

⚠ WARNING

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

Table of Contents

Dimensions	2
Parts Arrangement	3
Shipping and Packing List	4
General	4
Requirements	4
Unit Support.	5
Duct Connection	6
Rigging Unit for Lifting	6
Horizontal Air Discharge	6
Condensate Drains	7
Connect Gas Piping.	8
Pressure Test Gas Piping	9
High Altitude Derate.	10
Download Mobile Service App	10
Electrical Connections - Power Supply	10
Electrical Connections - Control Warning.	11
Blower Operation and Adjustments	13
Cooling Start-Up	21
Diagnostic Sensors	30
Cooling Operation.	33
Gas Heat Start-Up	34

INSTALLATION INSTRUCTIONS

LGT/LCT036 (3 TON)

LGT/LCT048 (4 TON)

LGT/LCT060 (5 TON)

LGT/LCT072 (6 TON)

GAS AND COOLING PACKAGED UNITS

508286-01
10/2023
Supersedes 7/2022

⚠ WARNING

To prevent serious injury or death:

- 1- Lock-out/tag-out before performing maintenance.
- 2- If system power is required (e.g., smoke detector maintenance), disable power to blower, remove fan belt where applicable, and ensure all controllers and thermostats are set to the "OFF" position before performing maintenance.
- 3- Always keep hands, hair, clothing, jewelry, tools, etc., away from moving parts.

Heating Operation and Adjustments	35
Electric Heat Start-Up.	36
Hot Gas Reheat and Start-Up.	36
Service	38
Factory Unit Controller Settings.	50

RETAIN THESE INSTRUCTIONS FOR FUTURE REFERENCE

Attention!

Use this QR code to download the mobile service app. Follow the prompts to pair the app with the unit control system and configure the unit. Refer to the "Download Mobile App" section in this manual and the Setup Guide provided with this unit. The QR code is also available in the unit control area.



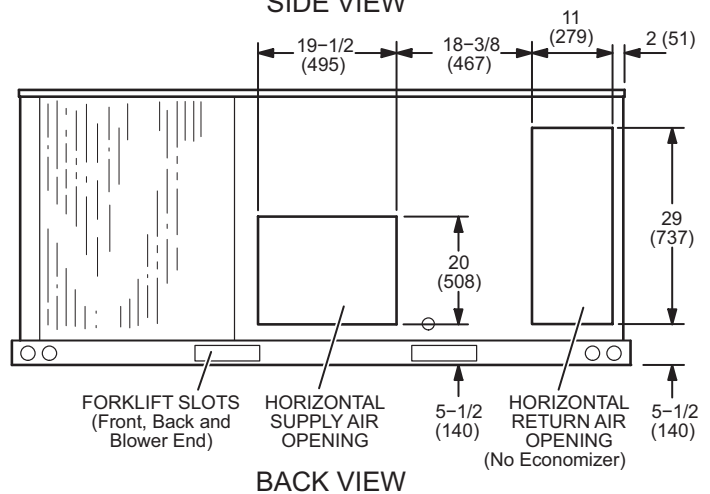
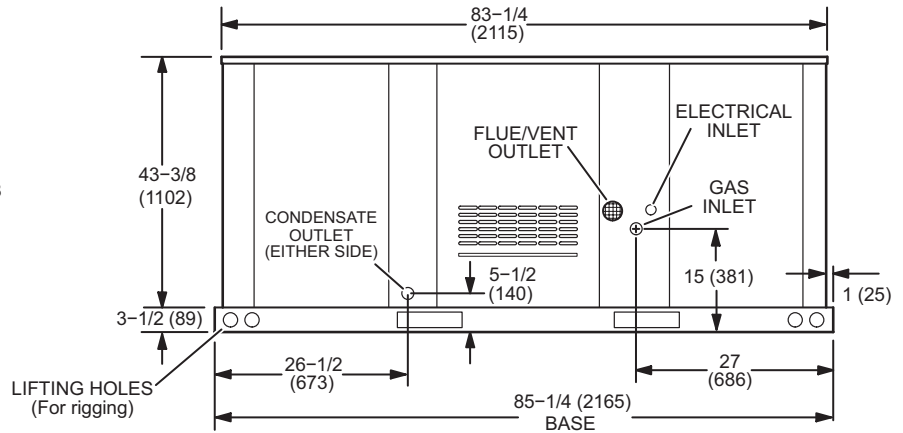
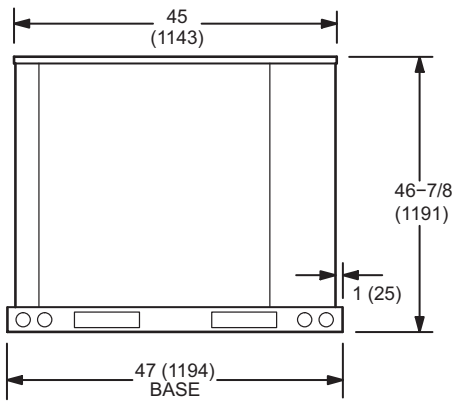
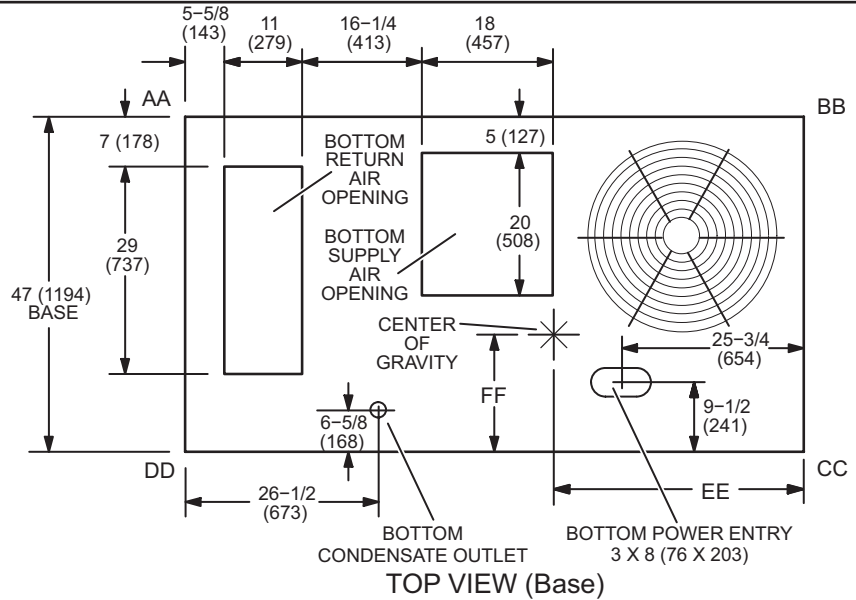
The app can be downloaded from the appropriate iOS or Android store. Look for the following icon.



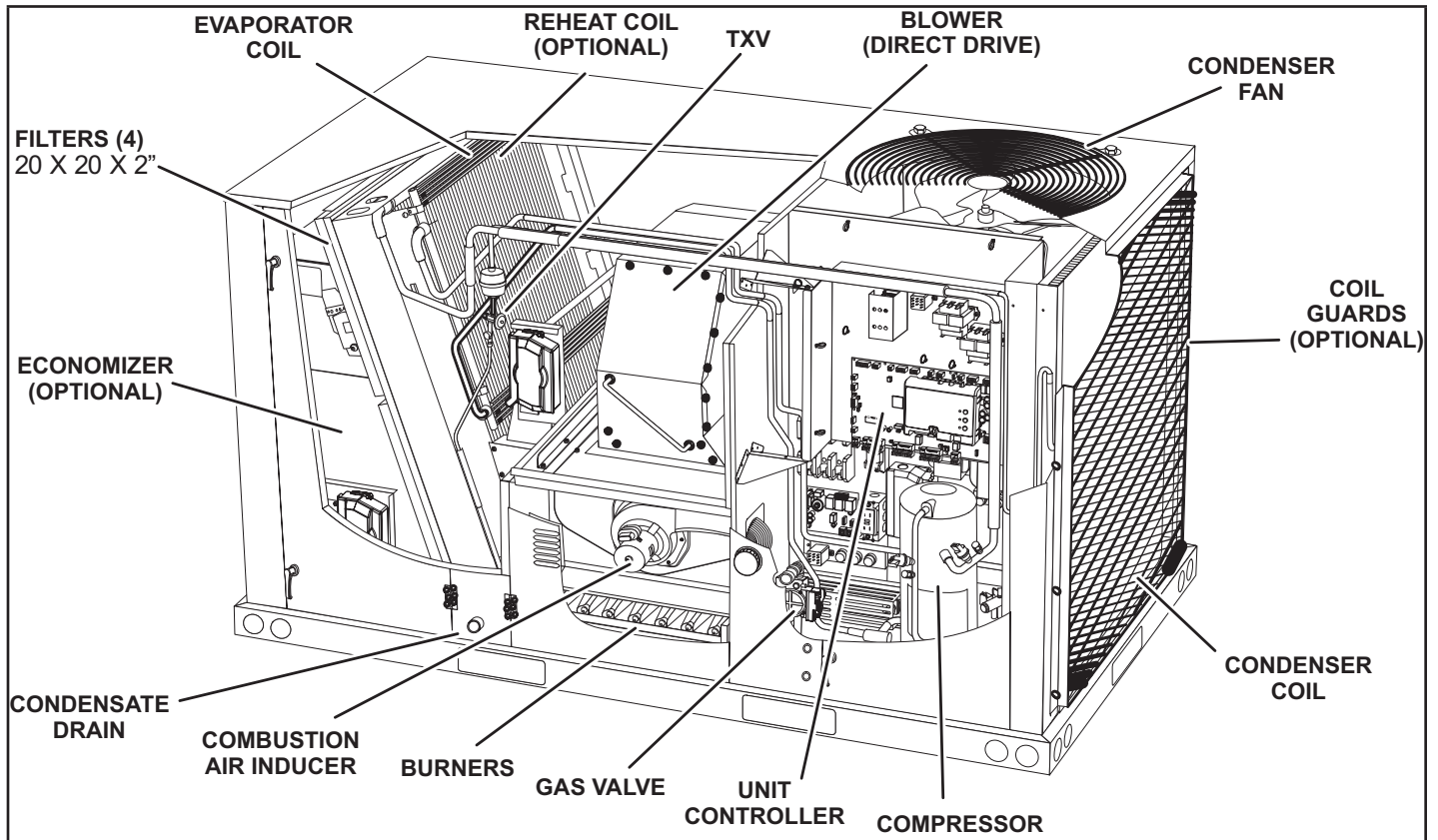
⚠ CAUTION

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.

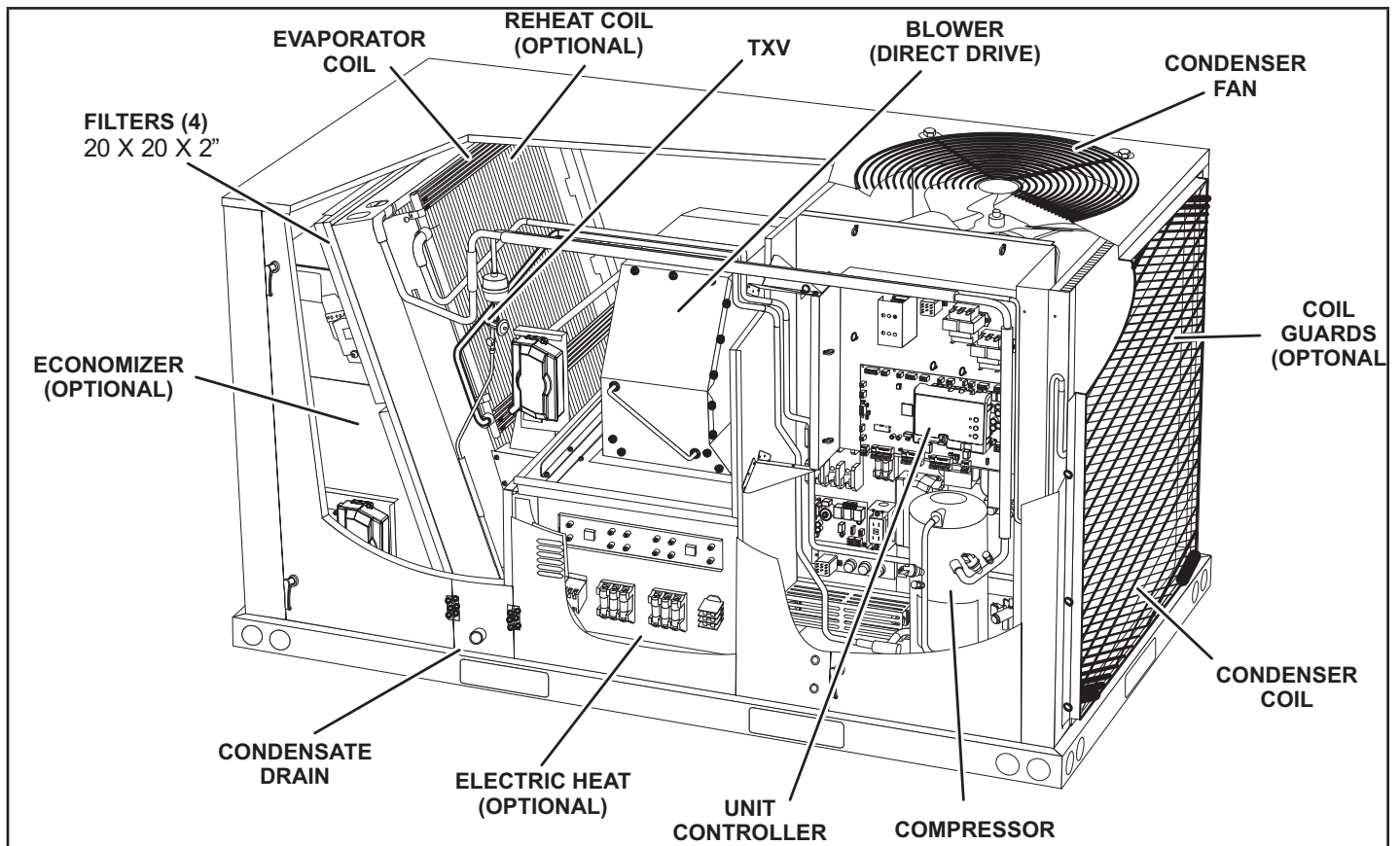
LGT/LCT036, 048, 060, 072 DIMENSIONS in. - Gas heat section shown



LGT036, 048, 060, 072 PARTS ARRANGEMENT



LGT036, 048, 060, 072 PARTS ARRANGEMENT



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.

The LGT units are available in several heating inputs. The LCT cooling packaged rooftop unit is the same basic design as the LGT unit except for the heating section. Optional electric heat is available for LCT units. LGT and LCT units have identical refrigerant circuits with respective 3, 4, 5, and 6 ton cooling capacities.

Units are equipped with all-aluminum condenser coils. Units are equipped with two-speed compressors.

In addition to standard heating and cooling, hot gas reheat units provide a dehumidifying mode of operation. Refer to Reheat Operation section.

Availability of units and options varies by brand.

•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 700°C and electric switching devices.

•False ceilings or drop ceiling may be used as a return air plenum only if the unit being installed has a Refrigerant Detection System installed.

Requirements

See FIGURE 1 for unit clearances.

⚠ 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



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.

⚠ 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.

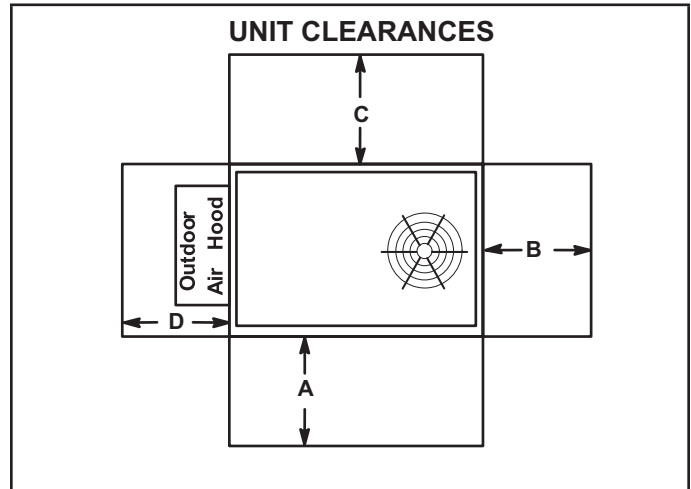


FIGURE 1

¹ Unit Clearance	A in.(mm)	B in.(mm)	C in.(mm)	D in.(mm)	Top Clearance
Service Clearance	48 (1219)	36 (914)	36 (914)	36 (914)	Unob- structed
Clearance to Combustibles	36 (914)	1 (25)	1 (25)	1 (25)	Unob- structed
Minimum Operation Clearance	36 (914)	36 (914)	36 (914)	36 (914)	Unob- structed

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

- ¹ **Service Clearance** - Required for removal of serviceable parts.
- Clearance to Combustibles** - Required clearance to combustible material (gas units). On LCT units, see clearance to combustible materials as outlined on heater rating plate.
- Minimum Operation Clearance** - Required clearance for proper unit 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 input rate and temperature rise must be set per the unit rating plate.
- The heat exchanger, components, duct system, air filters and evaporator coil must be thoroughly cleaned following final construction clean-up.
- The unit operating conditions (including airflow, cooling operation, ignition, input rate, temperature rise and venting) must be verified according to these installation instructions.

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

This appliance should not be used by children. Children should be supervised to ensure they do not play with the appliance.

Unit Support

In downflow discharge installations, install the unit on a non-combustible surface only. Unit may be installed on combustible surfaces when used in horizontal discharge applications or in downflow discharge applications when installed on an T1CURB / C1CURB / E1CURB roof mounting frame.

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

CAUTION

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

A-Downflow Discharge Application

Roof Mounting with T1CURB / C1CURB / E1CURB

- 1 - The roof mounting frame must be installed, flashed and sealed in accordance with the instructions provided with the frame.
- 2 - The roof mounting frame 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 frame and not to the unit; supply and return plenums must be installed before setting the unit.

Installer's Roof Mounting Frame

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

- 1 - The base is fully enclosed and insulated, so an enclosed frame is not required.
- 2 - The frames 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 - Frame or supports must be high enough to prevent any form of moisture from entering unit. Recommended minimum frame height is 14" (356mm).
- 4 - Duct must be attached to the roof mounting frame 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.

NOTE - When installing a unit on a combustible surface for downflow discharge applications, a T1CURB / C1CURB / E1CURB roof mounting frame is required.

B-Horizontal Discharge Applications

- 1 - Units which are equipped with an optional economizer and installed in horizontal airflow applications must use a horizontal conversion kit.
- 2 - Specified installation clearances must be maintained when installing units. Refer to FIGURE 1.
- 3 - 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.
- 4 - 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.

⚠ 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.

- 1 - Detach wooden base protection before rigging.
- 2 - Remove all six base protection brackets before setting unit.
- 3 - Connect rigging to the unit base using both holes in each corner.
- 4 - All panels must be in place for rigging.
- 5 - Place field-provided H-style pick in place just above top edge of unit. Frame must be of adequate strength and length. (H-style pick prevents damage to unit.)

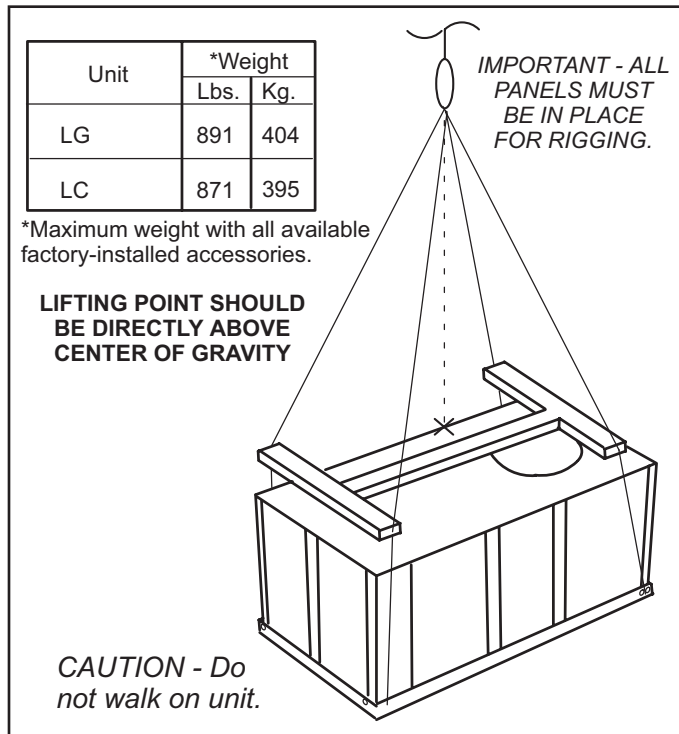


FIGURE 2

Horizontal Air Discharge

Unit is shipped with panels covering the horizontal supply and return air openings. Remove horizontal covers and place over downflow openings for horizontal air discharge. See FIGURE 3. Secure in place with sheet metal screws.

Units Equipped With An Optional Economizer

- 1 - Remove the horizontal supply air cover and position over the downflow supply air opening. Secure with sheet metal screws.
- 2 - Leave the horizontal return air cover in place.
- 3 - Locate the separately ordered horizontal air discharge kit. Place the kit panel over the downflow return air opening.
- 4 - Remove and retain the barometric relief dampers and lower hood.

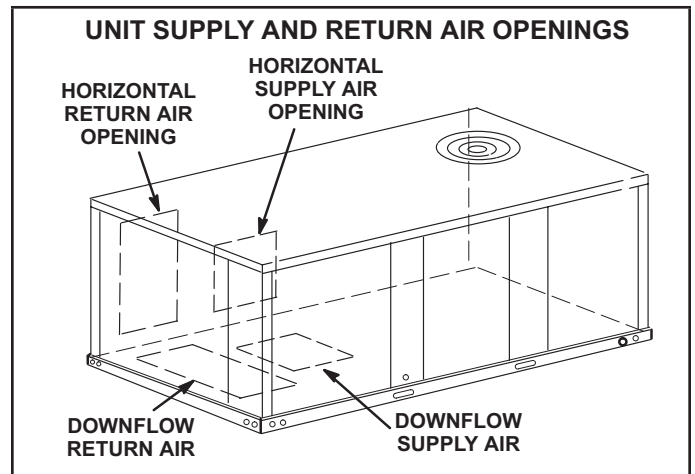


FIGURE 3

- 5 - Install return air duct beneath outdoor air intake. See FIGURE 4. Install barometric relief damper in lower hood and install in ductwork as shown in FIGURE 4.

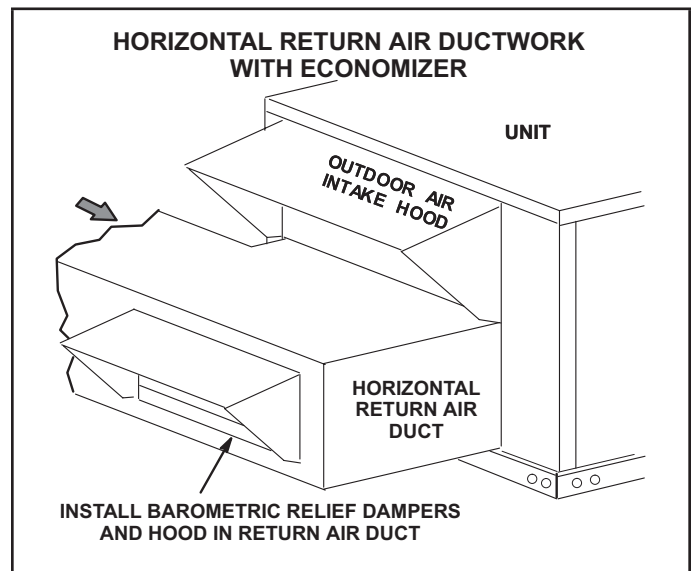


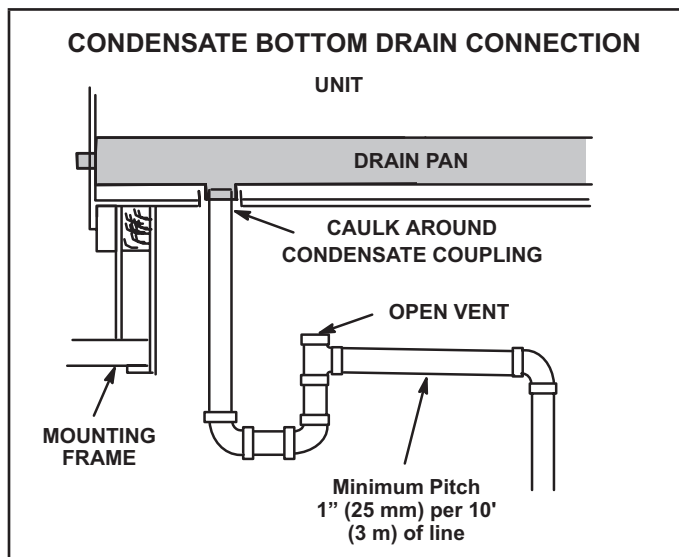
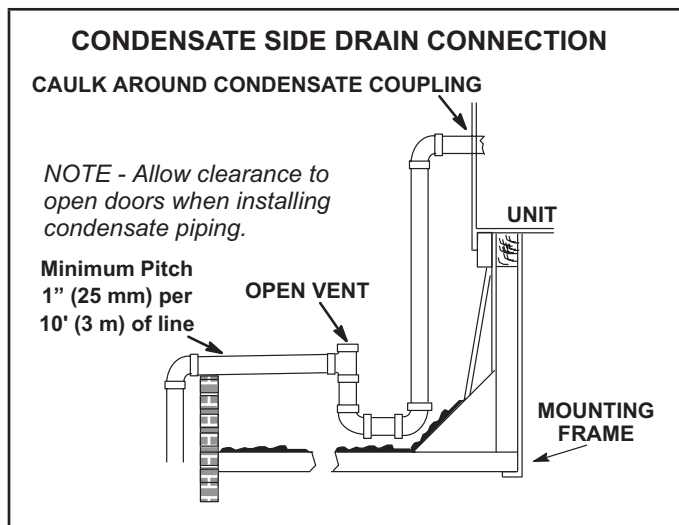
FIGURE 4

Condensate Drains

Make drain connection to the drain coupling provided on unit. Older model units have a 3/4" N.P.T. coupling and newer model units have a 1" N.P.T. coupling.

NOTE - The drain pan is made with a glass reinforced engineered plastic capable of withstanding typical joint torque but can be damaged with excessive force. Tighten pipe nipple hand tight and turn an additional quarter turn.

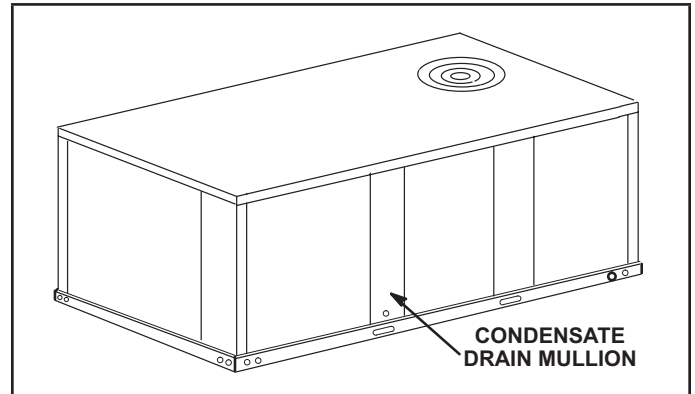
A trap must be installed between drain connection and an open vent for proper condensate removal. See FIGURE 5 or FIGURE 6. It is sometimes acceptable to drain condensate onto the roof or grade; however, a tee should be fitted to the trap to direct condensate downward. The condensate line must be vented. Check local codes concerning condensate disposal. Refer to page 1 and page 2 for condensate drain location.



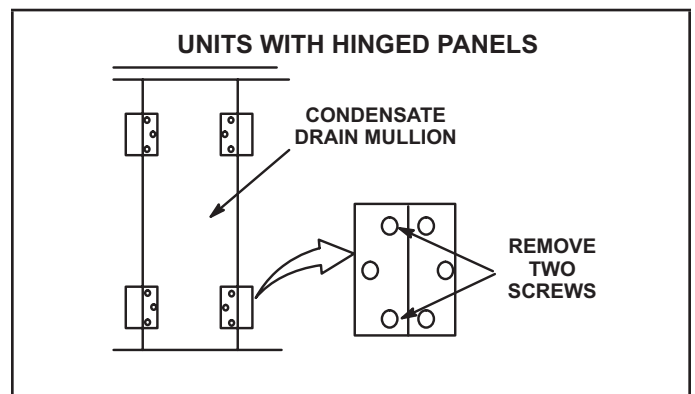
Units are shipped with the drain coupling facing the front of the unit. Condensate can be drained from the back or bottom of the unit with the following modifications. The unit can be installed in either downflow or horizontal air discharge regardless of condensate drain location.

Rear Drain Connection

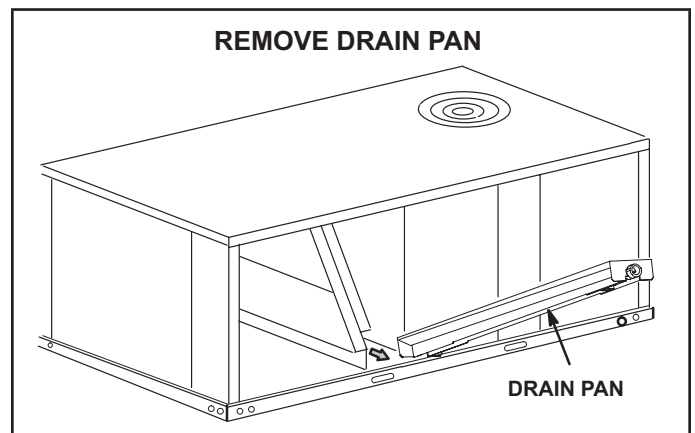
- 1 - Remove the condensate drain mullion. See FIGURE 7. Remove the two panels on each side of the mullion.



- Two hinge screws must be removed in addition to the mullion screws. See FIGURE 8.



- 2 - Lift the front edge of the drain pan and slide pan out of unit. See FIGURE 9.



- 3 - Make sure the cap over the unit bottom drain hole is secure.
- 4 - Rotate the drain pan until the downward slope is toward the back of the unit. Slide the drain pan back into the unit. Be careful not to dislodge the cap over the bottom drain hole.
- 5 - From the back side of the unit, pull the drain pan coupling through the rear condensate opening.
- 6 - Replace the condensate drain mullion.

Bottom Drain Connection

- 1 - Remove the condensate drain mullion. See FIGURE 7.
- 2 - Lift the front edge of the drain pan and slide pan out of unit. See FIGURE 9.
- 3 - Turn the drain pan upside down and drill a pilot hole through the bottom of the drain pan in the center of the coupling. See FIGURE 10.

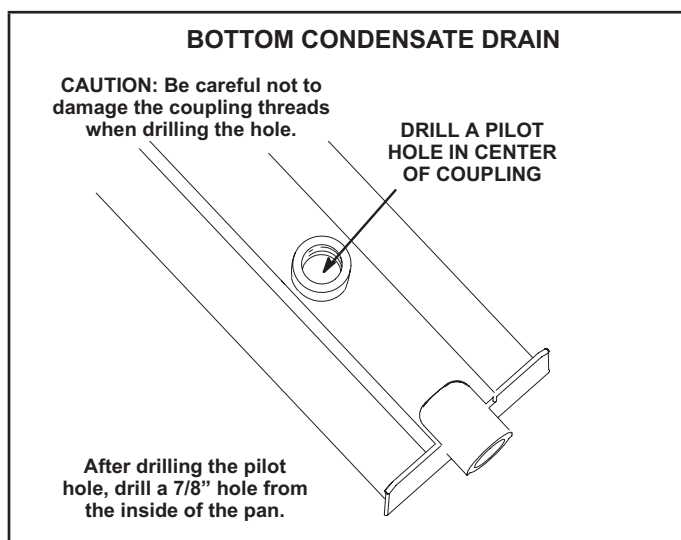


FIGURE 10

- 4 - From the inside of the pan, use a Vari-Bit® bit to enlarge the hole to 7/8". Do not damage coupling threads.
- 5 - Remove the cap over the unit bottom drain hole.
- 6 - Slide the drain pan back into the unit.
- 7 - From the back side of the unit, pull the drain pan coupling through the rear condensate opening.
- 8 - From the front side of the unit, move the drain pan until the bottom coupling settles into the unit bottom drain opening. Once in place, check to make sure the coupling is still positioned through the rear condensate drain hole.
- 9 - Use a field-provided 3/4" plug to seal side drain connection.
- 10 - Replace the condensate drain mullion.

Connect Gas Piping (Gas Units)

Before connecting field-provided piping, check with gas company or authorities having jurisdiction for local code requirements. When installing gas supply piping, length of run from gas meter must be considered in determining pipe size for 0.5" w.c. (.12kPa) maximum pressure drop. Do not use supply pipe smaller than unit gas connection. Operating pressures at the unit gas connection must be as shown in TABLE 1.

TABLE 1
OPERATING PRESSURE AT GAS CONNECTON
"w.c.

	Natural Gas		LP/Propane Gas	
	Min.	Max.	Min.	Max.
036-072	4.5	10.5	11	13

When making piping connections a drip leg should be installed on vertical pipe runs to serve as a trap for sediment or condensate. A 1/8" N.P.T. plugged tap is located on gas valve for test gauge connection. Refer to Heating Start-Up section for tap location. Install a ground joint union between the gas control manifold and the main manual shut-off valve. See FIGURE 11 for gas supply piping entering outside the unit. FIGURE 12 shows complete bottom gas entry piping.

Compounds used on threaded joints of gas piping shall be resistant to the action of liquefied petroleum gases.

Do not use Teflon® tape to seal gas piping. Use a moderate amount of pipe compound on the gas pipe only. Make sure the two end threads are bare.

CAUTION

If a flexible gas connector is required or allowed by the authority that has jurisdiction, black iron pipe shall be installed at the gas valve and extend out side the furnace cabinet.

WARNING

Do not exceed 600 in-lbs (50 ft.-lbs) torque when attaching the gas piping to the gas valve.

IMPORTANT

Compounds used on threaded joints of gas piping must be resistant to the actions of liquefied petroleum gases.

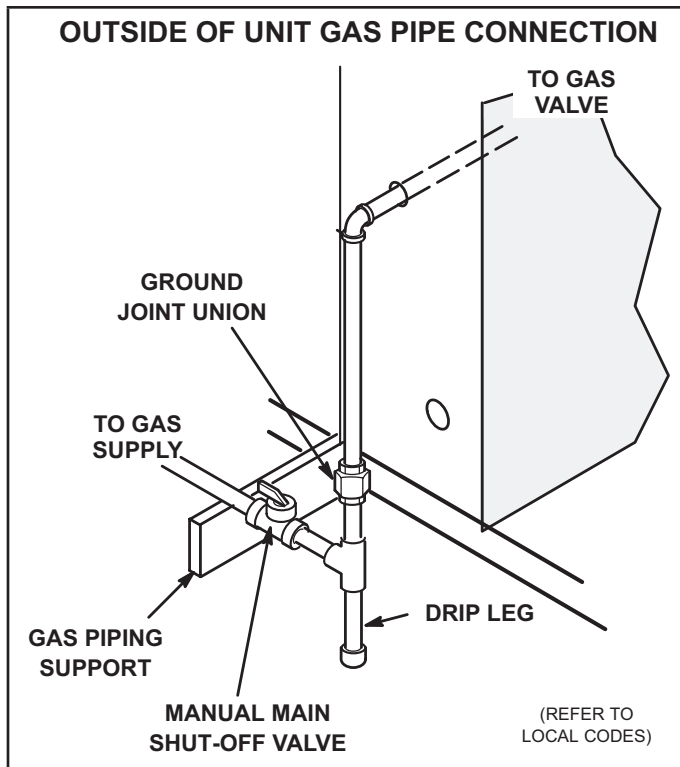


FIGURE 11

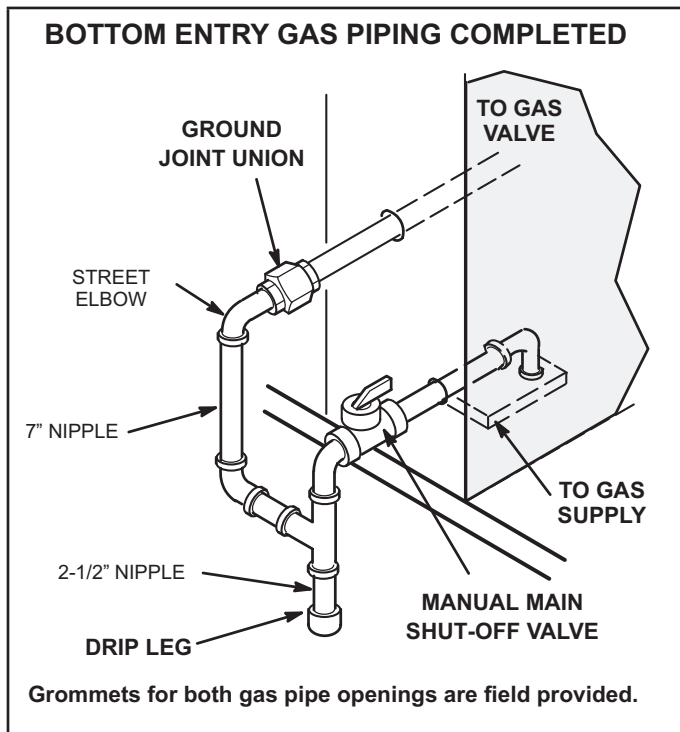


FIGURE 12

Pressure Test Gas Piping (Gas Units)

When pressure testing gas lines, the gas valve must be disconnected and isolated. Gas valves can be damaged if subjected to more than 0.5 psig (3.48kPa). See FIGURE 13.

NOTE - Codes may require that manual main shut-off valve and union (furnished by installer) be installed in gas line external to unit. Union must be of the ground joint type.

After all connections have been made, check all piping connections for gas leaks. Also check existing unit gas connections up to the gas valve; loosening may occur during installation. Use a leak detection solution or other preferred means. Do not use matches candles or other sources of ignition to check for gas leaks.

CAUTION

Some soaps used for leak detection are corrosive to certain metals. Carefully rinse piping thoroughly after leak test has been completed. Do not use matches, candles, flame or other sources of ignition to check for gas leaks.

WARNING



Danger of explosion. Can cause injury or product or property damage. Do not use matches, candles, flame or other sources of ignition to check for leaks.

NOTE - In case emergency shut down is required, turn off the main manual shut-off valve and disconnect main power to unit. These devices should be properly labeled by the installer.

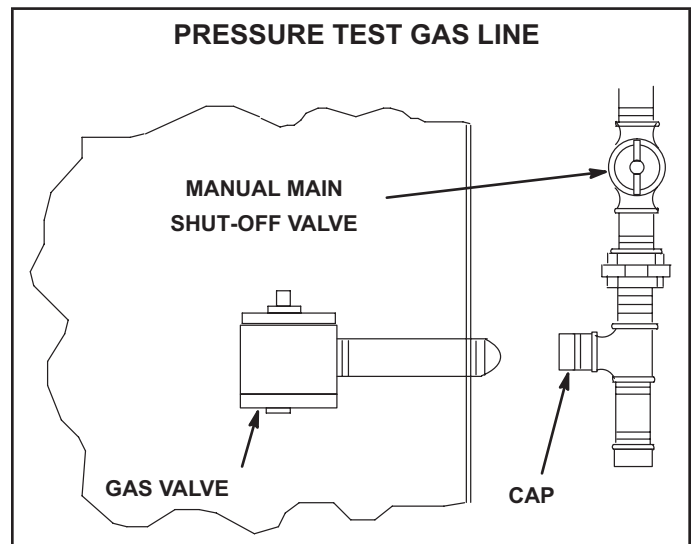


FIGURE 13

High Altitude Derate

Locate the high altitude conversion sticker in the unit literature bag. Fill out the conversion sticker and affix next to the unit nameplate. High altitude kits are available for field-installation.

Refer to TABLE 2 for high altitude adjustments.

**TABLE 2
HIGH ALTITUDE DERATE**

Altitude Ft.*	Gas manifold Pressure
2000-4500	See Unit Nameplate
4500 and Above	Derate 2% / 1000 Ft. above Sea Level

*Units installed at 0-2000 feet do not need to be modified.

NOTE - This is the only permissible derate for these units.

High Altitude Derate - ULNOx Units

The Ultra-Low NOx units are approved for installations from 0 -4500 ft. No modifications are required. Above 2000 ft, the furnace will naturally de-rate approximately 10%.

Download Mobile Service App

A-Mobile Device Requirements

- Android hardware requires 2GB RAM and a 2Ghz core processor. Tablets are supported.
- Minimum Android 6.0 (Marshmallow) or higher. Recommend Android 10 and Apple products require iOS version 11 or higher.

B-New Installations

Once the app is downloaded, refer to the Setup Guide provided with this unit to pair the app to the unit control system. Follow the setup wizard prompts to configure the unit. See FIGURE 14 for the app menu overview. **If a mobile device is unavailable or not pairing, refer to the Unit Controller Setup Guide for start-up instructions.**

Electrical Connections - Power Supply

Do not apply power or close disconnect switch until installation is complete. Refer to start-up directions. Refer closely to unit wiring diagram.

Refer to unit nameplate for minimum circuit ampacity and maximum fuse size.

- 1 - Units are factory-wired for 230 / 460 / 575 volt supply. **For 208V supply**, remove the insulated terminal cover from the 208V terminal on the control transformer. Move the wire from the transformer 240V terminal to the 208V terminal. Place the insulated terminal cover on the unused 240V terminal.
- 2 - Route power through the bottom power entry area and connect to L1, L2, and L3 on the top of K1 in control area above compressor. Secure power wiring with factory-installed wire ties provided in control box. Route power to TB2 on units equipped with electric heat. Route power to S48 or CB10 if unit is equipped with the optional disconnect switch or circuit breaker. See unit wiring diagram.

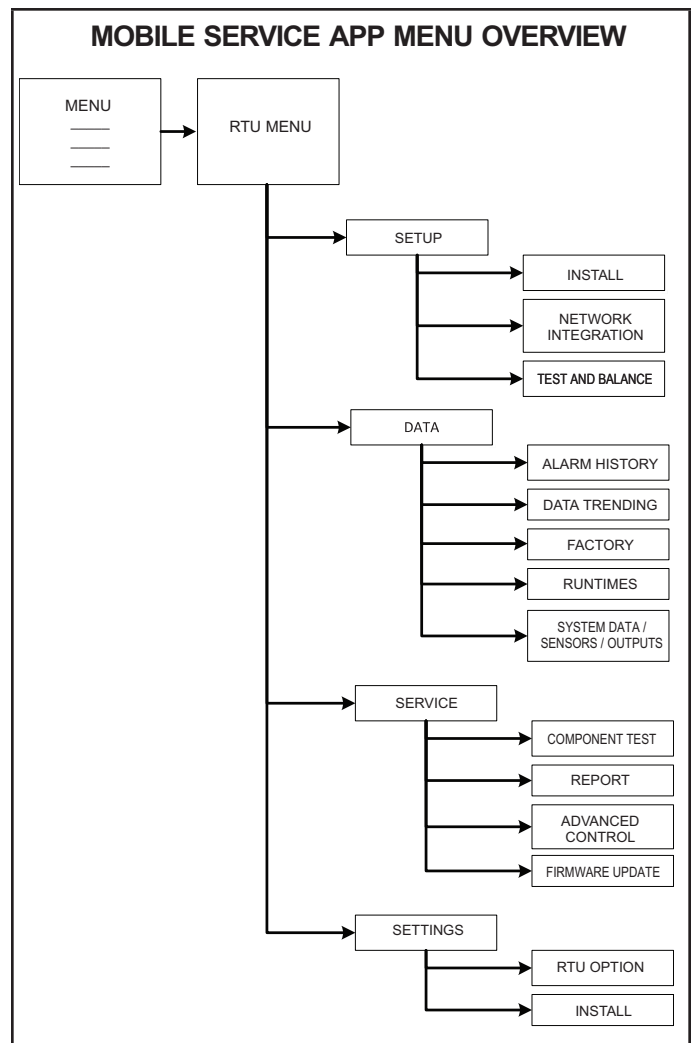


FIGURE 14

Electrical Connections - Control Warning

NOTE - Optional wireless sensors are available for use with this unit. Refer to the instructions provided with each sensor.

CAUTION

Electrostatic discharge can affect electronic components. Take precautions during unit installation and service to protect the electronic controls. Precautions will help to avoid control exposure to electrostatic discharge by putting the unit, the control and the technician at the same electrostatic potential. Neutralize electrostatic charge by touching hands and all tools on an unpainted unit surface, such as the gas valve or blower deck, before performing any service procedure.

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

The Unit Controller will operate the unit from a thermostat or zone sensor based on the System Mode. The default System Mode is the thermostat mode. Refer to the Unit Controller Setup Guide to change the System Mode. Use the mobile service app menu and select Settings > Install.

Thermostat Mode

- 1 - Route thermostat cable or wires from subbase to control area above compressor (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. Use wire ties located near the lower left corner of the controls mounting panel to secure thermostat cable.

Use 18 AWG wire for all applications using remotely installed electro-mechanical and electronic thermostats.

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

- 3 - Connect thermostat wiring to Unit Controller on the lower side of the controls hat section.
- 4 - Wire as shown in FIGURE 15 for electro-mechanical and electronic thermostats. If using other temperature control devices or energy management systems see instructions and wiring diagram provided by manufacturer.

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.

Zone Sensor Mode

The Unit Controller will operate heating and cooling based on the Unit Controller internal setpoints and the temperature from the A2 zone sensor. An optional Network Control Panel (NCP) can also be used to provide setpoints. A thermostat or return air sensor can be used as a back-up mode. Make zone sensor wiring connections as shown in FIGURE 16.

C-Hot Gas Reheat

- 1 - Install humidity sensor in accordance with instructions provided with sensor. A DDC input may be used to initiate dehumidification instead of a sensor.
- 2 - Make wiring connections as shown in FIGURE 15 for Thermostat Mode or FIGURE 16 for Zone Sensor Mode. In addition, connect either a humidity sensor or a dehumidification input. See FIGURE 17 or FIGURE 19 for humidity sensor wiring or FIGURE 18 for dehumidification input wiring.

Humidity Sensor Cable Applications

Wire runs of 50 feet (mm) or less

Use two separate shielded cables containing 20AWG minimum, twisted pair conductors with overall shield. Belden type 8762 or 88760 (plenum) or equivalent. Connect both cable shield drain wires to the Unit Controller as shown in FIGURE 17.

Wire runs of 150 feet (mm) or less

Use two separate shielded cables containing 18AWG minimum, twisted pair conductors with overall shield. Belden type 8760 or 88760 (plenum) or equivalent. Connect both cable shield drain wires to the Unit Controller as shown in FIGURE 17.

Wire runs over 150 feet (mm)

Use a local, isolated 24VAC transformer such as Lennox cat #18M13 (20VA minimum) to supply power to RH sensor as shown in FIGURE 19. Use two shielded cables containing 20AWG minimum, twisted pair conductors with overall shield. Belden type 8762 or 88760 (plenum) or equivalent.

**FIELD WIRING WITH ELECTRONIC AND ELECTRO-MECHANICAL THERMOSTATS
(Thermostat Mode)**

24 V POWER

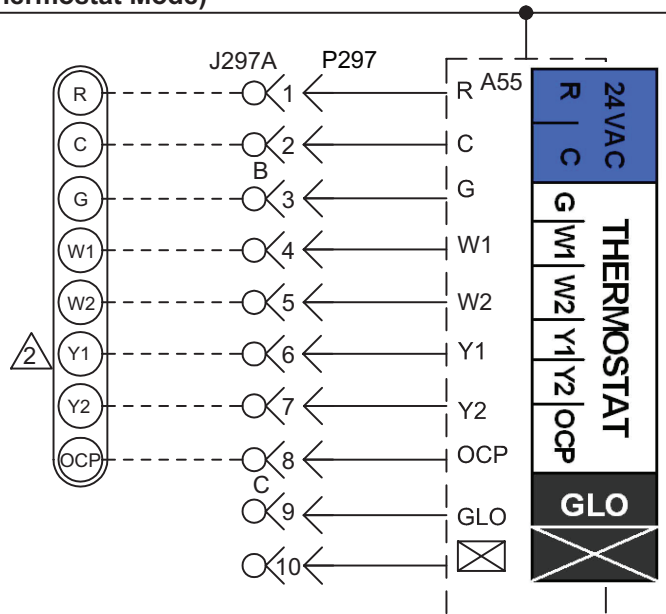
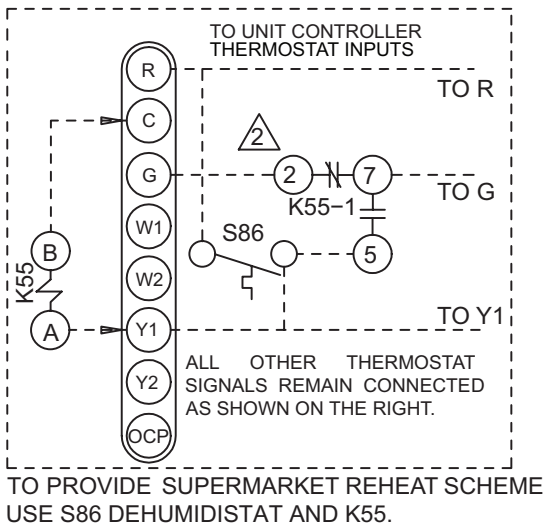


FIGURE 15

**FIELD WIRING IN ZONE SENSOR MODE
(Zone Sensor Mode)**

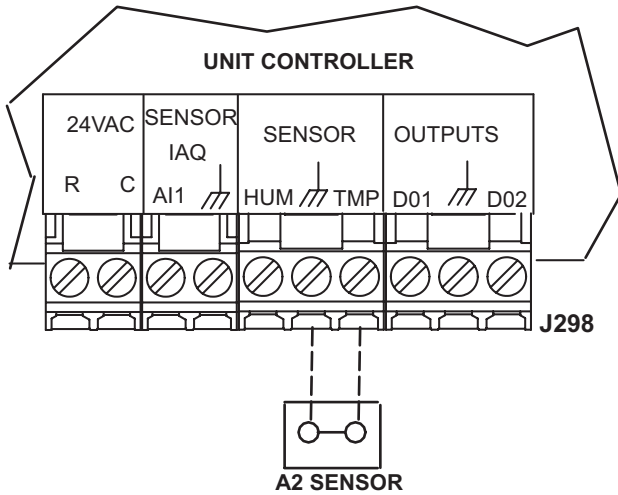


FIGURE 16

FIELD WIRING REHEAT UNITS (Using A Humidity Sensor With Less Than 150 Ft. Wire Runs)

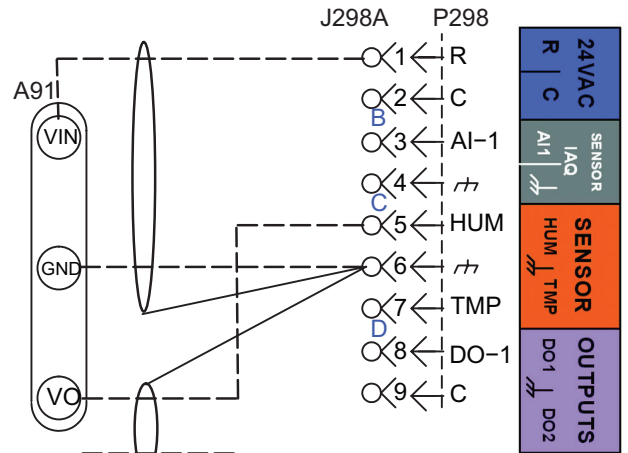
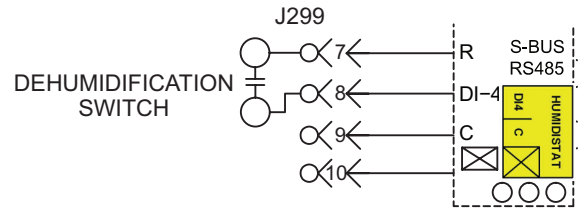


FIGURE 17

**FIELD WIRING REHEAT UNITS
(Using A Dehumidification Switch)**



Use 24 VAC (R) from any terminal available on J299-2, -5, or -7.

FIGURE 18

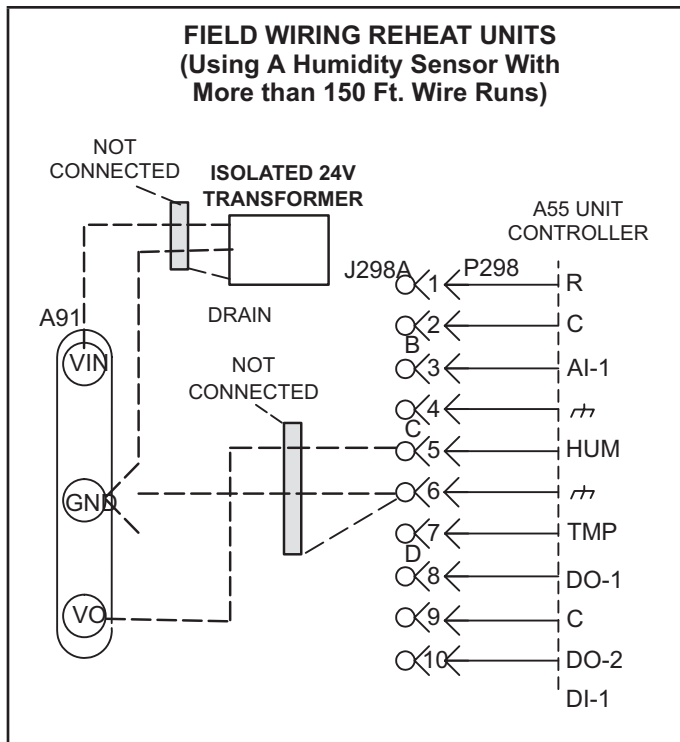


FIGURE 19

Blower Operation and Adjustments

⚠ 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.

A-Blower Operation

Refer to the Unit Controller Setup Guide to energize blower. Use the mobile service app menu; see:

RTU MENU > COMPONENT TEST > BLOWER > START TEST.

Direct-drive motor may not immediately stop when power is interrupted to the Unit Controller. Disconnect unit power before opening the blower compartment. The Controller’s digital inputs must be used to shut down the blower. See Unit Controller manual for operation sequences.

⚠ WARNING

- 1- Make sure that unit is installed in accordance with the installation instructions and applicable codes.
- 2- Inspect all electrical wiring, both field and factory-installed, for loose connections. Tighten as required.
- 3- Check to ensure that refrigerant lines do not rub against the cabinet or against other refrigerant lines.
- 4- Check voltage at disconnect switch. Voltage must be within range listed on nameplate. If not, consult power company and have voltage condition corrected before starting unit.
- 5- Make sure filters are new and in place before start-up.

B--Determining Unit CFM

- 1 - The following measurements must be made with air filters in place.
- 2 - With all access panels in place, measure static pressure external to unit (from supply to return). Blower performance data is based on static pressure readings taken in locations shown in FIGURE 20.

NOTE - Static pressure readings can vary if not taken where shown.

- 3 - Measure the indoor blower wheel RPM.
- 4 - Referring to the Blower Data tables, use static pressure and RPM readings to determine unit CFM. Use the Accessory Air Resistance tables when installing units with any of the options or accessories listed. Refer to TABLE 3 for minimum airflow when electric heat is installed.

TABLE 3
ELECTRIC HEAT MINIMUM AIRFLOW

Unit	kW	CFM	
		Direct Drive	Direct Drive (Impeller-Style)
036, 048, 060	7.5	600	1200
	15	1100	1350
	22.5	1600	1800
072	30	NA	2000

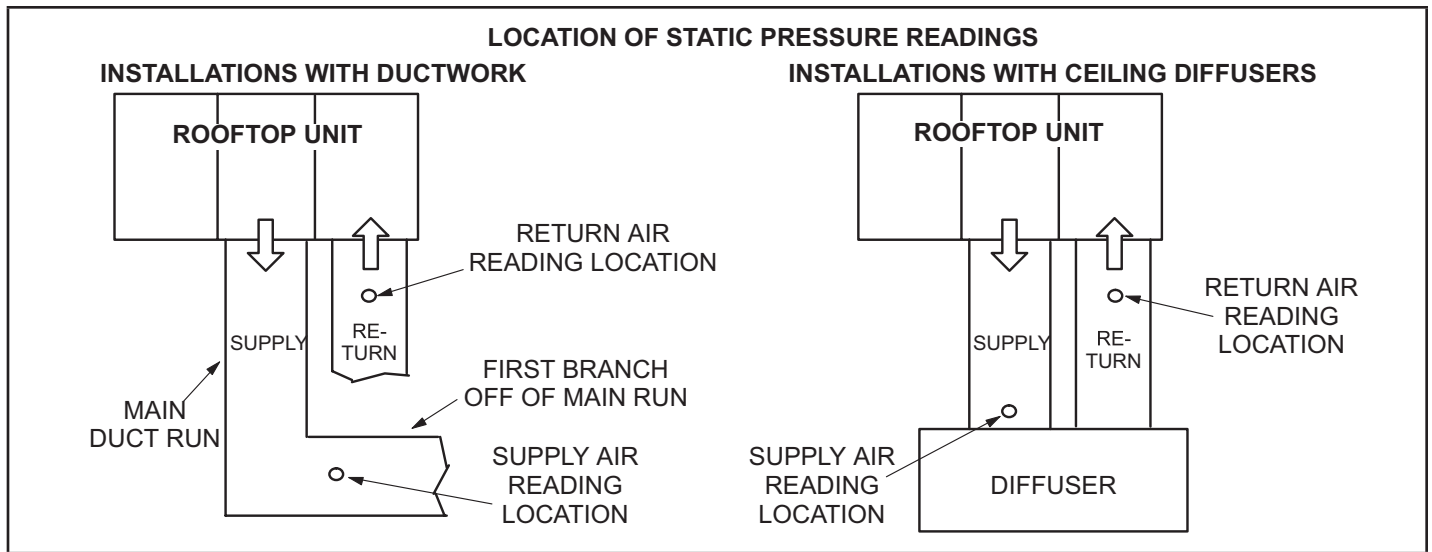


FIGURE 20

C-Adjusting Unit CFM

The supply CFM can be adjusted by changing Unit Controller settings. Refer to TABLE 4 for menu paths and default settings. Record any CFM changes on the parameter settings label located on the inside of the compressor access panel.

IMPORTANT - The default value for Cooling Low CFM is lower than a traditional single or two-speed blower. If operating the unit with a 2 or 3-stage controller (2 or 3-stage thermostat, DDC controller, etc.), it is recommended to increase the Cooling Low CFM default value to a suitable level for part load cooling (typically 60% of full load CFM).

**TABLE 4
BLOWER PERFORMANCE SETTINGS - 581102-01**

Parameter	Field Setting	Description
<i>NOTE - Any changes to Smoke CFM setting must be adjusted before the other CFM settings. Use SETTINGS > RTU OP TIONS > EDIT PARAM-ETERS = 12 for EBM, 6 for ECM</i>		
BLOWER SMOKE CFM	%	Percentage of torque for blower smoke speed.
SETUP > TEST & BALANCE > BLOWER		
BLOWER HEATING HIGH CFM	%	Percentage of torque for blower heating high speed.
BLOWER HEATING LOW CFM	%	Percentage of torque for blower heating low speed (P volt gas heat only).
BLOWER COOLING HIGH CFM	%	Percentage of torque for blower cooling high speed.
BLOWER COOLING LOW CFM	%	Percentage of torque for blower cooling low speed and vent speed for standard static blowers.
BLOWR VENTILATION CFM	%	Percentage of torque for high static blower ventilation speed.
SETUP > TEST & BALANCE > DAMPER		
BLOWER HIGH CFM DAMPER POS %	%	Minimum damper position for high speed blower operation. Default 0%.
BLOWER LOW CFM DAMPER POS %	%	Minimum damper position for low speed blower operation. Default 0%.
POWER EXHAUST DAMPER POS %	%	Minimum damper position for low power exhaust operation. Default 50%.
SETTINGS > RTU OPTIONS > EDIT PARAMETERS = 216		
POWER EXHAUST DEADBAND %	%	Deadband % for power exhaust operation. Default 10%.
SETTINGS > RTU OPTIONS > EDIT PARAMETERS = 10 (Applies to Thermostat Mode ONLY)		
FREE COOLING STAGE-UP DELAY	sec	Number of seconds to hold blower at low speed before switching to blower at high speed. Default 300 seconds.

Installer - Record any parameter changes under "Field Setting" column. Settings need to be recorded by installer for use when Unit Controller is replaced or reprogrammed.

BLOWER DATA

0.5 HP

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD: Minimum Air Volume Required for Different Gas Heat Sizes:

1- Any factory installed options air resistance (heat section, economizer, etc).

2- Any field installed accessories air resistance (duct resistance, diffuser, etc).

See page 19 for wet coil and options/accessory air resistance data.

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

DOWNFLOW

External Static Pressure in. w.g.	Percentage of Total Motor Torque																																			
	20%				30%				40%				50%				60%				70%				80%				90%				100%			
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM				
0	811	50	415	994	82	473	1177	114	531	1319	154	579	1461	194	626	1564	236	663	1667	278	700	1804	349	753	1878	396	783									
0.1	716	47	494	906	81	547	1095	115	599	1243	158	642	1391	209	685	1500	243	718	1608	286	751	1753	361	798	1833	409	824									
0.2	631	49	570	827	85	618	1023	121	665	1176	165	704	1329	209	742	1442	254	772	1555	299	802	1708	375	843	1794	425	865									
0.3	556	54	644	758	92	687	960	130	729	1118	176	764	1275	222	799	1392	268	825	1509	314	851	1668	392	888	1759	443	907									
0.4	489	62	715	696	102	753	903	142	791	1065	189	822	1227	236	853	1347	284	877	1467	331	900	1632	410	932	1726	462	949									
0.5	---	---	---	---	---	---	851	155	851	1017	204	879	1183	253	906	1306	301	927	1429	349	948	1597	430	976	1693	481	991									
0.6	---	---	---	---	---	---	804	170	909	973	220	933	1141	269	957	1267	318	976	1392	367	994	1527	449	1019	1660	501	1032									
0.7	---	---	---	---	---	---	759	184	964	930	235	985	1101	286	1006	1228	336	1023	1355	385	1039	1527	467	1062	1624	519	1074									
0.8	---	---	---	---	---	---	716	199	1017	899	251	1036	1061	302	1054	1189	352	1069	1317	402	1083	1489	484	1103	1585	535	1115									
0.9	---	---	---	---	---	---	671	211	1067	845	264	1083	1019	316	1099	1148	366	1112	1276	416	1125	1447	499	1144	1540	549	1156									
1.0	---	---	---	---	---	---	625	222	1114	800	275	1128	974	327	1142	1102	378	1154	1230	428	1165	1400	510	1183	1489	559	1196									
1.1	---	---	---	---	---	---	576	230	1158	751	283	1170	925	336	1182	1052	387	1193	1179	437	1203	1345	518	1221	1430	566	1235									
1.2	---	---	---	---	---	---	521	234	1199	695	288	1210	869	341	1220	995	391	1230	1121	441	1240	1283	521	1258	1361	567	1273									
1.3	---	---	---	---	---	---	---	---	---	---	---	806	340	1255	930	390	1265	1054	440	1274	1210	519	1293	1281	562	1311										
1.4	---	---	---	---	---	---	---	---	---	---	---	734	335	1288	856	384	1297	977	433	1306	1126	510	1326	1188	552	1347										

HORIZONTAL

External Static Pressure in. w.g.	Percentage of Total Motor Torque																																			
	20%				30%				40%				50%				60%				70%				80%				90%				100%			
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM				
0	794	45	388	970	76	454	1146	107	519	1281	149	575	1416	191	630	1522	110	678	1627	293	726	1715	351	768	1802	408	810									
0.1	709	44	460	895	78	519	1080	111	577	1223	155	627	1366	199	677	1477	251	721	1588	303	764	1681	362	804	1773	420	843									
0.2	630	46	531	855	82	583	1019	117	634	1169	163	679	1318	208	723	1435	262	763	1552	315	803	1648	375	841	1743	434	878									
0.3	556	51	602	759	88	646	961	125	690	1117	172	730	1273	219	769	1395	274	805	1516	328	841	1615	388	877	1714	448	912									
0.4	486	58	671	696	97	709	906	135	746	1068	184	781	1230	232	815	1356	288	848	1481	343	880	1582	403	914	1683	463	948									
0.5	420	66	740	637	107	771	854	147	802	1021	196	831	1188	245	860	1317	301	890	1446	357	919	1549	418	951	1652	478	983									
0.6	---	---	---	---	---	---	804	159	856	946	209	881	1147	259	905	1279	316	932	1410	372	958	1514	432	989	1618	492	1019									
0.7	---	---	---	---	---	---	756	172	910	932	223	930	1107	273	949	1241	330	973	1374	386	996	1478	446	1026	1582	506	1055									
0.8	---	---	---	---	---	---	709	185	962	888	236	978	1066	287	993	1201	344	1014	1336	400	1034	1440	460	1063	1544	519	1091									
0.9	---	---	---	---	---	---	663	197	1013	844	249	1025	1025	300	1036	1161	357	1054	1296	413	1072	1399	472	1100	1502	530	1127									
1.0	---	---	---	---	---	---	---	---	---	---	---	982	313	1078	1118	369	1094	1254	424	1109	1355	482	1136	1456	540	1163										
1.1	---	---	---	---	---	---	---	---	---	---	---	938	323	1119	1073	379	1133	1208	434	1146	1307	491	1172	1406	548	1198										
1.2	---	---	---	---	---	---	---	---	---	---	---	892	332	1158	1026	387	1170	1159	441	1182	1255	497	1208	1351	553	1233										
1.3	---	---	---	---	---	---	---	---	---	---	---	843	340	1197	975	393	1207	1106	446	1216	1198	501	1242	1290	555	1268										
1.4	---	---	---	---	---	---	---	---	---	---	---	790	344	1234	920	396	1242	1049	448	1250	1137	501	1276	1224	553	1302										

BLOWER DATA

1.0 HP

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:

1- Any factory installed options air resistance (heat section, economizer, etc).

2- Any field installed accessories air resistance (duct resistance, diffuser, etc).

See page 19 for wet coil and options/accessory air resistance data.

Minimum Air Volume Required for Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

DOWNFLOW

External Static Pressure in. w.g.	Percentage of Total Motor Torque																																			
	20%				30%				40%				50%				60%				70%				80%				90%				100%			
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	
0	1067	112	488	1325	196	573	1583	279	657	1759	381	726	1934	482	794	2046	579	845	2157	676	896	2285	816	956	2358	925	989									
0.1	984	97	537	1249	184	616	1513	270	695	1697	376	760	1881	481	825	2002	584	873	2123	686	921	2273	838	978	2352	947	1008									
0.2	912	91	587	1183	180	661	1453	268	735	1644	377	796	1835	486	856	1964	593	902	2093	700	947	2264	863	1001	2349	973	1030									
0.3	851	92	636	1126	183	706	1400	273	775	1597	385	832	1794	497	889	1931	607	932	2067	717	974	2256	891	1026	2348	1001	1053									
0.4	797	100	687	1075	192	751	1353	283	815	1555	397	869	1757	511	922	1901	625	962	2044	738	1002	2248	919	1051	2347	1031	1077									
0.5	752	114	737	1032	206	796	1312	298	855	1518	413	905	1724	528	955	1873	644	993	2021	760	1030	2239	948	1078	2345	1061	1102									
0.6	712	132	787	994	224	842	1275	316	896	1484	432	942	1692	548	988	1845	666	1024	1998	783	1059	2228	977	1104	---	---	---									
0.7	678	155	836	960	246	886	1242	336	936	1452	452	979	1662	568	1021	1818	687	1055	1974	806	1088	2214	1004	1131	---	---	---									
0.8	648	180	885	929	269	931	1210	358	976	1421	474	1016	1632	589	1055	1790	709	1086	1948	828	1117	2195	1028	1158	---	---	---									
0.9	621	207	933	900	294	974	1179	381	1015	1390	495	1051	1600	609	1087	1760	728	1117	1919	847	1146	2170	1049	1185	---	---	---									
1.0	596	235	981	872	319	1017	1148	403	1053	1357	516	1086	1566	628	1119	1725	746	1147	1884	864	1174	2139	1066	1212	---	---	---									
1.1	---	---	---	---	---	---	1115	424	1090	1322	534	1120	1528	643	1150	1686	760	1176	1844	876	1201	2100	1078	1238	---	---	---									
1.2	---	---	---	---	---	---	1080	443	1126	1283	549	1153	1485	655	1180	1641	770	1204	1797	884	1228	2052	1083	1264	---	---	---									
1.3	---	---	---	---	---	---	1040	458	1161	1238	561	1185	1436	663	1209	1589	775	1231	1742	886	1253	1993	1081	1288	---	---	---									
1.4	---	---	---	---	---	---	996	469	1194	1189	567	1215	1381	665	1236	1530	773	1257	1678	881	1277	1923	1071	1311	---	---	---									

HORIZONTAL

External Static Pressure in. w.g.	Percentage of Total Motor Torque																																			
	20%				30%				40%				50%				60%				70%				80%				90%				100%			
	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	Watts	Cfm	RPM	
0	1087	111	493	1304	184	579	1520	257	665	1689	368	738	1857	478	810	1972	588	864	2087	698	918	2196	844	975	2283	925	1000									
0.1	1021	104	537	1246	180	618	1470	255	699	1646	368	768	1821	480	837	1941	592	888	2061	704	938	2179	852	992	2255	926	1017									
0.2	961	102	582	1193	181	658	1425	259	734	1607	373	799	1789	487	864	1914	601	912	2039	714	960	2163	864	1012	2231	932	1034									
0.3	906	106	628	1145	186	699	1384	266	769	1572	382	831	1759	498	892	1889	613	938	2018	728	984	2149	879	1033	2209	941	1053									
0.4	855	113	674	1101	196	740	1347	278	806	1540	396	864	1732	513	921	1866	629	965	1999	744	1008	2134	896	1054	---	---	---									
0.5	808	125	720	1060	209	781	1312	293	842	1509	412	896	1706	530	950	1843	646	992	1980	762	1033	2119	915	1077	---	---	---									
0.6	764	139	766	1022	225	823	1279	310	879	1481	430	930	1682	549	980	1821	666	1019	1960	782	1058	2102	935	1101	---	---	---									
0.7	722	155	812	985	242	864	1247	328	916	1452	449	964	1657	569	1011	1799	686	1048	1940	803	1084	2084	955	1125	---	---	---									
0.8	682	172	858	949	260	906	1216	348	953	1424	469	997	1632	589	1041	1776	706	1076	1919	823	1111	2063	974	1150	---	---	---									
0.9	643	191	903	914	279	946	1185	367	989	1396	489	1030	1606	610	1071	1751	727	1104	1895	843	1137	2039	992	1175	---	---	---									
1.0	---	---	---	---	---	---	1153	386	1024	1366	508	1062	1579	629	1100	1724	745	1132	1869	861	1163	2011	1008	1201	---	---	---									
1.1	---	---	---	---	---	---	1120	404	1059	1334	525	1095	1548	646	1130	1694	761	1160	1839	876	1189	1979	1021	1226	---	---	---									
1.2	---	---	---	---	---	---	1085	420	1093	1300	541	1126	1515	661	1158	1660	775	1186	1805	889	1214	1941	1031	1250	---	---	---									
1.3	---	---	---	---	---	---	1047	433	1126	1263	553	1156	1478	672	1186	1622	785	1213	1766	898	1239	1897	1037	1275	---	---	---									
1.4	---	---	---	---	---	---	1005	442	1158	1221	561	1185	1436	680	1212	1579	792	1238	1721	903	1263	1847	1037	1298	---	---	---									

BLOWER DATA

1.5 HP

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:

- 1- Any factory installed options air resistance (heat section, economizer, etc).
- 2- Any field installed accessories air resistance (duct resistance, diffuser, etc).

Minimum Air Volume Required for Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 15w00 cfm

See page 19 for wet coil and options/accessory air resistance data.

DOWNFLOW

Total Air cfm	Total Static Pressure - in. w.c.																											
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1		1.2		1.3			
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts		
400	---	---	734	19	823	40	910	60	985	78	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---		
600	766	28	856	51	944	73	1029	93	1108	111	1180	127	1248	139	1386	174	1454	185	1519	198	1582	214	1643	234	1701	255	1755	281
800	899	57	989	81	1079	104	1163	125	1242	145	1317	161	1386	174	1454	185	1519	198	1582	214	1643	234	1701	255	1755	281	350	
1000	1084	95	1163	117	1244	139	1323	160	1398	180	1470	196	1538	211	1603	227	1663	245	1721	267	1776	292	1828	320	1876	350	427	
1200	1319	113	1385	138	1451	162	1517	186	1581	209	1644	231	1703	254	1759	278	1812	306	1863	337	1912	367	1960	397	2003	427	508	
1400	1542	146	1596	177	1649	208	1703	239	1757	269	1809	300	1860	331	1909	362	1956	393	2003	425	2050	456	2095	483	2139	508	590	
1600	1721	225	1772	258	1823	291	1873	324	1923	356	1972	388	2019	419	2065	450	2110	480	2156	510	2200	539	2244	565	2287	590	685	
1800	1909	309	1957	341	2006	373	2054	404	2101	435	2146	465	2190	495	2234	526	2277	557	2320	588	2362	620	2404	651	2444	685	822	
2000	2103	385	2148	417	2193	450	2239	483	2283	516	2325	550	2367	584	2408	620	2449	658	2490	696	2529	735	2568	777	2605	822	982	
2200	2299	478	2342	514	2384	552	2426	590	2467	630	2507	671	2547	714	2586	757	2625	800	2663	844	2700	889	2735	935	2770	982	1141	
2400	2500	606	2540	647	2580	690	2618	734	2656	779	2694	824	2731	870	2768	915	2804	961	2839	1006	2874	1051	2907	1096	2941	1141	1300	
2600	2704	768	2741	810	2778	855	2813	901	2849	947	2884	993	2918	1039	2952	1085	2986	1129	3019	1173	3051	1217	3083	1259	3115	1300	1456	
2800	2908	941	2943	985	2976	1030	3010	1076	3042	1121	3075	1166	3107	1210	3139	1253	3170	1296	3200	1338	3231	1379	3261	1419	3290	1456	1609	
3000	3110	1111	3142	1156	3173	1201	3205	1245	3236	1289	3267	1332	3296	1373	3325	1414	3354	1455	3382	1496	3412	1536	3439	1573	3465	1609		

Total Air cfm	Total Static Pressure - in. w.g.													
	1.4		1.5		1.6		1.7		1.8		1.9		2.0	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
800	1805	309	1850	337	1895	366	1940	392	---	---	---	---	---	
1000	1920	380	1962	410	2005	439	2050	466	2094	492	2138	517	2181	541
1200	2045	456	2087	484	2130	510	2174	537	2217	563	2260	589	2302	615
1400	2182	531	2225	555	2268	581	2310	610	2352	640	2393	671	2433	703
1600	2330	616	2371	645	2412	678	2452	713	2491	750	2530	787	2568	824
1800	2484	723	2523	765	2561	808	2598	849	2636	890	2672	931	2708	971
2000	2641	868	2677	915	2713	961	2749	1003	2784	1044	2819	1084	2853	1124
2200	2804	1028	2839	1072	2873	1114	2907	1155	2940	1194	2973	1234	3006	1272
2400	2974	1184	3006	1225	3039	1266	3071	1305	3103	1344	3134	1382	3166	1420
2600	3146	1340	3177	1379	3207	1417	3238	1456	3269	1494	3299	1532	3329	1569
2800	3319	1493	3347	1530	3376	1567	3406	1605	3435	1643	3465	1681	3495	1718
3000	3491	1644	3517	1680	3543	1716	3572	1754	3602	1792	3631	1830	3661	1867

BLOWER DATA

1.5 HP

BLOWER TABLE INCLUDES RESISTANCE FOR BASE UNIT ONLY WITH DRY INDOOR COIL AND AIR FILTERS IN PLACE.

FOR ALL UNITS ADD:

- 1- Any factory installed options air resistance (heat section, economizer, etc).
- 2- Any field installed accessories air resistance (duct resistance, diffuser, etc).

Minimum Air Volume Required for Different Gas Heat Sizes:

Standard Heat - 1075 cfm; Medium Heat - 1150 cfm; High Heat - 1500 cfm

See page 19 for wet coil and options/accessory air resistance data.

HORIZONTAL

Total Air cfm	Total Static Pressure - in. w.c.																											
	0.1		0.2		0.3		0.4		0.5		0.6		0.7		0.8		0.9		1.0		1.1		1.2		1.3			
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts		
400	708	16	793	37	872	53	1077	95	1149	107	1221	109	1434	154	1497	163	1555	179	1607	200	1656	226	1704	254	---	---	---	
600	835	46	918	65	1000	82	1077	95	1149	107	1221	109	1434	154	1497	163	1555	179	1607	200	1656	226	1704	254	---	---	---	
800	981	75	1064	92	1144	109	1221	124	1294	139	1365	148	1434	154	1497	163	1555	179	1607	200	1656	226	1704	254	---	---	---	
1000	1166	105	1241	124	1315	141	1387	159	1454	176	1520	191	1582	207	1638	227	1689	252	1737	279	1783	308	1829	335	1873	362	---	
1200	1374	142	1440	162	1506	182	1569	203	1630	224	1687	246	1739	271	1787	299	1832	330	1876	361	1920	391	1964	419	2007	444	---	
1400	1591	183	1647	209	1701	235	1755	263	1806	291	1854	320	1899	351	1942	382	1984	412	2026	442	2068	469	2110	496	2153	520	---	
1600	1778	258	1827	290	1876	323	1923	355	1970	386	2015	416	2059	444	2102	470	2144	494	2185	519	2227	545	2268	572	2309	600	---	
1800	1973	352	2018	383	2063	415	2107	445	2151	476	2194	504	2237	531	2279	557	2319	584	2359	613	2397	645	2435	679	2471	713	---	
2000	2182	437	2224	468	2265	499	2306	531	2346	563	2385	596	2424	630	2461	666	2496	705	2530	745	2564	786	2598	826	2631	866	---	
2200	2388	540	2426	576	2464	613	2500	651	2536	691	2571	731	2605	774	2637	819	2668	863	2700	907	2732	949	2764	990	2795	1029	---	
2400	2589	679	2624	719	2658	761	2691	803	2724	846	2756	890	2786	935	2816	980	2846	1025	2876	1068	2907	1109	2937	1149	2967	1188	---	
2600	2787	845	2819	887	2850	930	2881	973	2911	1017	2941	1060	2970	1104	2999	1147	3028	1189	3057	1230	3087	1270	---	---	---	---	---	
2800	2983	1021	3013	1063	3042	1106	3070	1149	3099	1191	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
Total Air cfm	Total Static Pressure - in. w.g.												Total Static Pressure - in. w.c.															
	1.4		1.5		1.6		1.7		1.8		1.9		2.0		0.7		0.8		0.9		1.0		1.1		1.2		1.3	
	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts	RPM	Watts
800	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
1000	1916	386	1957	408	1998	428	2037	447	2077	465	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
1200	2049	468	2089	490	2128	510	2168	529	2207	549	2246	569	2285	591	---	---	---	---	---	---	---	---	---	---	---	---	---	
1400	2194	543	2235	565	2274	588	2313	611	2350	637	2387	664	2423	694	---	---	---	---	---	---	---	---	---	---	---	---	---	
1600	2349	627	2387	657	2423	688	2457	722	2490	757	2522	793	2554	830	---	---	---	---	---	---	---	---	---	---	---	---	---	
1800	2506	749	2539	787	2571	825	2602	864	2632	903	2662	942	2692	981	---	---	---	---	---	---	---	---	---	---	---	---	---	
2000	2663	906	2694	945	2725	985	2755	1024	2785	1063	2815	1101	2845	1138	---	---	---	---	---	---	---	---	---	---	---	---	---	
2200	2826	1068	2857	1107	2887	1146	2916	1184	2946	1221	2975	1259	3005	1296	---	---	---	---	---	---	---	---	---	---	---	---	---	
2400	2997	1227	3027	1266	3056	1304	3085	1342	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	
2600	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---
2800	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---	---

BLOWER DATA

FACTORY INSTALLED OPTIONS/FIELD INSTALLED ACCESSORY AIR RESISTANCE - in. w.g.

Air Volume cfm	Wet Indoor Coil		Reheat Coil	Gas Heating			Economizer	Electric Heat	Filters		
	036, 048	060, 072		Standard Heat	Medium Heat	High Heat			MERV 8	MERV 13	MERV 16
800	0.01	---	---	0.02	0.02	0.02	0.04	0.01	0.04	0.05	0.04
1000	0.02	0.02	0.00	0.02	0.02	0.02	0.04	0.03	0.04	0.07	0.05
1200	0.03	0.04	0.00	0.02	0.02	0.02	0.04	0.06	0.04	0.07	0.05
1400	0.04	0.05	0.01	0.02	0.02	0.03	0.04	0.09	0.04	0.07	0.06
1600	0.05	0.07	0.02	0.02	0.03	0.04	0.04	0.12	0.04	0.07	0.08
1800	0.06	0.08	0.02	0.03	0.04	0.05	0.05	0.15	0.04	0.07	0.09
2000	0.08	0.10	0.02	0.03	0.04	0.06	0.05	0.18	0.05	0.08	0.10
2200	---	0.11	0.04	0.04	0.04	0.07	0.05	0.18	0.05	0.08	0.11
2400	---	0.13	0.04	0.04	0.05	0.08	0.05	0.20	0.05	0.08	0.12

POWER EXHAUST FAN PERFORMANCE

Return Air System Static Pressure in. w.g.	Air Volume Exhausted cfm
0.00	2000
0.05	1990
0.10	1924
0.15	1810
0.20	1664
0.25	1507
0.30	1350
0.35	1210

CEILING DIFFUSERS AIR RESISTANCE (in. w.g.)

Air Volume - cfm	RTD11-95S Step-Down Diffuser			FD11-95S Flush Diffuser
	2 Ends Open	1 Side & 2 Ends Open	All Ends & Sides Open	
1800	0.13	0.11	0.09	0.09
2000	0.15	0.13	0.11	0.10
2200	0.18	0.15	0.12	0.12
2400	0.21	0.18	0.15	0.14
2600	0.24	0.21	0.18	0.17
2800	0.27	0.24	0.21	0.20
3000	0.32	0.29	0.25	0.25

CEILING DIFFUSER AIR THROW DATA

Air Volume - cfm	1 Effective Throw - ft.	
	RTD11-95S	FD11-95S
2600	24 - 29	19 - 24
2800	25 - 30	20 - 28
3000	27 - 33	21 - 29

1 Effective throw based on terminal velocities of 75 ft. per minute.

Cooling Start-Up

A-Operation

- 1 - Initiate full load cooling operation using the following mobile service app menu path:

RTU MENU > COMPONENT TEST > COOLING > COOLING STAGE 2

NOTE - Refer to Cooling Operation section for high efficiency unit operation in zone sensor mode.

- 2 - Units contain one refrigerant circuit or stage.
- 3 - Unit is charged with R-454B refrigerant. See unit rating plate for correct amount of charge.
- 4 - Refer to Cooling Operation and Adjustment section for proper method to check refrigerant charge.

B-Refrigerant Charge and Check - All-Aluminum Coil

WARNING - Do not exceed nameplate charge under any condition.

This unit is factory charged and should require no further adjustment. If the system requires additional refrigerant, reclaim the charge, evacuate the system, and add required nameplate charge.

NOTE - System charging is not recommended below 60°F (15°C). In temperatures below 60°F (15°C), the charge must be weighed into the system.

If weighing facilities are not available, or to check the charge, use the following procedure:

- 1 - Make sure outdoor coil is clean. Attach gauge manifolds and operate unit at full CFM in cooling mode with economizer disabled until system stabilizes (approximately five minutes). Make sure all outdoor air dampers are closed.

- 2 - Compare the normal operating pressures to the pressures obtained from the gauges. Check unit components if there are significant differences.

- 3 - Measure the outdoor ambient temperature and the suction pressure. Refer to the charging curve to determine a target liquid temperature.

NOTE - Pressures are listed for sea level applications.

- 4 - Use the same thermometer to accurately measure the liquid temperature (in the outdoor section).

- If measured liquid temperature is higher than the target liquid temperature, add refrigerant to the system.
- If measured liquid temperature is lower than the target liquid temperature, recover some refrigerant from the system.

- 5 - Add or remove charge in increments. Allow the system to stabilize each time refrigerant is added or removed.

- 6 - Continue the process until measured liquid temperature agrees with the target liquid temperature. Do not go below the target liquid temperature when adjusting charge. Note that suction pressure can change as charge is adjusted.

- 7 - Example: At 95°F outdoor ambient and a measured suction pressure of 130psig, the target liquid temperature is 97°F. For a measured liquid temperature of 106°F, add charge in increments until measured liquid temperature agrees with the target liquid temperature.

TABLE 5

036 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581061-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
114	232	116	271	118	314	120	361	122	412	124	468
123	235	125	274	127	317	130	364	132	415	134	471
142	241	145	280	148	323	150	370	153	422	156	477
163	247	166	286	169	330	173	377	176	429	179	484

036 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581061-01

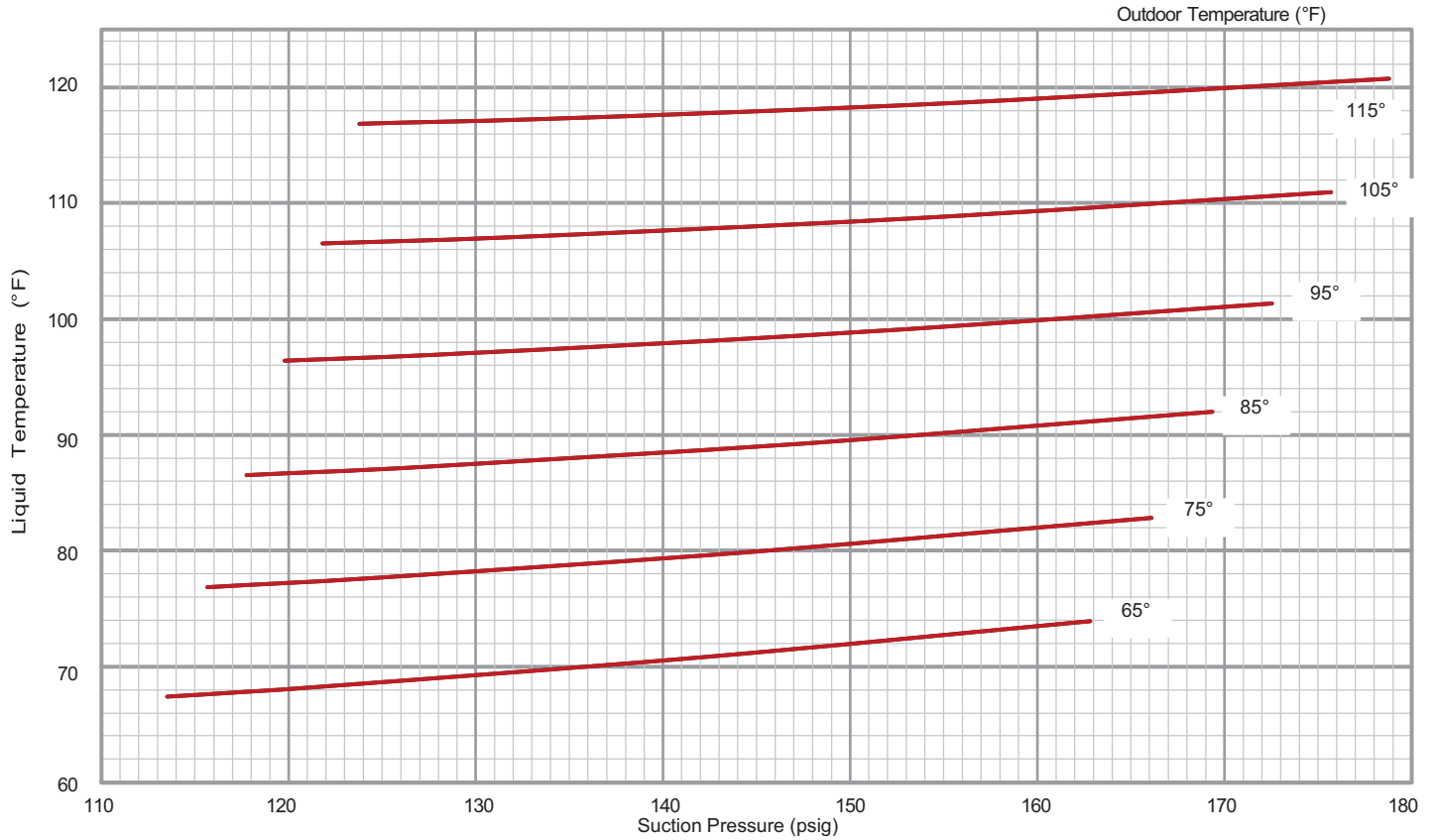


TABLE 6

048 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581062-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
117	244	120	281	122	324	123	372	124	426	124	485
124	247	128	284	131	327	134	375	135	429	136	489
139	255	144	292	149	335	153	383	157	437	160	497
153	264	160	301	166	344	172	393	178	447	182	507

048 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581062-01

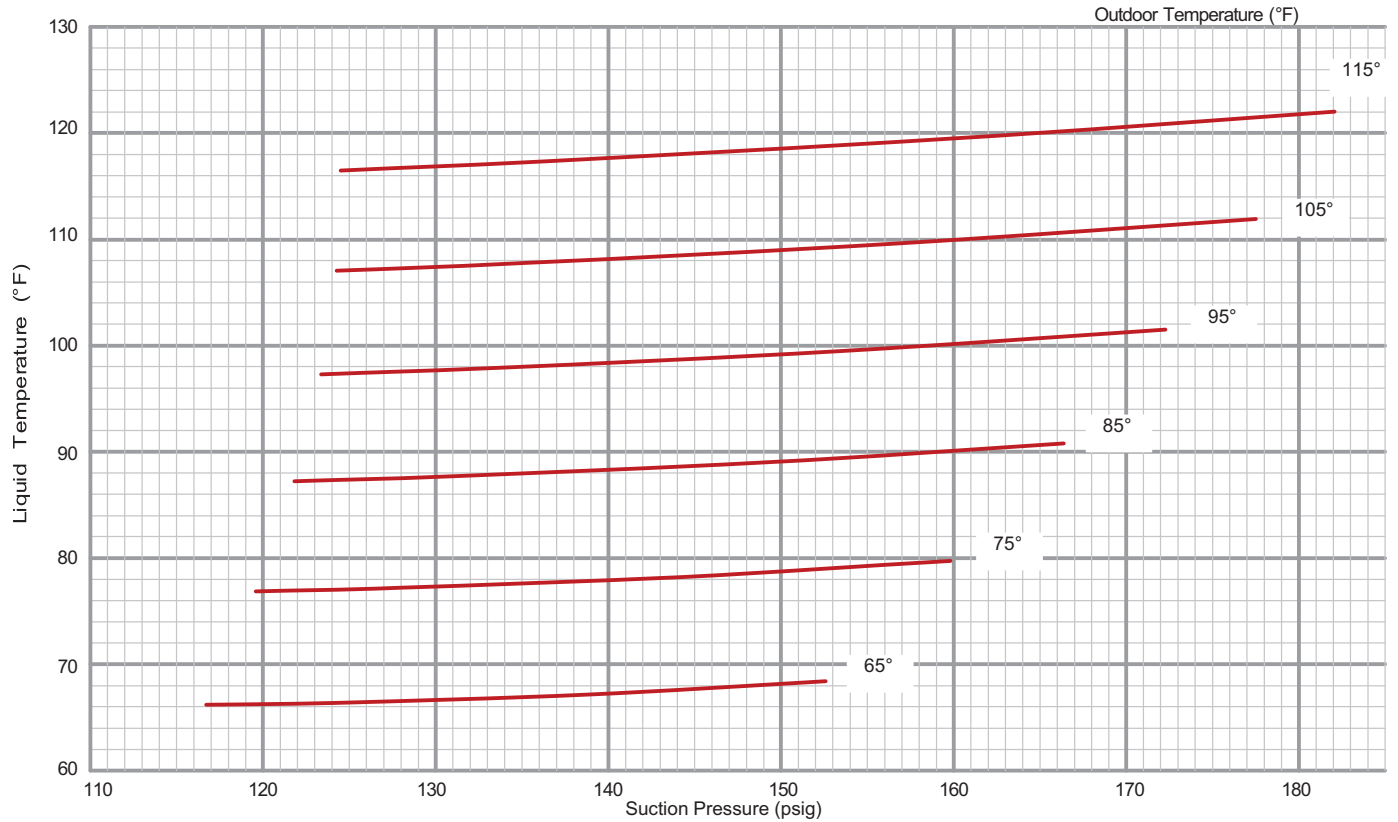


TABLE 7

060 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581063-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
112	245	114	283	116	327	117	379	120	429	122	487
120	249	123	288	125	331	127	380	130	433	132	491
139	259	142	297	145	341	147	389	150	444	152	505
156	270	162	312	167	355	170	403	173	456	175	516

060 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581063-01

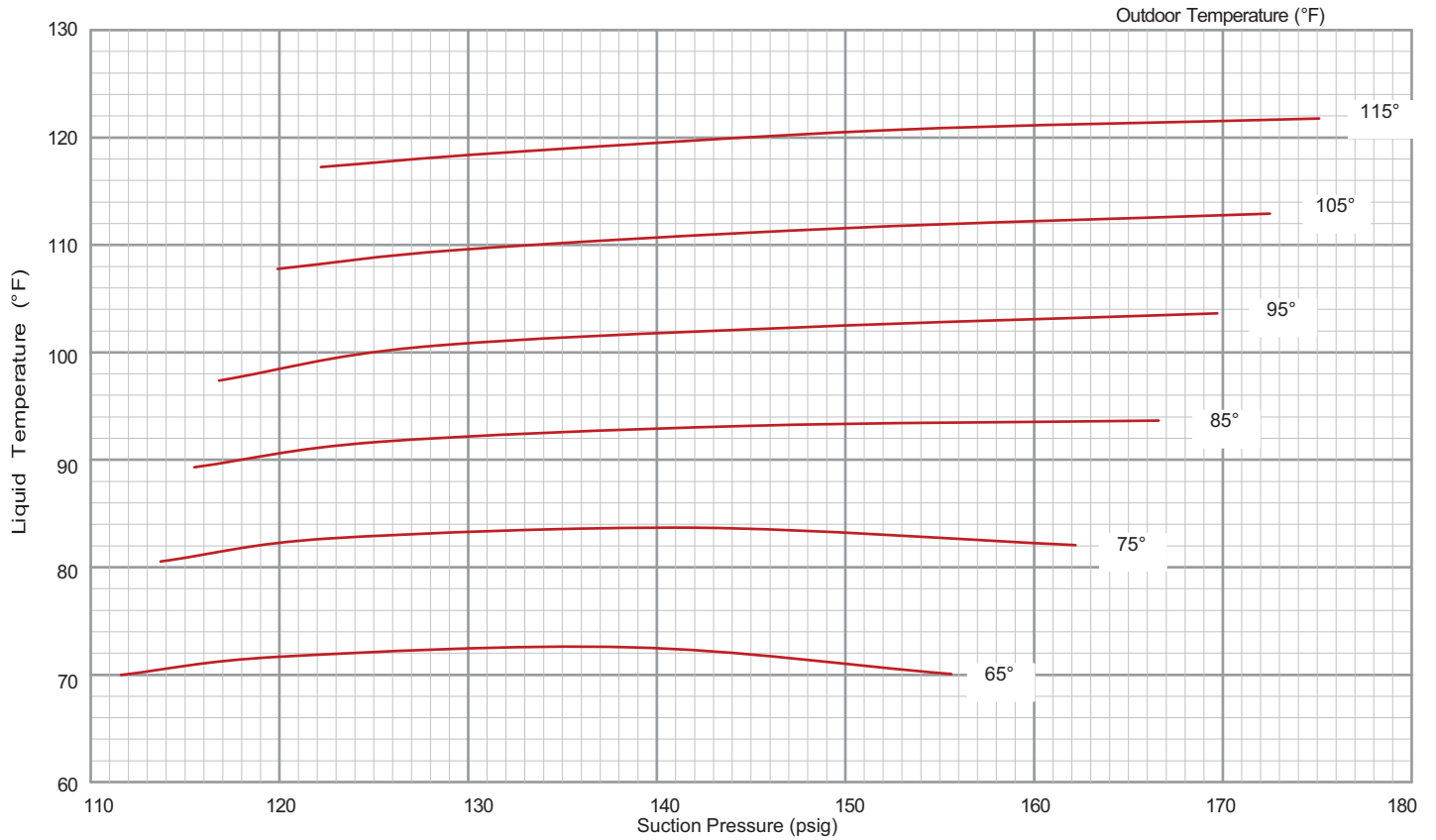


TABLE 8

072 NORMAL OPERATING PRESSURES - NO REHEAT - ALL-ALUMINUM COIL - 581064-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
110	260	112	301	115	348	117	401	118	459	120	524
118	263	121	304	124	350	126	403	128	462	130	526
135	272	139	313	143	359	146	412	149	470	152	534
154	286	159	326	163	373	167	425	171	483	175	547

072 CHARGING CURVE - NO REHEAT - ALL-ALUMINUM COIL - 581064-01

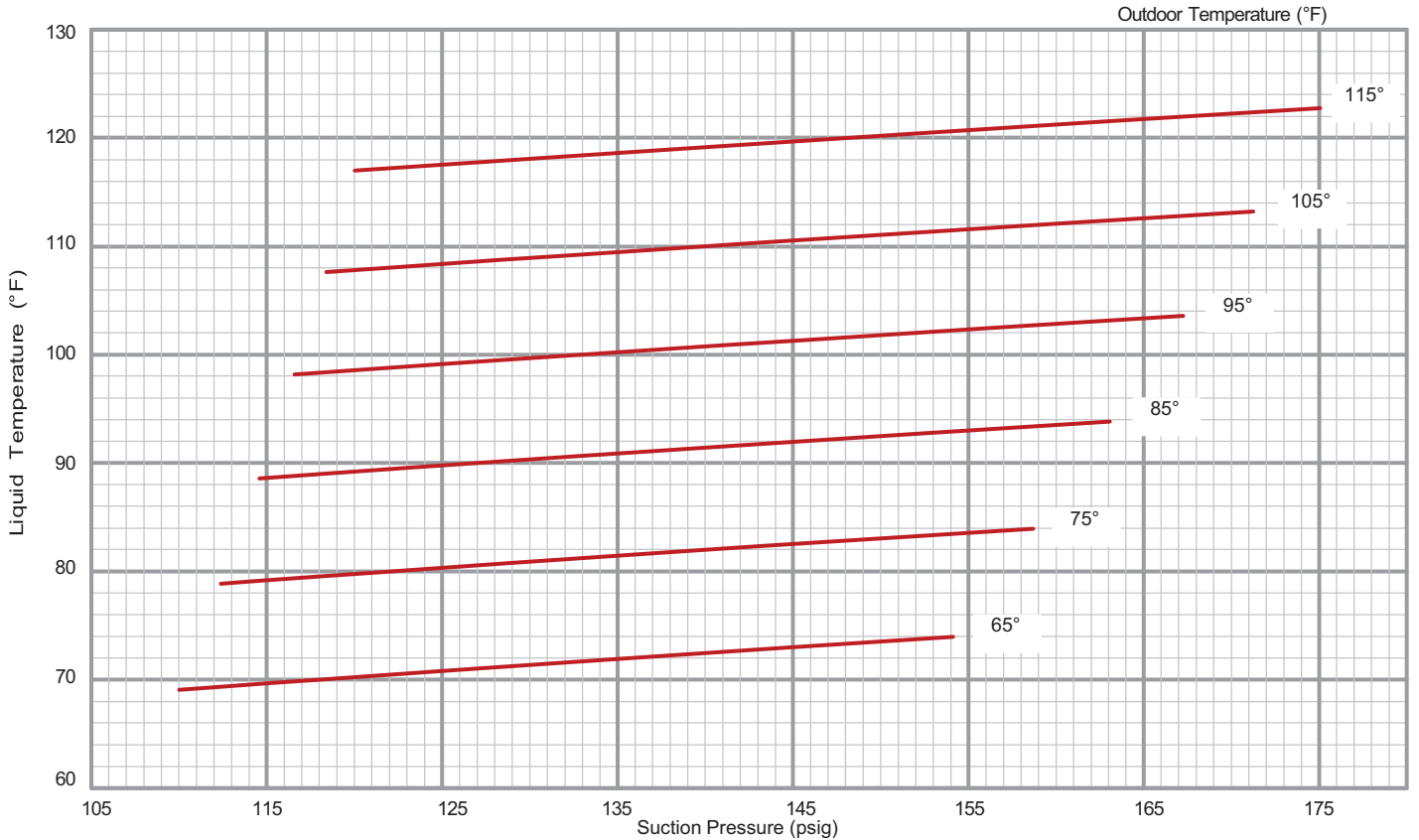


TABLE 9

036 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581108-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
114	239	116	278	118	325	121	378	123	438	125	505
123	241	125	280	128	326	130	379	132	438	135	505
142	248	145	286	148	330	151	382	153	441	156	506
164	257	167	293	170	337	173	388	176	445	179	510

036 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581108-01

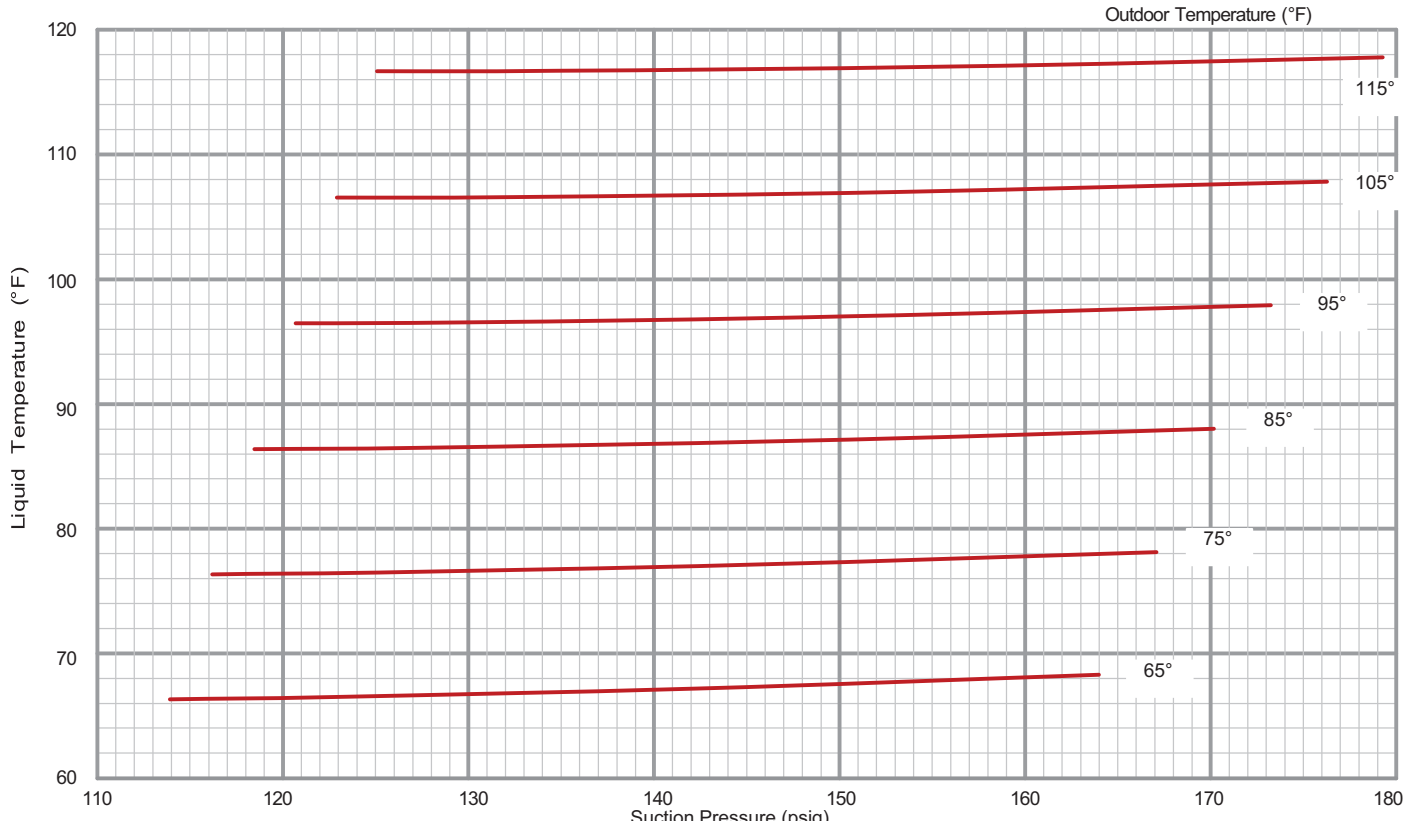


TABLE 10
048 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581109-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
117	253	120	289	122	333	123	386	124	447	124	516
125	254	129	290	131	334	134	386	135	447	136	515
140	261	145	295	150	338	154	390	157	449	159	517
154	272	161	305	167	347	172	398	177	456	182	523

048 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581108-01

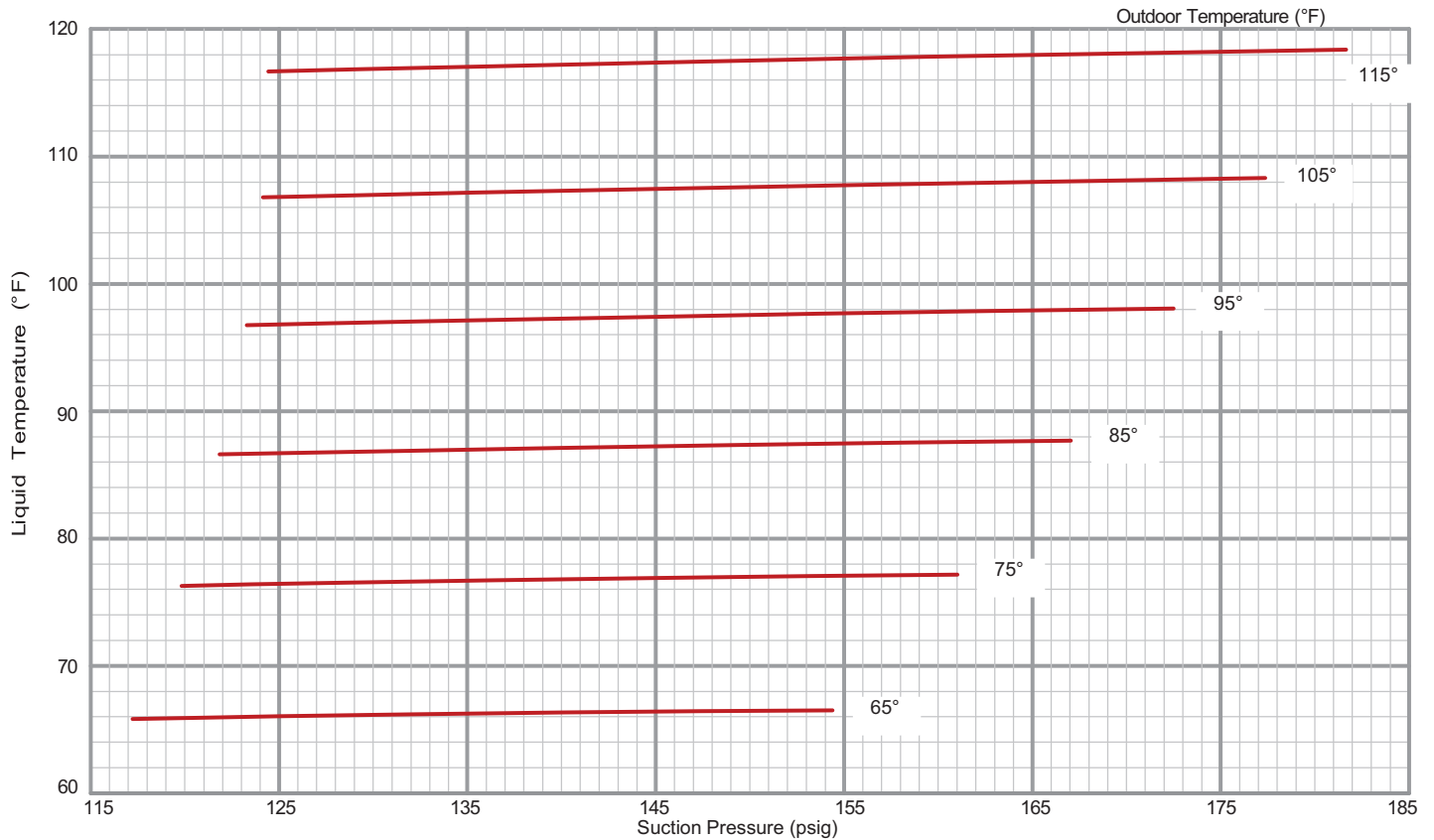


TABLE 11

060 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581110-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
109	254	111	293	112	337	114	387	116	442	118	502
118	259	120	298	122	342	124	392	126	447	128	508
137	270	139	309	142	354	145	403	147	458	150	519
158	283	161	322	164	366	167	416	170	471	173	531

060 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581110-01

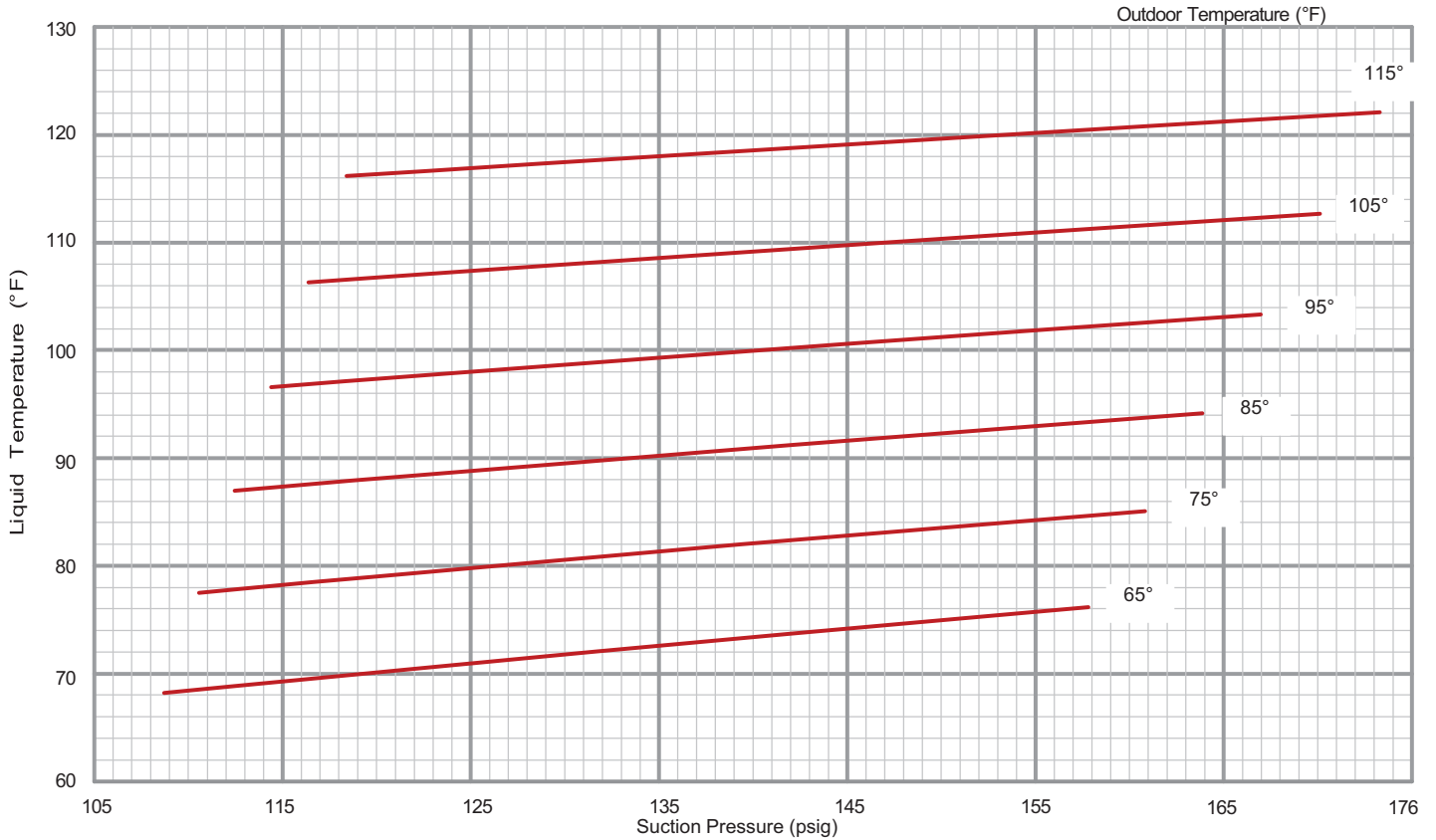
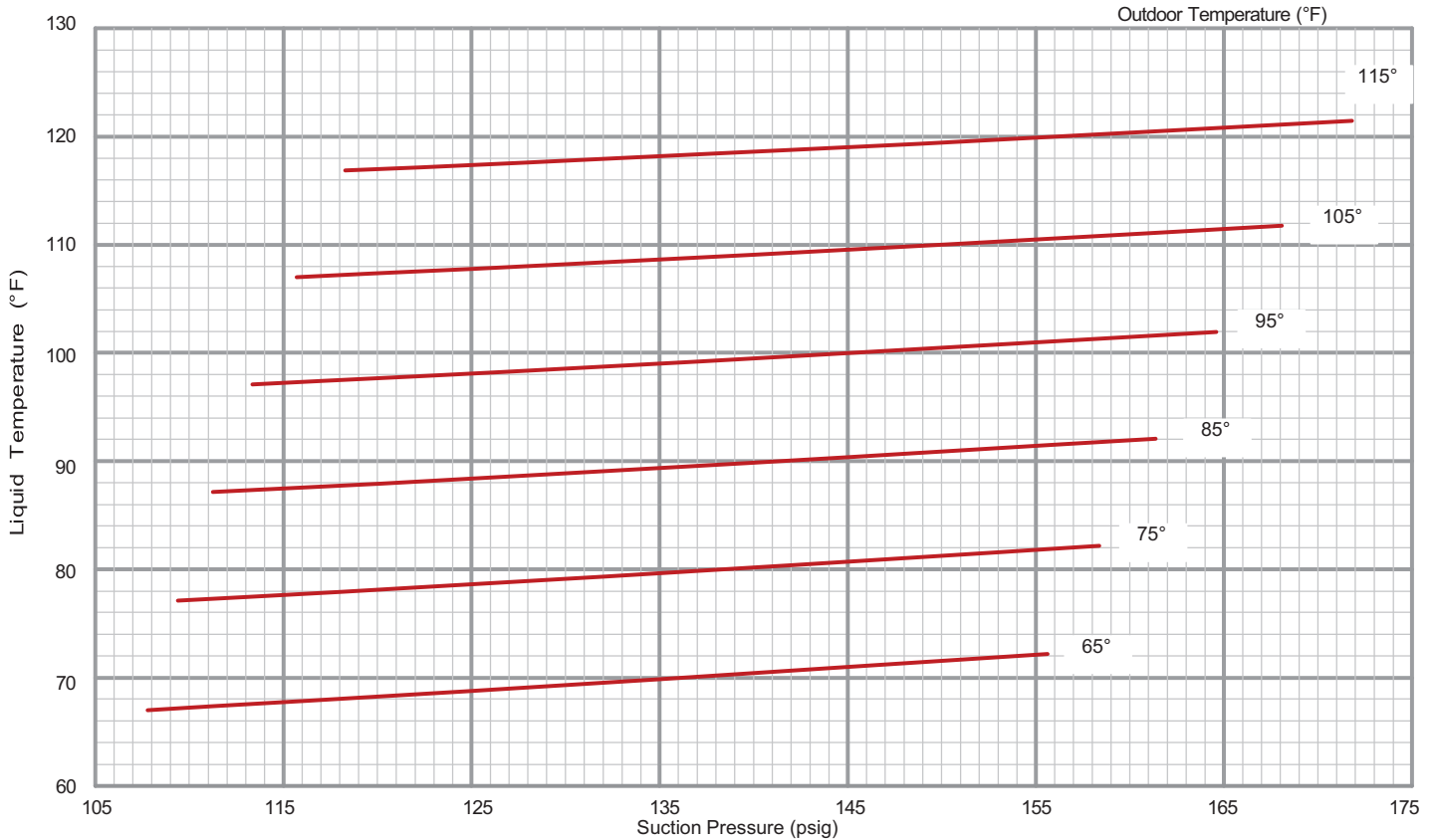


TABLE 12
072 NORMAL OPERATING PRESSURES - REHEAT - ALL-ALUMINUM COIL - 581111-01

Outdoor Coil Entering Air Temperature											
65°F		75°F		85°F		95°F		105°F		115°F	
Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)	Suct (psig)	Disc (psig)
108	276	109	316	111	363	113	418	116	480	118	550
116	281	118	320	120	367	123	422	125	484	128	554
135	294	137	332	140	379	143	432	146	494	149	563
156	310	158	348	161	394	165	447	168	508	172	576

072 CHARGING CURVE - REHEAT - ALL-ALUMINUM COIL - 581111-01



C-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 compressor circuit is protected by a high pressure switch which opens at 640 psig + 10 psig (4413 kPa ± 70 kPa) and automatically resets at 475 psig ± 20 psig (3275kPa ± 138 kPa).

2 - Low Pressure Switch (S87)

The compressor circuit is protected by a loss of charge switch. Switch opens at 40 psig ± 5 psig (276 ± 34 kPa) and automatically resets at 90 psig ± 5 psig (621 kPa ± 34 kPa).

3 - Diagnostics Sensors (RT46, RT48)

Two thermistors are located on specific points in the refrigeration circuit. The thermistors provide constant temperature feedback to the Unit Controller to protect the compressor. Thermistors take the place of the freezestat and low ambient pressure switch.

4 - Compressor Crankcase Heater (HR1)

Crankcase heater must be energized at all times to prevent compressor damage due to refrigerant migration. Energize crankcase heater 24 hours before unit start-up by setting thermostat so that there is no cooling demand (to prevent compressor from cycling) and apply power to unit.

Diagnostic Sensors

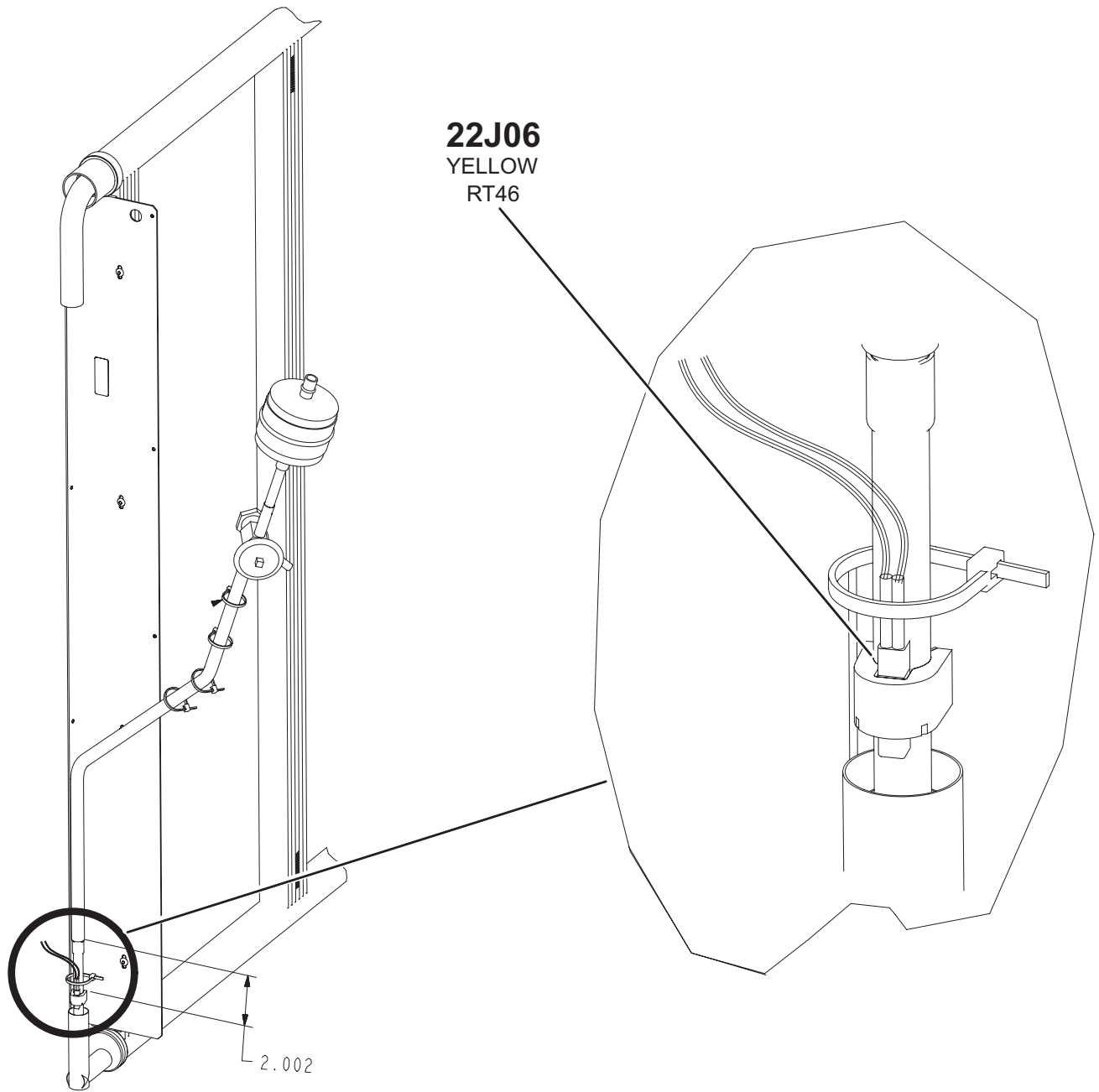
Units are equipped with two factory-installed thermistors (RT46 and RT48) located on different points on the refrigerant circuit.

The thermistors provide the Unit Controller with constant temperature readings of two specific locations on the refrigeration circuit. These temperatures are used as feedback in certain modes of unit operation. In addition, the Unit Controller uses these temperatures to initiate alarms such as loss of condenser or evaporator airflow and loss of charge.

Each thermistor must be specifically placed for proper unit operation and to initiate valid alarms. See TABLE 13 for proper locations.

Unit	Sensor Yellow	Figure
LGT/LCT036, 048, 060, 072	RT46	FIGURE 21
LGT/LCT036, 048, 060, 072	RT48	FIGURE 22

LGT/LCT 036, 048, 060, 072
EVAPORATOR COIL
RT46



22J06
YELLOW
RT46

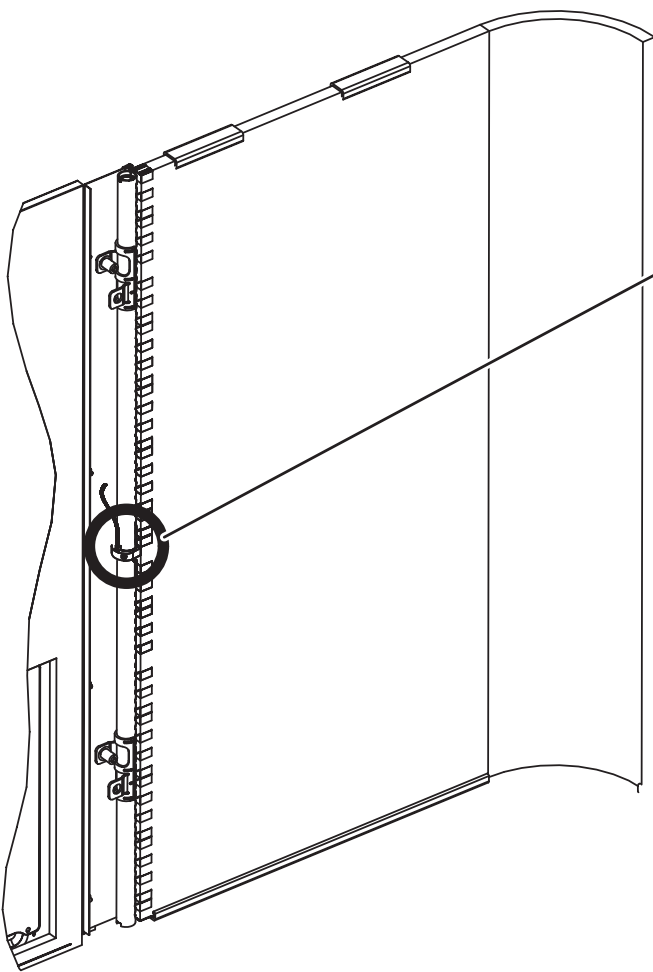
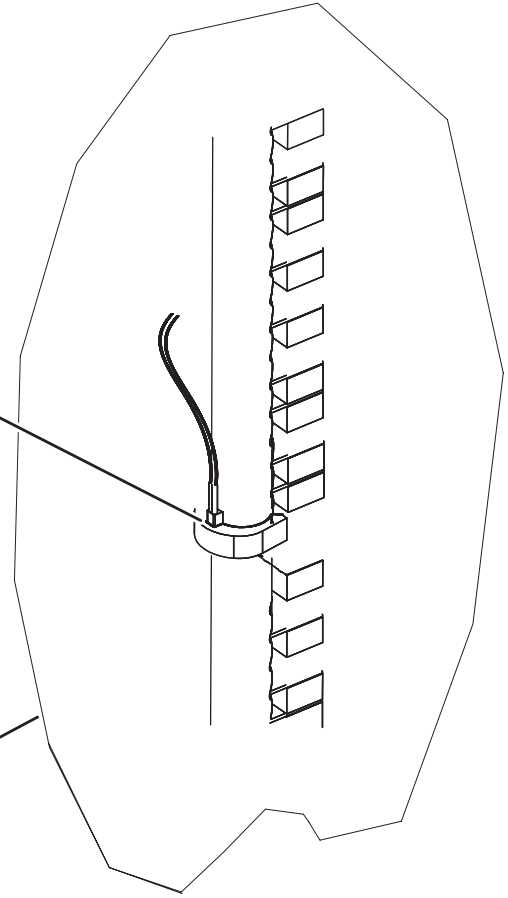
CLAMP THERMISTOR
TO BARE COPPER.

DETAILS NOT TO SCALE

FIGURE 21

LGT/LCT036, 048, 060, 072
CONDENSER COIL
RT48

23V50
YELLOW
RT48



DETAILS NOT TO SCALE

FIGURE 22

Cooling Operation

A-Two-Stage Thermostat

1 - Economizer With Outdoor Air Suitable

Y1 Demand -
Compressor Off
Blower Low
Dampers Modulate

Y2 Demand -
Compressor Low
Blower High
Dampers Full Open

NOTE - Compressor is energized after damper has been at full open for three minutes.

2 - No Economizer or Outdoor Air Not Suitable

Y1 Demand -
Compressor Low
Blower Low
Dampers Minimum Position

Y2 Demand -
Compressor High
Blower High
Dampers Minimum Position

B-Three-Stage Thermostat OR Room Sensor

1 - Economizer With Outdoor Air Suitable

Y1 Demand -
Compressors Off
Blower Low
Dampers Modulate

Y2 Demand -
Compressor Low
Blower High
Dampers Full Open

NOTE - Compressor is energized after damper has been at full open for three minutes.

Y3 Demand -
Compressor High
Blower High
Dampers Full Open

2 - No Economizer or Outdoor Air Not Suitable

Y1 Demand -
Compressor Low
Blower Low
Dampers Minimum Position

Y2 Demand -
Compressor High
Blower High
Dampers Minimum Position

Y3 Demand -
Compressor High
Blower High
Dampers Minimum Position

High Speed Compressor Cooling Operation:

**RTU MENU > COMPONENT TEST > COOLING >
COOLING STAGE 2**

Low Speed Compressor Operation

**RTU MENU > COMPONENT TEST > COOLING >
COOLING STAGE 1**

Gas Heat Start-Up (Gas Units)

FOR YOUR SAFETY READ BEFORE LIGHTING

⚠ WARNING



Electric shock hazard. Can cause injury or death. Do not use this unit if any part has been under water. Immediately call a qualified service technician to inspect the unit and to replace any part of the control system and any gas control which has been under water.

⚠ WARNING



Danger of explosion. Can cause injury or product or property damage. If over heating occurs or if gas supply fails to shut off, shut off the manual gas valve to the appliance before shutting off electrical supply.

⚠ WARNING



Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

⚠ WARNING

SMOKE POTENTIAL

The heat exchanger in this unit could be a source of smoke on initial firing. Take precautions with respect to building occupants and property. Vent initial supply air outside when possible.

BEFORE LIGHTING smell all around the appliance area for gas. Be sure to smell next to the floor because some gas is heavier than air and will settle on the floor.

The gas valve may be equipped with either a gas control lever or gas control knob. Use only your hand to push the lever or turn the gas control knob. Never use tools. If the the lever will not move or the knob will not push in or turn by hand, do not try to repair it. Call a qualified service technician. Force or attempted repair may result in a fire or explosion.

⚠ WARNING

Danger of explosion. Can cause injury or death. Do not attempt to light manually. Unit has a direct spark ignition system.

This unit is equipped with an automatic spark ignition system. There is no pilot. In case of a safety shutdown, move thermostat switch to **OFF** and return the thermostat switch to **HEAT** to reset ignition control.

A-Placing Unit In Operation

⚠ WARNING



Danger of explosion and fire. Can cause injury or product or property damage. You must follow these instructions exactly.

Gas Valve Operation (FIGURE 23 and 24)

- 1 - Set thermostat to lowest setting.
- 2 - Turn off all electrical power to appliance.
- 3 - This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
- 4 - Open or remove the control access panel.
- 5 - Move gas valve switch to **OFF**. See FIGURE 23 or 24.

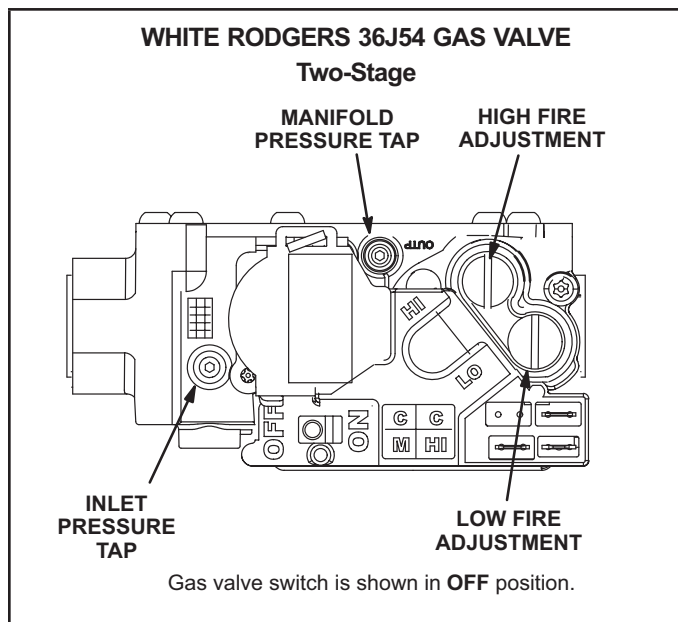


FIGURE 23

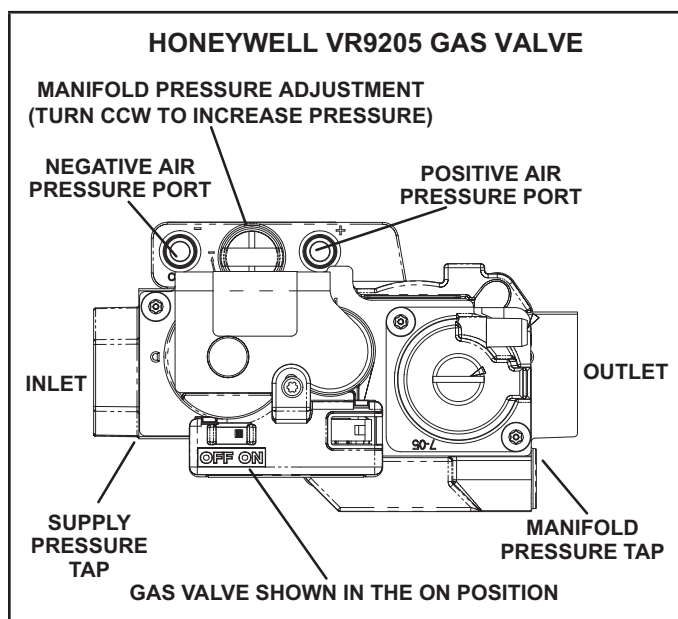


FIGURE 24

- 6 - Wait five (5) minutes to clear out any gas. If you then smell gas, **STOP!** Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions. If you do not smell gas, go to the next step.
- 7 - Move gas valve switch to **ON**. See FIGURE 23 or 24.
- 8 - Close or replace the control access panel.
- 9 - Turn on all electrical power to appliance.
- 10 - Set thermostat to desired setting.

NOTE - When unit is initially started, steps 1 through 9 may need to be repeated to purge air from gas line.

- 11 - The ignition sequence will start.
- 12 - If the furnace does not light the first time (gas line not fully purged), it will attempt up to two more ignitions before locking out.
- 13 - If lockout occurs, repeat steps 1 through 10.
- 14 - If the appliance will not operate, follow the instructions "Turning Off Gas to Appliance" and call your service technician or gas supplier.

Turning Off Gas to Unit

- 1 - If using an electromechanical thermostat, set to the lowest setting.
- 2 - Before performing any service, turn off all electrical power to the appliance.
- 3 - Open or remove the control access panel.
- 4 - Move gas valve switch to **OFF**.
- 5 - Close or replace the control access panel.

 WARNING
 Danger of explosion. Can cause injury or death. Do not attempt to light manually. Unit has a direct spark ignition system.

Heating Operation and Adjustments

(Gas Units)

A-Heating Sequence of Operation

Two-Stage

- 1 - On a heating demand the combustion air inducer starts immediately.
- 2 - Combustion air pressure switch proves inducer operation. After a 30-second pre-purge, power is allowed to ignition control. Switch is factory set and requires no adjustment.
- 3 - Spark ignitor energizes and gas valve solenoid opens.
- 4 - Spark ignites gas, ignition sensor proves the flame and combustion continues.
- 5 - If flame is not detected after 8 seconds, the ignition control will repeat steps 3 and 4 two more times. The ignition control will wait 5 minutes before the ignition attempt recycles.

B-Ignition Control Diagnostic LEDs

TABLE 14
IGNITION CONTROL HEARTBEAT LED STATUS

LED Flashes	Indicates
Steady Off	No power or control hardware fault.
Steady Off	Power applied. Control OK.
3 Flashes	Ignition lockout from too many trials.
4 Flashes	Ignition lockout from too many flame losses within single call for heat.
5 Flashes	Control hardware fault detected.

C-Limit Controls

Limit controls are factory-set and are not adjustable. The primary limit is located to the right of the combustion air inducer. See FIGURE 30.

D-Heating Adjustment

Non ULNOx Units

Main burners are factory-set and do not require adjustment. The following manifold pressures are listed on the gas valve.

- Natural Gas Units - Low Fire - 2.0" w.c.
- Natural Gas Units - High Fire - 3.5" w.c.
- LP Gas Units - Low Fire - 5.9" w.c.
- LP Gas Units - High Fire - 10.5" w.c.

Manifold Pressure - ULNOx Units

Use the following steps to correctly measure manifold pressure:

- 1 - Remove the threaded plug from the outlet side of the gas valve and install a field-provided barbed fitting. Connect measuring device "+" connection to barbed fitting to measure manifold pressure. Start unit and allow 15 minutes for unit to reach steady state.
- 2 - After allowing unit to stabilize for 15 minutes, record manifold pressure and compare to value given in table 15. Normally manifold adjustment is not necessary; adjust manifold only if needed.
- 3 - Shut unit off and remove manometer as soon as an accurate reading has been obtained.

TABLE 15 ULNOX Manifold Pressure (in.w.c.)	
High Fire	3.2-3.6
Low Fire	1.7-2.1

Proper Combustion - ULNOx Units

Restart unit and check for any gas leaks. Seal any leaks if found. Furnace should operate minimum 15 minutes with correct manifold pressure and gas flow rate before checking combustion. Table 16 shows acceptable combustion. The maximum carbon monoxide reading should not exceed 100 ppm.

High Fire	6.0-7.5
Low Fire	6.0-7.5 (CO ₂ tracks)

E-ULNOx Operation

ULNOx units are not equipped with gas orifices that supply each burner. Instead, a single gas orifice supplies gas to the air/gas elbow. An intake air orifice supplies combustion air to the air/gas elbow. The combustion air blower draws the air/gas mixture from the air/gas elbow into the air/gas plenum box. When the spark ignites the gas, the ignition sensor proves the flame and combustion occurs in the burner premix plate. The burner box liner directs the flames into the burner tube sleeves. Refer to figure 31.

Electric Heat Start-Up (LCT Units)

Optional electric heat will stage on and cycle with thermostat demand. See electric heat wiring diagram on unit for sequence of operation.

SCR Electric Heat Controller (LCT Units)

Optional factory-installed SCR (A38) will provide small amounts of power to the electric heat elements to efficiently maintain warm duct air temperatures when there is no heating demand. The SCR maintains duct air temperature based on input from a field-provided and installed thermostat (A104) and duct sensor (RT20). SCR is located in the compressor section on the left wall. Use only with a thermostat or specified DDC control system.

Use the instructions provided with the thermostat to set DIP switches as follows: S1 On, S2 Off, S3 Off. Use the instructions provided with the duct sensor to install sensor away from electric element radiant heat and in a location where discharge air is a mixed average temperature.

Once power is supplied to unit, zero SCR as follows:

- 1 - Adjust thermostat (A104) to minimum position.
- 2 - Use a small screwdriver to slowly turn the ZERO potentiometer on the SCR until the LED turns solid red.
- 3 - Very slowly adjust the potentiometer the opposite direction until the LED turns off.

Hot Gas Reheat Start-Up and Operation

Hot gas reheat units provide a dehumidifying mode of operation. These units contain a reheat coil adjacent to and downstream of the evaporator coil. Reheat coil solenoid valve, L14, routes hot discharge gas from the compressor to the reheat coil. Return air pulled across the evaporator coil is cooled and dehumidified; the reheat coil adds heat to supply air. See FIGURE 25 for reheat refrigerant routing and FIGURE 26 for standard cooling refrigerant routing.

L14 Reheat Coil Solenoid Valve

When Unit Controller input (Unit Controller J298-5 or J299-8) indicates room conditions require dehumidification, L14 reheat valve is energized (Unit Controller P269-3) and refrigerant is routed to the reheat coil.

Reheat Setpoint

Reheat is factory-set to energize when indoor relative humidity rises above 60% (default). The reheat setpoint can be adjusted by changing mobile service app Settings - *Control* menu. A setting of 100% will operate reheat from an energy management system digital output. The reheat setpoint can also be adjusted using an optional Network Control Panel (NCP).

Reheat will terminate when the indoor relative humidity falls 3% (57% default) or the digital output de-energizes. The reheat deadband can be adjusted at Settings - *Control* menu.

Check-Out

Test reheat operation using the following procedure.

- 1 - Make sure reheat is wired as shown in wiring section.
- 2 - Make sure unit is in local thermostat mode.
- 3 - Use mobile service app menu path to select:

RTU MENU > COMPONENT TEST > DEHUMIDIFICATION

The blower, compressor, and reheat valve should be energized. Pressure can be checked on the reheat line pressure tap. Pressure on the reheat line should match discharge pressure closely in reheat mode.

Default Reheat Operation

During reheat mode free cooling is locked out.

No Y1 demand but a call for dehumidification:

Compressor is operating, blower is on, and the reheat valve is energized.

Y1 demand:

Compressor is operating, blower is on, and the reheat valve is de-energized.

Y2 demand:

Compressor is operating, blower is on, and the reheat valve is de-energized.

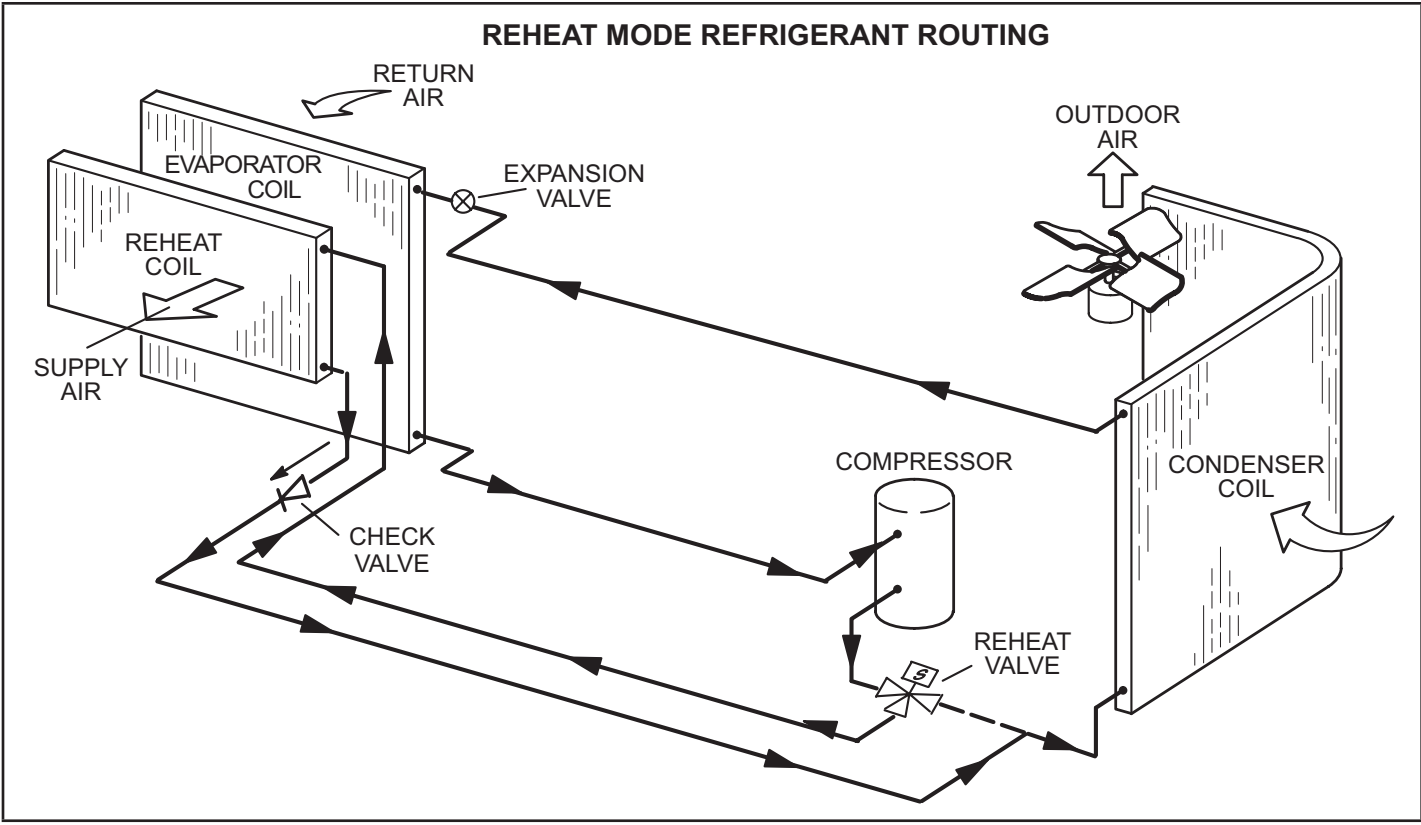


FIGURE 25

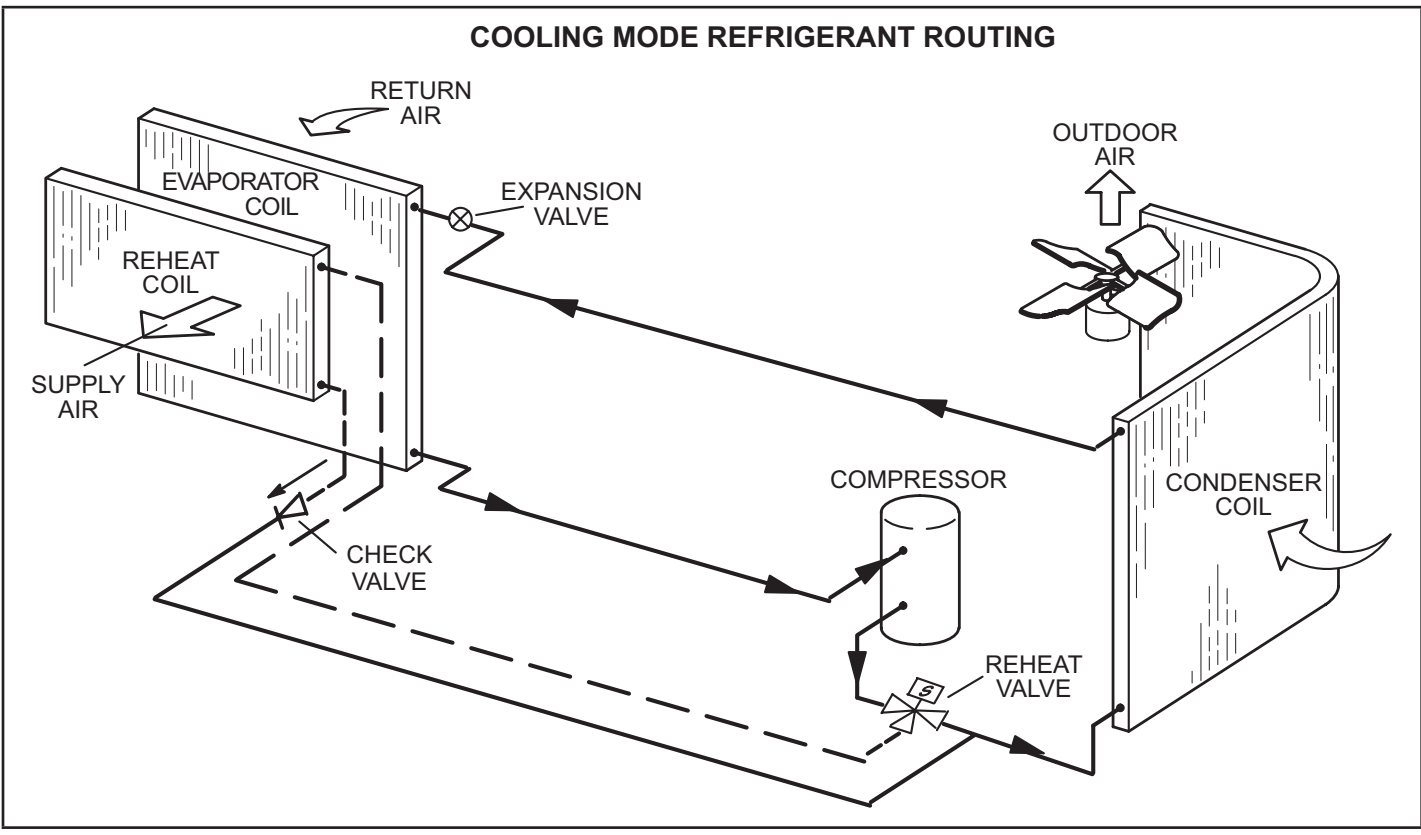


FIGURE 26

Service

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

⚠ WARNING



Electric shock hazard. Can cause injury or death. Before attempting to perform any service or maintenance, turn the electrical power to unit OFF at disconnect switch(es). Unit may have multiple power supplies.

⚠ CAUTION

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

A-Filters

Units are equipped with temporary filters which must be replaced prior to building occupation. Use four 20 X 20 X 2" (508 X 508 X 51mm) filters. Refer to local codes or appropriate jurisdiction for approved filters.

⚠ WARNING

Units are shipped from the factory with temporary filters. Replace filters before building is occupied. Damage to unit could result if filters are not re placed with approved filters. Refer to appropriate codes.

Approved filters should be checked monthly and replaced when necessary. Take note of air flow direction marking on filter frame when reinstalling filters. See FIGURE 27.

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

B-Lubrication

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

C-Burners

Note - ULNOx units use a burner premix plate and a burner box liner with three burner tube sleeves instead of burners. No examination or cleaning are required. See figure 31.

Periodically examine burner flames for proper appearance during the heating season. Before each heating season examine the burners for any deposits or blockage which may have occurred.

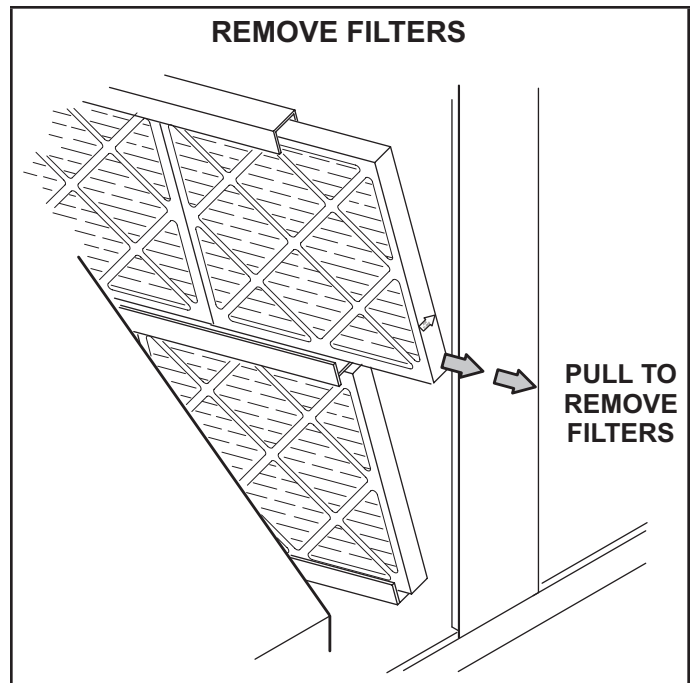


FIGURE 27

Clean burners as follows:

- 1 - Turn off both electrical power and gas supply to unit.
- 2 - Remove blower access panel.
- 3 - Remove top burner box panel.
- 4 - Remove screws securing burners to burner support and lift the individual burners or the entire burner assembly from the orifices. See FIGURE 28. Clean as necessary.
- 5 - Locate the ignitor under the right burner. Check ignitor spark gap with appropriately sized twist drills or feeler gauges. See FIGURE 29.
- 6 - Replace burners and screws securing burner. See FIGURE 30.

⚠ WARNING



Danger of explosion. Can cause injury or death. Do not overtighten main burner mounting screws. Snug tighten only.

- 7 - Replace access panel.
- 8 - Restore electrical power and gas supply. Follow lighting instructions attached to unit and use inspection port in access panel to check flame.

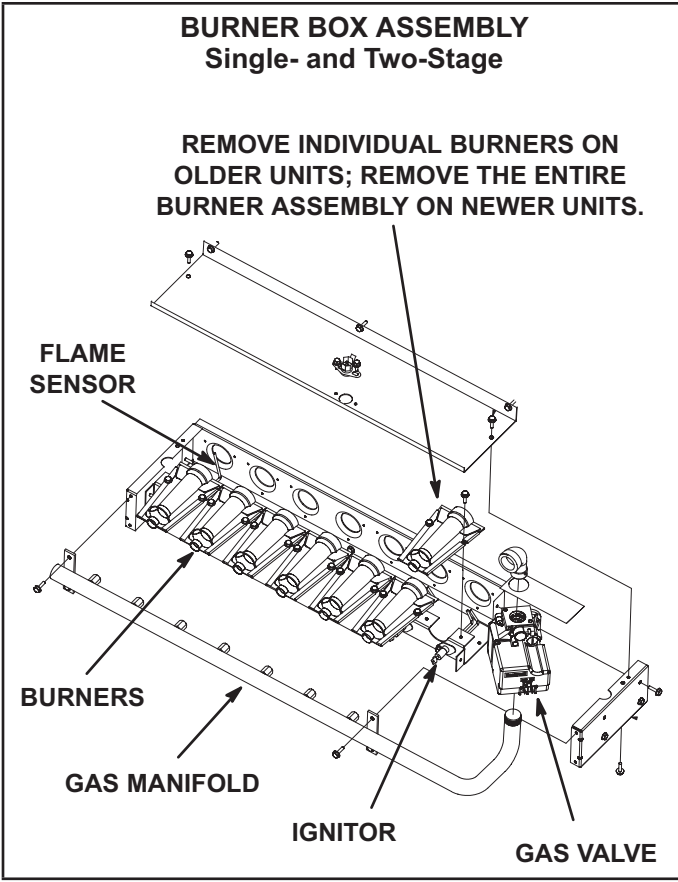


FIGURE 28

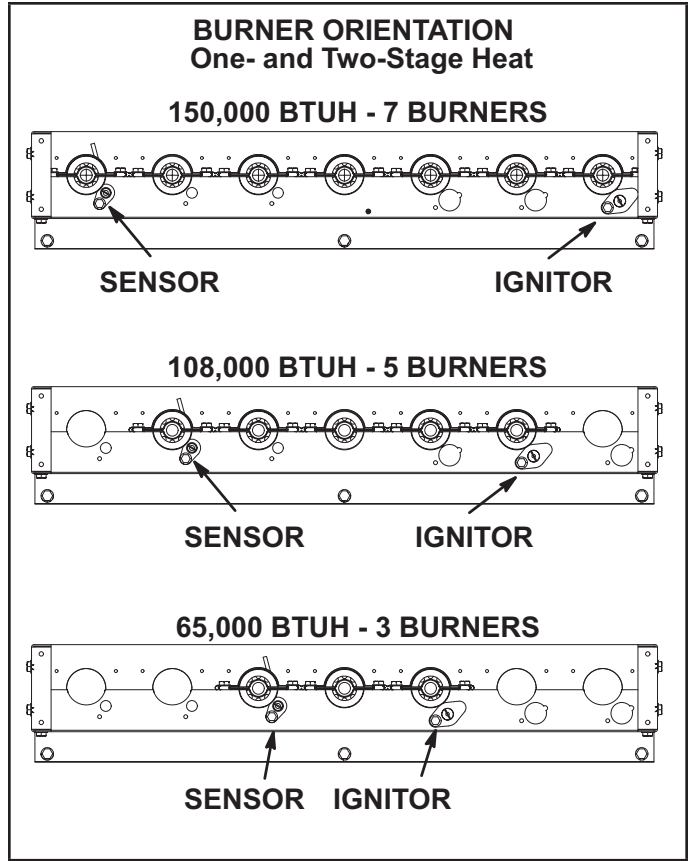


FIGURE 30

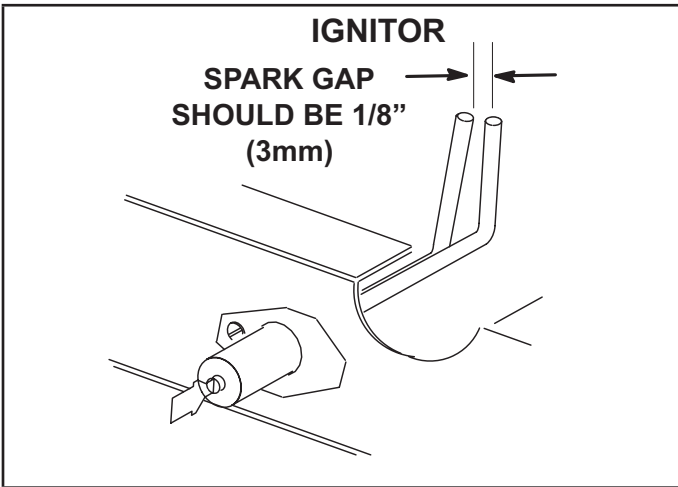


FIGURE 29

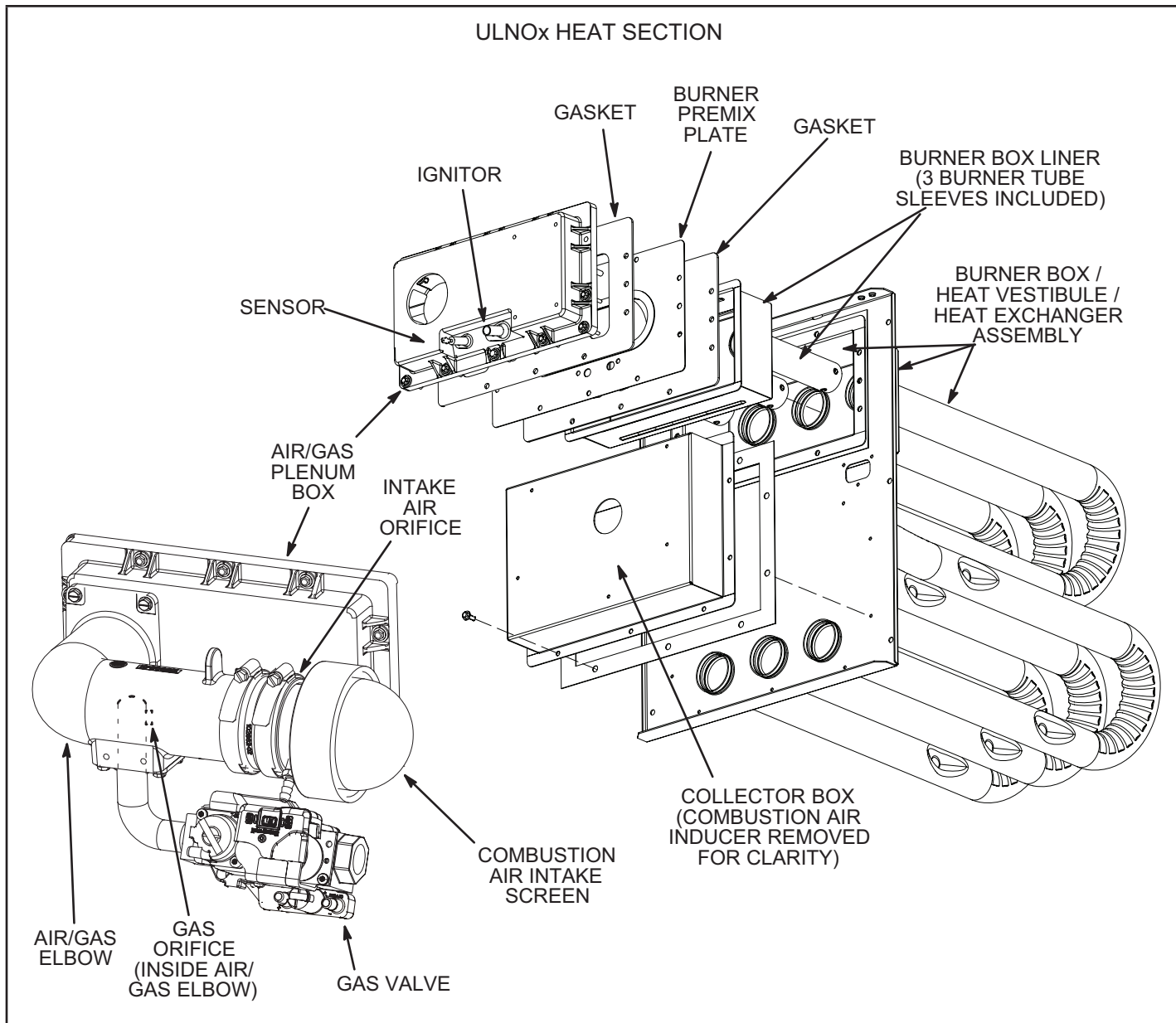


FIGURE 31

D-Combustion Air Inducer (Gas Units)

A combustion air proving switch checks combustion air inducer operation before allowing power to the gas controller. Gas controller will not operate if inducer is obstructed.

Under normal operating conditions, the combustion air inducer wheel should be checked and cleaned prior to the heating season. However, it should be examined periodically during the heating season to establish an ideal cleaning schedule.

Clean combustion air inducer as follows:

- 1 - Shut off power supply and gas to unit.
- 2 - Remove the mullion on the right side of the heat section.
- 3 - Disconnect pressure switch air tubing from combustion air inducer port.
- 4 - Remove and retain screws securing combustion air inducer to flue box. Remove vent connector. See FIGURE 32.
- 5 - Clean inducer wheel blades with a small brush and wipe off any dust from housing. Take care not to damage exposed fan blades. Clean accumulated dust from front of flue box cover.
- 6 - Return combustion air inducer motor and vent connector to original location and secure with retained screws. It is recommended that gaskets be replaced during reassembly.
- 7 - Replace mullion.
- 8 - Clean combustion air inlet louvers on blower access panel using a small brush.

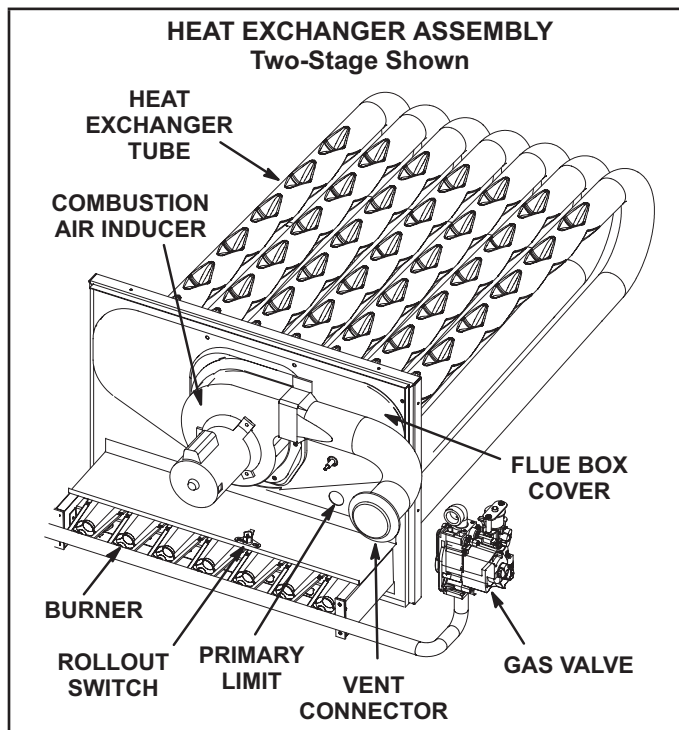


FIGURE 32

E-Flue Box (Gas Units)

Remove flue box cover only when necessary for equipment repair. Clean inside of flue box cover and heat exchanger tubes with a wire brush when flue box cover has to be removed. Install a new flue box cover gasket and replace cover. Make sure edges around flue box cover are tightly sealed.

F-Evaporator Coil

Inspect and clean coil at beginning of each cooling season. Clean the all-aluminum coil by spraying the coil steadily and uniformly from top to bottom. Do not exceed 900 psi or a 45° angle; nozzle must be at least 12 inches from the coil face. Take care not to fracture the braze between fins and refrigerant tubes. Reduce pressure and work cautiously to prevent damage. Flush condensate drain with water, taking care not to get insulation, filters, and return air ducts wet through entire cleaning process.

G-Condenser Coil

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

Clean the all-aluminum coil by spraying the coil steadily and uniformly from top to bottom. Do not exceed 900 psi or a 45° angle; nozzle must be at least 12 inches from the coil face. Take care not to fracture the braze between the fins and refrigerant tubes. Reduce pressure and work cautiously to prevent damage.

H-Supply Air Blower Wheel

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

J-Needlepoint Bipolar Ionizer (Optional)

The optional, brush-type ionizer produces positive and negative ions to clean air and reduce airborne contaminants. The ionizer was designed to be low maintenance. The device should be checked semi-annually to confirm the brushes are clean for maximum output. The ionizer is located behind on the blower deck to the left of the blower. See FIGURE 34.

- 1 - On the back side of the unit, remove the screw securing the back of the ionizer bracket. See FIGURE 33. Retain the screw to secure the back side of the ionizer bracket.
- 2 - Remove two screws securing the front side of the ionizer bracket and pull out of unit and clean brushes.
- 3 - Replace ionizer in the reverse order it was removed.

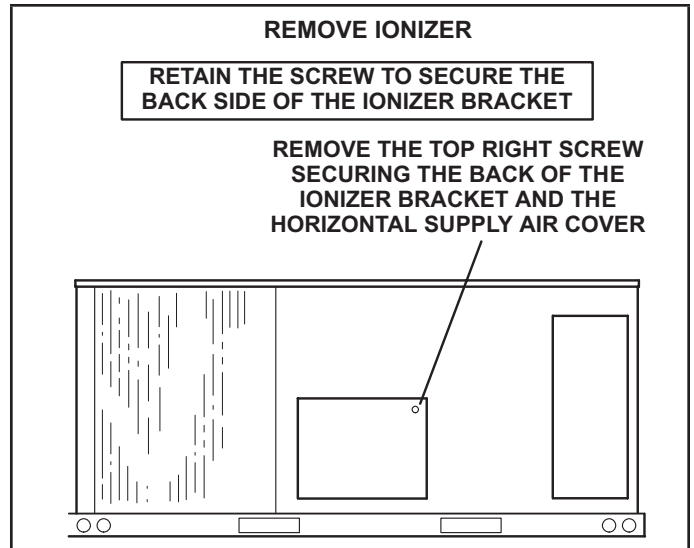


FIGURE 33

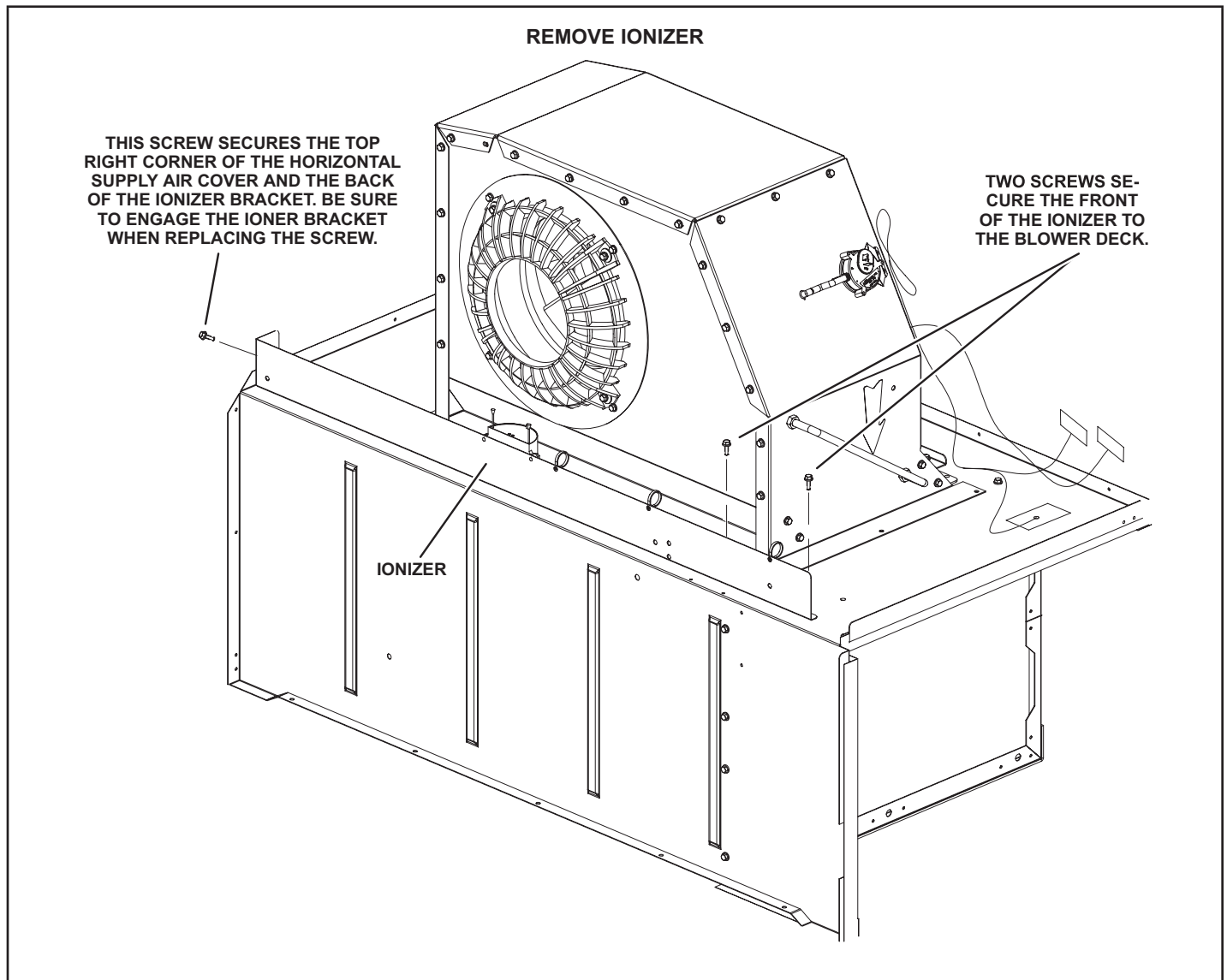


FIGURE 34

K-UVC Light (Optional)

When field-installed, use only UVC Light Kit assembly 106881-01 (21A92) with this appliance.

Factory-Installed UVC Light

When the UVC light is factory installed, the lamp is shipped attached to the filter rack. Remove the lamp and install into the UVC light assembly as shown in steps 2 through 11.

- 1 - Cut wire ties and remove the UVC lamp attached to the filter rack. See FIGURE 35.

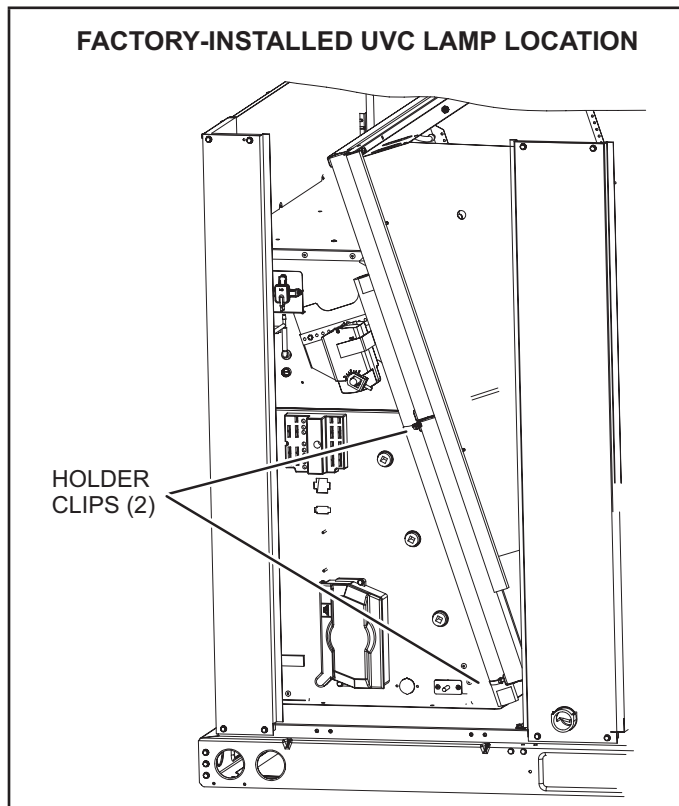


FIGURE 35

Annual Lamp Replacement

⚠ WARNING

Personal Burn Hazard.

Personal injury may result from hot lamps. During replacement, allow lamp to cool for 10 minutes before removing lamp from fixture.

The lamp should be replaced every 12 months, as UVC energy production diminishes over time.

- 1 - Obtain replacement lamp 102337-01 for your germicidal light model.
- 2 - Disconnect power to the rooftop unit before servicing the UVC kit.
- 3 - Open the blower access door.
- 4 - Remove the screw in wire tie from the UVC assembly and disconnect the 4-pin connector from the lamp end.

- 5 - Remove the (2) mounting screws of the UVC assembly. Carefully slide the complete UVC assembly out through the blower access door.
- 6 - Allow 10 minutes before touching the lamps. Then, carefully remove the old lamp from the lamp holder clips.
- 7 - Wear cotton gloves or use a cotton cloth when handling the new lamp. Place the new lamp in the holder clips of the UVC assembly. Verify that the lamp flange at the connector end is sandwiched between the lamp holder clip and the sheet-metal end stop (see FIGURE 36).
- 8 - Carefully place the UVC assembly on the blower deck. Line up the mounting holes on the UVC assembly with the mounting holes on the blower deck. See FIGURE 37. Use the #10 screws provided to attach the UVC assembly in place.
- 9 - Make sure to reapply the black convoluted tubing used to shield electrical wiring in the rooftop unit. Convoluted tubing is provided when the ionizer is factory- or field-installed. However, if there is any concern, aluminum foil tape (not provided) can also be used to cover any exposed component.
- 10 - Close the blower access door.
- 11 - Reconnect power to the rooftop unit.
- 12 - Open the filter access door and look through the view port in the triangular sheet-metal panel to verify that the UVC light is on.

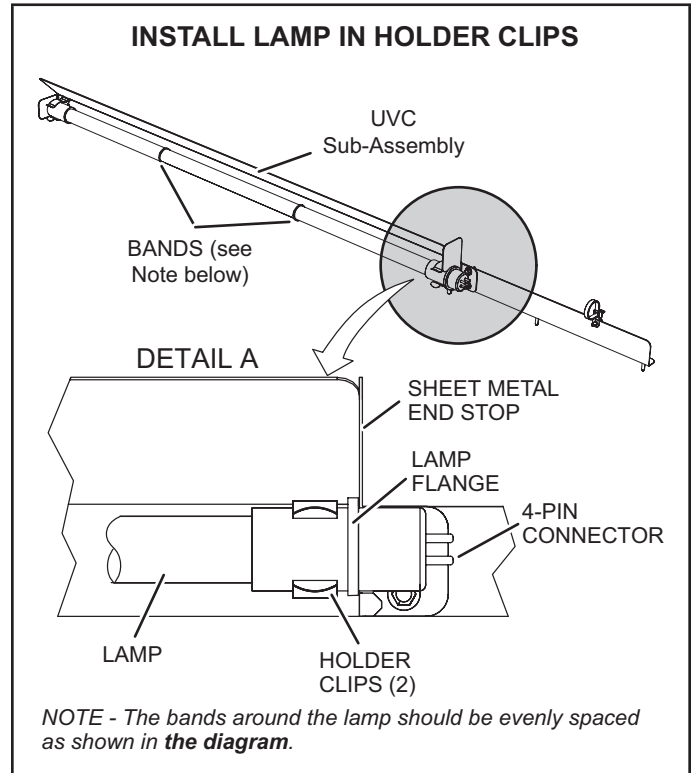


FIGURE 36

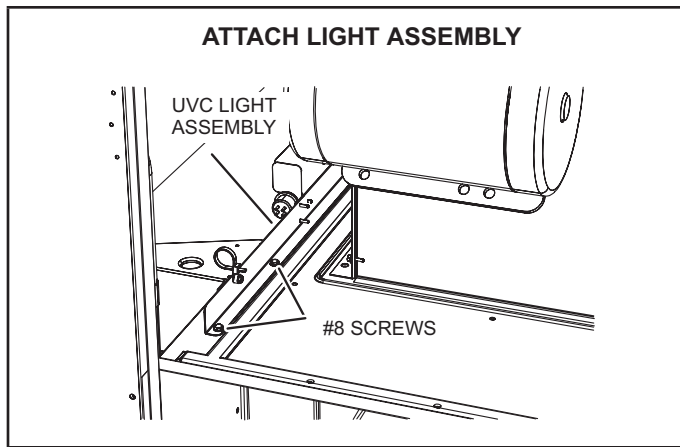


FIGURE 37

Lamp Disposal

Hg-LAMP Contains Mercury - Manage in accordance with local, state and federal disposal laws. Refer to www.lamprecycle.org or call 800-953-6669.

Proper Clean-up Technique in Case of Lamp Breakage

Wear protective gloves, eye wear and mask.

Sweep the broken glass and debris into a plastic bag, seal the bag, and dispose of properly. Contact your local waste management office for proper disposal.

Do not use a vacuum cleaner. Do not incinerate.

Maintenance

- For all maintenance, contact a qualified HVAC technician.
- Read the maintenance instructions before opening unit panels.
- Unintended use of the unit or damage to the unit housing may result in the escape of dangerous UVC radiation. UVC radiation may, even in small doses, cause harm to the eyes and skin.
- Do not operate units that are obviously damaged.
- Do not discard the triangular UVC light shield or any barriers with an ultraviolet radiation symbol.
- Do not override the door interlock switch that interrupts power to the UVC light.
- Do not operate the UVC light outside of the unit.

L-Placement Fuses

See the following tables for the proper replacement fuse sizes.

ELECTRIC HEAT REPLACEMENT FUSES

	Electric Heat	Qty.	Rating	
			Amp	Volt
1	E1EH0050N-1P	2	30	250
2	T1/E1EH0075AN1Y	3	25	250
3	E1EH0100N-1P	4	30	250
4	T1/E1EH0150AN1Y	3	50	250
5	T1/E1EH0225AN1Y	6	45	250
6	T1/E1EH0300N-1Y	6	60	250
7	E2EH0300N-1Y	6	60	250
8	K1EH0050A-1P	2	30	250
9	T1/E1EH0075AN1P	2	40	250
10	T1EH0100A-1P	4	30	250
11	T1/E1EH0150AN1P	4	40	250
12	T1/E1EH0225AN1P	6	40	250
13	T1/E1EH0075AN1J	3	15	600
14	T1/E1EH0150AN1J	3	20	600
15	T1/E1EH0225AN1J	3	30	600
16	T1/E1EH0300N-1J	3	40	600
17	T1/E1EH0075AN1G	3	15	600
18	T1/E1EH0150AN1G	3	25	600
19	T1/E1EH0225AN1G	3	35	600
20	T1/E1EH0300N-1G	3	50	600
21	K1/E1EH0057AN1M	3	15	600
22	K1/E1EH0115AN1M	3	20	600
23	K1EH0172AN1M	3	30	600
24	E1EH0172N-1M	3	30	600
25	K1/E1EH0230N-1M	3	40	600

UNIT REPLACEMENT FUSES

LGT036										
Unit Voltage			208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.
Diagram Key	Class	Blower HP	Amps							
F10 ²	CC	All	8A	8A	8A	8A	8A	8A	8A	8A
F27	CC	0.5	-	-	-	-	-	-	7.5A	7.5A
F30	CC	All	10A	10A	10A	10A	5A	5A	-	-
F31	CC	All	-	15A	-	15A	-	15A	-	-
F57	CC	0.5	-	-	-	-	3.5A	3.5A	5A	5A
F57	CC	1.5	-	-	-	-	10A	10A	7.5A	7.5A
F61 ²	J	0.5	40A	35A	25A	25A	15A	15A	15A	15A
F61 ²	J	1.5	-	-	25A	25A	15A	15A	15A	15A
CB10 ³	-	0.5	40A	35A	25A	25A	15A	15A	15A	15A
CB10 ³	-	1.5	-	-	25A	25A	15A	15A	15A	15A

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LGT048										
Unit Voltage			208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.
Diagram Key	Class	Blower HP	Amps							
F10 ²	CC	All	8A	8A	8A	8A	8A	8A	8A	8A
F27	CC	1.0	-	-	-	-	-	-	7.5A	7.5A
F30	CC	All	10A	10A	10A	10A	5A	5A	-	-
F31	CC	All	-	15A	-	15A	-	15A	-	-
F57	CC	1.0	-	-	-	-	3.5A	3.5A	5A	5A
F57	CC	1.5	-	-	-	-	10A	10A	7.5A	7.5A
F61 ²	J	1.0	50A	45A	35A	35A	15A	15A	15A	15A
F61 ²	J	1.5	-	-	35A	30A	15A	15A	15A	15A
CB10 ³	-	1.0	50A	45A	35A	35A	15A	15A	15A	15A
CB10 ³	-	1.5	-	-	35A	30A	15A	15A	15A	15A

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LGT060										
Unit Voltage			208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.
Diagram Key	Class	Blower HP	Amps							
F10 ²	CC	All	8A	8A	8A	8A	8A	8A	8A	8A
F27	CC	1.0	-	-	-	-	-	-	7.5A	7.5A
F30	CC	All	10A	10A	10A	10A	5A	5A	-	-
F31	CC	All	-	15A	-	15A	-	15A	-	-
F57	CC	1.0	-	-	-	-	3.5A	3.5A	5A	5A
F57	CC	1.5	-	-	-	-	10A	10A	7.5A	7.5A
F61 ²	J	1.0	60A	60A	40A	40A	15A	15A	15A	15A
F61 ²	J	1.5	-	-	40A	35A	20A	15A	15A	15A
CB10 ³	-	1.0	60A	60A	40A	40A	15A	15A	15A	15A
CB10 ³	-	1.5	-	-	40A	35A	20A	15A	15A	15A

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LGT072									
Unit Voltage			208/230V - 3 Ph		460V - 3Ph		575V - 3Ph		
Power Exhaust Option			W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	
Diagram Key	Class	Blower HP	Amps						
F10 ²	CC	1.5	8A	8A	8A	8A	8A	8A	
F27	CC	1.5	-	-	-	-	7.5A	7.5A	
F30	CC	1.5	10A	10A	5A	5A	-	-	
F31	CC	1.5	-	15A			15A	-	
F57	CC	1.5	-	-	10A	10A	7.5A	7.5A	
F61 ²	J	1.5	45A	45A	20A	20A	15A	15A	
CB10 ³	J	1.5	45A	45A	20A	20A	15A	15A	

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LCT036																		
Electric Heat Size			7.5 KW								15 KW							
Unit Voltage			208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph		208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.	W / P.E.	W / O P.E.
Diagram Key	Class	Blower HP																
F4	RK or K ¹	0.5	40 A	35 A	25 A	25 A	15 A	15 A	15 A	15 A	40 A	35 A	25 A	25 A	15 A	15 A	15 A	15 A
F4	RK or K ¹	1.5	-	-	25 A	25 A	15 A	15 A	15 A	15 A	-	-	25 A	25 A	15 A	15 A	15 A	15 A
F10 ²	CC	All	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A
F27	CC	1.5	-	-	-	-	-	-	7.5 A	7.5 A	-	-	-	-	-	-	7.5 A	7.5 A
F30	CC	All	10 A	10 A	10 A	10 A	5 A	5 A	-	-	10 A	10 A	10 A	10 A	5 A	5 A	-	-
F31	CC	All	-	15 A	-	15 A	-	15 A	-	-	-	15 A	-	15 A	-	15 A	-	-
F57	CC	0.5	-	-	-	-	3.5 A	3.5 A	5 A	5 A	-	-	-	-	3.5 A	3.5 A	5 A	5 A
F57	CC	1.5	-	-	-	-	10 A	10 A	7.5 A	7.5 A	-	-	-	-	10 A	10 A	7.5 A	7.5 A
F61 ²	J	0.5	50 A	45 A	35 A	30 A	20 A	15 A	20 A	15 A	90 A	90 A	60 A	60 A	30 A	30 A	25 A	25 A
F61 ²	J	1.5	-	-	35 A	30 A	20 A	15 A	15 A	15 A	-	-	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	0.5	50 A	45 A	35 A	30 A	20 A	15 A	20 A	15 A	90 A	90 A	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	1.5	-	-	35 A	30 A	20 A	15 A	15 A	15 A	-	-	60 A	60 A	30 A	30 A	25 A	25 A

¹ When SCCR is installed, F4 fuse is Class J.

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LCT048																		
Electric Heat Size			7.5 KW								15 KW							
Unit Voltage			208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph		208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.
Diagram Key	Class	Blower HP																
F4	RK or K ¹	1.0	50 A	45 A	35 A	35 A	15 A	15 A	15 A	15 A	50 A	45 A	35 A	35 A	15 A	15 A	15 A	15 A
F4	RK or K ¹	1.5	-	-	35 A	30 A	15 A	15 A	15 A	15 A	-	-	35 A	30 A	15 A	15 A	15 A	15 A
F10 ²	CC	All	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A
F27	CC	1.5	-	-	-	-	-	-	7.5 A	7.5 A	-	-	-	-	-	-	7.5 A	7.5 A
F30	CC	All	10 A	10 A	10 A	10 A	5 A	5 A	-	-	10 A	10 A	10 A	10 A	5 A	5 A	-	-
F31	CC	All	-	15 A	-	15 A	-	15 A	-	-	-	15 A	-	15 A	-	15 A	-	-
F57	CC	1.0	-	-	-	-	3.5 A	3.5 A	5 A	5 A	-	-	-	-	3.5 A	3.5 A	5 A	5 A
F57	CC	1.5	-	-	-	-	10 A	10 A	7.5 A	7.5 A	-	-	-	-	10 A	10 A	7.5 A	7.5 A
F61 ²	J	1.0	60 A	50 A	35 A	35 A	20 A	20 A	15 A	15 A	100 A	90 A	60 A	60 A	30 A	30 A	25 A	25 A
F61 ²	J	1.5	-	-	35 A	30 A	20 A	15 A	15 A	15 A	-	-	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	1.0	60 A	50 A	35 A	35 A	20 A	20 A	15 A	15 A	100 A	90 A	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	1.5	-	-	35 A	30 A	20 A	15 A	15 A	15 A	-	-	60 A	60 A	30 A	30 A	25 A	25 A

¹ When SCCR is installed, F4 fuse is Class J.

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LCT060																		
Electric Heat Size			7.5 KW								15 KW							
Unit Voltage			208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph		208/230V - 1 Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.	W/ P.E.	W/O P.E.
Diagram Key	Class	Blower HP																
F4	RK or K ¹	1.0	60 A	60 A	40 A	40 A	20 A	15 A	15 A	15 A	60 A	60 A	40 A	40 A	20 A	15 A	15 A	15 A
F4	RK or K ¹	1.5	-	-	40 A	35 A	15 A	15 A	15 A	15 A	-	-	40 A	35 A	15 A	15 A	15 A	15 A
F10 ²	CC	All	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A
F27	CC	1.5	-	-	-	-	-	-	7.5 A	7.5 A	-	-	-	-	-	-	7.5 A	7.5 A
F30	CC	All	10 A	10 A	10 A	10 A	5 A	5 A	-	-	10 A	10 A	10 A	10 A	5 A	5 A	-	-
F31	CC	All	-	15 A	-	15 A	-	15 A	-	-	-	15 A	-	15 A	-	15 A	-	-
F57	CC	1.0	-	-	-	-	3.5 A	3.5 A	5 A	5 A	-	-	-	-	3.5 A	3.5 A	5 A	5 A
F57	CC	1.5	-	-	-	-	10 A	10 A	7.5 A	7.5 A	-	-	-	-	10 A	10 A	7.5 A	7.5 A
F61 ²	J	1.0	60 A	60 A	40 A	40 A	20 A	20 A	15 A	15 A	100 A	90 A	60 A	60 A	30 A	30 A	25 A	25 A
F61 ²	J	1.5	-	-	40 A	35 A	20 A	15 A	15 A	15 A	-	-	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	1.0	60 A	60 A	40 A	40 A	20 A	20 A	15 A	15 A	100 A	90 A	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	1.5	-	-	40 A	35 A	20 A	15 A	15 A	15 A	-	-	60 A	60 A	30 A	30 A	25 A	25 A

¹ When SCCR is installed, F4 fuse is Class J.

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LCT060 (continued)										
Electric Heat Size			22.5 KW							
Unit Voltage			P Volt		Y Volt		G Volt		J Volt	
Power Exhaust Option			W/ P.E.	W/ O.P.E.	W/ P.E.	W/ O.P.E.	W/ P.E.	W/ O.P.E.	W/ P.E.	W/ O.P.E.
Diagram Key	Class	Blower HP								
F4	RK or K ¹	1.0	60 A	60 A	40 A	40 A	20 A	15 A	15 A	15 A
F4	RK or K ¹	1.5	-	-	40 A	35 A	15 A	15 A	15 A	15 A
F10 ²	CC	All	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A
F27	CC	1.5	-	-	-	-	-	-	7.5 A	7.5 A
F30	CC	All	10 A	10 A	10 A	10 A	5 A	5 A	-	-
F31	CC	All	-	15 A	-	15 A	-	15 A	-	-
F57	CC	1.0	-	-	-	-	3.5 A	3.5 A	5 A	5 A
F57	CC	1.5	-	-	-	-	10 A	10 A	7.5 A	7.5 A
F61 ²	J	1.0	150 A	150 A	80 A	80 A	45 A	40 A	35 A	35 A
F61 ²	J	1.5	-	-	80 A	80 A	40 A	40 A	35 A	30 A
CB10 ³	-	1.0	150 A	150 A	80 A	80 A	45 A	40 A	35 A	35 A
CB10 ³	-	1.5	-	-	80 A	80 A	40 A	40 A	35 A	30 A

¹ When SCCR is installed, F4 fuse is Class J.

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LCT072														
Electric Heat Size			7.5 KW						15 KW					
Unit Voltage			208/230V - 3 Ph		460V - 3Ph		575V - 3Ph		208/230V - 3 Ph		460V - 3Ph		575V - 3Ph	
Power Exhaust Option			W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.
Diagram Key	Class	Blower HP												
F4	RK or K ¹	1.5	45 A	45 A	20 A	20 A	15 A	15 A	45 A	45 A	20 A	20 A	15 A	15 A
F10 ²	CC	1.5	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A
F27	CC	1.5	-	-	-	-	7.5 A	7.5 A	-	-	-	-	7.5 A	7.5 A
F30	CC	1.5	10 A	10 A	5 A	5 A	-	-	10 A	10 A	5 A	5 A	-	-
F31	CC	1.5	-	15 A	-	15 A	-	-	-	15 A	-	15 A	-	-
F57	CC	1.5	-	-	10 A	10 A	7.5 A	7.5 A	-	-	10 A	10 A	7.5 A	7.5 A
F61 ²	J	1.5	45 A	45 A	20 A	20 A	15 A	15 A	60 A	60 A	30 A	30 A	25 A	25 A
CB10 ³	-	1.5	45 A	45 A	20 A	20 A	15 A	15 A	60 A	60 A	30 A	30 A	25 A	25 A

¹ When SCCR is installed, F4 fuse is Class J.

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

LCT072 (continued)														
Electric Heat Size			22.5 KW						30 KW					
Unit Voltage			Y Volt		G Volt		J Volt		Y Volt		G Volt		J Volt	
Power Exhaust Option			W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.	W/P.E.	W/O P.E.
Diagram Key	Class	Blower HP												
F4	RK or K ¹	1.5	45 A	45 A	20 A	20 A	15 A	15 A	45 A	45 A	20 A	20 A	15 A	15 A
F10 ²	CC	1.5	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A	8 A
F27	CC	1.5	-	-	-	-	7.5 A	7.5 A	-	-	-	-	7.5 A	7.5 A
F30	CC	1.5	10 A	10 A	5 A	5 A	-	-	10 A	10 A	5 A	5 A	-	-
F31	CC	1.5	-	15 A	-	15 A	-	-	-	15 A	-	15 A	-	-
F57	CC	1.5	-	-	10 A	10 A	7.5 A	7.5 A	-	-	10 A	10 A	7.5 A	7.5 A
F61 ²	J	1.5	80 A	80 A	40 A	40 A	35 A	30 A	100 A	100 A	50 A	50 A	45 A	40 A
CB10 ³	-	1.5	80 A	80 A	40 A	40 A	35 A	30 A	100 A	100 A	50 A	50 A	45 A	40 A

¹ When SCCR is installed, F4 fuse is Class J.

² Fuses F10 and F61 are only used on units with SCCR installed.

³ Units using Circuit Breakers will use CB10 option.

Factory Unit Controller Settings

Use the mobile service app to adjust parameters; menu paths are shown in each table. Refer to the Unit Controller manual provided with each unit.

TABLE 17 through TABLE 19 show factory settings (in degrees, % of fan CFM, etc.). Record adjusted settings on the label located inside the compressor access panel.

When field installing optional kits and accessories, the Unit Controller must be configured to identify the option before it will function. Refer to FIGURE 38 and FIGURE 39 to determine whether the Unit Controller configuration I.D. must change. To configure the option, use MAIN MENU > SETUP > INSTALL menu path. Press SAVE until CONFIGURATION ID 1 or 2 appears depending on the option installed. Change the appropriate character in the configuration I.D. For example, when an economizer is installed using a single enthalpy sensor, change configuration I.D. 1, the second character, to "S".

**TABLE 17
581038**

Units With BACnet Settings
RTU Menu > Network Integration > Network Setup Wizard > BACnet MS/TP > See BACnet MAC Address
BACNET MAC ADDRESS:
Units With Room Sensor, CPC/LSE Gateway Settings
RTU Menu > Network Integration > Network Setup Wizard > SBUS > Set SBUS Address
LCONN ADDRESS:

**TABLE 18
581037-01**

Units With LonTalk Settings
Use menu RTU Menu > Network Integration > Network Setup Wizard > Set "LONTALK"

**TABLE 19
581101**

Units With Hot Gas Reheat			
Use SETTINGS > RTU OPTIONS > EDIT PARAMETERS			
Parameter	Factory Setting	Field Setting	Description
105	6		Hot Gas Reheat Option 6: Reheat is only possible if blower is energized during occupied periods. Controlled by RH sensor (A91) connected to input A55_P298_5 and set point set at parameter 106 (default 60%).
414	10 sec (All-Aluminum Coils Only)		HI CL REHEAT TMOUT: Number of seconds Reheat Valve remains energized upon thermostat call for high stage cooling (default 0 sec onds).

Configuration ID 1

1 2 3 4 5 6 7 8

Humiditrol [1]

Not Installed = **N**
 Humiditrol Installed = **H**
 Unconfigured = **U**

Economizer [2]

Not Installed = **N**
 Motorized Outdoor Air
 Damper Only = **M**
 Economizer - Temperature = **T**
 Economizer Global = **G**
 Economizer - Single
 Enthalpy = **S**
 Economizer - Dual Enthalpy = **D**
 Unconfigured = **U**

Power Exhaust [3]

Not Installed = **N**
 Single-Stage = **S**
 Dual-Stage = **D**
 Unconfigured = **U**

Power Exhaust Control [4]

Not Installed = **N**
 Damper Position = **A**
 A34 Pressure Sensor = **C**

[8] Outdoor Air CFM Control

N = Not applicable (for future use)
L = Outdoor Air Control Installed with A24 Sensor set for low range.
M = Outdoor Air Control Installed with A24 Sensor set for medium range.
H = Outdoor Air Control Installed with A24 Sensor set for high range.

[7] System Blower Subtype

N = Not applicable (default)
B = VFD Belt Drive Blower (MODBUS)
H = Direct-Drive Blower (MODBUS)
L = ECM Direct-Drive Blower (PWM)
U = (Unconfigured)
D = Direct-Drive Blower

[6] Blower Variable Frequency Drive Bypass

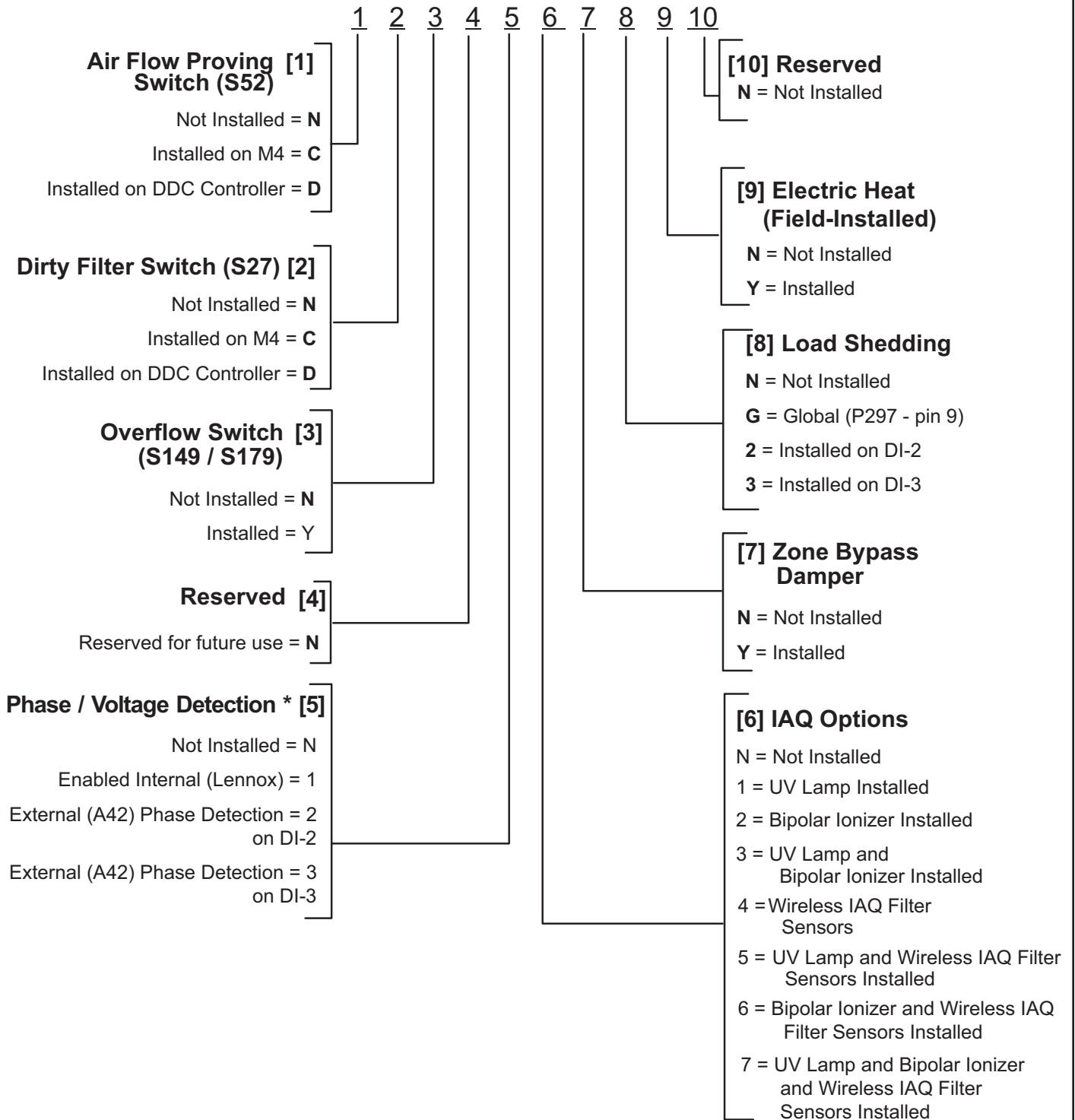
N = Not Installed
A = Automatic Bypass
M = Manual Bypass
U = Unconfigured

[5] Network Module

N = Not Installed
L = LonTalk

FIGURE 38

Configuration ID 2



* When phase detection and voltage monitoring is enabled and wired incorrectly, the system will go into demand hold status and restart after six minutes.

FIGURE 39

START-UP REPORT

Job Name: _____
 Store No. _____ Start-Up Date: _____
 Address: _____
 City: _____ State: _____
 Start-Up Contractor: _____
 Technician: _____
 Model No.: _____
 Serial No.: _____
 RTU No.: _____ Catalog No.: _____

Inspections and Checks			
Damage?	Yes	No	R22 <input type="checkbox"/> R410A <input type="checkbox"/>
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 <input type="checkbox"/>			
Transformer secondary voltage: _____			

Cooling Checks												
Compressor Rotation <input type="checkbox"/> 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 <input type="checkbox"/>	Blower Rotation <input type="checkbox"/>		
Set Screws Tight <input type="checkbox"/>	Belt Tension <input type="checkbox"/>		
Nameplate Amps: _____		Volts: _____	
Motor	Amps	Volts	
L1	_____	L1-L2	_____
L2	_____	L1-L3	_____
L3	_____	L2-L3	_____

Heating Checks - Electric							
Return Air Temp.: _____ Supply Air Temp.: _____							
Limits Operate: <input type="checkbox"/>							
	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			

Heating Checks - Gas		
Fuel type: Nat. <input type="checkbox"/> LP <input type="checkbox"/> Inlet Pressure: _____ in. w.c.		
Return Air Temp.: _____ Supply Air Temp.: _____		
Altitude: _____ Primary Limits Operate: <input type="checkbox"/>		
CO ₂ %: _____		
Gas Valve	Manifold Pressure	
	Low Fire	High Fire
GV1		
GV2		

Accessory Checks	
Power Exhaust Amps	
1 _____	2 _____ None <input type="checkbox"/>
Economizer Operation	
Min. Pos. <input type="checkbox"/>	Motor travel full open/close <input type="checkbox"/>

Control Type