INSTALLATION INSTRUCTIONS

LRP14AC/HP36 3-Ton
LRP14AC/HP48 4-Ton
LRP14AC/HP60 5-Ton

COOLING AND HEAT PUMP PACKAGED UNITS

508717-01
5/2025

Table of Contents

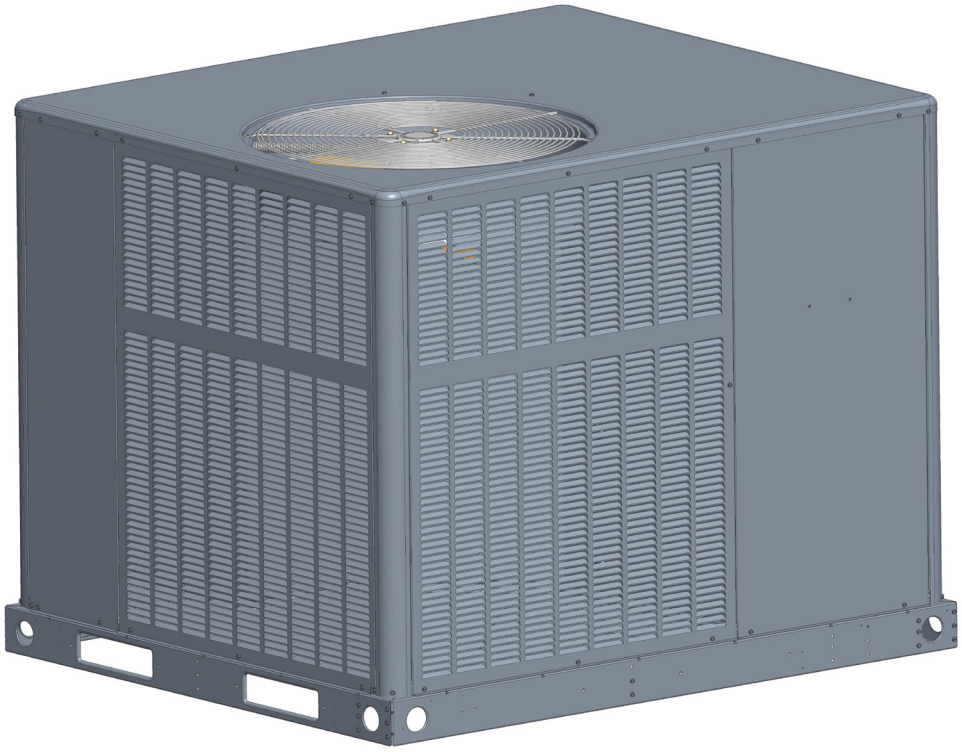
⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

⚠ CAUTION

As with any mechanical equipment, contact with sharp sheet metal edges can result in personal injury. Take care while handling this equipment and wear gloves and protective clothing.

RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE



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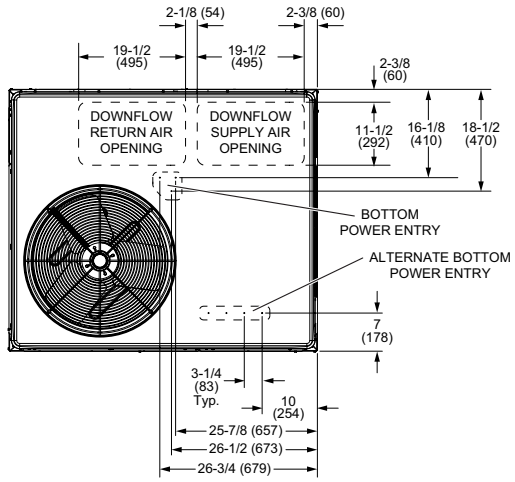
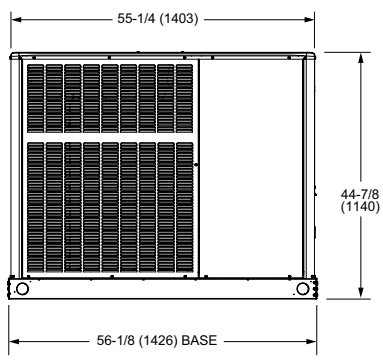
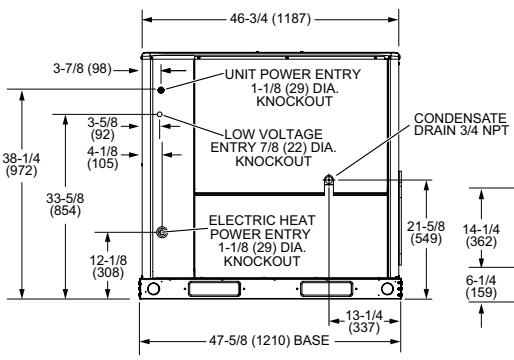
DIMENSIONS in. (mm) - LRP14AC/HP36, 48, 60



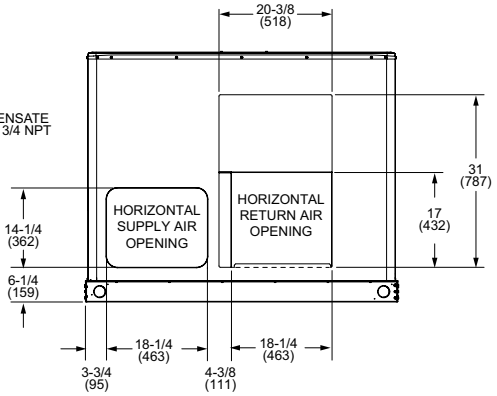
TOP VIEW (Base)



FRONT VIEW

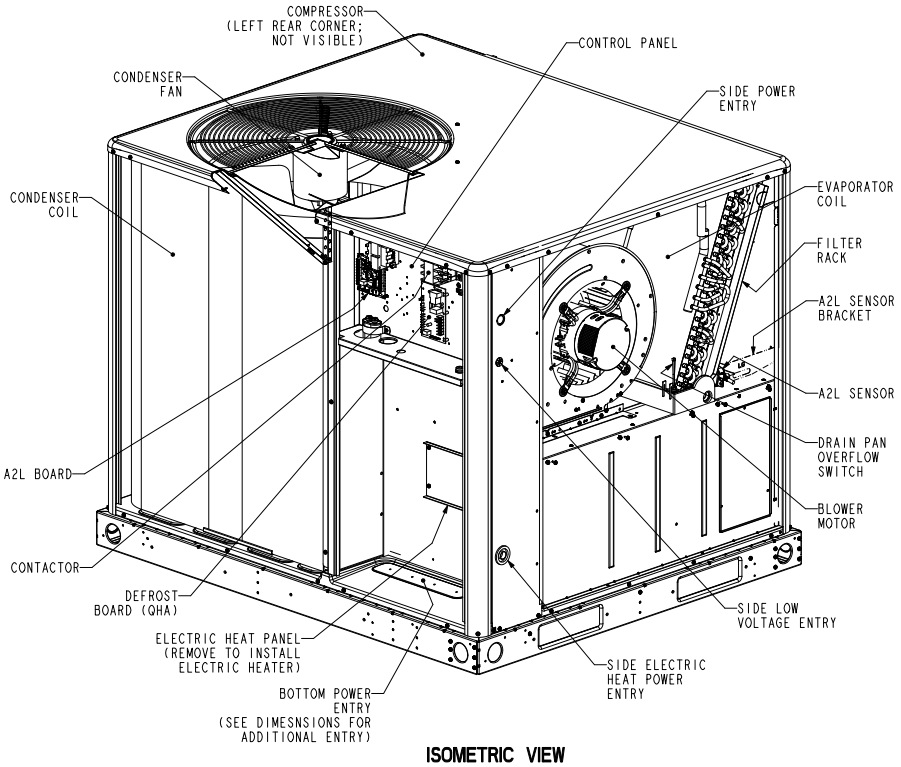


RIGHT SIDE VIEW



BACK VIEW

PARTS ARRANGEMENT - LRP14AC/HP36, 48, 60



ISOMETRIC VIEW

Shipping and Packing List

Package 1 of 1 contains:

1 - Assembled unit

Check unit for shipping damage. Receiving party should contact last carrier immediately if shipping damage is found.

General

These instructions are intended as a general guide and do not supersede local codes in any way. Authorities having jurisdiction should be consulted before installation. This unit is designed for use with R-454B refrigerant only.

Requirements

See FIGURE 1 for unit clearances.

⚠ NOTICE

Roof Damage!

This system contains both refrigerant and oil. Some rubber roofing material may absorb oil, causing the rubber to swell. Bubbles in the rubber roofing material can cause leaks. Protect the roof surface to avoid exposure to refrigerant and oil during service and installation. Failure to follow this notice could result in damage to roof surface.

⚠ WARNING

Electric shock hazard and danger of explosion. Can cause injury, death or product or property damage. Turn off gas and electrical power to unit before performing any maintenance or servicing operations on the unit. Follow lighting instructions attached to unit when putting unit back into operation and after service or maintenance.

⚠ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFC's and HCFC's) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for non-compliance.

⚠ WARNING

Improper installation, adjustment, alteration, service or maintenance can cause property damage, personal injury or loss of life. Installation and service must be performed by a licensed professional HVAC installer or equivalent, service agency, or the gas supplier.

⚠ WARNING

Every working procedure that affects safety means shall only be carried out by competent persons. This appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety. Children should be supervised to ensure they do not play with the appliance.

⚠ CAUTION

Leak Detection System installed. Unit must be powered except for service.

⚠ CAUTION

Servicing shall be performed only as recommended by the manufacturer.

⚠ IMPORTANT

The Clean Air Act of 1990 bans the intentional venting of refrigerant (CFCs, HCFCs and HFCs) as of July 1, 1992. Approved methods of recovery, recycling or reclaiming must be followed. Fines and/or incarceration may be levied for noncompliance.

⚠ WARNING

Ducts connected to an appliance shall not contain a potential ignition source

⚠ WARNING

For appliances using A2L refrigerants connected via an air duct system to one or more rooms, only auxiliary devices approved by the appliance manufacturer or declared suitable with the refrigerant shall be installed in connecting ductwork.

⚠ WARNING

- Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer.
- The appliance shall be stored in a room without continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater).
- Do not pierce or burn.
- Be aware that refrigerants may not contain an odor.

⚠ WARNING

Auxiliary devices which may be a potential ignition source shall not be installed in the duct work. Examples of such potential ignition sources are hot surfaces with a temperature exceeding 1,292 F (700°C) and electric switching devices.

⚠ WARNING

This product is not intended to be installed inside of a false ceiling or drop ceiling.

⚠ CAUTION

Any service personnel installing, decommissioning, or performing maintenance on the unit must be properly trained with A2L refrigerants

⚠ IMPORTANT

Verify cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

⚠ IMPORTANT

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM grounded (to earth) prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak tested on completion of charging, but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

⚠ IMPORTANT

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available. All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i. e. special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order. Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of all appropriate refrigerants including, when applicable, flammable refrigerants. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition. Before using the recovery machine, check that it is in satisfactory working order, has been properly maintained and that any associated electrical components are sealed to prevent ignition in the event of a refrigerant release. Consult manufacturer if in doubt.

The recovered refrigerant shall be returned to the refrigerant supplier in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that flammable refrigerant does not remain within the lubricant. The evacuation process shall be carried out prior to returning the compressor to the suppliers. Only electric heating to the compressor body shall be employed to accelerate this process. When oil is drained from a system, it shall be carried out safely.

⚠ IMPORTANT

When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed and, since flammability is a consideration, procedures such as safely remove refrigerant following local and national regulations, purging the circuit with inert gas, evacuating (optional for A2L), purging with inert gas (optional for A2L), or opening the circuit by cutting or brazing be adhered to. The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants.

This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems. For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place. Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and that ventilation is available.

Table 1. Minimum conditioned area

ETIPR.... 101873-02	**Charge (lb)**	<4	4	6	8	10
	Charge (kg)	<1.8	1.8	2.7	3.6	4.5
Minimum Conditioned Area (ft^2)		N/A*	60	90	120	150
Minimum Conditioned Area (m^2)		N/A*	5.6	8.4	11.2	14.0

* Units with refrigerant charge below 4 lb.(1.8 kg) do not require a minimum conditioned room area.

-Units supply duct must be connected via air dust system to one or more rooms, totaling minimum conditioned area.

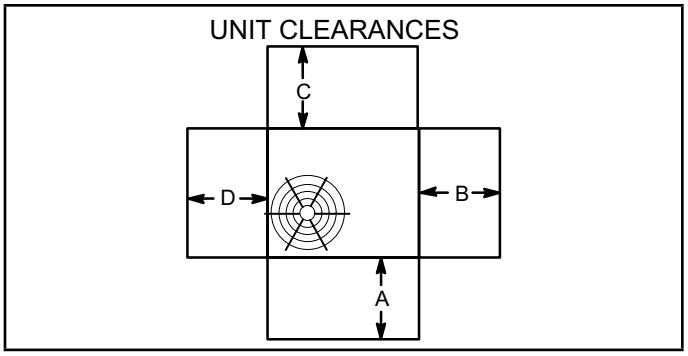


FIGURE 1

[1] Unit Clearance	A in.	B in.	C in.	D in.	Top Clearance
Service Clearance	24	24	0	24	48

NOTE - Entire perimeter of unit base requires support when elevated above mounting surface.

[1] **Service Clearance** - Required for removal of serviceable parts.

Minimum Operation Clearance - Required clearance for proper unit operation.
Location

1 - Unit is designed for outdoor installation only. Unit must be installed so all electrical components are protected from water.

2 - Condenser coils must have an unlimited supply of air.

3 - For ground level installation, use a level prefabricated pad or use a level concrete slab. Do not tie the slab to the building foundation.

4 - Maintain level within a tolerance of 1/4” maximum across the entire length or width of the unit.

⚠ CAUTION

Unit levelness is critical for proper float switch operation.

Use of this unit as a construction heater or air conditioner is not recommended during any phase of construction. Very low return air temperatures, harmful vapors and operation of the unit with clogged or misplaced filters will damage the unit.

If this unit has been used for heating or cooling of buildings or structures under construction, the following conditions must be met or the warranty will be void:

- A room thermostat must control the unit. The use of fixed jumpers that will provide continuous heating or cooling is not allowed.
- A pre-filter must be installed at the entry to the return air duct.
- The return air duct must be provided and sealed to the unit.
- Return air temperature range between 55°F (13°C) and 80°F (27°C) must be maintained.
- Air filters must be replaced and pre-filters must be removed upon construction completion.

- The components, duct system, air filters and evaporator coil must be thoroughly cleaned following final construction clean-up.
- The unit operating conditions (including airflow an cooling operation) must be verified according to these installation instructions.

UNIT SUPPORT

In the U.S., units may be installed on combustible floors made from wood or class A, B, or C roof covering material.

In Canada, units may be installed on combustible floors.

NOTE - Securely fasten roof curb to roof per local codes.

⚠ CAUTION

To reduce the likelihood of supply / return air bypass and promote a proper seal with the rooftop unit, duct work / duct drops / diffuser assemblies must be supported independently to the building structure.

A - Downflow Discharge Application

Roof Mounting with ACURB85

1 - The ACURB85 roof mounting curb must be installed, flashed and sealed in accordance with the instructions provided with the curb.

2 - The ACURB85 roof mounting curb should be square and level to 1/16” per linear foot (5mm per linear meter) in any direction.

3 - Duct must be attached to the roof mounting curb and not to the unit; supply and return plenums must be installed before setting the unit.

4 - Prior to setting the unit on the roof curb, remove the shipping bracket located underneath the unit. Remove the two screws in the base rail (located on the front and rear of the unit). The four screws and the bracket can be discarded. See FIGURE 2.

5 - Be sure that all required clearances are observed (see Clearances section).

Installer’s Roof Mounting Curb

Many types of roof curbs can be used to install the unit depending upon different roof structures. Items to keep in mind when using the building curb or supports are:

1 - The base is fully enclosed and not insulated, so an enclosed, insulated curb is required.

2 - The curbs or supports must be constructed with non-combustible materials and should be square and level to 1/16” per linear foot (5mm per linear meter) in any direction.

3 - Curb or supports must be high enough to prevent any form of moisture from entering unit. Recommended minimum curb height is 14” (356mm).

4 - Duct must be attached to the roof mounting curb and not to the unit. Supply and return plenums must be installed before setting the unit.

5 - Units require support along all four sides of unit base. Supports must be constructed of steel or suitably treated wood materials.

B - Horizontal Discharge Applications

1 - Specified installation clearances must be maintained when installing units. Refer to FIGURE 1.

2 - Top of support slab should be approximately 4” (102mm) above the finished grade and located so no run-off water from higher ground can collect around the unit.

3 - Units require support along all four sides of unit base. Supports must be constructed of steel or suitably treated wood materials.

DUCT CONNECTION

All exterior ducts, joints and openings in roof or building walls must be insulated and weather-proofed with flashing and sealing compounds in accordance with applicable codes. Any duct passing through an unconditioned space must be insulated.

The duct system should be designed and sized according to the methods in the Air Conditioning Contractors of America (ACCA) manual that is most appropriate to the installation application.

A closed return air duct system shall be used. This shall not preclude use of economizers or outdoor fresh air intake.

It is recommended that supply and return air duct connections at the unit be made with flexible joints. The supply and return air duct systems should be designed for the CFM and static requirements of the job. They should not be sized by matching the dimensions of the duct connections on the unit. The unit is shipped capable of either horizontal flow (side duct connections) or down flow (bottom duct connections). Duct attachment screws are intended to go into the duct panel. Duct to unit connections must be sealed and weather-proofed.

⚠ CAUTION

In downflow applications, do not drill or punch holes in base of unit. Leaking in roof may occur if unit base is punctured.

Rigging Unit For Lifting

Rig unit for lifting by attaching four cables to holes in unit base rail. See FIGURE 2.

Exercise care when moving the unit. Do not remove any packaging until the unit is near the place of installation.

1 - Connect rigging to the unit base rails using both holes in each corner.

2 - All panels must be in place for rigging.

3 - Place field-provided spreaders in place. Spreaders must be of adequate strength and length (must exceed unit dimension by 6 inches). Units may also be moved or lifted with a forklift. **The lengths of the forks of the forklift must be a minimum of 42 inches.**

CAUTION - Before lifting a unit, make sure that the weight is distributed equally on the cables so that it will lift evenly.

Unpacking

Locate the four stacking brackets at each corner of the top panel. Remove the screws that secure these brackets. All screws must be re-installed. The stacking brackets can be discarded. Remove the bag and remaining packaging material, which can be discarded. Locate the four plastic fork slot bumpers on the base rails. Remove the fasteners and bumpers and discard.

Downflow Air Discharge

Unit is shipped with panels covering the horizontal and downflow supply and return air openings (four covers).

1 - Before setting the unit on a roof curb, see “Roof Mounting” section for instructions on removing the shipping bracket underneath the unit.

2 - Remove and retain the horizontal supply and return duct covers.

3 - Remove the four screws securing the downflow duct covers inside the unit. Remove and discard the covers.

4 - Remove screws located between the supply and return air openings that attach the blower deck to the base, and discard these screws. These screws can interfere with bottom duct connections or roof curb seals.

5 - Install the duct system onto the unit.

6 - Replace the retained horizontal supply and return duct covers.

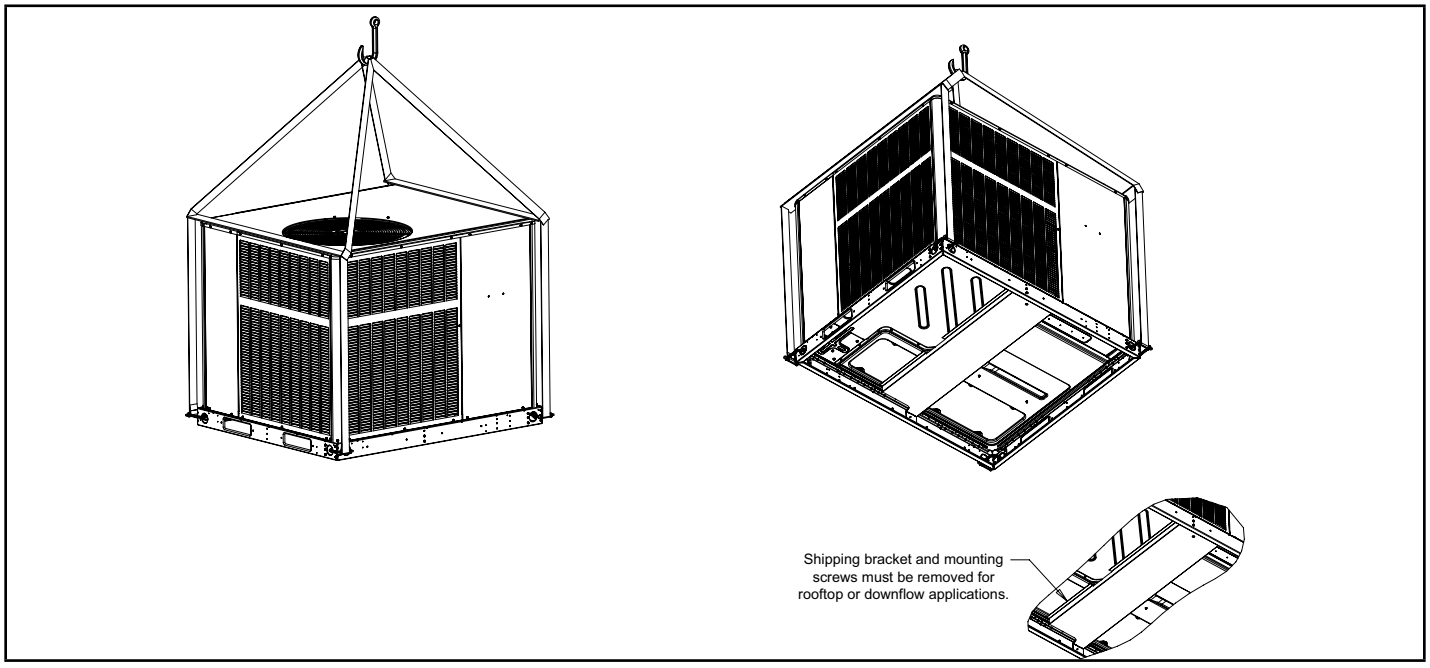


FIGURE 2

Field-Installed Economizer (Downflow)

1 - Before setting the unit on a roof curb, see “Roof Mounting” section for instructions on removing the shipping bracket underneath the unit.

2 - Remove the horizontal supply and return duct covers.

3 - Remove the four screws securing the downflow duct covers inside the unit. Remove and discard the covers.

4 - Remove the screws securing the bottom covers, and discard the bottom covers (supply and return).

5 - Remove screws located between the supply and return air openings that attach the blower deck to the base, and discard these screws. These screws can interfere with bottom duct connections or roof curb seals.

6 - Remove the close-out panel from the left-hand side of the return duct opening.

7 - Remove the return air panel above the return duct opening.

8 - Install the economizer into the unit rear panel. Wire and set up following the instructions that accompany the economizer.

9 - Return air duct must be field-supported.

10 - Unused covers and panels can be discarded.

Horizontal Air Discharge

Unit is shipped with panels covering the horizontal and downflow supply and return air openings. See FIGURE 3.

Field-Installed Economizer (Horizontal)

1 - Remove the horizontal duct covers over the supply and return duct openings. Covers can be discarded.

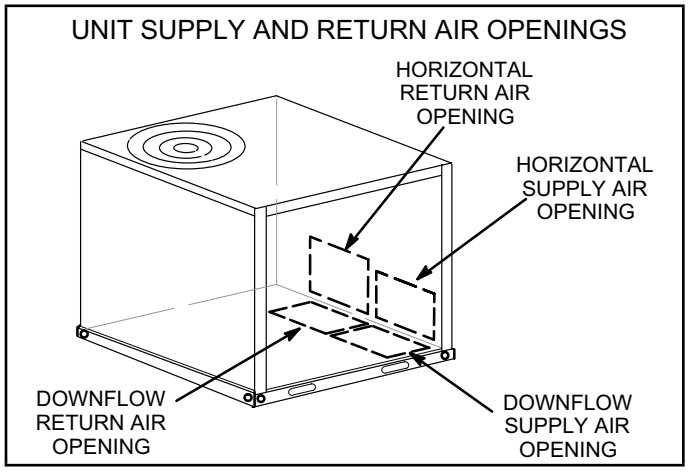


FIGURE 3

2 - Remove the close-out panel from the left-hand side of the return duct opening.

3 - Remove the return air panel above the return duct opening.

4 - Remove the lower (relief) hood from the economizer.

5 - Install the economizer into the unit rear panel. Wire and set up following the instructions that accompany the economizer.

6 - Install return air duct to the economizer at the former location of the relief hood.

7 - Cut a 20” wide X 14” high opening in the return air duct and install the economizer relief hood. See FIGURE 4.

8 - Return air duct must be field-supported.

9 - Unused covers and panels can be discarded.

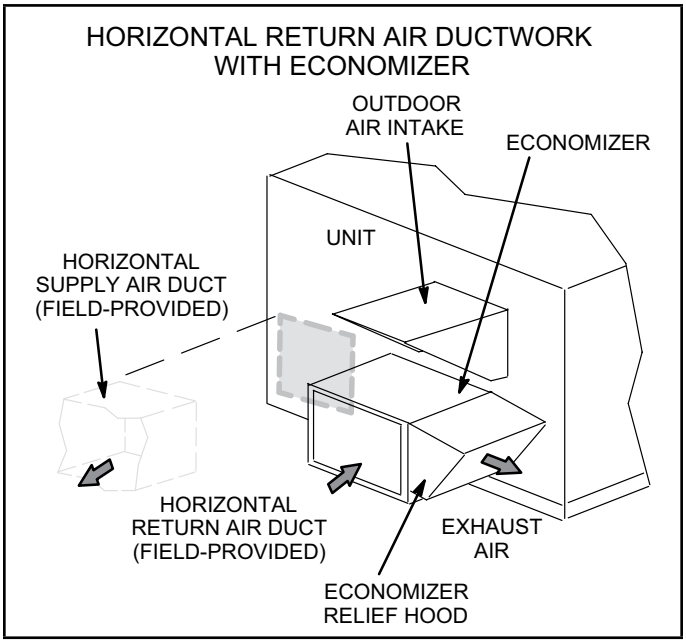


FIGURE 4

Condensate Drains

This package unit is equipped with a 3/4” FPT coupling for condensate line connection. Plumbing must conform to local codes. Use a sealing compound on male pipe threads.

Do not operate unit without a drain trap. The condensate drain is on the negative pressure side of the blower; therefore, air being pulled through the condensate line will prevent positive drainage without a proper trap. **The condensate drain line must be properly trapped, routed to a suitable drain and primed prior to unit commissioning.**

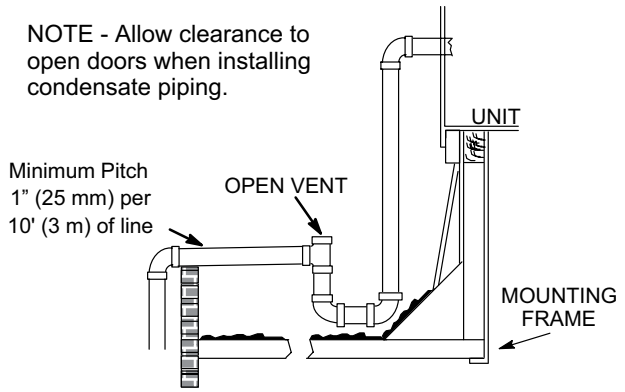
NOTE - Install drain lines and trap so they do not block service access to the unit.

See FIGURE 5 for proper drain arrangement. The drain line must pitch to an open drain or pump to prevent clogging of the line. Seal around the drain connection with suitable material to prevent air leakage into the return air system.

To prime trap, pour several quarts of water into drain, enough to fill drain trap and line.

CAUTION - Drain lines should be hand-tightened only. Do not use tools to tighten fitting into drain.

CONDENSATE SIDE DRAIN CONNECTION



Trap must be deep enough to offset maximum static difference (generally, 3 inches (76 mm) minimum). In addition, the drain line must be supported if longer than 10 feet. Trap must be primed at start-up.

FIGURE 5

Electrical Connections

All wiring should be done in accordance with the National Electrical Code, ANSI/NFPA No. 70 (latest edition); Canadian Electrical Code Part 1, CSA 22.2 60335-1 & 60335-2-40 (latest edition); or local codes where they prevail. Use wiring with a temperature limitation of 75°C minimum. Run the 208, 230, or 460 volt, 60 hertz electric power supply through a fused disconnect switch to the control box of the unit and connect as shown in the wiring diagram located on the inside of the control access panel.

Power supply to the unit must be N.E.C. Class 1, and must comply with all applicable codes. A disconnect switch should be field provided for the unit; follow local codes to determine what type of switch to use. The switch must be separate from all other circuits. If any of the wire supplied with the unit must be replaced, replacement wire must be of the type shown on the wiring diagram. Electrical wiring must be sized to carry minimum circuit ampacity marked on the unit. Use copper conductors only. Each unit must be wired with a separate branch circuit and be properly fused.

An optional bottom-entry power kit is available for these units. See the instructions in that kit for proper installation details.

A Photocatalytic Oxidation (PCO) air purification system is available as a field-installed accessory for this product. A wiring harness for the installation of this accessory has been factory installed. If this accessory is going to be installed, it becomes critical that the system filter be installed ahead of this unit's return. Therefore, see the PCO accessory for filter requirements, plan the installation of filter ahead of this unit, and do not use the internal filter rack described above.

THERMOSTAT WIRING

A - Thermostat Location

Room thermostat mounts vertically on a standard 2" X 4" handy box or on any non-conductive flat surface.

Locate thermostat approximately 5 feet (1524mm) above the floor in an area with good air circulation at average temperature. Avoid locating the room thermostat where it might be affected by:

- Drafts or dead spots behind doors and in corners
- Hot or cold air from ducts
- Radiant heat from sun or appliances
- Concealed pipes and chimneys

B - Control Wiring

1 - Route thermostat cable or wires from subbase to control panel (refer to unit dimensions to locate bottom and side power entry).

IMPORTANT - Unless field thermostat wires are rated for maximum unit voltage, they must be routed away from line voltage wiring.

Use18 AWG wire for all applications using remotely installed thermostats.

2 - Install thermostat assembly in accordance with instructions provided with thermostat.

3 - Connect thermostat wiring to leads in control panel. Wire as shown in FIGURE 6.

4 - Four wires are required for cooling.

5 - A thermostat capable of two-stage cooling is required when economizers are installed.

C - Heat Anticipator

The heat anticipator setting is 0.75 amp. It is important that the anticipator setpoint be correct. Too high of a setting will result in longer heat cycles and a greater temperature swing in the conditioned space. Reducing the value below the correct setpoint will give shorter "ON" cycles and may result in the lowering of the temperature within the conditioned space.

IMPORTANT - Terminal connections at the wall plate or subbase must be made securely. Loose control wire connections may allow unit to operate but not with proper response to room demand.

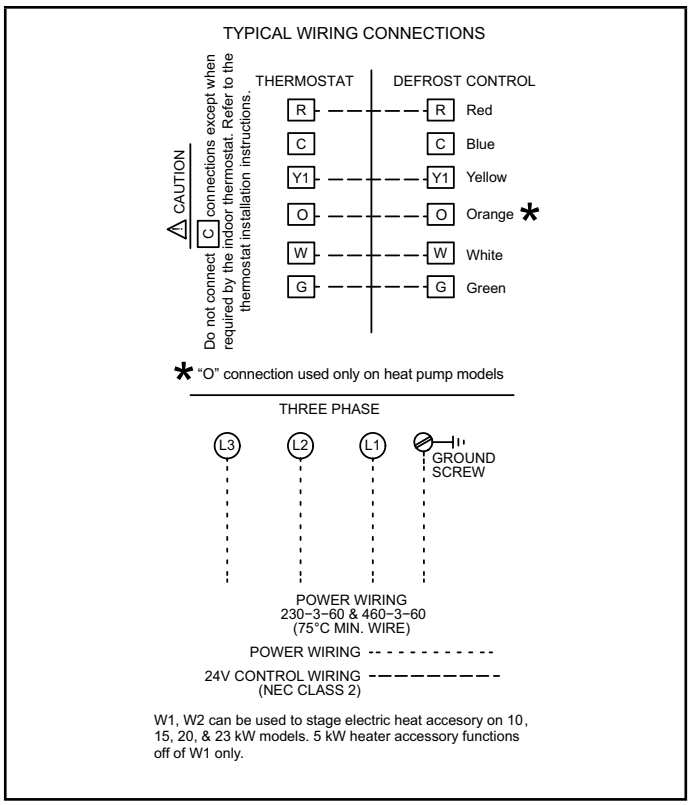


FIGURE 6

Blower Operation and Adjustments

Units are equipped with direct drive blowers.

⚠ IMPORTANT

Three phase scroll compressors must be phased sequentially for correct compressor and blower rotation. Follow "COOLING START-UP" section of installation instructions to ensure proper compressor and blower operation.

Initiate blower demand at thermostat according to instructions provided with thermostat. Unit will cycle on thermostat demand. The following steps apply to applications using a typical thermostat.

1 - Blower operation is manually set at the thermostat subbase fan switch. With fan switch in **ON** position, blowers will operate continuously.

2 - With fan switch in **AUTO** position, the blowers will cycle with demand. Blowers and entire unit will be off when system switch is in **OFF** position.

BLOWER PERFORMANCE

LRP14AC/HP36

Blower Tap		External Static (in.w.g.)									
		0.1	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**
Tap 1 (Fan Only)	CFM	923	848	748	631	541	474	405	342	- - -	- - -
	RPM	443	496	560	623	667	707	748	788	- - -	- - -
	Watts	84	91	100	108	114	119	125	131	- - -	- - -
Tap 2 (Low Cooling)	CFM	1488	1429	1371	1312	1250	1175	1110	1038	952	881
	RPM	676	704	734	763	794	836	873	911	951	982
	Watts	259	266	275	283	292	305	317	328	340	350
Tap 3 (High Cooling)	CFM	1663	1612	1567	1518	1476	1424	1376	1316	1262	1193
	RPM	671	701	728	762	789	823	855	893	931	971
	Watts	322	333	343	355	366	379	390	405	419	435
[1] Tap 4 (Low Electric Heat)	CFM	1488	1429	1371	1312	1250	1175	1110	1038	952	881
	RPM	676	704	734	763	794	836	873	911	951	982
	Watts	259	266	275	283	292	305	317	328	340	350
[1] Tap 5 (High Electric Heat)	CFM	1663	1612	1567	1518	1476	1424	1376	1316	1262	1193
	RPM	671	701	728	762	789	823	855	893	931	971
	Watts	322	333	343	355	366	379	390	405	419	435

NOTE - All air data is measured external to unit with dry coil and without air filters.

[1] Taps 4 and 5 are used with Optional Electric Heat. Refer to Electric Heat nameplate for proper heat tap selection.

LRP14AC/HP48

Blower Tap		External Static (in.w.g.)									
		0.1	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**
Tap 1 (Fan Only)	CFM	1301	1175	1053	987	904	817	715	637	579	530
	RPM	574	584	607	647	699	749	804	845	876	909
	Watts	193	177	170	177	188	197	210	218	224	231
Tap 2 (Low Cooling)	CFM	1875	1830	1782	1734	1686	1638	1588	1536	1482	1426
	RPM	768	796	823	850	877	903	929	954	982	1011
	Watts	428	441	454	467	480	492	504	516	529	543
Tap 3 (High Cooling)	CFM	1961	1919	1877	1838	1800	1759	1716	1676	1635	1595
	RPM	791	817	840	868	890	916	942	968	993	1020
	Watts	472	486	498	512	523	537	550	565	577	591
[1] Tap 4 (Low Electric Heat)	CFM	1875	1830	1782	1734	1686	1638	1588	1536	1482	1426
	RPM	768	796	823	850	877	903	929	954	982	1011
	Watts	428	441	454	467	480	492	504	516	529	543
[1] Tap 5 (High Electric Heat)	CFM	1961	1919	1877	1838	1800	1759	1716	1676	1635	1595
	RPM	791	817	840	868	890	916	942	968	993	1020
	Watts	472	486	498	512	523	537	550	565	577	591

NOTE - All air data is measured external to unit with dry coil and without air filters.

[1] Taps 4 and 5 are used with Optional Electric Heat. Refer to Electric Heat nameplate for proper heat tap selection.

LRP14AC/HP60

Blower Tap		External Static (in.w.g.)									
		0.1	**0.2**	**0.3**	**0.4**	**0.5**	**0.6**	**0.7**	**0.8**	**0.9**	**1.0**
Tap 1 (Fan Only)	CFM	1401	1339	1285	1231	1177	1114	1041	978	886	811
	RPM	595	628	658	694	729	774	817	867	922	969
	Watts	212	221	227	237	246	258	269	282	297	308
Tap 2 (Low Cooling)	CFM	1974	1926	1880	1840	1798	1756	1718	1676	1638	1596
	RPM	788	812	837	858	878	900	926	954	980	1011
	Watts	505	514	526	537	547	556	571	584	597	611
Tap 3 (High Cooling)	CFM	2337	2302	2263	2226	2182	2147	2107	2072	2038	1992
	RPM	913	931	953	971	992	1010	1032	1044	1069	1090
	Watts	816	829	842	854	868	878	894	900	915	919
[1] Tap 4 (Low Electric Heat)	CFM	1974	1926	1880	1840	1798	1756	1718	1676	1638	1596
	RPM	788	812	837	858	878	900	926	954	980	1011
	Watts	504	514	526	537	547	556	571	584	597	611
[1] Tap 5 (High Electric Heat)	CFM	2337	2302	2263	2226	2182	2147	2107	2072	2038	1992
	RPM	913	931	953	971	992	1010	1032	1044	1069	1090
	Watts	816	829	842	854	868	878	894	900	915	919

NOTE - All air data is measured external to unit with dry coil and without air filters.

[1] Taps 4 and 5 are used with Optional Electric Heat. Refer to Electric Heat nameplate for proper heat tap selection.

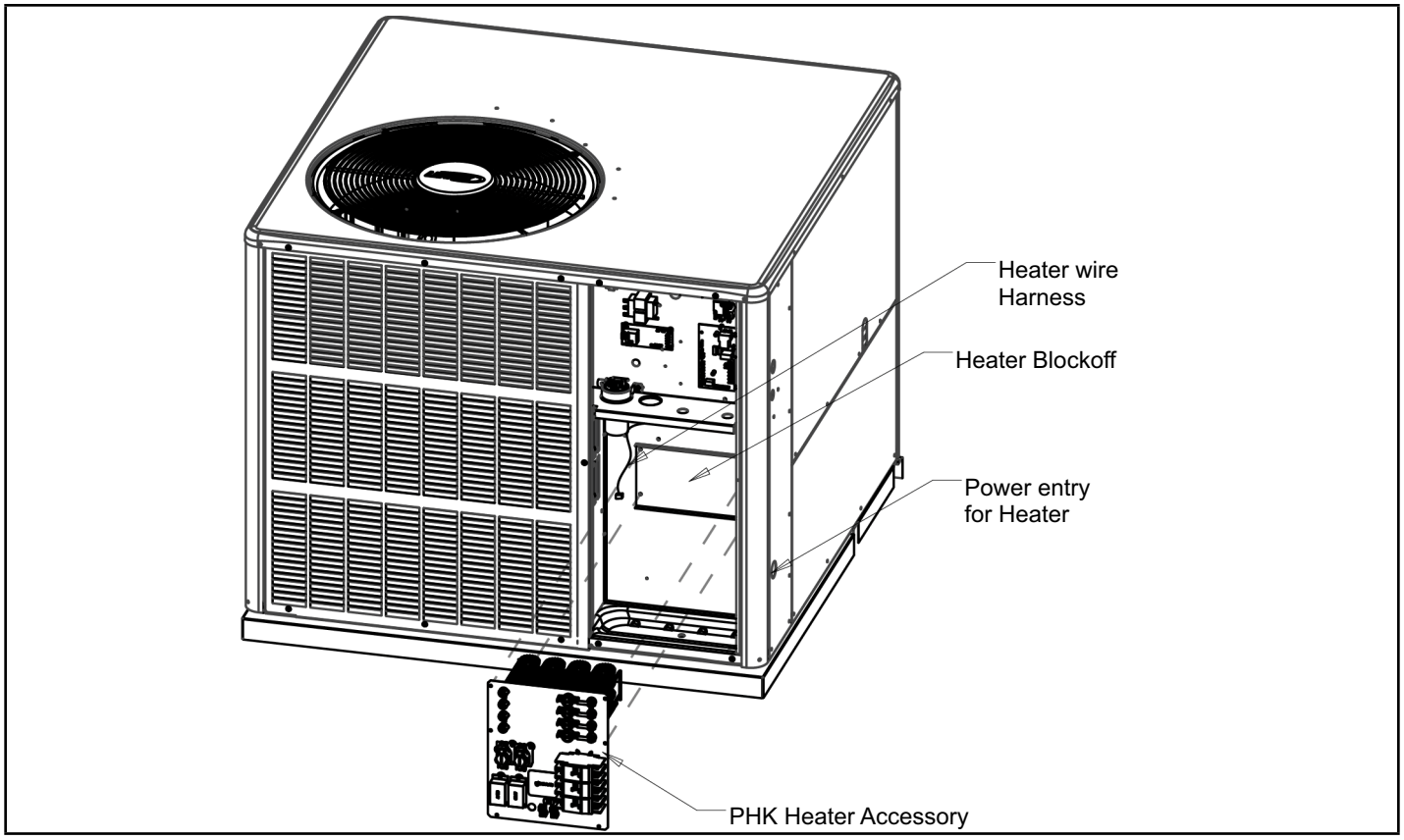


FIGURE 7

Heater Kit Accessory (if used)

This unit is fully equipped for cooling operation without auxiliary heat. A heater kit accessory may also be used. Install the heater kit as follows. See FIGURE 7.

1 - Disconnect the power and open the main control access.

2 - Disconnect the plug separating the high voltage wire harness. Remove the high voltage wire harness plug and discard.

3 - Remove the four screws holding the heater block-off in place and remove block-off.

4 - Insert the heater into the control panel and fasten using the same mounting holes.

5 - Plug the heater wiring harness into the wire harness on the control assembly. Field wiring of the auxiliary heater is separate from the unit power supply. Wire the power supply wiring for the heater to the appropriate connections on the heater kit.

Start-Up

RDS Control Check

The RDS Non-Communicating Blower Control Board is equipped with a Test/Reset button. Once the HVAC system has been powered, the system will then run through a purge sequence for five (5) minutes. After the purge sequence is complete, proceed to testing cooling demand and heating demand.

A - Operation

Cooling

- When the thermostat is in the cooling mode, the O circuit is powered, which energizes the reversing valve.
- Upon cooling demand, the thermostat closes circuit R and Y.
- Closing R and Y closes the unit contactor, starting the compressor and outdoor fan.
- The thermostat automatically closes the R to G circuit, which brings on the indoor blower at the same time.
- Upon satisfying cooling demand, the thermostat will open the above circuits and open the main contactor, stopping the compressor and outdoor fan.
- If the unit is equipped with a delay timer, the blower will continue to operate for 60 to 90 seconds, which improves system efficiency.

Heating - Heat Pump Stage

- Upon heating demand, the thermostat closes circuit R to Y, which closes the unit contactor, starting the compressor and outdoor fan.
- The reversing valve is not energized in the heating mode.
- The thermostat again automatically brings on the indoor fan at the same time.
- Upon satisfying heating demand, the thermostat opens above circuits and stops unit operation.

Heating - Heat Pump Stage

- Upon heating demand for auxiliary electric heat, the thermostat closes circuit R to W, which energizes the heater sequencers as well as the indoor blower.
- Upon satisfying auxiliary heat demand, the thermostat opens above circuits and heating elements sequence off; blower continues to operate until all heating elements have turned off.

B - Defrost System

The defrost system includes two components: the defrost thermostat and the defrost control.

Defrost Thermostat

The defrost thermostat is located on the evaporator coil. When the defrost thermostat senses 35°F or cooler, the thermostat contacts close and send a signal to the defrost control board to start the defrost timing. It also terminates defrost when the liquid line warms up to 60°F.

Defrost Control

The defrost control board includes the combined functions of time/temperature defrost control, defrost relay, diagnostic LEDs and terminal strip for field wiring connections. See FIGURE 8.

The control provides automatic switching from normal heating operation to defrost mode and back. During the compressor cycle (call for defrost), the control accumulates compressor run time at 30, 60, 90 minute field-adjustable intervals. If the defrost thermostat is closed when the selected compressor run time interval ends, the defrost relay is energized and the defrost begins.

1 - An on-board outdoor ambient temperature sensor on the defrost control bypasses the low pressure switch during low ambient temperature below 15°F in heating mode to eliminate nuisance low pressure trips.

NOTE - 15°F is an approximate temperature, depending upon model and installation location.

2 - A defrost cycle will initiate when there has been a low pressure switch trip; the defrost sensor must be closed and the defrost time interval must not have expired.

3 - At the end of the defrost cycle, when the unit goes back to heating mode, the low pressure switch is checked to see if it has reset. If so, the strikeout is not counted. This prevents lockout during extreme winter conditions.

RDS Control Check

The RDS Non-Communicating Blower Control Board is equipped with a Test/Reset button. Once the HVAC system has been powered, the system will then run through a purge sequence for five (5) minutes. After the purge sequence is complete, proceed to testing cooling demand and heating demand.

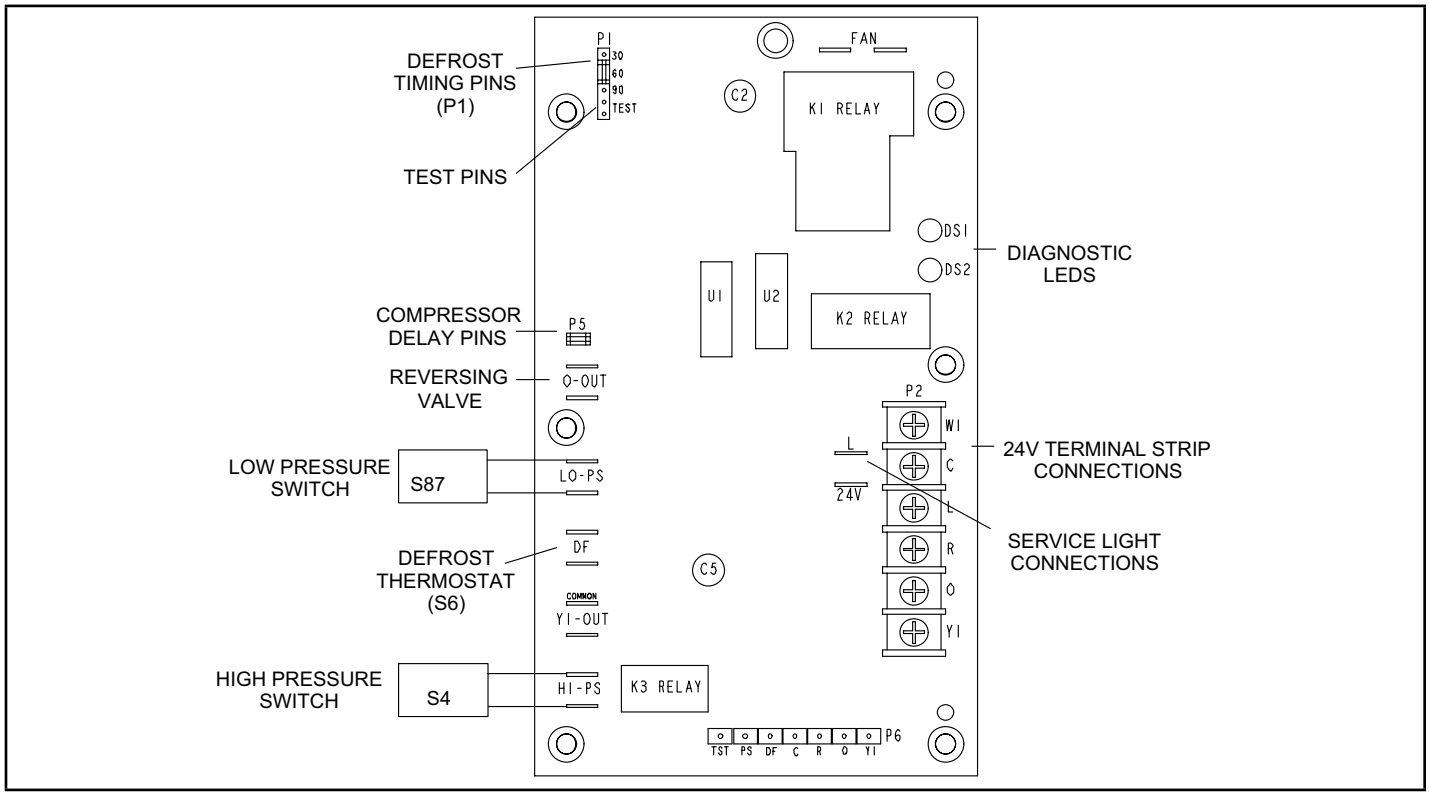


FIGURE 8

Defrost Control Timing Pins

Each timing pin selection provides a different accumulated compressor run time period during one thermostat run cycle. This time period must occur before a defrost cycle is initiated. The defrost interval can be adjusted to 30 (T1), 60 (T2), or 90 (T3) minutes. It is intended that this **product should be set at the 60-minute time interval** at initial installation. If the timing selector jumper is not in place, the control defaults to a 90-minute defrost interval. The maximum defrost period is 14 minutes and cannot be adjusted.

NOTE - For geographic areas that experience low temperature and high humidity conditions (below 35°F and above 80% RH), the defrost timer pin must be field set at installation to a 60 or 30 minute defrost interval to ensure reliable system operation while in heating mode.

A test option is provided for troubleshooting. The test mode may be started any time the unit is in the heating mode and the defrost thermostat is closed or jumpered. If the jumper is in the TEST position at power up, the control will ignore the test pins. When the jumper is placed across the TEST pins for 2 seconds, the control will enter the defrost mode. If the jumper is removed before an additional 5-second period has elapsed (7 seconds total), the unit will remain in defrost mode until the defrost thermostat opens or 14 minutes have passed. If the jumper is not removed until after the additional 5-second period has elapsed, the defrost will terminate and the test option will not function again until the jumper is removed and reapplied.

Compressor Delay (Quiet Shift)

The defrost board has a field-selectable function to reduce occasional sounds that may occur while the unit is cycling in and out of the defrost mode. The compressor will be cycled off for 30 seconds going in and out of the defrost mode when the compressor delay jumper is removed.

NOTE: The 30-second "off" cycle is not functional when jumpering the TEST pins.

Time Delay

The defrost control includes a compressor timer, which ensures the compressor is off for a minimum amount of time between operating cycles.

The timed-off delay is 5 minutes long. The delay helps to protect the compressor from short cycling in case the power to the unit is interrupted or a pressure switch opens.

The delay is bypassed by placing the timer select jumper across the TEST pins for 0.5 seconds.

Pressure Switch Circuit

High and low pressure switches are connected to the defrost control board on heat pump models. Air conditioning models have a high pressure switch installed in line with compressor contactor coil. See FIGURE 8.

During a single demand cycle, the defrost control will lock out the unit after the fifth time that the circuit is interrupted by any pressure switch wired to the control board. In addition, the diagnostic LEDs will indicate a locked-out pressure switch after the fifth occurrence of an open pressure switch. See TABLE 1.

The unit will remain locked out until power to the board is interrupted, then re-established, or until the jumper is applied to the TEST pins for 0.5 seconds.

NOTE: The defrost control board ignores input from the low pressure switch terminals as follows:

- During the TEST mode
- During the defrost cycle
- During the 90-second start-up period
- For the first 90 seconds each time the reversing valve switches heat/cool modes

If the TEST pins are jumpered and the 5-minute delay is being bypassed, the LO PS terminal signal is not ignored during the 90-second start-up period.

Diagnostic LEDs

The defrost board uses two LEDs for diagnostics. The LEDs flash a specific sequence according to the condition as shown in TABLE 1.

TABLE 2

Defrost Board Diagnostic LEDs		
Green LED (DS2)	**Red LED (DS1)**	Condition
OFF	OFF	No Power to Control
Simultaneous Slow FLASH		Normal Operation / Power to Control
Alternating Slow FLASH		5-min Anti-Short Cycle Delay
ON	Slow FLASH	Low Pressure Switch Ignored (Low Ambient)
Fault and Lockout Codes		
OFF	Slow FLASH	Low Pressure Switch Fault
OFF	ON	Low Pressure Switch Lockout
Slow FLASH	OFF	High Pressure Switch Fault
ON	OFF	High Pressure Switch Lockout

C - Three-Phase Scroll Compressor Voltage Phasing

Three phase scroll compressors must be phased sequentially to ensure correct compressor and blower rotation and operation. Compressor and blower are wired in phase at the factory. Power wires are color-coded as follows: line 1-red, line 2-yellow, line 3-blue.

1 - Observe suction and discharge pressures and blower rotation on unit start-up.

2 - Suction pressure must drop, discharge pressure must rise and blower rotation must match rotation marking.

If pressure differential is not observed or blower rotation is not correct:

3 - Disconnect all remote electrical power supplies.

4 - Reverse any two field-installed wires connected to the line side of contactor.

5 - Make sure the connections are tight.

Discharge and suction pressures should operate at their normal start-up ranges.

D - Refrigerant Charge and Check

WARNING-Do not exceed nameplate charge under any condition.

This equipment is a self-contained, factory-optimized refrigerant system. The unit should not require adjustments to system charge when properly installed. If unit performance is questioned, perform the following checks.

Ensure unit is installed per manufacturers instructions and that line voltage and air flow are correct. Refer to TABLE 2 for proper performance value. The indoor metering device varies by model. When checking performance of a unit using an orifice for metering, refer to the suction superheat value to judge performance. When checking performance of a unit that uses an expansion valve for metering, refer to the subcooling value to judge system performance.

If the measured performance value varies from table value allowance, check internal seals, service panels and duct work for air leaks, as well as restrictions and blower speed settings. If unit performance remains questionable, remove system charge, evacuate to 500 microns, and weigh in refrigerant to nameplate charge. It is critical that the exact charge is re-installed. Failure to comply will compromise system performance.

If unit performance is still questionable, check for refrigerant-related problems, such as blocked coil or circuits, malfunctioning metering device or other system components.

TABLE 3

A/C COOLING SYSTEM PERFORMANCE VALUES

Model	Suction Superheat +/- 1
3 Ton	9.5
4 Ton	10.5
5 Ton	10

Based on outdoor ambient temperature of 82°F and indoor entering air of 80°F db / 6°F wb.

TABLE 4

HP COOLING SYSTEM PERFORMANCE VALUES

Model	Suction Superheat +/- 1	Liquid Subcooling +/- 1
3 Ton	12.5	
4 Ton	13	
5 Ton		10

Based on outdoor ambient temperature of 82°F and indoor entering air of 80°F db / 6°F wb.

TABLE 5

HP HEATING SYSTEM PERFORMANCE VALUES

Model	Liquid Subcooling +/- 1
3 Ton	31
4 Ton	28
5 Ton	35

Based on outdoor ambient temperature of 82°F and indoor entering air of 80°F db / 6°F wb.

E - Compressor Controls

See unit wiring diagram to determine which controls are used on each unit. Optional controls are identified on wiring diagrams by arrows at junction points.

1 - High Pressure Switch (S4)

The high pressure switch is an auto-reset SPST N.C. switch which opens on a pressure rise.

S4 is located in the compressor discharge line and is wired in series with the compressor contactor coil.

When discharge pressure rises to 590±10 psig (4068+69kPa), indicating a problem with the system, the switch opens. The respective compressor is de-energized but the economizer can continue to operate. Auto-reset switches close at 418±20psig (2882±138kPa).

2 - Compressor High Temperature Limit (S173)

The temperature limit switch S5 is located on the top of Interlink compressors and is wired in series with the high pressure switch S4.

TABLE 6

AC COOLING PERFORMANCE

80°F DB / 67°F WB Return Air		Air Temperature Entering Outdoor Coil, °F										
Cooling Input (1000 BTU)	**Pressure**	**65°**	**70°**	**75°**	**80°**	**85°**	**90°**	**95°**	**100°**	**105°**	**110°**	**115°**
36	SUCTION +/-2 PSIG	119	121	124	126	128	130	132	134	136	137	136
48		124	126	128	131	133	135	138	140	142	144	147
60		120	122	124	127	129	131	134	136	138	140	143
36	LIQUID +/- 4 PSIG	231	248	267	287	307	329	352	376	401	427	453
48		239	262	285	308	331	354	378	401	424	447	470
60		220	243	266	288	311	334	357	379	402	425	447
36	Superheat +/- 1 DEG F	17	15	14	13	12	10	9.5	7	4	3	2
48		21	19	17	16	14	12	10.5	9	7	5	3
60		26	23	21	18	15	13	10	7	5	2	2

TABLE 7

HP COOLING PERFORMANCE

80°F DB / 67°F WB Return Air		Air Temperature Entering Outdoor Coil, °F										
Cooling Input (1000 BTU)	**Pressure**	**65°**	**70°**	**75°**	**80°**	**85°**	**90°**	**95°**	**100°**	**105°**	**110°**	**115°**
36	SUCTION +/-2 PSIG	114	118	122	126	130	133	136	139	141	142	144
48		119	123	126	130	133	136	140	143	146	150	153
60		126	127	129	130	131	132	134	135	137	138	139
36	LIQUID +/- 4 PSIG	226	245	265	287	309	332	354	381	408	435	462
48		224	247	271	293	316	340	363	386	409	432	455
60		240	264	280	312	324	360	372	408	424	457	481
36	SUPERHEAT +/- 1 DEG F	31.5	29	27	24	21.4	18	12.5	10.5	8	5.5	3
48		29	26	24	21	18	15	13	10	7	4	2
60	SUB COOLING +/- 1 DEG F	7	7	7	7	7	8	10	8	6	6	6

TABLE 8

HP HEATING PERFORMANCE

80°F DB / 67°F WB Return Air		Air Temperature Entering Outdoor Coil, °F											
Cooling Input (1000 BTU)	**Pressure**	**0°**	**5°**	**10°**	**17°**	**20°**	**25°**	**35°**	**40°**	**47°**	**50°**	**55°**	**60°**
36	SUCTION +/-2 PSIG	36	41	46	50	58	65	79	87	100	106	109	124
48		28	30	37	49	53	62	78	86	98	102	111	119
60		35	41	47	55	58	63	73	78	95	96	105	114
36	LIQUID +/- 4 PSIG	270	279	288	290	290	301	324	335	347	350	369	370
48		249	259	266	278	283	291	308	316	329	333	341	349
60		268	275	277	295	299	307	323	330	341	341	348	355
36	SUB COOLING +/- 1 DEG F	24.5	26	27.5	27	24	26	30	32	31	30	38	31
48		21	22	23	24	24	25	26	27	28	28	29	30
60		29	29	30	30	30	30	30	30	35	30	28	27

TABLE 9 Minimum Circulation Airflow

Charge (oz)	60 - 80	80 - 100	100 - 120	120 - 140	140 - 160
Qmin (CFM)	135	169	203	237	271

Service

The unit should be inspected once a year by a qualified service technician.

⚠ CAUTION

Label all wires prior to disconnection when servicing controls. Wiring errors can cause improper and dangerous operation. Verify proper operation after servicing.

Every working procedure that affects safety means shall only be carried out by competent persons. This appliance is not to be used by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety.

- Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapor being present while the work is being performed.
- The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i. e. non-sparking, adequately sealed or intrinsically safe.
- If any hot work is to be conducted on the refrigerating equipment or any associated parts, the appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO2 fire extinguisher adjacent to the charging area.
- No person carrying out work in relation to a refrigerating system which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. “No Smoking” signs shall be displayed.
- Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out.
- Pipe-work including piping material, pipe routing, and installation shall include protection from physical damage in operation and service, and be in compliance with national and local codes and standards.
- All field joints shall be accessible for inspection prior to being covered or enclosed.
- Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer’s maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer’s technical department for assistance. The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS as applicable:

1 - The actual refrigerant charge is in accordance with the room size within which the refrigerant containing parts are installed.

2 - The ventilation machinery and outlets are operating adequately and are not obstructed.

3 - If an indirect refrigerating circuit is being used, the secondary circuit shall be checked for the presence of refrigerant.

4 - Markings on the equipment should be visible and legible. Markings and signs that are illegible shall be corrected.

5 - Refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

- For systems containing refrigerant, all repair and maintenance to electrical components shall include initial safety checks and component inspection procedures such as that capacitors are discharged in a safe manner to avoid possibility of sparking, that no live electrical components and wiring are exposed while charging, recovering, or purging the system, and that there is continuity of earth bonding. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used that is reported to the owner of the equipment, so all parties are advised.

NOTE –Sealed electrical components shall be replaced, not repaired.

NOTE – Intrinsically safe components must be replaced, not repaired.

NOTE – All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out with work in confined spaces being avoided.

- Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used. The following leak detection methods are deemed acceptable for all refrigerant systems. Electronic leak detectors may be used to detect refrigerant leaks but, in the case of flammable refrigerants, the

sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.) Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used. Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and that 12.5 % refrigerant is confirmed. Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work. If a leak is suspected, all naked flames shall be removed/extinguished. If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut of valves) in a part of the system remote from the leak.

- When breaking into the refrigerant circuit to make repairs – or for any other purpose – conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed and, since flammability is a consideration, procedures such as safely remove refrigerant following local and national regulations, purging the circuit with inert gas, evacuating (optional for A2L), purging with inert gas (optional for A2L), or opening the circuit by cutting or brazing be adhered to. The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes. For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times. Compressed air or oxygen shall not be used for purging refrigerant systems. For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum (optional for A2L). This process shall be repeated until no refrigerant is within the system (optional for A2L). When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to be able to perform the required work. Ensure that the outlet for the vacuum pump is not close to any potential ignition sources and working area is well ventilated.

A - Filters

Air filters are not supplied with the unit. A field-provided air filter must always be installed ahead of the evaporator coil and must be cleaned or replaced if necessary. Dirty filters will reduce the airflow of the unit. All units are equipped with a factory-installed filter rack. Use two 20 X 20 X 1” (508 X 508 X 51mm) filters. Refer to local codes or appropriate jurisdiction for approved filters.

To change filters, remove the blower access panel and slide the filters out of the internal rack. See FIGURE 9.

Approved filters should be checked monthly and replaced when necessary. Take note of air flow direction marking on filter frame when reinstalling filters.

NOTE - Filters must be U.L.C. certified or equivalent for use in Canada.

An optional tool-less filter access kit is available. The kit includes two new blower panels (one smaller panel secured with screws, the other with twist latches) to provide access for filter changes without any hand tools.

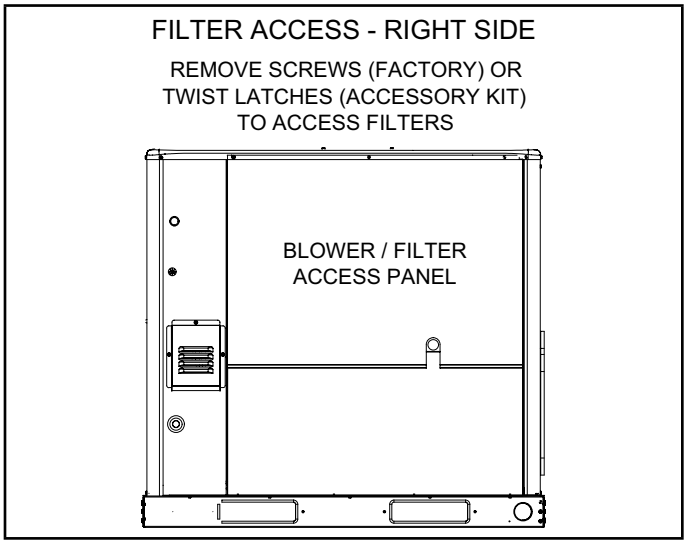


FIGURE 9

F - Lubrication

All motors are lubricated at the factory. No further lubrication is required.

G - Evaporator Coil

Inspect and clean coil at beginning of each cooling season. Clean using mild detergent or commercial coil cleaner. Flush coil and condensate drain with water taking care not to get insulation, filters and return air ducts wet.

H - Condenser Coil

Clean condenser coil annually with water and inspect monthly during the cooling season.

I - Compressor

⚠ IMPORTANT

Some scroll compressors have an internal vacuum protector that will unload scrolls when suction pressure goes below 20 psig. A hissing sound will be heard when the compressor is running unloaded. Protector will reset when low pressure in system rises above 40 psig. DO NOT REPLACE COMPRESSOR.

J - Supply Air Blower Wheel

Annually inspect supply air blower wheel for accumulated dirt or dust. Turn off power before attempting to remove blower access panel or to clean blower wheel.

Approved Auxiliary Devices

DESCRIPTION	WHERE USED	KIT NUMBER
Compressor Crankcase Heater 3-ph	All Tonnages	21D21
Compressor Crankcase Heater 230V 1-ph or 3-ph	All Tonnages	11X27
Compressor Timed-Off Control	All Tonnages	47J27
Freezestat	All Tonnages	21D23
Low Ambient Kit (0°F)	All Tonnages	21D20
Base Rail Openings Closure Kit	All Tonnages	21J84
Square to Round Duct Adaptor Kits (14 in. diameter) Downflow	All Tonnages	21D26
Square to Round Duct Adaptor Kits (14 in. diameter) Horizontal	All Tonnages	21D24
Tool-Less Filter Access Kit	All Tonnages	21J80
Smoke Detector - Supply or Return (one sensor)	All Tonnages	21U21
Smoke Detector - Supply or Return (two sensors)	All Tonnages	21U22
Bottom Power Entry Kit	All Tonnages	21J78
Electric Heat 5 kW	All Tonnages	21J30
Electric Heat 5kW	All Tonnages	21J37
Electric Heat 10kW	All Tonnages	21J33
Electric Heat 10kW	All Tonnages	21J38
Electric Heat 15kW	All Tonnages	21J34
Electric Heat 15kW	All Tonnages	21J39
Electric Heat 20kW	4 Ton, 5 Ton	21J35
Electric Heat 20kW	4 Ton, 5 Ton	21J40
Electric Heat 23kW	5 Ton	21J36
Electric Heat 23kW	5 Ton	21J41
Standard Economizer With Outdoor Air Hood (Not for Title 24) Downflow or Horizontal (Includes Barometric Relief Dampers and Exhaust Hood	All Tonnages	21U15
High Performance Economizer With Outdoor Air Hood (Approved for California Title 24 Building Standards / AMCA Class 1A Certified) Downflow or Horizontal (Includes Barometric Relief Dampers and Exhaust Hood	All Tonnages	21U17

Single Enthalpy Economizer Control (Standard)	All Tonnages	
Single Enthalpy Economizer Control (High Performance)	All Tonnages	
Motorized Outdoor Air Dampers With Outdoor Air Hood	All Tonnages	21U19
Manual Outdoor Air Dampers With Outdoor Air Hood	All Tonnages	21U20
8 in Clip Curbs	All Tonnages	21J17
14 in Clip Curbs	All Tonnages	21J19
18 in Clip Curbs	All Tonnages	21J20
24 in Clip Curbs	All Tonnages	21J25
14 in Adjustable Pitch Roof Curb	All Tonnages	21J26
Strapping Kit - Hurricane	All Tonnages	21J74

Refrigerant Detection System

FIGURE 10. Example of Clear, Unobstructed Sensor Inlet

Sensor Maintenance

It is recommended to check the state of the sensor every 6 months, at the beginning of each cooling and heating season.

- Ensure that the sensor opening is clear and free of debris.
- Check that the sensor cable is in good condition.
- DO NOT use abrasive cleaning solutions or detergents to clean sensor opening.
- DO NOT use flammable compressed air solutions to clean the sensor opening.
- DO NOT vacuum sensor inlet opening, as this could cause damage to the sensor internal components.
- Replace sensor if the opening is not clean or free of debris
- When cleaning the evaporator coil, remove sensor from the coil. Follow recommended coil cleaning guidelines as described in installation instructions.

Modes of Operation

The modes of operation for the RDS Non-Communicating Blower Control Board are Initializing, Normal, Leak Detected, and Fault.

Initializing

The RDS Non-Communicating Blower Control Board is establishing connection with the refrigerant detection sensor and is completing an initial five (5) minute purge sequence.

Normal

The HVAC system is functioning normally. The RDS Non-Communicating Blower Control Board has not detected a refrigerant leak.

Leak Detected

When the RDS Non-Communicating Blower Control Board detects a refrigerant leak:

1 - The RDS Non-Communicating Blower Control Board shuts off the (R) input (24VAC power) to the thermostat, which de-energizes the outdoor unit compressor and heat sources, such as gas and/or electric strip heat. No heating or cooling demands will be met.

2 - The RDS Non-Communicating Blower Control Board activates the blower (high speed). The blower purges refrigerant from the cabinet, plenum, and ductwork.

3 - After the RDS Non-Communicating Blower Control Board determines the refrigerant levels are below the safety threshold, the blower will continue to function for an additional seven (7) minutes.

4 - After the blower sequence is complete, the HVAC system resumes normal operation.

***NOTE** – The HVAC system may not maintain a cooling or heating setpoint if a significant leak exists. Any refrigerant leaks that remain unaddressed for an extended time may cause the HVAC system to shut down on a low refrigerant pressure limit condition.*

Fault

When a fault is detected within the RDS Non-Communicating Blower Control Board, the indoor unit blower engages and remains engaged at a constant output until the fault is cleared.

Diagnostic Codes

The RDS Non-Communicating Blower Control Board is equipped with a multicolor LED within its enclosure. The LED signals the state of the RDS Non-Communicating Blower Control Board.

See Table 10 to review the diagnostic codes.

TABLE 10. LED Diagnostic Codes

State	LED Diagnostic Code	Action
Initializing	Flashing green[1]	Not Applicable
Monitoring	Solid green with blue flash[2]	Not Applicable
Mitigating (Leak Detected)	Flashing blue	Check coil tubes for leak. Repair the issue and restart the equipment.
Fault/Service	Solid blue, interrupted by issue flash code	Refer to next Table for troubleshooting steps.

1. A rapid flash indicates the RDSC is in the process of sensor enumeration
2. A blue flash indicates the mitigation process has previously occurred.

Red LED Diagnostic Codes

Red diagnostic codes indicate a specific RDS Non-Communicating Blower Control Board issue. Yellow diagnostic codes indicate the sensor's position (if applicable).

TABLE 11. Red LED Diagnostic Codes

Red Flash	Applies to Individual Sensor(s)	Issue	Action
1	Yes	Sensor indicates fault	Replace the sensor (Cat. # 26Z69)
2	No	Spare Code - Unused	Not Applicable
3	Yes	Incompatible sensor type	Replace with a compatible sensor (Cat. # 26Z69)
4	Yes	Sensor communications issue	Check sensor connection. Ensure connection is clean and tight.
5	No	R-input not available	Check for 24VAC power connection to the R terminal inputs on the RDSC. R-inputs must be energized for the RDSC to function.
6	No	Invalid configuration of sensor count	Verify the DIP switch setting is correct and matches the number of sensors being used.

Test Button Functionality

The RDS Non-Communicating Blower Control Board is equipped with a Test/Reset button. The Test button can be used to complete several functions, depending on the mode of operation of the RDS Non-Communicating Blower Control Board.

Table 12 lists the functions of the Test button during each mode of operation.

TABLE 12. Test Button Function

Mode of Operation	Press the Test Button to...
Normal	Trigger a leak detection response. Verify all equipment is wired correctly into the RDSC (after installation).
Leak Detected	Reset the RDSC to a normal mode of operation after a previous leak has been detected and purged from the HVAC system.
Fault	Reset the RDSC after troubleshooting and resolving a fault condition. If the fault is not resolved, the RDSC will enter the Fault mode again.

Test Button - Additional Functions

Table 13 lists the additional functions of the Test Button while the RDS Non-Communicating Blower Control Board is functioning within the states of Initializing, Monitoring, Leak Detection, Servicing and Fault. Refer to “Table10. LED Diagnostic Codes”.

TABLE 13. Additional Button Functions

State	Press	Action
Initializing	Short	Skips remaining pre-purge after sensors are recognized by the RDSC
Initializing	Long	Reset control
Monitoring	Short	Clear purge-counter if prior mitigation has occurred; Test mitigation
Monitoring	Long	Reset control
Mitigating	Short	If testing mitigation, end test
Servicing	Short	Reevaluate fault condition - if cleared return to monitoring, otherwise update indicator
Servicing	Long	Reset control
Fault	Short	Reevaluate fault condition - if cleared return to monitoring, otherwise update indicator
Fault	Long	Reset control

Thermostat Compatibility

Thermostats that preserve memory settings are compatible with the RDS Non-Communicating Blower Control Board. Examples include:

- Battery-powered thermostats
- Analog thermostats
- Smart thermostats
- Late-model programmable thermostats
- *Early-generation digital and programmable thermostats may not retain the operation mode and temperature setpoints after a power outage.*

The following scenarios are likely to occur when home occupants are not available to adjust the thermostat setpoints as the system is recovering from leak detection and resuming normal operation:

- Heating could be lost during a cold night
- Cooling could be lost during a hot day
- The thermostat could reset to an incorrect temperature setpoint

Compatibility Verification

Complete the following process to determine whether the thermostat is compatible with the RDS Non-Communicating Blower Control Board.

1 - Change the thermostat’s current setpoint and operating mode.

2 - Power cycle the breaker to the furnace.

NOTE *– Wait five (5) minutes before supplying power to the furnace breaker.*

3 - Note whether the thermostat maintained its setpoints and operating mode.

a. If the thermostat maintained the settings, the thermostat is compatible with the RDS Non-Communicating Blower Control Board.

b. If the thermostat did not maintain its setpoint and/or operating mode, the thermostat is not compatible with the RDS Non-Communicating Blower Control Board. Recommend replacing with a compatible thermostat.

Additional Applications

In zoned applications, all dampers will remain open when the RDS Non-Communicating Blower Control Board is in Fault or Leak Detected mode. Normal heating and cooling demands are permissible, but the blower will remain engaged until the fault condition is addressed.

Zone HVAC System

If the RDS Non-Communicating Blower Control Board is installed in a zone HVAC system, the RDS Non-Communicating Blower Control Board will open all zone dampers if a leak is detected.

NOTE *– Proper wiring of the zone panel to the RDS Non-Communicating Blower Control Board is required for all zone dampers to open.*

After the purge sequence is complete, the zone system will resume normal operation.

External Alarm

(*For applications with external alarms wired directly to the RDS Non-Communicating Blower Control Board.*)

The RDS Non-Communicating Blower Control Board triggers the external alarm system when it enters Leak Detected mode. For alarm notifications, the RDS Non-Communicating Blower Control Board provides a dry relay contact that is rated 3A at 30 VAC/DC.

Start Up Test Procedure

The RDS Non-Communicating Blower Control Board is equipped with a Test/Reset button, see “Test Button Functionality” on page 31 After the RDS Non-Communicating Blower Control Board has been mounted and wired, restore power to the HVAC system. The system will then run through a purge sequence for five (5) minutes. After the purge sequence is complete, proceed to testing cooling demand and heating demand.

Cooling Demand

1 - Prompt a cooling demand at the thermostat.

2 - Press the Test button on the RDS Non-Communicating Blower Control Board.

The system then executes a leak detection response.

3 - Observe the following sequence:

a. The LED indicator flashes the sequence for leak detection (flashing blue).
b. The blower powers up.
c. The outdoor compressor powers down.

4 - Press the Test button to terminate the simulated Leak Detected mode upon test completion.

Heating Demand

1 - Prompt a heating demand at the thermostat.

2 - Press the Test button on the RDS Non-Communicating Blower Control Board.

The system then executes a leak detection response.

3 - Observe the following sequence:

a. The LED indicator flashes the sequence for leak detection (flashing blue).
b. The blower powers up.
c. The gas burners power down.
d. The outdoor compressor powers down.

4 - Press the Test button to terminate the simulated Leak Detected mode upon test completion.

The installation of the RDS Non-Communicating Blower Control Board is complete after both sequences are successfully completed.

Diagnostic Codes and Troubleshooting

TABLE 14. LED Diagnostic Codes

State	LED Diagnostic Code	Action Required
Initializing	Flashing green	None
Monitoring	Solid green. If a prior mitigation occurred, a blue flash interrupts the solid green LED.	None
Mitigating (Leak Detected)	Flashing blue	Check coil tubes for leak. Repair the issue and restart the equipment.
Fault/Service	Solid blue, interrupted by issue diagnostic code	Refer to next Table for troubleshooting steps.

TABLE 15. Red LED Diagnostic Codes / Troubleshooting

Red Flash	Applies to Individual Sensor(s)	Issue	Action Required
1	Yes	Sensor indicates fault	Replace the sensor
2	No	Spare Code - Unused	Not Applicable
3	Yes	Incompatible sensor type	Replace the sensor
4	Yes	Sensor communications issue	Check sensor connection. Ensure connection is clean and tight.
5	No	R-input not available	Check sensor connections. Ensure connection is clean and tight.
6	No	Invalid configuration of sensor count	Verify the DIP switch setting is correct and matches the number of sensors being used.

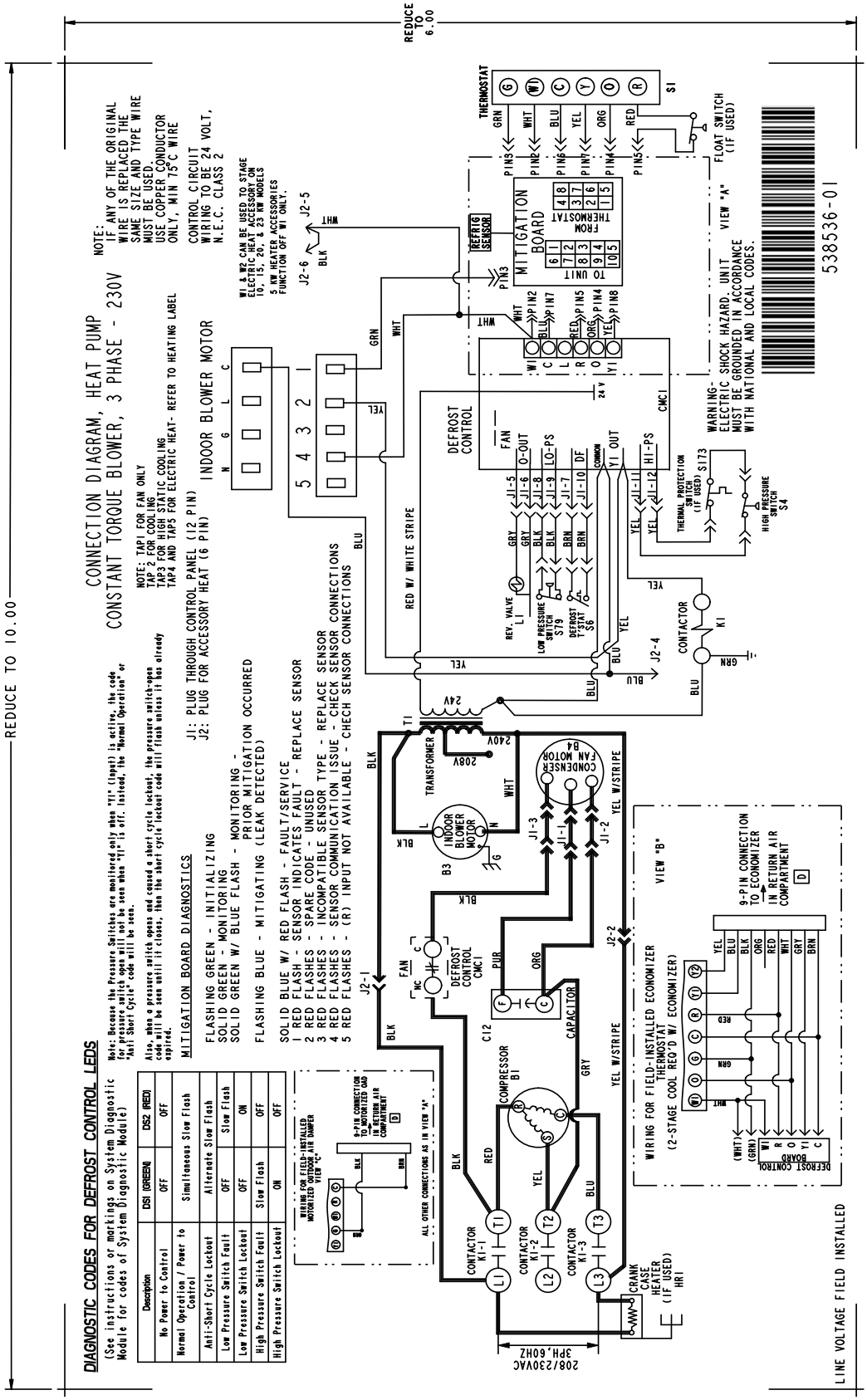

CONNECTION DIAGRAM, HEAT PUMP
CONSTANT TORQUE BLOWER, 3 PHASE - 230V
REDUCE TO 10.00
REDUCE TO 6.00
DIAGNOSTIC CODES FOR DEFROST CONTROL LEDS
(See instructions or markings on System Diagnostic Module for codes of System Diagnostic Module)
Description | DS1 (GREEN) | DS2 (RED)
No Power to Control | OFF | OFF
Normal Operation / Power to Control | Simultaneous Slow Flash
Anti-Short Cycle Lockout | Alternate Slow Flash
Low Pressure Switch Fault | OFF | Slow Flash
Low Pressure Switch Lockout | OFF | ON
High Pressure Switch Fault | Slow Flash | OFF
High Pressure Switch Lockout | ON | OFF
Note: Because the Pressure Switches are monitored only when "Y1" (input) is active, the code for pressure switch open will not be seen when "Y1" is off. Instead, the "Normal Operation" or "Anti Short Cycle" code will be seen.
Also, when a pressure switch opens and caused a short cycle lockout, the pressure switch-open code will be seen until it closes, then the short cycle lockout code will flash unless it has already expired.
MITIGATION BOARD DIAGNOSTICS
FLASHING GREEN - INITIALIZING
SOLID GREEN - MONITORING
SOLID GREEN W/ BLUE FLASH - MONITORING - PRIOR MITIGATION OCCURRED
FLASHING BLUE - MITIGATING (LEAK DETECTED)
SOLID BLUE W/ RED FLASH - FAULT/SERVICE
1 RED FLASH - SENSOR INDICATES FAULT - REPLACE SENSOR
2 RED FLASHES - SPARE CODE - UNUSED
3 RED FLASHES - INCOMPATIBLE SENSOR TYPE - REPLACE SENSOR
4 RED FLASHES - SENSOR COMMUNICATION ISSUE - CHECK SENSOR CONNECTIONS
5 RED FLASHES - (R) INPUT NOT AVAILABLE - CHECH SENSOR CONNECTIONS
NOTE: TAP1 FOR FAN ONLY
TAP 2 FOR COOLING
TAP3 FOR STATIC COOLING
TAP4 AND TAP5 FOR ELECTRIC HEAT- REFER TO HEATING LABEL
J1: PLUG THROUGH CONTROL PANEL (12 PIN)
J2: PLUG FOR ACCESSORY HEAT (6 PIN)
INDOOR BLOWER MOTOR
N G L C
5 4 3 2 1
W1 & W2 CAN BE USED TO STAGE ELECTRIC HEAT ACCESSORY ON 10, 15, 20, & 23 KW MODELS
5 KW HEATER ACCESSORIES FUNCTION OFF W1 ONLY.
NOTE: IF ANY OF THE ORIGINAL WIRE IS REPLACED THE SAME SIZE AND TYPE WIRE MUST BE USED. USE COPPER CONDUCTOR ONLY, MIN 75°C WIRE
CONTROL CIRCUIT WIRING TO BE 24 VOLT, N.E.C. CLASS 2
WARNING- ELECTRIC SHOCK HAZARD. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.
538536-01
THERMOSTAT
MITIGATION BOARD
TO UNIT
FROM THERMOSTAT
DEFROST CONTROL
DEFROST CONTROL CMC1
TRANSFORMER
INDOOR BLOWER MOTOR
CONDENSER FAN MOTOR
COMPRESSOR
CAPACITOR
CONTACTOR
CRANK CASE HEATER (IF USED)
REV. VALVE
LOW PRESSURE SWITCH
DEFROST TSTAT
THERMAL PROTECTION SWITCH (IF USED)
HIGH PRESSURE SWITCH
FLOAT SWITCH (IF USED)
9-PIN CONNECTION TO ECONOMIZER IN RETURN AIR COMPARTMENT
WIRING FOR FIELD-INSTALLED ECONOMIZER THERMOSTAT (2-STAGE COOL REQ'D W/ ECONOMIZER)
208/230VAC 3PH,60HZ
LINE VOLTAGE FIELD INSTALLED

FIGURE 11

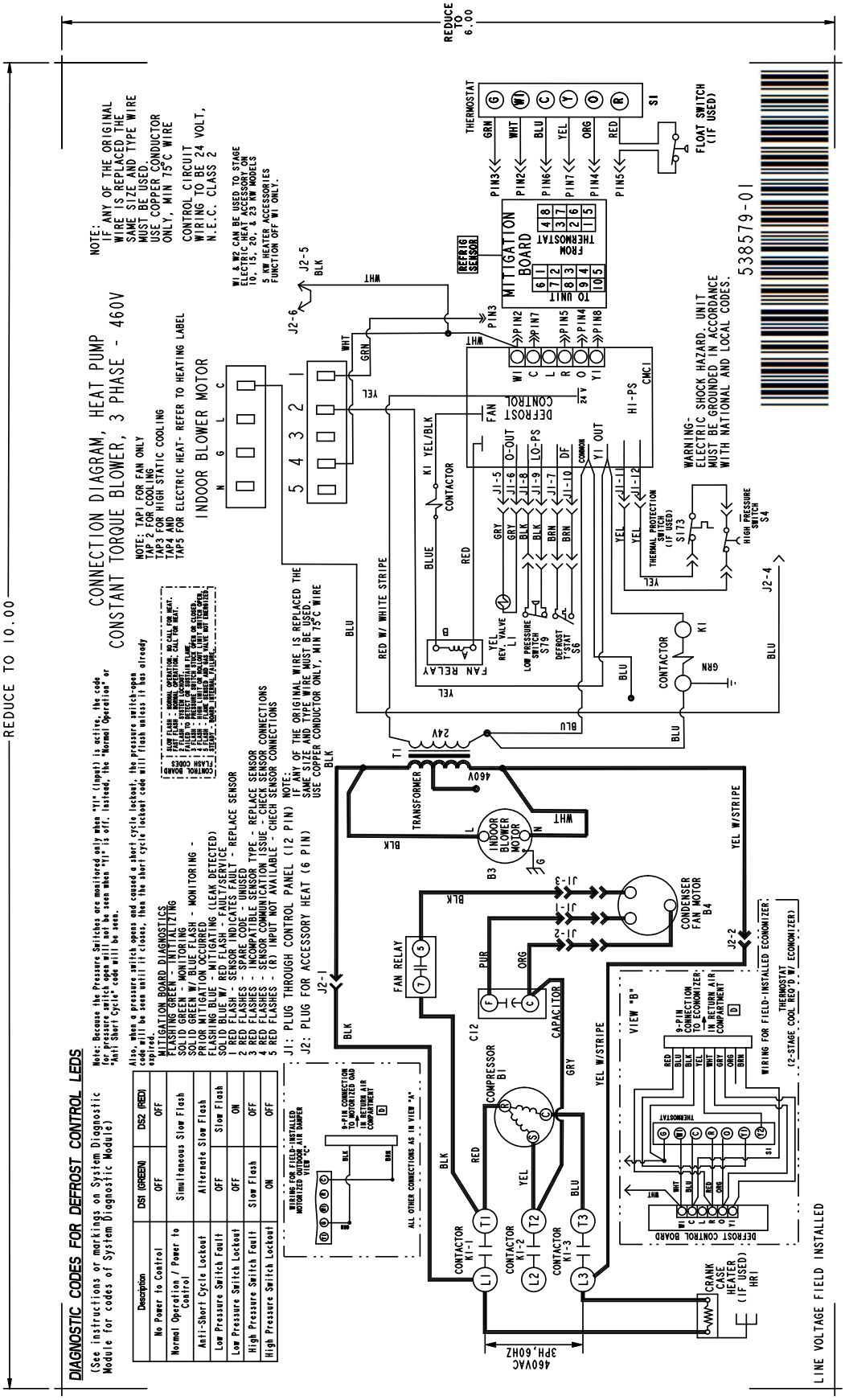

CONNECTION DIAGRAM, HEAT PUMP
CONSTANT TORQUE BLOWER, 3 PHASE - 460V
REDUCE TO 10.00
REDUCE TO 6.00
DIAGNOSTIC CODES FOR DEFROST CONTROL LEDS
(See instructions or markings on System Diagnostic Module for codes of System Diagnostic Module)
Description
DS1 (GREEN)
DS2 (RED)
No Power to Control
OFF
OFF
Normal Operation / Power to Control
Simultaneous Slow Flash
Anti-Short Cycle Lockout
Alternate Slow Flash
Low Pressure Switch Fault
OFF
Slow Flash
Low Pressure Switch Lockout
OFF
ON
High Pressure Switch Fault
Slow Flash
OFF
High Pressure Switch Lockout
ON
OFF
Note: Because the Pressure Switches are monitored only when "Y1" (input) is active, the code for pressure switch open will not be seen when "Y1" is off. Instead, the "Normal Operation" or "Anti Short Cycle" code will be seen.
Also, when a pressure switch opens and caused a short cycle lockout, the pressure switch-open code will be seen until it closes, then the short cycle lockout code will flash unless it has already expired.
MITIGATION BOARD DIAGNOSTICS
FLASHING GREEN - INITIALIZING
SOLID GREEN - MONITORING
SOLID GREEN W/ BLUE FLASH - MONITORING - REFRIGERANT LEAK DETECTED
SOLID BLUE W/ BLUE FLASH - MITIGATING (LEAK DETECTED)
FLASHING BLUE - MITIGATING (LEAK DETECTED)
SOLID BLUE W/ RED FLASH - FAULT/SERVICE
1 RED FLASH - SENSOR INDICATES FAULT - REPLACE SENSOR
2 RED FLASHES - SPARE CODE - UNUSED
3 RED FLASHES - INCOMPATIBLE SENSOR TYPE - REPLACE SENSOR
4 RED FLASHES - SENSOR COMMUNICATION ISSUE - CHECK SENSOR CONNECTIONS
5 RED FLASHES - (R) INPUT NOT AVAILABLE - CHECK SENSOR CONNECTIONS
CONTROL BOARD FLASH CODES
NOTE: TAP1 FOR FAN ONLY
TAP 2 FOR COOLING
TAP3 FOR HIGH STATIC COOLING
TAP4 AND
TAP5 FOR ELECTRIC HEAT- REFER TO HEATING LABEL
INDOOR BLOWER MOTOR
W1 & W2 CAN BE USED TO STAGE ELECTRIC HEAT ACCESSORY ON 10, 15, 20, & 23 KW MODELS
5 KW HEATER ACCESSORIES FUNCTION OFF W1 ONLY.
NOTE:
IF ANY OF THE ORIGINAL WIRE IS REPLACED THE SAME SIZE AND TYPE WIRE MUST BE USED.
USE COPPER CONDUCTOR ONLY, MIN 75°C WIRE
CONTROL CIRCUIT WIRING TO BE 24 VOLT, N.E.C. CLASS 2
THERMOSTAT
MITIGATION BOARD
TO UNIT
FROM THERMOSTAT
REFRIG SENSOR
DEFROST CONTROL
FAN RELAY
CONTACTOR
TRANSFORMER
INDOOR BLOWER MOTOR
CONDENSER FAN MOTOR B4
COMPRESSOR B1
CAPACITOR
FAN RELAY
REV. VALVE L1
LOW PRESSURE SWITCH S79
DEFROST T'STAT S6
THERMAL PROTECTION SWITCH (IF USED) S173
HIGH PRESSURE SWITCH S4
HI-PS
CMC1
FLOAT SWITCH (IF USED)
WARNING- ELECTRIC SHOCK HAZARD. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.
538579-01
J1: PLUG THROUGH CONTROL PANEL (12 PIN)
J2: PLUG FOR ACCESSORY HEAT (6 PIN)
NOTE: IF ANY OF THE ORIGINAL WIRE IS REPLACED THE SAME SIZE AND TYPE WIRE MUST BE USED. USE COPPER CONDUCTOR ONLY, MIN 75°C WIRE
WIRING FOR FIELD-INSTALLED ECONOMIZER.
(2-STAGE COOL REQ'D W/ ECONOMIZER)
WIRING FOR FIELD-INSTALLED MOTORIZED OUTDOOR AIR DAMPER VIEW "C"
ALL OTHER CONNECTIONS AS IN VIEW "A"
VIEW "B"
9-PIN CONNECTION TO ECONOMIZER/ IN RETURN AIR COMPARTMENT
CRANK CASE HEATER (IF USED) HR1
460VAC 3PH,60HZ
LINE VOLTAGE FIELD INSTALLED

FIGURE 12

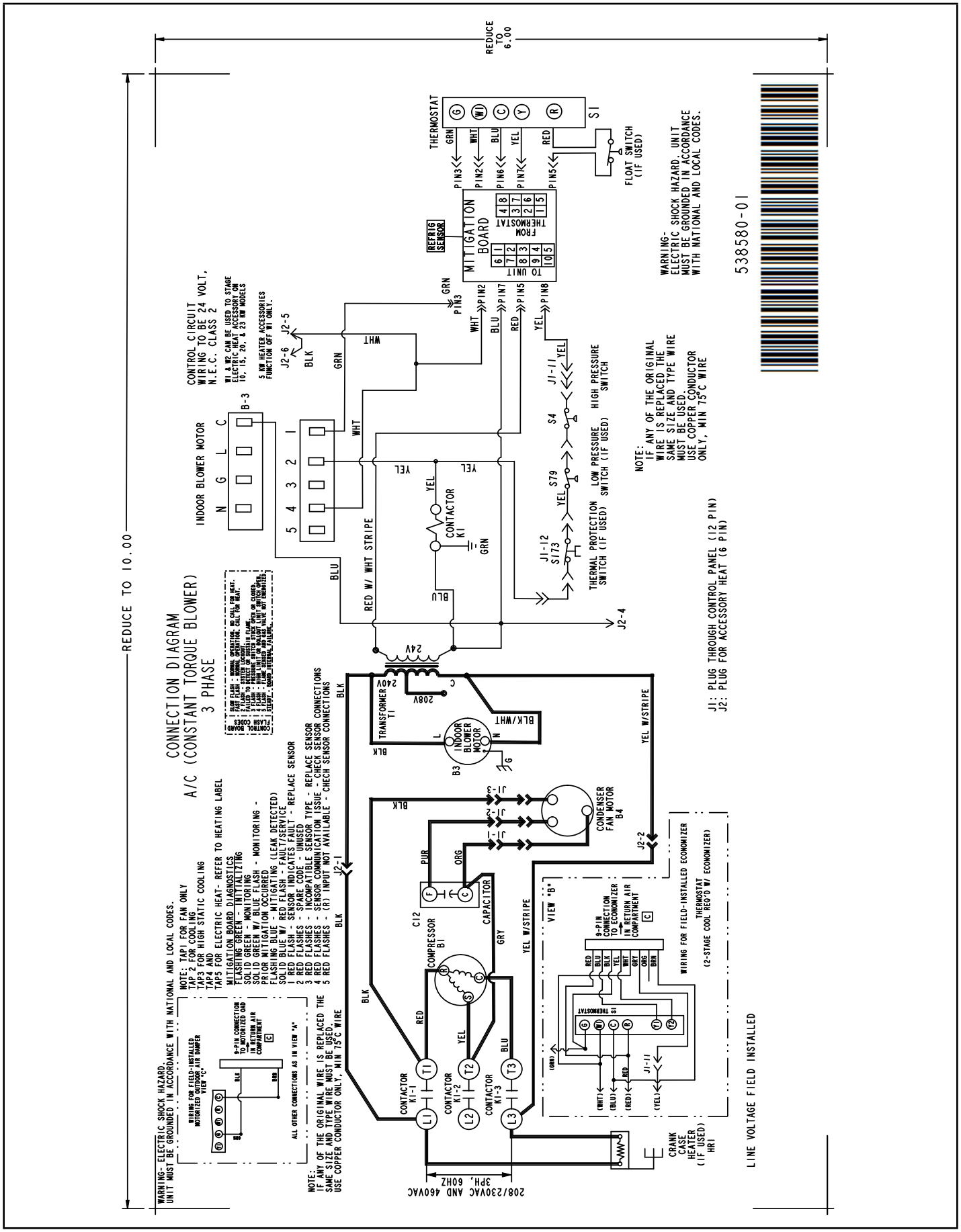

CONNECTION DIAGRAM
A/C (CONSTANT TORQUE BLOWER)
3 PHASE
REDUCE TO 10.00
REDUCE TO 6.00
538580-01
WARNING- ELECTRIC SHOCK HAZARD. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.
NOTE: TAP1 FOR FAN ONLY
TAP 2 FOR COOLING
TAP3 FOR HIGH STATIC COOLING
TAP4 AND
TAP5 FOR ELECTRIC HEAT- REFER TO HEATING LABEL
MITIGATION BOARD DIAGNOSTICS
FLASHING GREEN - INITIALIZING
SOLID GREEN - MONITORING
SOLID GREEN W/ BLUE FLASH - MONITORING - PRIOR MITIGATION OCCURRED
FLASHING BLUE - MITIGATING (LEAK DETECTED)
SOLID BLUE W/ RED FLASH - FAULT/SERVICE
1 RED FLASH - SENSOR INDICATES FAULT - REPLACE SENSOR
2 RED FLASHES - SPARE CODE
3 RED FLASHES - INCOMPATIBLE SENSOR TYPE - REPLACE SENSOR
4 RED FLASHES - SENSOR COMMUNICATION ISSUE - CHECK SENSOR CONNECTIONS
5 RED FLASHES - (R) INPUT NOT AVAILABLE - CHECH SENSOR CONNECTIONS
NOTE:
IF ANY OF THE ORIGINAL WIRE IS REPLACED THE SAME SIZE AND TYPE WIRE MUST BE USED. USE COPPER CONDUCTOR ONLY, MIN 75°C WIRE
WARNING- ELECTRIC SHOCK HAZARD. UNIT MUST BE GROUNDED IN ACCORDANCE WITH NATIONAL AND LOCAL CODES.
NOTE:
IF ANY OF THE ORIGINAL WIRE IS REPLACED THE SAME SIZE AND TYPE WIRE MUST BE USED. USE COPPER CONDUCTOR ONLY, MIN 75°C WIRE
J1: PLUG THROUGH CONTROL PANEL (12 PIN)
J2: PLUG FOR ACCESSORY HEAT (6 PIN)
CONTROL CIRCUIT WIRING TO BE 24 VOLT, N.E.C. CLASS 2
W1 & W2 CAN BE USED TO STAGE ELECTRIC HEAT ACCESSORY ON 10, 15, 20, & 25 KW MODELS
5 KW HEATER ACCESSORIES FUNCTION OFF W1 ONLY.
INDOOR BLOWER MOTOR
THERMOSTAT
MITIGATION BOARD
TO UNIT
FROM THERMOSTAT
REFRIG SENSOR
FLOAT SWITCH (IF USED)
CONTACTOR K1
TRANSFORMER T1
THERMAL PROTECTION SWITCH (IF USED)
LOW PRESSURE SWITCH (IF USED)
HIGH PRESSURE SWITCH
INDOOR BLOWER MOTOR B3
CONDENSER FAN MOTOR B4
COMPRESSOR B1
CAPACITOR
CONTACTOR K1-1
CONTACTOR K1-2
CONTACTOR K1-3
9-PIN CONNECTION TO ECONOMIZER IN RETURN AIR COMPARTMENT
WIRING FOR FIELD-INSTALLED ECONOMIZER THERMOSTAT (2-STAGE COOL REQ'D W/ ECONOMIZER)
VIEW "B"
CRANK CASE HEATER (IF USED) HR1
208/230VAC AND 460VAC 3PH, 60HZ
LINE VOLTAGE FIELD INSTALLED

FIGURE 13

Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely.

Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before starting decommissioning.

a) Become familiar with the equipment and its operation.

b) Isolate system electrically.

c) Before attempting the procedure, ensure that:

- mechanical handling equipment is available, if required, for handling refrigerant cylinders;
- all personal protective equipment is available and being used correctly;
- the recovery process is supervised at all times by a competent person;
- recovery equipment and cylinders conform to the appropriate standards.

d) Pump down refrigerant system, if possible.

e) If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.

f) Make sure that cylinder is situated on the scales before recovery takes place.

g) Start the recovery machine and operate in accordance with instructions.

h) Do not overfill cylinders (no more than 80% volume liquid charge).

i) Do not exceed the maximum working pressure of the cylinder, even temporarily.

j) When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.

k) Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

NOTE – Equipment shall be labelled stating that is has been decommissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

Equipment Checks

Job Name: _____

Store No. _____ Start-Up Date: _____

Address: _____

City: _____ State: _____

Start-Up Contractor: _____

Technician: _____

Model No. _____

Serial No. _____

RTU No. _____ Catalog No. _____

Inspection and Checks

Damage? Yes ☐ No ☐ R-454B ☐

If yes, reported to: _____

_____

Verify factory and field-installed accessories.

Check electrical connections. Tighten if necessary.

Supply voltage: L1-L2 _____ L1-L3 _____ L2-L3 _____

If unit contains a 208-230/240 volt transformer:

Check primary transformer tap ☐

Transformer secondary voltage: _____

Cooling Checks

Compressor Rotation ☐ Ambient Temp. _____ Return Air Temp. _____ Supply Air Temp. _____

	Compressor Amps			Compressor Volts			Pressures		Condenser Fan Amps			CC Heater Amps
	L1	L2	L3	L1-L2	L1-L3	L2-L3	Disch.	Suct.	L1	L2	L3	L1
1												
2												
3												
4												

Blower Checks

Pulley/Belt Alignment ☐ Blower Rotation ☐

Set Screws Tight ☐ Belt Tension ☐

Nameplate Amps: _____ Volts: _____

Motor	Amps		Volts	
_____	L1	_____	L1-L2	_____
_____	L1	_____	L1-L2	_____
_____	L1	_____	L1-L2	_____

Control Type

Accessory Checks

Economizer Operation

Min. Pos. ☐ Motor Travel full open/close ☐

Heating Checks - Electric

Return Air Temp. _____ Supply Air Temp. _____

Limits Operate: ☐

	Amps						
	L1	L2	L3		L1	L2	L3
1				10			
2				11			
3				12			
4				13			
5				14			
6				15			
7				16			
8				17			
9				18			