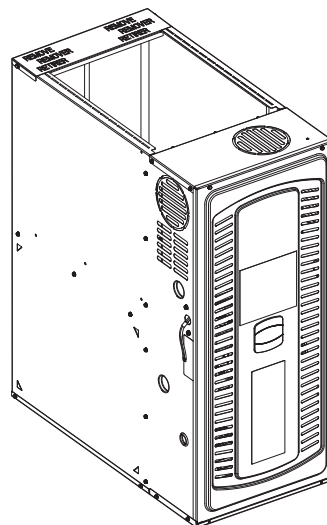


Installer's Guide

Modular Blowers – No Heat

P0V0A000M30SCA
P0V0B000M40SCA
P0V0C000M50SCA
P0V0D000M50SCA



The P0V0 series modular blower is designed for installation in a closet, utility room, alcove, basement, crawlspace or attic. These versatile units are applicable to air conditioning and heat pump applications. Several models are available to meet the specific requirements of the outdoor equipment.



▲ SAFETY WARNING

Only qualified personnel should install and service the equipment. The installation, starting up, and servicing of heating, ventilating, and air-conditioning equipment can be hazardous and requires specific knowledge and training. Improperly installed, adjusted or altered equipment by an unqualified person could result in death or serious injury. When working on the equipment, observe all precautions in the literature and on the tags, stickers, and labels that are attached to the equipment.

SAFETY SECTION

MODULAR BLOWERS

Important: This document contains a wiring diagram, a parts list, and service information. This is customer property and is to remain with this unit. Please return to service information pack upon completion of work.

Important: These instructions do not cover all variations in systems nor provide for every possible contingency to be met in connection with the installation. Should further information be desired or should particular problems arise which are not covered sufficiently for the purchaser's purposes, the matter should be referred to your installing dealer or local distributor.

⚠ WARNING

HAZARDOUS VOLTAGE!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power cannot be inadvertently energized.

⚠ CAUTION

GROUNDING REQUIRED!

Failure to inspect or use proper service tools may result in equipment damage or personal injury.

Reconnect all grounding devices. All parts of this product that are capable of conducting electrical current are grounded. If grounding wires, screws, straps, clips, nuts, or washers used to complete a path to ground are removed for service, they must be returned to their original position and properly fastened.

⚠ WARNING

LIVE ELECTRICAL COMPONENTS!

Failure to follow this Warning could result in property damage, severe personal injury, or death.

Follow all electrical safety precautions when exposed to live electrical components. It may be necessary to work with live electrical components during installation, testing, servicing, and troubleshooting of this product.

⚠ CAUTION

IMPROPER VOLTAGE CONNECTION!

Failure to follow this Caution could result in property damage.

Do NOT connect the modular blower line voltage to a GFCI protected circuit.

⚠ CAUTION

SHARP EDGE HAZARD!

Failure to follow this Caution could result in property damage or personal injury.

Be careful of sharp edges on equipment or any cuts made on sheet metal while installing or servicing.

⚠ CAUTION

HAZARDOUS VAPORS!

Failure to follow this caution could result in property damage or personal injury.

Equipment corrosion damage. To prevent shortening its service life, the modular blower should not be used during the finishing phases of construction or remodeling. The low return air temperatures can lead to the formation of condensate. Condensate in the presence of chlorides and fluorides from paint, varnish, stains, adhesives, cleaning compounds, and cement creates a corrosive condition which may cause rapid deterioration of the cabinet and internal components.

⚠ WARNING

SAFETY HAZARD!

This appliance is not to be used by persons (including children) with reduced physical, sensory, or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

⚠ WARNING

SAFETY HAZARD!

Children should be supervised to ensure that they do not play with the appliance.

⚠ WARNING

WARNING!

This product can expose you to chemicals including lead, which are known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Note: The manufacturer recommends installing ONLY A.H.R.I approved, matched indoor and outdoor systems. Some of the benefits of installing approved matched indoor and outdoor split systems are maximum efficiency, optimum performance, and the best overall system reliability.

Important: Installation of this unit shall be made in accordance with the National Electric Code, NFPA No. 90A and 90B, and any other local codes or utilities requirements.

Note: The modular blowers have been evaluated in accordance with Intertek / ETL UL1995:2011 Ed.4 "SUITABLE FOR MOBILE HOME USE."

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Features and Accessories

Table 1. Standard Features

Table 2. Accessories

Model Number	Description	Use with
BAYHANG	Horizontal Hanging Kit	All modular blowers
BAYLIFTB	Dual Return Kit (B size extension)	B Cabinet modular blowers
BAYLIFTC	Dual Return Kit (C size extension)	C Cabinet modular blowers
BAYLIFTD	Dual Return Kit (D size extension)	D Cabinet modular blowers
BAYFLTR206	Filter Access Door Kit (Downflow only)	All modular blowers in Downflow orientation
BAYSF1165AA ^(a)	1" SlimFit Box with MERV 4 Filter	All modular blowers
BAYSF1255BA	1" SlimFit Filter and Insulated Frame	All modular blowers when used in side return application B Cabinet modular blowers only when in bottom return application
FLRSF1255	1" Filter replacement (Qty 12)	BAYSF1255BA
BAYFLTR203	Horizontal Filter Kit	B Cabinet modular blowers in Downflow/ Horizontal
BAYFLTR204	Horizontal Filter Kit	C Cabinet modular blowers in Downflow/ Horizontal
BAYFLTR205	Horizontal Filter Kit	D Cabinet modular blowers in Downflow/ Horizontal

^(a) Airflow greater than 1600 CFM requires dual returns

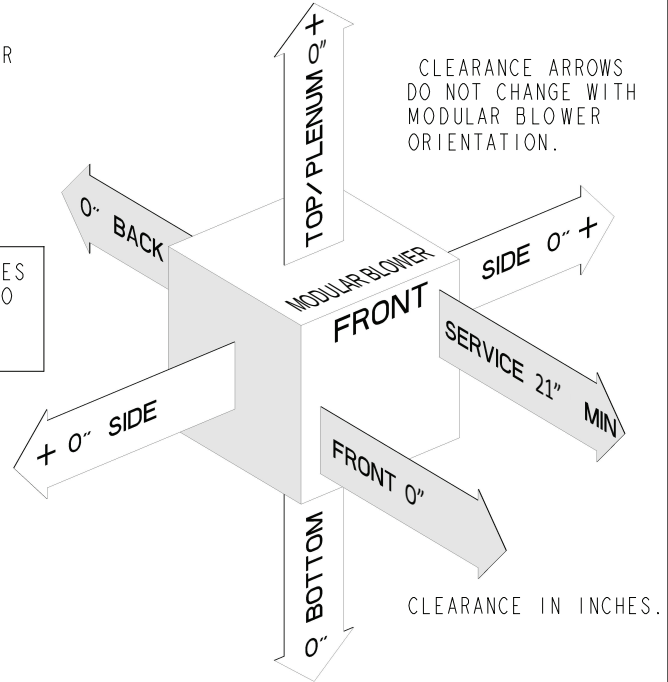
Location and Clearances

Minimum clearance to combustible materials

INSTALLATION CLEARANCE TO COMBUSTIBLE CONSTRUCTION

THIS MODULAR BLOWER IS APPROVED FOR UPFLOW, DOWNFLOW AND HORIZONTAL APPLICATIONS.

LINE CONTACT ONLY PERMISSIBLE BETWEEN LINES FORMED BY INTERSECTIONS OF THE TOP AND TWO SIDES OF THE MODULAR BLOWER JACKET, AND BUILDING JOISTS, STUDS OR FRAMING.



Installation Instructions

1. Unpacking

Carefully unpack the unit and inspect the contents for damage. If any damage is found at the time of delivery, proper notification and claims should be made with the carrier.

Check the rating plate to assure model number and voltage match with what you ordered. The manufacturer should be notified within 5 days of any discrepancy or parts shortage.

2. Location

The modular blower should be centrally located and may be installed in a closet, alcove, utility room, basement, crawl space or attic. Minimum clearances must be met.

When the unit is installed in a closet or utility room, the room should be large enough, and have an opening to allow replacement of the unit. All servicing is done from the front and a clearance of 21" is needed for service unless the closet door aligns with the front of the modular blower.

If you are installing the unit in an unconditioned space such as an attic or crawl space, you must ensure that the area provides sufficient air circulation to prevent moisture collection on the cabinet during high dew point conditions.

3. Duct Work

The duct work should be installed in accordance with the NFPA No. 90A "Installation of Air Conditioning and Ventilating systems" and No. 90B "Residential Type Warm Air Heating and Air Conditioning Installation."

The duct work should be insulated in accordance with the applicable requirements for the particular installation as required by HUD, FHA, VA the applicable building code, local utility or other governing body.

4. Blower

This unit is supplied with a variable speed motor with a direct drive blower wheel which can obtain various air flows. The unit is shipped with factory set cooling and heating air flows. Airflow performance tables are available for additional air flows. Be sure to check the air flow and the temperature drop across the evaporator coil to ensure sufficient air flow.

5. Wiring

Consult all schematic and pictorial wiring diagrams of this unit and the outdoor equipment to determine compatibility of wiring connections and to determine specific requirements.

All field wiring to the modular blower should be installed in accordance with the latest edition of the National Electric Code NFPA No. 70 and any local codes. Check rating plates on unit for rated volts, minimum circuit ampacity and maximum over current protection. Supply circuit power wiring must be 75 degree C (167 degree F) minimum copper conductors only. Copper supply wires shall be sized to the National Electric Code or local code requirements, whichever is more stringent.

The unit is shipped wired for 120 Volt AC 60 HZ 1 Phase Operation (Ensure unit is properly grounded). Do Not use GFCI plug.

Class 2 low voltage control wiring should not be run in conduit with power wiring and must be separated from power wiring unless class 1 wire with proper voltage rating is used.

Low voltage control wiring should be 18 AWG, color coded (105 degree C minimum). For lengths longer than 100ft., 16 AWG wire should be used. Make certain that separation of control wiring and power wiring has been maintained.

6. Air Filter

To protect the coil, blower and other internal parts from excessive dirt and dust an air filter must be installed before air enters the evaporator coil. A remote filter must be installed. Consult the filter manufacturer for proper sizing and maximum velocity requirements.

7. Thermostat

Select a thermostat that is commonly used with HP or AC two stage or Variable speed Heating/Cooling outdoor unit. The thermostat will energize the fan on a demand for heat or cool.

Install the thermostat on an inside wall, away from drafts, lights or other heat sources in a location that has sufficient air circulation from other rooms being controlled by the thermostat.

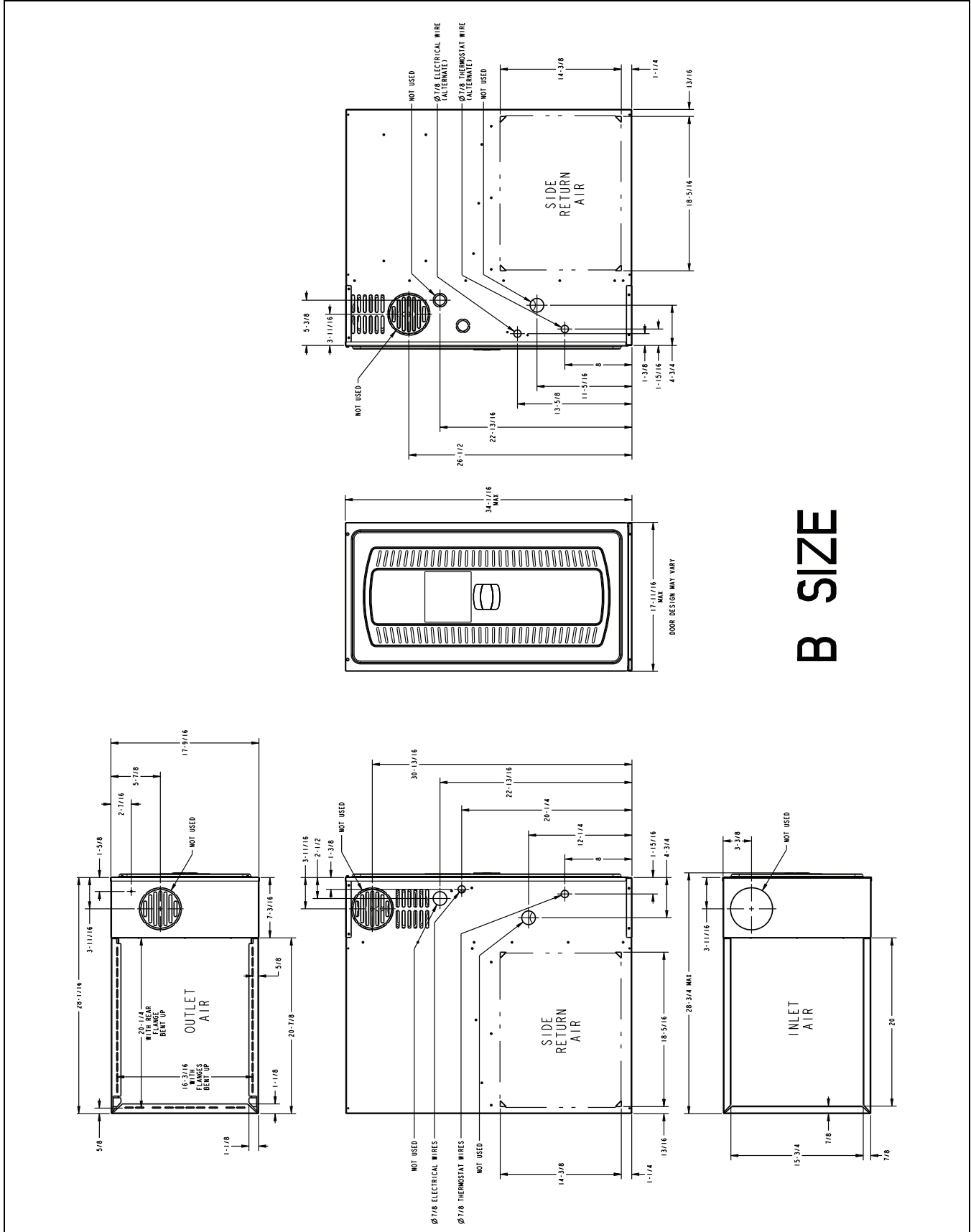
8. Operational and Checkout Procedures

To obtain proper performance, all units must be operated and charge adjustments made in accordance with procedures found in the Service Facts document of the outdoor unit. After installation has been completed, it is recommended that the entire system be checked against the checkout list located at the back of this document. See ["Checkout Procedures," p. 34.](#)

9. Maintenance

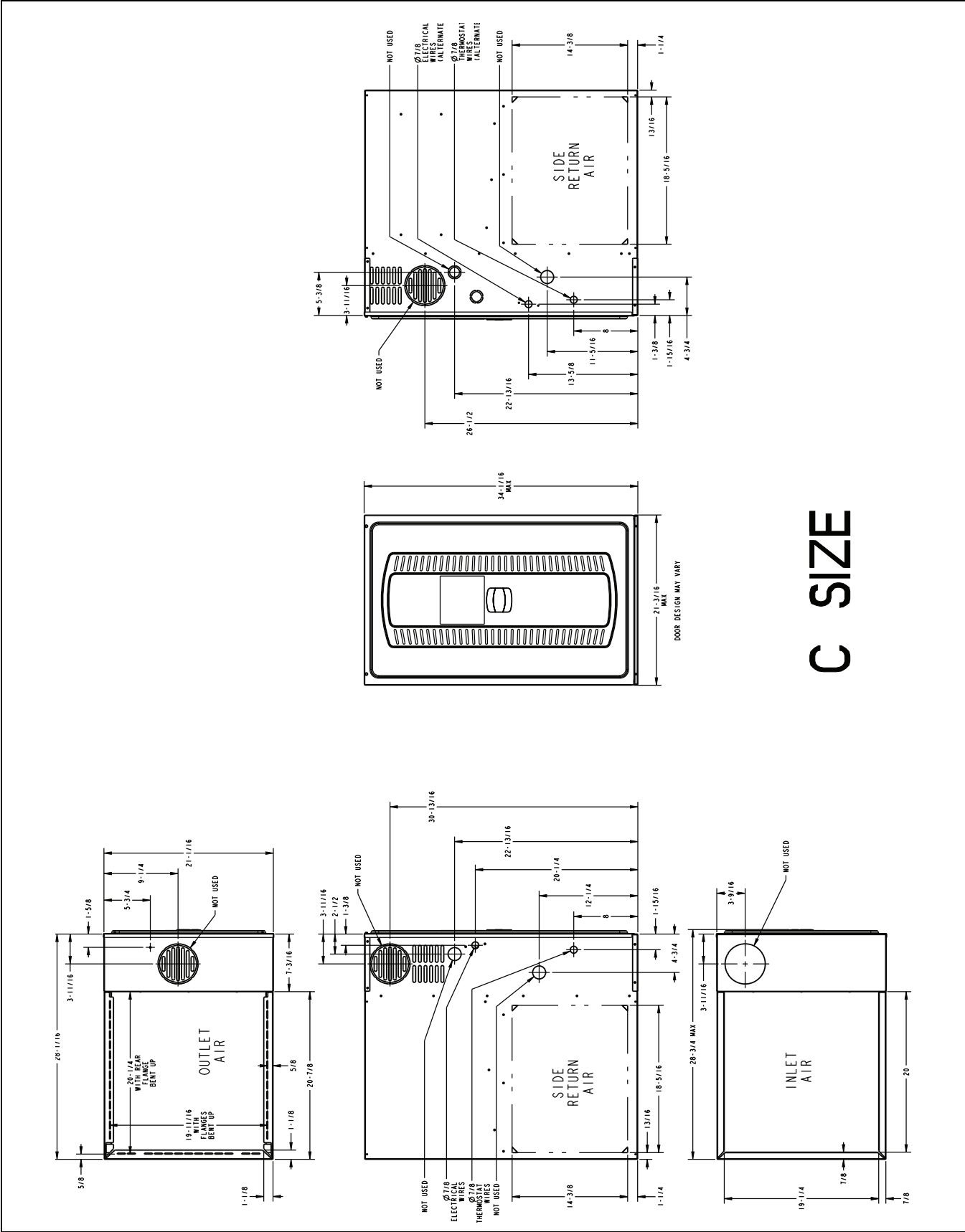
The system air filter(s) should be inspected, cleaned or replaced at least monthly. Make certain that the access panels are replaced and secured properly before placing the unit back in operation. This product is designed for dependable service; however, periodic maintenance should be scheduled and conducted by trained professional service personnel. This service should be conducted at least annually, and should include testing and inspection of electrical components. The blower motor is permanently lubricated for normal operating conditions.

Table 4. 17.5" Width Cabinet



B SIZE

Table 5. 21" Width Cabinet



C SIZE

General Installation

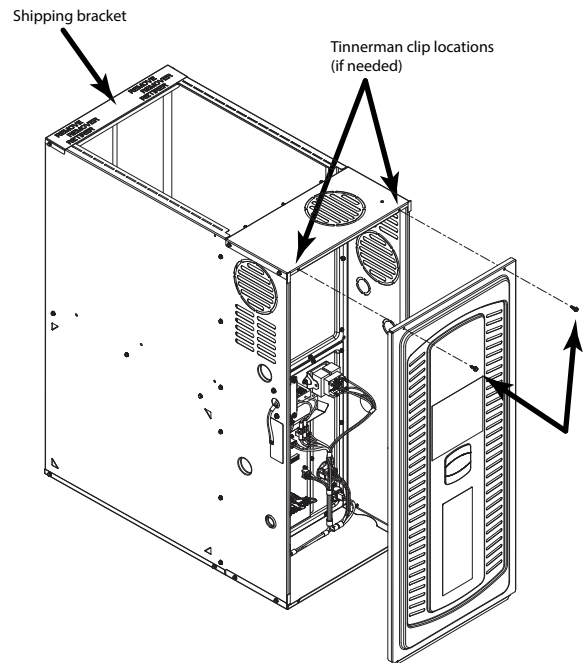
The following sections give general instructions for the installation of the modular blowers.

Panel Removal

Note: For the POV0, a 1/4" nut driver is required to remove the two screws at the top of the front panel. The front panel can then be removed by lifting upwards.

Note: Tinnerman clips are provided in the doc pack if the door panel flange hole(s) becomes stripped.

Note: Remove shipping bracket before installation.



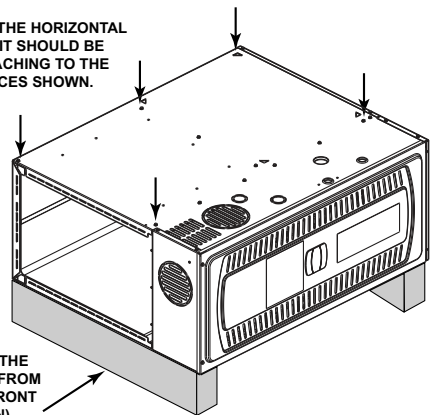
Horizontal Installation in an Attic or Crawlspace

The modular blower may be installed in an attic or crawl space in the horizontal position by placing it on its left or right side (as viewed from the front in the vertical position). The horizontal installation in an attic should be on a service platform large enough to allow for proper clearances on all sides and service access to the front of the modular blower. See "Location and Clearances," p. 6. Line contact is only permissible between lines formed by intersections of the top and two sides of the modular blower casing and building joists, studs, or framing.

The modular blower may be placed horizontally in a crawl space on a pad or other noncombustible material. Place blocks underneath to support the modular blower and raise the unit for sufficient protection from moisture.

The modular blower may be installed hanging in a hanging position using straps. The modular blower should be supported at both ends and have an additional support in the center of the modular blower in back.

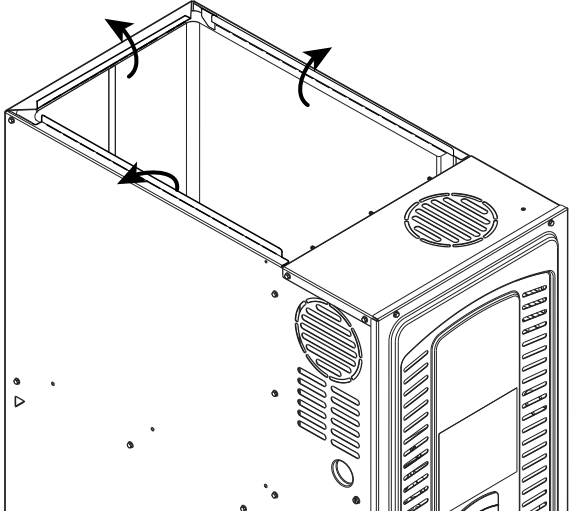
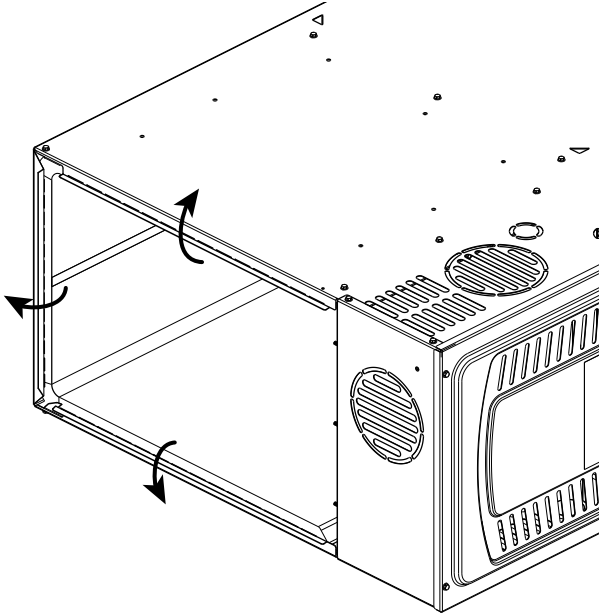
WHEN SUSPENDING THE HORIZONTAL MODULAR BLOWER, IT SHOULD BE SUSPENDED BY ATTACHING TO THE CABINET IN THE PLACES SHOWN.



WHEN SUPPORTING THE MODULAR BLOWER FROM BELOW, SUPPORT FRONT TO BACK (AS SHOWN) OR SIDE TO SIDE.

Duct Connections

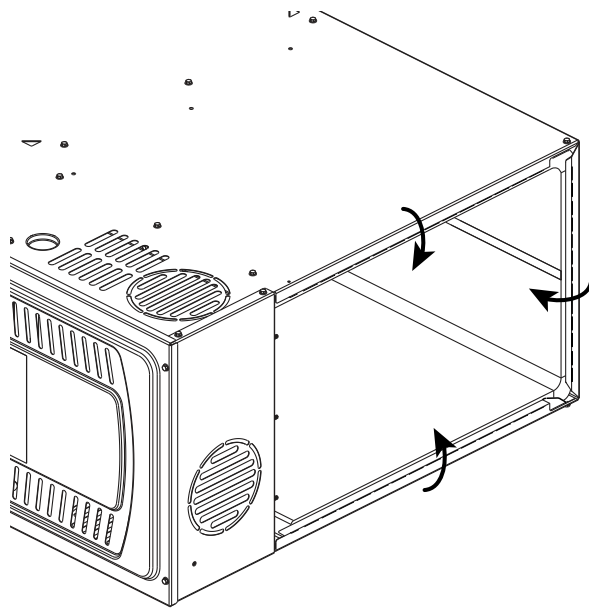
Table 7. Supply Duct Connections

<p>Upflow Modular Blower with Coil</p> <ol style="list-style-type: none">1. Bend modular blower flanges up.2. Set the coil on top of the modular blower.3. Screw through the coil cabinet into the modular blower flange. Guide holes are located on the coil. <p>Note: There are no longer guide holes located on the modular blower flange.</p> <ol style="list-style-type: none">4. Seal per local codes and requirements.	
<p>Modular Blower in Horizontal Left with Coil</p> <ol style="list-style-type: none">1. Bend modular blower flanges up.2. Support the modular blower and coil independently.3. Screw through the coil cabinet into the modular blower flange. Guide holes are located on the coil. <p>Note: There are no longer guide holes located on the modular blower flange.</p> <ol style="list-style-type: none">4. Seal per local codes and requirements.	

Modular Blower in Horizontal Right with "A" Coil

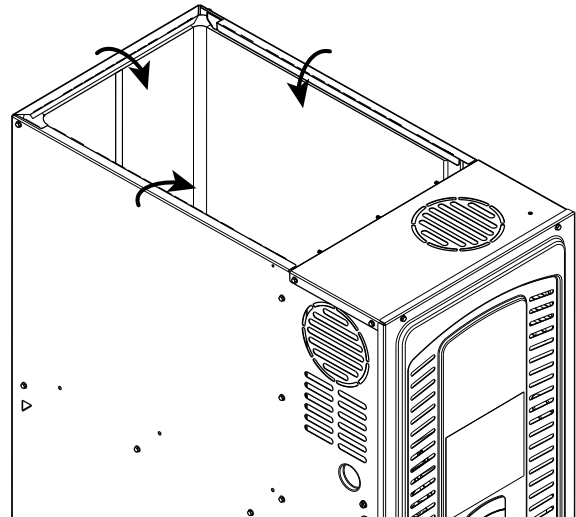
1. Bend modular blower flanges down.
2. Support the modular blower and coil independently.
3. Match the coil up flush to the back of the modular blower.
4. Seal per local codes and requirements.

Note: Flat or dedicated horizontal coils may require flanges to be bent upward.



Downflow Modular Blower with Coil

1. Bend modular blower flanges down.
2. Set the modular blower on top of the coil so that it is flush with the back of the modular blower.
3. Seal per local codes and requirements.



General Installation

Horizontal Right and Downflow Modular Blower — no Coil

1. Bend modular blower flanges up.
2. Attach ducting.
3. Seal per local codes and requirements.

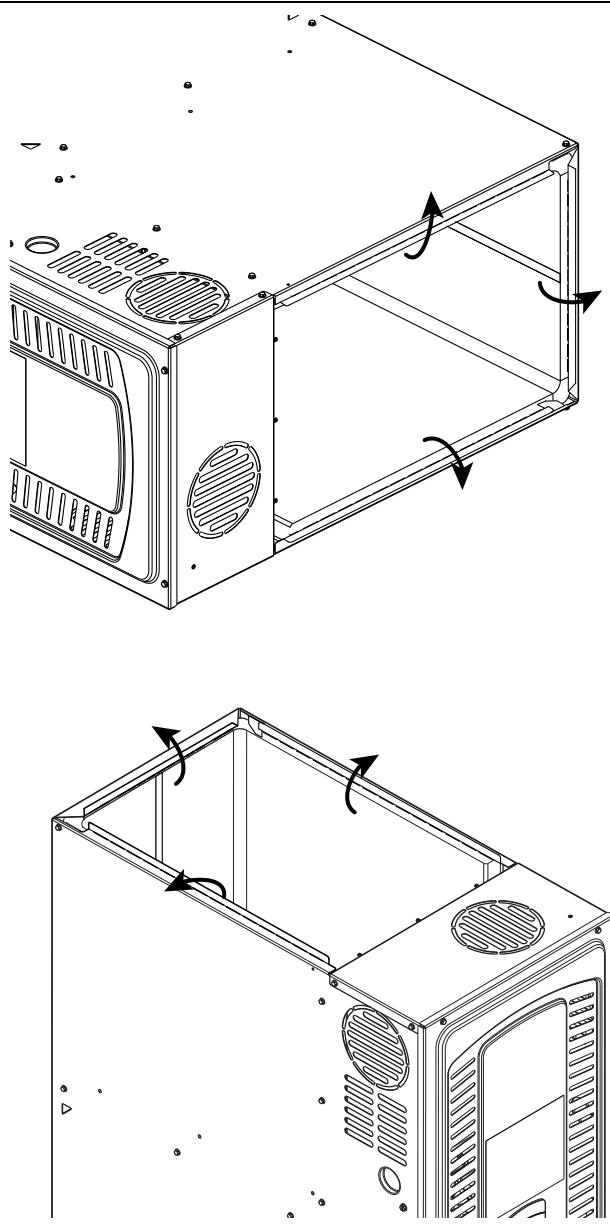


Table 8. Return Duct Connections

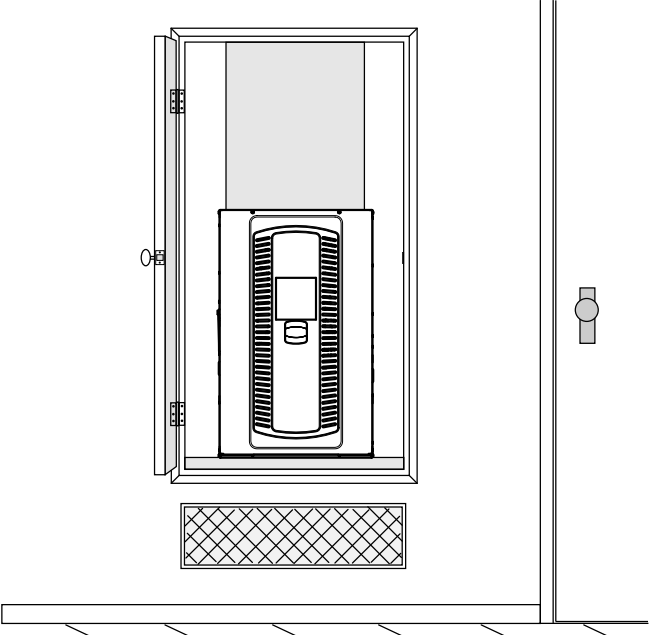
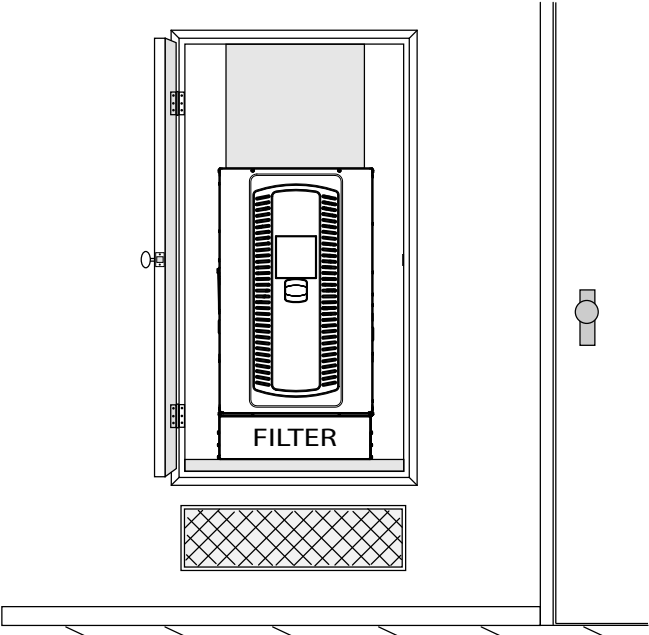
<p>Return Ducting General Guidelines</p> <ul style="list-style-type: none"> • Back returns are not allowed on any S-Series Modular blowers • Side returns are not allowed on downflow or horizontal S-Series Modular blowers • Mounting flanges must be located on ducting • Shoot screws through the mount flanges into the modular blower cabinet • Always seal per local codes and requirements • Modular blower, coil, and ducting must be supported separately • An external overflow drain pan must be installed in all applications over a finished ceiling to prevent property damage 	
<p>Upflow Modular Blower with Bottom Return in Closet with Remote Filter</p> <ol style="list-style-type: none"> 1. Remove the bottom plate. 2. Set the modular blower on the base inside closet. 3. Install remote filter. 4. Seal per local codes and requirements. 	
<p>Upflow Modular Blower with Bottom Return in Closet with Filter Box</p> <ol style="list-style-type: none"> 1. Remove the bottom plate. 2. Set the modular blower on the filter box inside closet. 3. Must have grille present for air. 4. Seal per local codes and requirements. 	

Table 8. Return Duct Connections (continued)

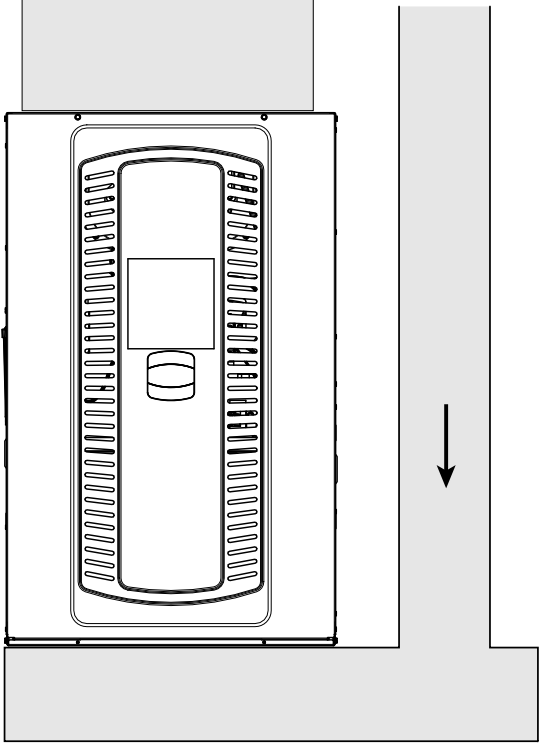
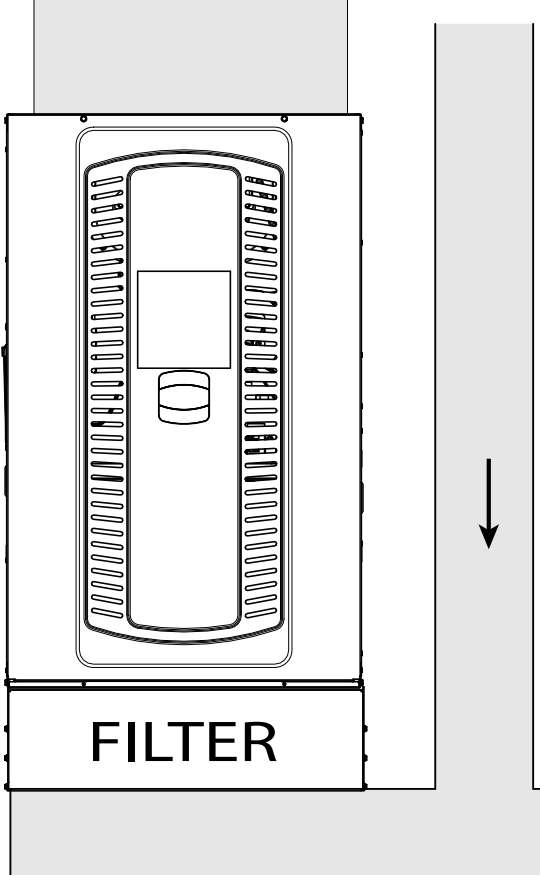
<p>Upflow Modular Blower with Bottom Return Mounted on a Ducted Pedestal</p> <ol style="list-style-type: none">1. Remove the bottom plate.2. Set the modular blower on the ducted pedestal. The ducted pedestal will use ducted air from a remote location.3. Install filter at a remote location.4. Seal per local codes and requirements.	 <p>The diagram shows a cross-section of a modular blower unit mounted on a pedestal. The pedestal has a vertical duct on its right side with a downward-pointing arrow indicating air flow. The blower unit is positioned on top of the pedestal's base, with its bottom grille facing the pedestal's opening.</p>
<p>Upflow Modular Blower with Bottom Return Mounted on a Ducted Pedestal with Filter Box</p> <ol style="list-style-type: none">1. Remove the bottom plate.2. Set the modular blower on the filter box. The ducted pedestal will use ducted air from a remote location.3. Seal per local codes and requirements.	 <p>The diagram shows a cross-section of a modular blower unit mounted on a pedestal. A rectangular filter box is placed between the blower and the pedestal's base. The word "FILTER" is printed in large, bold, capital letters on the front of the filter box. The pedestal has a vertical duct on its right side with a downward-pointing arrow indicating air flow. The blower unit is positioned on top of the filter box, with its bottom grille facing the pedestal's opening.</p>

Table 8. Return Duct Connections (continued)

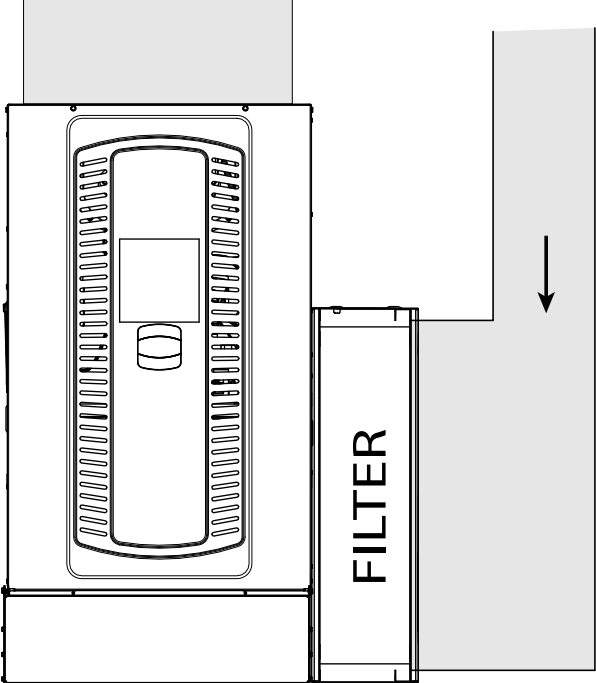
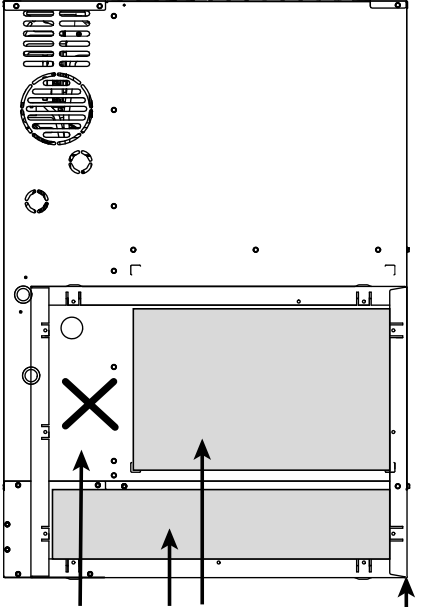
<p>Upflow Modular Blower with Bottom and Side Returns Mounted on a Ducted Pedestal with Side Return and Filter Box</p> <p>Important: Make sure the thermostat wiring hole is sealed on the cabinet side with the side return.</p> <p>Important: Make sure not to cut the cabinet in the "No Cut" area.</p> <p>Important: Remove Blower Assembly and Panel Loop before cutting cabinet to avoid cutting wires.</p> <ol style="list-style-type: none"> 1. Remove the bottom plate. 2. Create ducting and set the modular blower in place. <p>Note: Use Optional BAYLIFT kit to lift modular blower. Follow kit instructions.</p> <p>Note: The modular blower bottom pedestal must be a minimum of 6" in height.</p> <ol style="list-style-type: none"> 3. Match the filter cabinet flush to the back and bottom sides of the modular blower cabinet and secure in place with screws. 4. Mark the two areas to be cut out for the return air. 5. Cut out the two sections of the cabinet and BAYLIFT kit to be removed. 6. Attach ducting to the filter box. 7. The ducted pedestal will use ducted air from a remote location. 8. Seal per local codes and requirements. 	
<p>Cabinet cutout when used with BAYLIFT</p>	<p>21" Filter Cabinet with BAYLIFT Kit shown</p>  <p>No Cut Area Cutouts Flush with back of furnace cabinet</p>

Table 8. Return Duct Connections (continued)

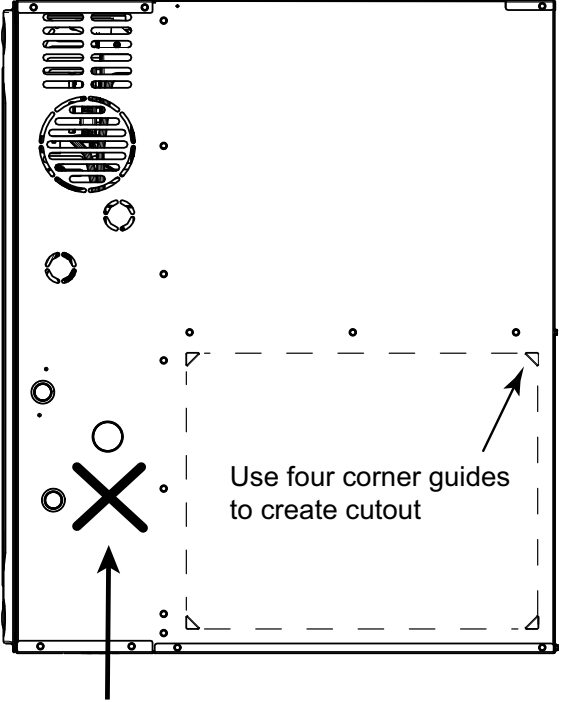
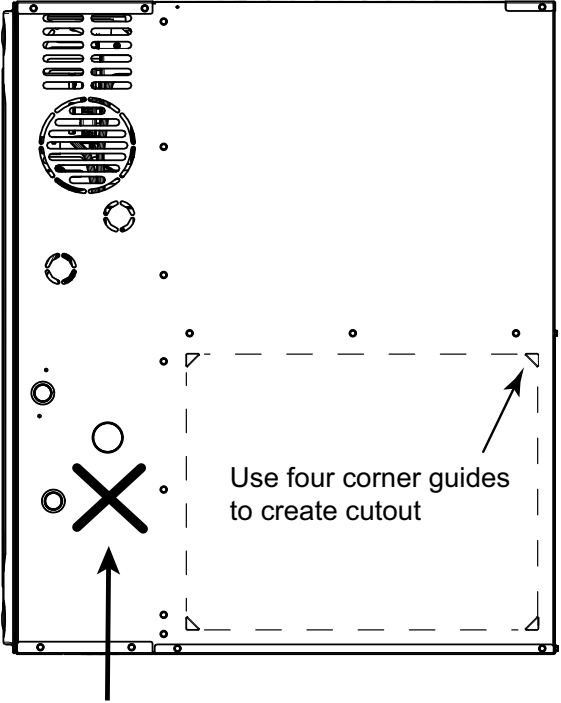
<p>Upflow Modular Blower with Side Return</p> <p>Important: Make sure the thermostat wiring hole is sealed on the cabinet side with the side return.</p> <p>Important: Make sure not to cut the cabinet in the "No Cut" area.</p> <p>Important: Remove Blower Assembly and Panel Loop before cutting cabinet to avoid cutting wires.</p> <ol style="list-style-type: none"> Using guides, remove the cutout for the side return. Create ducting and set the modular blower in place. Use screws to attach ducting to the modular blower cabinet. <p>Note: If using a filter box, use a transition, if possible, to attach the filter box to the modular blower cabinet.</p> <ol style="list-style-type: none"> Seal bottom panel per local codes and requirements. Seal all other panels per local codes and requirements. 	 <p style="text-align: center;">No Cut Area</p>
<p>Upflow Modular Blower with Two Side Returns</p> <p>Important: One of the sides must have a transition to allow the thermostat wiring to exit the cabinet.</p> <p>Important: If a transition is not a viable option, a hole will need to be drilled in the side of the cabinet for the thermostat wiring to exit.</p> <p>Important: Make sure not to cut the cabinet in the "No Cut" area.</p> <p>Important: Remove Blower Assembly and Panel Loop before cutting cabinet to avoid cutting wires.</p> <p>Note: If using one transition, the thermostat wiring will exit on the transition side.</p> <ol style="list-style-type: none"> Using guides, remove the two cutouts for the side returns. Create ducting and set the modular blower in place. Use screws to attach ducting to the modular blower cabinet. <p>Note: If using a filter boxes, use transitions, if possible, to attach the filter boxes to the modular blower cabinet.</p> <ol style="list-style-type: none"> Seal bottom panel per local codes and requirements. Seal all other panels per local codes and requirements. 	 <p style="text-align: center;">No Cut Area</p>

Table 8. Return Duct Connections (continued)

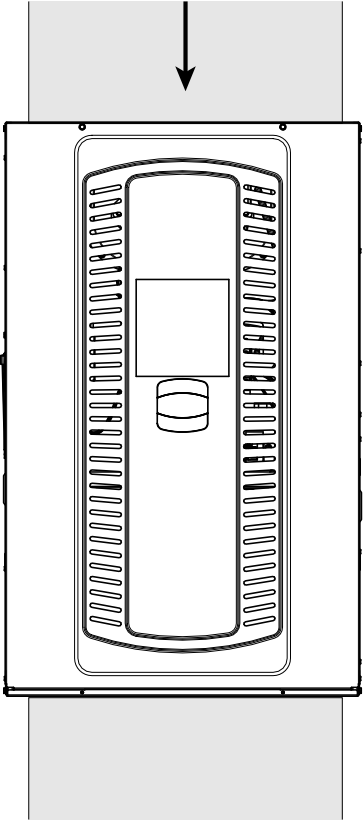
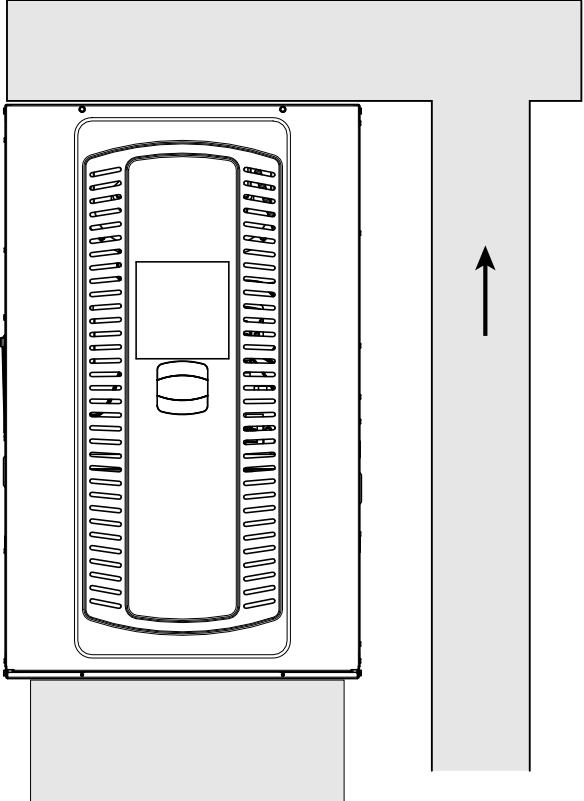
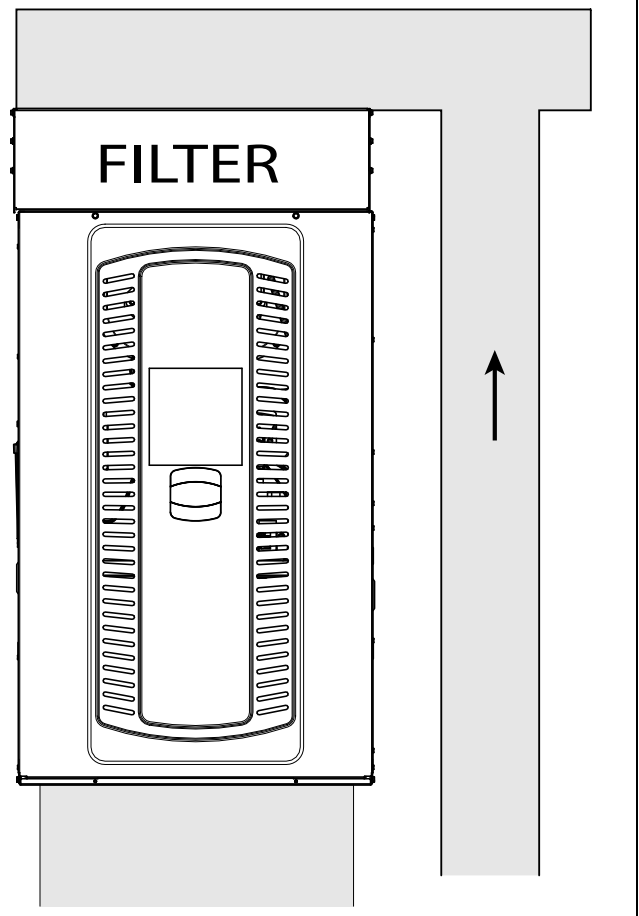
<p>Downflow Modular Blower with Top Return</p> <ol style="list-style-type: none"> 1. Remove the top plate. 2. Attach the ducting to the top of the modular blower. 3. Install remote filter. 4. Seal per local codes and requirements. 	
<p>Downflow Modular Blower with Top Return and Plenum</p> <ol style="list-style-type: none"> 1. Remove the top plate. 2. Attach the plenum ducting to the top of the modular blower. 3. Install remote filter. 4. Seal per local codes and requirements. 	

Table 8. Return Duct Connections (continued)

Downflow Modular Blower with Top Return and Plenum with Filter Box

1. Remove the top plate.
2. Attach the filter box to the top of the modular blower.
3. Attach ducting.
4. Seal per local codes and requirements.



Return Air Filters

TYPICAL AIR FILTER INSTALLATIONS

Filters are not factory supplied for modular blowers. Filter size needed will be dependent on type of filter and CFM requirement. Filters must be installed externally to the unit.

Important: *It is recommended to transition return ducting to the same size as the opening. It is acceptable for return duct or filter frame to extend forward of the opening but plastic plugs MUST be installed in any opening that the duct or filter frame may cover.*

Return Air Filters

Modular Blower Width	Filter Qty and Size
14-1/2"	1 - 14" x 25" x 1"
17-1/2"	1 - 16" x 25" x 1"
21"	1 - 20" x 25" x 1"
24-1/2"	1 - 24" x 25" x 1"

Note: *For upflow airflow modular blowers where the airflow requirement exceeds 1600 CFM - modular blowers will require return air openings and filters on: (1) both sides, or (2) one side and the bottom, or (3) just on the bottom.*

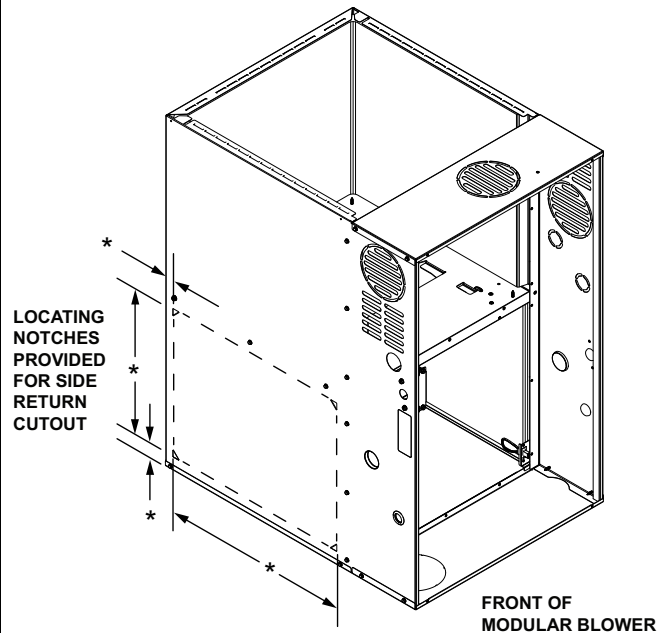
Preparation for Upflow Bottom and Side Return Air Filter Installations

All return air duct systems should provide for installation of return air filters.

Important: *Remove Blower Assembly and Panel Loop before cutting cabinet to avoid cutting wires.*

1. Determine the appropriate position to set the modular blower in order to connect to existing supply and return ductwork.
2. For upflow side return installations, remove the insulation around the opening in the blower compartment.
3. The side panels of the upflow modular blower include locating notches that are used as guides for cutting an opening for return air, refer to the figure and the upflow modular blower outline drawing for duct connection dimensions for various modular blowers.
4. If a 3/4" flange is to be used for attaching the air inlet duct, add to cut where indicated by dotted lines. Cut corners diagonally and bend outward to form flange.
5. If flanges are not required, and a filter frame is installed, cut between locating notches as in illustration.
6. The bottom panel of the upflow modular blower must be removed for bottom return air.

UPFLOW MODULAR BLOWERS ONLY



* SEE OUTLINE DRAWING

General Installation

1. When the modular blower is installed in the horizontal right or left application and a return duct is attached to the top side, do not install a filter in the return duct directly above the modular blower. Install the filter in a remote location.

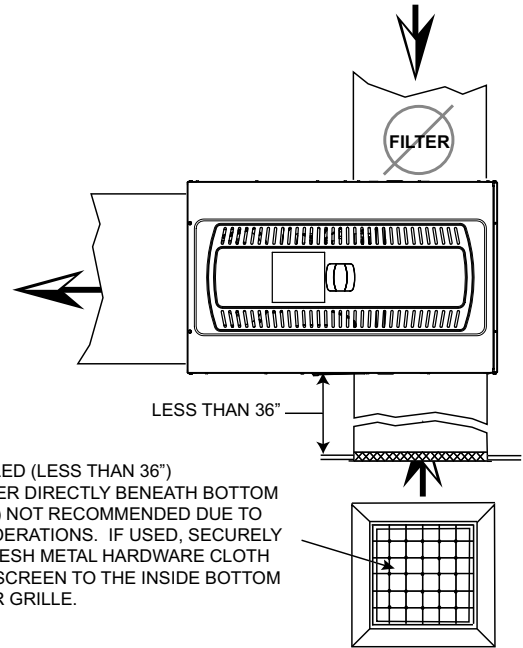
When the modular blower is installed in the horizontal right or left application and a close coupled (less than 36") return duct is attached to the bottom side of the modular blower as shown above, securely attach a 1/2" mesh metal hardware cloth protective screen to the inside bottom of the filter grille **to prevent personal injury from contacting moving parts when reaching into the return opening to replace the filter.**

Close coupled (less than 36") return (filter directly beneath bottom side return) is not recommended due to noise considerations.

2. Connect the duct work to the modular blower. See Outline Drawing for supply and return duct size and location.
Flexible duct connectors are recommended to connect both supply and return air ducts to the modular blower.

If only the front of the modular blower is accessible, it is recommended that both supply and return air plenums are removable.

3. When replacing an modular blower, old duct work should be cleaned out. Thin cloths should be placed over the registers and the modular blower fan should be run for 10 minutes. Don't forget to remove the cloths before you start the modular blower.
4. **The horizontal installation of the upflow modular blower requires an external filter section. Filter kits are available for horizontal applications.**



CLOSE COUPLED (LESS THAN 36") RETURN (FILTER DIRECTLY BENEATH BOTTOM SIDE RETURN) NOT RECOMMENDED DUE TO NOISE CONSIDERATIONS. IF USED, SECURELY ATTACH 1/2" MESH METAL HARDWARE CLOTH PROTECTIVE SCREEN TO THE INSIDE BOTTOM OF THE FILTER GRILLE.

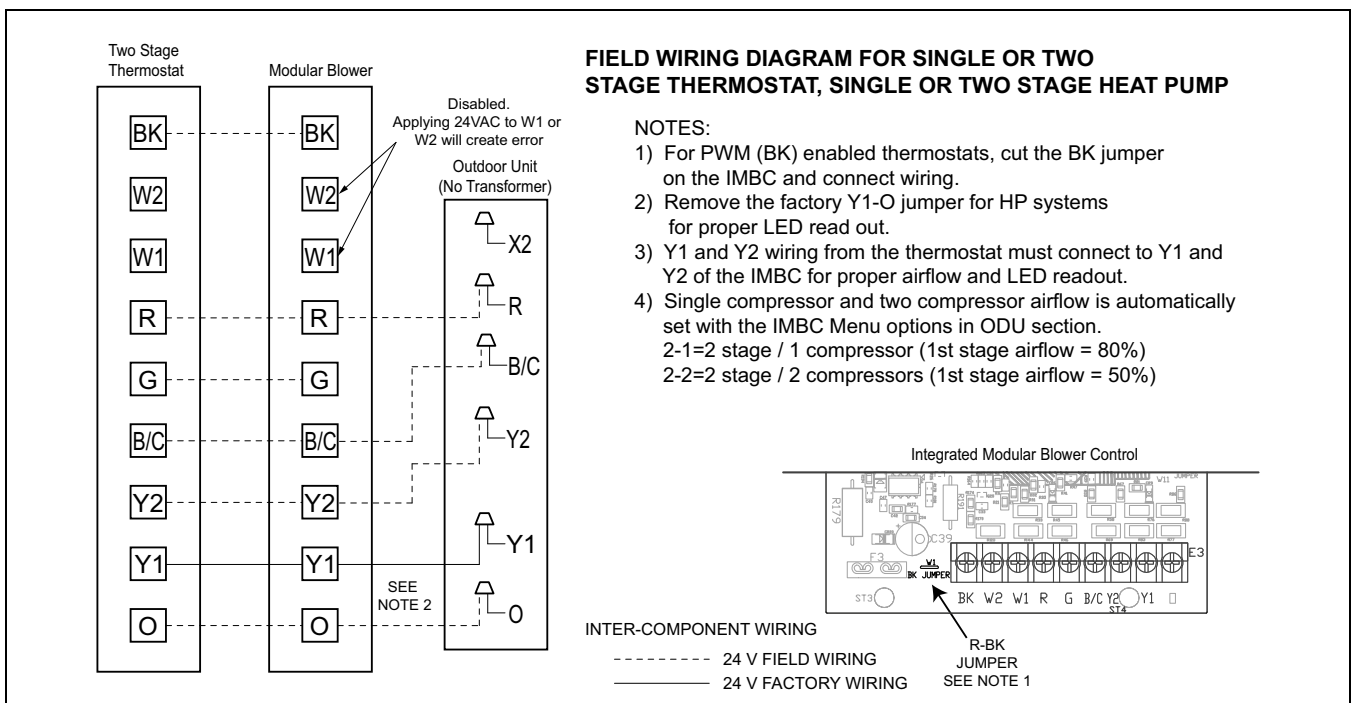
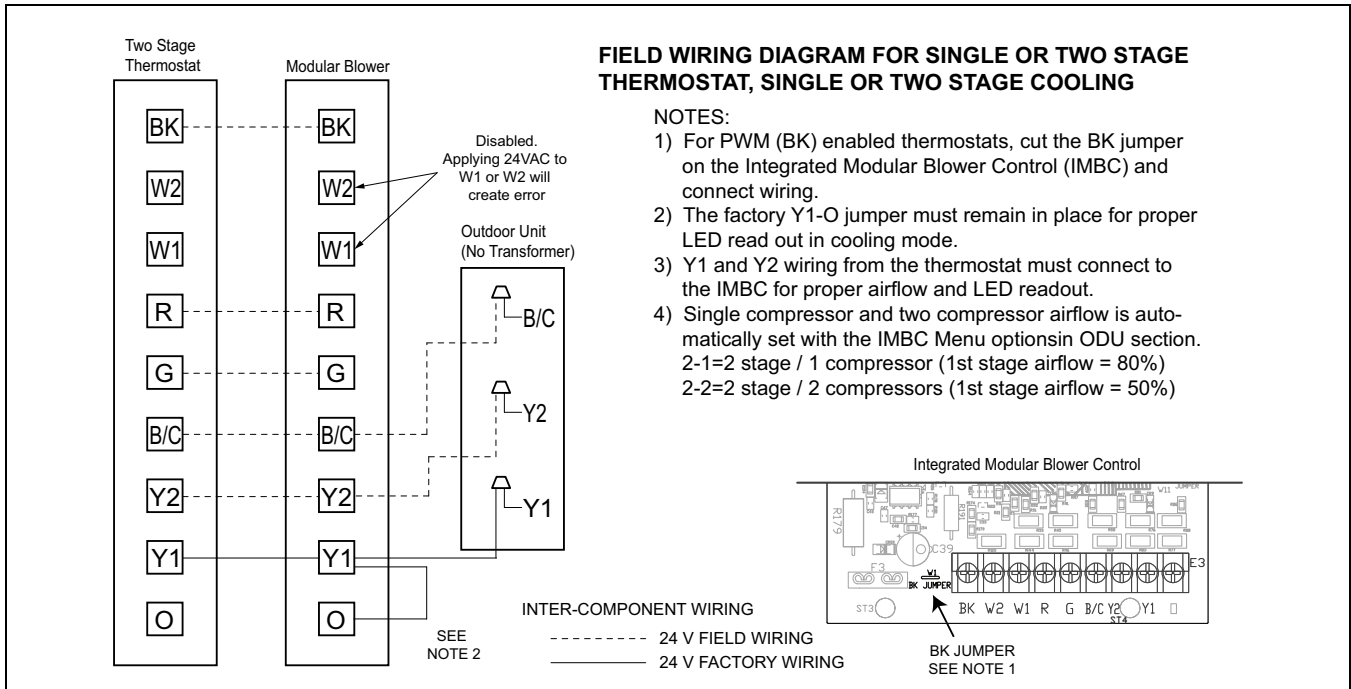
RETURN AIR FILTERS FOR MODULAR BLOWER IN HORIZONTAL CONFIGURATION

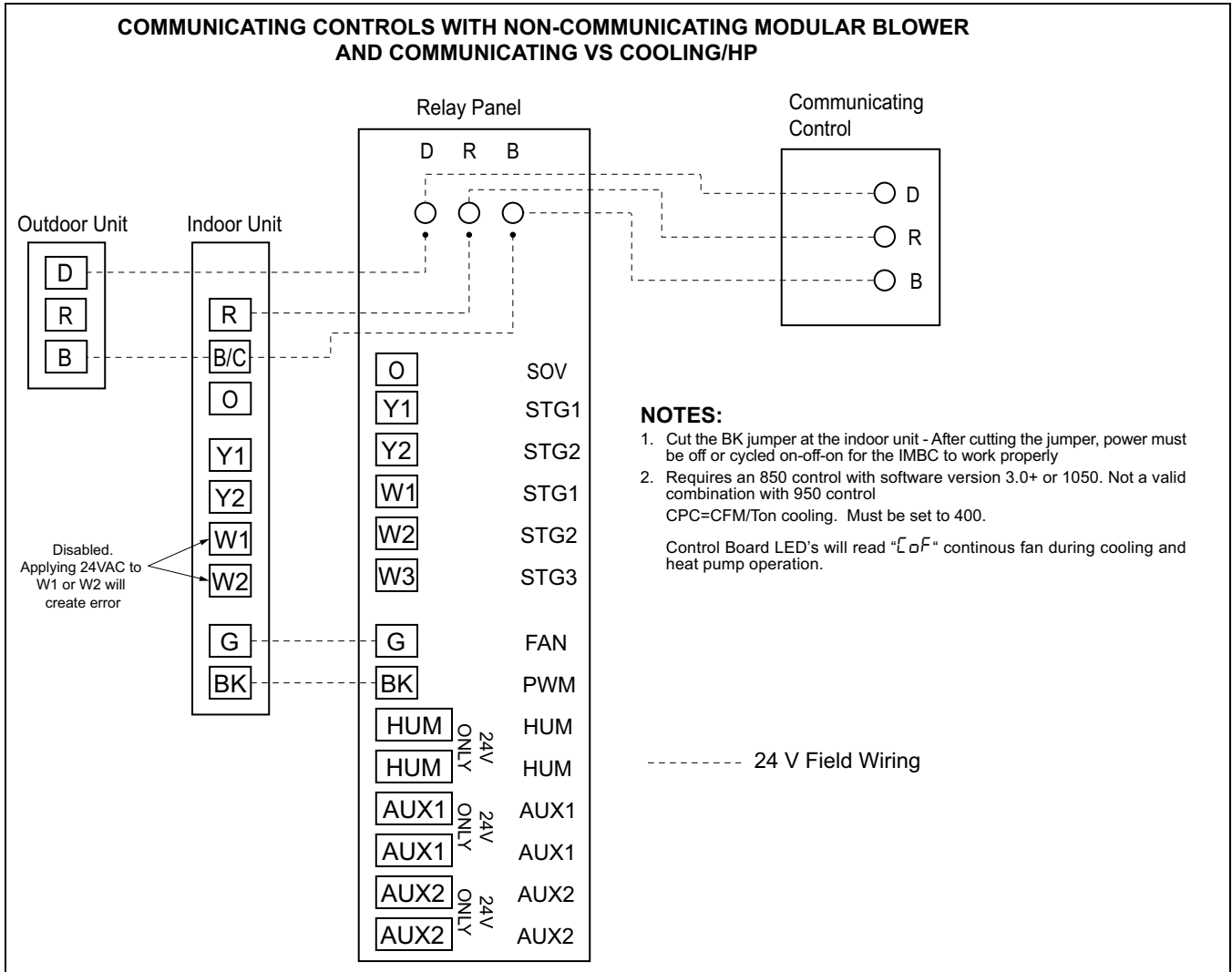
When the modular blower is installed in the horizontal configuration, the return air filters must be installed exterior to the modular blower cabinet. Remote filter grilles may be used for homeowner convenience or the filters may be installed in the duct work upstream of the modular blower.

Electrical Connections

Make wiring connections to the unit as indicated on enclosed wiring diagram. This modular blower shall be connected into a permanently live electric circuit. It is recommended that modular blower be provided with a separate "circuit protection device" electric circuit. The modular blower must be electrically grounded in accordance with local codes or in the absence of local codes with the National Electrical Code, ANSI/NFPA 70, if an external electrical source is utilized. **The integrated modular blower control is polarity sensitive.** The hot leg of the 120V power supply must be connected to the black power lead as indicated on the wiring diagram. Refer to the SERVICE FACTS literature and unit wiring diagram attached to modular blower.

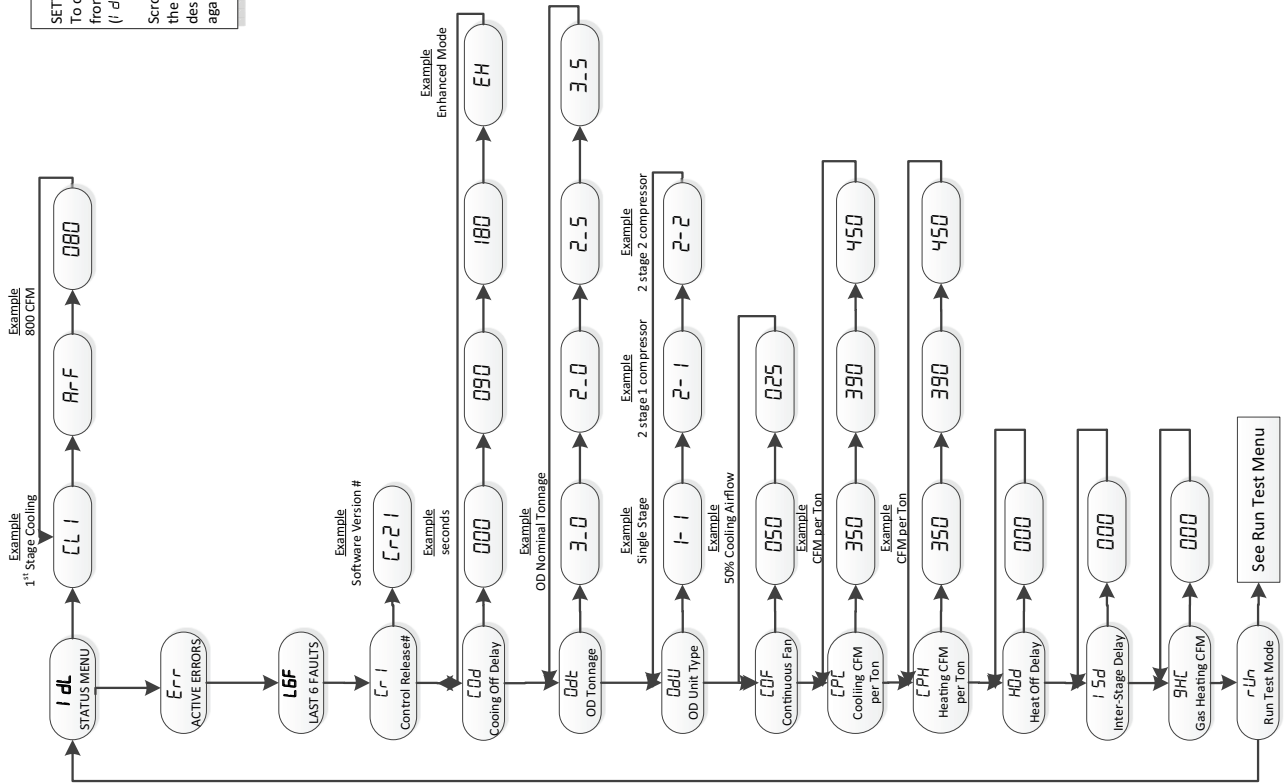
Field Wiring





Integrated Modular Blower Control Menu

POVO Control System Menu



SETTING UP YOUR SYSTEM:
To change any factory default value, first remove any "call" from the modular blower and allow any fan off delays to finish. (- dl should be seen on the display)
Scroll to the selected Menu item by momentarily depressing the "MENU" key and then depress the "OPTION" key to the desired setting. Then momentarily depress the "MENU" key again to save the change.

CLEARING THE LAST 6 FAULTS:
To clear the stored faults, scroll to the last 6 faults menu, enter the menu by scrolling to the right and hold the "Option" key for at least 5 seconds.
Release and a set of 3 dashes will be seen 3 times. This confirms the faults have been cleared

Model
POV0A 3T(3T), 1.5T, 2T, 2.5T
POV0B 4T(4T), 2.5T, 3T, 3.5T
POV0C 5T(5T), 3.5T, 4T, 4.5T
POV0D 5T(5T), 3.5T, 4T, 4.5T

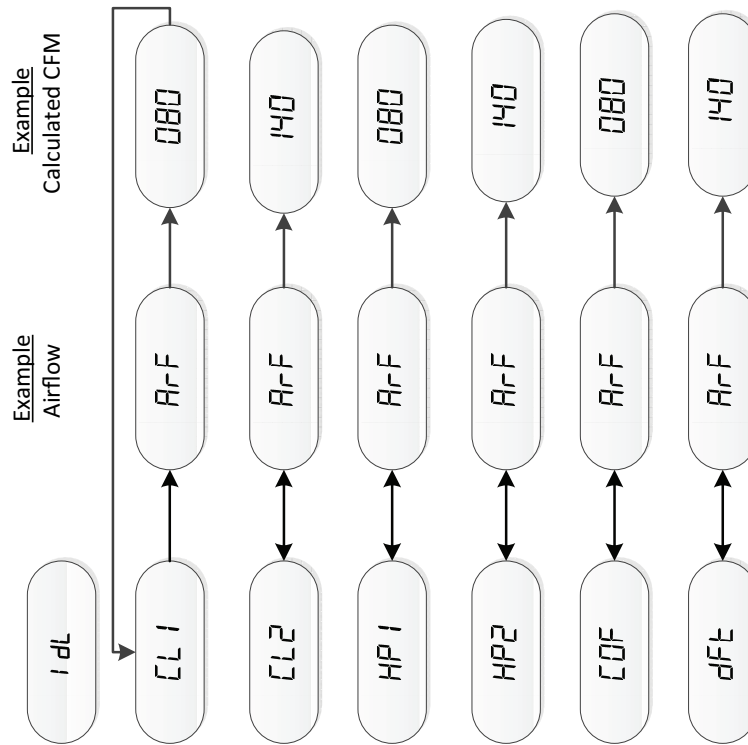
ODT Options [-] = Default
3T(3T), 1.5T, 2T, 2.5T
4T(4T), 2.5T, 3T, 3.5T
5T(5T), 3.5T, 4T, 4.5T
5T(5T), 3.5T, 4T, 4.5T

CFM per Ton selections range from 290 – 450
Important:
When applied with zoning or a VSPD outdoor unit, the CFM/Ton must be set to 400

Designated Maximum 1st Stage Heat Pump Airflow Setting
ODU = 2-1 (1st stage airflow is 80% of the total airflow)
ODU = 2-2 (1st stage airflow is 50% of the total airflow)
Total airflow = CPH x Tonnage (400 x 3 = 1200)

Model Number	Heating CFM
POV0A000M305CA	1000 (Total = 1240)
POV0B000M405CA	1200 (Total = 1440)
POV0C000M505CA	1400 (Total = 1680)
POV0D000M505CA	1400 (Total = 1680)

POVO Examples of System Status



IdL = Idle, no demand for cooling, heating, or fan
CL1 = Demand for 1st stage cooling
CL2 = Demand for 2nd stage cooling
HP1 = Demand for 1st stage heat pump
HP2 = Demand for 2nd stage heat pump
CDF = Demand for continuous fan
dFL = Demand for outdoor unit defrost
ArF / 080 = Calculated airflow is 800 CFM.
 Airflow display is rounded down to the nearest 10 cfm

NOTES:

- (1) The menu status displayed is solely dependent on the input of 24VAC that is applied to the low voltage terminal strip.
- (2) The status will alternate between the system mode and the airflow request every 2 seconds.
- (3) If an error occurs, an E*.* will alternately flash with the system mode and airflow request.
- (4) Some units will show demand airflow while others will show calculated airflow. Calculated airflow will gradually ramp up and may take ~1-2 minutes to stabilize.

Note: During run test mode, depressing the option key will allow the user to hold (HLD) that test sequence if measurements want to be taken. The exception is RU3 (ignitor).



Run Test Mode:

To enter Run Test Mode, scroll to *rUn* using the Menu key, then push the option key. The LED will flash *rUn* three times, then begin the test.

To exit the test mode, momentarily push the Menu key, cycle power to the modular blower, or make a valid thermostat call for capacity or fan.

Sequence of Run Test Mode

rU1 – Turns the circulating blower on 1st stage compressor speed for 30 seconds

rU5 – Turns the circulating blower on 2nd stage compressor speed for 30 seconds

The above sequence will repeat two more times unless the Run Test Mode is exited, see above

Important: The Run Test Mode does not bring the outdoor unit on. It is designed to allow the technician to observe each mode to ensure the IMBC, circulating blower are performing as intended. The run test for the blower will take approximately 70 seconds to begin.

Integrated Modular Blower Control (IMBC) Display Codes

Modular Blower	
<i>IdL</i>	Idle
<i>ArF</i>	Calculated Airflow times (followed by Airflow x 10)
<i>COF</i>	Continuous Fan
<i>CL1</i>	First Stage Cooling
<i>CL2</i>	Second Stage Cooling
<i>HPI</i>	First Stage Heat Pump
<i>HP2</i>	Second Stage Heat Pump
Menu Options	
<i>Err</i>	Active Alarm Menu
<i>L6F</i>	Last 6 Faults (To clear — Hold Option button down for 5 seconds)
<i>Cr</i>	Code Release Number
<i>COd</i>	Cooling Off Delay (Seconds)
<i>OdL</i>	Outdoor Tonnage
<i>OdU</i>	Outdoor Unit
<i>COF</i>	Blower Constant Fan Airflow Multiplier (Percentage)
<i>CPCL</i>	Cooling (CFM/Ton)
<i>CPHL</i>	Heat Pump Heating (CFM/Ton)
<i>Had</i>	Not Applicable
<i>ISd</i>	Not Applicable
<i>SHC</i>	Not Applicable
<i>rUn</i>	Run Test Mode

Error Codes	
Alarm Error Code	Alarm Explanation
<i>E01</i>	Loss of the IRQ or other internal failures (Internal IMBC error)
<i>E6_1</i>	Voltage reversed polarity
<i>E6_2</i>	Bad grounding
<i>E1_2</i>	Open fuse
<i>E1_3</i>	Blower HP/OEM ID
<i>E1_4</i>	No PM and local copy bad
<i>E1_5</i>	Both of unit Data File in PM and local Unit Data File are corrupt
<i>E1_7</i>	Blower motor no communication response
<i>E1_8</i>	Blower communication failure on the control

Fault Code Recovery

Fault Code Recovery

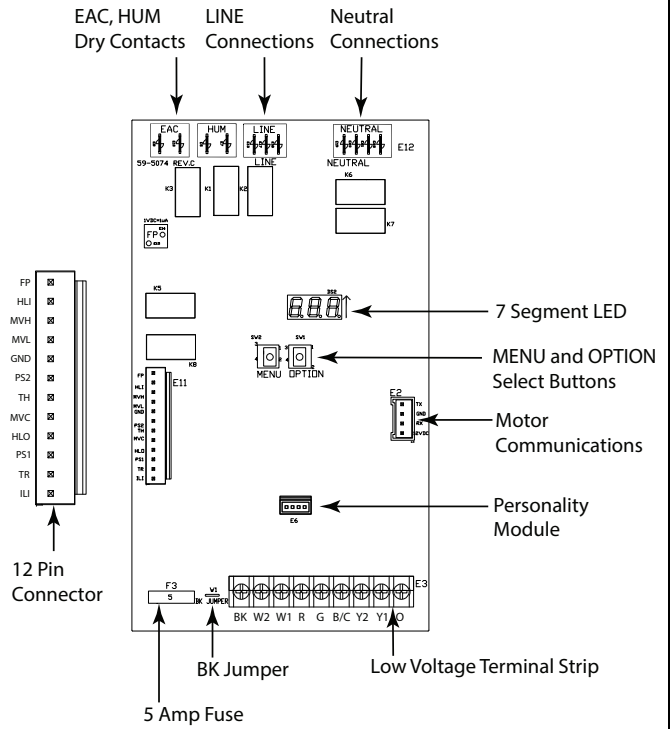
1. To view the last 6 faults, press the "Menu" key until the "Last 6 Faults" (L6F) menu appears.
2. Enter the menu by pressing the "Option" key.
3. The last 6 faults can be viewed.

Clearing the Last 6 Faults

1. To clear the last 6 faults, press the "Menu" key until the "Last 6 Faults" (L6F) menu appears.
2. Enter the menu by pressing the "Option" key.
3. Hold the "Option" key for at least 5 seconds.
4. Release and a set of 3 dashes with be seen 3 times. This confirms the faults have been cleared.

Resetting Factory Defaults

1. Display must be in Idle Mode.
2. Push the "Menu" and "Option" buttons at the same time for 15 seconds then release.
3. The 7 segment will flash "Fd" 3 times. This confirms the unit has been reset to the factory defaults.



Sequence of Operation

Note: The seven segment LED readout is based on thermostat input.

Note: Some units will show demand airflow while others will show calculated airflow. Calculated airflow will gradually ramp up and may take ~1-2 minutes to stabilize.

EAC and HUM Timing

- EAC relay closes approximately 2 seconds after the blower starts.
- EAC relay opens when the blower motor stops.
- HUM relay closes on any heating call (HP) approximately 1 second after the blower motor starts.
- HUM relay opens when any heating call (HP) is removed.

Single Stage Cooling

1. R-Y1-G contacts on the thermostat close sending 24VAC to the Y1 and G low voltage terminals on the IMBC. Technician should read 24VAC between Y1-B/C and between G-B/C.

Note: Factory supplied Y1-O jumper must remain in place for proper seven segment LED readout. If removed, seven segment LED will read "HP 1".

2. 24VAC is sent to the OD unit via thermostat wiring energizing 1st stage compressor operation.
3. The indoor blower ramps to the 1st stage cooling airflow. The seven segment LED for example will alternately read:
 $\square\square\square = \text{Cooling, Stage 1}$
 $RrF = \text{Airflow}$
 $\square\square\square = 800 \text{ calculated cfm (value shown x 10)}$
4. When the temperature is lowered enough to satisfy the thermostat setting, contacts R-Y1-G will open. The OD unit shuts off and the indoor blower shuts off, unless a blower off delay has been enabled in the IMBC setup menu options. The seven segment LED will read "i dL" = Idle, no thermostat demand.

Two Stage Cooling

1. See sequence of operation for Single stage cooling operation above (see steps 1-4).
2. R-Y2 contact on the thermostat closes sending 24VAC to Y2 low voltage terminal on the IMBC. Technician should read 24VAC between Y2 and B/C.
3. 24VAC is sent to the OD unit via thermostat wiring.
4. The indoor airflow ramps to 2nd stage cooling airflow. The seven segment LED for example will read:

$\square\square\square = \text{Cooling, Stage 2}$

$RrF = \text{Airflow}$

$\square\square\square = 1600 \text{ calculated cfm (value shown x 10)}$

5. When the temperature is lowered enough to satisfy the thermostat setting, contacts R-Y1-Y2-G will open.
6. The OD unit shuts off and the indoor blower shuts off, unless a blower off delay has been enabled in the IMBC setup menu options. The seven segment LED will read "i dL" = Idle, no thermostat demand.

Single Stage Heat Pump

1. R-Y1-G contacts on the thermostat close sending 24VAC to the Y1 and G low voltage terminals on the IMBC. Technician should read 24VAC between Y1-B/C and between G-B/C.

Note: Factory supplied Y1-O jumper must be removed for proper seven segment LED readout. If left in place, seven segment LED will read "CL 1".

2. 24VAC is sent to the OD unit via thermostat wiring energizing 1st stage compressor operation.
3. The indoor blower ramps to the 1st stage heat pump airflow. The seven segment LED for example will alternately read:

$HP1 = \text{Heat Pump heating, Stage 1}$

$RrF = \text{Airflow}$

$\square\square\square = 800 \text{ calculated cfm (value shown x 10)}$

4. When the temperature is raised enough to satisfy the thermostat setting, contacts R-Y1-G will open. The OD unit shuts off and the indoor blower shuts off, unless a blower off delay has been enabled in the IMBC setup menu options. The seven segment LED will read "i dL" = Idle, no thermostat demand.

Two Stage Heat Pump

1. See sequence of operation for Single stage heat pump operation above (see steps 1-4).
2. R-Y2 contact on the thermostat closes sending 24VAC to Y2 low voltage terminal on the IMBC. Technician should read 24VAC between Y2 and B/C.
3. 24VAC is sent to the OD unit via thermostat wiring energizing 2nd stage compressor operation.
4. The indoor blower ramps to the 2nd stage heat pump airflow. The seven segment LED for example will alternately read:

$HP2 = \text{Heat Pump heating, Stage 2}$

$RrF = \text{Airflow}$

$\square\square\square = 1600 \text{ calculated cfm (value shown x 10)}$

5. When the temperature is raised enough to satisfy the thermostat setting, contacts R-Y1-Y2-G will open.
6. The OD unit shuts off and the indoor blower shuts off. The seven segment LED will read "i dL" = Idle, no thermostat demand.

Checkout Procedures

The final phase of the installation is the system Checkout Procedures. The following list represents the most common items covered in a Checkout Procedure. Confirm all requirements in this document have been met.

<ul style="list-style-type: none"><input type="checkbox"/> All wiring connections are tight and properly secured.<input type="checkbox"/> Voltage and running current are within limits.<input type="checkbox"/> Ductwork is sealed and insulated.	<ul style="list-style-type: none"><input type="checkbox"/> Supply registers and return grilles are open, unobstructed, and air filter is installed.<input type="checkbox"/> Indoor blower and outdoor fan are operating smoothly and without obstruction.<input type="checkbox"/> Indoor blower motor set on correct speed setting to deliver required CFM. "Blower and fan set screws are tight."<input type="checkbox"/> Cover panels are in place and properly tightened.<input type="checkbox"/> System functions safely and properly in all modes.<input type="checkbox"/> Owner has been instructed on use of system and given manual.
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