

- 18ga. Galvanized Steel Construction
- 1 1/2" Fiberglass Insulation
- 12" Height
- 10'-0" Max Length

Optional Construction

- 14ga. Galvanized Steel
- Rigid Insulation

check all that apply



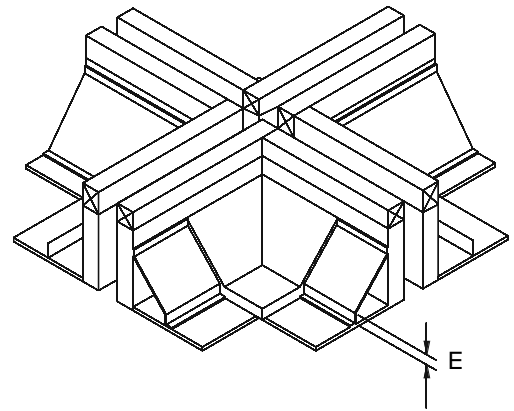
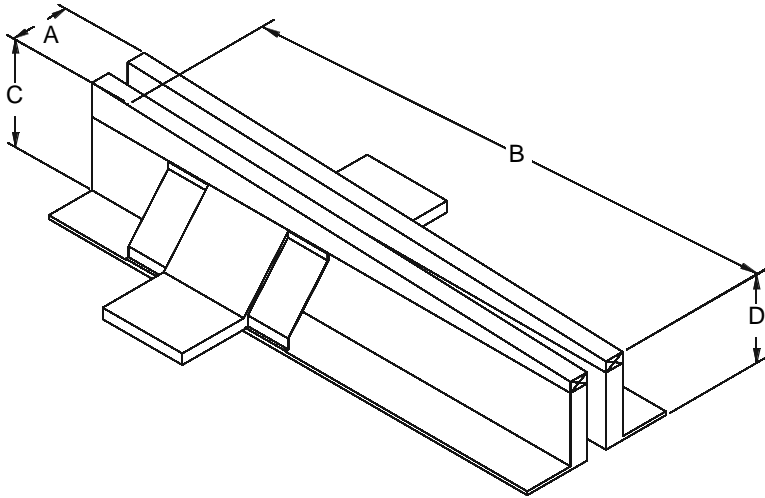
QTY	A	B	C	D	COMMENTS

Expansion Joints

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AEJ-2

Insulated expansion joint for insulated roof decks, with 1.5 inch raised 3 inch cant.



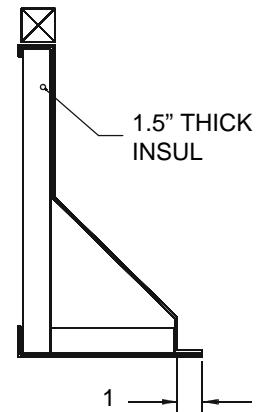
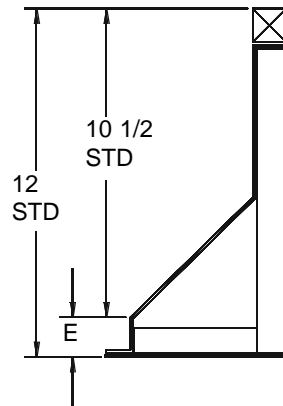
Standard Construction

- 18ga. Galvanized Steel Construction
- 1 1/2" Fiberglass Insulation
- 12" Height
- 10'-0" Max Length

Optional Construction

- 14ga. Galvanized Steel
- Rigid Insulation

check all that apply



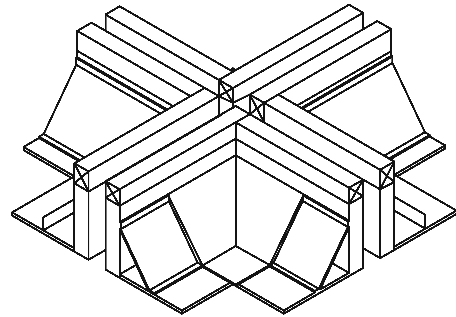
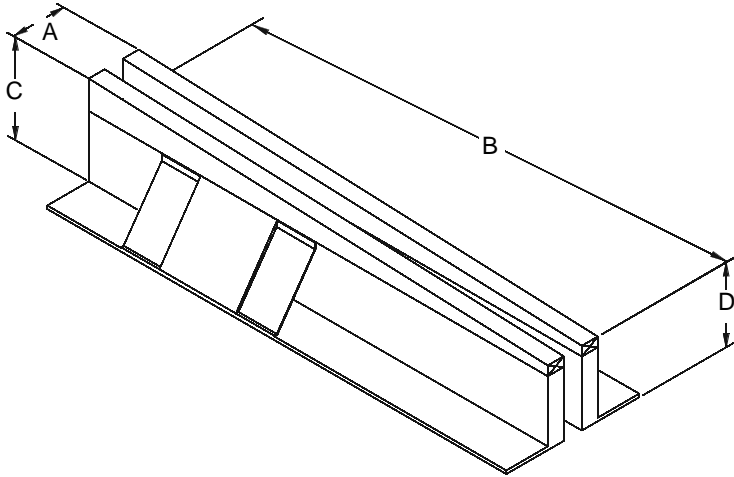
QTY	A	B	C	D	E	COMMENTS

Expansion Joints

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AEJ-3

Insulated expansion joint with 3 inch cant for non-insulated roof decks.



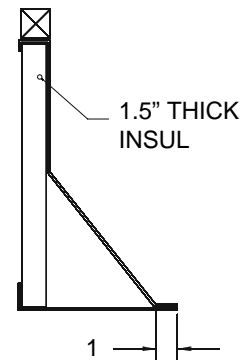
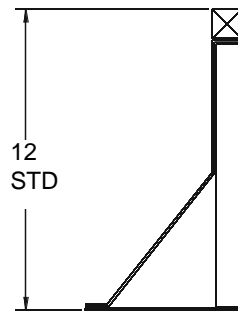
Standard Construction

- 18ga. Galvanized Steel Construction
- 1 1/2" Fiberglass Insulation
- 12" Height
- 10'-0" Max Length

Optional Construction

- 14ga. Galvanized Steel
- Rigid Insulation

check all that apply



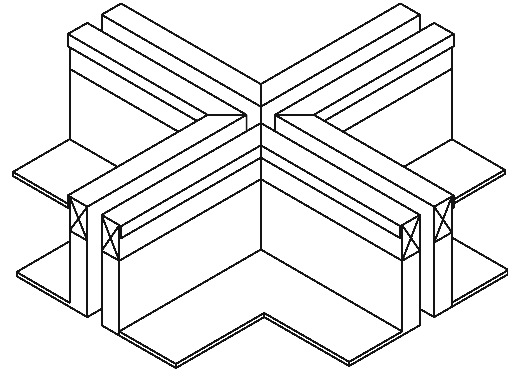
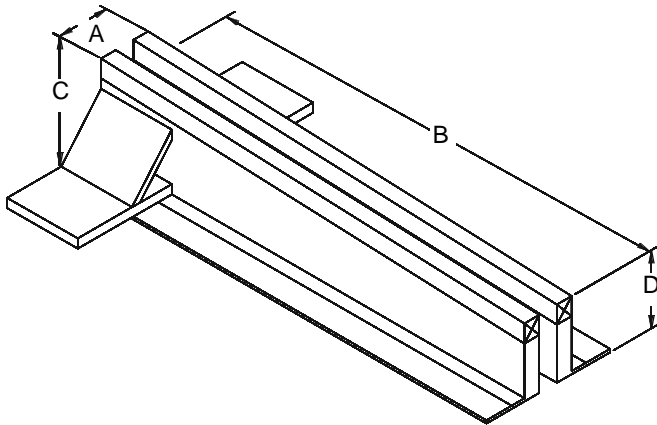
QTY	A	B	C	D	COMMENTS

Expansion Joints

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model AEJ-4

Non-insulated expansion joint for insulated roof deck.



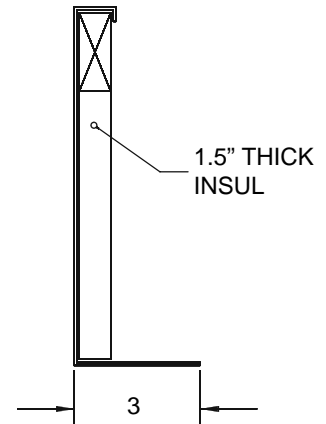
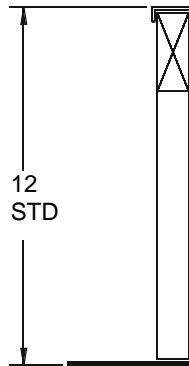
Standard Construction

- 18ga. Galvanized Steel Construction
- 1 1/2" Fiberglass Insulation
- 12" Height
- 10'-0" Max Length

Optional Construction

- 14ga. Galvanized Steel
- Rigid Insulation

check all that apply



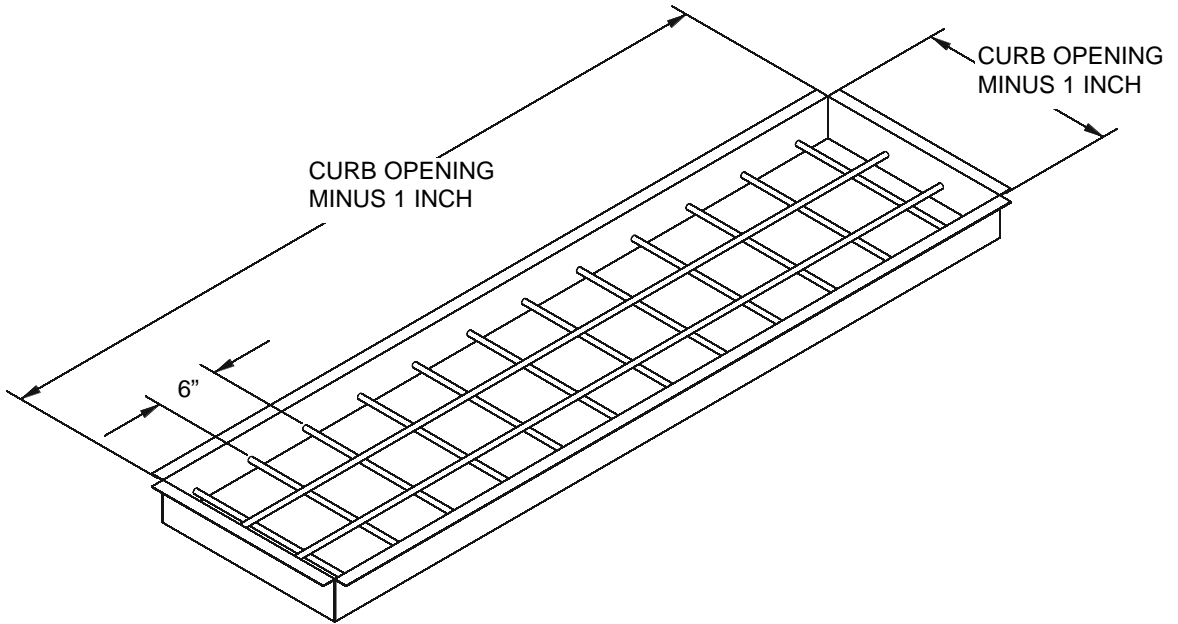
QTY	A	B	C	D	COMMENTS

Burglar Bar Inserts

Customer _____ Project _____
 Ship To _____
 P.O. Number _____ Approved By _____

Model ABB

Burglar bar inserts for supply/return openings in HVAC curbs. Inserts are undersized to fit in recommended duct drops.



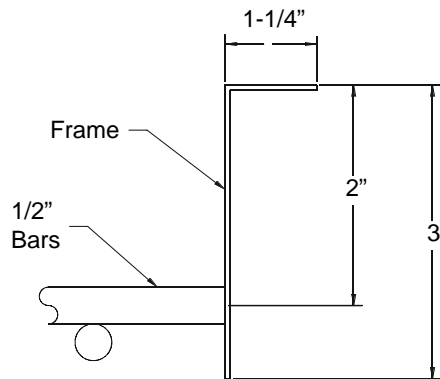
Standard Construction

18ga. Galvanized Steel Construction
 1/2" Diameter Steel Bars Welded in a
 6"x6" Grid Pattern

Optional Construction

- Change Bar Dia.
- Change Grid Pattern Dimension

check all that apply



TYPICAL SECTION

QTY	RTU Type	OR	Supply Insert ID	Return Insert ID	Comments
			x	x	
			x	x	
			x	x	
			x	x	

Wind/Seismic Restraint Brackets

Customer _____ Project _____

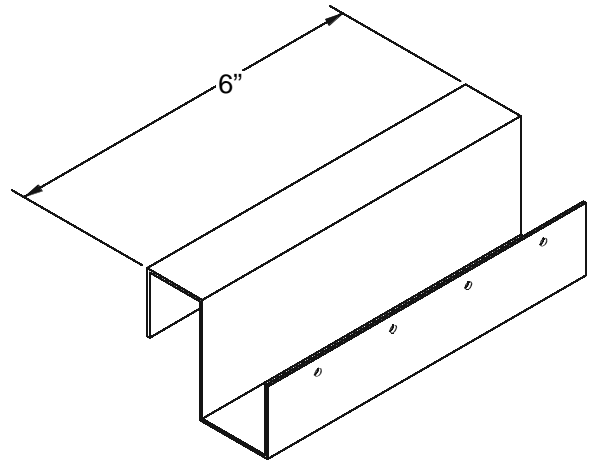
Ship To _____

P.O. Number _____ Approved By _____

Model AWS

Restraint bracket used to fasten HVAC equipment to roof curb in wind/seismic zones.

Calculations are made from an independent design firm for each unit manufacturer. Factors that determine the number of brackets required include unit surface area, uplift, unit weight, bracket design, shear strength of screws and unit location.



Assumptions for calculations

Codes Considered:

- 1997 UBC (Uniform Building Code)
- 1999 BOCA (Building Officials & Code Administrators)
- 2000 IBC (International Building Code)
- 1999 SBC (Standard Building Code)
- ASCE 7-98 (American Society of Civil Engineers)
- Florida Building Code 2001

Wind Speed: $V = 150\text{mph}$, based on 3 second wind speed.

Importance Factor: $I = 1.0$

Roof Pitch: $a < 10$ degrees (flat roof).

Mean Roof Height: $h = 30$ ft.

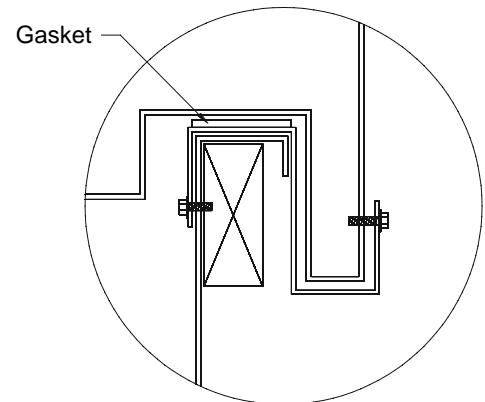
Unit Location: Unit is located away from the edge of the building a minimum of 10% of the least building width or 10 ft.

Exposure C: Urban areas with open terrain with scattered obstructions.

Exposure D: Buildings located within 1500 feet from the shoreline or coastline. A shoreline is any body of water that wind can flow for a distance of at least 1 mile.

Screws: Use INTERCORP #12 TEK Screws.

Bracket: 10 Gauge, .0125 inches thick, 6 inches long.



TYPICAL SECTION

Standard Construction

10ga. Galvanized Steel Construction
Fastener Sets Provided

QTY	RTU Type	COMMENTS

Drop Box Diffuser Specifications

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of the Drop Box Diffusers.

PART 2 PRODUCTS

2.01 Drop Box Diffusers as manufactured by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402**

PART 3 CONSTRUCTION

A. General: Construct drop boxes of 18 gauge galvanized/galvanized (paintable) steel sheet conforming to ASTM A 653, min. A60 coating designation, with integral 18 gauge min. air diverters. Drop boxes shall be fully welded. Mechanical fastened seams shall not be used. Diffusers shall be fully adjustable double deflection drum louvers by approved source. Base louver in 6-way box shall be double deflection. Fasteners to match louver/grille color. Drop boxes and air diverters shall be insulated with 1" x 1.5 lb density duct liner glued and spot welded to all interior surfaces. Duct collars shall be constructed with factory formed TDC flange or equal. Provide factory installed mounting brackets.

B. Accessory Package: No field supplied items required for mounting. Provide mounting accessory package for each drop box which consists of the following:

1. 2"x 2"x 1/4" pre-punched angles (or Unistrut).
2. 3/8" all thread rod (pre-cut).
3. Beam clamps.
4. All bolts, nuts and washers.

C. Finish: Prime and finish coat in the shop. Finish coating shall be color to match Sherwin Williams #SW2537 "Blossom White".

1. Alkyd Primer: One coat PPG Multigrip Epoxy Ester Dry Fog #6-157.
2. Alkyd Finish: One coat PPG Speedhide Super-Tech Dry Fog Coating, Eggshell # 6-151.

PART 4 INSTALLATION

4.01 Drop Box Diffusers shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Size of Boxes and required options shall be coordinated by support manufacturer with general contractor and mechanical contractor prior to fabrication.

PART 6 GUARANTEE

6.01 Drop Box Diffusers shall be guaranteed against defects in material and/or workmanship for a period of five (5) years.

Drop Box Diffusers

Standard Construction

- 18ga. Galvanized Steel
- 20ga. Pyramid Air Diverter
- 1" Acoustical Duct Liner Insulation for noise control
- TDC Top Flange for Duct Connection
- 14 Ga. Mounting Brackets
- Double Deflection Drum Louvers
- Painted White

Optional Construction

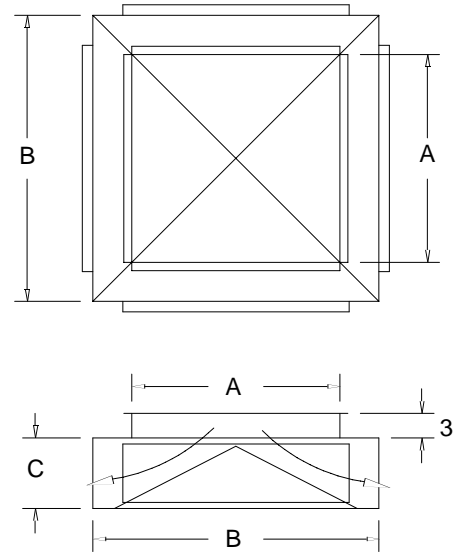
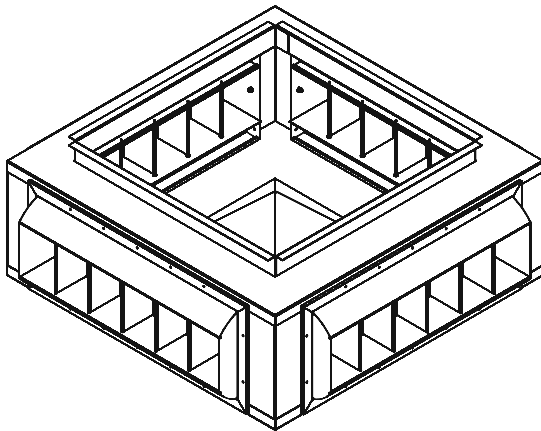
- Heavier Gauge Construction
- Opposed Blade Dampers
- Standard Double Deflection Grilles

check all that apply

QTY	MODEL	TAG

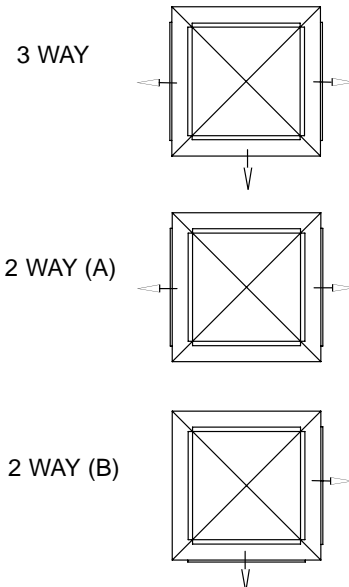
Model ADB-1

Drop box diffuser with double deflection drum louvers. Typically used in high ceiling applications.



AES Drop Box Model No.	Box Type	Total CFM	Louver Size	Dim. A	Dim. B	Dim. C
ADB -1-5-4	4-way	2000	6 x 12	14	22	9
ADB -1-5-3	3-way	2000	6 x 18	19	28	9
ADB -1-5-2 (A or B)	2-way	2000	10 x 25	28	35	13
ADB -1-7-4	4-way	3000	6 x 18	19	28	9
ADB -1-7-3	3-way	3000	10 x 25	28	35	13
ADB -1-7-2 (A or B)	2-way	3000	10 x 25	28	35	13
ADB -1-8-4	4-way	3400	6 x 24	20	34	9
ADB -1-8-3	3-way	3400	10 x 20	24	30	13
ADB -1-8-2 (A or B)	2-way	3400	12 x 30	30	40	15
ADB -1-10-4	4-way	4000	10 x 20	24	30	13
ADB -1-10-3	3-way	4000	10 x 25	28	35	13
ADB -1-10-2 (A or B)	2-way	4000	12 x 30	30	40	15
ADB -1-12-4	4-way	5000	10 x 20	24	30	13
ADB -1-12-3	3-way	5000	12 x 30	30	40	15
ADB -1-12-2 (A or B)	2-way	5000	12 x 50	30	40	15
ADB -1-15-4	4-way	6000	10 x 25	28	35	13
ADB -1-15-3	3-way	6000	12 x 30	30	40	15
ADB -1-15-2 (A or B)	2-way	6000	12 x 50	38	58	15
ADB -1-20-4	4-way	8000	12 x 30	30	40	15
ADB -1-20-3	3-way	8000	12 x 50	38	58	15
ADB -1-20-2 (A or B)	2-way	8000	15 x 50	38	59	19
ADB -1-25-4	4-way	10000	12 x 30	30	40	15
ADB -1-30-4	4-way	12000	12 x 50	38	58	15

Optional Configurations



Drop Box Diffusers

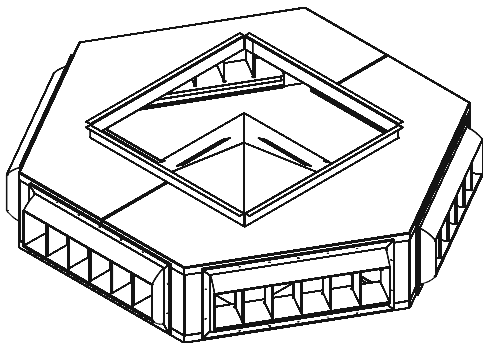
Standard Construction

- 18ga. Galvanized Steel
- 20ga. Pyramid Air Diverter
- 1" Acoustical Duct Liner Insulation for noise control
- TDC Top Flange for Duct Connection
- 14 Ga. Mounting Brackets
- Double Deflection Drum Louvers
- Painted White
- Double Deflection Base Louver on 20-25 Tons

Optional Construction

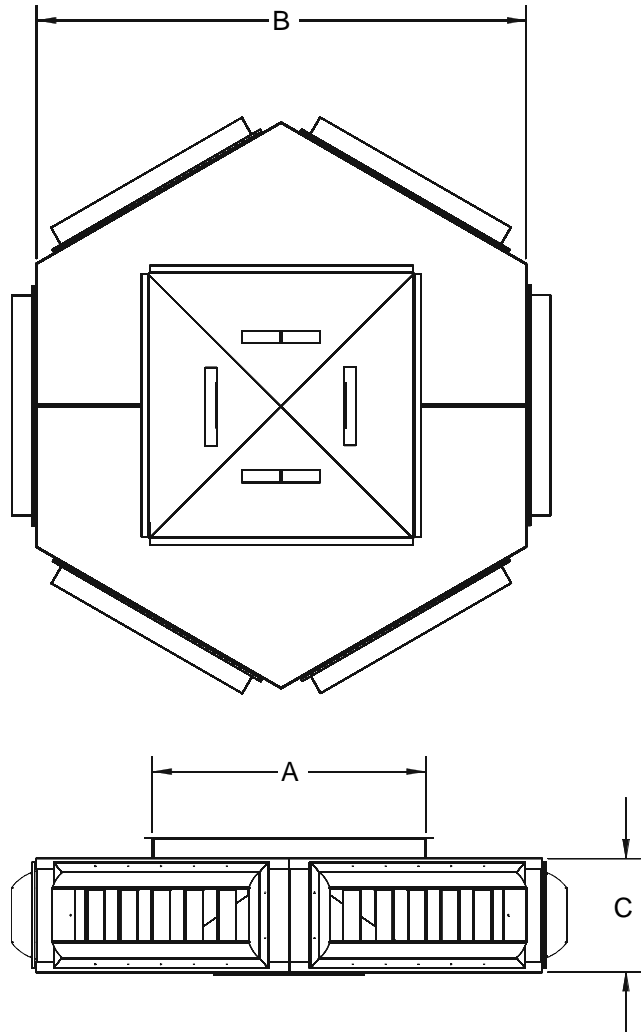
- Heavier Gauge Construction
- Opposed Blade Dampers
- Standard Double Deflection Grilles

check all that apply



Model ADB-6

Drop box diffuser with double deflection drum louvers. Typically used in high ceiling applications.



QTY	MODEL	TAG

AES Drop Box Model No.	Box Type	Total CFM	Louver Size	Dim. A	Dim. B	Dim. C
ADB -6-5	6-way	2000	6 x 12	14	33	9
ADB -6-10	6-way	4000	6 x 18	22	49	9
ADB -6-20	6-way	6000-7000	10 x 25	28	56	13
ADB -6-25	6-way	8000-10000	12 x 30	36	67	15

Larger capacity boxes available - contact AES

Duct Transition Specification

PART 1 GENERAL

1.01 General contractor to provide all labor, materials and equipment in connection with the complete installation of the Duct Transitions.

PART 2 PRODUCTS

2.01 Duct Transitions as manufactured by **AES Industries, Inc., Tallassee, Alabama 36078, Phone 800-786-0402**

PART 3 CONSTRUCTION

A. General: Fabricate supply air duct transitions and return air plenums for RTUs and AHUs with drop boxes of minimum 24 gauge galvanized steel unless otherwise noted in SMACNA duct construction standards. Size units as required to complete the installation of drop boxes. Size opening in return air plenums for the unit CFM and cover opening with a 1"x 1" hardware cloth grid. Insulate duct transitions with 1" x 1.5 lb density duct liner glued and spot welded to interior surfaces. Provide neoprene gasket material sufficient for installation of transitions and plenums. Mounting accessory packages shall be provided with the drop box assembly.

B. Finish: Mill finish prepared for field prime and finish coat.

C. Coordination: Label and package duct transitions and return air plenums for each RTU.

PART 4 INSTALLATION

4.01 Drop Box Diffusers shall be installed in strict accordance with manufacturers printed instructions and as detailed on drawings.

PART 5 COORDINATION

5.01 Size of Boxes and required options shall be coordinated by support manufacturer with General Contractor and Mechanical Contractor prior to fabrication.

PART 6 GUARANTEE

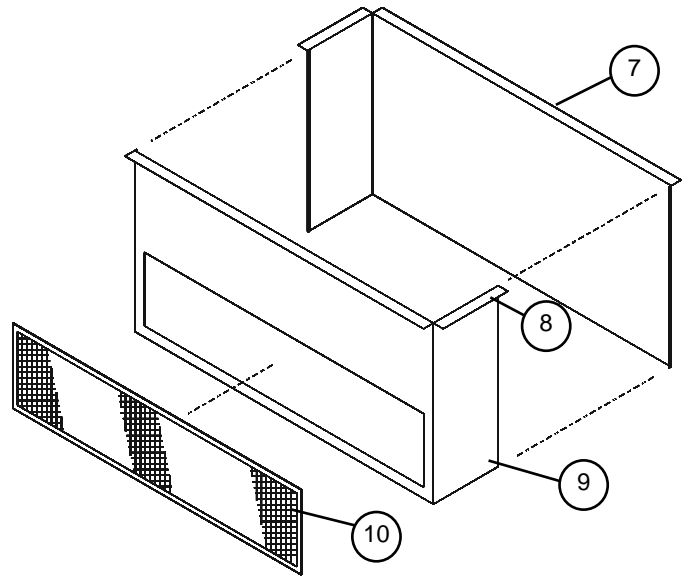
6.01 Duct Transitions shall be guaranteed against defects in material and/or workmanship for a period of five (1) years.

Duct Transitions

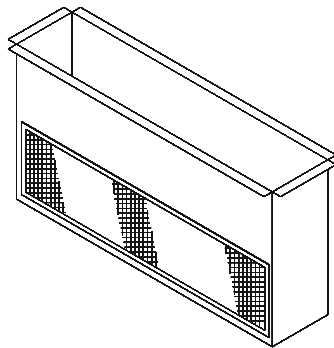
Supplied Parts List

No.	Description	Qty
1	Supply Drop Side 1	1
2	Supply Drop Side 2	1
3	Supply Transition Side 1	1
4	Supply Transition Side 2	1
5	Supply Transition Side 3	1
6	Supply Transition Side 4	1
7	Return Drop Side 1	1
8	Return Drop Side 2	1
9	Return Elbow	1
10	Return Screen	1
11	Drop Box Assembly	1
12	T.D.C. Corner Bracket	12
13	UNISTRUT	A/R
14	3/8" All-Thread Rod	A/R
15	Ductmate Frames	A/R

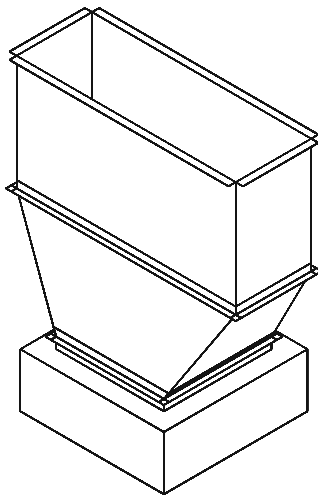
Assembly Instructions for Supply and Return Transitions



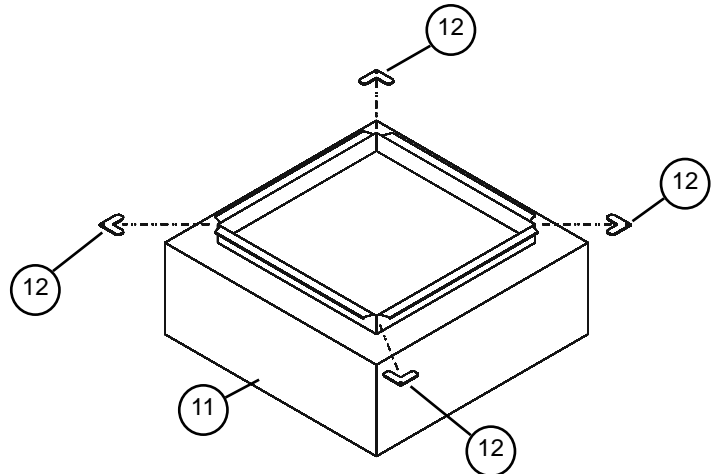
1. Connect return PARTS 7 and 8 Snaploc seams and drop through curb.
2. Install PART 9 to bottom of return duct drop using supplied slip and drives.
3. Attach PART 10 over opening in return drop with self-tapping screws.



Assembled Sales Floor Return Drop



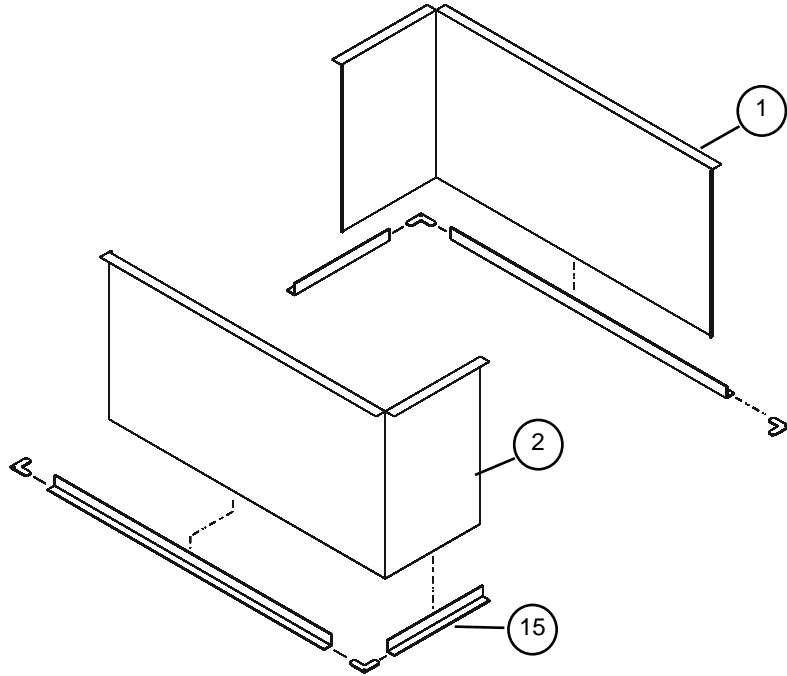
Assembled Supply Transition



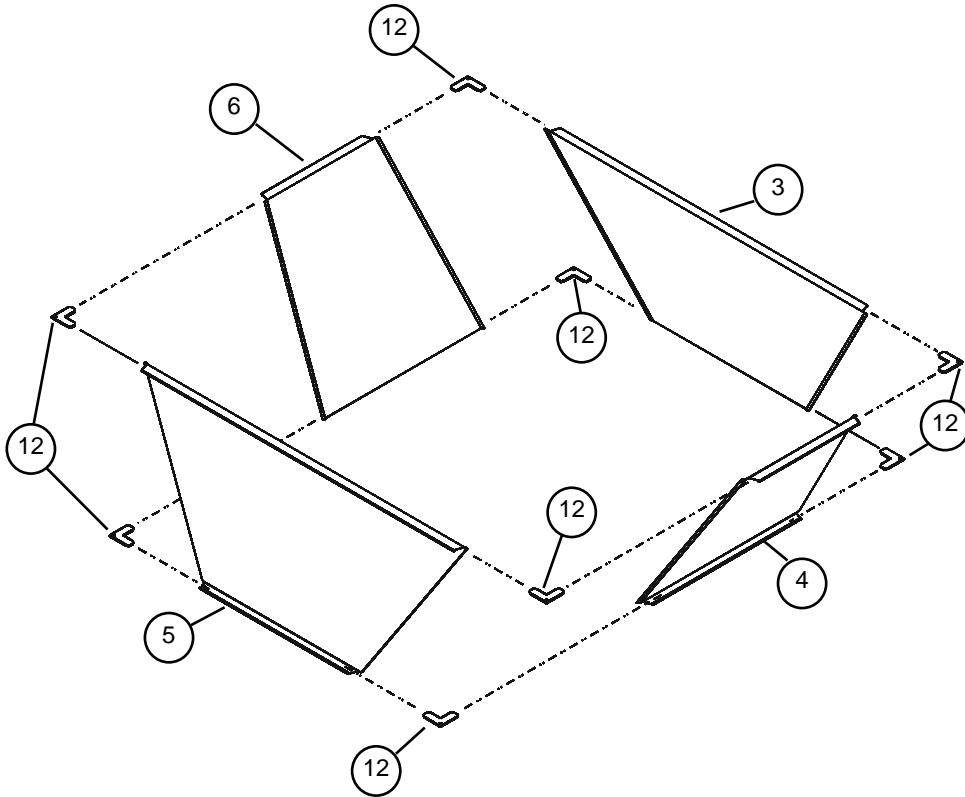
8. Install corner brackets to Drop Box Assembly (refer to fig. A for flange preparation prior to assembly).

GO TO STEP 9 FOR DROP BOX SUPPORT

Duct Transitions



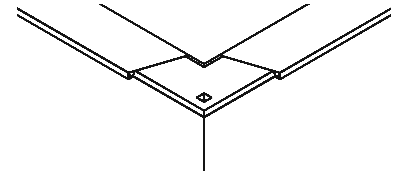
- 4. Connect supply PARTS 1 and 2 Snaploc seams and drop through curb.
- 5. Install Ductmate frame and corner brackets.



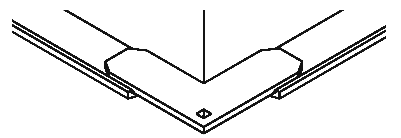
- 6. Connect supply PARTS 3,4,5 and 6 with Pittsburg seams to form the transition section.
- 7. Install corner brackets (refer to fig. A for flange preparation prior to assembly).

Fig. A

FLANGE PREPARATION

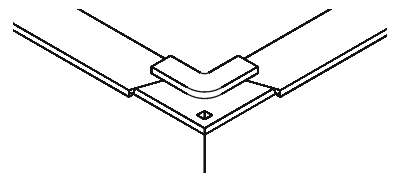


Top view of installed bracket.

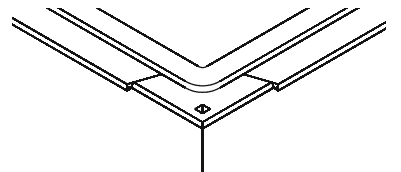


Bottom view of installed bracket.

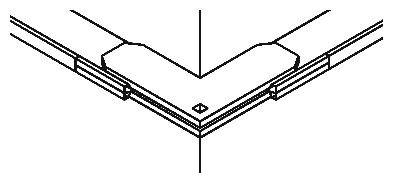
Using a mallet or Vise-Grips, snap the corner brackets into the rolled flanges as shown.



Apply a 2" to 3" strip of gasket on the 4 exposed corners of one frame as shown.

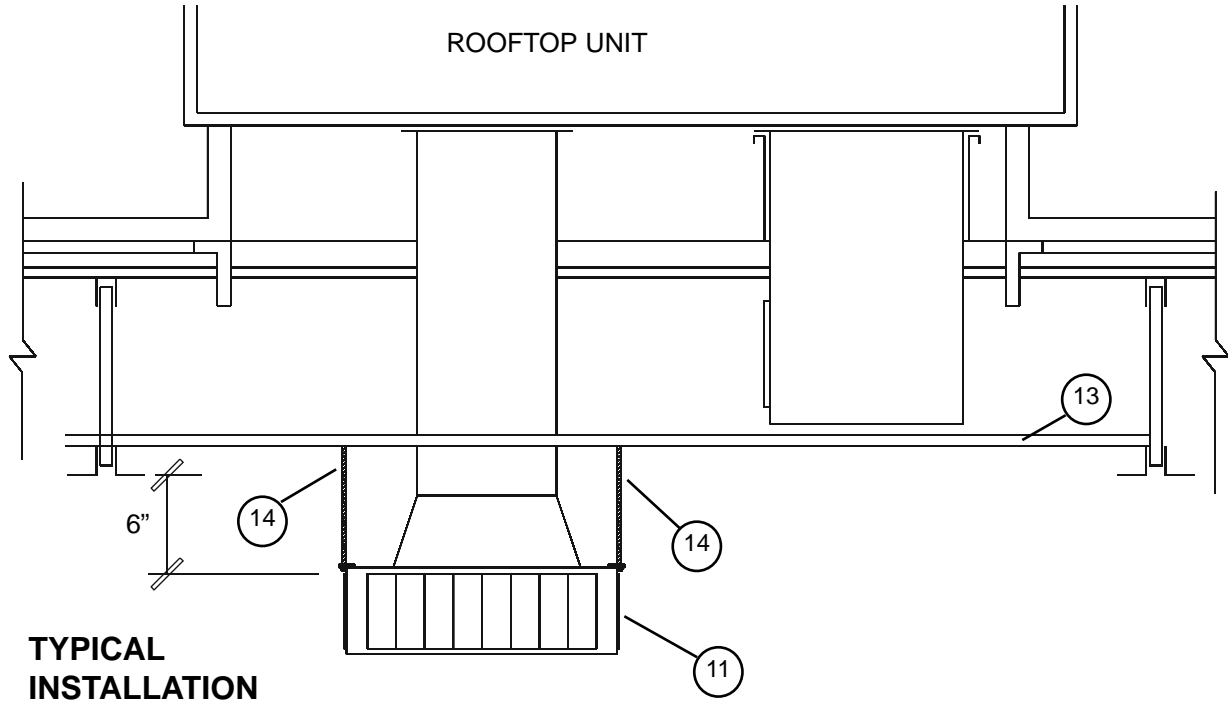


Starting at the center of the mating frame, apply a single strip of gasket completely around the inside edge of the frame.

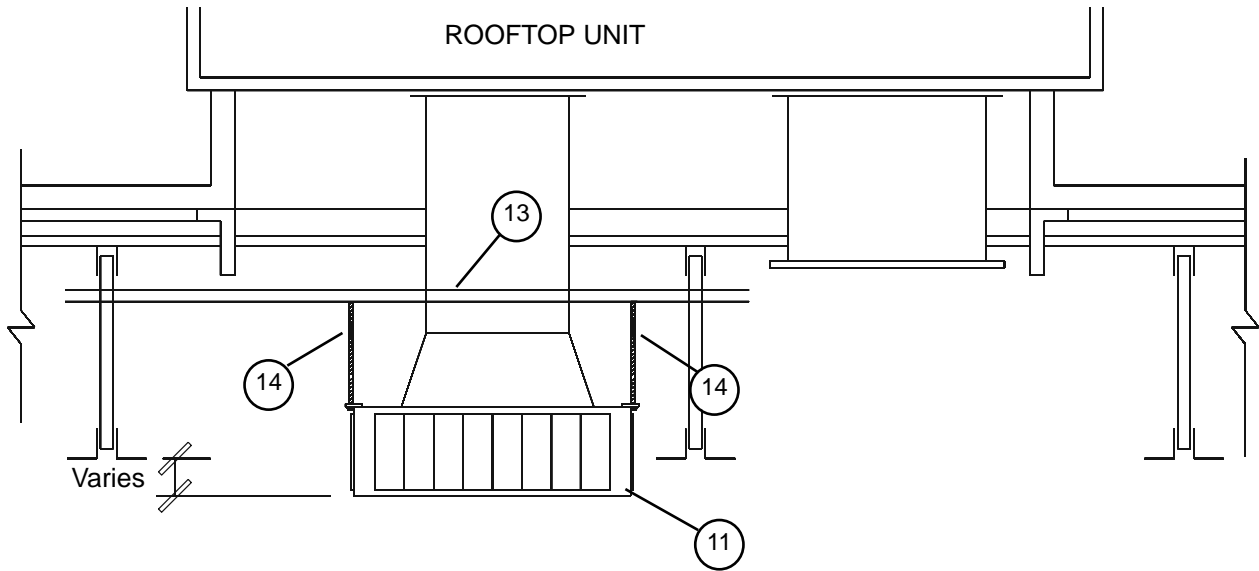


Snap cleats over the mating frames at 18" centers.

Duct Transitions



9. Lay PART 13 UNISTRUT through the joist and line up the holes with the mounting brackets on the Drop Box assembly.
10. Install PART 14 between the Drop Box assembly and PART 13 using the nuts provided.



ALTERNATE INSTALLATION FOR STOCKROOM AREA

Note: Distance from Drop Box assembly to joist varies depending on minimum transition height and joist height.

9. Install PART 13 UNISTRUT at the top of the joist and line up the holes with the mounting brackets on the Drop Box assembly.
10. Install PART 14 between the Drop Box assembly and PART 13 using the nuts provided.

Section 2: Dampers and Accessories**Section 2: DAMPERS and ACCESSORIES****Commercial Control Dampers**

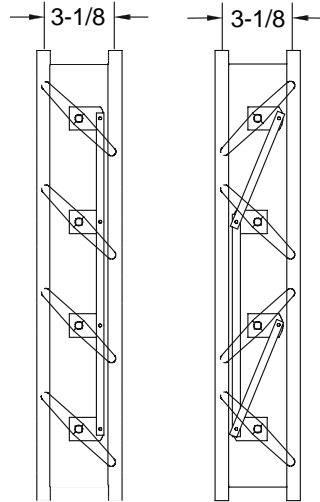
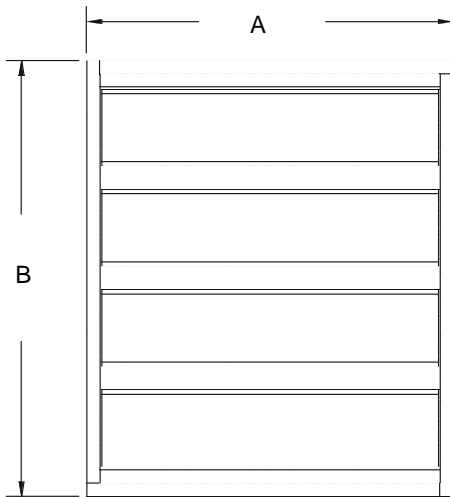
AFD-1&258
AMD-1&259
AMD-3&460
HCD25&2661
WM-VCD62
ALD-163
CD-164
CD10&1165
HCDR-10066

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

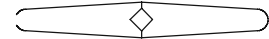
Model AFD1&2

VOLUME CONTROL DAMPER
 AIR FOIL TYPE BLADES
 GALVANIZED STEEL CONSTRUCTION
 200°F MAX TEMP



AFD-1
PARALLEL
BLADES

AFD-2
OPPOSED
BLADES



Blade Profile

Standard Construction

FRAME

13ga. Galvanized steel

BLADE

1/16" Aluminum, 8" maximum width

BEARINGS

Acetal

LINKAGE

1/8" Rolled steel, zinc plated, concealed in end channel of frame

BLADE PIN

3/8" Square steel, zinc plated

SIDE SEAL

Self compensating stainless steel

BLADE SEAL

Santoprene

Available Options

STAINLESS STEEL CONSTRUCTION

BEARINGS

Oil impregnated bronze

Product Notes

Any variations to the standard specifications must be factory approved in advance.

Maximum panel size:

48"w x 76"h

Minimum panel size:

8"w x 7"h

Dimensions 'A' (width) and 'B' (height) are inside damper frame. Dampers will be fabricated to exact size.

Leakage tested in accordance with AMCA Standard No. 500

48 x 76 @ 1" Static Pressure	2.1 CFM/sq ft
48 x 76 @ 4" Static Pressure	4.9 CFM/sq ft
48 x 48 @ 1" Static Pressure	2.2 CFM/sq ft
48 x 48 @ 4" Static Pressure	3.8 CFM/sq ft

Operating Torque

@ 0.5" Static, 100 FPM velocity	4.5 in-lb/sq ft
@ 1" Static, 1000 FPM velocity	5.5 in-lb/sq ft
@ 3" Static, 1500 FPM velocity	9.5 in-lb/sq ft

Velocity and Pressure

12" wide damper	8000 FPM 6" WC
24" wide damper	8000 FPM 6" WC
36" wide damper	6000 FPM 6" WC
48" wide damper	4000 FPM 6" WC

Velocity and Pressure limits recommended to meet other performance specifications (not structural limits)

Pressure Drop

		Approach Velocity (FPM)			
Damper fully open	1000	2000	3000	4000	
24 x 24 in.	0.05	0.20	0.42	0.77	
48 x 48 in.	0.03	0.10	0.25	0.45	

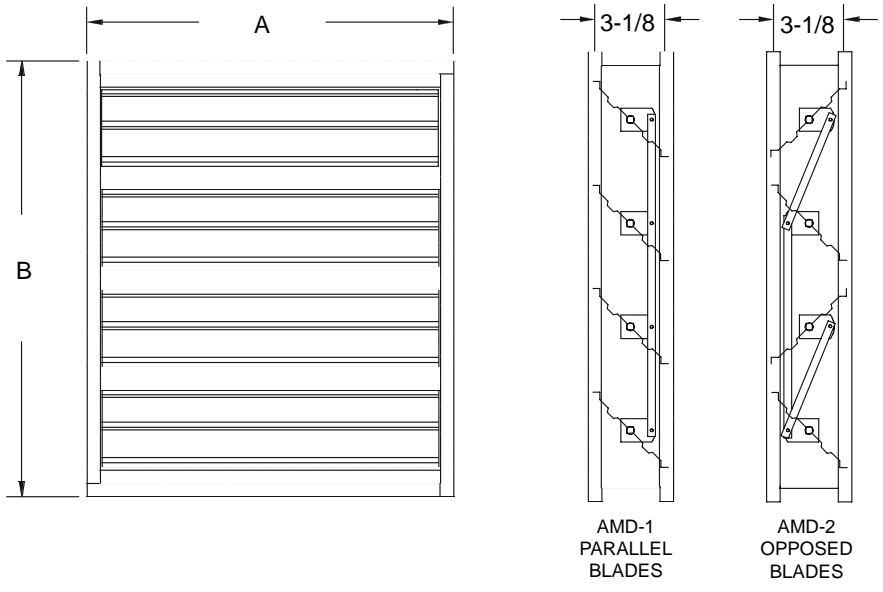
MODEL	QTY	A	B	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model AMD1&2

VOLUME CONTROL DAMPER
 SINGLE THICKNESS BLADES
 GALVANIZED STEEL CONSTRUCTION
 200°F MAX TEMP



Blade Profile

- Standard Construction**
- FRAME**
13ga. Galvanized steel
 - BLADE**
16ga. Galvanized steel, single piece
8" maximum width
 - BEARINGS**
Acetal
 - LINKAGE**
1/8" Rolled steel, zinc plated, concealed in end channel of frame
 - BLADE PIN**
3/8" Square steel, zinc plated
 - SIDE SEAL**
Self compensating stainless steel
 - BLADE SEAL**
Santoprene

Leakage tested in accordance with AMCA Standard No. 500

48 x 76 @ 1" Static Pressure	25 CFM/sq ft
48 x 76 @ 4" Static Pressure	47 CFM/sq ft
48 x 48 @ 1" Static Pressure	30 CFM/sq ft
48 x 48 @ 4" Static Pressure	60 CFM/sq ft

Operating Torque

@ 0.5" Static, 100 FPM velocity	3.25 in-lb/sq ft
@ 1" Static, 1000 FPM velocity	4.25 in-lb/sq ft
@ 3" Static, 1500 FPM velocity	7.5 in-lb/sq ft

Velocity and Pressure

12" wide damper	6000 FPM 6" WC
24" wide damper	4500 FPM 6" WC
36" wide damper	3000 FPM 6" WC
48" wide damper	1500 FPM 6" WC

Velocity and Pressure limits recommended to meet other performance specifications (not structural limits)

Pressure Drop

		Approach Velocity (FPM)			
Damper fully open		1000	2000	3000	4000
24 x 24 in.	0.05	0.20	0.42	0.77	
48 x 48 in.	0.03	0.10	0.25	0.45	

Available Options

- STAINLESS STEEL CONSTRUCTION**
- BEARINGS**
Oil impregnated bronze

Product Notes

Any variations to the standard specifications must be factory approved in advance.
Maximum panel size:
48"w x 76"h
Minimum panel size:
8"w x 6"h
 Dimensions 'A' (width) and 'B' (height) are inside damper frame. Dampers will be fabricated to exact size.

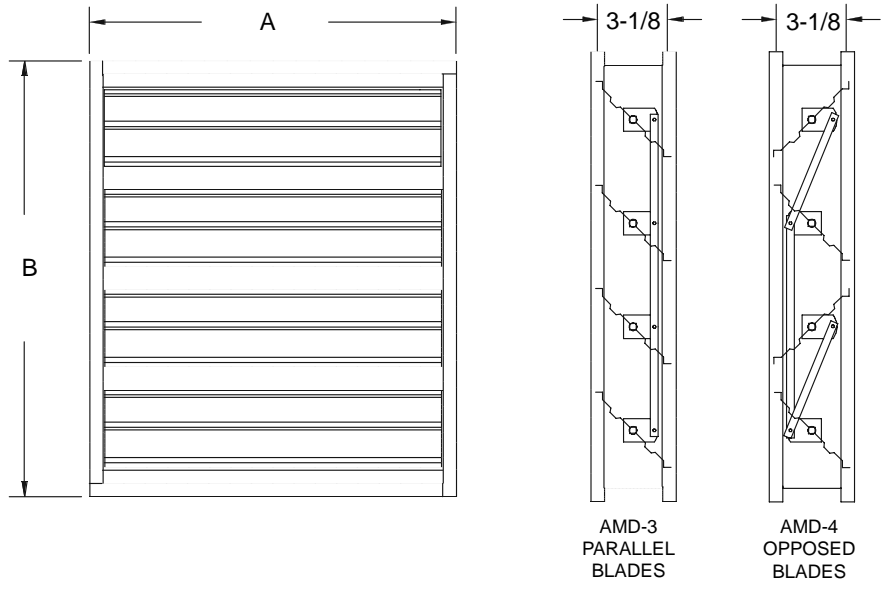
MODEL	QTY	A	B	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model AMD3&4

BALANCING DAMPER
 SINGLE THICKNESS BLADES
 GALVANIZED STEEL CONSTRUCTION
 200°F MAX TEMP



Blade Profile

- Standard Construction**
- FRAME**
13ga. Galvanized steel
 - BLADE**
16ga. Galvanized steel, single piece
8" maximum width
 - BEARINGS**
Acetal
 - LINKAGE**
1/8" Rolled steel, zinc plated, concealed in end channel of frame
 - BLADE PIN**
3/8" Square steel, zinc plated
 - SIDE SEAL**
None
 - BLADE SEAL**
None

Leakage Resistance
 Not rated for tight shutoff

Operating Torque
 @ 0.5" Static, 100 FPM velocity 3.10 in-lb/sq ft
 @ 1" Static, 1000 FPM velocity 3.50 in-lb/sq ft

Velocity and Pressure

12" wide damper	6000 FPM at 6" Static
24" wide damper	4500 FPM at 6" Static
36" wide damper	3000 FPM at 6" Static
48" wide damper	1500 FPM at 6" Static

Velocity and Pressure limits recommended to meet other performance specifications (not structural limits)

Pressure Drop		Approach Velocity (FPM)			
Damper fully open	1000	2000	3000	4000	
24 x 24 in.	0.05	0.20	0.42	0.77	
48 x 48 in.	0.03	0.10	0.25	0.45	

- Available Options**
- STAINLESS STEEL CONSTRUCTION**
 - BEARINGS**
Oil impregnated bronze

Product Notes
 Any variations to the standard specifications must be factory approved in advance.
Maximum panel size:
 48"w x 76"h
Minimum panel size:
 8"w x 6"h
 Dimensions 'A' (width) and 'B' (height) are inside damper frame. Dampers will be fabricated to exact size.

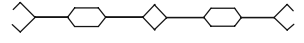
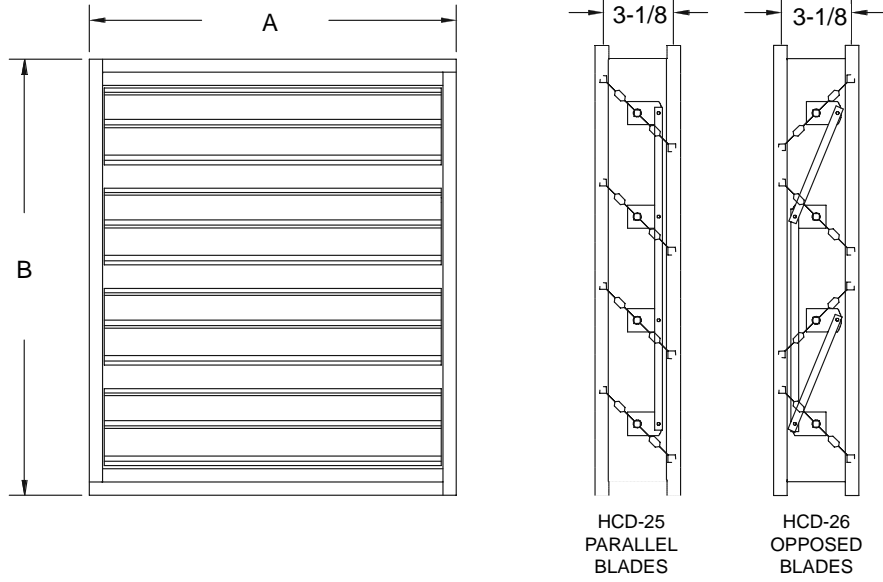
MODEL	QTY	A	B	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model HCD25&26

VOLUME CONTROL DAMPER
 DOUBLE THICKNESS BLADES
 GALVANIZED STEEL CONSTRUCTION
 200°F MAX TEMP



Blade Profile

Standard Construction

- FRAME**
13ga. Galvanized steel
- BLADE**
22ga. Galvanized steel, double piece
8" maximum width
- BEARINGS**
Acetal
- LINKAGE**
1/8" Rolled steel, zinc plated, concealed in end channel of frame
- BLADE PIN**
3/8" Square steel, zinc plated
- SIDE SEAL**
Self compensating stainless steel
- BLADE SEAL**
Santoprene

Leakage tested in accordance with AMCA Standard No. 500

48 x 76 @ 1" Static Pressure	8.3 CFM/sq ft
48 x 76 @ 4" Static Pressure	12.9 CFM/sq ft
48 x 48 @ 1" Static Pressure	2.9 CFM/sq ft
48 x 48 @ 4" Static Pressure	5.8 CFM/sq ft

Operating Torque

@ 0.5" Static, 100 FPM velocity	4.5 in-lb/sq ft
@ 1" Static, 1000 FPM velocity	5.5 in-lb/sq ft
@ 3" Static, 1500 FPM velocity	9.5 in-lb/sq ft

Velocity and Pressure

12" wide damper	8000 FPM 6" WC
24" wide damper	6000 FPM 6" WC
36" wide damper	4000 FPM 6" WC
48" wide damper	2000 FPM 6" WC

Velocity and Pressure limits recommended to meet other performance specifications (not structural limits)

Pressure Drop

		Approach Velocity (FPM)			
Damper fully open	1000	2000	3000	4000	
24 x 24 in.	0.05	0.20	0.42	0.77	
48 x 48 in.	0.03	0.10	0.25	0.45	

Available Options

STAINLESS STEEL CONSTRUCTION

- BEARINGS**
Oil impregnated bronze
- BLADE SEAL**
Silicone

Product Notes

Any variations to the standard specifications must be factory approved in advance.
Maximum panel size:
48"w x 76"h
Minimum panel size:
8"w x 6"h
 Dimensions 'A' (width) and 'B' (height) are inside damper frame. Dampers will be fabricated to exact size.

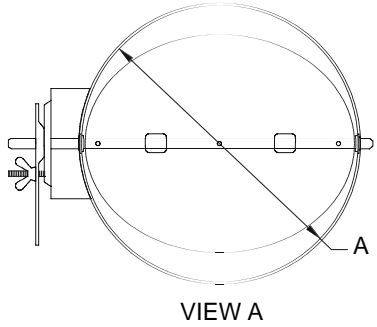
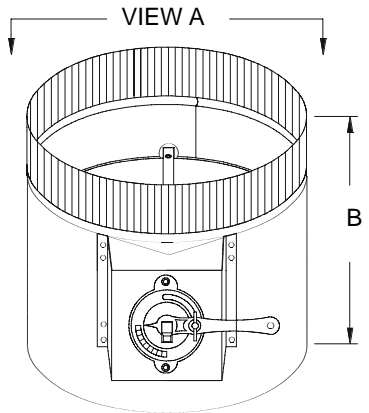
MODEL	QTY	A	B	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model WM-VCD

ROUND VOLUME CONTROL DAMPER
 SINGLE THICKNESS BLADE
 GALVANIZED STEEL CONSTRUCTION



Available Options

FRAME

- Heavier gauge galvanized steel
- Stainless steel
- Aluminum

BEARINGS

- Bronze
- Stainless steel

ACTUATOR

- Manual or electric

Standard Construction

FRAME

9" Deep, 20ga. Galvanized steel (4"-14" dia.)
 18ga. Galvanized steel (16"-40" dia.)

BLADE

Galvanized steel, single thickness:
 20ga. from 4" to 14" dia.
 18ga from 16" to 40" dia.

AXLE

3/8" Square plated steel

BEARINGS

Neoprene pressed into frame

FINISH

Mill with touch-up on welds

ACTUATOR

Quadrant locking handle mounted on 2" standoff for easy operation

Product Notes

- Any variations to the standard specifications must be factory approved in advance.
- Damper can only be ordered in 1" increments (4" to 40" dia.)
- Dimensions 'A' (width) and 'B' (height) are opening sizes. Dampers will be fabricated 1/8" undersize.
- Frame is constructed with bead and crimp for easy installation.
- Model WM-VCD is designed for low velocity, medium velocity, and non-corrosive air systems.
- Blade is mechanically locked and welded to axle to assure long life and ease of operation.
- Non-stick, non-corrosive bearings assure long life and ease of operation.
- Axles and bearings combine with shake proof control quadrant to provide low maintenance operation.

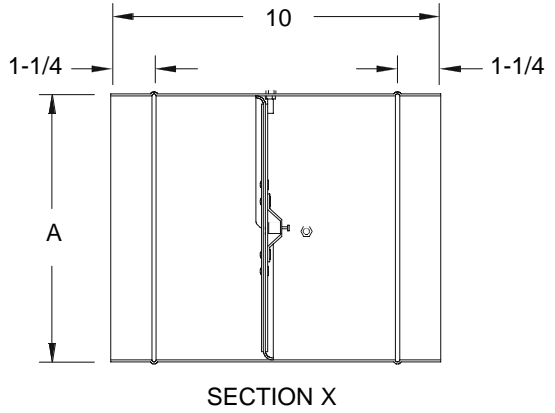
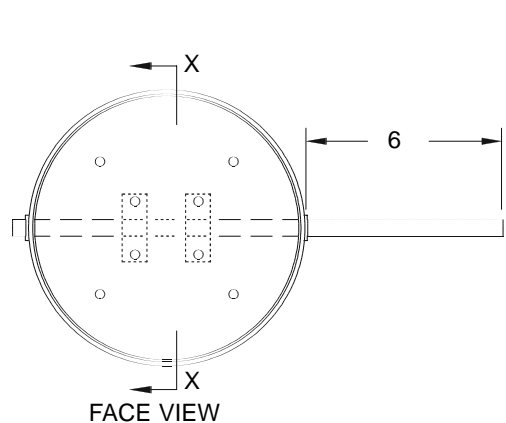
QTY	A	B	OPTIONS	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model ALD-1

ROUND VOLUME CONTROL DAMPER
 DOUBLE THICKNESS BLADE
 GALVANIZED STEEL CONSTRUCTION
 6" WG / 3000 FPM



Standard Construction

- FRAME**
 20ga. Galvanized steel, 10" deep (through 18" dia.)
 18ga. Galvanized steel, 10" deep (through 18" dia.)
- BLADE**
 Galvanized steel, double thickness:
 14ga equivalent
- AXLE**
 3/8" sq. galvanized or plated steel
- BEARINGS**
 Oil impregnated bronze sleeve
- SEAL**
 Neoprene one piece, enclosed in two piece blade
- STOPS**
 Bolt with locknut at open and closed positions
- FINISH**
 Mill with aluminum touch-up paint on welds
- ACTUATOR**
 An extended shaft, 6" beyond the frame

Available Options

- BEARINGS**
 Stainless steel
- ACTUATOR**
 Manual quadrant
 Pneumatic
 Electric

Product Notes

Any variations to the standard specifications must be factory approved in advance.
 Damper sizes:
 4" through 10" dia. in 1" increments
 12" through 24" dia. in 2" increments
 Dimension 'A' is opening size. Dampers will be fabricated 1/8" undersize.

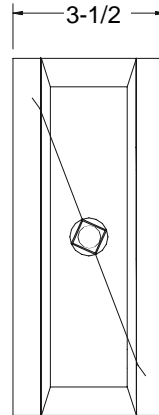
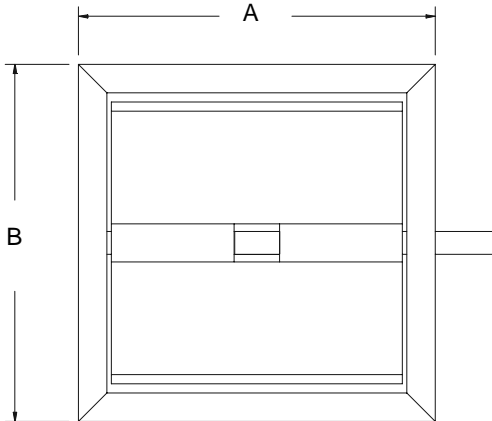
QTY	A	OPTIONS	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model CD-1

VOLUME CONTROL BALANCING DAMPER
 SINGLE THICKNESS BLADE
 GALVANIZED STEEL CONSTRUCTION
 1" WG / 1500 FPM



Available Options

FRAME

Aluminum

BLADE

Aluminum

AXLES

Stainless steel

STOPS

Polyfoam frame stops

Standard Construction

FRAME

16ga. Galvanized steel
 3-1/2" x 5/8" Hat channel

BLADE

20ga. Galvanized steel, single thickness

AXLE

3/8" Square plated steel stub with lanced retainers

BEARINGS

Nylon

FINISH

Mill

ACTUATOR

3/8" Square manual locking quadrant,
 shipped loose

Product Notes

Any variations to the standard specifications must be factory approved in advance.

Damper can only be ordered in 1" increments (6" to 36" width) and (4" to 12" height)

Dimensions 'A' (width) and 'B' (height) are opening sizes. Dampers will be fabricated 1/4" undersize.

This model is not recommended for motorized applications.

Unit has only one blade and will extend into the airstream in most cases.

Units may be mounted vertically or horizontally.

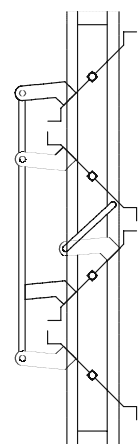
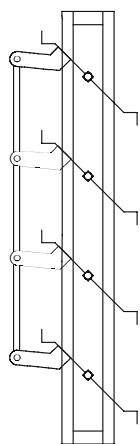
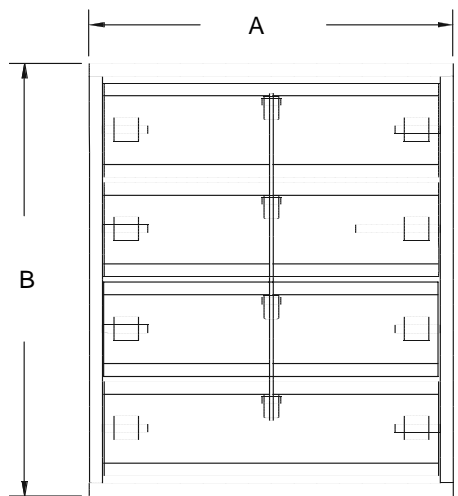
QTY	A	B	OPTIONS	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model CD10&11

VOLUME CONTROL DAMPER
 SINGLE THICKNESS BLADE
 GALVANIZED STEEL CONSTRUCTION
 200°F MAX TEMP



Available Options

BEARINGS

- Stainless steel sleeve
- O.I.B. sleeve
- Teflon sleeve
- Press fit ball

SEALS

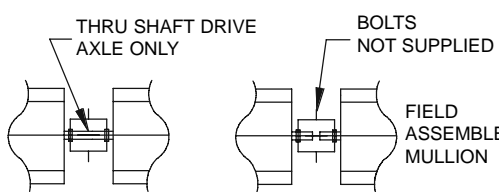
- EPT blade
- Metallic compression jamb

AXLE

- Stainless steel

LINKAGE

- Stainless steel



FACTORY ASSEMBLED MULLION

FIELD ASSEMBLED MULLION

Standard Construction

FRAME

3-1/2" x 1" x 16ga. Galvanized steel Hat channel. Dampers with a "B" dimension of 13" or less will have a flat 10 ga. galvanized steel plate at head and sill.

BLADE

16ga. Galvanized steel
 6" minimum width
 9-1/2" maximum width

AXLE

1/2" Dia. plated steel stubs

BEARINGS

Heavy duty self-lubricating nylon

LINKAGE

Plated steel brackets, brass barrels, and 5/16" dia. plated steel rod. Dampers and seals have double linkage on panels over 36" wide.

FINISH

Mill with touch-up paint on welds

ACTUATOR

An extended shaft is standard

Product Notes

Any variations to the standard specifications must be factory approved in advance.

Design criteria:

- Max Velocity: 3000 FPM / 15m/s
- Max Diff. Press: 2" wg / 500 N/m²
- Max Temp: 200°F / 95°C (w/o seals)
 150°F / 65°C (w/seals)

Maximum panel size:

- 48"w x 96"h (w/o seals)
- 48"w x 72"h (w/seals)

Minimum panel size:

- 6"w x 6"h (parallel blades)
- 6"w x 12"h (opposed blades)

Dimensions 'A' (width) and 'B' (height) are opening sizes. Dampers will be fabricated 1/4" under-size.

Horizontal blades are standard unless otherwise specified.

Blades are always parallel to the "A" dimension.

Dampers less than 12" high will have one blade.

Dampers over 48" high will have tie rods.

MODEL	QTY	A	B	OPTIONS	COMMENTS

Dampers

Customer _____ Project _____
 Ship To _____ Architect _____
 _____ Engineer _____
 P.O. Number _____ Approved By _____

Model HCDR-100

HEAVY DUTY ROUND
 VOLUME CONTROL DAMPER
 SINGLE THICKNESS BLADE
 GALVANIZED STEEL CONSTRUCTION

Available Options

CONSTRUCTION

- Heavier Gauge Galvanized
- Stainless steel
- Aluminum

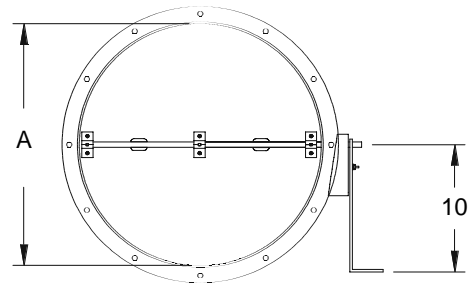
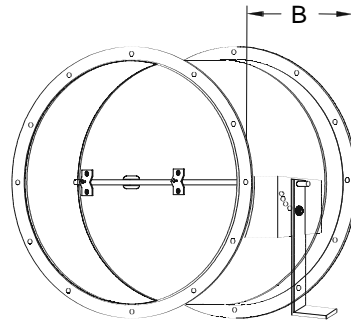
BEARINGS

- Stainless steel
- Lubricated ball

ACTUATORS

- Manual or Electric

COMPANION RING HOLES



Standard Construction

FRAME

- 14ga. Galvanized steel
- 8" Deep

BLADE

- 14ga. Galvanized steel

AXLE

- 1/2" Dia. plated steel

BEARINGS

- Bronze Oilete

FINISH

- Mill with aluminum touch-up paint on welds

ACTUATOR

- Quadrant locking handle mounted on 2" stand-off for easy operation

STOPS

- 1" x 1/4" Steel angle

Product Notes

Any variations to the standard specifications must be factory approved in advance.

Damper can only be ordered in 1" increments (6" to 40" dia.)

Dimensions 'A' (dia.) and 'B' (width) are opening sizes.

Features 12ga. x 1-1/2" companion rings with or without holes.

Designed to balance an accurate amount of air flow in medium pressure industrial HVAC systems.

Blade is mechanically locked and welded to axle to assure long life and ease of operation.

A variety of manual control quadrants are available to meet even the most demanding requirements.

Drawings are subject to change without notice. Specific information for any component part or construction detail will be furnished upon request.

QTY	A	B	OPTIONS	COMMENTS