Eubank

Installation, Operation and Maintenance

H SERIES

Wallmount Heat Pumps

R410A Series

H SERIES WALLMOUNT HEAT PUMPS

Your equipment is covered by a LIMITED WARRANTY against defects in material and workmanship.

This is a vertical wallmount unit designed for many different applications in both residential and commercial settings. It is self-contained and arrives completely assembled, factory-charged and wired. The unit is 100% run-tested at the factory to ensure proper operation. Your unit is supplied with high-quality copper tubing and enhanced aluminum-finned coils for high heat transfer efficiency and long life. The unit cabinet is constructed of G-90 galvanized steel. All exterior surfaces are finished with a baked-on polyester coating. This will provide excellent corrosion protection in most applications. However, if the unit is installed in an area with a corrosive atmosphere, such as near an industrial plant or on the seacoast, additional coating should be considered to extend the life of the coils and cabinet.

DANGER: BEFORE PERFORMING ANY WORK ON THIS EQUIPMENT, POWER SUPPLY MUST BE TURNED OFF AT THE HOUSEHOLD SERVICE BOX TO AVOID THE POSSIBILITY OF SHOCK, INJURY, DEATH OR DAMAGE TO EQUIPMENT.

This unit was designed for up to 105ºF of ambient temperature for cooling mode; for heating mode, this unit was designed for up to 78 ºF of room temperature, and minimum of 15ºF ambient temperature.

INSPECTION AND UNPACKING

A thorough inspection of the shipping container should be made immediately upon receiving your unit. Look for any punctures or openings. If it appears as if damage has occurred, it should be noted on the freight bill before signing. The delivering carrier should be contacted immediately to inspect damage, and no installation work should begin until this inspection is completed.

WARNING: FAILURE TO FOLLOW THESE RULES AND INSTRUCTIONS COULD CAUSE A MALFUNCTION OR DESTRUCTION OF THE EQUIPMENT WHICH COULD RESULT IN PROPERTY DAMAGE, SERIOUS BODILY INJURY, OR DEATH.

SAFETY RULES

1. Installation and repair MUST be done by a qualified person. The equipment should be inspected before use and at least once annually by a professional service person.
2. **AVOID ELECTRICAL SHOCK!** Turn power OFF when servicing. There may be more than one disconnect switch to de-energize unit.
3. Close cover(s) before returning breaker(s) to "ON" position.
4. Please observe good safety practices by wearing personal protective equipment such as gloves and safety glasses to avoid injury.
5. Installation MUST conform to local codes. In the absence of local codes, refer to the National Electrical Code (NEC), ANS/NFPA No. 70-1993 and recommendations made by the National Board of Fire Underwriters.

In our continuing effort to improve our product, specifications may change without notice. If there are any questions, please see the contact information on the last page of this manual.

WARNING: IMPROPER INSTALLATION MAY DAMAGE EQUIPMENT, CAN CREATE A HAZARD, AND WILL VOID THE WARRANTY.

OPERATING INSTRUCTIONS

In all cases, the equipment MUST be installed in accordance with the installation instructions described in this manual.Set the thermostat to either HEAT or COOL as desired. Set the desired temperature on your thermostat dial and set the fan switch to "ON" (for continuous air circulation) or to "AUTOMATIC" (for air circulation only when the air conditioning system is operating). If you desire to vary the thermostat temperature setting during the day for energy conservation (for example, while you are at work).

IMPORTANT: Wait at least three (3) minutes after turning the heat pump off before trying to restart. If an attempt is made to start the compressor before the refrigerant pressures are equalized, the compressor motor may trip on its overload. An additional waiting period will be required before restarting.

MAINTENANCE

1. Always install and keep filters clean. Check filters 2 weeks. Clean or replace if necessary. The factory-installed filter is located behind the center front access panel.

TO CHANGE SYSTEM FILTER:

- **A.** Turn the power to the unit off at the unit disconnect. The disconnect is located on the front of the H Series unit behind a small access door.
- **B.** Remove the front center access door from the unit.
- **C.** Remove and replace the filters with the type and size indicated in the table below.
- **D.** Replace the access door and turn on the power to the unit.

NOTE: If your system has a filter grille installed in the return air opening, the unit filter should have been discarded during installation.

The filter installed into the return air grille assembly should be replaced with the same size and type provided with the grille.

If your system is equipped with a fresh air intake, the filter for the fresh air assembly is accessed through the front center panel. The filter is a permanent washable type.

UNIT MODEL	QTY.	FILTER SIZE	TYPE
18, 24, 30, 36	1	16 x 25 x 1 (standard)	Disposable
18, 24, 30, 36	1	16 x 25 x 2 (optional)	Disposable
48, 60	1	20 x 30 x 1 (standard)	Disposable
48, 60	1	20 x 30 x 2 (optional)	Disposable

MAINTENANCE

WARNING: SERIOUS INJURY MAY RESULT IF WATER SPRAY IS DIRECTED TOWARD LIVE ELECTRICAL CONNECTIONS OR POWER SOURCES.

TO CLEAN FRESH AIR INTAKE FILTER:

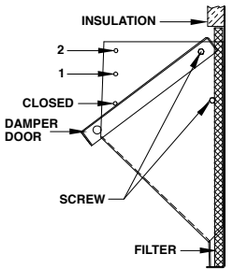
A. Follow steps A and B at left "TO CHANGE SYSTEM FILTER".

B. Gently pull out the filter from the bottom.

C. Wash the filter with water.

D. Reinstall the filter, by sliding it into the retaining rail.

E. Replace the access door and turn the power on to the unit.



2. Keep the outdoor coil clean. Wash it down with a garden hose if necessary. **BE SURE THE UNIT DISCONNECT IS IN THE "OFF" POSITION AND THAT ALL ELECTRICAL POWER TO THE UNIT IS TURNED OFF BEFORE CLEANING THE SYSTEM.**

Remove any loose grass, leaves, papers, etc., from the area around the condenser coil. These could reduce the air supply through the coil and reduce the amount of cooling capacity.

3. Since the heat pump is located outdoors, it is exposed to all weather elements. Treat it with a good automobile paste wax twice a year (in the spring and fall).

Check with your contractor if you have any questions regarding the maintenance or operation of your unit.

INSTALLATION

A. CODES

The installer SHALL comply with all local, state, and federal codes and/or regulations pertaining to this type of equipment and its installation. Such codes and/or regulations should take precedence over any recommendations contained herein in lieu of local codes. Installations SHALL be made in accordance with the National Electrical Code, local codes, and recommendations made by the National Board of Fire Underwriters.

B. UNIT SITE LOCATION

1. To eliminate noise from being transmitted into noise-sensitive areas, the unit should **NOT** be installed on walls adjoining bedrooms, sleeping quarters, or adjacent to windows.

2. Locating the unit as close as possible to the main duct system or area to be conditioned, will prevent lengthy duct runs and unnecessary thermal and air-pressure losses.

3. The clearance to combustibles is 0" on all sides, and 1/4" for the first three (3) feet of supply duct.

4. The condenser air inlets (left, right and bottom inlets) SHALL be located at least 14" away from walls or other obstructions for unrestricted airflow.

5. The condenser air outlet should be located at least 6' away from any obstructions to prevent recirculation of condenser air.

6. Bottom of the unit SHALL be located at least 12" away from the ground or other obstructions for unrestricted airflow.

7. Service clearance is 28" from the electrical box access panel located on the front of the unit and 28" from the center, upper, and lower front access panels.

8. The wall selected for unit installation MUST be able to or be made to safely support the weight of the unit.

9. Do **NOT** locate where heat, lint or exhaust fumes will be discharged on the unit (as from dryer vents).

C. UNIT PREPARATION

1. The H Series model units have top rain flashing built onto the unit. The bottom-mounting flange for all models is shipped separately and in place. (Refer to "Section J. Unit Installation" for the recommended use of the bottom flange.)

2. Electrical entrances are located on the right side, left side, and back of all H Series units. Refer to "Section H. Electrical Hook-up" for details.

3. Bend the lids of the return and supply openings to form a return and supply air collars and install air gaskets.

4. The supply and return air ducts should be checked to be sure they:

a. Match the openings on the unit to be installed.

b. Have the same distance between them vertically as the openings on the unit to be installed.

5. If the factory-installed filter is used on your installation, access to the filter is made through the center panel on the front of the unit. **IF A REMOTE FILTER IS USED, SUCH AS A FILTER GRILLE, THE FACTORY-INSTALLED FILTER MUST BE REMOVED AND DISCARDED.**

D. DUCTWORK

1. Properly-sized duct systems are critical for satisfactory operation of any heat pump system. All ductwork MUST be correctly sized for the design air flow requirement of the equipment.

2. The recommended operation duct static is to deduct 0.07" W.C. for any size of heater 5 kW to 20 kW on factory- or field-installed heaters.

3. Ductwork routed through wall cavities, as well as any duct not in conditioned space, MUST be insulated. Supply ducting routed through exterior walls MUST be insulated with 1" insulation to the back of the unit.

4. Supply and return air ducts should be flush with the exterior wall and sized to fit over the unit duct collars in order to compress the collar air gasket.

5. If supply duct is flashed to the exterior of a building constructed with combustible material, the flashing MUST be insulated in order to maintain the required clearances to combustible materials. Required clearance is 1/4" for the first three (3) feet of supply duct.

E. FILTERS

1. One-inch disposable filters are supplied standard in each unit. Two-inch disposable filters can also be used and are available as an option. The filter rack is adjustable to accommodate 2" filters. The filter rack on this series is adapted by bending the retaining brackets. Refer to the Maintenance section on page 3 for the procedures for changing the filters.

2. If a filter grille is used in the installation, the filter should be properly sized to allow a maximum velocity of 400 FPM. **THE FACTORY-INSTALLED FILTER MUST BE REMOVED.**

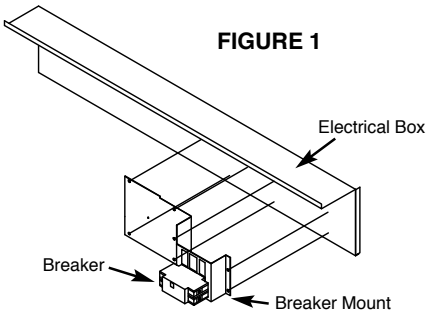
F. ELECTRICAL POWER

The installer MUST check available power to make certain it matches the unit nameplate rating and that constant voltage can be maintained to the unit. Unsatisfactory and unsafe performance could otherwise result. The local power company should be contacted about questions concerning power supply.

G. BREAKER/DISCONNECT ASSEMBLY

These units are standard equipped from the factory with a unit disconnect. This is in the form of a circuit breaker (230V models) or a disconnect (460V models). If an optional electric heat kit is to be installed, follow the instructions included with the heater assembly. See Figure 1 for reference.

FIGURE 1



WARNING: ELECTRICAL EQUIPMENT SHOULD BE INSTALLED BY A QUALIFIED, LICENSED ELECTRICIAN. IMPROPER ELECTRICAL HOOK-UP MAY DAMAGE EQUIPMENT, CAN CREATE A HAZARD, AND WILL VOID WARRANTY.

H. ELECTRICAL HOOK-UP

The line voltage electrical service can be routed through the right side panel, the right side of the back panel, or left side panel. Each area is supplied with two line voltage knock-outs (1/2" – 3/4" and 1" – 1 1/4"). Low voltage wiring can be routed through the right side panel.

NOTE: When routing line voltage through the return air compartment, conduit MUST be used (even though this is a dry area) to comply with the NEC code. A 1 1/4" PVC conduit is supplied for this application. Refer to the ELECTRICAL tables for minimum wire size and maximum breaker size. All wire sizes listed under the dual-feed circuit column are based on no more than three (3) conductors in the same conduit. If two circuits or more than three (3) conductors are to be routed in the same conduit, the ampacity of the wire size listed MUST be derated. Refer to Article 310 of the NEC code for adjustment factors. Be sure to install a ground wire of the proper size to the unit's equipment ground lug.

I. LOW VOLTAGE WIRING

230 volt, 1- and 3-phase units are equipped with dual-primary voltage transformers for 208/240 volt operation. These models are factory wired to the 240 volt tap. For 208 volt operation, connect the factory-installed black wires from the 240 volt tap to the 208 volt tap. The acceptable voltage range of the tap is as follows:

Tap	Voltage Range
240 Volt	253 - 216
208 Volt	220 - 187

Seven (7) conductor thermostat wires should be run from the thermostat location to the unit. Thermostat wire should be sized as shown on the table below.

Wire Gauge	Maximum Length
20	45'
18	60'
16	100'
14	160'
12	250'

Refer to wiring diagrams on for connection details.

STAGING OF ELECTRIC HEAT

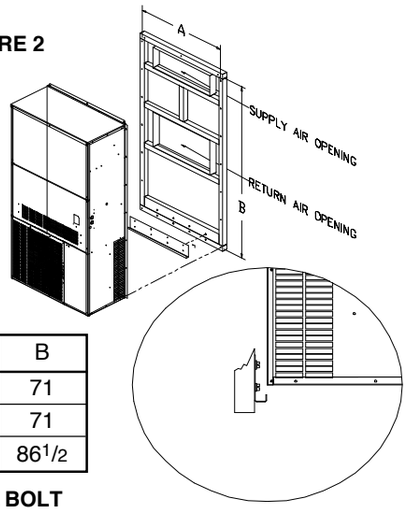
All H Series units with electric heat assemblies are wired for two-stage heat in normal operation. Units over 10 kW resistance heat also have an additional stage for emergency heat. The first stage is refrigerant heat (Y and G terminals are energized and O terminal is de-energized). The second stage is auxiliary resistance heat (W is energized). The third stage is emergency heat (E and W terminals are energized). H Series units are equipped with an emergency heat lock-out relay. This will disable the compressor when the E terminal is energized. Do not install a jumper between the W and E terminals. This would keep the compressor contacts from being energized and prevent the compressor from operating.

J. UNIT INSTALLATION

H SERIES UNITS ARE FOR USE IN SINGLE-STORY BUILDINGS ONLY

1. As previously stated, the wall that the unit is to be installed onto MUST be strong enough to support the unit under the condition for which it will be used. For example, a unit to be installed on a building that is intended to be transported will require more wall strength than a unit installed at a permanent site. Existing walls may need additional reinforcement. **NEVER RELY ON EXTERIOR SIDING OR PLYWOOD TO SUPPORT THE UNIT.** Figure 2 below represents a typical installation of a single-story stud wall at a permanent site. Since building materials and techniques vary with regions and intended use, a building contractor and/or local building code official MUST be consulted for suitable construction methods.
2. Locate and attach the lower mounting bracket in the desired location on the building.
3. Apply a suitable caulk across the entire length of the top rain flashing and side mounting flanges.
4. Remove the flanges on both ends of the pallet and slide the unit approximately 2" off the rear of pallet. Lift unit gently into location with fork truck, taking care to align unit with lower mounting bracket.
5. While allowing a small portion of weight on the lower bracket, push the unit against the wall and fasten appropriately.

FIGURE 2



Unit Model	A	B
18/24	35	71
30/36	39	71
48/60	42	86 1/2

MOUNTING FLANGE BOLT PATTERN DIMENSIONS

K. CONDENSATE DRAIN

A 3/4" drain hose is located on the bottom side of the unit. The drain may be extended for condensate removal to comply with local codes (use fitting size or larger). Install a condensate trap on this line.

L. ELECTRICAL HEAT INSTALLATION

Electric heat is an option on H Series units and can be field-installed on either single- or three-phase models.

Refer to the individual installation instructions for installing heater kits on page 15.

A TWO-STEP THERMOSTAT MUST BE USED IF AN ELECTRIC HEATER IS INSTALLED.

M. DEFROST CONTROL

The H Series units use an integrated defrost control to manage the following control functions of the system:

1. Off and on functions of the outdoor fan during the defrost and heating mode.
2. Off and on functions of the reversing valve during the defrost and heating mode.
3. Off and on functions of the auxiliary heat relays during the defrost mode.

The control is a time-and-temperature type with selectable defrost time intervals of 30, 60 and 90 minutes. Control circuit voltage at the control is 24 volts input and output. The outdoor fan relay is SPNC (single pole normally closed) and controls the fan motor.

N. BASIC SEQUENCE OF OPERATION

COOLING MODE

Low-voltage thermostat terminal R is connected to Y and G, at the unit low-voltage terminal board.

The system reversing valve is energized during the cooling mode. Power is supplied to the reversing valve solenoid through the low-voltage O terminal. The low-voltage Y terminal to the control will energize the contactor latch coil (causing the contactor to energize the compressor). The low-voltage Y terminal to the control will also energize the control's timer. During the cooling mode, the defrost thermostat is open (coil temperature is above 30°F) and will not allow the time to be accumulated to initiate the defrost mode. The outdoor fan is wired through the N/C points of the control's relay and the N/O points of the contactor. The fan motor will be energized whenever the contactor is energized (except during defrost).

HEATING MODE

Low-voltage terminal R is connected to Y,G and O, at the unit low-voltage terminal board.

The system reversing valve is powered during the heating mode. With the thermostat system switch turned to heat, the low-voltage O terminal is now energized, turning the reversing valve solenoid on (switching the reversing valve to the heat position). The Y terminal will energize the contactor and outdoor fan and the G terminal will energize the indoor blower.

DEFROST MODE

To prevent ice build-up on the coil during the heating mode, as the outdoor coil temperature falls below 30°F ± 5°F, an outdoor defrost thermostat closes. (This thermostat is located on a coil tube.) When the thermostat closes, the timer on the defrost control starts accumulating the compressor run time. After the selected time (30, 60, or 90 minutes) has been accumulated, the controller will start the defrost cycle regardless of the outside temperature. During the defrost cycle, the system is switched back into the cooling mode by the control de-energizing the reversing valve solenoid. The N/C pole of the control fan relay is opened, turning off the outdoor fan to allow the outdoor coil to be warmed (defrosted) faster. The defrost control energizes the indoor auxiliary heat relays through the E terminal to temper the indoor supply air. This terminal should be connected to E (second-stage heat) on the thermostat.

After the defrost thermostat reaches 65°F ± 5°F, the defrost cycle will end. The control will not allow the defrost to continue longer than 10 minutes.

DEFROST TIME SELECTION

The defrost control has three selectable time intervals: 30, 60 and 90 minutes. The timing is factory set at 60 minutes. This timing has been determined by testing to provide the best operating efficiency. In areas where the humidity is lower than normal, the timer may be set to a higher time (90 minutes). To change the time, move the timer jumper to the post marked 30 for 30 minutes, 60 for 60 minutes, or 90 for 90 minutes.

DEFROST TEST POST

The defrost control has test posts to speed up the defrost time setting by a factor of 256.

If you want to initiate a defrost without waiting for the time to accumulate, you can jumper the two test pins (marked test). If the coil temperature is above 30°F you will need to jumper the DFT (defrost thermostat) terminals to simulate a closed thermostat. The defrost cycle should occur in 7 seconds for a 30-minute setting, 14 seconds for a 60-minute setting, and 17 seconds for an 90-minute setting. If the jumper is removed immediately when the defrost cycle starts, the cycle will end if the defrost thermostat is opened (coil above 65°F). If the test pins remain jumped, and the defrost thermostat is closed, the defrost will end in 2.3 seconds, which is the 10-minute default.

DURING THE ABOVE TEST, DO NOT CONTACT OR SHORT ANY OTHER PIN. THIS MAY DAMAGE THE CONTROL.

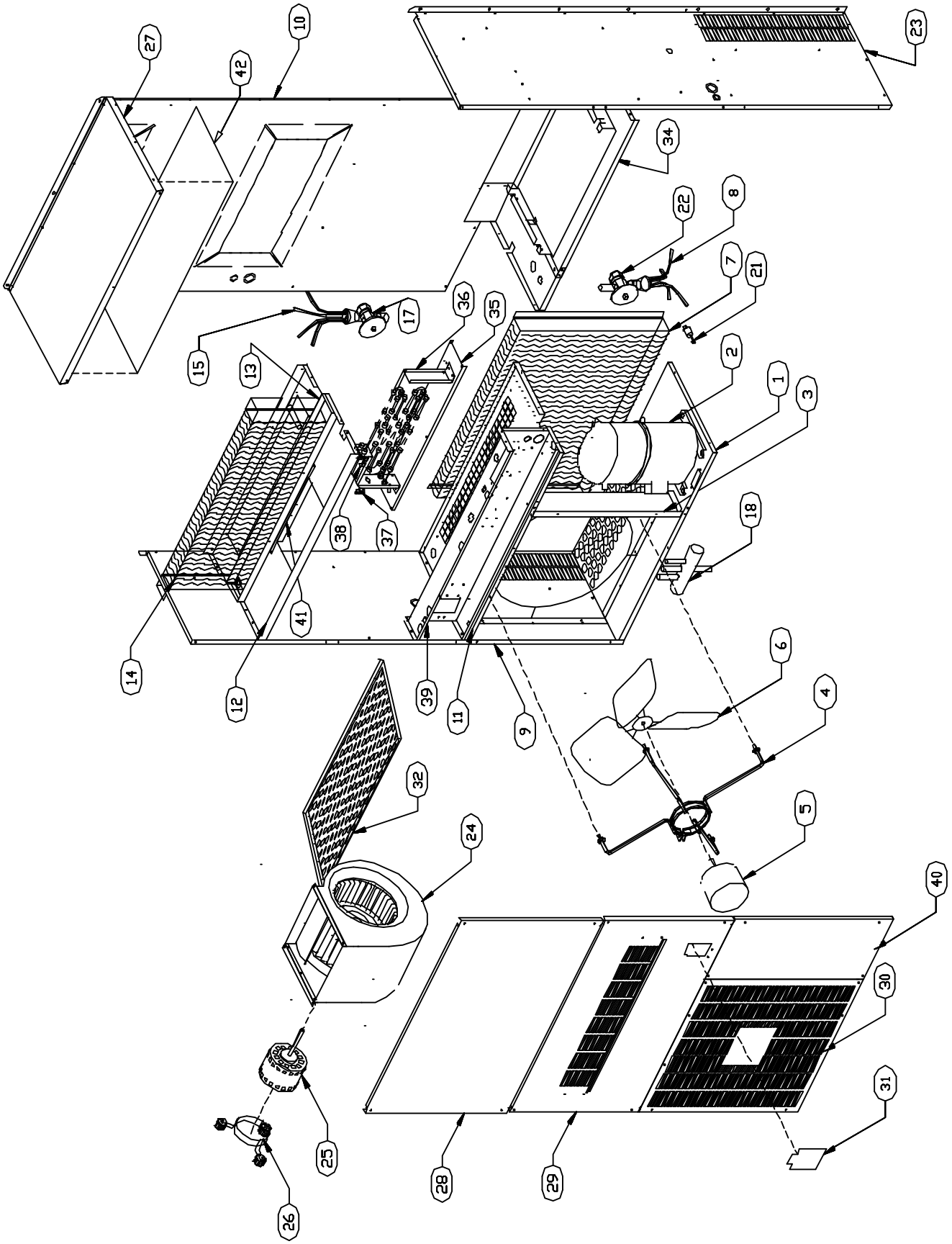
O. HIGH-PRESSURE LOCK OUT

FIELD CHARGING

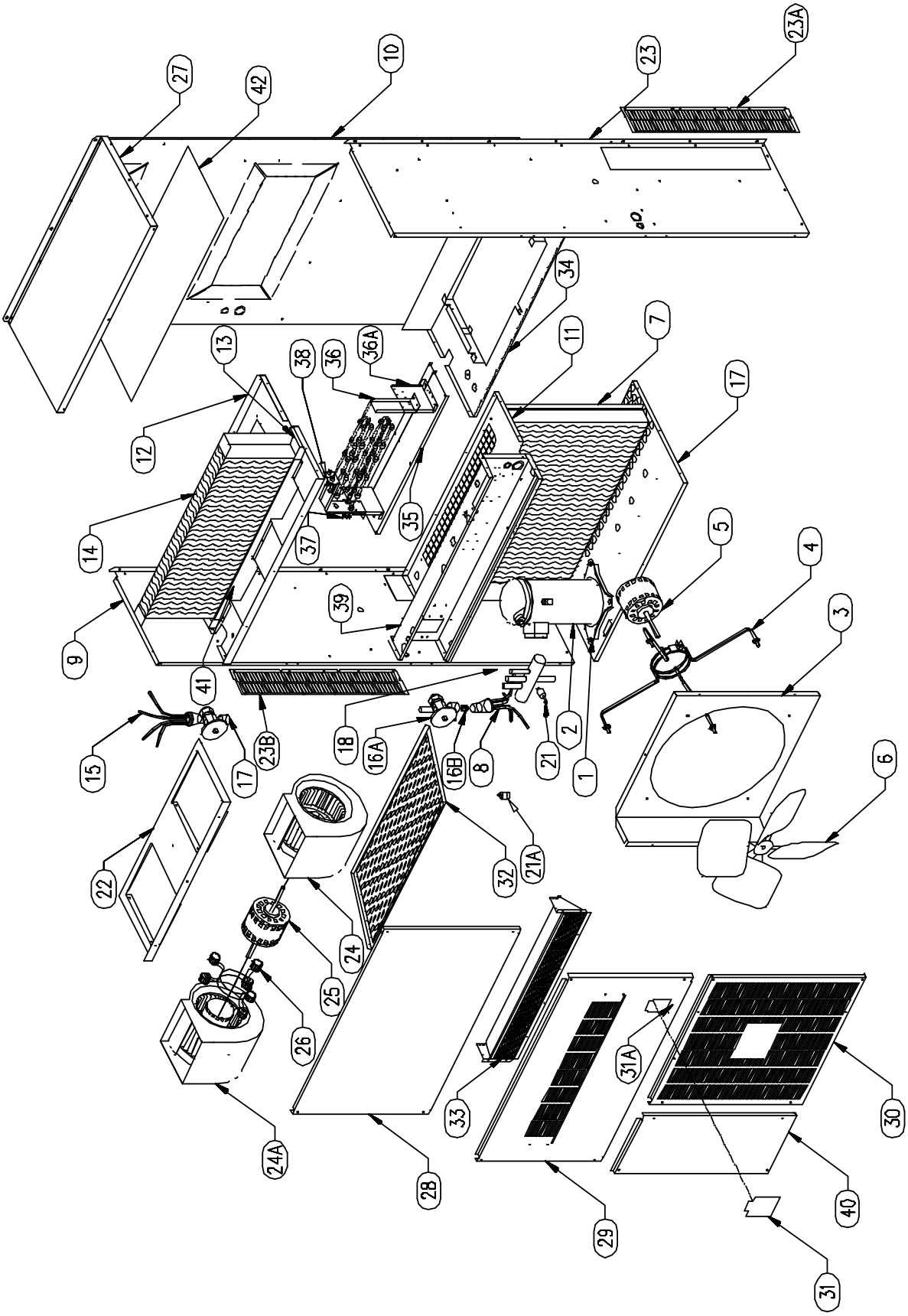
Compared to a cooling-only unit, a heat pump is difficult to field charge correctly without the use of charging scales. It is recommended the charge be weighed in with an accurate charging scale. The correct charge weight can be found on the unit name plate.

H Series units are equipped with a high-pressure switch. This switch is wired through a lockout relay to lock out the system if the high side pressure exceeds 425 psifor R22 and 600 psi for R410A. The high side pressure MUST be below 300 psi for R22 and 450 for R410A before the system can be reset.

EXPLODED PARTS DRAWING — 24 / 30 / 36



EXPLODED PARTS DRAWING — 42 / 48 / 60



REPLACEABLE PARTS LIST- H SERIES WALLMOUNT HEAT PUMPS

	PART NUMBER	DESCRIPTION	H424B1	H430B1	H430B3	H436B1	H436B3	H436B4	H448B1	H448B3	H448B4	H460B1	H460B3	H460B4
2	COMP-BZP24-001	ZP24K5EPFV130	X											
2	COMP-BZP28-001	ZP28K5EPFV130		X										
2	COMP-BZP28-003	ZP28K5ETF5130			X									
2	COMP-BZP34-001	ZP34K5EPFV130				X								
2	COMP-BZP34-003	ZP34K5ETF5130					X							
2	COMP-BZP34-004	ZP34K5ETFD130						X						
2	COMP-BZP44-001	ZP44K5EPFV130							X					
2	COMP-BZP44-003	ZP44K5ETF5130								X				
2	COMP-BZP44-004	ZP44K5ETFD130									X			
2	COMP-BZP54-001	ZP54K5EPFV130										X		
2	COMP-BZP54-003	ZP54K5ETF5230											X	
2	COMP-BZP54-004	ZP54K5ETFD230												X
7	COND-H424	COND COIL	X											
7	COND-H436	COND COIL		X	X	X	X	X						
7	COND-H460	COND COIL							X	X	X	X	X	X
8	550505	FLOWRATOR 3 CIRCUIT-COND		X	X	X	X	X	X					
8	550517	FLOWRATOR 6 CIRCUIT-COND								X	X	X	X	X
14	EVAP-VH424	EVAP COIL	X											
14	EVAP-VH436	EVAP COIL		X	X	X	X	X						
14	EVAP-VH460	EVAP COIL							X	X	X	X	X	X
15	550510	FLOWRATOR 4 CIRCUIT-EVAP	X											
15	550517	FLOWRATOR 6 CIRCUIT-EVAP		X	X	X	X	X	X					
15	550521	FLOWRATOR 9 CIRCUIT-EVAP								X	X	X	X	X
17/22	550759A	TXV VALVE 1.5-3 TON	X	X	X	X	X	X						
17/16A	550763A	TXV VALVE 4-5 TON							X	X	X	X	X	X
	061507	FILTER DRIER	X	X	X	X	X	X	X					
	061508	FILTER DRIER								X	X	X	X	X
3	2021-5008	FAN SHROUD H18-24	X	X										
3	2022-5008	FAN SHROUD H30-36			X	X	X	X	X					
3	2023-5008	FAN SHROUD H48-60								X	X	X	X	X
4	259108	MOTOR MOUNT CONDENSER FAN	X	X	X	X	X	X	X					
4	259109	MOTOR MOUNT CONDENSER FAN								X	X	X	X	X
5	0250-0025	MOTOR CONDENSER 230V 1/5 HP	X	X	X	X	X							
5	351145	MOTOR CONDENSER 230V 1/2 HP							X	X		X	X	
5	359100	MOTOR CONDENSER 460V 1/4 HP						X						
5	351146	MOTOR CONDENSER 460V 1/2 HP									X			X
6	0550-0009	FAN BLADE 20" V18-36	X	X	X	X	X	X						
6	259114	FAN BLADE 22" V48-60							X	X	X	X	X	X
9	2022-5000	ASSEMBLY LEFT SIDE PANEL H18-36	X	X		X	X							
9	2023-5000	ASSEMBLY LEFT SIDE PANEL H48-60							X	X	X	X	X	X
10	2021-5012	ASSEMBLY REAR PANEL H18-24	X	X										
10	2022-5012	ASSEMBLY REAR PANEL H30-36				X	X							
10	2023-5012	ASSEMBLY REAR PANEL H48-60							X	X	X	X	X	X
11	2021-5003	ASSEMBLY DIVIDER DECK H18-24	X	X										
11	2022-5003	ASSEMBLY DIVIDER DECK H30-36				X	X							
11	2023-5003	ASSEMBLY DIVIDER DECK H48-60							X	X	X	X	X	X
12	2021-5005	ASSEMBLY BLOWER PAN H18-24	X	X										
12	2022-5005	ASSEMBLY BLOWER PAN H30-36				X	X							
12	2023-5005	ASSEMBLY BLOWER PAN H48-60							X	X	X	X	X	X
13	2021-0006P	ASSEMBLY DRAIN PAN H18-24	X	X										
13	2022-0006P	ASSEMBLY DRAIN PAN H30-36				X	X							
13	2023-0006P	ASSEMBLY DRAIN PAN H48-60							X	X	X	X	X	X
1	2021-5002H	BASE PAN ASSEMBLY H24	X											
1	2022-5002H	BASE PAN ASSEMBLY H30-36		X		X	X							
1	2023-5002H	BASE PAN ASSEMBLY H48-60							X	X	X	X	X	X
18	550790	REVERSING VALVE ASSEMBLED WITH COIL	X	X	X	X	X	X	X	X	X	X	X	X
21	451988	HIGH PRESSURE SWITCH	X	X	X	X	X	X	X	X	X	X	X	X
	0445-0007	DEFROST TERMINATION STAT	X	X	X	X	X	X	X	X	X	X	X	X
22	2021-5018	BLOWER MNTG TRAY H18-24	X											
22	2022-5018	BLOWER MNTG TRAY H30-36		X	X	X	X	X						
22	2023-5018-4	BLOWER MNTG TRAY H48							X	X	X			
22	2023-5018-5	BLOWER MNTG TRAY H60										X	X	X
23	2022-5001	ASSEMBLY RIGHT SIDE H18-36	X	X	X	X	X	X						
23	2023-5001	ASSEMBLY RIGHT SIDE H48-60							X	X	X	X	X	X
23A	2023-5088	GRILL INLET RIGHT SIDE H48-60							X	X	X	X	X	X
23B	2023-5089	GRILL INLET LEFT SIDE H48-60							X	X	X	X	X	X
24	194700050002	BLOWER 9-7R DD 18, 24, & 48 CW RIGHT	X						X	X	X			
24	194700050004	BLOWER 10-7R DD 60 CW RIGHT										X	X	X
24	0500-0010	BLOWER 10-10 DD 30 & 36		X	X	X	X	X						
24	1947000050001	BLOWER 9-7L DD 48 CCW LEFT							X	X	X			
24	194700050003	BLOWER 10-7L DD 60 CCW LEFT										X	X	X
25	351115	MOTOR BLOWER 1/6 HP 230V	X											
25	194090000006	MOTOR BLOWER 1/3 HP 230V		X	X	X	X							
25	020008	MOTOR BLOWER 1/2 HP double shaft 230V							X	X				
25	351424	MOTOR BLOWER 3/4 HP double shaft 230V										X	X	
25	359101	MOTOR BLOWER 1/3 HP 460V						X						
25	020005	MOTOR BLOWER 1/2 HP double shaft 460V									X			
25	351426	MOTOR BLOWER 3/4 HP double shaft 460V												X
26	258972	MOTOR MOUNT INDOOR ASSY H24	X											
26	258972	MOTOR MOUNT INDOOR ASSY H30-36		X	X	X	X	X						
26	258976	MOTOR MOUNT INDOOR ASSY H48-60							X	X	X	X	X	X
27	2021-5007	TOP H24	X											
27	2022-5007	TOP H30-36		X	X	X	X	X						
27	2023-5007	TOP H48-60							X	X	X	X	X	X
28	2021-5010	TOP FRONT PANEL H24	X											
28	2022-5010	TOP FRONT PANEL H30-36		X	X	X	X	X						

REPLACEABLE PARTS LIST- H SERIES WALLMOUNT HEAT PUMPS

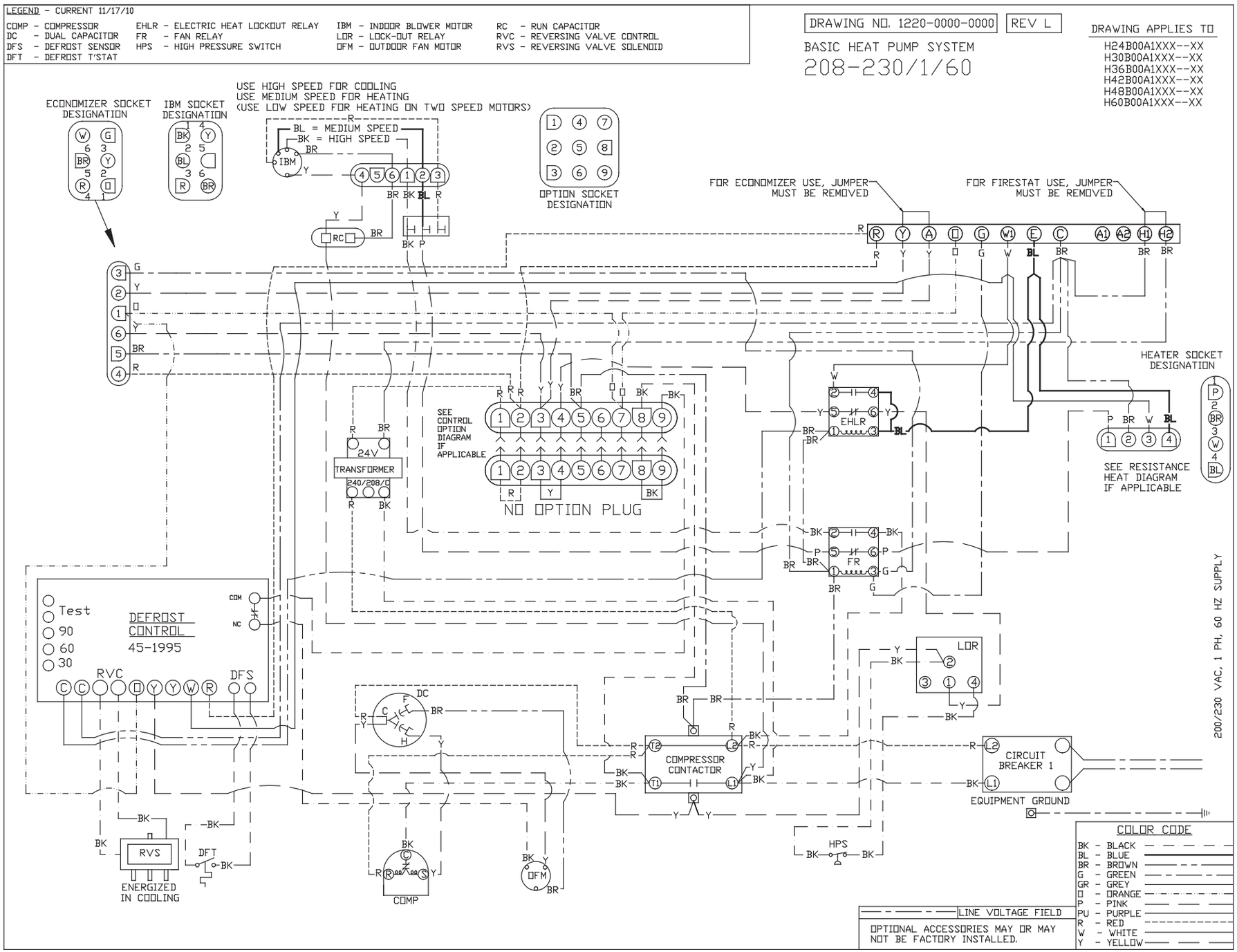
28	2023-5010	TOP FRONT PANEL H48-60							X	X	X	X	X	X
29	2021-5011	MIDDLE FRONT PANEL (no fresh air) H24	X											
29	2021-5011E	MIDDLE FRONT PANEL (economizer f/a) H24	X											
29	2021-5011F	MIDDLE FRONT PANEL (barometric f/a) H24	X											
29	2022-5011	MIDDLE FRONT PANEL (no fresh air) H30-36		X	X	X	X	X						
29	2022-5011E	MIDDLE FRONT PANEL (economizer f/a) H30-36		X	X	X	X	X						
29	2022-5011F	MIDDLE FRONT PANEL (barometric f/a) H30-36		X	X	X	X	X						
29	2023-5011	MIDDLE FRONT PANEL (no fresh air) H48-60							X	X	X	X	X	X
29	2023-5011E	MIDDLE FRONT PANEL (economizer f/a) H48-60							X	X	X	X	X	X
29	2023-5011F	MIDDLE FRONT PANEL (barometric f/a) H48-60							X	X	X	X	X	X
30	2021-5014	LOWER CONDENSER PANEL H24	X											
30	2022-5014	LOWER CONDENSER PANEL H30-36		X	X	X	X	X						
30	2023-5014	LOWER CONDENSER PANEL H48-60							X	X	X	X	X	X
31	2022-5062	DISCONNECT ACCESS DOOR H24-60	X	X	X	X	X	X	X	X	X	X	X	X
31A	070518	BREAKER DOOR LATCH H24-60	X	X	X	X	X	X	X	X	X	X	X	X
32	659942	AIR FILTER DISPOSABLE 16x25x1 H24-36	X	X	X	X	X	X						
32	659943	AIR FILTER DISPOSABLE 16x25x2 H24-36	X	X	X	X	X	X						
32	659926	AIR FILTER DISPOSABLE 20x30x1 H48-60							X	X	X	X	X	X
32	659924	AIR FILTER DISPOSABLE 20x30x2 H48-60							X	X	X	X	X	X
33	654602	ALUMINUM FILTER 5x30x.025 H24-60	X	X	X	X	X	X	X	X	X	X	X	X
34	2021-5004	FILTER RACK H24	X											
34	2022-5004	FILTER RACK H30-36		X	X	X	X	X						
34	2023-5004	FILTER RACK H48-60							X	X	X	X	X	X
35	2022-5021	HEATER MOUNTING PLATE H24-36	X	X	X	X	X	X						
35	65SM1007-F	HEATER MOUNTING PLATE H48-60							X	X	X	X	X	X
36	EGH05B1-HP	FIELD INSTALL HEAT KIT 5KW 1 PHASE 230V	X	X		X			X			X		
36	0430-0074	HEATER 5KW 1P 240V	X	X		X			X			X		
36	EGH10B1-HP	FIELD INSTALL HEAT KIT 10KW 1 PHASE 230V	X	X		X			X			X		
36	0430-0072	HEATER 10KW 1P 240V	X	X		X			X			X		
36	EGH15B1-HP	FIELD INSTALL HEAT KIT 15KW 1 PHASE 230V	X	X		X			X			X		
36	0430-0074	HEATER 5KW 1P 240V	X	X		X			X			X		
36	0430-0072	HEATER 10KW 1P 240V	X	X		X			X			X		
36	EGH06B3-HP	FIELD INSTALL HEAT KIT 6KW 3 PHASE 230V					X			X			X	
36	458009	HEATER 6KW 3P 240V					X			X			X	
36	EGH11B3-HP	FIELD INSTALL HEAT KIT 11KW 3 PHASE 230V					X			X			X	
36	458011	HEATER 11KW 3P 240V					X			X			X	
36	EGH18B3-HP	FIELD INSTALL HEAT KIT 18KW 3 PHASE 230V					X			X			X	
36	458013	HEATER 18KW 3P 240V					X			X			X	
36	EGH06D4-HP	FIELD INSTALL HEAT KIT 6KW 3 PHASE 460V						X			X			X
36	458015	HEATER 6KW 3P 460V						X			X			X
36	EGH11D4-HP	FIELD INSTALL HEAT KIT 11KW 3 PHASE 460V						X			X			X
36	458017	HEATER 11KW 3P 460V						X			X			X
36	EGH15D4-HP	FIELD INSTALL HEAT KIT 15KW 3 PHASE 460V						X			X			X
36	458020	HEATER 15KW 3P 460V						X			X			X
37	2022-HEPL	HEATER EXTENSION PLATE H24-36	X	X	X	X	X	X						
37	2023-HEPL	HEATER EXTENSION PLATE H48-60							X	X	X	X	X	X
38	454332	SWITCH LIMIT 245F One Shot	X	X	X	X	X	X	X	X	X	X	X	X
38	454323	SWITCH LIMIT 160-30F 240 W/Fuse	X	X	X	X	X	X	X	X	X	X	X	X
39	2021-5009H	BOX CONTROL V18-24	X											
39	2022-5009H	BOX CONTROL V30-36		X	X	X	X	X						
39	2023-5009H	BOX CONTROL V48-60							X	X	X	X	X	X
40	2021-5017	COMPRESSOR ACCESS DOOR H24	X											
40	2022-5017	COMPRESSOR ACCESS DOOR H30-36		X	X	X	X	X						
40	2023-5017	COMPRESSOR ACCESS DOOR H48-60							X	X	X	X	X	X
41	2021-5020	BLOWER CUT OFF SHIELD H24	X											
41	2022-5020	BLOWER CUT OFF SHIELD H30-36		X	X	X	X	X						
41	2023-5020-4	BLOWER CUT OFF SHIELD H48							X	X	X			
41	2023-5020-5	BLOWER CUT OFF SHIELD H60										X	X	X
42	2022-0015	PLATE TOP INSUL PROTECT H/V30-36	X	X	X	X	X	X	X	X	X	X	X	X
		ELECTRICAL COMPONENTS PARTS LIST												
	453150	COMP CONTACTOR 1 POLE 1P 25 AMP	X	X		X			X					
	453770	COMP CONTACTOR 2 POLE 1P 40 AMP										X		
	453772	COMP CONTACTOR 3 POLE 3P 25 AMP			X		X			X	X		X	X
	452842	PHASE MONITOR			X		X			X	X		X	X
	0400-0031	COMP CAPACITOR 10/80@370										X		
	450368	COMP CAPACITOR 7.5/40@370	X											
	450370	COMP CAPACITOR 7.5/45@370		X		X								
	450378	COMP CAPACITOR 12.5/70@370							X					
	450325	BLWR CAPACITOR 12.5@370									X			X
	450205	BLWR CAPACITOR 7.5@370	X		X		X	2	X	2	X	X	2	X
	160500730145	BLWR CAPACITOR 7.5@440		X	X	X	X							
	451000	TERMINAL BLOCK	X	X	X	X	X	X	X	X	X	X	X	X
	452752	TRANSFORMER 208/240V 50VA 24V	X	X	X	X	X		X	X		X	X	
	452756	TRANSFORMER 480V 50VA 24V						X						X
	452200	FAN RELAY	X	X	X	X	X		X	X		X	X	
	0821N-0084A	FAN RELAY						X			X			X
	042004	CIRCUIT BREAKER 2 POLE 1P 60 AMP 240V	X	X		X		X	X		X	X		X
	453807	CIRCUIT BREAKER 3 POLE 3P 60 AMP			X		X			X			X	
	451955	DISCONNECT KIT 460V							X			X		
	451956	DISCONNECT KNOB 460V							X			X		
	452195	LOCKOUT RELAY	X	X	X	X	X	X	X	X	X	X	X	X
	451995	DEFROST CONTROL BOARD	X	X	X	X	X	X	X	X	X	X	X	X
	0415-0028	LOW VOLTAGE TERMINAL BOARD	X	X	X	X	X	X	X	X	X	X	X	X
	451049	JUMPER BAR ASSEMBLY	OPTIONAL											
	451840	OPTION BOARD	OPTIONAL											
	454388	LOW PRESSURE SWITCH	EQUIPPED ON ALL WALLMOUNTS											
	451992	FAN CYCLE SWITCH	OPTIONAL											

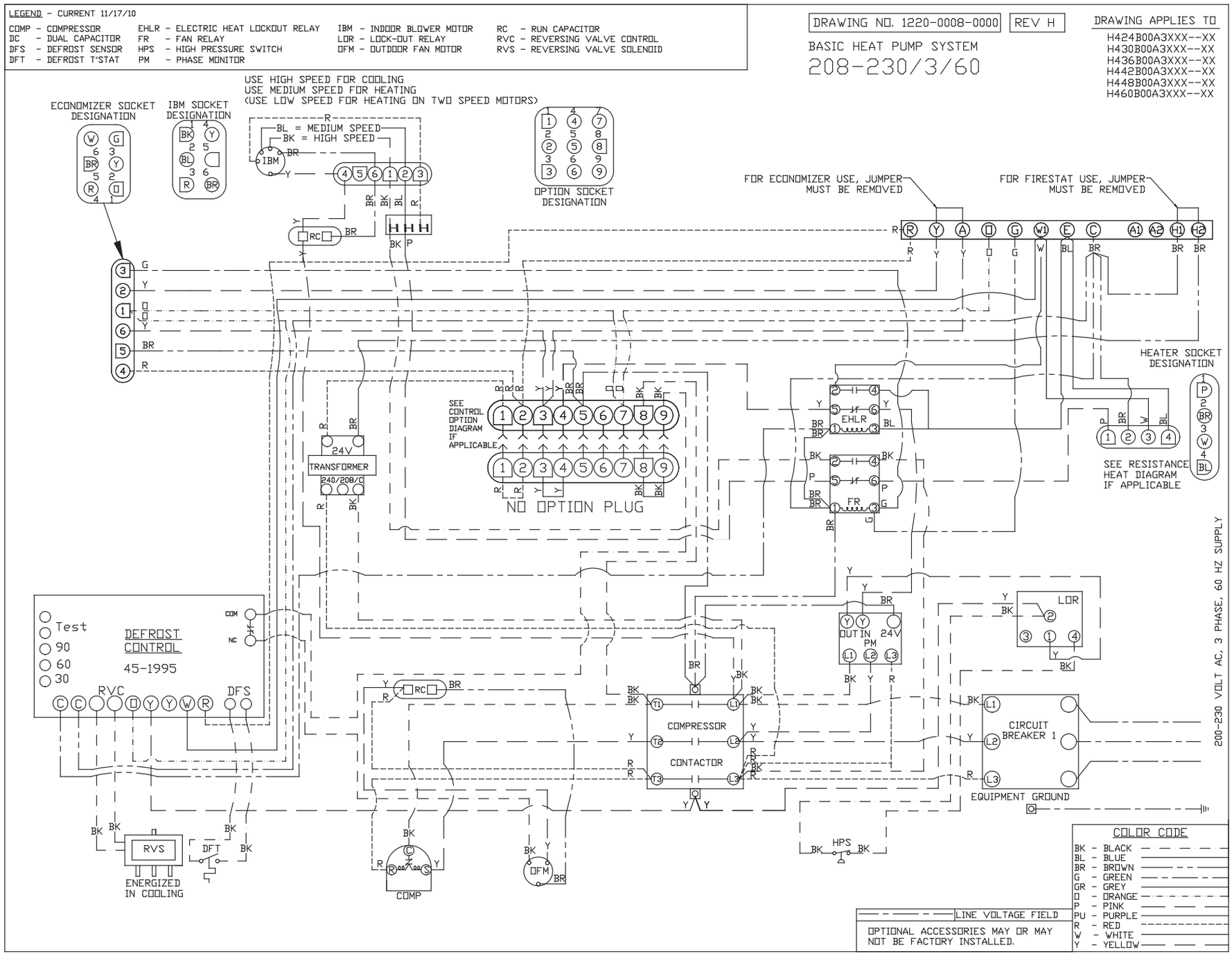
*Part Numbers are Subject to Change

H Series Heat Pumps Electrical Data

Model No. & Electric Heater Kw [1]	VOLT/ PHASE	NO. OF FIELD POWER CKTS.	SINGLE-FIELD CIRCUIT				DUAL-FIELD CIRCUIT							
			MIN. CIRCUIT AMPACITY	[2] MAX. OVER CURRENT PROTECTION	[3, 4, 5] FIELD POWER WIRE SIZE	GROUND WIRE SIZE	MIN. CIRCUIT AMPACITY		MAX. OVER CURRENT PROTECTION [2]		FIELD POWER WIRE SIZE [3, 4, 5]		GROUND WIRE SIZE	
							CKT1	CKT2	CKT1	CKT2	CKT1	CKT2	CKT1	CKT2
H424B00A1 **5** **10**	208-230/1	1 1 1 OR 2	18 44 70	30 60 90	14 8 4	14 10 8	18	52	30	60	14	6	14	10
H424B00A3 **6** **09**	208-230/3	1 1 1	15 33 48	30 60 60	14 10 8	14 10 10								
H430B00A1 **5** **10**	208-230/1	1 1 1 OR 2	24 50 76	30 60 90	12 8 4	12 10 8	24	52	30	60	12	6	12	10
H430B00A3 **6** **09**	208-230/3	1 1 1	16 34 49	30 60 60	14 10 8	14 10 10								
H436B00A1 **5** **10**	208-230/1	1 1 1 OR 2	26 52 78	30 60 90	10 6 4	10 10 8	26	52	30	60	10	6	10	10
H436B00A3 **6** **09** **15**	208-230/3	1 1 1 1 OR 2	20 38 53 65	30 60 60 90	12 8 6 4	12 10 10 8	20	33	30	60	12	10	12	10
H436B00A4 **6** **09**	460/3	1 1 1	9 18 26 32	15 30 30 60	14 14 10 10	14 14 10 10								
H448B00A1 **5** **10** **15** **20**	208-230/1 (6) (6)	1 1 1 OR 2 1 OR 2 1 OR 2	32 58 84 84 85	60 60 90 90 90	10 6 4 4 4	10 10 8 8 8	32 32 55	52 52 52	60 60 60	60 60 60	10 10 6	6 6 6	10 10 10	10 10 10
H448B00A3 **6** **11** **15** **18**	208-230/3	1 1 1 1 OR 2 1 OR 2	24 42 57 69 78	30 60 60 90 90	12 8 6 4 4	12 10 10 8 8	24 24	45 54	30 30	60 60	12 12	8 6	12 12	10 10
H448B00A4 **6** **11** **15**	460/3	1 1 1 1	11 20 28 34	15 30 30 60	14 12 10 10	14 12 10 10								
H460B00B1 **5** **10** **15** **20**	208-230/1 (6) (6)	1 1 OR 2 1 OR 2 1 OR 2 1 OR 2	41 67 93 93 107	60 90 100 100 150	8 4 3 3 2	10 8 8 8 6	41 41 41 57	26 52 52 52	60 60 60 60	30 60 60 60	8 8 8 6	10 6 6 6	10 10 10 10	10 10 10 10
H460B00B3 **6** **11** **15** **18**	208-230/3	1 1 1 OR 2 1 OR 2 1 OR 2	29 47 63 75 84	30 60 90 90 90	10 8 6 4 4	10 10 8 8 8	29 29 29	33 45 54	30 30 30	60 60 60	10 10 10	10 8 6	10 10 10	10 10 10
H460B00B4 **6** **11** **15**	460/3	1 1 1 1	15 24 31 37	15 30 60 60	14 12 10 8	14 12 10 10								

[1] Heater data were based on 240V or 480V AC respectively.
[2] Maximum recommended size for "Time Delay" fuse or HACR circuit breaker.
[3] Power supply wire size and ground wire sizez were based on AWG 75C rise, NEC Article 310 and Table 310-16.
[4] For single power conductor, sized per NEC Table 310-16.
[5] Power supply wire minimum 75°C rated COPPER CONDUCTOR ONLY.
[6] Max 10kW Heat with heat pump operation. Full electric heat available in emergency heat mode.





LEGEND - CURRENT 11/17/10

COMP - COMPRESSOR	EHLR - ELECTRIC HEAT LOCKOUT RELAY	IBM - INDOOR BLOWER MOTOR	RC - RUN CAPACITOR
DC - DUAL CAPACITOR	FR - FAN RELAY	LOR - LOCK-OUT RELAY	RVC - REVERSING VALVE CONTROL
DFS - DEFROST SENSOR	HPS - HIGH PRESSURE SWITCH	OFM - OUTDOOR FAN MOTOR	RVS - REVERSING VALVE SOLENOID
DFT - DEFROST T'STAT	PM - PHASE MONITOR		

DRAWING NO. 1220-0011-0000 REV I

BASIC HEAT PUMP SYSTEM

460/3/60

DRAWING APPLIES TO

H424B00A4XXX--XX
H430B00A4XXX--XX
H436B00A4XXX--XX
H442B00A4XXX--XX
H448B00A4XXX--XX
H460B00A4XXX--XX

USE HIGH SPEED FOR COOLING
USE MEDIUM SPEED FOR HEATING
(USE LOW SPEED FOR HEATING ON TWO SPEED MOTORS)

ECONOMIZER SOCKET DESIGNATION

IBM SOCKET DESIGNATION

BL = MEDIUM SPEED
BK = HIGH SPEED

OPTION SOCKET DESIGNATION

FOR ECONOMIZER USE, JUMPER MUST BE REMOVED

FOR FIRESTAT USE, JUMPER MUST BE REMOVED

HEATER SOCKET DESIGNATION

SEE RESISTANCE HEAT DIAGRAM IF APPLICABLE

SEE CONTROL OPTION DIAGRAM IF APPLICABLE

NO OPTION PLUG

TRANSFORMER 460 24V

EHLR

FR

DEFROST CONTROL 45-1995

Test
90
60
30

COM
NC

RVC
DFS

COMPRESSOR
CONTACTOR

OUT IN PM 24V

LOR

CIRCUIT DISCONNECT 1

EQUIPMENT GROUND

460 VOLT AC, 3 PHASE, 60 HZ SUPPLY

RVS
ENERGIZED IN COOLING

DFT

COMP

OFM

HPS

COLOR CODE

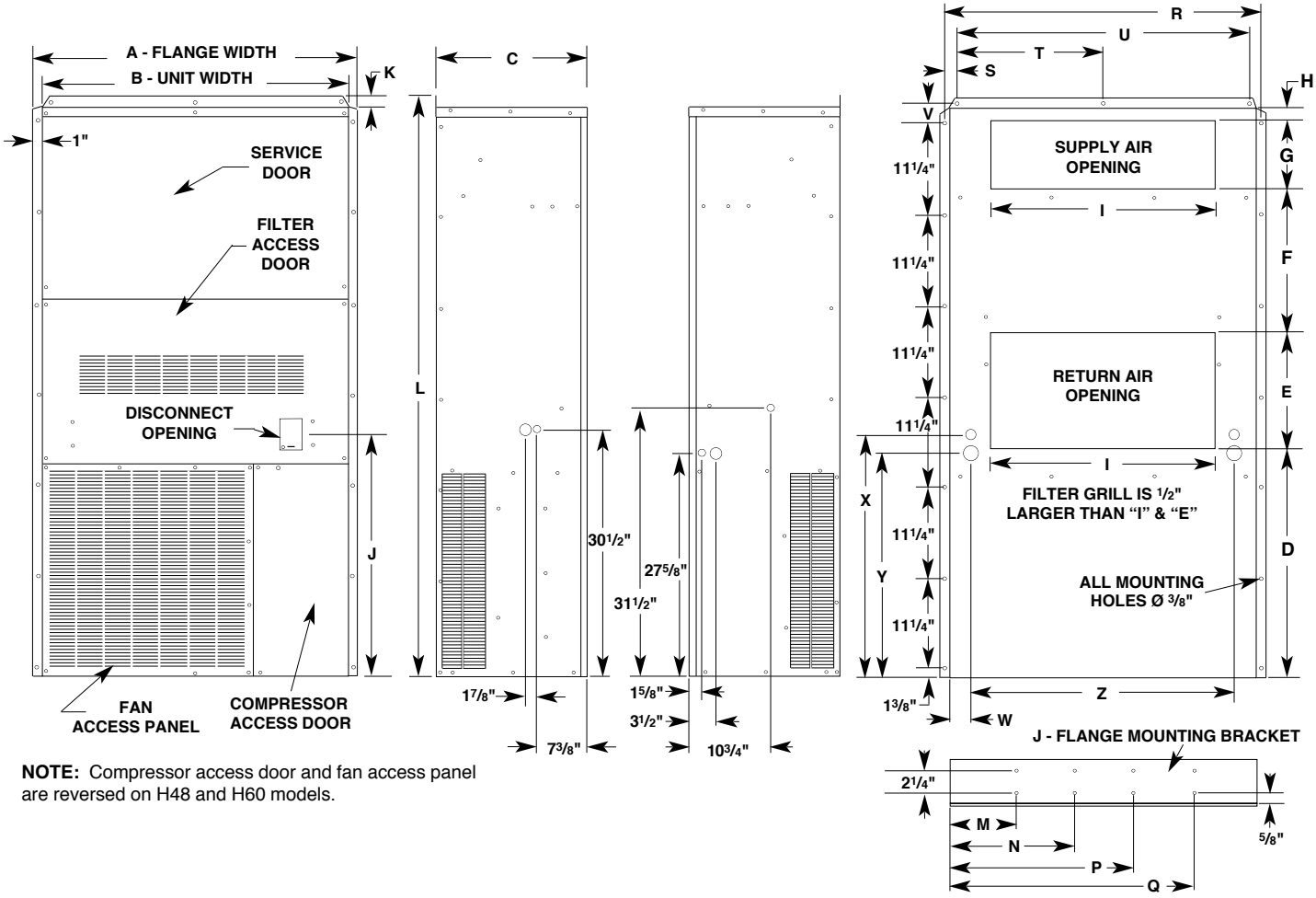
BK	BLACK
BL	BLUE
BR	BROWN
G	GREEN
GR	GREY
O	ORANGE
P	PINK
PU	PURPLE
R	RED
W	WHITE
Y	YELLOW

LINE VOLTAGE FIELD

OPTIONAL ACCESSORIES MAY OR MAY NOT BE FACTORY INSTALLED.

UNIT DIMENSIONS

MODEL	A	B	C	D	E	F	G	H	I	J	K	L	M	N	P	Q	R	S	T	U	V	W	X	Y	Z
24	36	34	18 5/8	28 1/16	12	20 1/2	8	1 7/8	20	28 9/16	1 1/8	71 1/2	2 1/2	10 1/2	18 1/2	26 1/2	34 7/8	1 1/8	16	32	1 15/16	2 9/16	29 1/2	27 1/8	27 5/8
30/36	40	38	18 5/8	28 1/2	14	18	8	1 7/8	28	28 9/16	1 1/8	71 1/2	2 1/2	10 1/2	18 1/2	26 1/2	39	1 1/4	18 1/4	36 3/8	2	2 9/16	29 1/2	27 1/8	31 5/8
48/60	43 1/8	41	24	27 1/2	16	30	10	2 1/4	30	36 1/2	1 1/8	87	2 1/2	10 1/2	18 1/2	26 1/2	42	1 1/8	19 3/4	39 1/2	6 1/2	3 3/4	29 1/2	27 1/8	33 1/2

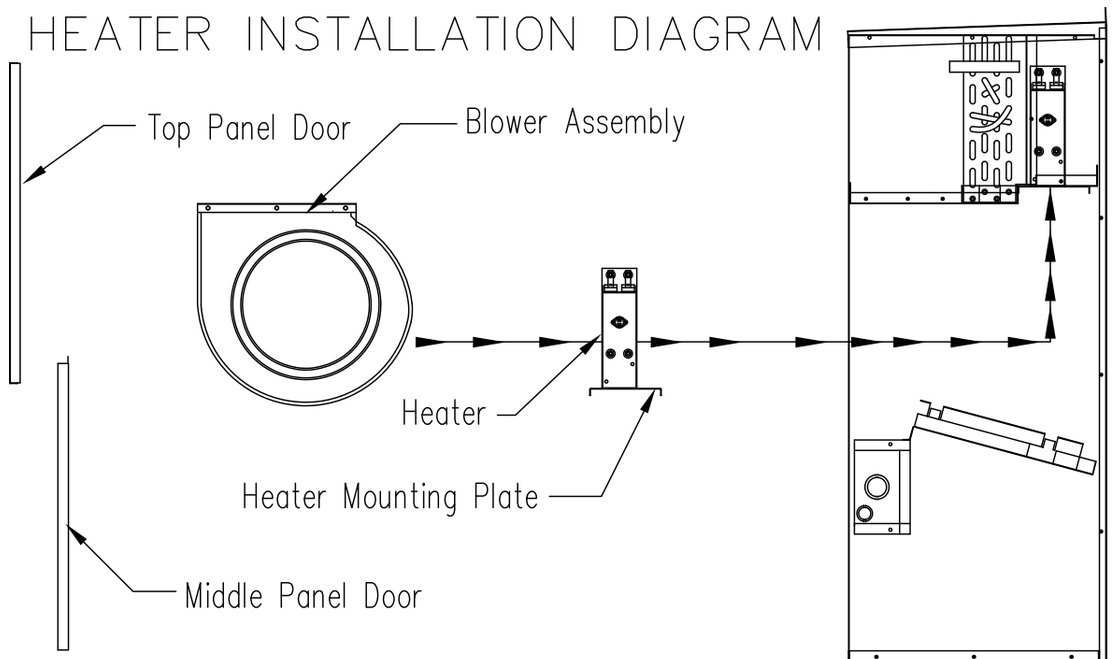


NOTE: Compressor access door and fan access panel are reversed on H48 and H60 models.

RATED INDOOR AIR FLOW RATE

SIZE	18	24	30	36	48	60
CFM	670	800	1250	1250	1800	2100

HEATER INSTALLATION DIAGRAM



1. Remove Top Panel Door
2. Remove Middle Panel Door
3. Remove screws from Blower Assembly
4. Unplug Blower Assembly and slide out
5. Remove heater Mounting Plate
6. Attach Heater to Plate
7. For 3.5 ton and larger units add heater leg extension.
8. Reinstall by reversing order

67-8606 – REV B – REVISED 5-12-2011

The information in this manual supersedes and replaces the previous instruction/operation manual 678629-H with regards to H Series wallmount products. Illustrations, part numbers and others cover the general appearance of the units at the time of publication and the manufacturer reserves the right to make changes in design and construction at any time without notice.

For replacement parts contact:
National Coil Company
1998 FM 2011
Longview, TX 75603
Phone: 903-643-2261
Fax: 903-643-2222