



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

INSTALLATION MANUAL

SINGLE PIECE, 3 POSITION AIR HANDLERS

MODELS: AHR / AHE SERIES



C

Date: 12/11/14

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SECTION I: GENERAL

The AHR/AHE single piece air handler provides the flexibility for installation in any upflow or horizontal application.

These versatile models may be used for cooling or heat pump operation with or without electric heat.

A BRAND LABEL (available from Distribution) may be applied to the center of the blower access panel.

The unit can be positioned for bottom return air in the upflow position, and right or left return in the horizontal position.

Top and side power wiring and control wiring, accessible screw terminals for control wiring, easy to install drain connections and electric heaters all combine to make the installation easy, and minimize installation cost.

SECTION II: SAFETY



This is a safety alert symbol. When you see this symbol on labels or in manuals, be alert to the potential for personal injury.

Understand and pay particular attention to the signal words **DANGER**, **WARNING**, or **CAUTION**.

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

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

CAUTION indicates a potentially hazardous situation, which, if not avoided **may result in minor or moderate injury**. It is also used to alert against unsafe practices and hazards involving only property damage.

WARNING

Improper installation may create a condition where the operation of the product could cause personal injury or property damage. Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual for assistance or for additional information, consult a qualified contractor, installer or service agency.

CAUTION

This product must be installed in strict compliance with the installation instructions and any applicable local, state, and national codes including, but not limited to building, electrical, and mechanical codes.



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WARNING

FIRE OR ELECTRICAL HAZARD

Failure to follow the safety warnings exactly could result in serious injury, death or property damage. A fire or electrical hazard may result causing property damage, personal injury or loss of life.

1. Install this air handler only in a location and position as specified in SECTION III of these instructions.
2. Always install the air handler to operate within the air handler's intended maximum outlet air temperature. Only connect the air handler to a duct system which has an external static pressure within the allowable range, as specified on the air handler rating plate.
3. When an air handler is installed so that supply ducts carry air circulated by the air handler to areas outside the space containing the air handler, the return air shall also be handled by duct(s) sealed to the air handler casing and terminating in the space to be cooled/heated.
4. The air handler is not to be used for temporary heating of buildings or structures under construction.
5. The size of the unit should be based on an acceptable heat loss or gain calculation for the structure. ACCA, Manual J or other approved methods may be used.

SAFETY REQUIREMENTS

1. This air handler should be installed in accordance with all national and local building/safety codes and requirements, local plumbing or wastewater codes, and other applicable codes.
2. Refer to the unit rating plate for the air handler model number, and then see the dimensions page of this instruction for supply air plenum dimensions in Figure 5. The plenum must be installed according to the instructions.
3. Provide clearances from combustible materials as listed under Clearances.
4. Provide clearances for servicing ensuring that service access is allowed for electric heaters and blower.
5. Failure to carefully read and follow all instructions in this manual can result in air handler malfunction, death, personal injury and/or property damage.
6. Check the rating plate and power supply to be sure that the electrical characteristics match.
7. Air handler shall be installed so the electrical components are protected from water.

8. Installing and servicing heating/cooling equipment is hazardous due to the electrical components. Only qualified personnel should install, repair, or service this equipment. Untrained service personnel can perform functions such as cleaning and replacing filters on heating/cooling equipment, observing operating conditions and on the labels attached to the unit. Take all precautions that may apply.
9. These instructions cover minimum requirements. Date: 12/11/14
existing national standards and safety codes. In some instances these instructions exceed certain local codes and ordinances, especially those who have not kept up with changing residential and non-HUD modular home construction practices. These instructions are required as a minimum for a safe installation.

INSPECTION

As soon as a unit is received, it should be inspected for possible damage during transit. If damage is evident, the extent of the damage should be noted on the carrier's freight bill. A separate request for inspection by the carrier's agent should be made in writing. Also, before installation the unit should be checked for screws or bolts, which may have loosened in transit. There are no shipping or spacer brackets which need to be removed.

Also check to be sure all accessories such as heater kits, suspension kits, and coils are available. Installation of these accessories or field conversion of the unit should be accomplished before setting the unit in place or connecting any wiring, electric heat, ducts or piping.

LIMITATIONS

These units must be wired and installed in accordance with all national and local safety codes. Voltage limits are as follows:

Air Handler Voltage	Voltage code	Normal Operating ¹ Voltage Range
208/230-1-60	06	187-253

1. Rated in accordance with ARI Standard 110, utilization range "A". Airflow must be within the minimum and maximum limits approved for electric heat, evaporator coils and outdoor units.

Entering Air Temperature Limits			
Wet Bulb Temp. °F		Dry Bulb Temp. °F	
Min.	Max.	Min.	Max.
57	72	65	95

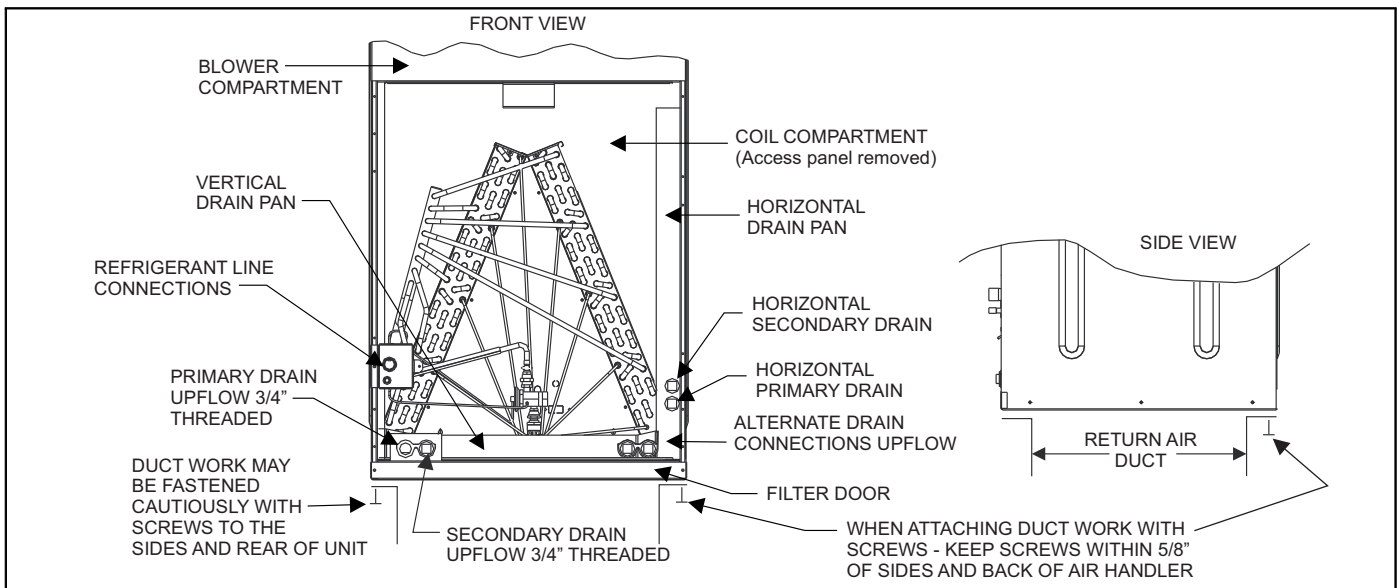


FIGURE 1: Return Duct Attachment & Component Location



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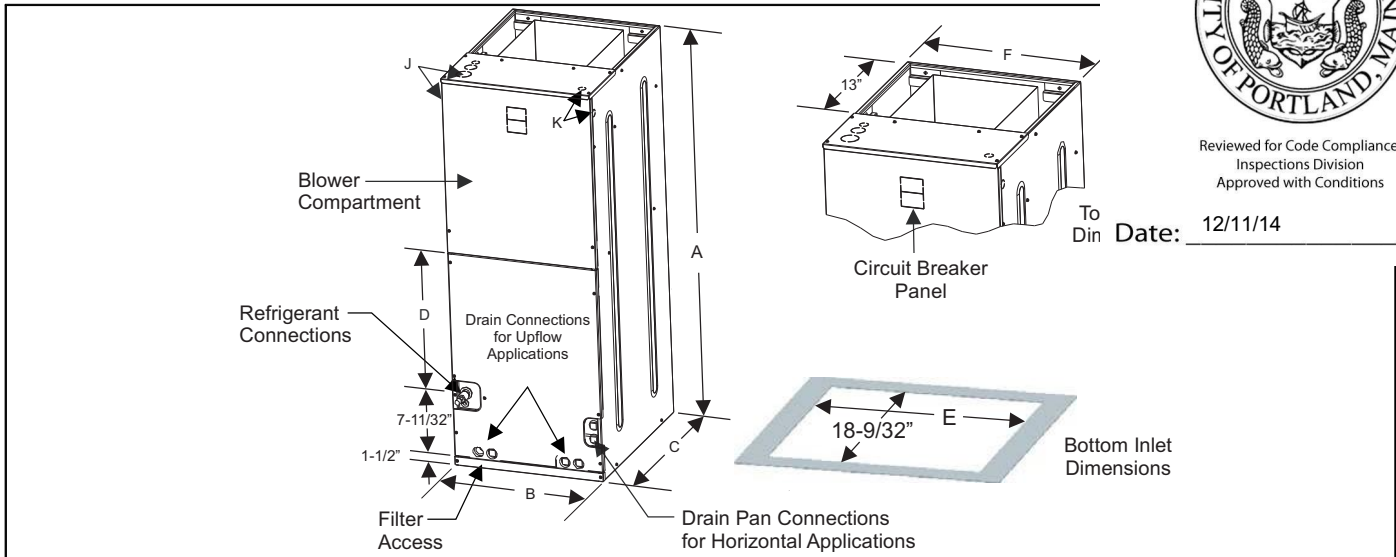


FIGURE 2: Dimensions & Duct Connection Dimensions

TABLE 1: Dimensions

Models	Dimensions						Wiring Knockouts		Refrigerant Connections Line Size	
	A	B	C	D	E	F	J	K	Liquid	Vapor
	Height	Width	Depth				Power	Control		
AHR18B/AHE18B	46"	17 1/2"	21 1/2"	16 1/2"	13-29/32"	16 1/2"	7/8" (1/2") ¹ 1-3/8" (1") 1-23/32" (1-1/4")	7/8" (1/2")	3/8"	3/4"
AHE22B	46"	17 1/2"		16 1/2"	13-29/32"	16 1/2"				
AHR24B/AHE24B	46"	17 1/2"		16 1/2"	13-29/32"	16 1/2"				
AHR30B/AHE30B	46"	17 1/2"		16 1/2"	13-29/32"	16 1/2"				
AHR36B	46"	17 1/2"		16 1/2"	13-29/32"	16 1/2"				
AHE34C	52"	21"		21 1/2"	17-13/32"	20"				
AHR42C/AHE36C	52"	21"		21 1/2"	17-13/32"	20"				
AHR48D/AHE42D/AHE48D	57"	24 1/2"		26"	20-29/32"	23-1/2"				
AHR60D/AHE60D	57"	24 1/2"	26"	20-29/32"	23-1/2"			7/8"		

1. Actual size (conduit size).

SECTION III: UNIT INSTALLATION

CLEARANCES

Clearances must be taken into consideration, and provided for as follows:

1. Refrigerant piping and connections - minimum 12" recommended.
2. Maintenance and servicing access - minimum 36" from front of unit recommended for blower motor / coil replacement.
3. Condensate drain lines routed to clear filter and panel access.
4. Filter removal - minimum 36" recommended.
5. The ductwork and plenum connected to this unit are designed for zero clearance to combustible materials.
6. A combustible floor base accessory is available for downflow applications of this unit, if required by local code.

LOCATION

Location is usually predetermined. Check with owner's or dealer's installation plans. If location has not been decided, consider the following in choosing a suitable location:

1. Select a location with adequate structural support, space for service access, clearance for air return and supply duct connections.
2. Use hanging brackets to wall mount this single piece air handler unit, is not recommended.

3. Normal operating sound levels may be objectionable if the air handler is placed directly over some rooms such as bedrooms, study, etc.
4. Select a location that will permit installation of condensate line to an open drain or outdoors allowing condensate to drain away from structure.

NOTICE

The primary and secondary drain line must be trapped to allow proper drainage of condensate water. If the secondary drain line is not used, it must be capped.

The coil is provided with a secondary drain. It should be piped to a location that will give the occupant a visual warning that the primary drain is clogged. If the secondary drain is not used it must be capped.

5. When an evaporator coil is installed in an attic or above a finished ceiling, an auxiliary drain pan should be provided under the air handler as is specified by most local building codes.
6. Proper electrical supply must be available.
7. If unit is located in an area of high humidity (i.e. an unconditioned garage or attic), nuisance sweating of casing may occur. On these installations, unit duct connections and other openings should be properly sealed, and a wrap of 2" fiberglass insulation with vinyl vapor barrier should be used.



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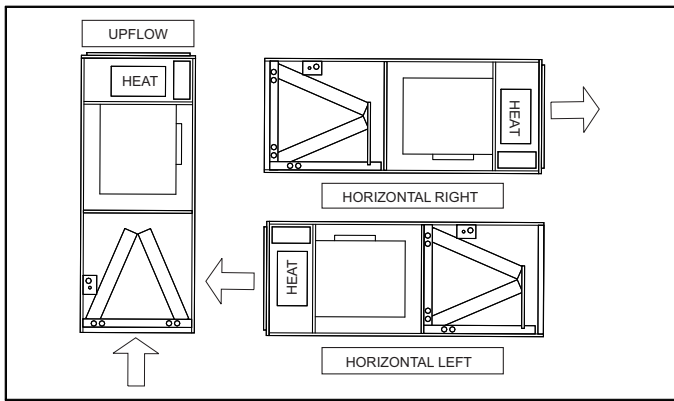


FIGURE 3: Typical Installation

HORIZONTAL CONVERSION

These air handler units are supplied ready to be installed in a upflow and right hand horizontal position. If unit requires left hand positioning, the unit must have the coil assembly repositioned.

NOTICE

For both horizontal applications, the condensate deflector should be positioned as shown in Figure 5.

1. Remove blower, coil, and filter access panels.

NOTICE

Conversion must be made before brazing the refrigerant connections to the coil.

- For horizontal left installations, follow steps 2 - 8.
2. Remove tubing connection panel.
 3. Slide coil assembly out of air handler.
 4. Rotate cabinet 180° so blower outlet is facing down.
 5. Re-install coil assembly on coil support bracket.
 6. Re-attach tubing connection panel.
 7. For horizontal applications, rotate air handler 90° into desired orientation.
 8. Re-position drain plugs as necessary based on air handler orientation.
 9. Re-position and replace access panels.

SUCTION FEEDER TUBECONDENSATE DEFLECTOR

UPFLOW

No action required. See Figure 6.

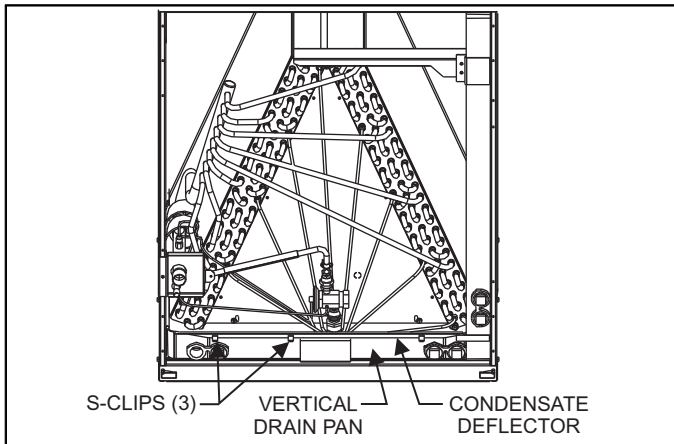


FIGURE 4: Condensate Deflector on Vertical Drain Pan

HORIZONTAL LEFT OR RIGHT

Use an appropriate tool to pry out water def clips from the vertical drain pan, see Figure with s-clips on the Horizontal Drain Pan lin bracket. See Figure 2. This positions the d tubes to channel the condensate to the drain

NOTICE

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The condensate deflector should be installed in the s-clip section which is inside the drain pan edge. See Figure 8.

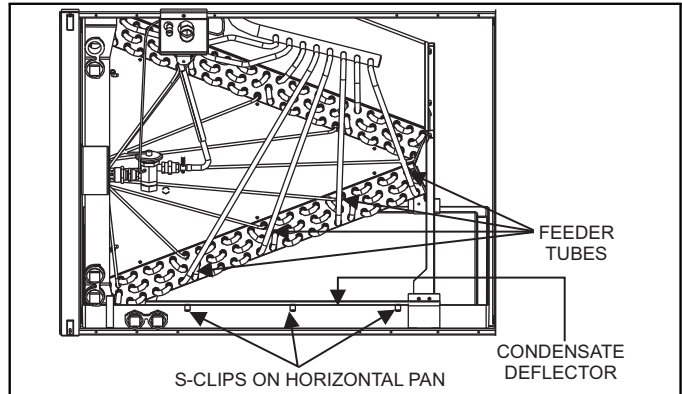


FIGURE 5: Condensate Deflector on Horizontal Drain Pan Edge

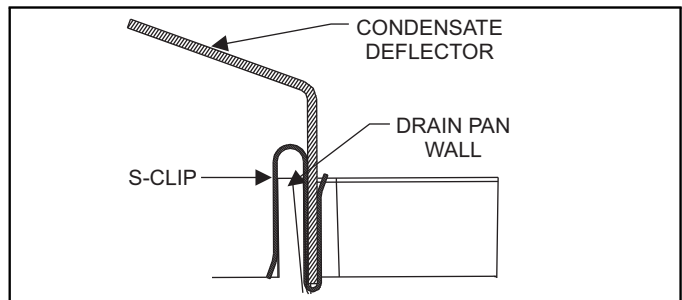


FIGURE 6: S-Clip Installation

DUCT FLANGES

Four flanges are provided to attach ductwork to the furnace. These flanges are rotated down for shipment. In order to use the flanges, remove the screw holding an individual flange, rotate the flange so it is in the upward position and reinstall the screw then repeat this for all 4 flanges.

If the flanges are not used, they must remain in the rotated down position as shipped.

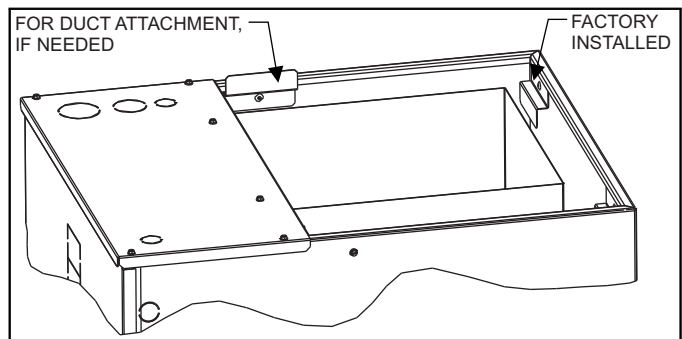


FIGURE 7: Duct Attachment



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DUCT CONNECTIONS

WARNING

Use 1/2" screws to connect ductwork to bottom of unit. Longer screws will pierce the drain pan and cause leakage. If pilot holes are drilled, drill only through field duct and unit bottom flange.

Air supply and return may be handled in one of several ways best suited to the installation. See Figure 5 for dimensions for duct inlet and outlet connections.

The vast majority of problems encountered with combination heating and cooling systems can be linked to improperly designed or installed duct systems. It is therefore highly important to the success of an installation that the duct system be properly designed and installed.

Use flexible duct collars to minimize the transmission of vibration/noise into the conditioned space. If electric heat is used, non-flammable material must be used.

Where return air duct is short, or where sound may be a problem, sound absorbing glass fiber should be used inside the duct. Insulation of ductwork is a must where it runs through an unheated space during the heating season or through an uncooled space during the cooling season. The use of a vapor barrier is recommended to prevent absorption of moisture from the surrounding air into the insulation.

The supply air duct should be properly sized by use of a transition to match unit opening. All ducts should be suspended using flexible hangers and never fastened directly to the structure. This unit is not designed for non-ducted (freeblow) applications. Size outlet plenum or transition to discharge opening sizes shown in Figure 5.

Ductwork should be fabricated and installed in accordance with local and/or national codes. This includes the standards of the National Fire Protection Association for Installation of Air-Conditioning and Ventilating Systems, NFPA No. 90B.

DUCTWORK TRANSITION

Ductwork that is not designed to match the supply air opening can cause turbulence inside the plenum box. This turbulence can change the air flow patterns across the heat kit limit switch. If the factory suggested transition can not be fabricated, it is recommended a block off plate (approximately 8" in height and running the full width of the plenum) be attached to the supply opening. Please refer to Figure 9 as a visual aid. The use of this block off plate will keep better air circulation across the limit switch.

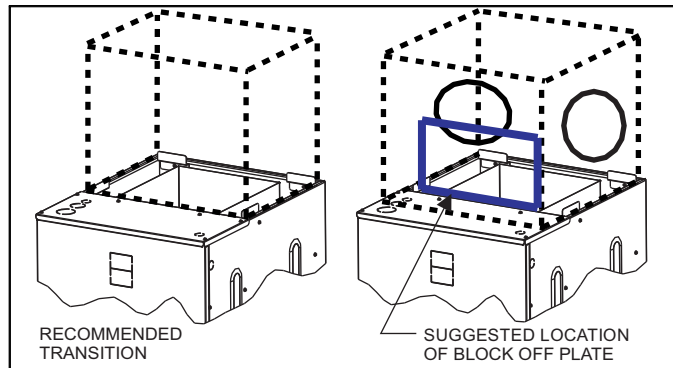


FIGURE 8: Ductwork Transition

AIR FILTERS

Air filters must be field supplied. A 1" filter access rack has been built into the unit. See Figure 5. Remove filter access cover shown. Install proper size filter. Standard 1" size permanent or throw away filter may be used, or, permanent washable filters are available using model numbers: 1PF0601, 602 or 603BK. See Table 2 for filter size.

CAUTION

Equipment should never be operated without filters.

HORIZONTAL SUSPENSION

For suspension of these units in horizontal mended to use angle steel support bracing the units from the bottom, at the

When an evaporator coil is installed in a ceiling, an auxiliary drain pan should be provided as specified by most local building codes

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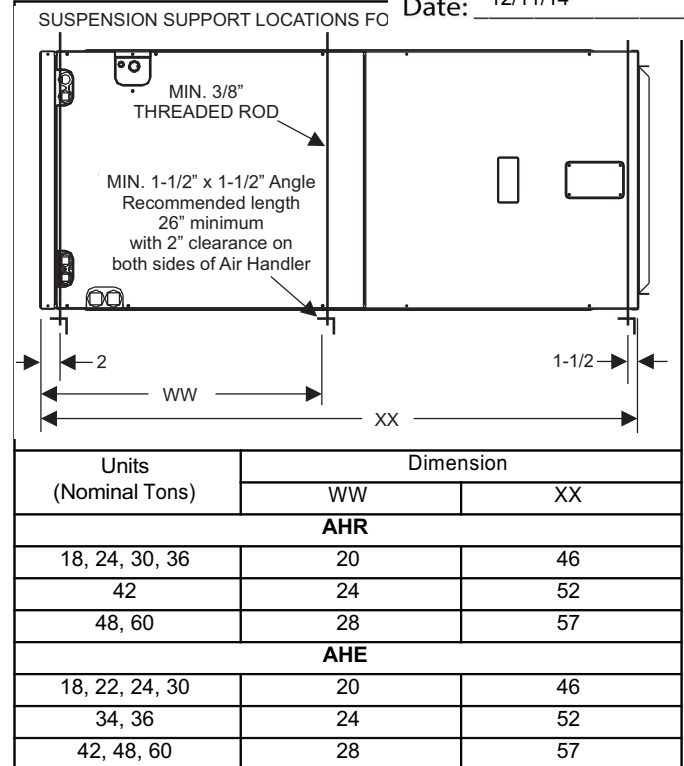


FIGURE 9: Typical Horizontal Installation

TXV METERING DEVICES

If the model number is of the following model series:

3X, the coil will require a R22 or R410A Orifice or TXV to be installed in the field. Refer to installation manual with TXV kit. It is recommended to install the TXV kit prior to brazing line sets.

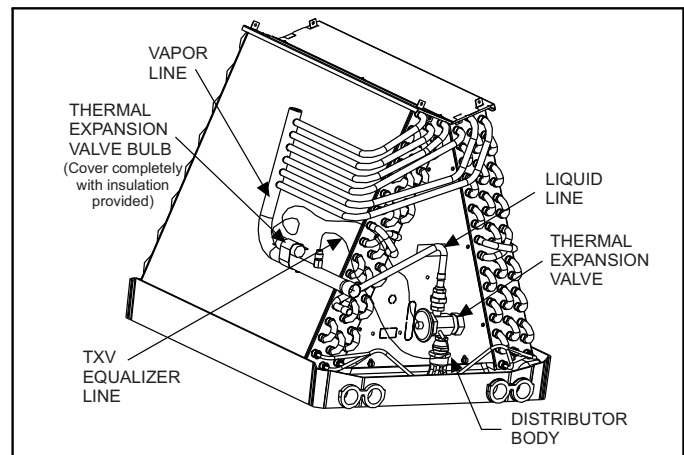


FIGURE 10: TXV



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Please refer to Outdoor Unit Tech Guide to verify which TXV is installed in this coil and that this is a valid system match for the AC or HP unit installed.

The temperature sensing bulb is attached to the coil suction header line.

NOTICE

For models that have factory installed TXV's, take caution not to apply high temperatures to the TXV assembly or equalizer line while brazing.

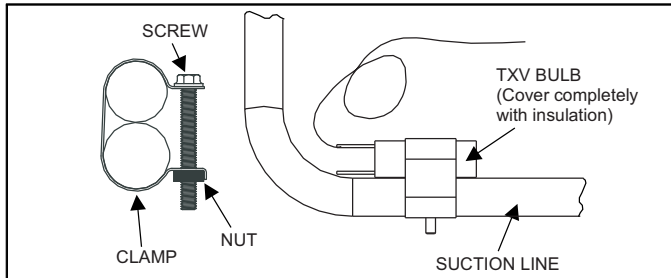


FIGURE 11: Proper Bulb Location

CAUTION

COIL UNDER PRESSURE.

Relieve pressure by depressing schrader core. Coil may have factory installed TXV or may require orifice or TXV to be added. See outdoor unit documentation for correct orifice or TXV to be used. Refer to coil nameplate for orifice or TXV identification for this unit.

NOTICE

The coil should be open to the air for no more than 2 minutes to keep moisture and contaminants from entering the system. If the coil cannot be brazed into the refrigeration system in that time, the ends should be temporarily closed or plugged. For a short term delay, use masking tape over the ends of the copper tubing to close the tube to the air. For a longer term delay, use plugs or caps. There is no need to purge the coil if this procedure is followed.

REFRIGERANT LINE CONNECTION

CAUTION

Dry nitrogen should always be supplied through the tubing while it is being brazed, because the temperature required is high enough to cause oxidation of the copper unless an inert atmosphere is provided. The flow of dry nitrogen should continue until the joint has cooled. Always use a pressure regulator and safety valve to insure that only low pressure dry nitrogen is introduced into the tubing. Only a small flow is necessary to displace air and prevent oxidation.

Connect lines as follows:

NOTICE

Route the refrigerant lines to the coil in a manner that will not obstruct service access to the coil, air handling system, or filter.

1. Suction and liquid line connections are made outside the cabinet. Leave the tubing connection panel attached to the cabinet with the tubes protruding through it. Coil access panel should be removed for brazing. The lines are swaged to receive the field line set tubes.

2. Remove the heat shield from the Custor and install over coil tubing to prevent ove
3. Wrap a water soaked rag around the cc the cabinet to avoid damaging the TXV b
4. Remove grommets where tubes exit the them during brazing.
5. Purge refrigerant lines with dry nitrogen.
6. Braze the suction and liquid lines. Suction Date: 12/11/14
7. Remove the heat shield.
8. Re-attach the grommets to the lines carefully to prevent air leakage.
9. Attach the coil access panel to the cabinet.

NOTICE

ALWAYS evacuate the coil and line. Set tubing to 500 microns before opening outdoor unit service valves.

Refer to Outdoor unit Installation Manual for evacuation, leak check and charging instructions.

Lines should be sound isolated by using appropriate hangers or strapping.

All evaporator coil connections are copper-to-copper and should be brazed with a phosphorous-copper alloy material such as Silfos-5 or equivalent. DO NOT use soft solder.

DRAIN CONNECTIONS

All drain lines should be trapped a minimum of three inches, should be pitched away from unit drain pan and should be no smaller than the coil drain connection.

CAUTION

Threaded drain connection should be hand-tightened, plus no more than 1/16 turn.

Route the drain line so that it does not interfere with accessibility to the coil, air handling system or filter and will not be exposed to freezing temperatures. See Figures 2 and 4 for drain connection locations.

CAUTION

When the coil is installed in an attic or above a finished ceiling, an auxiliary drain pan should be provided under the coil if specified by local building codes. When this exterior secondary drain pan is used that drain should be piped to a location that will give the occupant a visual warning that the primary drain is clogged.

Coils should be installed level or pitched slightly toward the drain end. Suggested pitch should not exceed 1/4 inch per foot of coil.

The coil is provided with a secondary drain that should be trapped and piped to a location that will give the occupant a visual warning that the primary drain is clogged. If the secondary drain is not used it must be capped.

The drain pan connections are designed to ASTM Standard D 2466 Schedule 40. Use 3/4" PVC or steel threaded pipe. Since the drains are not subject to any pressure it is not necessary to use Schedule 40 pipe for drain lines.



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SECTION IV: ELECTRIC HEATER INSTALLATION

If the air handler requires electric heat, install the electric heat kit according to the installation instructions included with the kit. After installing the kit, mark the air handler nameplate to designate the heater kit that was installed. If no heater is installed, mark the name plate appropriately to indicate that no heat kit is installed.

Use only 6HK heater kits, as listed on these instructions. Use data from Table required minimum motor speed tap to maximum over-current protection device cal supply wiring size required – for list and Heater Kit.

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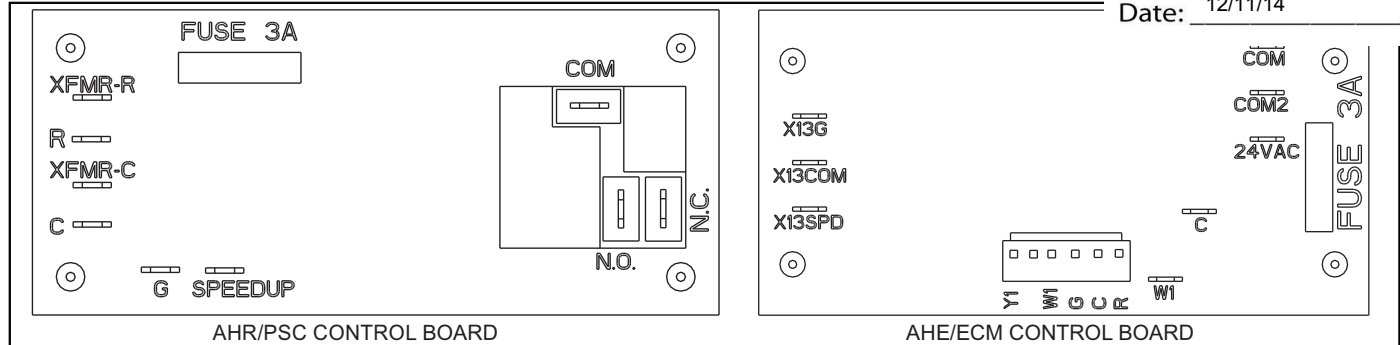


FIGURE 12: Blower Delay Control Board

SECTION V: LINE POWER CONNECTIONS

Power may be brought into the unit through the supply air end of the unit (top when unit is vertical) or the left side panel. Use the hole appropriate to the unit's orientation in each installation to bring conduit from the disconnect. The power lead conduit should be terminated at the electrical control box. Refer to Tables 11, 12, 14 and 15 to determine proper wire sizing. Also see Figure 3. To minimize air leakage, seal the wiring entry point at the outside of the unit.

All electrical connections to air handlers must be made with copper conductors. **Direct connection of aluminum wiring to air handlers is not approved.**

If aluminum conductors are present, all applicable local and national codes must be followed when converting from aluminum to copper conductors prior to connection to the air handler.

If wire other than uncoated (non-plated), 75° C ambient, copper wire is used, consult applicable tables of the National Electric Code (ANSI/NFPA 70). The chosen conductor and connections all must meet or exceed the ampere rating of the overcurrent protector (circuit breaker or fuse) in the circuit.

Additionally, existing aluminum wire within the structure must be sized correctly for the application according to National Electric Code and local codes. Caution must be used when sizing aluminum rather than copper conductors, as aluminum conductors are rated for less current than copper conductors of the same size.

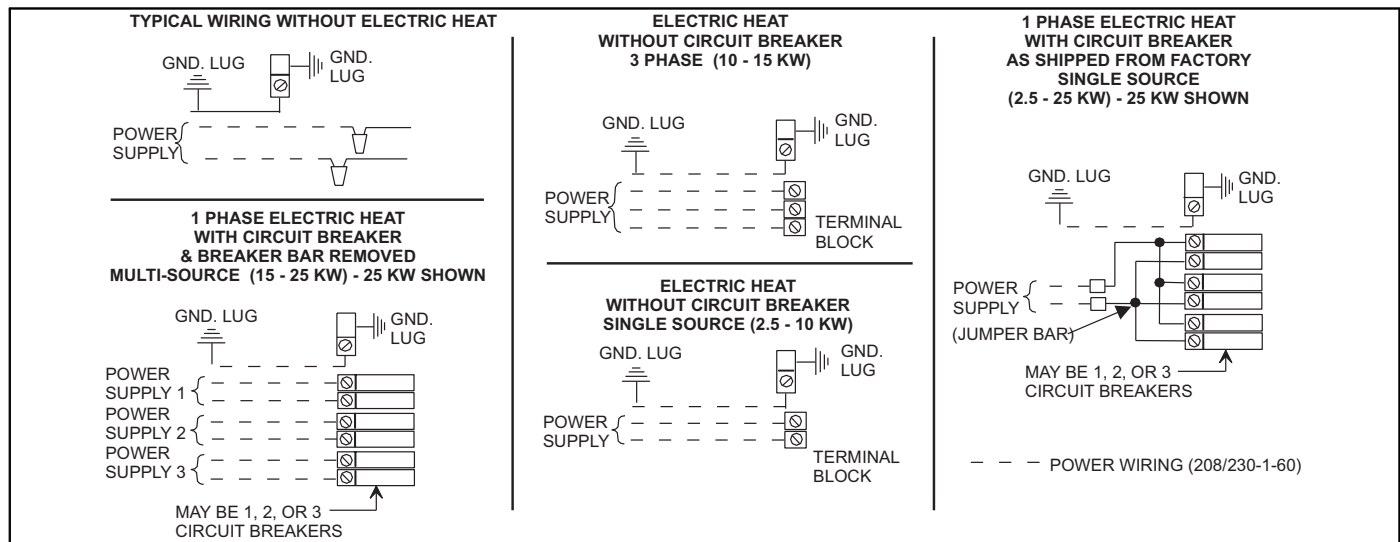


FIGURE 13: Line Power Connections

SECTION VI: LOW VOLTAGE CONTROL CONNECTIONS

The 24 volt power supply is provided by an internally wired low voltage transformer which is standard on all models. However, if the unit is connected to a 208 volt power supply, the low voltage transformer must be rewired to the 208 volt tap. See the unit wiring label.

Field supplied low voltage wiring can exit the unit on the top right hand corner or the right hand side panel. Refer to Figure 5.

Remove desired knockout and pierce foil faced insulation to allow wiring to pass through. Use as small of a hole as possible to minimize air leakage. Install a 7/8" plastic bushing in the selected hole and keep low voltage wiring as short as possible inside the control box.

To further minimize air leakage, seal the wiring entry point at the outside of the unit.

The field wiring is to be connected at the pigtailed supplied with the control board harness. Refer to SECTIONS X and XI for system wiring.



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NOTICE

All wiring must comply with local and national electrical code requirements. Read and heed all unit caution labels.

NOTICE

It is possible to vary the amount of electric heat turned on during the defrost cycle of a heat pump. Standard wiring will only bring on the first stage of electric heat during defrost. See Heat Output and Limit Connections and Table 6 for additional information on heat during defrost cycle.

SECTION VII: BLOWER SPEED CONNECTIONS

Adjust blower motor speed to provide airflow maximum limits approved for evaporator coil unit. Speed tap adjustments are made at the flow data is shown in Table 15.

Connect motor wires to motor speed tap rec See unit wiring label for motor wiring details.

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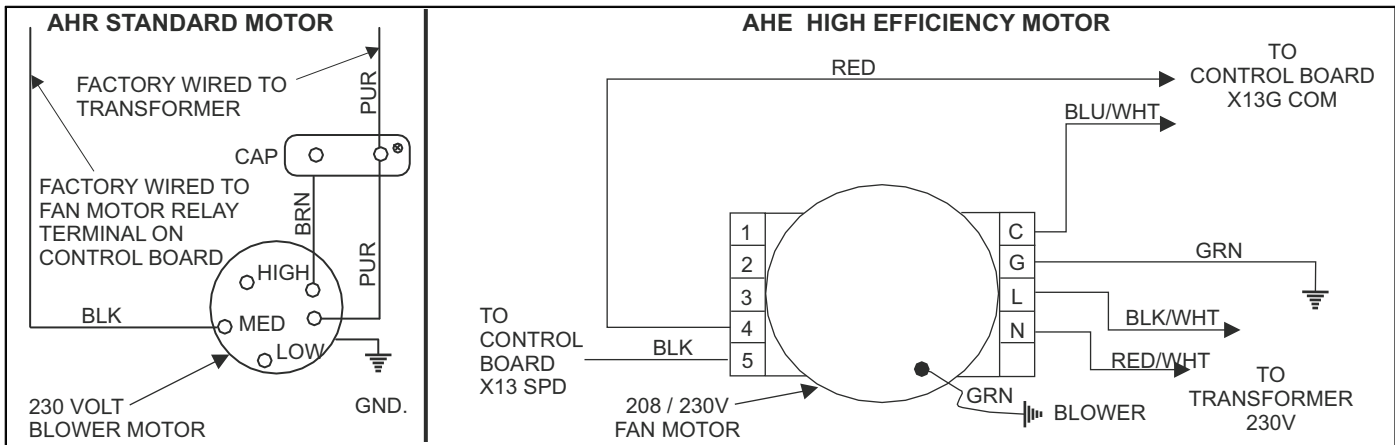


FIGURE 14: Blower Speed Connections

SECTION VIII: UNIT DATA

TABLE 2: Physical and Electrical Data

AHR MODELS								
Models	18B	24B	30B	36B	42C	48D	60D	
Blower - Diameter x Width	10 x 8	10 x 8	10 x 8	10 x 8	10 x 10	10X10	10X10	
Motor	HP	1/4 HP	1/4 HP	3/4 HP	3/4 HP	3/4 HP	3/4 HP	
	Nominal RPM	1075	1075	1075	1075	1075	1075	
Voltage	208/230	208/230	208/230	208/230	208/230	208/230	208/230	
Amps	Full Load (230)	1.4	1.4	3.8	3.8	3.8	3.8	
Filter ¹	Type	DISPOSABLE OR PERMANENT						
	Size	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	20 x 20 x 1	22 x 20 x 1	22 x 20 x 1
	Permanent Type Kit	1PF0601BK	1PF0601BK	1PF0601BK	1PF0601BK	1PF0602BK	1PF0603BK	1PF0603BK
Shipping / Operating Weight (lbs.)	112/100	117/102	117/105	122/110	148/133	165/147	168/150	

1. Field supplied.

AHE MODELS										
Models	18B	22B	24B	30B	34C	36C	42D	48D	60D	
Blower - Diameter x Width	10 x 8	10 x 8	10 x 8	10 x 8	11 x 10	11 x 10	11 x 10	11 x 10	11 x 10	
Motor	HP	1/3 HP	1/3 HP	1/3 HP	1/2 HP	1/2 HP	1/2 HP	3/4 HP	3/4 HP	
	Nominal RPM	1050	1050	1050	1050	1050	1050	1050	1050	
Voltage	208/230	208/230	208/230	208/230	208/230	208/230	208/230	208/230	208/230	
Amps	Full Load (230)	2.8	2.8	2.8	4.1	4.1	4.1	6.0	6.0	
Filter ¹	Type	DISPOSABLE OR PERMANENT								
	Size	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	16 x 20 x 1	20 x 20 x 1	20 x 20 x 1	22 x 20 x 1	22 x 20 x 1	22 x 20 x 1
	Permanent Type Kit	1PF0601BK	1PF0601BK	1PF0601BK	1PF0601BK	1PF0602BK	1PF0602BK	1PF0603BK	1PF0603BK	1PF0603BK
Shipping / Operating Weight (lbs.)	115/103	120/105	120/105	120/105	152/137	152/137	168/150	171/153	174/156	

1. Field supplied.



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TABLE 3: Conversion Table

kW & MBH Conversions - for Total Power Input Requirement				
FOR	208V	OPERATION MULTIPLY	240V	TABULATED kW MBH BY
	230V		240V	

TABLE 4: Electrical Data - Cooling Only (60 Hz)

Models	Total Motor Amps		Minimum Circuit Ampacity		Max. O Amps/Type	Date: 12/11/14 Size A.W.G.
	60 Hertz		60 Hertz			
	208V	230V	208V	230V		
AHR MODELS						
18B	1.3	1.4	1.6	1.8	15	14
24B	1.3	1.4	1.6	1.8	15	14
30B	3.4	3.8	4.3	4.8	15	14
36B	3.4	3.8	4.3	4.8	15	14
42C	3.4	3.8	4.3	4.8	15	14
48D	3.4	3.8	4.3	4.8	15	14
60D	3.4	3.8	4.3	4.8	15	14
AHE MODELS						
18B	2.8	2.8	3.5	3.5	15	14
22B	2.8	2.8	3.5	3.5	15	14
24B	2.8	2.8	3.5	3.5	15	14
30B	2.8	2.8	3.5	3.5	15	14
34C	4.1	4.1	5.1	5.1	15	14
36C	4.1	4.1	5.1	5.1	15	14
42D	4.1	4.1	5.1	5.1	15	14
48D	6.0	6.0	7.5	7.5	15	14
60D	6.0	6.0	7.5	7.5	15	14

1. OCP = Over current protection device, must be HACR type circuit breaker or time delay fuse.

TABLE 5: Electrical Data - 208/230-1-60

Models	Heater Models ^{1,2}	Max. Static	PSC Min. Speed Tap	ECM Min. Speed Tap	Total Heat ³				kW Staging			
					kW		MBH		W1 Only		W1 + W2	
					208V	230V	208V	230V	208V	230V	208V	230V
18	6HK(0,1)6500206	0.3	Low	Med Low #2	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Med	Med Low #2	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Med	Med High #4	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(1,2)6501006	0.3	Med	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
AHE22	6HK(0,1)6500206	0.3	-	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	-	Med Low #2	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	-	Med #3	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(0,1)6501006	0.3	-	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(0,1)6501306	0.3	-	Med High #4	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	-	High #5	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
24	6HK(0,1)6500206	0.3	Low	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Low	Med Low #2	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Med	Med #3	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(0,1)6501006	0.3	Med	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(1,2)6501306	0.3	High	Med High #4	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	High	High #5	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
30	6HK(0,1)6500206	0.3	Low	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Low	Med Low #2	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Med	Med #3	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(0,1)6501006	0.3	Med	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(1,2)6501306	0.3	High	Med High #4	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	High	High #5	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2

For notes see Page 10.



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TABLE 5: Electrical Data - 208/230-1-60 (Continued)

Models	Heater Models ^{1,2}	Max. Static	PSC Min. Speed Tap	ECM Min. Speed Tap	Total Heat ³				W			
					kW		MBH					
					208V	230V	208V	230V				
AHE34	6HK(0,1)6500206	0.3	–	Low #1	1.8	2.2	6.1	7.5	1.8			
	6HK(0,1)6500506	0.3	–	Med Low #2	3.6	4.4	12.3	15.0	3.6			
	6HK(0,1)6500806	0.3	–	Med #3	5.8	7.0	19.7	24.0	5.8			
	6HK(0,1)6501006	0.3	–	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(0,1)6501306	0.3	–	Med High #4	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	–	Med High #4	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK(1,2)6501806	0.3	–	High #5	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK(1,2)6502006	0.3	–	High #5	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
36	6HK(0,1)6500206	0.3	Low	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Low	Med Low #2	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Med	Med #3	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(0,1)6501006	0.3	Med	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(1,2)6501306	0.3	High	Med High #4	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	High	Med High #4	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK(1,2)6501806	0.3	High	High #5	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK(1,2)6502006	0.3	High	High #5	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
42	6HK(0,1)6500206	0.3	Low	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Low	Med #3	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Med	Med #3	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(0,1)6501006	0.3	Med	Med High #4	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(1,2)6501306	0.3	High	High #5	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	High	High #5	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
48	6HK(0,1)6500206	0.3	Low	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Low	Low #1	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Low	Med Low #2	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.0
	6HK(0,1)6501006	0.3	Med	Med Low #2	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(1,2)6501306	0.3	Med	Med #3	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	Med	Med #3	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK(1,2)6501806	0.3	Med	Med High #4	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK(1,2)6502006	0.3	High	High #5	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
60	6HK(0,1)6500206	0.3	Low	Low #1	1.8	2.2	6.1	7.5	1.8	2.2	1.8	2.2
	6HK(0,1)6500506	0.3	Low	Low #1	3.6	4.4	12.3	15.0	3.6	4.4	3.6	4.4
	6HK(0,1)6500806	0.3	Low	Low #1	5.8	7.0	19.7	24.0	5.8	7.0	5.8	7.1
	6HK(0,1)6501006	0.3	Med	Med Low #2	7.2	8.8	24.6	29.9	7.2	8.8	7.2	8.8
	6HK(1,2)6501306	0.3	Med	Med #3	9.4	11.4	31.9	38.9	3.1	3.8	9.4	11.4
	6HK(1,2)6501506	0.3	Med	Med #3	10.8	13.2	36.9	44.9	3.6	4.4	10.8	13.2
	6HK(1,2)6501806	0.3	Med	Med High #4	13.0	15.8	44.2	53.9	6.5	7.9	13.0	15.8
	6HK(1,2)6502006	0.3	High	Med High #4	14.4	17.5	49.1	59.9	7.2	8.8	14.4	17.6
	6HK(1,2)6502506	0.3	High	High #5	18.0	21.9	61.4	74.9	7.2	8.8	18.0	22.0

Date: 12/11/14

1. (0,1) - maybe 0 (no circuit breaker) or 1 (with circuit breaker).
2. (1,2) maybe 1 (with circuit breaker, no breaker jumper bar) or 2 (with circuit breaker & breaker jumper bar).
3. See conversion Table 3.



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TABLE 6: Electrical Data - (For **Single Source** Power Supply) - Copper Wire - 208/230-1-60 (AHR)

Models	Heater Models ^{1,2}	Heater Amps 240V	Field Wiring				8	6
			Min. Circuit Ampacity		Max. O.C.P. ³ Amps/Ty			
			208V	230V	208V	230V		
AHR18B3XH21	6HK(0,1)6500206	10.0	12.42	13.73	15	15		
	6HK(0,1)6500506	20.0	23.25	25.71	25	30		
	6HK(0,1)6500806	32.0	36.25	40.08	40	45		
	6HK(0,1)6501006	40.0	44.92	49.67	45	50	8	6
AHR24B3XH21	6HK(0,1)6500206	10.0	12.42	13.73	15	15	12	12
	6HK(0,1)6500506	20.0	23.25	25.71	30	30	10	10
	6HK(0,1)6500806	32.0	36.25	40.08	40	50	8	8
	6HK(0,1)6501006	40.0	44.92	49.67	45	50	8	6
	6HK(1,2)6501306	52.0	57.92	64.04	60	70	4	4
	6HK(1,2)6501506	60.0	66.58	73.63	70	80	4	4
AHR30B3XH21	6HK(0,1)6500206	10.0	15.13	16.73	20	20	12	12
	6HK(0,1)6500506	20.0	25.96	28.71	30	30	10	10
	6HK(0,1)6500806	32.0	38.96	43.08	40	45	8	8
	6HK(0,1)6501006	40.0	47.63	52.67	50	60	6	6
	6HK(1,2)6501306	52.0	60.63	67.04	70	70	6	4
	6HK(1,2)6501506	60.0	69.30	76.63	70	80	4	4
AHR36B3XH21	6HK(0,1)6500206	10.0	15.13	16.73	20	20	12	12
	6HK(0,1)6500506	20.0	25.96	28.71	30	30	10	10
	6HK(0,1)6500806	32.0	38.96	43.08	40	45	8	8
	6HK(0,1)6501006	40.0	47.63	52.67	50	60	8	6
	6HK(1,2)6501306	52.0	60.63	67.04	70	70	6	4
	6HK(1,2)6501506	60.0	69.30	76.63	70	80	4	4
	6HK(1,2)6501806	72.0	82.30	91.00	90	100	3	3
	6HK(1,2)6502006	80.0	91.0	100.6	100	110	3	2
AHR42C3XH21	6HK(0,1)6500206	10.0	15.1	16.7	20	20	12	12
	6HK(0,1)6500506	20.0	26.0	28.7	30	30	10	10
	6HK(0,1)6500806	32.0	39.0	43.1	40	45	8	8
	6HK(0,1)6501006	40.0	47.6	52.7	50	60	6	6
	6HK(1,2)6501306	52.0	60.6	67.0	70	70	6	4
	6HK(1,2)6501506	60.0	69.30	76.63	70	80	4	4
AHR48D3XH21	6HK(0,1)6500206	10.0	15.1	16.7	20	20	12	12
	6HK(0,1)6500506	20.0	26.0	28.7	30	30	10	10
	6HK(0,1)6500806	32.0	39.0	43.1	40	45	8	8
	6HK(0,1)6501006	40.0	47.6	52.7	50	60	6	6
	6HK(1,2)6501306	52.0	60.6	67.0	70	70	6	4
	6HK(1,2)6501506	60.0	69.3	76.6	70	80	4	4
	6HK(1,2)6501806	72.0	82.3	91.0	90	100	3	3
	6HK(1,2)6502006	80.0	91.0	100.6	100	110	3	2
AHR60D3XH21	6HK(0,1)6500206	10.0	15.1	16.7	20	20	12	12
	6HK(0,1)6500506	20.0	26.0	28.7	30	30	10	10
	6HK(0,1)6500806	32.0	39.0	43.1	40	45	8	8
	6HK(0,1)6501006	40.0	47.6	52.7	50	60	6	6
	6HK(1,2)6501306	52.0	60.6	67.0	70	70	6	4
	6HK(1,2)6501506	60.0	69.3	76.6	70	80	4	4
	6HK(1,2)6501806	72.0	82.3	91.0	90	100	3	3
	6HK(1,2)6502506	100.0	112.6	124.5	115	130	1	1

Date: 12/11/14

- (0,1) - maybe 0 (no circuit breaker) or 1 (with circuit breaker).
- (1,2) maybe 1 (with circuit breaker, no breaker jumper bar) or 2 (with circuit breaker & breaker jumper bar).
- O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.



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TABLE 7: Electrical Data - (For **Single Source** Power Supply) - Copper Wire - 208/230-1-60 (AHE)

Models	Heater Models ^{1,2}	Heater Amps 240V	Field Wiring				Date:	
			Min. Circuit Ampacity		Max. O.C.P. ³ Amps/Type			
			208V	230V	208V	230V		
AHE18B3XH21	6HK(0,1)6500206	10.0	14.33	15.48	15	20	12/11/14	
	6HK(0,1)6500506	20.0	25.17	27.46	30	30		
	6HK(0,1)6500806	32.0	38.17	41.83	40	45		
	6HK(0,1)6501006	40.0	46.83	51.42	50	60		
AHE22B3XH21	6HK(0,1)6500206	10.0	14.33	15.48	15	20	8	6
	6HK(0,1)6500506	20.0	25.17	27.46	30	30	12	12
	6HK(0,1)6500806	32.0	38.17	41.83	40	45	10	10
	6HK(0,1)6501006	40.0	46.83	51.42	50	60	8	8
	6HK(1,2)6501306	52.0	59.83	65.79	60	70	8	6
	6HK(1,2)6501506	60.0	68.50	75.38	70	80	6	4
AHE24B3XH21	6HK(0,1)6500206	10.0	14.33	15.48	15	20	4	4
	6HK(0,1)6500506	20.0	25.17	27.46	30	30	12	12
	6HK(0,1)6500806	32.0	38.17	41.83	40	45	10	10
	6HK(0,1)6501006	40.0	46.83	51.42	50	60	8	8
	6HK(1,2)6501306	52.0	59.83	65.79	60	70	8	6
	6HK(1,2)6501506	60.0	68.50	75.38	70	80	6	4
AHE30B3XH21	6HK(0,1)6500206	10.0	14.33	15.48	15	20	4	4
	6HK(0,1)6500506	20.0	25.17	27.46	30	30	12	12
	6HK(0,1)6500806	32.0	38.17	41.83	40	50	10	10
	6HK(0,1)6501006	40.0	46.83	51.42	50	60	8	8
	6HK(1,2)6501306	52.0	59.83	65.79	60	70	6	6
	6HK(1,2)6501506	60.0	68.50	75.38	70	80	6	4
AHE34C3XH21	6HK(0,1)6500206	10.0	15.96	17.10	20	20	4	4
	6HK(0,1)6500506	20.0	26.79	29.08	30	30	12	12
	6HK(0,1)6500806	32.0	39.79	43.46	40	45	10	10
	6HK(0,1)6501006	40.0	48.46	53.04	50	60	8	8
	6HK(1,2)6501306	52.0	61.46	67.42	70	70	8	6
	6HK(1,2)6501506	60.0	70.13	77.00	80	80	6	4
	6HK(1,2)6501806	72.0	83.13	91.38	90	100	4	4
	6HK(1,2)6502006	80.0	91.79	100.96	100	110	3	3
AHE36C3XH21	6HK(0,1)6500206	10.0	15.96	17.10	20	20	3	2
	6HK(0,1)6500506	20.0	26.79	29.08	30	30	12	12
	6HK(0,1)6500806	32.0	39.79	43.46	40	45	10	10
	6HK(0,1)6501006	40.0	48.46	53.04	50	60	8	8
	6HK(1,2)6501306	52.0	61.46	67.42	70	70	8	6
	6HK(1,2)6501506	60.0	70.13	77.00	80	80	6	4
	6HK(1,2)6501806	72.0	83.13	91.38	90	100	4	4
	6HK(1,2)6502006	80.0	91.79	100.96	100	110	3	3
AHE42D3XH21	6HK(0,1)6500206	10.0	15.96	17.10	20	20	3	2
	6HK(0,1)6500506	20.0	26.79	29.08	30	30	12	12
	6HK(0,1)6500806	32.0	39.79	43.46	40	45	10	10
	6HK(0,1)6501006	40.0	48.46	53.04	50	60	8	8
	6HK(1,2)6501306	52.0	61.46	67.42	70	70	6	6
	6HK(1,2)6501506	60.0	70.13	77.00	80	80	6	4

For notes see Page 13.



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TABLE 7: Electrical Data - (For Single Source Power Supply) - Copper Wire - 208/230-1-60 (AHE) (Continued)

Models	Heater Models ^{1,2}	Heater Amps 240V	Field Wiring					
			Min. Circuit Ampacity		Max. O.C.P. ³ Amps/Typ			
			208V	230V	208V	230V		
AHE48D3XH21	6HK(0,1)6500206	10.0	18.3	19.5	20	20		
	6HK(0,1)6500506	20.0	29.2	31.5	30	35		
	6HK(0,1)6500806	32.0	42.2	45.8	45	50		
	6HK(0,1)6501006	40.0	50.8	55.4	60	60	6	6
	6HK(1,2)6501306	52.0	63.8	69.8	70	70	4	4
	6HK(1,2)6501506	60.0	72.5	79.4	80	80	4	4
	6HK(1,2)6501806	72.0	85.5	93.8	90	100	3	3
	6HK(1,2)6502006	80.0	94.2	103.3	100	110	3	2
AHE60D3XH21	6HK(0,1)6500206	10.0	18.3	19.5	20	20	12	12
	6HK(0,1)6500506	20.0	29.2	31.5	30	35	10	10
	6HK(0,1)6500806	32.0	42.2	45.8	45	50	8	8
	6HK(0,1)6501006	40.0	50.8	55.4	60	60	6	6
	6HK(1,2)6501306	52.0	63.8	69.8	70	70	4	4
	6HK(1,2)6501506	60.0	72.5	79.4	80	80	4	4
	6HK(1,2)6501806	72.0	85.5	93.8	90	100	3	3
	6HK(1,2)6502006	80.0	94.2	103.3	100	110	3	2
	6HK(1,2)6502506	100.0	115.8	127.3	120	130	1	1

- (0,1) - maybe 0 (no circuit breaker) or 1 (with circuit breaker).
- (1,2) maybe 1 (with circuit breaker, no breaker jumper bar) or 2 (with circuit breaker & breaker jumper bar).
- O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.

TABLE 8: Electrical Data - (For Multi-Source Power Supply) - Copper Wire - 208/230-1-60¹ (AHR)

Models	Heater Models ^{2,3}	Min. Circuit Ampacity		Max. O.C.P. ⁴ Amps/Type		75°C Wire Size - AWG	
		Circuit		Circuit		Circuit	
		1st	2nd	1st	2nd	1st	2nd
		208/230	208/230	208/230	208/230	208/230	208/230
AHR24B3XH21	6HK(1,2)6501306	37.5/41.3	20.3/22.4	40/45	25/25	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	23.2/25.5	45/50	25/30	8/8	12/10
AHR30B3XH21	6HK(1,2)6501306	37.5/41.3	23.0/25.4	40/45	25/30	8/8	10/10
	6HK(1,2)6501506	43.3/47.8	25.9/28.7	45/50	30/30	8/8	10/10
AHR36B3XH21	6HK(1,2)6501306	37.5/41.3	23.0/25.4	40/45	25/30	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	25.9/28.7	45/50	30/35	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	43.2/47.7	40/45	50/50	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	47.6/52.6	45/50	50/60	8/8	8/6
AHR42C3XH21	6HK(1,2)6501306	37.5/41.3	23.0/25.4	40/45	25/30	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	25.9/28.7	45/50	30/30	8/8	10/10
AHR48D3XH21	6HK(1,2)6501306	37.5/41.3	23.0/25.4	40/45	25/30	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	25.9/28.7	45/50	30/30	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	43.2/47.7	40/45	45/50	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	47.6/52.6	45/50	50/60	8/8	8/6
AHR60D3XH21	6HK(1,2)6501306	37.5/41.3	23.0/25.4	40/45	25/30	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	25.9/28.7	45/50	30/30	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	43.2/47.7	40/45	45/50	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	47.6/52.6	45/50	50/60	8/8	8/6
	6HK(1,2)6502506	64.9/71.7	47.6/52.6	70/80	50/60	4/4	8/6

- If wire other than non-plated, 75° ambient, copper wire is used. consult applicable tables of the NEC and local codes.
- (0,1) - maybe 0 (no circuit breaker) or 1 (with circuit breaker).
- (1,2) maybe 1 (with circuit breaker, no breaker jumper bar) or 2 (with circuit breaker & breaker jumper bar).
- O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.



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TABLE 9: Electrical Data - (For **Multi-Source** Power Supply) - Copper Wire - 208/230-1-60¹ (AHE)

Models	Heater Models ^{2,3}	Min. Circuit Ampacity		Max. O.C.P. ⁴ Amps/Type		7:	20
		Circuit		Circuit			
		1st	2nd	1st	2nd		
		208/230	208/230	208/230	208/230		
AHE22B3XH21	6HK(1,2)6501306	37.5/41.3	22.3/24.2	40/45	25/25		
	6HK(1,2)6501506	43.3/47.8	25.1/27.4	45/50	30/30		
AHE24B3XH21	6HK(1,2)6501306	37.5/41.3	22.3/24.2	40/45	25/25	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	25.1/27.4	45/50	30/30	8/8	10/10
AHE30B3XH21	6HK(1,2)6501306	37.5/41.3	22.3/24.2	40/45	25/25	8/8	12/12
	6HK(1,2)6501506	43.3/47.8	26.8/27.4	45/50	30/30	8/8	10/10
AHE34C3XH21	6HK(1,2)6501306	37.5/41.3	23.9/25.8	40/45	25/30	8/8	12/10
	6HK(1,2)6501506	43.3/47.8	27.7/29.0	45/50	30/30	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	44.1/48.0	40/45	45/50	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	48.4/53.0	45/50	50/60	8/8	6/6
AHE36C3XH21	6HK(1,2)6501306	37.5/41.3	23.9/25.8	40/45	25/30	8/8	12/10
	6HK(1,2)6501506	43.3/47.8	27.7/29.0	45/50	30/30	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	44.1/48.0	40/45	45/50	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	48.4/53.0	45/50	50/60	8/8	6/6
AHE42D3XH21	6HK(1,2)6501306	37.5/41.3	23.9/25.8	45/45	25/30	8/8	12/10
	6HK(1,2)6501506	43.3/47.8	27.7/29.0	45/50	30/30	8/8	10/10
AHE48D3XH21	6HK(1,2)6501306	37.5/41.3	26.3/28.2	40/45	30/30	8/8	10/10
	6HK(1,2)6501506	43.3/47.8	29.1/31.4	45/50	30/35	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	46.4/50.4	40/45	50/60	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	50.8/55.3	45/50	60/60	8/8	6/6
AHE60D3XH21	6HK(1,2)6501306	37.5/41.3	26.3/28.2	40/45	30/30	8/8	10/10
	6HK(1,2)6501506	43.3/47.8	29.1/31.4	45/50	30/35	8/8	10/10
	6HK(1,2)6501806	38.9/42.9	46.4/50.4	40/45	50/60	8/8	8/8
	6HK(1,2)6502006	43.3/47.8	50.8/55.3	45/50	60/60	8/8	6/6
	6HK(1,2)6502506	64.9/71.7	50.8/55.3	70/80	60/60	4/4	6/6

Date: 12/11/14

1. If wire other than non-plated, 75° ambient, copper wire is used, consult applicable tables of the NEC and local codes.
2. (0,1) - maybe 0 (no circuit breaker) or 1 (with circuit breaker).
3. (1,2) maybe 1 (with circuit breaker, no breaker jumper bar) or 2 (with circuit breaker & breaker jumper bar).
4. O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.

TABLE 10: Electrical Data - 208/230-3-60

Models	Heater Models ¹	Max. Static	PSC Min. Speed Tap	ECM Min. Speed Tap	Total Heat ²				kW Staging			
					kW		MBH		W1 Only		W1 + W2	
					208V	230V	208V	230V	208V	230V	208V	230V
AHE22	6HK06501525	0.3	High	High #5	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
AHR/AHE24	6HK06501525	0.3	High	High #5	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
AHR/AHE30	6HK06501525	0.3	High	High #5	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
AHE34	6HK06501525	0.3	Med	Med High #4	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
	6HK16502025	0.3	High	High #5	14.4	19.2	49.1	65.5	7.2	9.6	14.4	19.2
AHR/AHE36	6HK06501525	0.3	Med	Med High #4	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
	6HK16502025	0.3	High	High #5	14.4	19.2	49.1	65.5	7.2	9.6	14.4	19.2
AHR42C	6HK06501525	0.3	Med	Med High #4	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
AHE42D	6HK06501525	0.3	High	High #5	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
	6HK16502025	0.3	High	High #5	14.4	19.2	49.1	65.5	7.2	9.6	14.4	19.2
AHR/AHE48	6HK06501525	0.3	High	High #5	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
	6HK16502025	0.3	High	High #5	14.4	19.2	49.1	65.5	7.2	9.6	14.4	19.2
AHR/AHE60	6HK06501525	0.3	High	High #5	10.8	14.4	36.9	49.1	10.8	14.4	10.8	14.4
	6HK16502025	0.3	High	High #5	14.4	19.2	49.1	65.5	7.2	9.6	14.4	19.2
	6HK16502525	0.3	High	High #5	18	24	61.4	81.9	9.0	12.0	18.0	24.0

1. May be 0 (no circuit breaker) or 1 (with circuit breaker).
2. See conversion Table 3.



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TABLE 11: Electrical Data - (For Single Source Power Supply) - Copper Wire - 208/230-3-60 (AHR)

Models	Heater Models ¹	Heater Amps 240V	Field Wiring					
			Min. Circuit Ampacity		Max. O.C.P. ² Amps/Type			
			208V	230V	208V	230V		
AHR24B	6HK06501525	34.6	39.1	43.20	40	45		
AHR30B	6HK06501525	34.6	41.7	46.20	45	50		
AHR36B	6HK06501525	34.6	41.7	46.20	45	50		
	6HK16502025	46.2	54.3	60.09	60	70		
AHR42C	6HK06501525	34.6	41.7	46.20	45	50		
AHR48D	6HK06501525	34.6	41.7	46.20	45	50	8	8
	6HK16502025	46.2	54.3	60.09	60	70	6	4
AHR60D	6HK06501525	34.6	41.7	46.20	45	50	8	8
	6HK16502025	46.2	54.3	60.09	60	70	6	4
	6HK16502525	57.7	66.8	73.87	70	80	4	4

1. May be 0 (no circuit breaker) or 1 (with circuit breaker).
2. O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.

TABLE 12: Electrical Data - (For Single Source Power Supply) - Copper Wire - 208/230-3-60 (AHE)

Models	Heater Models ¹	Heater Amps 240V	Field Wiring				75°C Wire Size - AWG	
			Min. Circuit Ampacity		Max. O.C.P. ² Amps/Type		208V	230V
			208V	230V	208V	230V	208V	230V
AHE22B	6HK06501525	34.6	41.0	44.95	45	50	8	8
AHE24B	6HK06501525	34.6	41.0	44.95	45	50	8	8
AHE30B	6HK06501525	34.6	41.0	44.95	45	50	8	8
AHE34C	6HK06501525	34.6	42.6	46.57	45	50	8	8
	6HK16502025	46.2	55.2	60.47	60	70	6	4
AHE36C	6HK06501525	34.6	42.6	46.57	45	50	8	8
	6HK16502025	46.2	55.2	60.47	60	70	6	4
AHE42D	6HK06501525	34.6	42.6	46.57	45	50	8	8
	6HK16502025	46.2	55.2	60.47	60	70	6	4
AHE48D	6HK06501525	34.6	45.0	48.95	50	50	8	8
	6HK16502025	46.2	57.6	62.84	60	70	6	4
AHE60D	6HK06501525	34.6	45.0	48.95	50	50	8	8
	6HK16502025	46.2	57.6	62.84	60	70	6	4
	6HK16502525	57.7	70.0	76.62	80	80	4	4

1. May be 0 (no circuit breaker) or 1 (with circuit breaker).
2. O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.

TABLE 13: Electrical Data - (For Multi-Source Power Supply) - Copper Wire - 208/230-3-60¹ (AHR)

Models	Heater Models	Min. Circuit Ampacity		Max. O.C.P. ² Amps/Type		75°C Wire Size - AWG	
		Circuit		Circuit		Circuit	
		1st	2nd	1st	2nd	1st	2nd
		208/230	208/230	208/230	208/230	208/230	208/230
AHR36B	6HK16502025	29.3/33.6	25/28.9	30/35	30/30	10/10	10/10
AHR48D	6HK16502025	29.3/33.6	25/28.9	30/35	30/30	10/10	10/10
AHR60D	6HK16502025	29.3/33.6	25/28.9	30/35	30/30	10/10	10/10
	6HK16502525	35.5/40.3	31.3/36.1	40/45	35/40	8/8	10/8

1. If wire other than non-plated, 75° ambient, copper wire is used. consult applicable tables of the NEC and local codes.
2. O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.

TABLE 14: Electrical Data - (For Multi-Source Power Supply) - Copper Wire - 208/230-3-60¹ (AHE)

Models	Heater Models	Min. Circuit Ampacity		Max. O.C.P. ² Amps/Type		75°C Wire Size - AWG	
		Circuit		Circuit		Circuit	
		1st	2nd	1st	2nd	1st	2nd
		208/230	208/230	208/230	208/230	208/230	208/230
AHE34C	6HK16502025	30.1/34.0	25/28.9	35/35	30/30	10/10	10/10
AHE36C	6HK16502025	30.1/34.0	25/28.9	35/35	30/30	10/10	10/10
AHE42D	6HK16502025	30.1/34.0	25/28.9	35/35	30/30	10/10	10/10
AHE48D	6HK16502025	32.5/36.4	25/28.9	35/40	30/30	10/8	10/10
AHE60D	6HK16502025	32.5/36.4	25/28.9	35/40	30/30	10/8	10/10
	6HK16502525	38.8/43.6	31.3/36.1	40/45	35/40	8/8	10/8

1. If wire other than non-plated, 75° ambient, copper wire is used. consult applicable tables of the NEC and local codes.
2. O.C.P. = Over current protection device, must be HACR type circuit breaker or time delay fuse.



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TABLE 15: Air Flow Data - 60 Hz Models - 208/230 Volt (AHR)

Models	Blower Motor Speed	CFM ¹ @ External Static Pressure - IWC							m3/min @ External static							
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.003	0.005	0.008	0.010				
208 Volt																
AHR18B	High	1024	1000	970	930	860	810	NA	28.7	28.0	27.2	26.0				
	Medium	756	731	700	670	620	550	NA	21.2	20.5	19.6	18.8				
	Low	557	531	495	445	375	315	195	15.6	14.9	13.9	12.5				
AHR24B	High	995	970	935	900	925	795	645	27.9	27.2	26.2	25.2	25.9	22.3	18.1	
	Medium	820	810	780	745	695	545	485	23.0	22.7	21.8	20.9	19.5	15.3	13.6	
	Low	715	695	640	405	370	375	220	20.0	19.5	17.9	11.3	10.4	10.5	6.2	
AHR30B	High	1380	1315	1245	1160	1075	990	885	38.6	36.8	34.9	32.5	30.1	27.7	24.8	
	Medium	1060	1040	1005	955	890	860	820	29.7	29.1	28.1	26.7	24.9	24.1	23.0	
	Low	1035	980	910	825	770	685	485	29.0	27.4	25.5	23.1	21.6	19.2	13.6	
AHR36B	High	1410	1335	1270	1190	1110	990	820	39.5	37.4	35.6	33.3	31.1	27.7	23.0	
	Medium	1215	1170	1115	1050	935	850	740	34.0	32.8	31.2	29.4	26.2	23.8	20.7	
	Low	950	935	895	855	NA	NA	NA	26.6	26.2	25.1	23.9	NA	NA	NA	
AHR42C	High	1800	1725	1645	1545	1360	1200	1050	50.4	48.3	46.1	43.3	38.1	33.6	29.4	
	Medium	1535	1480	1415	1280	1155	1010	870	43.0	41.4	39.6	35.8	32.3	28.3	24.4	
	Low	1225	1195	1095	1025	925	825	680	34.3	33.5	30.7	28.7	25.9	23.1	19.0	
AHR48D	High	1890	1830	1755	1650	1565	1450	1285	52.9	51.2	49.1	46.2	43.8	40.6	36.0	
	Medium	1515	1480	1450	1380	1295	1115	985	42.4	41.4	40.6	38.6	36.3	31.2	27.6	
	Low	1170	1165	1140	1100	965	860	745	32.8	32.6	31.9	30.8	27.0	24.1	20.9	
AHR60D	High	1911	1841	1757	1668	1564	1439	1233	53.5	51.5	49.2	46.7	43.8	40.3	34.5	
	Medium	1556	1507	1450	1388	1266	1246	989	43.6	42.2	40.6	38.9	35.4	34.9	27.7	
	Low	1211	1181	1151	1062	992	911	827	33.9	33.1	32.2	29.7	27.8	25.5	23.2	
230 Volt																
AHR18B	High	1145	1100	1055	1005	930	845	725	32.0	30.8	29.5	28.1	26.0	23.7	20.3	
	Medium	755	750	725	665	605	485	435	21.2	21.0	20.3	18.6	16.9	13.6	12.2	
	Low	680	655	625	585	540	395	300	19.0	18.3	17.5	16.4	15.1	11.1	8.4	
AHR24B	High	1305	1285	1225	1175	920	915	835	36.5	36.0	34.3	32.9	25.8	25.6	23.4	
	Medium	930	920	890	845	705	760	505	26.0	25.8	24.9	23.7	19.8	21.3	14.1	
	Low	735	730	700	670	545	470	NA	20.6	20.4	19.6	18.8	15.3	13.2	NA	
AHR30B	High	1450	1380	1300	1215	1130	1030	910	40.6	38.6	36.4	34.0	31.6	28.8	25.5	
	Medium	1330	1280	1205	1135	1050	975	780	37.2	35.8	33.7	31.8	29.4	27.3	21.8	
	Low	1160	1120	1065	1005	930	825	635	32.5	31.4	29.8	28.2	26.0	23.1	17.8	
AHR36B	High	1470	1390	1325	1245	1155	1045	880	41.2	38.9	37.1	34.9	32.3	29.3	24.6	
	Medium	1325	1265	1205	1125	1025	965	840	37.1	35.4	33.7	31.5	28.7	27.0	23.5	
	Low	1115	1075	1025	950	NA	NA	NA	31.2	30.1	28.7	26.6	NA	NA	NA	
AHR42C	High	1750	1670	1570	1477	1260	1125	935	49.0	46.8	44.0	41.4	35.3	31.5	26.2	
	Medium	1590	1520	1435	1277	1150	1010	870	44.5	42.6	40.2	35.7	32.2	28.3	24.4	
	Low	1330	1280	1200	1083	980	850	NA	37.2	35.8	33.6	30.3	27.4	23.8	NA	
AHR48D	High	2005	1940	1850	1755	1650	1530	1405	56.1	54.3	51.8	49.1	46.2	42.8	39.3	
	Medium	1705	1665	1605	1510	1425	1340	1185	47.7	46.6	44.9	42.3	39.9	37.5	33.2	
	Low	1355	1330	1300	1245	1170	990	980	37.9	37.2	36.4	34.9	32.8	27.7	27.4	
AHR60D	High	2034	1955	1858	1753	1640	1522	1296	56.9	54.8	52.0	49.1	45.9	42.6	36.3	
	Medium	1733	1672	1609	1527	1431	1272	1220	48.5	46.8	45.1	42.8	40.1	35.6	34.1	
	Low	1388	1359	1313	1255	1133	1004	912	38.9	38.1	36.8	35.1	31.7	28.1	25.5	

Date: 12/11/14

1. Dry coil conditions only, tested without filters.

Air handler units are CSA listed to UL 1995/CSA C22.2 236-05 up to 0.30" w.c. external static pressure, including air filter, wet coil, and largest kW size heater, unless otherwise noted.



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 12/11/14

TABLE 16: Air Flow Data - 60 Hz Models - 208 Volt (AHE)

Models	Blower Motor Speed	CFM ¹ @ External Static Pressure - IWC							m3/min @ External Static Pressure - IWC						
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.003	0.005	0.008	0.010	0.012	0.015	0.020
208 Volt															
AHE18B	High #5	1074	1029	999	954	911	865	812	30.1	28.8	28.0	27.1	26.2	25.3	24.4
	Med High #4	895	846	802	759	701	630	526	25.1	23.7	22.5	21.6	20.7	19.8	18.9
	Med #3	663	610	556	482	334	219	173	18.6	17.1	15.6	14.7	13.8	12.9	12.0
	Med Low #2	630	466	346	196	170	67	23	17.7	13.0	9.7	5.5	4.8	1.9	0.6
	Low #1	630	466	346	196	170	67	23	17.7	13.0	9.7	5.5	4.8	1.9	0.6
AHE22B	High #5	1147	1107	1076	1040	992	942	861	32.1	31.0	30.1	29.1	27.8	26.4	24.1
	Med High #4	1009	974	941	903	859	811	762	28.3	27.3	26.3	25.3	24.0	22.7	21.3
	Med #3	826	785	744	690	639	566	501	23.1	22.0	20.8	19.3	17.9	15.9	14.0
	Med Low #2	654	590	556	479	419	307	251	18.3	16.5	15.6	13.4	11.7	8.6	7.0
	Low #1	580	491	425	317	224	189	73	16.2	13.8	11.9	8.9	6.3	5.3	2.1
AHE24B	High #5	1147	1107	1076	1040	992	942	861	32.1	31.0	30.1	29.1	27.8	26.4	24.1
	Med High #4	1009	974	941	903	859	811	762	28.3	27.3	26.3	25.3	24.0	22.7	21.3
	Med #3	826	785	744	690	639	566	501	23.1	22.0	20.8	19.3	17.9	15.9	14.0
	Med Low #2	654	590	556	479	419	307	251	18.3	16.5	15.6	13.4	11.7	8.6	7.0
	Low #1	580	491	425	317	224	189	73	16.2	13.8	11.9	8.9	6.3	5.3	2.1
AHE30B	High #5	1147	1107	1076	1040	992	942	861	32.1	31.0	30.1	29.1	27.8	26.4	24.1
	Med High #4	1009	974	941	903	859	811	762	28.3	27.3	26.3	25.3	24.0	22.7	21.3
	Med #3	826	785	744	690	639	566	501	23.1	22.0	20.8	19.3	17.9	15.9	14.0
	Med Low #2	654	590	556	479	419	307	251	18.3	16.5	15.6	13.4	11.7	8.6	7.0
	Low #1	580	491	425	317	224	189	73	16.2	13.8	11.9	8.9	6.3	5.3	2.1
AHE34C	High #5	1487	1454	1408	1350	1289	1216	1142	42.1	41.1	39.9	38.2	36.5	34.4	32.3
	Med High #4	1319	1277	1224	1156	1076	1010	937	26.8	36.2	34.7	32.7	30.5	28.6	26.5
	Med #3	1115	1061	987	912	836	767	679	31.5	30.0	27.9	25.8	23.7	21.7	19.2
	Med Low #2	948	894	790	714	636	554	517	26.8	25.3	22.4	20.2	18.0	15.7	14.6
	Low #1	869	668	504	447	393	284	NA	24.6	18.9	14.3	12.7	11.1	8.0	NA
AHE36C	High #5	1473	1417	1361	1304	1241	1171	1109	41.2	39.7	38.1	36.5	34.7	32.8	31.0
	Med High #4	1257	1204	1138	1076	1000	928	856	35.2	33.7	31.9	30.1	28.0	26.0	24.0
	Med #3	1069	997	912	831	772	697	617	29.9	27.9	25.5	23.3	21.6	19.5	17.3
	Med Low #2	994	800	705	621	554	488	432	27.8	22.4	19.7	17.4	15.5	13.7	12.1
	Low #1	904	692	411	329	256	152	NA	25.3	19.4	11.5	9.2	7.2	4.2	NA
AHE42D	High #5	1619	1577	1531	1484	1428	1372	1307	45.3	44.2	42.9	41.6	40.0	38.4	36.6
	Med High #4	1434	1391	1346	1292	1235	1164	1054	40.2	39.0	37.7	36.2	34.6	32.6	29.5
	Med #3	1243	1192	1135	1073	978	882	778	34.8	33.4	31.8	30.0	27.4	24.7	21.8
	Med Low #2	1141	1027	952	842	724	572	559	32.0	28.8	26.7	23.6	20.3	16.0	15.7
	Low #1	1025	851	465	418	253	208	123	28.7	23.8	13.0	11.7	7.1	5.8	3.4
AHE48D	High #5	1847	1812	1775	1725	1684	1645	1600	51.7	50.7	49.7	48.3	47.2	46.1	44.8
	Med High #4	1675	1640	1597	1561	1522	1479	1421	46.9	45.9	44.7	43.7	42.6	41.4	39.8
	Med #3	1436	1394	1349	1301	1246	1182	1095	40.2	39.0	37.8	36.4	34.9	33.1	30.7
	Med Low #2	1250	1211	1157	1100	1013	924	854	35.0	33.9	32.4	30.8	28.4	25.9	23.9
	Low #1	1151	1029	965	857	779	720	639	32.2	28.8	27.0	24.0	21.8	20.2	17.9
AHE60D	High #5	2083	2042	2002	1959	1921	1875	1829	58.3	57.2	56.1	54.8	53.8	52.5	51.2
	Med High #4	1893	1856	1815	1776	1728	1688	1639	53.0	52.0	50.8	49.7	48.4	47.3	45.9
	Med #3	1642	1609	1564	1512	1467	1416	1340	46.0	45.1	43.8	42.3	41.1	39.6	37.5
	Med Low #2	1443	1401	1360	1307	1242	1160	1062	40.4	39.2	38.1	36.6	34.8	32.5	29.7
	Low #1	1259	1198	1140	1067	972	900	797	35.3	33.5	31.9	29.9	27.2	25.2	22.3

1. Dry coil conditions only, tested without filters.

Air handler units are CSA listed to UL 1995/CSA C22.2 236-05 up to 0.30" w.c. external static pressure, including air filter, wet coil, and largest kW size heater, unless otherwise noted.



TABLE 17: Air Flow Data - 60 Hz Models - 230 Volt (AHE)

Models	Blower Motor Speed	CFM ¹ @ External Static Pressure - IWC							m3/min @ External static							
		0.10	0.20	0.30	0.40	0.50	0.60	0.70	0.003	0.005	0.008	0.010				
230 Volt																
AHE18B	High #5	1075	1041	1003	970	930	885	842	30.1	29.1	28.1	27.2				
	Med High #4	895	845	808	767	709	647	561	25.1	23.7	22.6	21.5				
	Med #3	663	618	557	490	348	267	192	18.6	17.3	15.6	13.7				
	Med Low #2	629	468	356	197	175	68	23	17.6	13.1	10.0	5.5				
	Low #1	629	468	356	197	175	68	23	17.6	13.1	10.0	5.5	4.9	1.9	0.6	
AHE22B	High #5	1156	1120	1093	1056	1014	951	862	32.4	31.4	30.6	29.6	28.4	26.6	24.1	
	Med High #4	1021	987	952	918	873	836	787	28.6	27.6	26.7	25.7	24.4	23.4	22.0	
	Med #3	829	789	754	698	654	585	532	23.2	22.1	21.1	19.5	18.3	16.4	14.9	
	Med Low #2	681	621	575	496	435	336	262	19.1	17.4	16.1	13.9	12.2	9.4	7.3	
	Low #1	598	503	437	340	259	203	74	16.7	14.1	12.2	9.5	7.3	5.7	2.1	
AHE24B	High #5	1156	1120	1093	1056	1014	951	862	32.4	31.4	30.6	29.6	28.4	26.6	24.1	
	Med High #4	1021	987	952	918	873	836	787	28.6	27.6	26.7	25.7	24.4	23.4	22.0	
	Med #3	829	789	754	698	654	585	532	23.2	22.1	21.1	19.5	18.3	16.4	14.9	
	Med Low #2	681	621	575	496	435	336	262	19.1	17.4	16.1	13.9	12.2	9.4	7.3	
	Low #1	598	503	437	340	259	203	74	16.7	14.1	12.2	9.5	7.3	5.7	2.1	
AHE30B	High #5	1156	1120	1093	1056	1014	951	862	32.4	31.4	30.6	29.6	28.4	26.6	24.1	
	Med High #4	1021	987	952	918	873	836	787	28.6	27.6	26.7	25.7	24.4	23.4	22.0	
	Med #3	829	789	754	698	654	585	532	23.2	22.1	21.1	19.5	18.3	16.4	14.9	
	Med Low #2	681	621	575	496	435	336	262	19.1	17.4	16.1	13.9	12.2	9.4	7.3	
	Low #1	598	503	437	340	259	203	74	16.7	14.1	12.2	9.5	7.3	5.7	2.1	
AHE34C	High #5	1471	1429	1387	1337	1289	1233	1172	41.7	40.5	39.3	37.9	36.5	34.9	33.2	
	Med High #4	1301	1248	1198	1147	1008	999	927	36.8	35.3	33.9	32.5	28.5	28.3	26.3	
	Med #3	1097	1044	972	906	815	748	680	31.1	29.6	27.5	25.7	23.1	21.2	19.3	
	Med Low #2	943	868	768	689	617	566	520	26.7	24.6	21.7	19.5	17.5	16.0	14.7	
	Low #1	870	632	515	424	365	287	NA	24.6	17.9	14.6	12.0	10.3	8.1	NA	
AHE36C	High #5	1465	1415	1360	1307	1246	1183	1118	41.0	39.6	38.1	36.6	34.9	33.1	31.3	
	Med High #4	1260	1204	1142	1075	1008	946	876	35.3	33.7	32.0	30.1	28.2	26.5	24.5	
	Med #3	1088	1022	939	862	782	721	626	30.5	28.6	26.3	24.1	21.9	20.2	17.5	
	Med Low #2	998	810	717	630	562	493	444	27.9	22.7	20.1	17.6	15.7	13.8	12.4	
	Low #1	903	707	411	323	265	152	NA	25.3	19.8	11.5	9.0	7.4	4.3	NA	
AHE42D	High #5	1632	1589	1542	1494	1446	1391	1335	45.7	44.5	43.2	41.8	40.5	38.9	37.4	
	Med High #4	1430	1390	1346	1294	1238	1168	960	40.0	38.9	37.7	36.2	34.7	32.7	26.9	
	Med #3	1238	1198	1145	1082	993	908	805	34.7	33.6	32.1	30.3	27.8	25.4	22.5	
	Med Low #2	1118	1020	947	851	734	666	563	31.3	28.6	26.5	23.8	20.6	18.7	15.8	
	Low #1	998	772	477	418	349	NA	NA	27.9	21.6	13.4	11.7	9.8	NA	NA	
AHE48D	High #5	1861	1823	1787	1750	1708	1666	1620	52.1	51.1	50.0	49.0	47.8	46.7	45.3	
	Med High #4	1674	1640	1599	1562	1516	1472	1432	46.9	45.9	44.8	43.7	42.5	41.2	40.1	
	Med #3	1442	1405	1358	1311	1262	1197	1108	40.4	39.3	38.0	36.7	35.3	33.5	31.0	
	Med Low #2	1257	1220	1163	1103	1031	942	864	35.2	34.2	32.6	30.9	28.9	26.4	24.2	
	Low #1	1153	1031	967	867	764	718	633	32.3	28.9	27.1	24.3	21.4	20.1	17.7	
AHE60D	High #5	2091	2053	2016	1975	1937	1906	1869	58.5	57.5	56.4	55.3	54.2	53.4	52.3	
	Med High #4	1903	1868	1832	1791	1748	1703	1660	53.3	52.3	51.3	50.1	49.0	47.7	46.5	
	Med #3	1634	1598	1562	1516	1468	1422	1350	45.8	44.7	43.7	42.4	41.1	39.8	37.8	
	Med Low #2	1447	1404	1361	1318	1257	1164	1092	40.5	39.3	38.1	36.9	35.2	32.6	30.6	
	Low #1	1268	1203	1148	1073	978	907	839	35.5	33.7	32.1	30.0	27.4	25.4	23.5	

Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 12/11/14

1. Dry coil conditions only, tested without filters.

Air handler units are CSA listed to UL 1995/CSA C22.2 236-05 up to 0.30" w.c. external static pressure, including air filter, wet coil, and largest kW size heater, unless otherwise noted.

SECTION IX: MAINTENANCE

Filters must be cleaned or replaced when they become dirty. Inspect at least once per month. The frequency of cleaning depends upon the hours of operation and the local atmospheric conditions. Clean filters keep unit efficiency high.

COIL CLEANING

If the coil needs to be cleaned, it should be wash with a evaporator coil cleaner. Follow directions from coil cleaner.

LUBRICATION

The bearings of the blower motor are permanently lubricated.

CONDENSATE DRAINS

During the cooling season check the condensate drain lines to be sure that condensate is flowing from the primary drain but not from the secondary drain. If condensate ever flows from the secondary drain the unit should be promptly shut off and the condensate pan and drains cleaned to insure a free flowing primary drain.



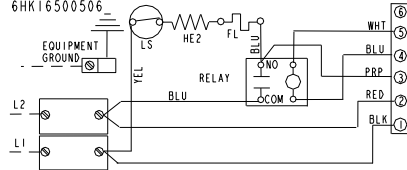
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SECTION X: WIRING DIAGRAM

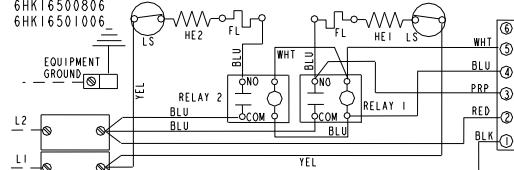
WHEN INSTALLING HEATER KIT, BE SURE THE BLOWER SPEED IS SET TO THE SPEED SPECIFIED FOR THE AIR HANDLER/HEATER KIT COMBINATION ON THIS UNIT'S INSTALLATION INSTRUCTIONS.

SEE INSTALLATION INSTRUCTIONS
LOW VOLTAGE FIELD WIRING CONNE

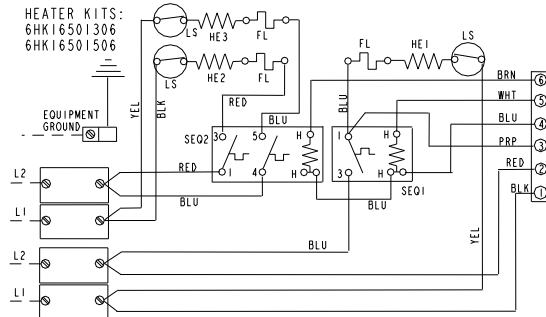
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6HK16500506



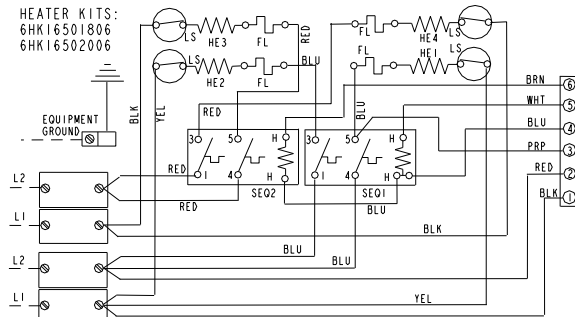
HEATER KITS:
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6HK16501006



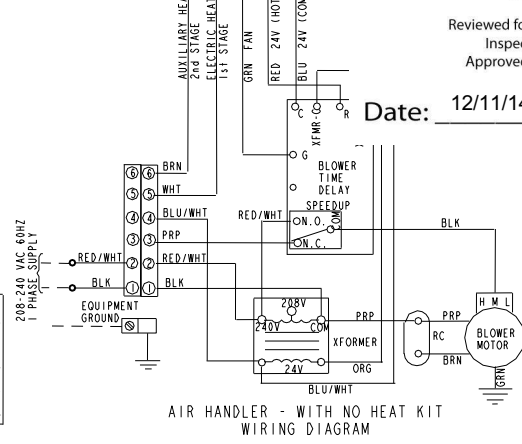
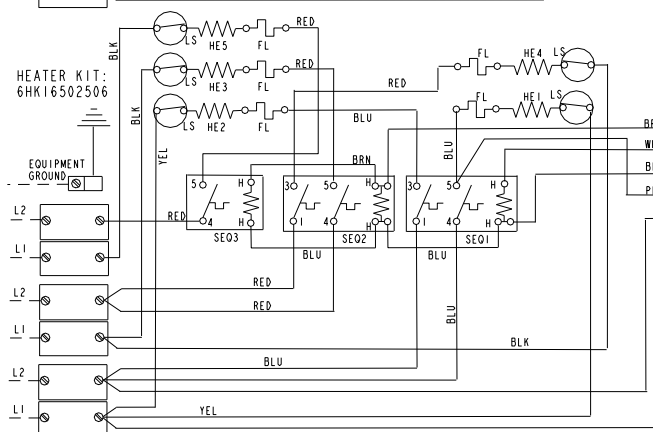
HEATER KITS:
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6HK16501506



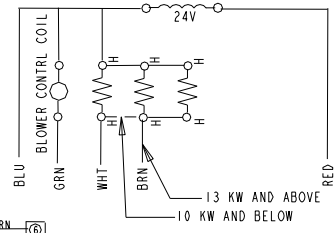
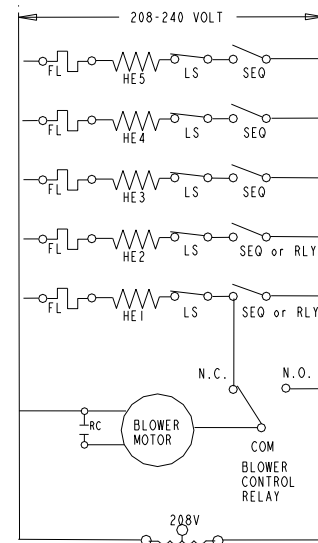
HEATER KITS:
6HK16501806
6HK16502006



HEATER KIT:
6HK16502506



AIR HANDLER - WITH NO HEAT KIT
WIRING DIAGRAM



- LEGEND
- LS - LIMIT SWITCH
 - SEO - SEQUENCER
 - HE - HEATING ELEMENT
 - FL - FUSIBLE LINK
 - H - SEQUENCER HEATER
 - RC - RUN CAPACITOR

USE COPPER CONDUCTORS ONLY.
IF ALUMINUM CONDUCTORS ARE PRESENT,
ALL APPLICABLE LOCAL AND NATIONAL
CODES MUST BE FOLLOWED.



661690-UWD-A-1110

Date: 12/11/14

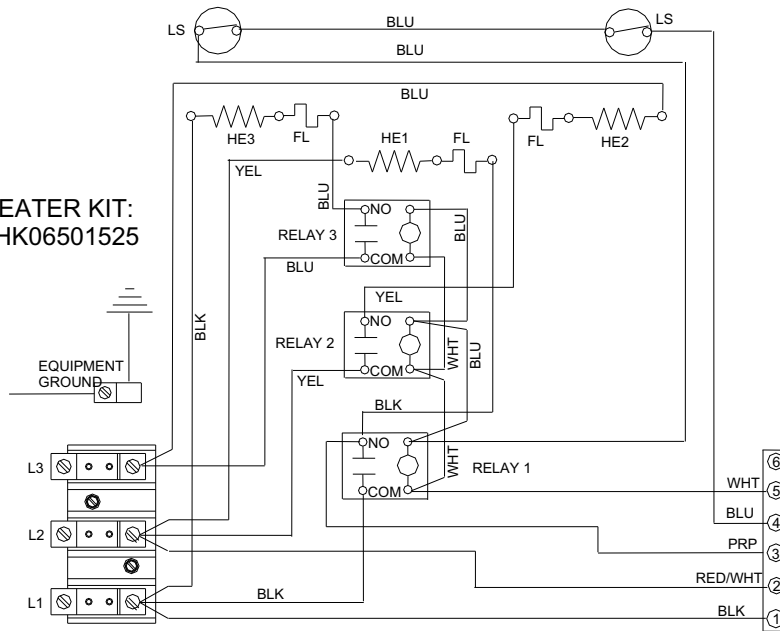
FIGURE 15: Wiring Diagram - PSC - Single Phase Heat Kits



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HEATER KIT:
6HK06501525



HEATER KITS:
6HK16502025
6HK16502525

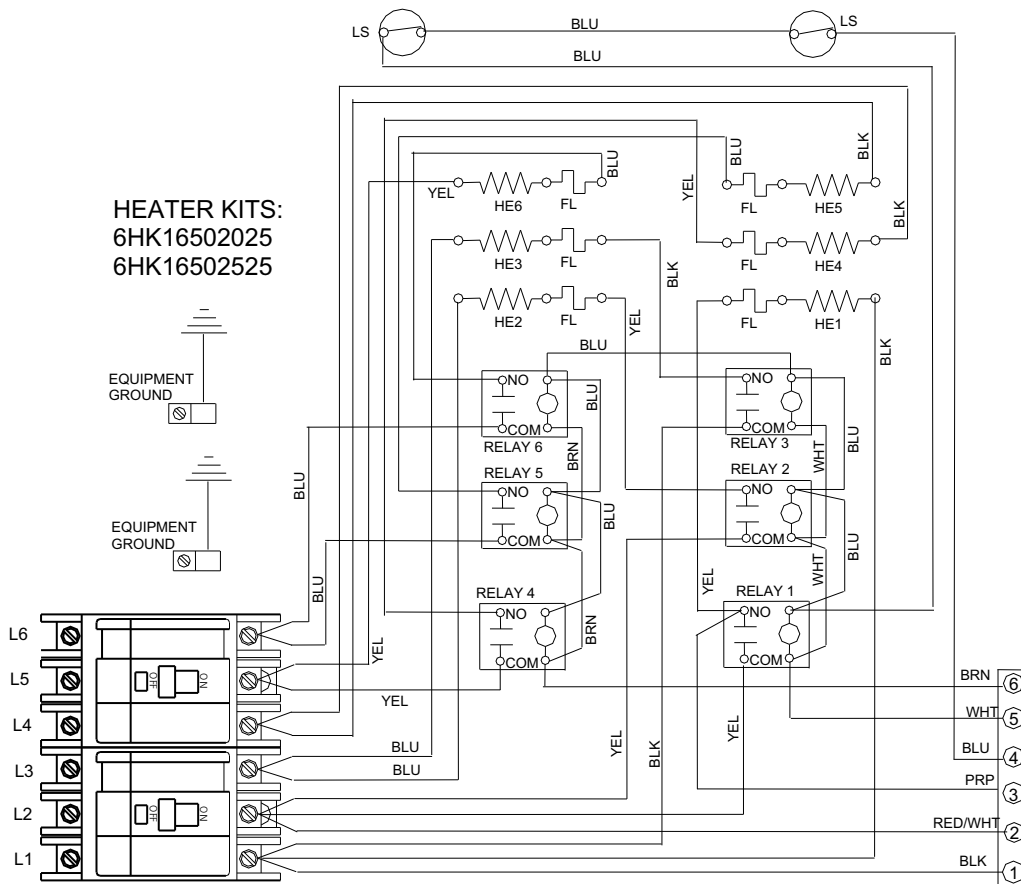


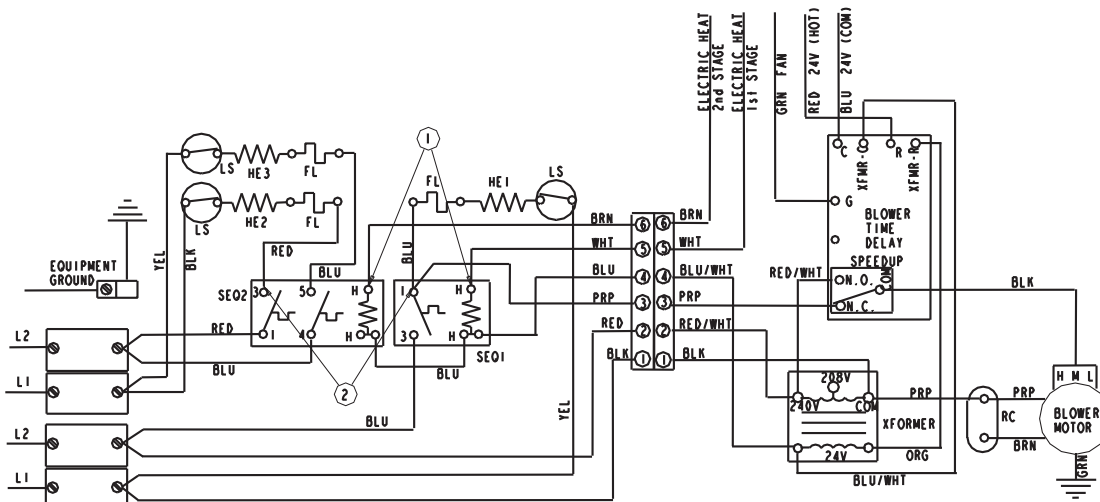
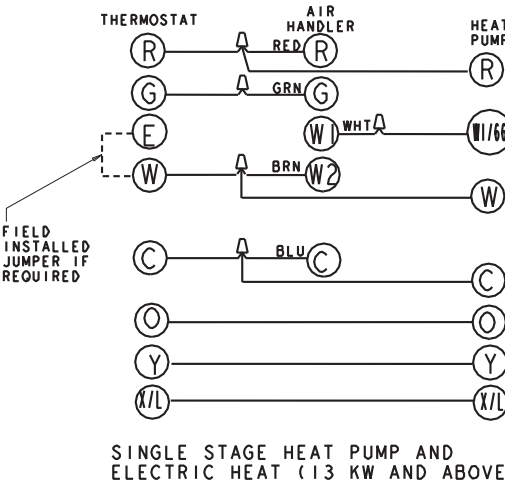
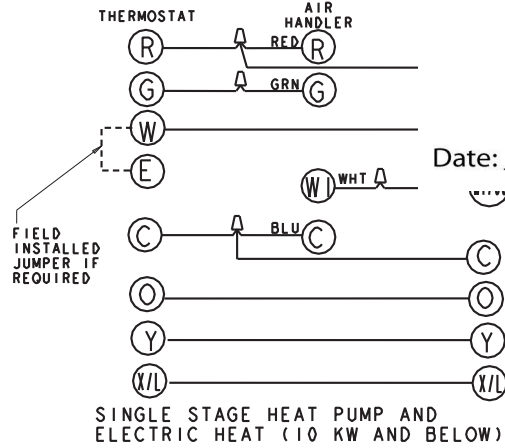
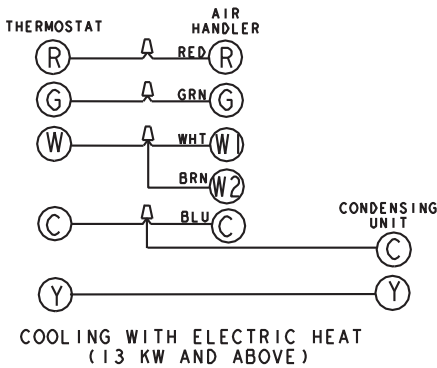
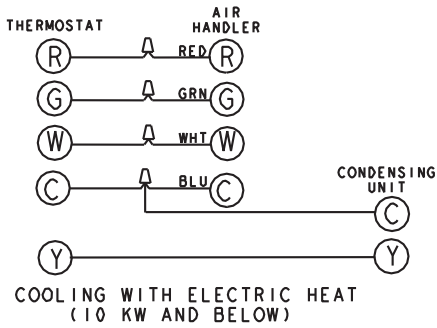
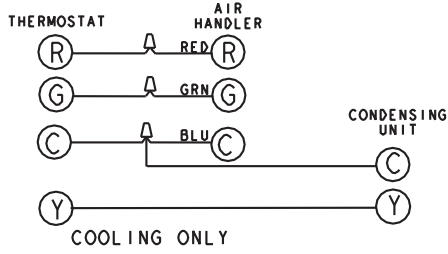
FIGURE 17: Wiring Diagram - ECM - 3 Phase Heat Kits



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SECTION XI: TYPICAL THERMOSTAT CONNECTIONS

Date: 12/11/14



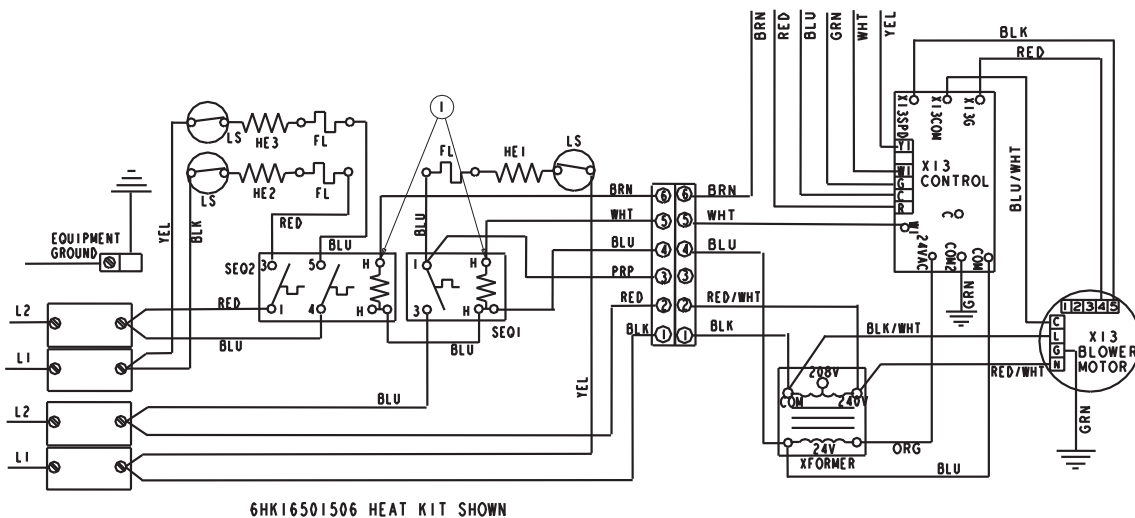
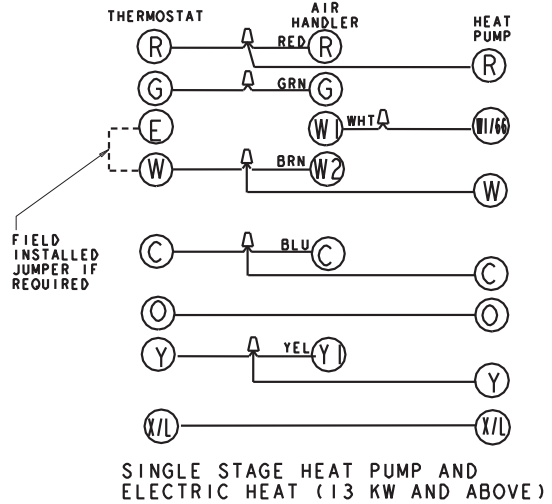
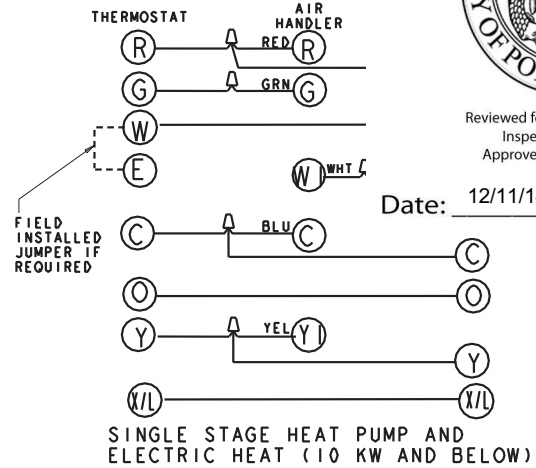
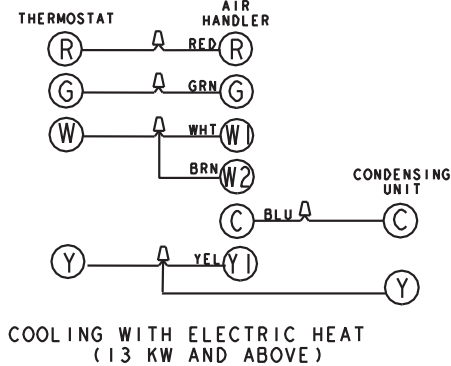
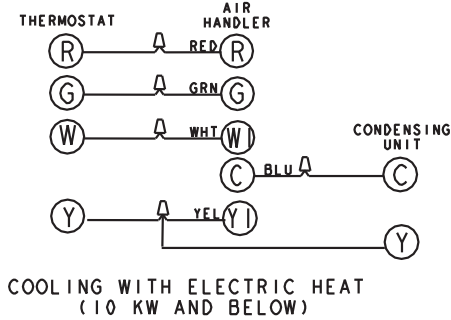
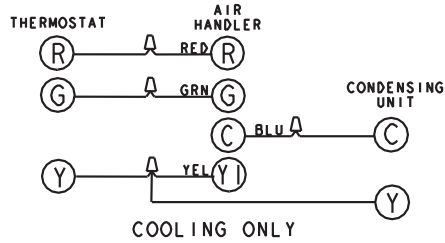
TO CHANGE THE QUANTITY OF HEAT DURING HEAT PUMP DEFROST CYCLE ① REVERSE THE BROWN AND WHITE WIRE CONNECTIONS ON THE SEQUENCERS IN THE HEATER KIT. ② THE PURPLE WIRE MUST BE MOVED FROM #1 ON SEQUENCER 1 TO #3 ON SEQUENCER 2

FIGURE 18: Typical Wiring Diagram - PSC



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TO CHANGE THE QUANTITY OF HEAT DURING HEAT PUMP DEFROST CYCLE ① REVERSE THE BROWN AND WHITE WIRE CONNECTIONS ON THE SEQUENCERS IN THE HEATER KIT.

FIGURE 19: Typical Wiring Diagram - ECM



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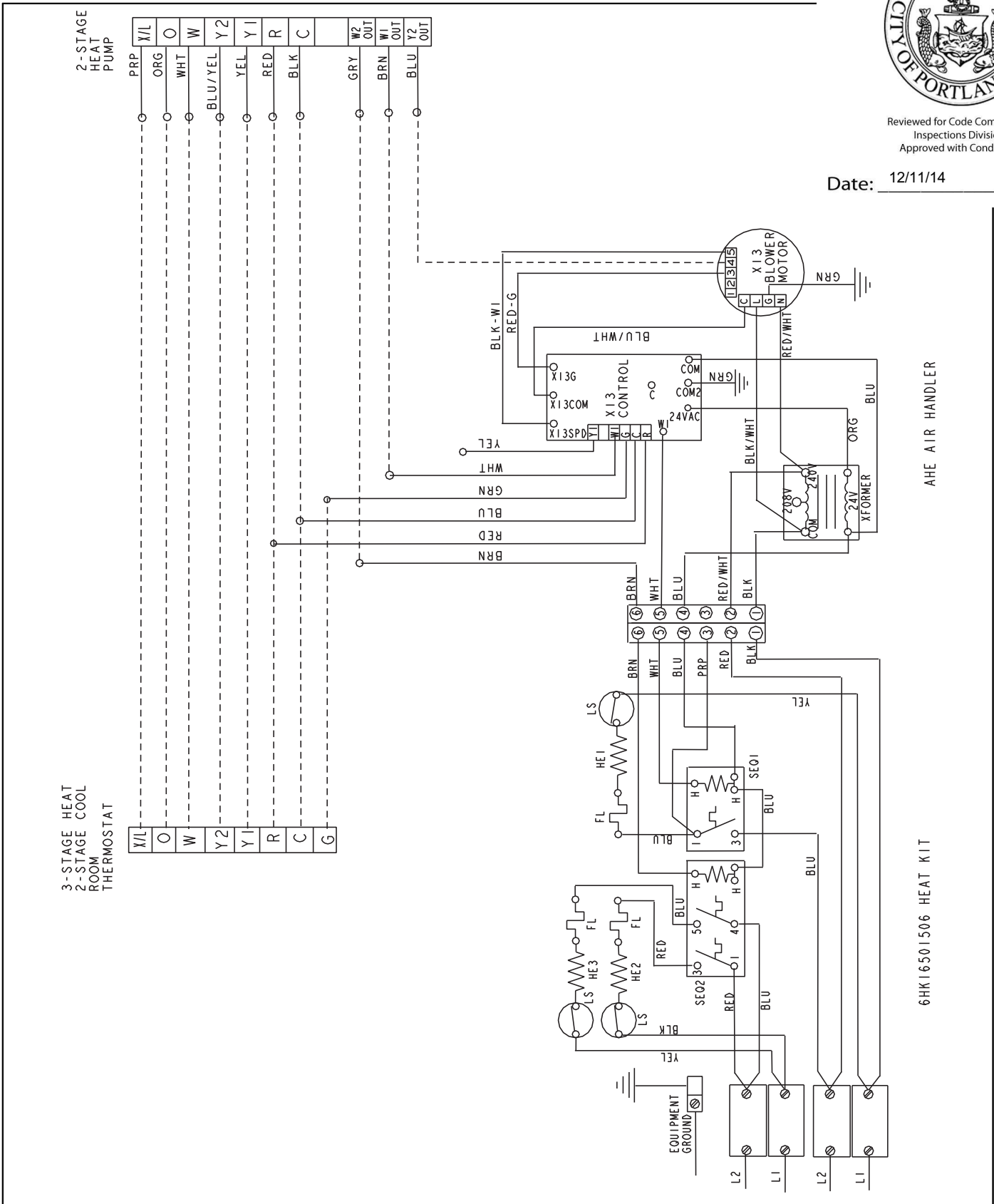


FIGURE 20: Typical Thermostat Wiring for 2-Stage Heat Pump with ECM Blower Motor - ECM



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ISO 9001
Certified Quality
Management System

INSTALLATION MANUAL

R-410A OUTDOOR SPLIT-SYSTEM AIR CONDITIONING

MODELS: 13 & 14.5 SEER -
TCG(D,F)/GCGD/TCJ(D,F)/YCJ(D,F) SERIES
1.5 TO 6.3 TONS – 1 & 3 PHASE



LIST OF SECTIONS

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SECTION I: GENERAL

The outdoor units are designed to be connected to a matching indoor coil with sweat connect lines. Sweat connect units are factory charged with refrigerant for a matching indoor coil plus 15 feet of field-supplied lines.

The refrigerant charge may need to be changed for some indoor-outdoor unit combinations, elevation differences or total line lengths. Refer to Application Data covering "General Piping Recommendations and Refrigerant Line Length" (Part Number 247077).

SECTION II: SAFETY



This is a safety alert symbol. When you see this symbol on labels or in manuals, be alert to the potential for personal injury.

Understand and pay particular attention to the signal words **DANGER**, **WARNING**, or **CAUTION**.

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

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

CAUTION indicates a potentially hazardous situation, which, if not avoided **may result in minor or moderate injury**. It is also used to alert against unsafe practices and hazards involving only property damage.



This product must be installed in strict compliance with the enclosed installation instructions and any applicable local, state, and national codes including, but not limited to building, electrical, and mechanical codes.



*R-410A systems operate at higher pressures than R-22 systems. Do not use R-22 service equipment or components on R-410A equipment. Service equipment **Must Be Rated** for R-410A.*



Improper installation may create a condition where the operation of the product could cause personal injury or property damage. Improper installation, adjustment, alteration, service or maintenance can cause injury or property damage. Refer to this manual for assistance or for additional information, consult a qualified contractor, installer or service agency.

INSPECTION

As soon as a unit is received, it should be inspected for possible damage during transit. If damage is evident, the extent of the damage should be noted on the carrier's delivery receipt. A separate request for inspection by the carrier's agent should be made in writing. See Local Distributor for more information.

Requirements For Installing/Serviceing R-410A Equipment

- Gauge sets, hoses, refrigerant containers, and recovery system must be designed to handle the POE type oils, and the higher pressures of R-410A.
- Manifold sets should be high side and low side with low side retard.
- All hoses must have a 700 psig service pressure rating.
- Leak detectors should be designed to detect HFC refrigerant.
- Recovery equipment (including refrigerant recovery containers) must be specifically designed to handle R-410A.
- Do not use an R-22 TXV.
- A liquid-line filter drier is required on every unit.



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LIMITATIONS

The unit should be installed in accordance with all National, State and Local Safety Codes and the limitations listed below:

1. Limitations for the indoor unit, coil, and appropriate accessories must also be observed.
2. The outdoor unit must not be installed with any duct work in the air stream. The outdoor fan is the propeller type and is not designed to operate against any additional external static pressure.
3. The maximum and minimum conditions for operation must be observed to ensure a system that will give maximum performance with minimum service.

TABLE 1: Application Limitations

Ambient Air Temperature on Outdoor Coil		Air Temperature on Indoor Coil	
Min. DB	Max. DB	Min. WB	Max. WB
50°F	115°F	57°F	72°F

4. The unit should not be operated at outdoor temperatures below 50°F without an approved low ambient operation accessory kit installed.
5. The maximum allowable line length for this product is 75 feet.

SECTION III: UNIT INSTALLATION

LOCATION

Before starting the installation, select and check the suitability of the location for both the indoor and outdoor unit. Observe all limitations and clearance requirements.

The outdoor unit must have sufficient clearance for air entrance to the condenser coil, air discharge, and service access. See Figure 1.

NOTICE

For multiple unit installations, units must be spaced a minimum of 18" (46 cm) apart (coil face to coil face).

If the unit is to be installed on a hot sun expo ground area, the unit should be raised suff ground to avoid taking the accumulated layer unit.

Provide an adequate structural support.

ADD-ON REPLACEMENT/RETROF

When this unit is being used as a replaceme Date: 12/11/14
required that the outdoor unit, indoor coil, a replaced. The following steps should be performed in order to insure proper system operation and performance. Line-set change out is also recommended.

1. Change-out of the indoor coil to an approved R-410A coil/ condensing unit combination with the appropriate metering device.
2. Change-out of the line-set when replacing an R-22 unit with an R410-A unit is highly recommended to reduce cross-contamination of oils and refrigerants.
3. If change-out of the line set is not practical, then the following precautions should be taken.
 - Inspect the line set for kinks, sharp bends, or other restrictions, and for corrosion.
 - Determine if there are any low spots which might be serving as oil traps.
 - Flush the line set with a commercially available flush kit to remove as much of the existing oil and contaminants as possible.
 - Install a suction line filter-drier to trap any remaining contaminants, and remove after 50 hours of operation.
4. If the outdoor unit is being replaced due to a compressor burnout, then installation of a 100% activated alumina suction-line filter drier in the suction-line is required, in addition to the factory installed liquid-line drier. Operate the system for 10 hours. Monitor the suction drier pressure drop. If the pressure drop exceeds 3 psig, replace both the suction-line and liquid-line driers. After a total of 10 hours run time where the suction-line pressure drop has not exceeded 3 psig, replace the liquid line drier, and remove the suction-line drier. Never leave a suction-line drier in the system longer than 50 hours of run time.

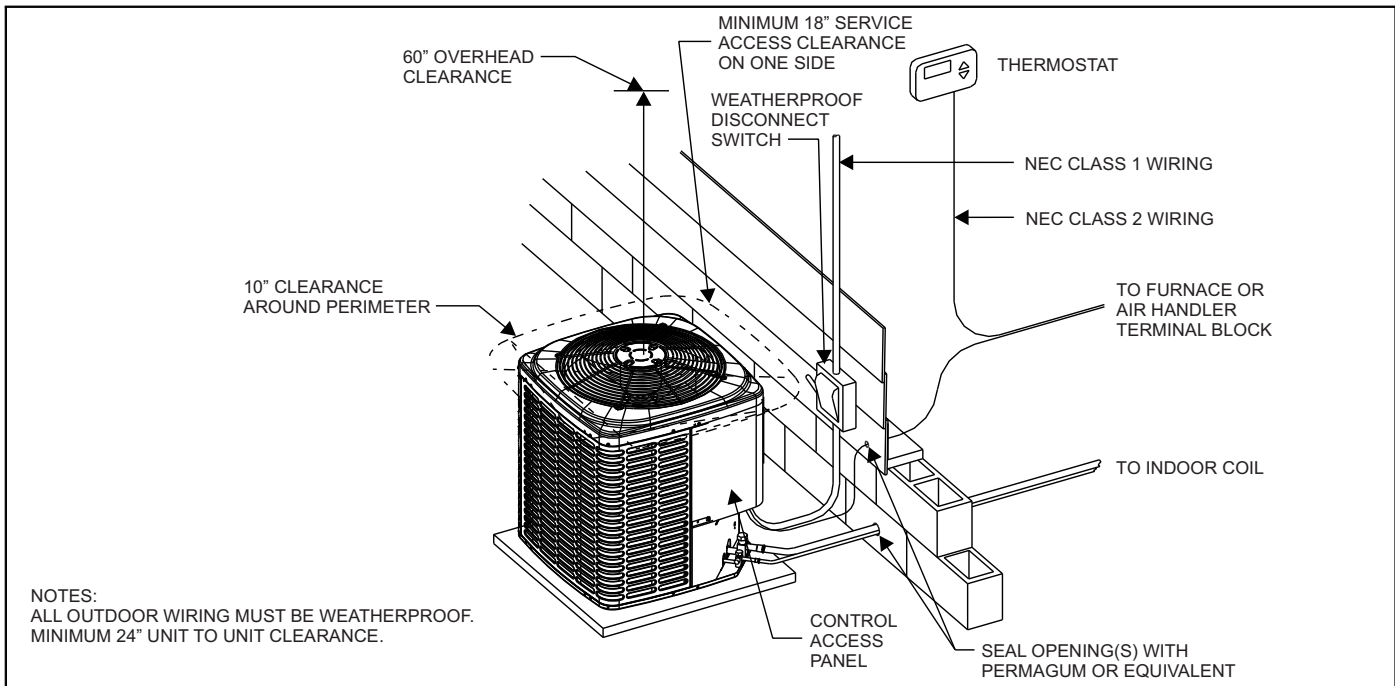


FIGURE 1: Typical Installation



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GROUND INSTALLATION

The unit should be installed on a solid base that is 2" (5.1 cm) above grade and will not shift or settle, causing strain on the refrigerant lines and possible leaks. Maintain the clearances shown in Figure 1 and install the unit in a level position. The base pad should not come in contact with the foundation or side of the structure because sound may be transmitted to the residence.

The length of the refrigerant tubing between the outdoor unit and indoor coil should be as short as possible to avoid capacity and efficiency losses. Excessive spacing of the outdoor unit from the home can result in the refrigerant lines being restricted by trampling or being punctured by lawn mowers. Locate the outdoor unit away from bedroom windows or other rooms where sound might be objectionable.

Adverse effects of snow or sleet accumulating on the outdoor coil can be eliminated by placing the outdoor unit where the prevailing wind does not blow across the unit. Trees, shrubs, corners of buildings, and fences standing off from the coil can reduce capacity loss due to wind chill effect.

Provide ample clearance from shrubs to allow adequate air to pass across the outdoor coil without leaves or branches being pulled into the coil.

ROOF INSTALLATION

When installing units on a roof, the structure must be capable of supporting the total weight of the unit, including a pad, lintels, rails, etc., which should be used to minimize the transmission of sound or vibration into the conditioned space.

LIQUID LINE FILTER-DRIER

The air conditioning unit's filter/dryer is located on the liquid line.

NOTICE

Replacements for the liquid line drier must be exactly the same as marked on the original factory drier. See Source 1 for O.E.M. replacement driers.

CAUTION

Failure to do so or using a substitute drier or a granular type may result in damage to the equipment.

Filter-Drier Source 1 Part No.	Apply with Models
S1-02922195000	All

PIPING CONNECTIONS

The outdoor condensing unit must be connected to the indoor evaporator coil using field supplied refrigerant grade (ACR) copper tubing that is internally clean and dry. Units should be installed only with the tubing sizes for approved system combinations as specified in tabular data sheet. The charge given is applicable for total tubing lengths up to 15 feet (4.6 m). See Application Data Part Number 247077 for installing tubing of longer lengths and elevation differences.

NOTICE

Using a larger than specified line size could result in oil return problems. Using too small a line will result in loss of capacity and other problems caused by insufficient refrigerant flow. Slope horizontal vapor lines at least 1" (2.5 cm) every 20 feet (6.1 m) toward the outdoor unit to facilitate proper oil return.

CAUTION

This system uses R-410A refrigerant v
sures than R-22. No other refrigerant
Gauge sets, hoses, refrigerant cont
must be designed to handle R-410A.
equipment manufacturer.

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WARNING

Never install a suction-line filter drier in the liquid line of an R-410A system. Failure to follow this warning can cause a fire, injury or death.

PRECAUTIONS DURING LINE INSTALLATION

1. Install the lines with as few bends as possible. Care must be taken not to damage the couplings or kink the tubing. Use clean hard drawn copper tubing where no appreciable amount of bending around obstruction is necessary. If soft copper must be used, care must be taken to avoid sharp bends which may cause a restriction.
2. The lines should be installed so that they will not obstruct service access to the coil, air handling system, or filter.
3. Care must also be taken to isolate the refrigerant lines to minimize noise transmission from the equipment to the structure.
4. The vapor line must be insulated with a minimum of 1/2" foam rubber insulation (Armaflex or equivalent). Liquid lines that will be exposed to direct sunlight, high temperatures, or excessive humidity must also be insulated.
5. Tape and suspend the refrigerant lines as shown. DO NOT allow tube metal-to-metal contact. See Figure 2.
6. Use PVC piping as a conduit for all underground installations as shown in Figure 3. Buried lines should be kept as short as possible to minimize the build up of liquid refrigerant in the vapor line during long periods of shutdown.
7. Pack fiberglass insulation and a sealing material such as perma-gum around refrigerant lines where they penetrate a wall to reduce vibration and to retain some flexibility.
8. For systems with total line length exceeding 70 feet (21.3 m), see APPLICATION DATA and worksheet "General Piping Recommendations and Refrigerant Line Length" for vapor and liquid line sizing, calibration of liquid line pressure loss or gain, determination of vapor line velocity, elevation limitations, orifice connections, system charging, traps, etc.

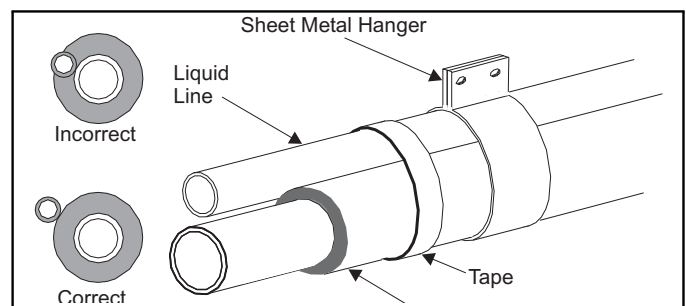


FIGURE 2: Installation of Vapor Line

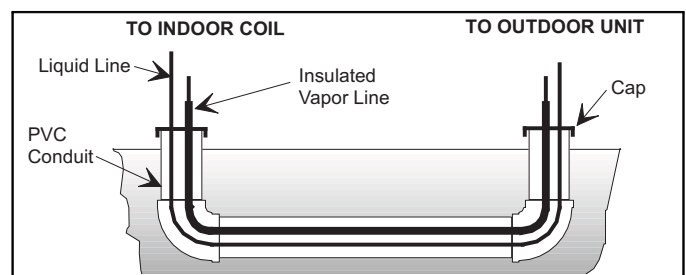


FIGURE 3: Underground Installation



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PRECAUTIONS DURING BRAZING OF LINES

All outdoor unit and evaporator coil connections are copper-to-copper and should be brazed with a phosphorous-copper alloy material such as Silfos-5 or equivalent. DO NOT use soft solder. The outdoor units have reusable service valves on both the liquid and vapor connections. The total system refrigerant charge is retained within the outdoor unit during shipping and installation. The reusable service valves are provided to evacuate and charge per this instruction.

Serious service problems can be avoided by taking adequate precautions to assure an internally clean and dry system.

CAUTION

Dry nitrogen should always be supplied through the tubing while it is being brazed, because the temperature required is high enough to cause oxidation of the copper unless an inert atmosphere is provided. The flow of dry nitrogen should continue until the joint has cooled. Always use a pressure regulator and safety valve to insure that only low pressure dry nitrogen is introduced into the tubing. Only a small flow is necessary to displace air and prevent oxidation.

PRECAUTIONS DURING BRAZING SERVICE VALVE

Precautions should be taken to prevent heat damage to service valve by wrapping a wet rag around it as shown in Figure 4. Also, protect all painted surfaces, insulation, and plastic base during brazing. After brazing, cool joint with wet rag.

WARNING

This is not a backseating valve. The service access port has a valve core. Opening or closing valve does not close service access port.

If the valve stem is backed out past the chamfered retaining wall, the O-ring can be damaged causing leakage or system pressure could force the valve stem out of the valve body possibly causing personal injury.

Valve can be opened by removing the plunger cap and fully inserting a hex wrench into the stem and backing out counter-clockwise until valve stem just touches the chamfered retaining wall.

Connect the refrigerant lines using the following procedure:

1. Remove the cap and Schrader core from both the liquid and vapor service valve service ports at the outdoor unit. Connect low pressure nitrogen to the liquid line service port.
2. Braze the liquid line to the liquid valve at the outdoor unit. Be sure to wrap the valve body with a wet rag. Allow the nitrogen to continue flowing.
3. Carefully remove the plugs from the evaporator liquid and vapor connections at the indoor coil.

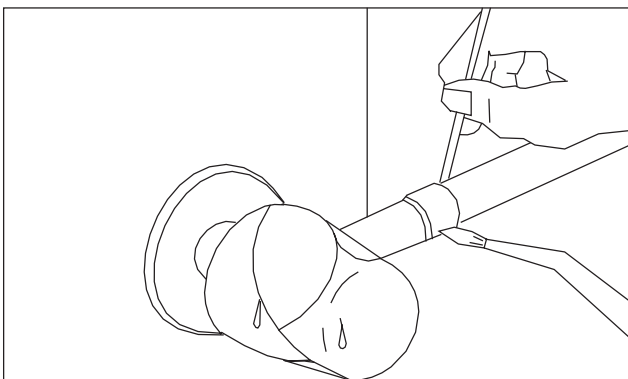


FIGURE 4: Heat Protection

CAUTION

Do not install any coil in a furnace which is used during the heating season without attaching the re-usable service valve. The coil is under 30 to 35 psig inert gas pressure. Do not release to prevent excessive pressure but damage.

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4. Braze the liquid line to the evaporator liquid connection. Nitrogen should be flowing through the evaporator coil.
5. Slide the grommet away from the vapor connection at the indoor coil. Braze the vapor line to the evaporator vapor connection. After the connection has cooled, slide the grommet back into original position.
6. Protect the vapor valve with a wet rag and braze the vapor line connection to the outdoor unit. The nitrogen flow should be exiting the system from the vapor service port connection. After this connection has cooled, remove the nitrogen source from the liquid fitting service port.
7. Replace the Schrader core in the liquid and vapor valves.
8. Go to SECTION IV or SECTION V for orifice or TXV installation depending on application.
9. Leak test all refrigerant piping connections including the service port flare caps to be sure they are leak tight. DO NOT OVERTIGHTEN (between 40 and 60 inch - lbs. maximum).

NOTICE

Line set and indoor coil can be pressurized to 250 psig with dry nitrogen and leak tested with a bubble type leak detector. Then release the nitrogen charge.

Do not use the system refrigerant in the outdoor unit to purge or leak test.

10. Evacuate the vapor line, evaporator, and liquid line to 500 microns or less.
11. Replace cap on service ports. Do not remove the flare caps from the service ports except when necessary for servicing the system.

CAUTION

Do not connect manifold gauges unless trouble is suspected. Approximately 3/4 ounce of refrigerant will be lost each time a standard manifold gauge is connected.

12. Release the refrigerant charge into the system. Open both the liquid and vapor valves by removing the plunger cap and with an allen wrench back out counter-clockwise until valve stem just touches the chamfered retaining wall. If the service valve is a ball valve, use a crescent wrench to turn valve stem one-quarter turn counterclockwise to open. Do not overturn or the valve stem may break or become damaged. See "PRECAUTIONS DURING BRAZING SERVICE VALVE".
13. Replace plunger cap finger tight, then tighten an additional 1/12 turn (1/2 hex flat). Cap must be replaced to prevent leaks.

WARNING

Never attempt to repair any brazed connections while the system is under pressure. Personal injury could result.

See "System Charge" section for checking and recording system charge.

Supplied with the outdoor unit is a Schrader Valve Core and Orifice for highest sales volume indoor coil. The valve core must be installed in equalizer fitting of the indoor coil.



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SECTION IV: ORIFICE INSTALLATION

WARNING

Failure to install Schrader Valve Core on orifice applications could result in total refrigerant loss of the system!

Install Schrader Valve Core and Orifice as follows:

- Slide indoor coil out of cabinet far enough to gain access to equalizer fitting on the suction line.
- After holding charge is completely discharged remove black plastic cap on equalizer fitting.
- Install Schrader Valve Core supplied with the outdoor unit into equalizer fitting using a valve core tool.
- Loosen and remove the liquid line fitting from the orifice distributor assembly. Note that the fitting has right hand threads.
- Install proper size orifice supplied with outdoor unit. Refer to supplied Tabular Data Sheet for specific orifice size and indoor coil match up.
- After orifice is installed reinstall the liquid line to the top of the orifice distributor assembly. Hand tighten and turn an additional 1/8 turn to seal. Do not over tighten fittings.
- Leak test system.
- Replace black plastic cap on equalizer fitting.
- Slide indoor coil back into cabinet.

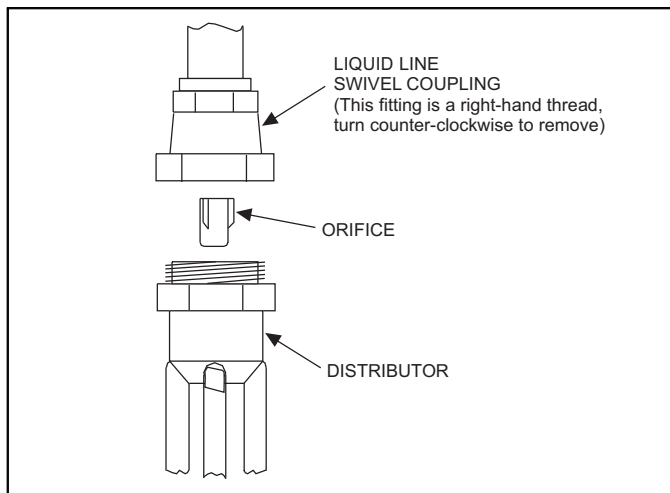


FIGURE 5: Orifice Installation

SECTION V: TXV INSTALLATION

CAUTION

When using a TXV, 13 SEER models 12-48 require a hard start kit. Models 12-48 with a "H" on the end of the model number have a factory installed hard start.

The following are the basic steps for installation. For detailed instructions, refer to the Installation Instructions accompanying the TXV kit. Install TXV kit as follows:

IMPORT

Only 1TVM900 series valves are to be

- Relieve the holding charge by pulling the suction manifold line of the coil.
- After holding charge is completely discharged, remove the Schrader cap seal.
- Loosen and remove distributor cap seal.
- Install the thermal expansion valve to the orifice distributor assembly with supplied fittings. Hand tighten and turn an additional 1/4 turn to seal. Do not overtighten fittings.
- Install the liquid line to the top of the thermal expansion valve with fitting supplied with the liquid line. Hand modify the liquid line to align with casing opening. Hand tighten the liquid line and an additional 1/4 turn to seal.
- Install the TXV equalizer line into the vapor line as follows:
 - Hand tighten the 1/4" SAE nut to the Schrader fitting and an additional 1/3 turn to seal.
- Install the TXV bulb to the vapor line near the equalizer line, using the bulb clamp(s) furnished with the TXV assembly. Ensure the bulb is making maximum contact.
 - Bulb should be installed on a horizontal run of the vapor line if possible. The bulb should be installed on top of the line.
 - If bulb installation is made on a vertical run, the bulb should be located at least 16" (40.6 cm) from any bend, and on the tubing sides opposite the plane of the bend. The bulb should be positioned with the bulb tail at the top, so that the bulb acts as a reservoir.
 - Bulb should be insulated using thermal insulation provided to protect it from the effect of the surrounding ambient temperature. Cover completely to insulate from air-stream.

CAUTION

In all cases, mount the TXV bulb after vapor line is brazed and has had sufficient time to cool.

WARNING

Schrader valve core **MUST NOT** be installed with TXV installation. Poor system performance or system failure could result.

SECTION VI: EVACUATION

It will be necessary to evacuate the system to 500 microns or less. If a leak is suspected, leak test with dry nitrogen to locate the leak. Repair the leak and test again.

To verify that the system has no leaks, simply close the valve to the vacuum pump suction to isolate the pump and hold the system under vacuum. Watch the micron gauge for a few minutes. If the micron gauge indicates a steady and continuous rise, it's an indication of a leak. If the gauge shows a rise, then levels off after a few minutes and remains fairly constant, it's an indication that the system is leak free but still contains moisture and may require further evacuation if the reading is above 500 microns.



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SECTION VII: SYSTEM CHARGE

The factory charge in the outdoor unit includes enough charge for the unit, a 15 ft. (4.6 m) line set, and the smallest indoor coil match-up. Some indoor coil matches may require additional charge. See tabular data sheet provided in unit literature packet for charge requirements.

CAUTION

Do not leave the system open to the atmosphere.

The "TOTAL SYSTEM CHARGE" must be permanently stamped on the unit data plate.

Total system charge is determined as follows:

1. Determine outdoor unit charge from tabular data sheet.
2. Determine indoor coil adjustment from tabular data sheet.
3. Calculate the line charge using the tabular data sheet if line length is greater than 15 feet (4.6 m).
4. Total system charge = item 1 + item 2 + item 3.
5. Permanently stamp the unit data plate with the total amount of refrigerant in the system.

Use the following charging method whenever additional refrigerant is required for the system charge.

WARNING

DO NOT attempt to pump "Total System Charge" into outdoor unit for maintenance, service, etc. This may cause damage to the compressor and/or other components. The outdoor unit only has enough volume for the factory charge, not the "Total System Charge".

CAUTION

Refrigerant charging should only be carried out by a qualified air conditioning contractor.

CAUTION

Compressor damage will occur if system is improperly charged. On new system installations, charge system per tabular data sheet for the matched coil and follow guidelines in this instruction.

If a calibrated charging cylinder or accurate weighing device is available, add refrigerant accordingly. Otherwise, model-specific charging charts are provided on the access panel of the unit.

SUPERHEAT CHARGING METHOD - PISTON INDOOR

1. Set the system running in cooling mode by setting the thermostat at least 6°F below the room temperature and operate system for at least 10 – 15 minutes.
2. Refer to the technical guide for the recommended airflow and verify indoor airflow (it should be about 400 SCFM per ton).
3. Measure and record the outdoor ambient (DB) temperature and the suction pressure at the suction service valve.

4. Using the charging chart located on the of the outdoor ambient dry bulb and the in step 3. This is the recommended su the service valve.
5. Measure and record the suction tube t valve and compare to the recommende step 4.
6. Add charge if the measured suction tem the recommended value. Remove / recce Date: 12/11/14
sured suction temperature is below the recommended value.

Example: The suction tube temperature listed on the table at the intersection of the outdoor DB and the suction pressure is 63°F. Temperature of the suction tube at the service valve is 68°F. It would be necessary to add refrigerant to drop the suction tube temperature to 63°F.

SUBCOOLING CHARGING METHOD - TXV INDOOR

For cooling operation, unless otherwise specified, the default subcooling is 10°F.

1. Set the system running in cooling mode by setting the thermostat at least 6°F below the room temperature and operate system for at least 10 – 15 minutes.
2. Refer to the technical guide for the recommended indoor airflow and verify it is correct (it should be about 400 SCFM per ton).
3. Measure and record the indoor wet bulb (WB) and the outdoor ambient dry bulb (DB) temperature.
4. Using the charging chart located on the unit, find the intersection of the indoor wet bulb and the outdoor dry bulb. This is the recommended liquid pressure (and subcooling value).
5. Measure and record the pressure at the liquid valve pressure port and compare to the value obtained in step 4.
6. Add charge if the measured liquid pressure is lower than the recommended value. Remove / recover charge if the measured liquid pressure is above the recommended value.

Example: The liquid pressure listed at the intersection of the indoor WB and the outdoor DB 320 psig. Pressure at the liquid valve is 305 psig. It would be necessary to add refrigerant to increase the liquid pressure to 320 psig.

Condenser subcooling is obtained by calculating the difference of the saturated refrigerant temperature of the pressure measured at the liquid base valve and the liquid tube temperature as measured at the liquid base valve.

Subcooling Temp. (TC) = Saturated Temp. (TS) – Liquid Temp. (T).

CAUTION

IT IS UNLAWFUL TO KNOWINGLY VENT, RELEASE OR DISCHARGE REFRIGERANT INTO THE OPEN AIR DURING REPAIR, SERVICE, MAINTENANCE OR THE FINAL DISPOSAL OF THIS UNIT.



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TABLE 2: R-410A Saturation Properties

TEMP. °F	PRESSURE PSIG	TEMP. °F	PRESSURE PSIG	TEMP. °F	PRESSURE PSIG	TEMP. °F	PRESSURE PSIG
45	130	60	170	75	217	90	274
46	132	61	173	76	221	91	278
47	135	62	176	77	224	92	282
48	137	63	179	78	228	93	287
49	140	64	182	79	232	94	291
50	142	65	185	80	235	95	295
51	145	66	188	81	239	96	299
52	147	67	191	82	243	97	304
53	150	68	194	83	247	98	308
54	153	69	197	84	250	99	313
55	156	70	201	85	254	100	317
56	158	71	204	86	258	101	322
57	161	72	207	87	262	102	326
58	164	73	211	88	266	103	331
59	167	74	214	89	270	104	336
						110	365
						111	370
						112	375
						113	380
						114	385
						115	391
						116	396
						117	401
						118	407
						119	412

SECTION VIII: ELECTRICAL CONNECTIONS

GENERAL INFORMATION & GROUNDING

Check the electrical supply to be sure that it meets the values specified on the unit nameplate and wiring label.

Power wiring, control (low voltage) wiring, disconnect switches and over current protection must be supplied by the installer. Wire size should be sized per NEC requirements.

CAUTION

All field wiring must USE COPPER CONDUCTORS ONLY and be in accordance with Local, National, Fire, Safety & Electrical Codes. This unit must be grounded with a separate ground wire in accordance with the above codes.

The complete connection diagram and schematic wiring label is located on the inside surface of the unit service access panel.

FIELD CONNECTIONS POWER WIRING

1. Install the proper size weatherproof disconnect switch outdoors and within sight of the unit.
2. Remove the screws at the top and sides of the corner cover. Slide corner cover down and remove from unit.
3. Run power wiring from the disconnect switch to the unit.
4. Route wires from disconnect through power wiring opening provided and into the unit control box as shown in Figures 6 & 7.
5. Install the proper size time-delay fuses or circuit breaker, and make the power supply connections.

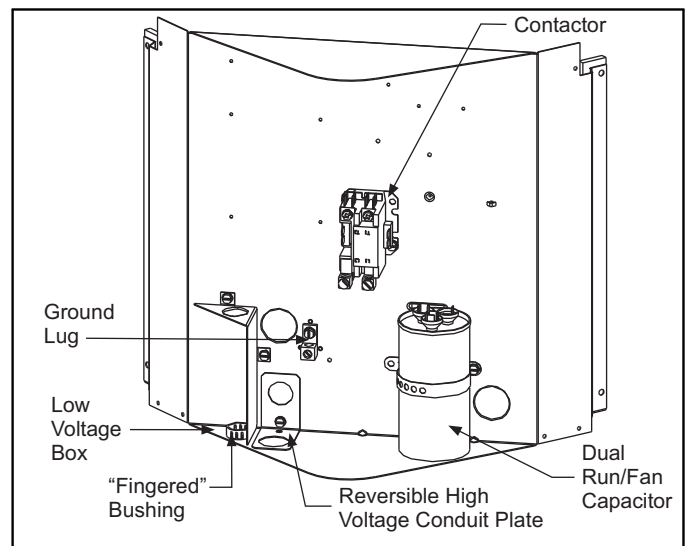


FIGURE 6: Outdoor Unit Control Box (Single Phase)

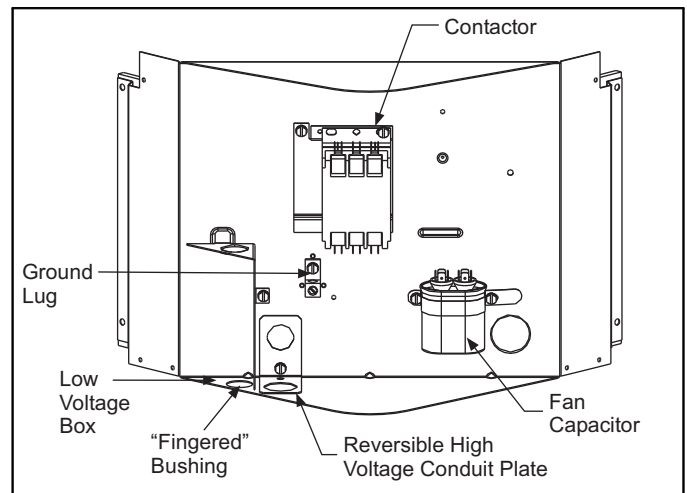


FIGURE 7: Outdoor Unit Control Box (Three Phase)



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Inspections Division
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FIELD CONNECTIONS CONTROL WIRING

1. Route low voltage wiring into bottom of control box as shown in Figure 6. Make low voltage wiring connections inside the low voltage box per Figures 7 - 11.
2. The complete connection diagram and schematic wiring label is located on the inside surface of the unit service access panel.
3. Replace the corner cover removed in Step 2.
4. All field wiring to be in accordance with national electrical codes (NEC) and/or local-city codes.

NOTE: A Start Assist Kit is available and recommended for long line set applications or in areas of known low voltage problems.

5. Mount the thermostat about 5 ft. above exposed to normal room air circulation. side wall or where it is exposed to the glass or appliances, drafts from outside
6. Route the 24-volt control wiring (NEC) unit to the indoor unit and thermostat.

NOTICE

Date: 12/11/14

To eliminate erratic operation, seal the hole in the wall at the thermostat with permagum or equivalent to prevent air drafts affecting the operation of in the thermostat.

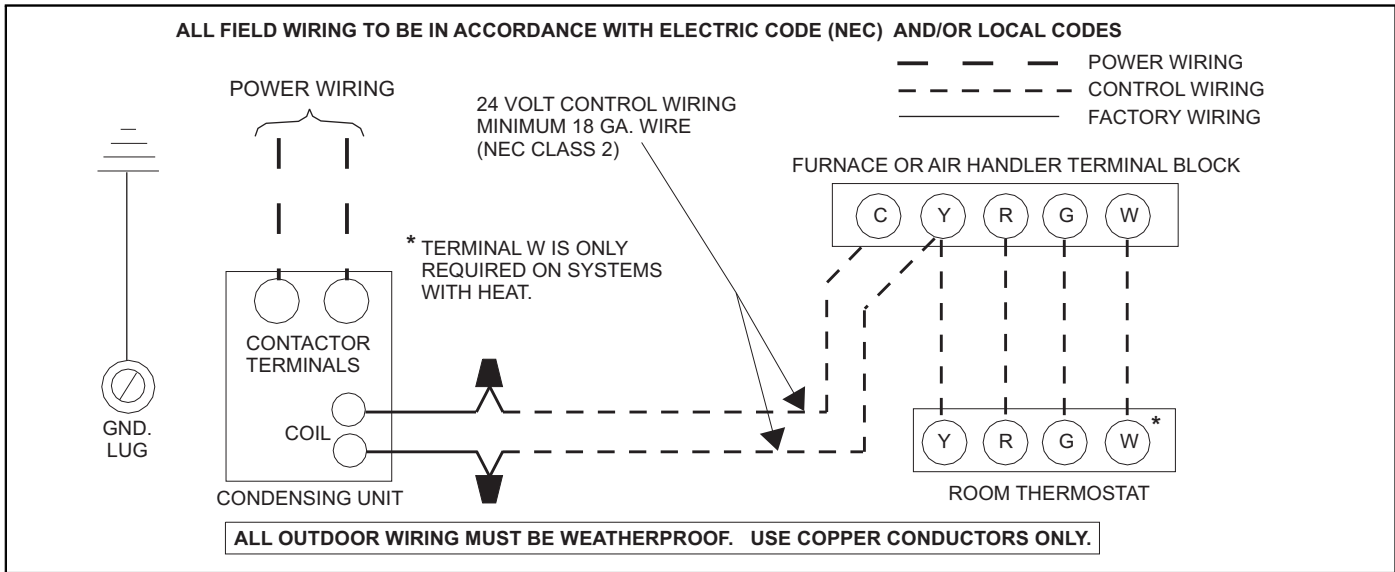


FIGURE 8: Typical Field Wiring (Air Handler / Electrical Heat) (Single-Phase)

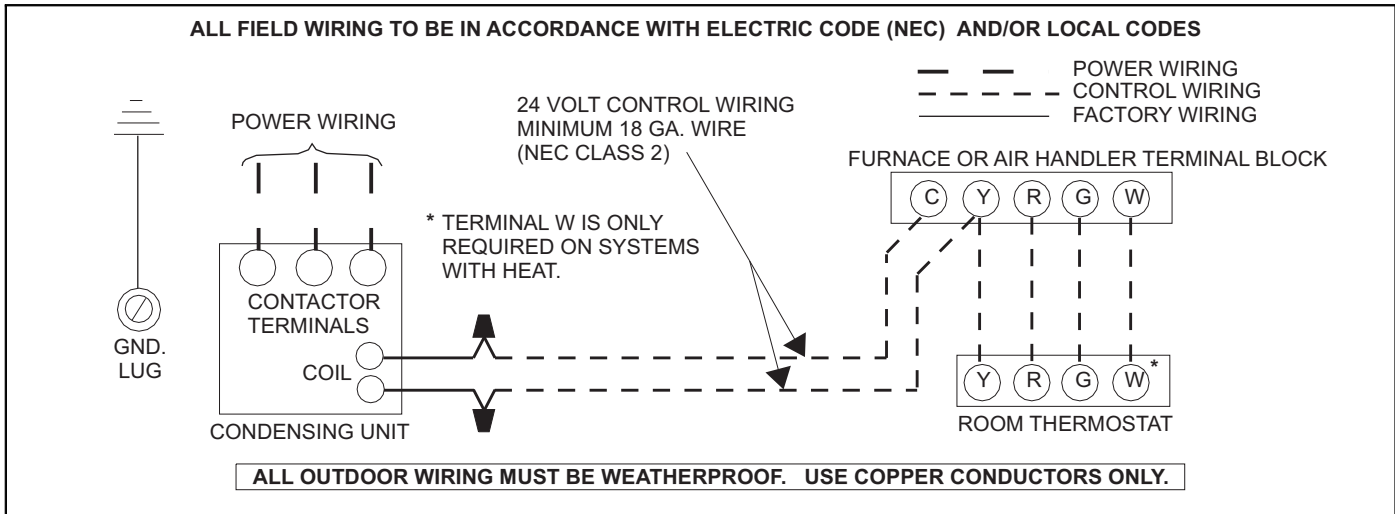


FIGURE 9: Typical Field Wiring (Air Handler / Electrical Heat) (Three-Phase)



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For additional connection diagrams for all UPG equipment refer to "Low Voltage System Wiring" document available o Product Catalog Section.

Date: 12/11/14

AC 1A Single Stage Air Conditioner – PSC Air Handler

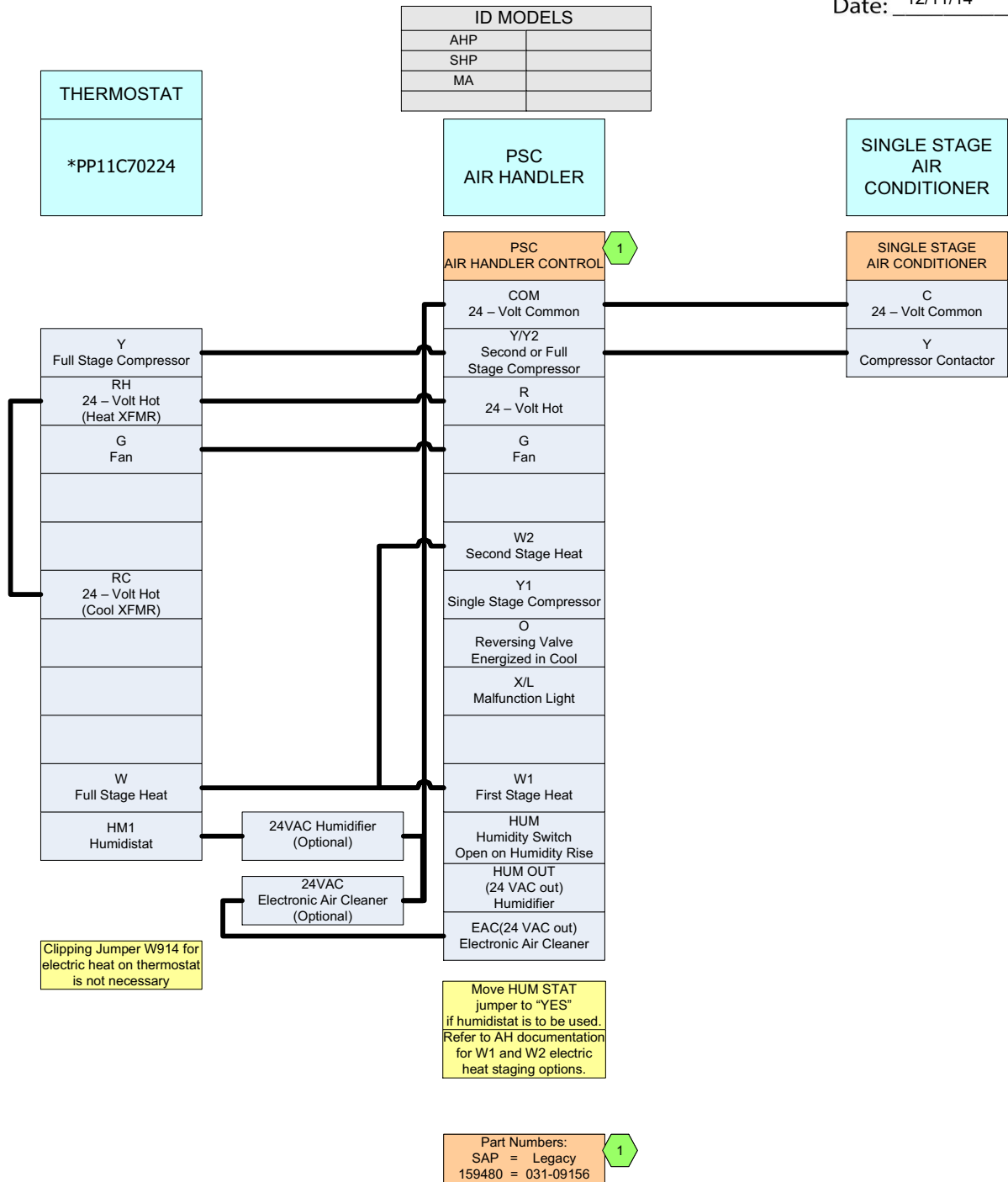


FIGURE 10: Thermostat Chart - Single Stage AC with PSC Air Handler



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AC 1B Single Stage Air Conditioner – PSC Air Handler

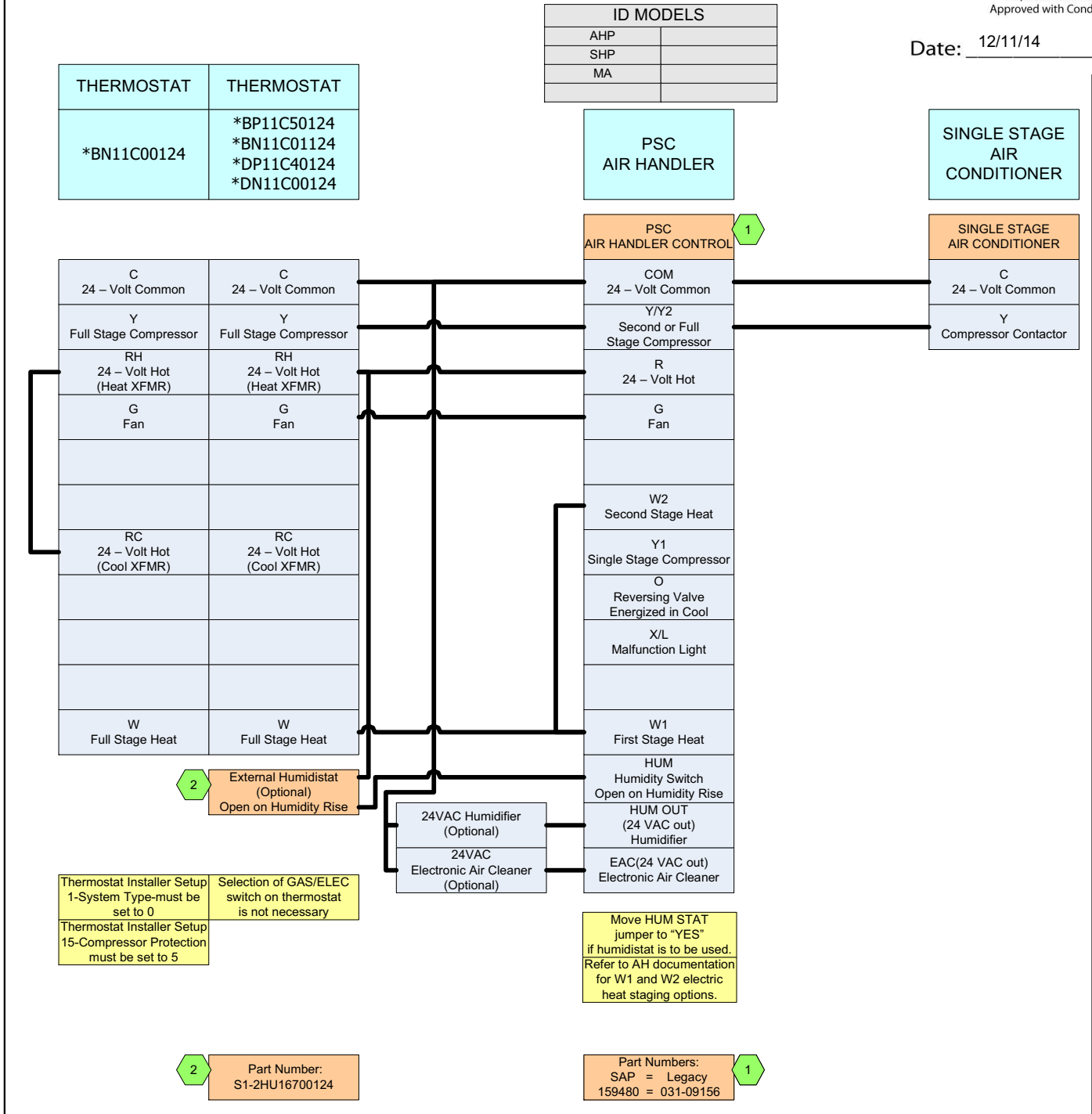


FIGURE 11: Thermostat Chart - Single Stage AC with PSC Air Handler



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AC 5D Single Stage Air Conditioner – Single Stage PSC Furnace

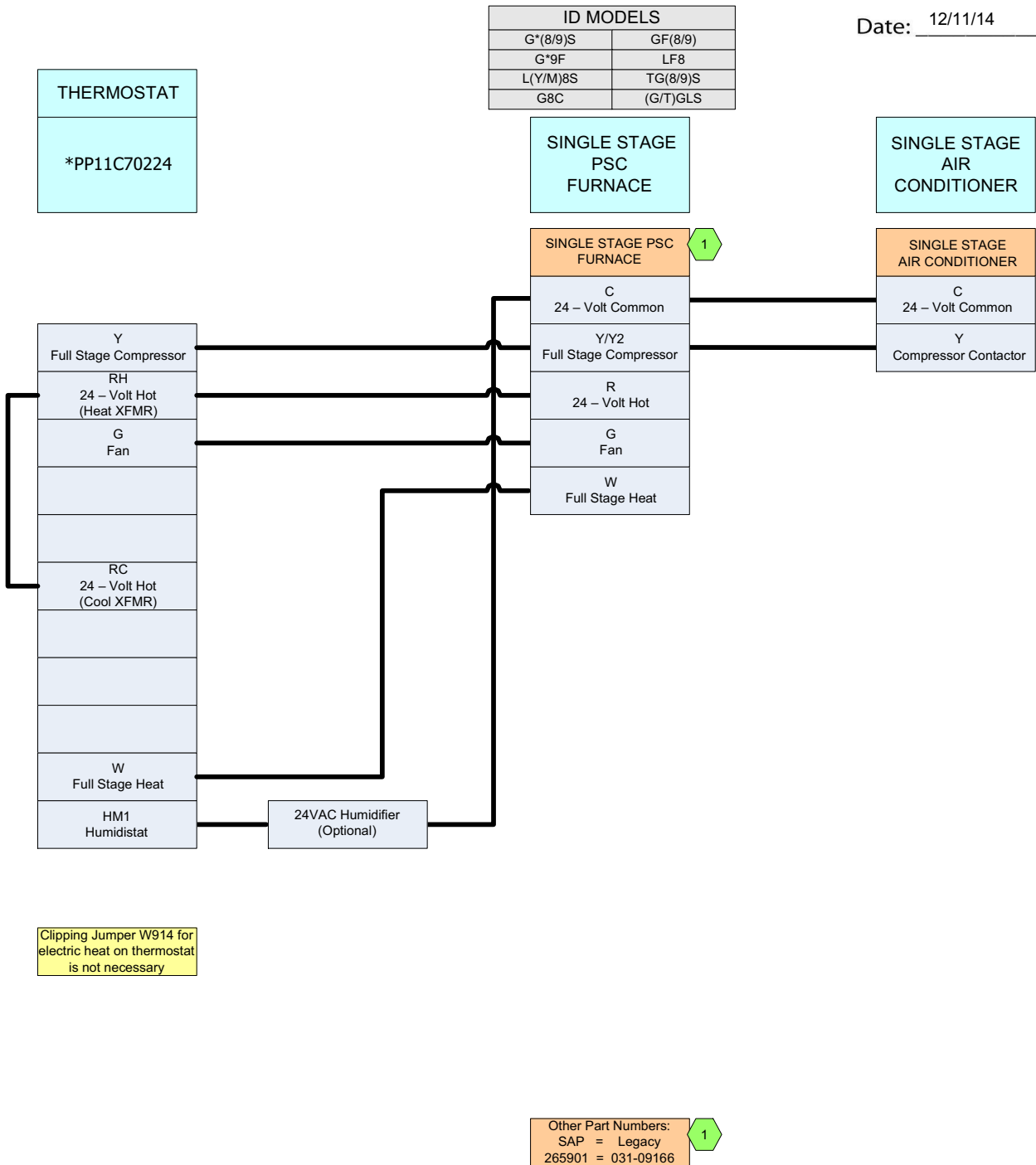


FIGURE 12: Thermostat Chart - Single Stage AC with PSC Furnace



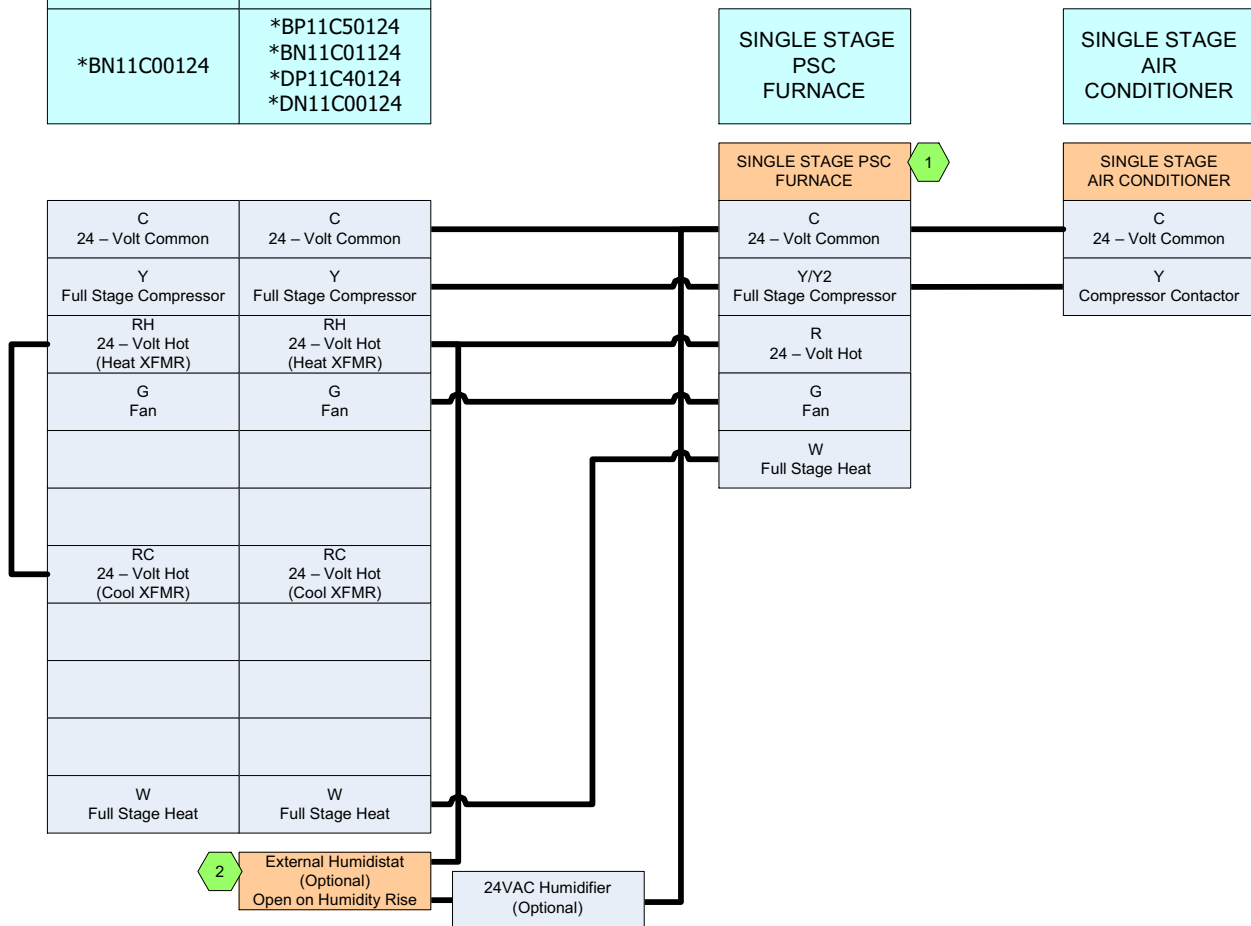
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Date: 12/11/14

AC 5E Single Stage Air Conditioner – Single Stage PSC Furnace

THERMOSTAT	THERMOSTAT
*BN11C00124	*BP11C50124 *BN11C01124 *DP11C40124 *DN11C00124

ID MODELS	
G*(8/9)S	GF(8/9)
G*9F	LF8
L(Y/M)8S	TG(8/9)S
G8C	(G/T)GLS



Thermostat Installer Setup 1-System Type-must be set to 0	Selection of GAS/ELEC switch on thermostat is not necessary
Thermostat Installer Setup 15-Compressor Protection must be set to 5	

2 Part Number: S1-2HU16700124

1 Other Part Numbers:
SAP = Legacy
265901 = 031-09166

FIGURE 13: Thermostat Chart - Single Stage AC with PSC Furnace



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SECTION IX: INSTRUCTING THE OWNER

Assist owner with processing warranty cards and/or online registration. Review Owners Guide and provide a copy to the owner and guidance on proper operation and maintenance. Instruct the owner or the operator how to start, stop and adjust temperature setting.

When applicable, instruct the owner that the compressor is equipped with a crankcase heater to prevent the migration of refrigerant to the compressor during the OFF cycle. The heater is energized only when the unit is not running. If the main switch is disconnected for long periods of shut down, do not attempt to start the unit until 8 hours after the switch has been connected. This will allow sufficient time for all liquid refrigerant to be driven out of the compressor.

The installer should also instruct the owner on proper operation and maintenance of all other system components.

MAINTENANCE

1. Dirt should not be allowed to accumulate on the outdoor coils or other parts in the air circuit. Clean as often as necessary to keep the unit clean. Use a brush, vacuum cleaner attachment, or other suitable means.
2. The outdoor fan motor is permanently lubricated and does not require periodic oiling.

3. If the coil needs to be cleaned, use and debris from outdoor condensing

NOTICE

DO NOT use coil cleaners to clean outdoors containing HF-, hydroxides, chlorine reduce the lifetime of the aluminum coil.

Date: 12/11/14

4. Refer to the furnace or air handler i motor maintenance.
5. The indoor coil and drain pan should be inspected and cleaned regularly to prevent odors and assure proper drainage.

CAUTION

IT IS UNLAWFUL TO KNOWINGLY VENT, RELEASE OR DISCHARGE REFRIGERANT INTO THE OPEN AIR DURING REPAIR, SERVICE, MAINTENANCE OR THE FINAL DISPOSAL OF THIS UNIT.

SUBCOOLING CHARGE TABLE IS ON THE UNIT RATING PLATE.



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LEGEND
 CAP - CAPACITOR
 CC - CONTACTOR COIL
 CCH - CRANKCASE HEATER
 CTRL - CONTROL
 HPS - HIGH PRESS SWITCH
 HS - HEATER SWITCH
 LAP - LOW AMBIENT
 PRESS SWITCH
 LPS - LOW PRESS SWITCH

— HIGH VOLTAGE FACTORY WIRING
 — LOW VOLTAGE FACTORY WIRING
 - - - OPTIONAL LOW VOLTAGE WIRING
 - - - OPTIONAL HIGH VOLTAGE WIRING
 - - - FIELD WIRING, LINE VOLTAGE
 - - - FIELD WIRING, CTRL CIRCUIT

DANGER - SHOCK HAZARD
 TURN OFF ELECTRICAL POWER BEFORE SERVICING TO PREVENT POSSIBLE DAMAGE TO THE EQUIPMENT AND POSSIBLE PERSONAL INJURY.

CAUTION
 TO PREVENT ELECTRICAL SHOCK OPEN REMOTE DISCONNECT SO ELECTRICAL SUPPLY TO AIR CONDITIONER IS SHUT OFF.

- COMPONENTS SHOWN IN DASH LINES ARE OPTIONAL.
- RED WIRE WILL BE REMOVED IF LOW AMBIENT KIT IS INSTALLED.
- BLUE WIRE WILL BE REMOVED IF PRESSURE SWITCH KIT IS INSTALLED.
- WIRING MUST CONFORM TO NATIONAL AND LOCAL CODES.
- IF ANY OF THE ORIGINAL WIRE SUPPLIED WITH THIS UNIT MUST BE REPLACED, IT MUST BE REPLACED WITH 105° C THERMOPLASTIC OR ITS EQUIVALENT.

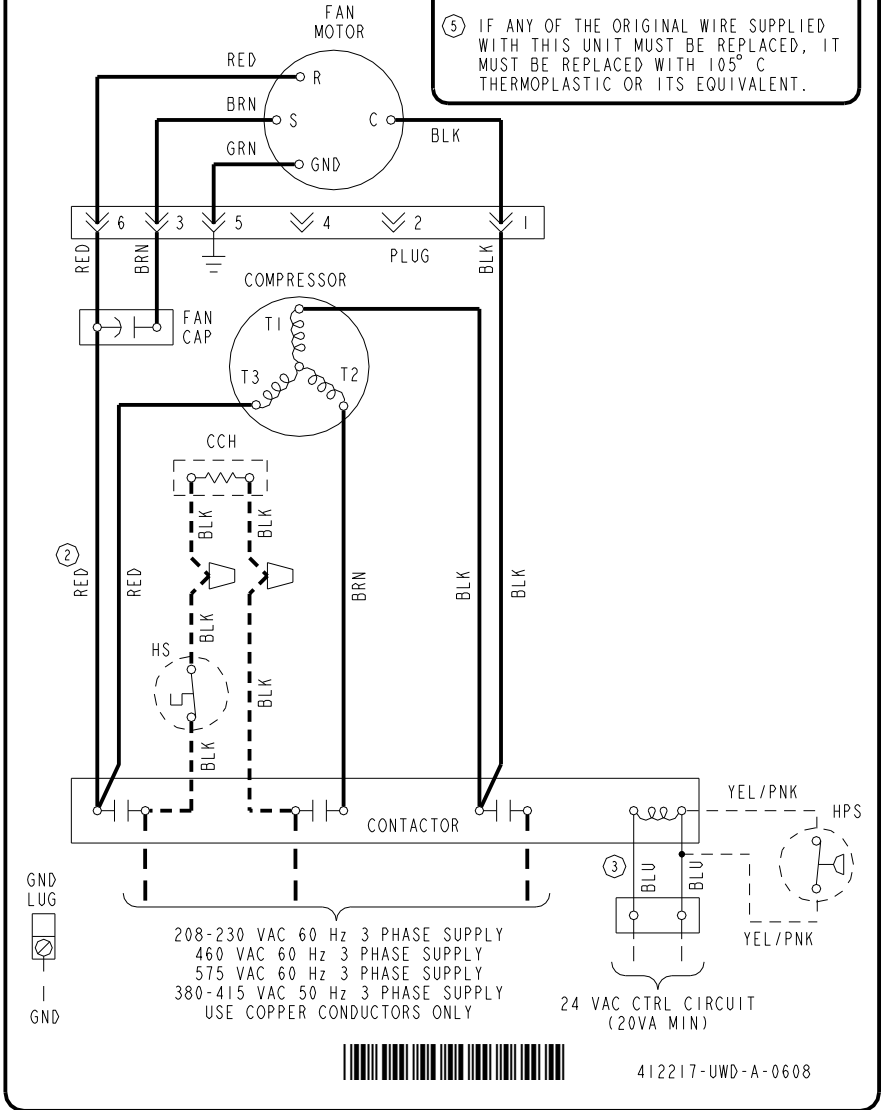


FIGURE 15: Wiring Diagram - Three Phase 2.5-5 Tons



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- ① COMPONENTS SHOWN IN DASHED LINES ARE OPTIONAL.
- ② RED WIRE WILL BE REMOVED IF LOW AMBIENT KIT IS INSTALLED.
- ③ YELLOW WIRE WILL BE REMOVED IF PRESSURE SWITCH KIT IS INSTALLED.
- ④ IF ANY OF THE ORIGINAL WIRE SUPPLIED WITH THIS UNIT MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 105° C, THERMOPLASTIC OR ITS EQUIVALENT.
- ⑤ WIRING MUST CONFORM TO NATIONAL AND LOCAL CODES.

HPS -HIGH PRESSURE SWITCH
LP -LOW PRESSURE SWITCH
LAP -LOW AMBIENT PRESSURE SWITCH
CCH -CRANKCASE HEATER
CC -CONTACTOR COIL
ASCT -ANTI-SHORT CYCLE TIME

DANGER - SHOCK HAZARD
TURN OFF ELECTRICAL POWER BEFORE SERVICING TO PREVENT POSSIBLE DAMAGE TO THE EQUIPMENT AND POSSIBLE PERSONAL INJURY.

CAUTION
TO PREVENT ELECTRICAL SHOCK OPEN REMOTE DISCONNECT SO ELECTRICAL SUPPLY TO AIR CONDITIONER IS SHUT OFF.

———— HIGH VOLTAGE FACTORY WIRING
———— LOW VOLTAGE FACTORY WIRING
———— FIELD WIRING, LINE VOLTAGE
- - - - - OPTIONAL WIRING

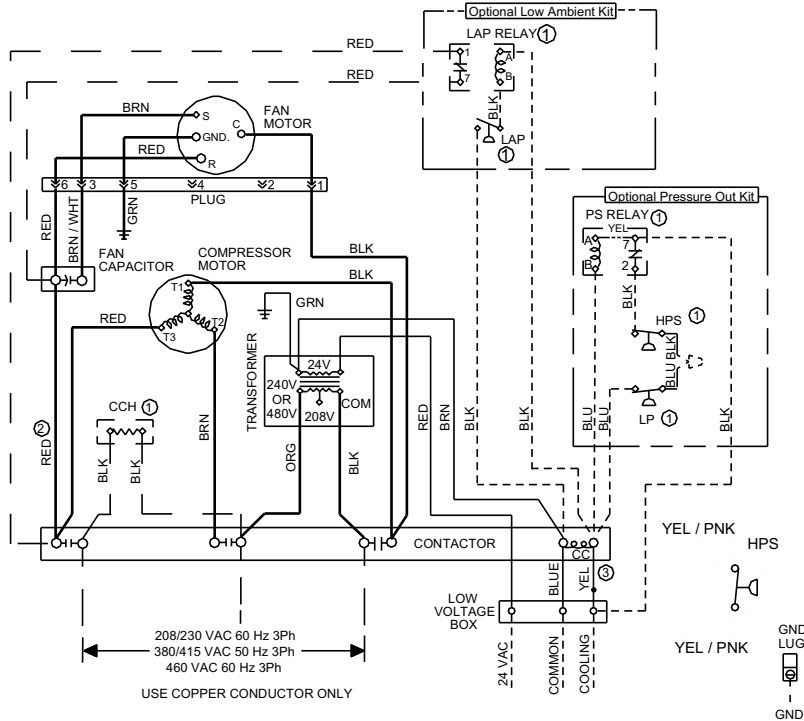


FIGURE 16: Wiring Diagram - Three Phase 6.3 Ton

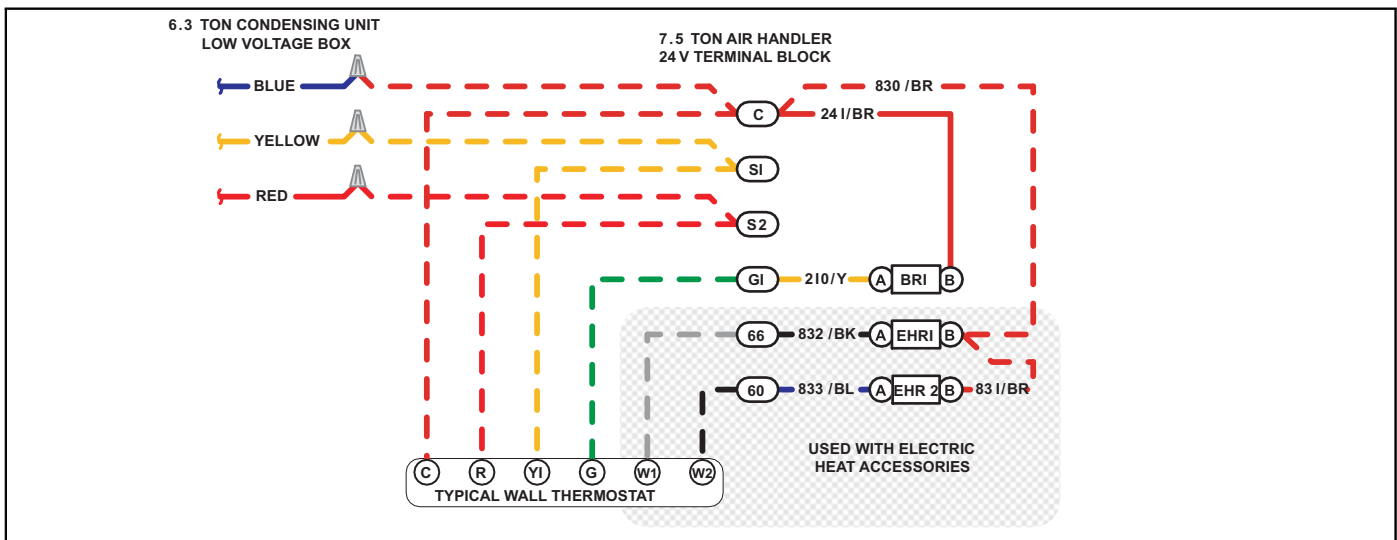
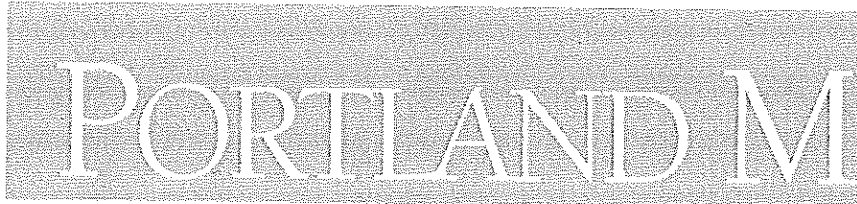


FIGURE 17: 24 VAC Connection Wiring for 2-pipe A/C, 6.3 Ton Condensing Unit with 7.5 Ton Air Handler



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 12/11/14

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Jeff Levine, AICP, Director
Director of Planning and Urban Development

Tammy Munson
Director, Inspections Division

Electronic Signature and Fee Payment Confirmation

Notice: Your electronic signature is considered a legal signature per state law.

By digitally signing the attached document(s), you are signifying your understanding this is a legal document and your electronic signature is considered a *legal signature* per Maine state law. You are also signifying your intent on paying your fees by the opportunities below.

I, the undersigned, intend and acknowledge that no permit application can be reviewed until payment of appropriate permit fees are *paid in full* to the Inspections Office, City of Portland Maine by method noted below:

Within 24-48 hours, upon receipt of an e-mailed invoice from Building Inspections, which signifies that my electronic permit application and corresponding paperwork have been received, determined complete, entered by an administrative representative, and assigned a permit number, I then have the following four (4) payment options:

- to provide an on-line electronic check or credit/debit card (we now accept American Express, Discover, VISA, and MasterCard) payment (along with applicable fees beginning July 1, 2014),
- call the Inspections Office at (207) 874-8703 and speak to an administrative representative to provide a credit/debit card payment over the phone,
- hand-deliver a payment method to the Inspections Office, Room 315, Portland City Hall,
- or deliver a payment method through the U.S. Postal Service, at the following address:

City of Portland
Inspections Division
389 Congress Street, Room 315
Portland, Maine 04101

Once my payment has been received, this then starts the review process of my permit. *After all approvals have been met and completed, I will then be issued my permit via e-mail.* No work shall be started until I have received my permit.

Applicant Signature: peter.lewis@comfortsystemsusa.com Digitally signed by peter.lewis@comfortsystemsusa.com
DN: cn=peter.lewis@comfortsystemsusa.com
Date: 2014.11.26 12:51:44 -05'00' Date: 11/26/14

I have provided digital copies and sent them on: peter.lewis@comfortsystemsusa.com Digitally signed by peter.lewis@comfortsystemsusa.com
DN: cn=peter.lewis@comfortsystemsusa.com
Date: 2014.11.26 12:51:43 -05'00' Date: 11/26/14

NOTE: All electronic paperwork must be delivered to buildinginspections@portlandmaine.gov or by physical means ie; a thumb drive or CD to the office.

Room 315 - 389 Congress Street- Portland, Maine 04101 (207) 874-8703 - Fax: 874-8716 - TTY: 874-8936

Acknowledgment of Code Compliance Responsibility- Fast Tra



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

I, Peter Lewis am the owner or duly **authorized owner's agent** of the proper Date: 12/11/14
Print Legal Name

4 Milk Street

Physical Address

I am seeking a permit for the construction or installation of:

2 cooling only split systems on 2nd floor reno. Air Handling units will hang from structure.

AHUs weigh 147 lbs. Condensing units on roof, weigh 173 lbs.

Proposed Project Description

I understand that the permits obtained pursuant to this acknowledgement of code compliance responsibility will be in my name and that I am acting as the **general contractor** for this project. I accept full responsibility for the work performed.

I am submitting for a permit authorized by the **State of Maine Uniform Building and Energy Code (MUBEC), Fuel Board Laws and Rules and all locally adopted codes and standards applying to Plumbing, Electrical, Fire Prevention and Protection in anticipation of having it approved or approved with conditions.** I have read the following statement and understand that **failure to comply with all conditions once construction is begun may necessitate an immediate work stoppage until such time as compliance with the stipulated conditions is attained.** I certify that I have made a diligent inquiry regarding the need for concurrent state or federal permits to engage in the work requested under this building permit, and no such permits are required or I will have obtained the required permits prior to issuance of this permit. I understand that the granting of this permit shall not be construed as satisfying the requirements of other applicable Federal, State or Local laws or regulations, including City of Portland historic preservation requirements, if applicable. I understand and agree that this permit does not authorize the violation of regulations.

In addition, I understand and agree that this building permit does not authorize the violation of the **12 M.R.S. § 12801 et seq. - Endangered Species.**

I certify under penalty of perjury and under the laws of the State of Maine the foregoing is true and correct. I further certify that all easements, deed restrictions, or other encumbrances restricting the use of the property are shown on the site plans submitted with this application.

I hereby apply for a permit as a Owner's agent of the below listed property and by so doing will assume responsibility for compliance with all applicable codes, bylaws, rules and regulations.
Owner or Owner's Agent

I further understand that it is my responsibility to schedule inspections of the work as required and that the City's inspections will, at that time, check the work for code compliance. The City's inspectors may require modifications to the work completed if it does not meet applicable codes. PL INITIAL HERE

Sign Here: Peter Lewis
Owner or Owner's Authorized Agent

Date: 11/26/14

PLEASE ALSO FILL OUT AND SIGN SECOND PAGE

Acknowledgment of Code Compliance Responsibility- Fast Tra



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

OFFICE USE ONLY

PERMIT # _____

CBL # _____



Date: 12/11/14

THIS PROJECT IS ELIGIBLE FOR FAST TRACK PERMITTING BECAUSE IT IS IN THE FOLLOWING CATEGORY / CATEGORIES (CHECK ALL THAT APPLY):

- One/Two Family Swimming Pools, Spas or Hot Tubs
- One/Two Family Decks, Stairs and Porches (attached or detached) First Floor Only
- One/Two Family Detached One Story Accessory Structures (garages, sheds, etc.) not to exceed 600sq ft with no habitable space
- Home Occupations (excluding day cares)
- One/Two Family Renovation/Rehabilitation (within the existing shell)
- Attached One /Two Family Garages /Additions/Dormers bearing the seal of a licensed design professional
- New *Sprinklered* One and Two Family Homes (bearing the seal of a licensed design professional stating code compliance) – **MUST STILL RECEIVE LEVEL 1 SITE PLAN APPROVAL FROM PLANNING**
- One/Two Family HVAC (including boilers, furnaces, heating appliances, pellet and wood stoves)
- Interior office renovations with no change of use (no expansions; no site work; no load bearing structural changes are eligible) bearing the seal of a licensed design professional stating code compliance
- Interior Demolition with no load bearing demolition
- Amendments to existing permits
- Commercial HVAC systems (with structural and mechanical plans bearing the seal of a licensed design professional stating code compliance)
- 4 Commercial HVAC for Boilers/Furnaces/Heating Appliances
- Commercial Signs or Awnings
- Exterior Propane Tanks
- Residential or Commercial Subsurface Waste Water Systems (No Rule Variance Only)
- Renewal of Outdoor Dining Areas
- Temporary Outdoor Tents and stages under 750 sq ft per tent or stage
- Fire Suppression Systems (Both non-water and water based installations)
- Fences over 6'-0" in height
- Site work only
- Retaining walls over 4ft in height with stamped plans (or approval from inspection staff)

I understand that if the property is located in a historic district this application will also be reviewed by Historic Preservation. I further understand that the Building Inspections Division reserves the right to deny a fast track eligible project.

Sign Here: Peter Lewis
Owner or Owner's Authorized Agent

Date: 11/26/14

FILL IN AND SIGN WITH INK



HVAC / Power Equipment Checklist



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 12/11/14

All of the following information is required and must be submitted. Checking off each item as you prepare your application package will ensure your package is complete and will help to expedite the permitting process.

- A floor plan that includes structural details, size and dimensions of the floor the equipment is going to be installed.
- Information on how the unit is being vented & hanging details if appropriate.
- Details of the specific equipment being installed; ie; specifications and any heating technical specifications. Often this information can be obtained from the manufacturer's spec sheet or retail advertisements.
- A plot plan showing the shape and dimension of the lot, with the distance from the actual property lines, and the principal structure.
- Proof of ownership is required if it is inconsistent with the assessors records.

**All HVAC installations must be conducted in compliance with the
IRC 2009 Building Code**

Separate permits are required for plumbing and electrical installations, as required.

Separate permits are also required based on different properties (different Chart, Block and Lot.)

Permit Fee: \$25.00 for the first \$1000.00 construction cost, \$11.00 per additional \$1000.00 cost

This is not a Permit; you may not commence any work until the Permit is issued.



FILL IN AND SIGN WITH INK



Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Application for Heating, Ventilation, Air Condition (HVAC) Cooking or Power Equipment

Date: 12/11/14

To the Inspector of Buildings, Portland Maine:

The undersigned hereby applies for a permit to install the following HVAC, cooking or power equipment in accordance with the Laws of Maine, the Building Code of the City of Portland, and the following specifications:

Address/CBL: 4 Milk Street 2nd floor Use of Building: office Date: 11/26/14

Name and Address of Owner: Silver Street Development Group 4 Milk Street, Portland

Phone Number Owner: E-Mail: Owner:

Name and Address of Installer: Airtemp 11 Wallace Ave. South Portland

Phone Number Installer: 207-774-2300 E-Mail: Installer: plewis@comfortsystemsusa.com

<p>Location of Appliance:</p> <p><input type="checkbox"/> Basement <input type="checkbox"/> Floor</p> <p><input type="checkbox"/> Attic <input checked="" type="checkbox"/> Roof</p> <p>Type of Fuel:</p> <p><input type="checkbox"/> Gas <input type="checkbox"/> Oil <input type="checkbox"/> Solid</p> <p>Appliance Name: York</p> <p>UL Approved: <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Will appliance be installed in accordance with the manufacturer's installation instructions? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p>Type of License of Installer: Master Plumber #: _____</p> <p>Solid Fuel #: _____</p> <p>Oil #: _____</p> <p>Gas #: _____</p> <p>Other: Universal Refrigerant #8506</p>	<p>Type of Venting: (Plan required for submittal)</p> <p><input type="checkbox"/> Masonry Lined</p> <p><input type="checkbox"/> Factory Built: _____</p> <p><input type="checkbox"/> Metal</p> <p><input type="checkbox"/> Factory Built UL Listing: _____</p> <p><input type="checkbox"/> Direct Vent</p> <p>Type: _____ UL #: _____</p> <p># of Tanks: _____</p> <p>Type of Fuel Tank:</p> <p><input type="checkbox"/> Gas <input type="checkbox"/> Oil</p> <p>Size of Tank: _____</p> <p>Distance from tank to center of flame: _____</p> <p>Cost of Work: \$ 8000</p> <p>Permit Fee: \$ 102</p>
---	---

Signature of Installer: peter.lewis@comfortsystemsusa.com E-Mail: 11/26/14

Digitally signed by peter.lewis@comfortsystemsusa.com
DN: cn=peter.lewis@comfortsystemsusa.com
Date: 2014.11.26 12:55:35 -0500



Reviewed for Code Compliance
Inspection Division
Approved with Conditions

Date: 12/11/14

AirTemp, Inc.
11 Wallace Ave
South Portland, Maine

COMFORT SYSTEMS USA
AirTemp, Inc.

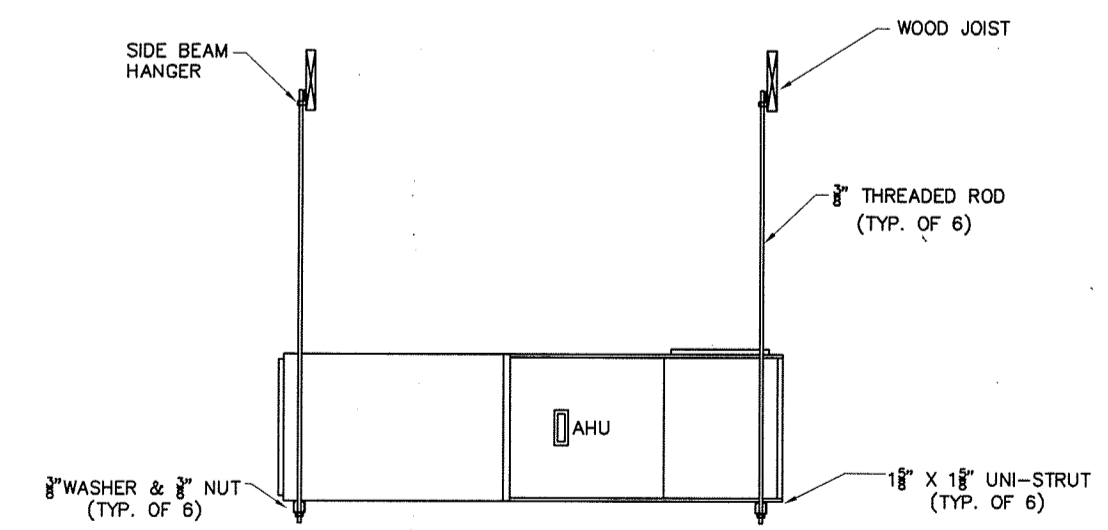
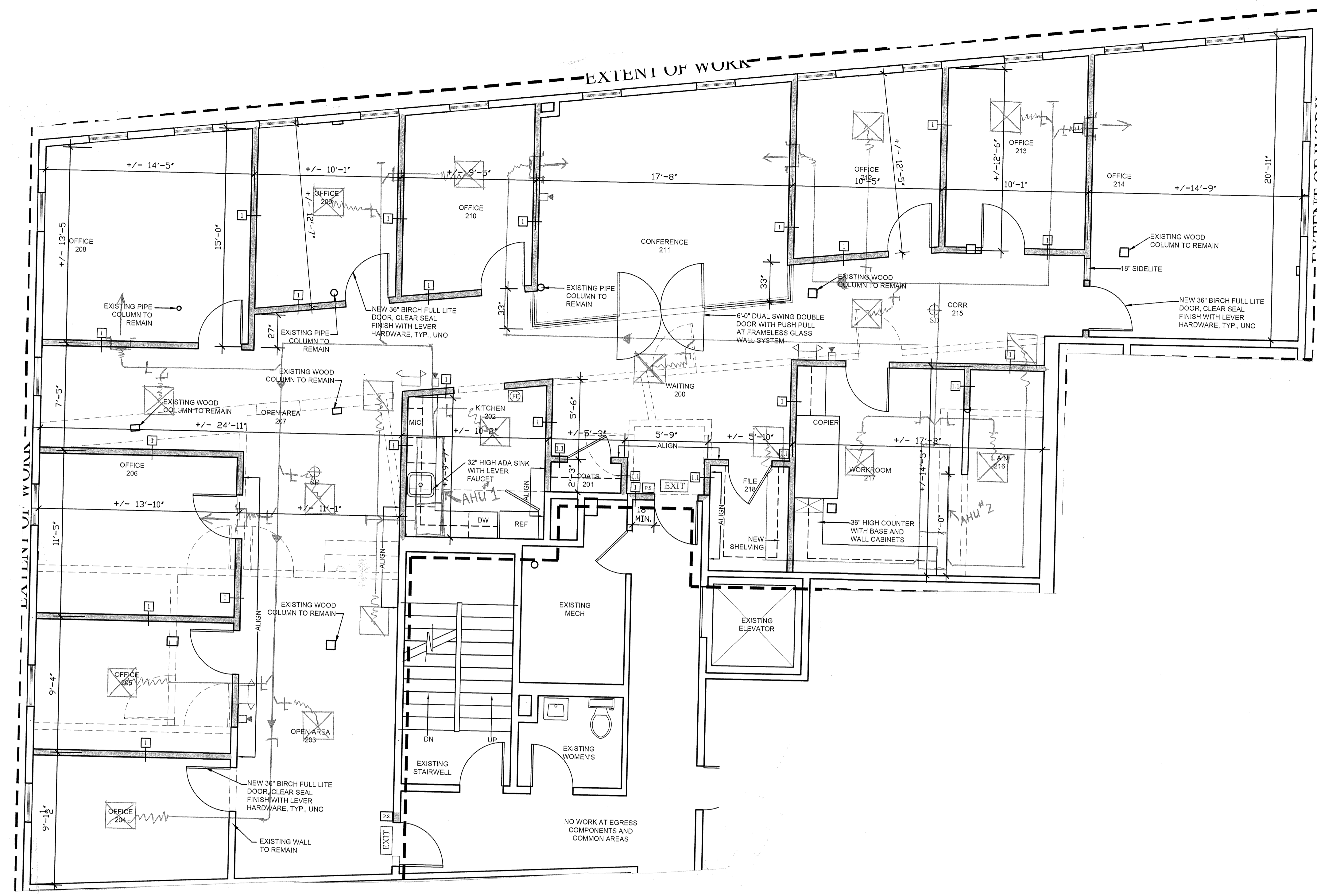
4 MILK STREET
PORTLAND, MAINE

CLIENT: BRL
DATE:
DRAWN BY:
CHKD BY:
DATE: NOV. 26, 2014

SHEET TITLE:
MECHANICAL PLAN

SCALE:
DRAWING:

M-1



1 AHU HANGING DETAIL
SCALE: N.T.S.

AIR HANDLING UNIT SCHEDULE															
TAG	AREA SERVED	COOLING TONS	HEATING MBH IN	MANUFACTURER	MODEL NUMBER	ELECTRIC VOLTS/PHASE	MCA AMPS	MAX FUSE	WEIGHT	STAGES	CFM	MIN O.A CFM	SEER	AFUE%	REMARKS
AHU-1	LEFT SIDE	4.0	---	YORK	AHR48D3XH21	230 / 1	4.8	15.0	147 LBS	1C	1,600	---	13.0	---	
AHU-2	RIGHT SIDE	4.0	---	YORK	AHR48D3XH21	230 / 1	4.8	15.0	147 LBS	1C	1,600	---	13.0	---	
REMARKS:															

CONDENSING UNIT SCHEDULE												
TAG	AREA SERVED	COOLING TONS	HEATING MBH IN	MANUFACTURER	MODEL NUMBER	ELECTRIC VOLTS/PHASE	MCA AMPS	MAX FUSE	WEIGHT	STAGES	SEER	REMARKS
CU-1	AHU-1	4.0	----	YORK	YCD48S41S1	230 / 1	21.1	35.0	173 LBS	1C	13.0	
CU-2	AHU-2	4.0	----	YORK	YCD48S41S1	230 / 1	21.1	35.0	173 LBS	1C	13.0	
REMARKS:												



PEARL
MILK

NO PARKING
ANY TIME
P
PAY TO PARK
1 HOUR LIMIT

NO PARKING
ANY TIME
VEHICLES ONLY
NO PARKING
THIS SIDE
OF STREET
VEHICLES ONLY

P
PAY TO PARK
1 HOUR LIMIT

Atlantic
Your Local Pest Control Experts
A Terminix Company
atlanticpestsolutions.net

800-439-7716

pulp

5951 GP



PEARL
MILK

NO PARKING
ANY TIME
ON THIS STREET
DURING
HOLIDAY SEASONS

pulp

dathan
hunter

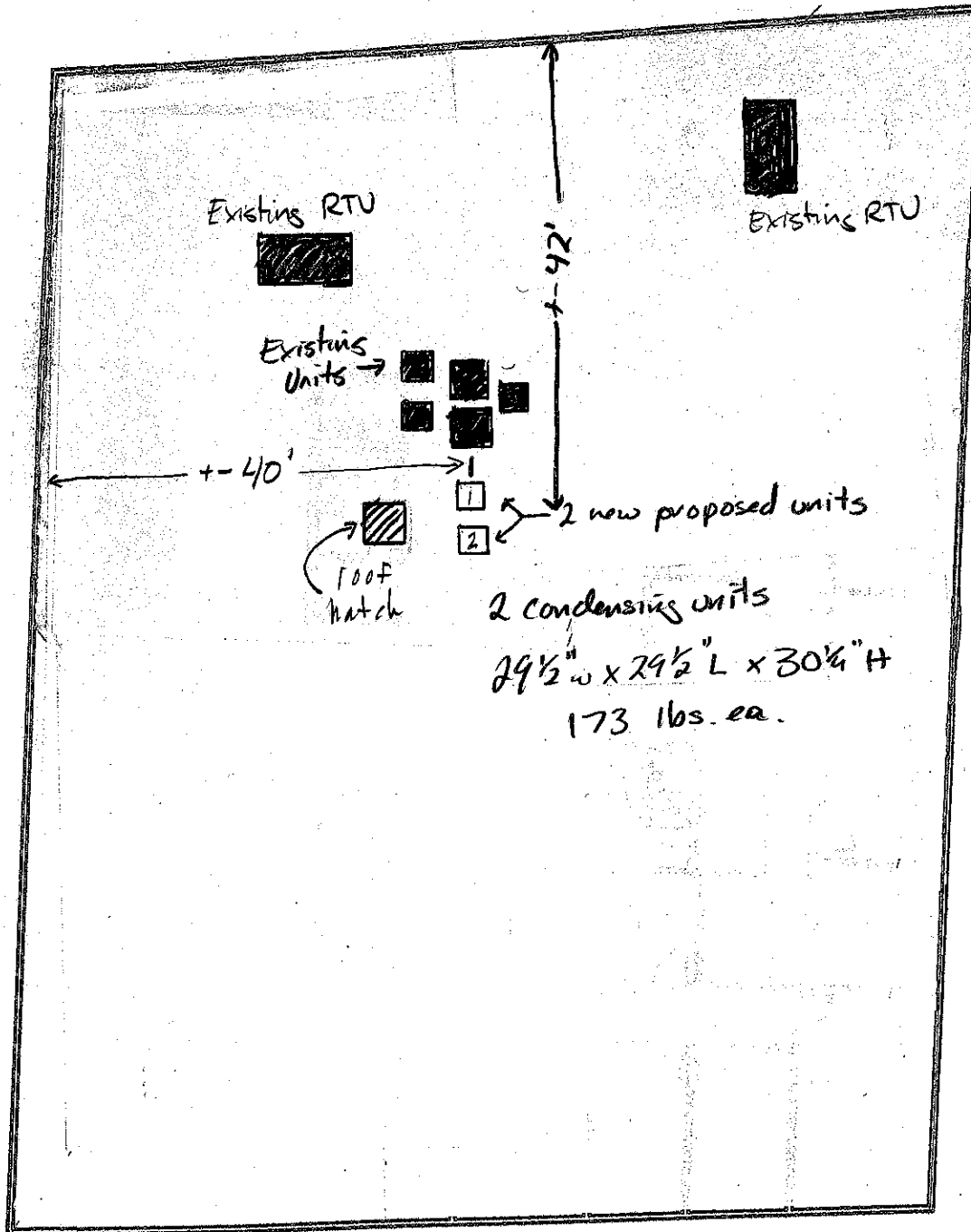


Reviewed for Code Compliance
Inspections Division
Approved with Conditions

Date: 12/11/14

PEARL STREET

MILK STREET



4 MILK STREET ROOF PLAN