

	SERIES C VERTICAL BELT DRIVE BLOWER COIL UNITS	
INSTALLATION, OPERATION & MAINTENANCE	New Release	Form 115.24-NOM6 (908)

MODELS ACB & ACR



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SAFETY SYMBOLS

The following symbols are used in this document to alert the reader to areas of potential hazard:



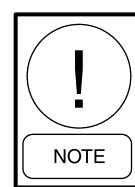
DANGER indicates an imminently hazardous situation which, if not avoided, will result in death or serious injury.



CAUTION identifies a hazard which could lead to damage to the machine, damage to other equipment and/or environmental pollution. Usually an instruction will be given, together with a brief explanation.



WARNING indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



NOTE is used to highlight additional information which may be helpful to you.

SAFETY CONSIDERATIONS

The equipment covered by this manual is designed for safe and reliable operation when installed and operated within its design specification limits. To avoid personal injury or damage to equipment or property while installing or operating this equipment, it is essential that qualified, experienced personnel perform these functions using good judgment and safe practices. See the following cautionary statements.



ELECTRICAL SHOCK HAZARDS. *All power must be disconnected prior to installation and servicing this equipment. More than one source of power may be present. Disconnect all power sources to avoid electrocution or shock injuries.*



MOVING PARTS HAZARDS. *Motor and Blower must be disconnected prior to opening access panels. Motors can start automatically, disconnect all power and control circuits prior to servicing to avoid serious crushing or dismemberment injuries.*



HOT PARTS HAZARDS. *Electric Resistance heating elements must be disconnected prior to servicing. Electric Heaters may start automatically, disconnect all power and control circuits prior to servicing to avoid burns.*



Check that the unit assembly and component weights can be safely supported by rigging and lifting equipment.



All assemblies must be adequately secured during lifting and rigging by temporary supports and restraints until equipment is permanently fastened and set in its final location.



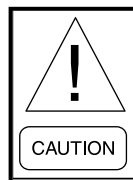
All unit temporary and permanent supports must be capable of safely supporting the equipment's weight and any additional live or dead loads that may be encountered. All supports must be designed to meet applicable local codes and ordinances.



All fastening devices must be designed to mechanically lock the assembly in place without the capability of loosening or breaking away due to system operation, vibration, impact or seismic event.



Secure all dampers when servicing damper, actuator or linkages. Dampers may activate automatically, disconnect control circuits or pneumatic control systems to avoid injury.



Protect adjacent flammable materials when brazing, Use flame and heat protection barriers where needed. Have fire extinguisher available and ready for immediate use.

PRE START-UP

Improper installation, adjustment, alterations, service or maintenance can cause injury and property damage, as well as possible voiding of factory warranty. For assistance or additional information, consult a qualified contractor.

Receiving and Inspecting

Thoroughly examine the exterior and interior of all units for transportation damage to the cabinet, piping, blower(s), motor(s), coil(s), electric heat and electrical components. Interior damage may occur, even with no visible exterior damage. If damage is found, immediately file a claim with the carrier. Note the damage on the bill of lading before signing for the shipment.

Check the bill of lading for verification that all items shown (including loose items) have been received. Notify the manufacturer's representative of any shortages or items shipped in error.

Unit Rigging and Placement

Install ductwork to comply with ASHRAE Fundamentals Handbook, SMACNA, NFPA 90A and local code.

The installation must conform with local building codes and the National Electric Code.

Locate unit support in accordance with the mechanical and structural plans. If so equipped, locate the isolator placement and correct size as shown on the submittal drawing.

If floor mount isolators are required, factory or field provisions must be made for isolator attachment. Units can be mounted directly to the floor or on a base rail. The optional base rail is recommended for units with isolators.

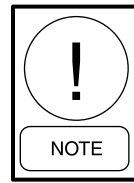
Do not handle the unit using coil stubout connectors, as damage may occur at brazed joint(s).

Clearance

All units, including those with electric heat, are listed for zero clearance to combustibles.

Sufficient clearance for normal servicing of this equipment is recommended.

All electrical panels must have 36" working space in front of panel to meet National Electric Code; however, local inspectors may waive this requirement if the hinged cover has a 90° free swing.

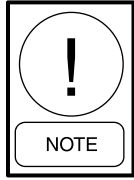
FIELD WIRING

Prior to installing any wiring, check the unit name plate for main power voltage, control voltage, transformer sizing and any fuse sizing. All field wiring must comply with National Electric Code and local code requirements.

Tighten all wiring lugs and terminals prior to connecting power to the unit, as they may loosen during transportation.

Route the power lines to the power distribution terminals inside the control enclosure. If a factory wired disconnect switch is installed, then connect the power lines to the line side of the switch.

Mount and wire any field installed items as indicated on the factory supplied wiring diagram. When mounting field installed components, do not jumper out or rewire any factory wiring without written approval from Johnson Controls. Violation will void warranty.

BELTS, DRIVES, AND BEARINGS

For safety, please turn off all power before checking belt tension.

Prior to starting the unit, tighten all set screws on the fan(s), sheaves and bearings where applicable. Set screws may loosen during transportation.

Sheaves must be in line. Use a straight edge to verify.

General belt tension rules for V-Belt drives:

- Ideal tension is the lowest tension at which the belt will not slip under peak load conditions.
- Check tension frequently during the first 24-48 hours of operation.
- Over tensioning shortens belt and bearing life.
- Keep belts free from foreign material which may cause slip.
- Make V-Belt inspection on a periodic basis. Tension when slipping. Never apply belt dressing, as this will damage the belt and cause early failure.
- The resilient blower bearing must not deflect laterally once belt is tightened.

DETERMINING DEFLECTION FORCE

(see Fig. 1)

Example	Solution
Belt Span = 20"	Deflection = $20 \div 64 = .313"$ (round to 5/16").
Belt Type – A, new, unnotched	Referring to table below,
RPM = 1000	deflection force at calculated deflection is 6.8lbs.
Small Sheave Diameter = 4.0"	

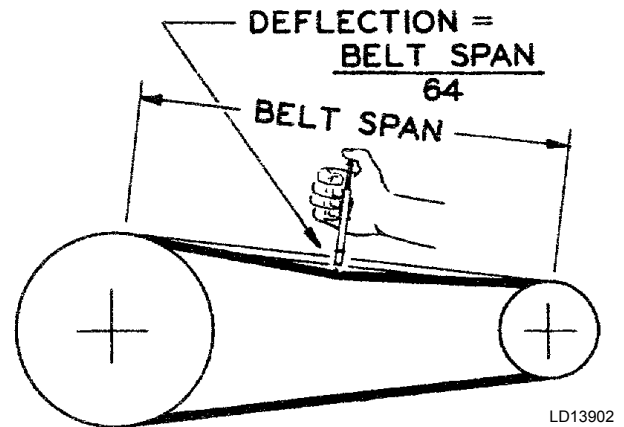


FIG. 1 - COMPUTING DEFLECTION FORCE

See table below for deflection force in pounds.

DEFLECTION FORCE — LBS.

Belt Type	Smallest Sheave Diameter Range	RPM Range	Super Gripbelts and Unnotched Gripbands		Gripnotch Belts and Notched Gripbands	
			Used Belt	New Belt	Used Belt	New Belt
A, AX	3.0 - 3.6"	1000 - 2500	3.7	5.5	4.1	6.1
	3.8 - 4.8"	1000 - 2500	4.5	6.8	5.0	7.4
	5.0 - 7.0"	1000 - 2500	5.4	8.0	5.7	9.4
B, BX	3.4 - 4.2"	860 - 2500	Not Recommended		4.9	7.2
	4.4 - 5.6"	860 - 2500	5.3	7.9	7.1	10.5
	5.8 - 8.6"	860 - 2500	6.3	9.4	8.5	12.6

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REPLACEMENT PARTS

Replacement parts may be ordered from the local Johnson Controls representative. Factory replacement parts should be used wherever possible to maintain agency listings. Should replacement parts not be purchased from the factory, use only parts duplicating the exact type, size, voltage and other operating characteristics of the original part. Contact the local representative before using any substitute part or making unit modifications. Any substitutions and/or modifications not authorized by the factory will void the unit warranty and could result in personal injury and/or property damage.

When ordering parts, the following information must be supplied to ensure proper part identification:

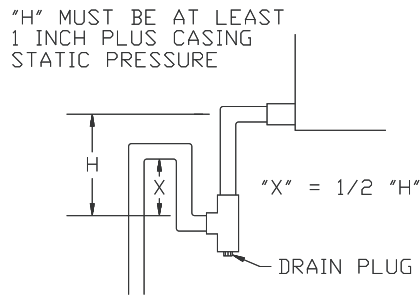
1. Complete unit model number
2. CO number from the unit nameplate
3. Complete parts description, including any identification numbers.

PIPING

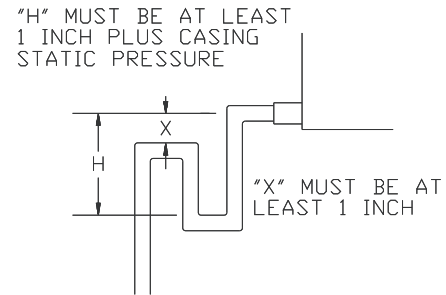
- All piping must comply with applicable state and local codes.
- On water coils, the piping must be in a counter-flow configuration; water inlet on the leaving air side of the coil and at the bottom of the coil to provide the necessary purging of air.
- All water piping should be designed and installed to meet the job requirements.
- Where applicable, freeze protection should be used.
- Supply and return water piping should be supported. Do not suspend piping, controls, and/or shutoff valves from coil headers.
- All refrigerant piping (split systems) should be designed and installed in accordance with ARI and ASHRAE. Leak testing should be performed before any startup procedures are initiated. On refrigeration systems, follow recommended system evacuation from the condenser unit manufacturer.

CONDENSATE DRAIN AND TRAPS

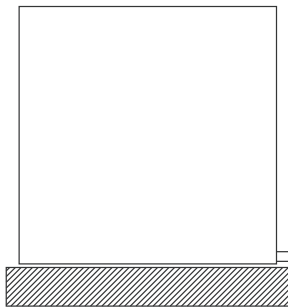
Drain lines should be at least the same size as the drain pan connection. Properly sized traps should be used to allow the condensate from the coils to drain from the drain pan. *See Fig. 2.*



Trap detail for negative
cabinet static pressure

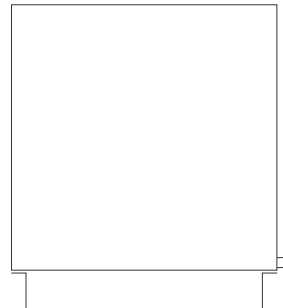


Trap detail for positive
cabinet static pressure



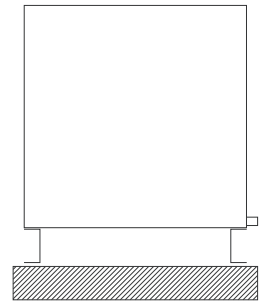
NO BASE RAIL

Housekeeping pad
Required to accommodate
trap height



WITH BASE RAIL

Depending on static
pressure, housekeeping
pad may not be needed
for trap installation



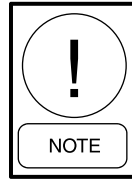
**WITH BASE RAIL AND
HOUSEKEEPING PAD**

FIG. 2 - CONDENSATE DRAIN & TRAPS

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GENERAL BELT AND BEARING MAINTENANCE

Frequency of bearing re-lubrication depends upon the operating conditions. The proper amount of lubricant in the bearings is very important. Both excessive and inadequate lubrication may cause failure. The bearings should be re-lubricated while they are rotating (if it is safe to do so); the grease should be pumped in slowly until a slight bead forms around the seals. It is solely the owner's responsibility for maintaining a proper lubrication schedule. Failure to do so may cause substantial unit damage and voiding of the factory warranty. Note that only those bearings equipped with a grease fitting can be re-lubricated.



This manual is not intended to supplant regulations or local codes having jurisdiction. It is recommended that these items be reviewed and completed prior to initiating equipment start-up.

The following is a generic guide intended for standard equipment used in common situations.

MAINTENANCE TO BE PERFORMED	EVERY 3 MONTHS OF OPERATION (MINIMUM)	EVERY FALL
Filters (as required)	X	
Grease Bearings	X	
Inspect & Clean Blower Wheel		X
Lubricate Fan Motor (if applicable)		X
Check Belt Tension	X	
Check Electrical Connections		X
Check Bearings, Drives & Blower Wheel for Tightness		X

Normal operation is based on 8 hours a day. If unit runs more than this, adjust accordingly

RECOMMENDED TORQUE FOR TIGHTENING SETSCREWS		
Set Screw Diameter	Minimum Recommended Torque	
	Inch lbs.	Foot lbs.
#10	28	2.3
1/4	66	5.5
5/16	126	10.5
3/8	228	19.0
7/16	348	29.0
1/2	504	42.0
5/8	1104	92.0

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MOTOR ELECTRICAL DATA

HORSEPOWER	MAXIMUM MOTOR AMPERAGE							
	VOLTAGE							
	115/1	208/1	230/1	277/1	208/3	230/3	460/3	575/3
1/3	6.3	3.5	3.2	2.6	1.7	1.5	0.8	-
1/2	7.8	4.3	3.9	3.6	2.2	2.1	1.1	0.9
3/4	10.6	5.4	5.3	5.0	3.2	3.0	1.5	1.2
1	15.0	8.3	7.5	5.5	4.0	3.6	1.8	1.4
1-1/2	-	-	-	-	5.3	5.0	2.5	1.9
2	-	-	-	-	7.0	6.4	3.2	2.5
3	-	-	-	-	9.1	9.0	4.5	3.2

UNIT WEIGHT DATA

COMPONENT		UNIT SIZE					
		08	12	16	20	25	30
BASIC UNIT		125 [57]	131 [60]	160 [73]	167 [76]	231 [105]	236 [107]
DAMPER SECTION		42 [19]	53 [24]	59 [27]	73 [33]	91 [41]	91 [41]
BLOW THRU ELECTRIC HEATER		42 [19]	42 [19]	42 [19]	50 [23]	55 [25]	55 [25]
DISCHARGE COIL SECTION		35 [16]	37 [17]	49 [22]	53 [24]	76 [35]	80 [36]
SUPPLY PLENUM		22 [10]	26 [12]	35 [16]	38 [17]	76 [35]	76 [35]
RETURN PLENUM ACB		29 [13]	30 [14]	33 [15]	35 [16]	44 [20]	44 [20]
COIL ROWS	1 ROW - DRY	12 [5]	14 [6]	17 [8]	21 [10]	23 [10]	27 [12]
	1 ROW - WET	14 [6]	17 [8]	21 [10]	26 [12]	28 [13]	34 [15]
	2 ROW - DRY	17 [8]	21 [10]	26 [12]	32 [15]	37 [17]	43 [20]
	2 ROW - WET	21 [10]	27 [12]	33 [15]	42 [19]	48 [22]	56 [25]
	4 ROW - DRY	29 [13]	36 [16]	45 [20]	57 [26]	65 [30]	76 [35]
	4 ROW - WET	37 [17]	47 [21]	58 [26]	75 [34]	86 [39]	101 [46]
	6 ROW - DRY	40 [18]	51 [23]	64 [29]	81 [37]	93 [42]	109 [50]
	6 ROW - WET	52 [24]	66 [30]	84 [38]	109 [50]	124 [56]	146 [66]

NOTES:

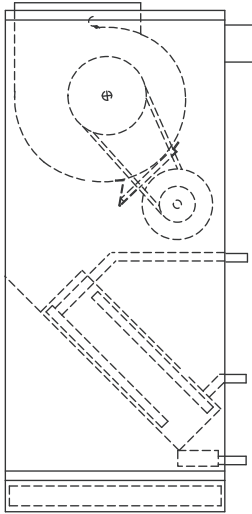
- Unit weight data is shipping weight in pounds (kilograms).
- Discharge section includes a 2 row coil.

MOTOR/DRIVE WEIGHT DATA

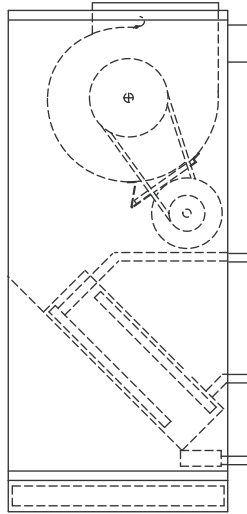
TYPE	MOTOR HP						
	1/3	1/2	3/4	1	1 1/2	2	3
SINGLE PHASE	37 [17]	37 [17]	45 [20]	47 [21]	--	--	--
THREE PHASE	34 [15]	34 [15]	40 [18]	43 [20]	46 [21]	53 [24]	81 [37]

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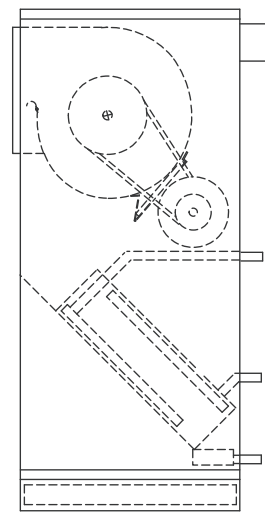
MODEL ACB ARRANGEMENTS



**Reverse Rotation
Arrangement 1**

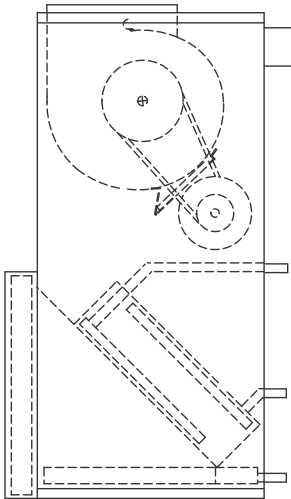


**Standard Rotation
Arrangement 2**

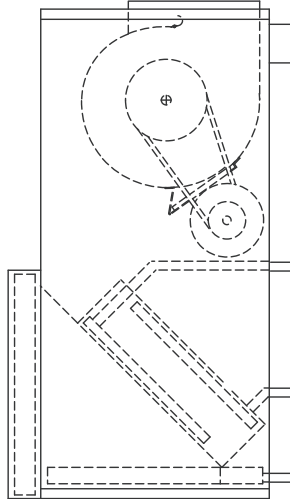


**Horizontal Rear Discharge
Arrangement 7**

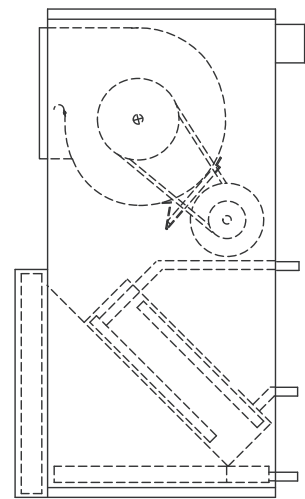
MODEL ACR ARRANGEMENTS



**Reverse Rotation
Arrangement 1**



**Standard Rotation
Arrangement 2**



**Horizontal Rear Discharge
Arrangement 7**

NOTES:

1. Refer to Dimensional Data for unit dimensions.
2. Fan arrangements are also available with inlet damper section (Model ACR) and return plenum section (Model ACB).
3. Side access filter rack standard on arrangement 7 (Model ACR).
4. Discharge heating coil section and supply plenum are not available with arrangement 7.
5. All drawings subject to change without prior notice.

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INSPECTION & START-UP CHECKLIST

Receiving & Inspection

- | | |
|--|---|
| <input type="checkbox"/> Unit Received Undamaged
<input type="checkbox"/> Unit Arrangement/Hand Correct | <input type="checkbox"/> Unit Received Complete As Ordered
<input type="checkbox"/> Unit Structural Support Complete & Correct |
|--|---|

Handling & Installation

- | | |
|--|---|
| <input type="checkbox"/> Unit Mounted Level & Square
<input type="checkbox"/> Proper Electrical Service Provided
<input type="checkbox"/> Proper Service Switch/Disconnect Provided
<input type="checkbox"/> Proper Chilled Water Line Size To Unit
<input type="checkbox"/> Proper Refrigerant Line Sizes To Unit
<input type="checkbox"/> Proper Steam Condensate Trap On Return Line
<input type="checkbox"/> All Services To Unit In Code Compliance | <input type="checkbox"/> Proper Access Provided for Unit & Accessories
<input type="checkbox"/> Proper Overcurrent Protection Provided
<input type="checkbox"/> Proper Hot Water Line To Unit
<input type="checkbox"/> Proper Steam Line Sizes To Unit
<input type="checkbox"/> Proper Steam Supply Pressure To Unit (15psi Max)
<input type="checkbox"/> All Shipping Screws & Braces Removed |
|--|---|

Cooling/Heating Connections

- | | |
|---|--|
| <input type="checkbox"/> Protect Valve Package Components From Heat
<input type="checkbox"/> Connect Field Piping To Unit
<input type="checkbox"/> Install Drain Line & Traps As Required
<input type="checkbox"/> Install Condensate Pan Under Piping As Required | <input type="checkbox"/> Mount Valve Packages
<input type="checkbox"/> Pressure Test All Piping For Leaks
<input type="checkbox"/> Insulate All Piping As Required |
|---|--|

Ductwork Connections

- | | |
|---|---|
| <input type="checkbox"/> Install Ductwork, Fittings & Grilles As Required
<input type="checkbox"/> Control Outside Air For Freeze Protection | <input type="checkbox"/> Proper Supply & Return Grille Type & Size Used
<input type="checkbox"/> Insulate All Ductwork As Required |
|---|---|

Electrical Connections

- | | |
|---|---|
| <input type="checkbox"/> Refer To Unit Wiring Diagram
<input type="checkbox"/> All Field Wiring In Code Compliance | <input type="checkbox"/> Connect Incoming Power Service or Services |
|---|---|

Unit Startup

- | | |
|---|--|
| <input type="checkbox"/> General Visual Unit & System Inspection
<input type="checkbox"/> Record Ambient Temperature
<input type="checkbox"/> Close All Unit Isolation Valves
<input type="checkbox"/> Fill Systems With Water/Refrigerant
<input type="checkbox"/> All Ductwork & Grilles In Place
<input type="checkbox"/> Start Fans, Etc.
<input type="checkbox"/> Check All Ductwork & Units For Air Leaks
<input type="checkbox"/> Record All Final Settings For Future Use
<input type="checkbox"/> Check All Dampers For Proper Operation
<input type="checkbox"/> Verify Proper Heating Operation | <input type="checkbox"/> Record Electrical Supply Voltage
<input type="checkbox"/> Check All Wiring For Secure Connections
<input type="checkbox"/> Flush Water Systems
<input type="checkbox"/> Vent Water Systems As Required
<input type="checkbox"/> All Unit Panels & Filters In Place
<input type="checkbox"/> Check For Overload Condition Of All Units
<input type="checkbox"/> Balance Air Systems As Required
<input type="checkbox"/> Check Piping & Ductwork For Vibration
<input type="checkbox"/> Verify Proper Cooling Operation
<input type="checkbox"/> Reinstall All Covers & Access Panels |
|---|--|

Blower/Motor

- ☐
- Check Sheave Set Screw Tightness
-
- ☐
- Check Blower Wheel Set Screw Tightness
-
- ☐
- Adjust Blower Speed as Necessary for Balancing Airflow
-
- ☐
- Check/Adjust Sheave Alignment
-
- ☐
- Check/Adjust Belt Tension

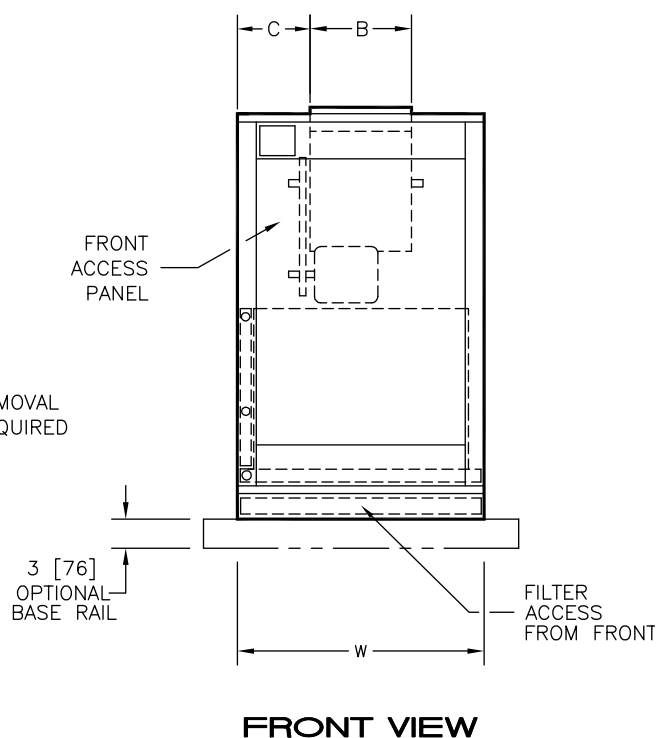
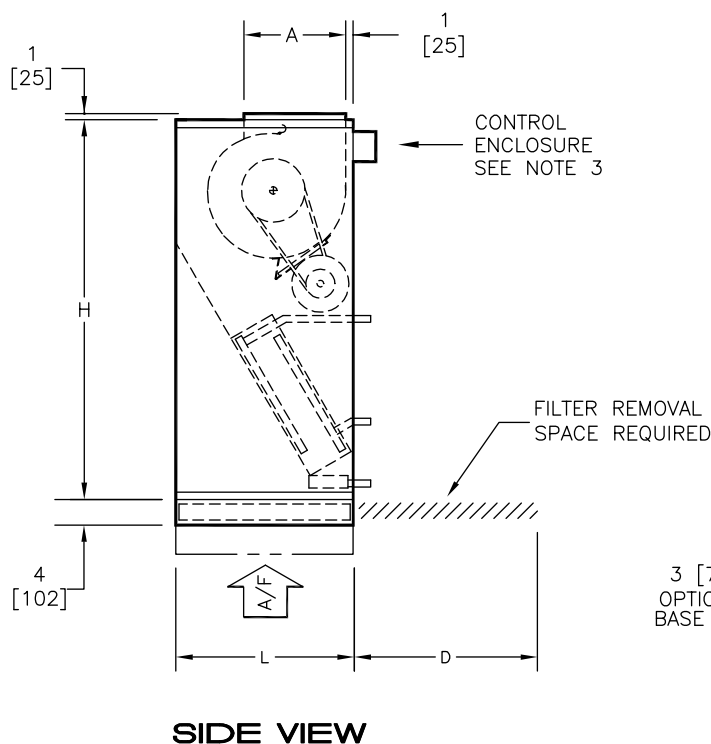
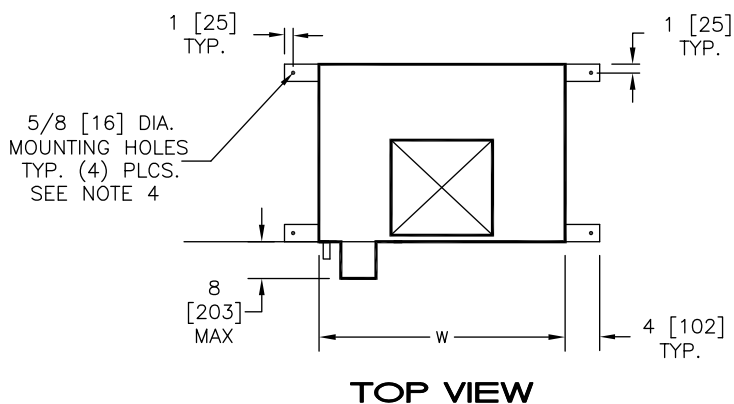
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DIMENSIONS

Model ACB Basic Unit - Discharge Arrangement 2

NOTES:

1. All dimensions are Inches [millimeters].
All dimensions are $\pm 1/4"$ [6mm]. Metric values are soft conversion.
2. Left hand unit shown.
Motor/drive location may be specified Left or Right Hand. Standard control enclosure location matches motor/drive position. Enclosure size varies with options.
3. Provide sufficient clearance to access electrical controls and comply with all applicable codes and ordinances.
4. Optional base rail designed for use with floor mount vibration isolators.



DIMENSIONS - In [mm]

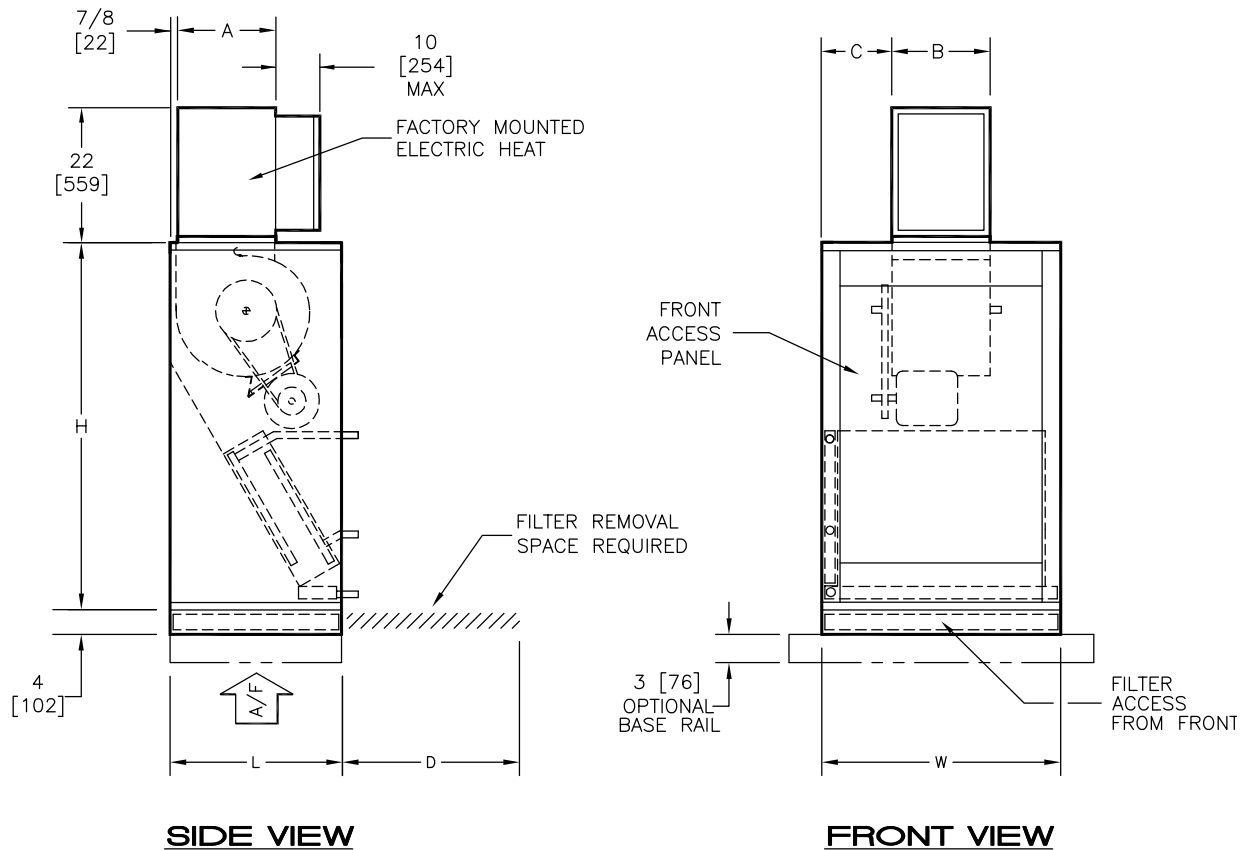
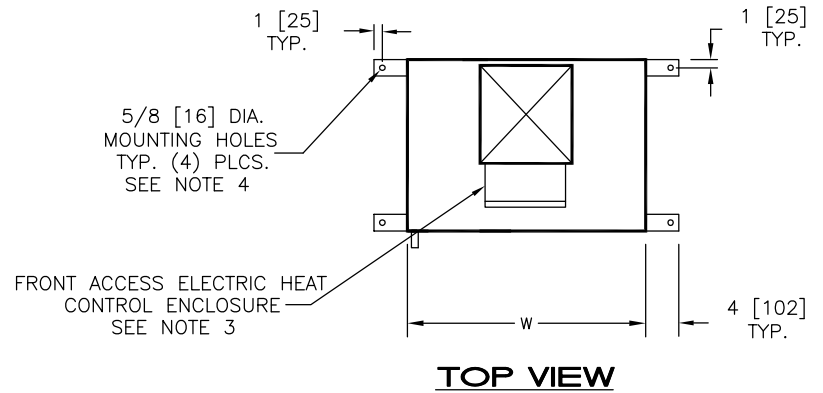
52-80004REV01

UNIT SIZE	FILTER SIZE	QTY	H	W	L	A	B	C	D
08	16 X 20 X 2 [406 X 508 X 51]	1	46 [1168]	26 [660]	19 [483]	6-1/2 [165]	6-7/8 [175]	9-9/16 [243]	16 [406]
12	20 X 20 X 2 [508 X 508 X 51]	1	46 [1168]	26 [660]	21 [533]	7-1/2 [190]	8-1/4 [210]	8-7/8 [225]	20 [508]
16	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	25 [635]	7-1/2 [190]	10-1/4 [260]	9-3/8 [238]	24 [610]
20	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	28 [711]	11-3/8 [289]	13-1/4 [337]	7-7/8 [200]	24 [610]
25	24 X 24 X 2 [610 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	16 [406]	12-7/8 [327]	13-1/16 [332]	24 [610]
30	12 X 24 X 2 [305 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	16 [406]	15 [381]	12 [305]	24 [610]

Model ACB Basic Unit - Discharge Arrangement 1 with Blow-thru Electric Heat

NOTES:

1. All dimensions are Inches [millimeters].
All dimensions are $\pm 1/4"$ [6mm]. Metric values are soft conversion.
2. Left hand unit shown.
Motor/drive location may be specified
Left or Right Hand. Standard control
enclosure location matches motor/drive
position.
3. Provide sufficient clearance to access
electrical controls and comply with all
applicable codes and ordinances.
4. Optional base rail designed for use with
floor mount vibration isolators.
5. Blow-thru electric heat may not be
combined with supply plenum or
discharge section.



DIMENSIONS - In [mm]

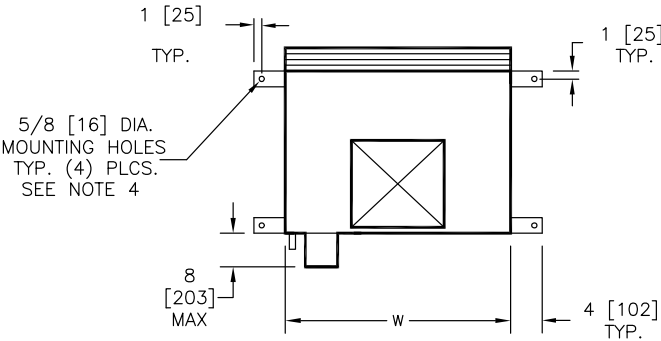
52-80011REV01

UNIT SIZE	FILTER SIZE	QTY	H	W	L	A	B	C	D
08	16 X 20 X 2 [406 X 508 X 51]	1	46 [1168]	26 [660]	19 [483]	8-7/8 [226]	11-7/8 [302]	7-1/16 [180]	16 [406]
12	20 X 20 X 2 [508 X 508 X 51]	1	46 [1168]	26 [660]	21 [533]	8-7/8 [226]	11-7/8 [302]	7-1/16 [180]	20 [508]
16	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	25 [635]	10-7/8 [277]	12 [305]	8-1/2 [216]	24 [610]
20	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	28 [711]	13-7/8 [353]	14 [356]	7-1/2 [190]	24 [610]
25	24 X 24 X 2 [610 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	13-7/8 [353]	16-5/8 [422]	11-1/16 [281]	24 [610]
30	12 X 24 X 2 [305 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	15 5/8 [397]	16-5/8 [422]	11-1/16 [281]	24 [610]

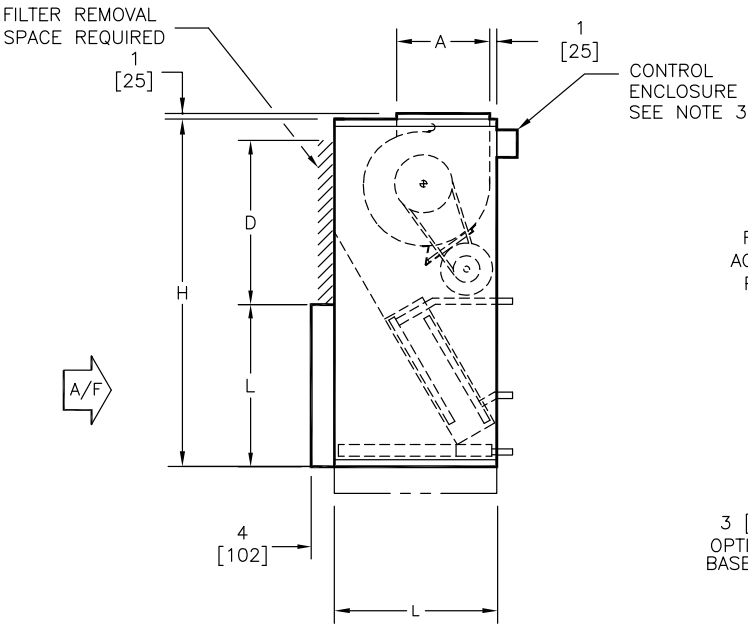
Model ACR Basic Unit - Discharge Arrangement 2

NOTES:

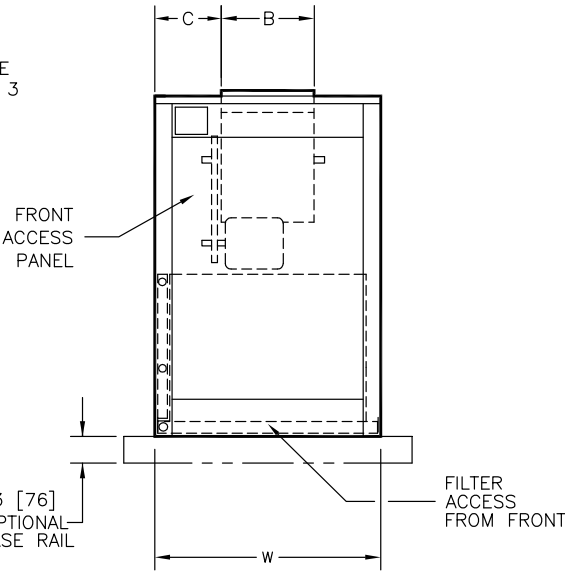
- 1. All dimensions are Inches [millimeters].
All dimensions are ±1/4" [6mm]. Metric values are soft conversion.
- 2. Left hand unit shown.
Motor/drive location may be specified
Left or Right Hand. Standard control
enclosure location matches motor/drive position.
Enclosure sizes varies with option.
- 3. Provide sufficient clearance to access
electrical controls and comply with all
applicable codes and ordinances.
- 4. Optional base rail designed for use with
floor mount vibration isolators.



TOP VIEW



SIDE VIEW



FRONT VIEW

DIMENSIONS - In [mm]

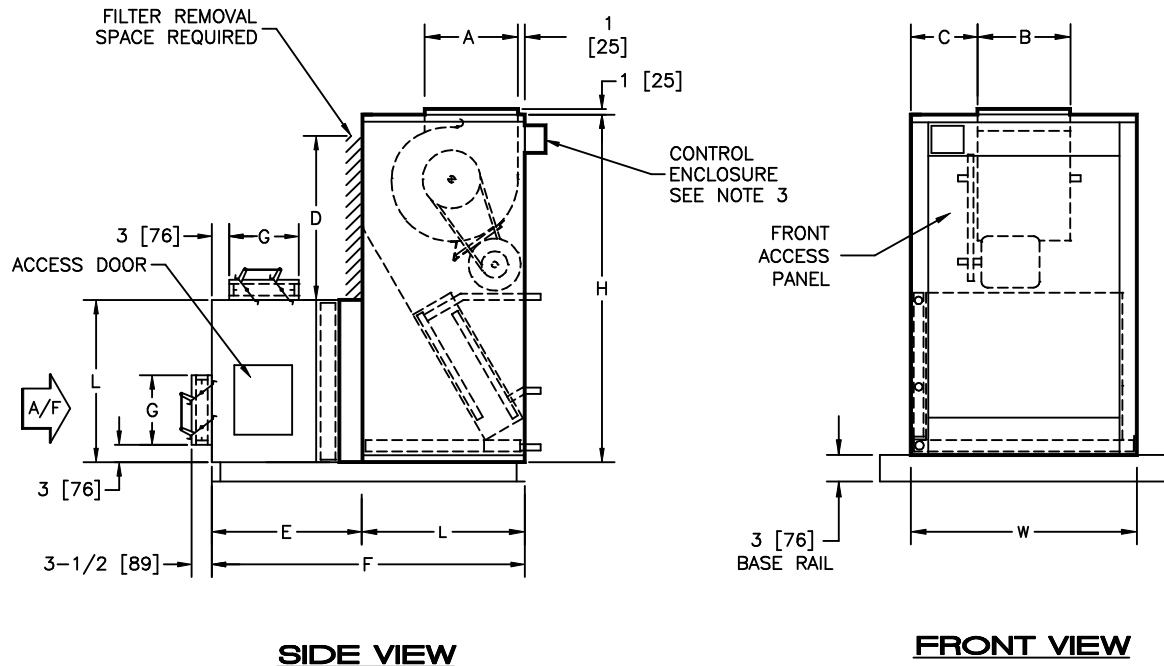
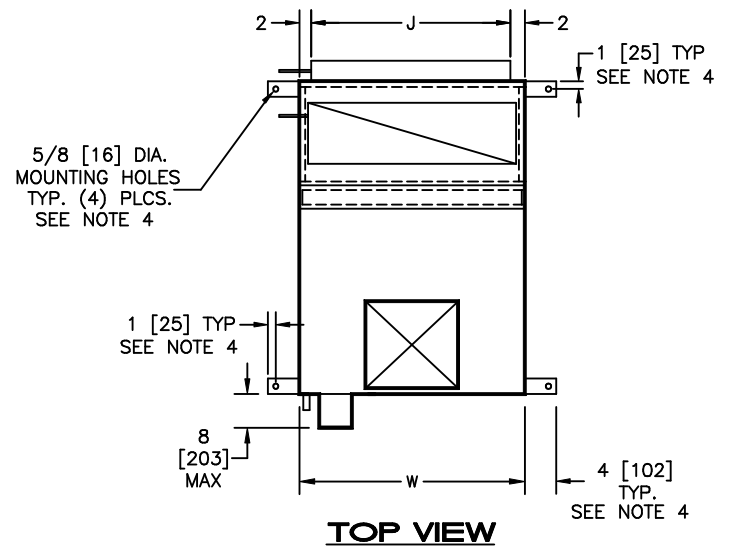
52-80007REV01

UNIT SIZE	FILTER SIZE	QTY	H	W	L	A	B	C	D
08	16 X 20 X 2 [406 X 508 X 51]	1	46 [1168]	26 [660]	19 [483]	6-1/2 [165]	6-7/8 [175]	9-9/16 [243]	16 [406]
12	20 X 20 X 2 [508 X 508 X 51]	1	46 [1168]	26 [660]	21 [533]	7-1/2 [190]	8-1/4 [210]	8-7/8 [225]	20 [508]
16	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	25 [635]	7-1/2 [190]	10-1/4 [260]	9-3/8 [238]	24 [610]
20	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	28 [711]	11-3/8 [289]	13-1/4 [337]	7-7/8 [200]	24 [610]
25	24 X 24 X 2 [610 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	16 [406]	12-7/8 [327]	13-1/16 [332]	24 [610]
30	12 X 24 X 2 [305 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	16 [406]	15 [381]	12 [305]	24 [610]

Model ACM with Inlet Damper Section (Requires Base Rail) - Discharge Arrangement 2

NOTES:

1. All dimensions are Inches [millimeters].
All dimensions are $\pm 1/4"$ [6mm]. Metric values are soft conversion.
2. Left hand unit shown. Right hand unit opposite.
Motor/drive location may be specified
Left or Right Hand. Standard control
enclosure location matches motor/drive position.
3. Provide sufficient clearance to access
electrical controls and comply with all
applicable codes and ordinances.
4. Base rail designed for use with
floor mount vibration isolators. See
page 16 for base rail details.



DIMENSIONS - In [mm]

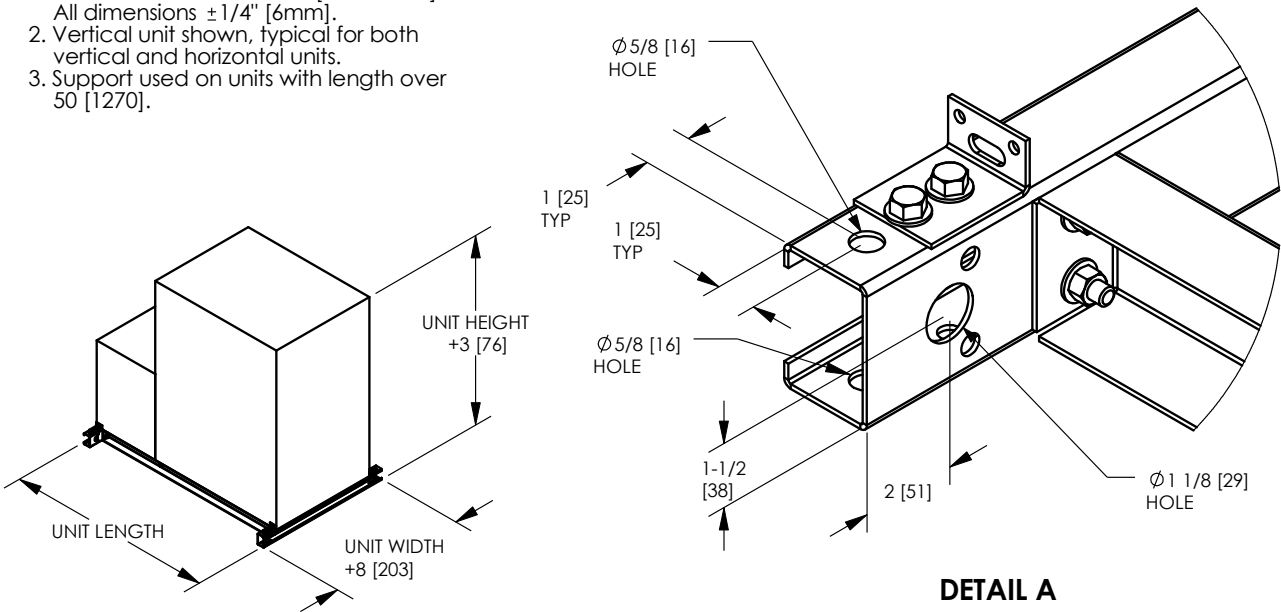
52-80020REV00

UNIT SIZE	FILTER SIZE	QTY	H	W	L	A	B	C	D	E	F	G	J
08	16 X 20 X 2 [406 X 508 X 51]	1	46 [1168]	26 [660]	19 [483]	6-1/2 [165]	6-7/8 [175]	9-9/16 [243]	16 [406]	15 [381]	35 [889]	6 [152]	22 [559]
12	20 X 20 X 2 [508 X 508 X 51]	1	46 [1168]	26 [660]	21 [533]	7-1/2 [190]	8-1/4 [210]	8-7/8 [225]	20 [508]	18 [457]	40 [1016]	9 [229]	22 [559]
16	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	25 [635]	7-1/2 [190]	10-1/4 [260]	9-3/8 [238]	24 [610]	18 [457]	44 [1118]	9 [229]	25 [635]
20	24 X 24 X 2 [610 X 610 X 51]	1	54 [1372]	29 [737]	28 [711]	11-3/8 [289]	13-1/4 [337]	7-7/8 [200]	24 [610]	21 [533]	50 [1270]	12 [305]	25 [635]
25	24 X 24 X 2 [610 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	16 [406]	12-7/8 [327]	13-1/16 [332]	24 [610]	21 [533]	50 [1270]	12 [305]	35 [889]
30	12 X 24 X 2 [305 X 610 X 51]	1 EACH	60 [1524]	39 [991]	28 [711]	16 [406]	15 [381]	12 [305]	24 [610]	21 [533]	50 [1270]	12 [305]	35 [889]

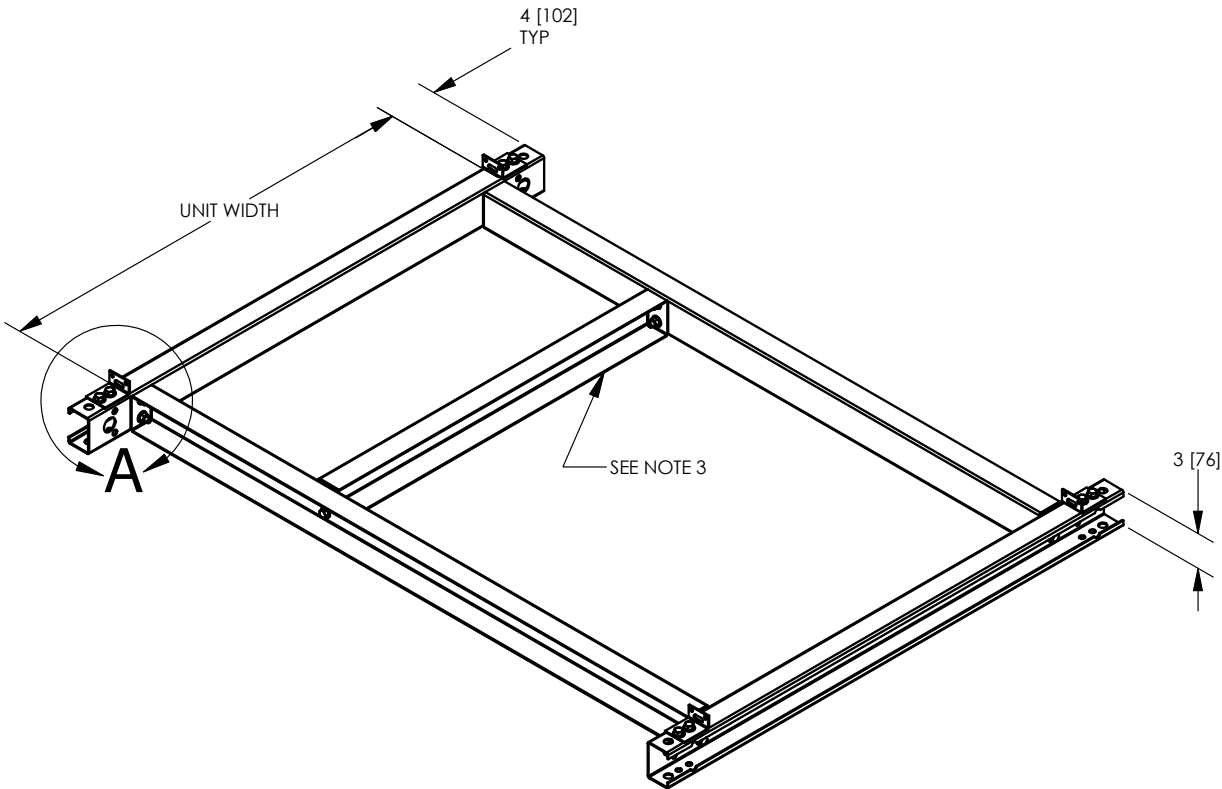
3 Inch Baserail Assembly

NOTES:

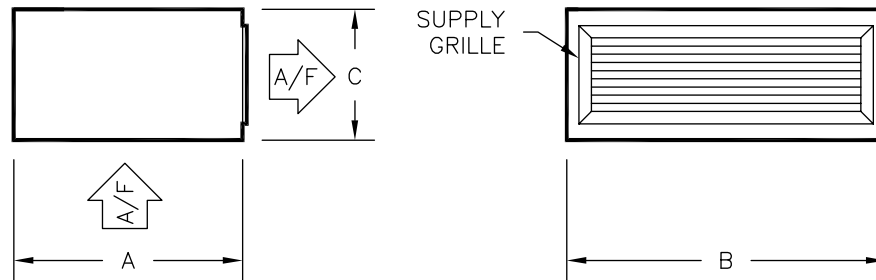
- 1. All dimensions are Inches [millimeters].
All dimensions $\pm 1/4"$ [6mm].
- 2. Vertical unit shown, typical for both vertical and horizontal units.
- 3. Support used on units with length over 50 [1270].



DETAIL A



BR-001REV03

Model ACB/ACR Discharge Plenum, Sizes 08-30

Side View

Front View

DIMENSIONS – In [mm]

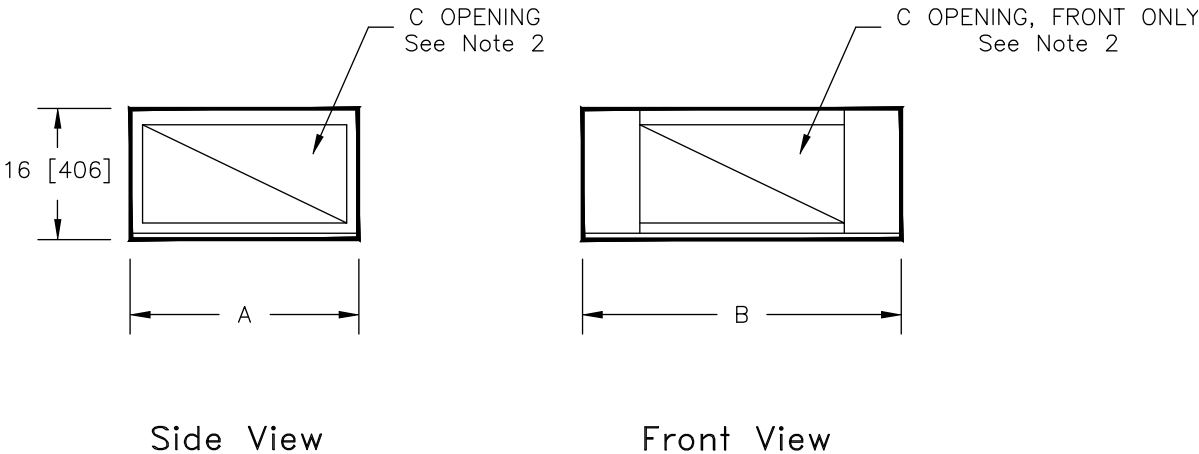
UNIT SIZE	A	B	C	SUPPLY GRILLE
08	19 [483]	26 [660]	12 [305]	18 X 8 [457 X 203]
12	21 [533]	26 [660]	12 [305]	22 X 8 [559 X 203]
16	25 [635]	29 [737]	14 [356]	24 X 10 [610 X 254]
20	28 [711]	29 [737]	16 [406]	24 X 12 [610 X 305]
25	28 [711]	39 [991]	16 [406]	30 X 12 [762 X 305]
30	28 [711]	39 [991]	16 [406]	36 X 12 [914 X 305]

NOTES:

1. All dimensions are Inches [millimeters].
All dimensions are $\pm 1/4"$ [6mm]. Metric values are soft conversion.
2. Discharge plenum shipped attached to unit.
3. Discharge plenum includes a double deflection discharge grille, location is front as shown.
4. Discharge plenum may not be combined with blow thru electric heat.

VBR-003REV02

Model ACB Return Plenum, Sizes 08-30



DIMENSIONS – In [mm]

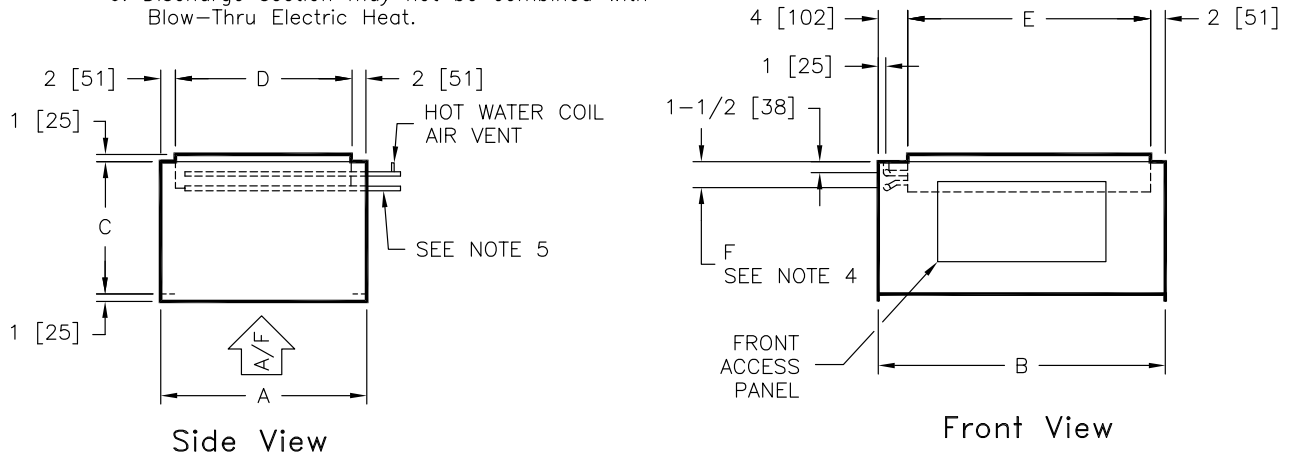
UNIT SIZE	A	B	C OPENING
08	19 [483]	26 [660]	9 X 16 [229 X 406]
12	21 [533]	26 [660]	9 X 18 [229 X 457]
16	25 [635]	29 [737]	9 X 22 [229 X 559]
20	28 [711]	29 [737]	12 X 22 [305 X 559]
25	28 [711]	39 [991]	12 X 25 [305 X 635]
30	28 [711]	39 [991]	12 X 25 [305 X 635]

- NOTES:
1. All dimensions are inches [millimeters]. All dimensions $\pm 1/4"$ [6mm]. Metric values are soft conversion.
 2. Standard plenum is provided with removable covers on side openings, and plenum is installed on unit for front inlet. Covers may be relocated, and plenum may be rotated in the field for alternate inlet locations.

52-80017REV00

Model ACB/ACR Discharge Section w/ Heating Coil, Sizes 08-30

- NOTES: 1. All dimensions $\pm 1/4"$ [6mm].
 2. This section required with 6 row cooling in conjunction with hot water and all steam heating.
 3. Weight with 2 row dry coil.
 4. Coil connection dimension $\pm 1/2"$ [13mm].
 5. Hot water coils: Supply – bottom, Return – top.
 Steam coils: Supply – top, Condensate – bottom.
 6. Discharge section may not be combined with Blow-Thru Electric Heat.



DIMENSIONS – In [mm]

UNIT SIZE	A	B	C	D	E	F (4)				WGT. (3) lbs. [kg]
						HOT WATER		STEAM		
						1 ROW	2 ROW	1 ROW	2 ROW	
08	19 [483]	26 [660]	12 [305]	15 [381]	20 [508]	2-3/4 [70]	2-3/4 [70]	2-3/4 [70]	2-3/4 [70]	35 [16]
12	21 [533]	26 [660]	12 [305]	17 [432]	20 [508]	2-3/4 [70]	2-3/4 [70]	2-3/4 [70]	2-3/4 [70]	37 [17]
16	25 [635]	29 [737]	14 [356]	21 [533]	23 [584]	2-3/4 [70]	3 [76]	2-3/4 [70]	3-1/4 [83]	49 [22]
20	28 [711]	29 [737]	14 [356]	24 [610]	23 [584]	2-3/4 [70]	3 [76]	3-1/4 [83]	3-1/4 [83]	53 [24]
25	28 [711]	39 [991]	18 [457]	24 [610]	33 [838]	2-3/4 [70]	3 [76]	3-1/4 [83]	3-3/4 [95]	76 [35]
30	28 [711]	39 [991]	18 [457]	24 [610]	33 [838]	3 [76]	3-1/4 [83]	3-3/4 [95]	3-3/4 [95]	80 [36]

COIL CONNECTION SIZES

UNIT SIZE	HOT WATER		STEAM			
	1 ROW	2 ROW	1 ROW		2 ROW	
			SUPPLY	CONDENSATE	SUPPLY	CONDENSATE
08	5/8 [16]	5/8 [16]	1-1/8 [29]	7/8 [22]	1-1/8 [29]	7/8 [22]
12	5/8 [16]	5/8 [16]	1-1/8 [29]	7/8 [22]	1-1/8 [29]	7/8 [22]
16	5/8 [16]	5/8 [16]	1-1/8 [29]	7/8 [22]	1-3/8 [35]	1-1/8 [29]
20	5/8 [16]	5/8 [16]	1-3/8 [35]	1-1/8 [29]	1-3/8 [35]	1-1/8 [29]
25	5/8 [16]	7/8 [22]	1-3/8 [35]	1-1/8 [29]	1-5/8 [41]	1-1/8 [29]
30	7/8 [22]	7/8 [22]	1-5/8 [41]	1-1/8 [29]	1-5/8 [41]	1-1/8 [29]

VBR-004REV2

