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Supplier: Harrison Energy Partners
Manufacturer: Daikin
Submittal: HVAC (Split System)
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CONDENSING UNIT

AIR CONDITIONING
INSTALLATION & SERVICE REFERENCE

IMPORTANT SAFETY INSTRUCTIONS

The following symbols and labels are used throughout this manual to indicate immediate or potential safety hazards. It is the owner's and installer's responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of personal injury, property damage, and/or product damage.

⚠ WARNING

ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED IN THIS MANUAL SHOULD SERVICE THE EQUIPMENT.

THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPABILITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

⚠ WARNING

DO NOT BYPASS SAFETY DEVICES

⚠ WARNING

HIGH VOLTAGE
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

SHIPPING INSPECTION

Always keep the unit upright; laying the unit on its side or top may cause equipment damage. Shipping damage, and subsequent investigation is the responsibility of the carrier. Verify the model number, specifications, electrical characteristics, and accessories are correct prior to installation. The distributor or manufacturer will not accept claims from dealers for transportation damage or installation of incorrectly shipped units.

CODES & REGULATIONS

This product is designed and manufactured to comply with national codes. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations. Rated performance is achieved after 20 hours of operation.
Rated performance is delivered at the specified airflow. See outdoor unit specification sheet for split system models or product specification sheet for packaged and light commercial models. Specification sheets can be found at www.daikincomfort.com for Daikin. Within either website, please select the residential or commercial products menu and then select the submenu for the type of product to be installed, such as air conditioners or heat pumps, to access a list of product pages that each contain links to that model's specification sheet.

The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerants. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Should you have any questions please contact the local office of the EPA.

If replacing a condensing unit or air handler, the system must be manufacturer approved and Air Conditioning, Heating and Refrigeration Institute (AHRI) matched.

IOD-4036D
5/2023

19001 Kermier Rd. Waller, TX 77484
www.daikincomfort.com

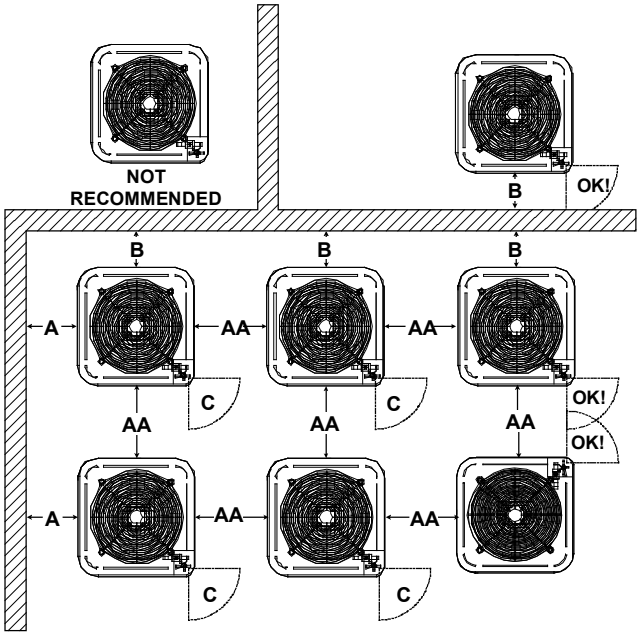
NOTE: Installation of unmatched systems is strongly discouraged.

Outdoor units are approved for operation above 55°F in cooling mode. Operation below 55°F requires the use of an approved low ambient kit. Note: LAKT01 Low ambient kit cannot be used with outdoor units containing ECM motors.

Damage to the unit caused by operating the unit in a structure that is not complete (either as part of new construction or renovation) is not covered under the warranty.

INSTALLATION CLEARANCES

Special consideration must be given to location of the condensing unit(s) in regard to structures, obstructions, other units, and any/all other factors that may interfere with air circulation. Where possible, the top of the unit should be completely unobstructed; however, if vertical conditions require placement beneath an obstruction **there should be a minimum of 60 inches between the top of the unit and the obstruction(s).** The specified dimensions meet requirements for air circulation only. Consult all appropriate regulatory codes prior to determining final clearances. Another important consideration in selecting a location for the unit(s) is the angle to obstructions. Either side adjacent the valves be placed toward the structure provided the side away from the structure maintains minimum service clearance. Corner installations are strongly discouraged.



Minimum Airflow Clearance				
Model Type	**A**	**B**	**C**	**AA**
Residential	10"	10"	18"	20"
Light Commercial	12"	12"	18"	24"

This unit can be located at ground floor level or on flat roofs. At ground floor level, the unit must be on a solid, level foundation that will not shift or settle. To reduce the possibility of sound transmission, the foundation slab should not be in contact with or be an integral part of the building foundation. The dimensions of the space necessary for correct installation of the appliance including the minimum permissible distance to adjacent structures have been covered in this section (per UL 60335-2-40). Ensure the foundation is sufficient to support the unit. A concrete slab raised above ground level provides a suitable base.

ROOFTOP INSTALLATIONS

If it is necessary to install this unit on a roof structure, ensure the roof structure can support the weight and that proper consideration is given to the weather-tight integrity of the roof. Since the unit can vibrate during operation, sound vibration transmission should be considered when installing the unit. Vibration absorbing pads or springs can be installed between the condensing unit legs or frame and the roof mounting assembly to reduce noise vibration.

WARNING

To avoid possible injury, explosion or death, practice safe handling of refrigerants.

SAFE REFRIGERANT HANDLING

While these items will not cover every conceivable situation, they should serve as a useful guide.

WARNING

Refrigerants are heavier than air. They can "push out" the oxygen in your lungs or in any enclosed space. To avoid possible difficulty in breathing or death:

- Never purge refrigerant into an enclosed room or space. By law, all refrigerants must be reclaimed.
- If an indoor leak is suspected, thoroughly ventilate the area before beginning work.
- Liquid refrigerant can be very cold. To avoid possible frostbite or blindness, avoid contact and wear gloves and goggles. If liquid refrigerant does contact your skin or eyes, seek medical help immediately.
- Always follow EPA regulations. Never burn refrigerant, as poisonous gas will be produced.

WARNING

To avoid possible explosion:

- Never apply flame or steam to a refrigerant cylinder. If you must heat a cylinder for faster charging, partially immerse it in warm water.
- Never fill a cylinder more than 80% full of liquid refrigerant.
- Never add anything other than R-22 to an R-22 cylinder or R-410A to an R-410A cylinder. The service equipment used must be listed or certified for the type of refrigerant used.
- Store cylinders in a cool, dry place. Never use a cylinder as a platform or a roller.

WARNING

To avoid possible explosion, use only returnable (not disposable) service cylinders when removing refrigerant from a system.

- **Ensure the cylinder is free of damage which could lead to a leak or explosion.**
- **Ensure the hydrostatic test date does not exceed 5 years.**
- **Ensure the pressure rating meets or exceeds 400 psig.**

When in doubt, do not use cylinder.

Refrigerant Lines

CAUTION

The compressor POE oil for R-410A units is extremely susceptible to moisture absorption and could cause compressor failure. Do not leave system open to atmosphere any longer than necessary for installation.

For evaporating and condensing units, the instructions or markings shall include a wording to assure that the maximum operating pressure is considered when connecting to any condenser unit or evaporator unit (UL 60335-2-40)

Use only refrigerant grade (dehydrated and sealed) copper tubing to connect the condensing unit with the indoor evaporator. After cutting the tubing, install plugs to keep refrigerant tubing clean and dry prior to and during installation. Tubing should always be cut square keeping ends round and free from burrs. Clean the tubing to prevent contamination.

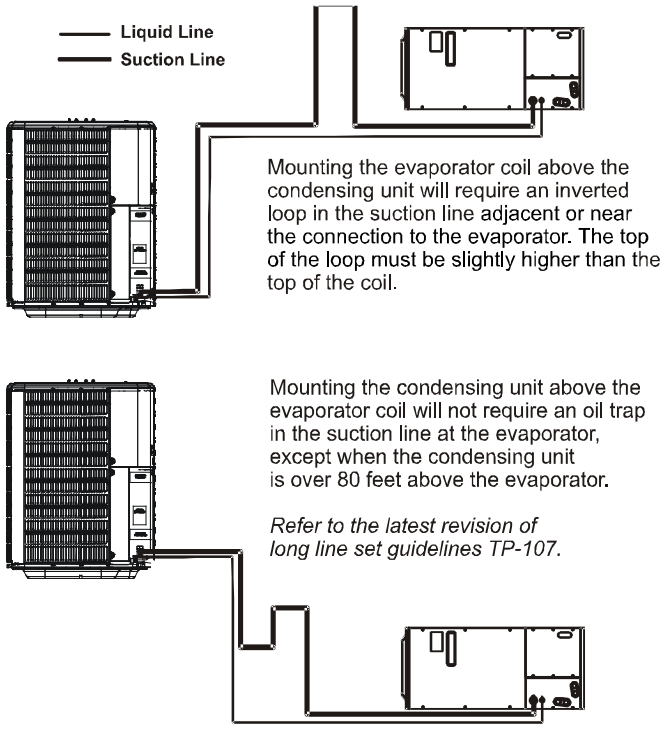
Do NOT let refrigerant lines come in direct contact with plumbing, ductwork, floor joists, wall studs, floors, and walls. When running refrigerant lines through a foundation or wall, openings should allow for sound and vibration absorbing material to be placed or installed between tubing and foundation. Any gap between foundation or wall and refrigerant lines should be filled with a pliable silicon-based caulk, RTV or a vibration damping material. Avoid suspending refrigerant tubing from joists and studs with rigid wire or straps that would come in contact with the tubing. Use an insulated or suspension type hanger. Keep both lines separate and always insulate the suction line.

These sizes are recommended for line lengths of 79 feet or less to obtain optimum performance. For alternate line sizing options or runs of more than 79 feet, refer to TP-107 R-410A Long Line Set Application Guidelines or contact your distributor for assistance.

This unit is a partial unit air conditioner, complying with partial unit requirements of this international standard, and must be only connected to other units that have been confirmed as complying to corresponding partial unit requirements of this international standard (UL 60335-2-40).

RECOMMENDED INTERCONNECTING TUBING (Ft)						
Cond Unit Tons	0-24		25-49		50-79*	
	Line Diameter (In. OD)					
	Suct	Liq	Suct	Liq	Suct	Liq
1 1/2	5/8	1/4	3/4	3/8	3/4	3/8
2	5/8	1/4	3/4	3/8	3/4	3/8
2 1/2	5/8	1/4	3/4	3/8	7/8	3/8
3	3/4	3/8	7/8	3/8	1 1/8	3/8
3 1/2	7/8	3/8	1 1/8	3/8	1 1/8	3/8
4	7/8	3/8	1 1/8	3/8	1 1/8	3/8
5	7/8	3/8	1 1/8	3/8	1 1/8	3/8

*Lines greater than 79 feet in length or vertical elevation changes more than 50 feet **refer to TP-107 R-410A Long Line Set Application Guidelines or contact your distributor for assistance.**



Insulation is necessary to prevent condensation from forming and dropping from the suction line. Armflex (or satisfactory equivalent) with 3/8” min. wall thickness is recommended. In severe conditions (hot, high humidity areas) 1/2” insulation may be required. Insulation must be installed in a manner which protects tubing from damage and contamination.

Existing Line Sets

Where possible, drain as much residual compressor oil from existing systems, lines, and traps; pay close attention to low areas where oil may collect. Use of an approved flushing agent is recommended followed by a nitrogen purge to remove any remaining flushing agent from the lines or indoor coil. Replacement of indoor coil is recommended.

NOTE: If using existing indoor coil and changing refrigerant types, ensure the indoor coil and metering device are compatible with the type of refrigerant being used. If new indoor coil is required check spec sheet or AHRI for approved coil. If system is being replaced due to compressor electrical failure, assume acid is in system. Refer to Service Procedure Compressor Burnout in service manual for clean-up procedure located on page 100.

Burying Refrigerant Lines

If burying refrigerant lines can not be avoided, use the following checklist.

1. Insulate liquid and suction lines separately.
2. Enclose all underground portions of the refrigerant lines in waterproof material (conduit or pipe) sealing the ends where tubing enters/exits the enclosure.
3. If the lines must pass under or through a concrete slab, ensure lines are adequately protected and sealed.

Refrigerant Line Connections

IMPORTANT: To avoid overheating the service valve, TXV valve, or filter drier while brazing, wrap the component with a wet rag, or use a thermal heat trap compound. Be sure to follow the manufacturer's instruction when using the heat trap compound. Note: Remove Schrader valves from service valves before brazing tubes to the valves. Use a brazing alloy of 2% minimum silver content. Do not use flux.

Torch heat required to braze tubes of various sizes is proportional to the size of the tube. Tubes of smaller size require less heat to bring the tube to brazing temperature before adding brazing alloy. Applying too much heat to any tube can melt the tube. Service personnel must use the appropriate heat level for the size of the tube being brazed.

NOTE: The use of a heat shield when brazing is recommended to avoid burning the serial plate or the finish on the unit.

1. The ends of the refrigerant lines must be cut square, deburred, cleaned, and be round and free from nicks or dents. Any other condition increases the chance of a refrigerant leak.
2. "Sweep" the refrigerant line with nitrogen or inert gas during brazing to prevent the formation of copper-oxide inside the refrigerant lines. The POE oils used in R-410A applications will clean any copper-oxide present from the inside of the refrigerant lines and spread it throughout the system. This may cause a blockage or failure of the metering device.
3. After brazing, quench the joints with water or a wet cloth to prevent overheating of the service valve.
4. Ensure the filter drier paint finish is intact after brazing. If the paint of the steel filter drier has been burned or chipped, repaint or treat with a rust preventative. This is especially important on suction line filter driers which are continually wet when the unit is operating.

NOTE: Be careful not to kink or dent refrigerant lines. Kinked or dented lines will cause poor performance or compressor damage.

Do NOT make final refrigerant line connection until plugs are removed from refrigerant tubing.

NOTE: Before brazing, verify indoor piston size by checking the piston kit chart packaged with indoor unit.

Standing Pressure Test (Recommended before System Evacuation)

WARNING

To avoid the risk of fire or explosion, never use oxygen, high pressure air or flammable gases for leak testing of a refrigeration system.

WARNING

To avoid possible explosion, the line from the nitrogen cylinder must include a pressure regulator and a pressure relief valve. The pressure relief valve must be set to open at no more than 450 psig.

Using dry nitrogen, pressurize the system to 450 PSIG. Allow the pressure to stabilize and hold for 15 minutes (minimum). If the pressure does not drop below 450 PSIG the system is considered leak free. Proceed to system evacuation using the Deep Vacuum Method. If after 15 minutes the pressure drops below 450 PSIG follow the procedure outlined below to identify system leaks. Repeat the Standing Pressure Test.

Leak Testing (Nitrogen or Nitrogen-Traced)

WARNING

To avoid the risk of fire or explosion, never use oxygen, high pressure air or flammable gases for leak testing of a refrigeration system.

WARNING

To avoid possible explosion, the line from the nitrogen cylinder must include a pressure regulator and a pressure relief valve. The pressure relief valve must be set to open at no more than 450 psig.

Leak test the system using dry nitrogen and soapy water to identify leaks. If you prefer to use an electronic leak detector, charge the system to 10 PSIG with the appropriate system refrigerant (see Serial Data Plate for refrigerant identification). Do not use an alternative refrigerant. Using dry nitrogen finish charging the system to 450 PSIG. Apply the leak detector to all suspect areas. When leaks are discovered, repair the leaks, and repeat the pressure test. If leaks have been eliminated proceed to system evacuation.

System Evacuation

Condensing unit liquid and suction valves are closed to contain the charge within the unit. The unit is shipped with the valve stems closed and caps installed. **Do not open valves until the system is evacuated.**

WARNING

REFRIGERANT UNDER PRESSURE!
Failure to follow proper procedures may cause property damage, personal injury or death.

NOTE: Scroll compressors should never be used to evacuate or pump down a heat pump or air conditioning system.

CAUTION

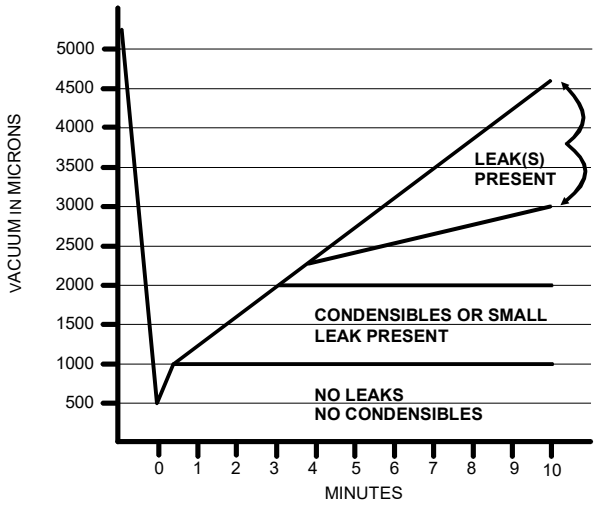
Prolonged operation at suction pressures less than 20 psig for more than 5 seconds will result in overheating of the scrolls and permanent damage to the scroll tips, drive bearings and internal seal.

Deep Vacuum Method (Recommended)

The Deep Vacuum Method requires a vacuum pump rated for 500 microns or less. This method is an effective and efficient way of assuring the system is free of non-condensable air and moisture. As an alternative, the Triple Evacuation Method is detailed in the Service Manual for this product model.

It is recommended to remove the Schrader Cores from the service valves using a core-removal tool to expedite the evacuation procedure.

1. Connect the vacuum pump, micron gauge, and vacuum rated hoses to both service valves. Evacuation must use both service valves to eliminate system mechanical seals.
2. Evacuate the system to less than 500 microns.
3. Isolate the pump from the system and hold vacuum for 10 minutes (minimum). Typically, pressure will rise slowly during this period. If the pressure rises to less than 1000 microns and remains steady, the system is considered leak-free; proceed to system charging and startup.
4. If pressure rises above 1000 microns but holds steady below 2000 microns, non-condensable air or moisture may remain or a small leak is present. Return to step 2: If the same result is achieved check for leaks and repair. Repeat the evacuation procedure.
5. If pressure rises above 2000 microns, a leak is present. Check for leaks and repair. Repeat the evacuation procedure.



ELECTRICAL CONNECTIONS

WARNING

HIGH VOLTAGE!
Disconnect ALL power before servicing. Multiple power sources may be present. Failure to do so may cause property damage, personal injury or death due to electric shock. Wiring must conform with NEC or CEC and all local codes. Undersized wires could cause poor equipment performance, equipment damage or fire.

WARNING

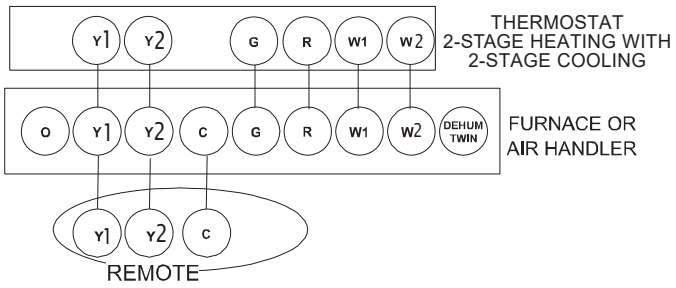
To avoid the risk of fire or equipment damage, use copper conductors.

NOTICE

Units with rotary or reciprocating compressors and non-bleed TXV's require a Hard Start Kit.

The condensing unit rating plate lists pertinent electrical data necessary for proper electrical service and overcurrent protection. Wires should be sized to limit voltage drop to 2% (max.) from the main breaker or fuse panel to the condensing unit. Consult the NEC, CEC, and all local codes to determine the correct wire gauge and length.

Local codes often require a disconnect switch located near the unit; do not install the switch on the unit. Refer to the installation instructions supplied with the indoor furnace/ air handler for specific wiring connections and indoor unit configuration. Likewise, consult the instructions packaged with the thermostat for mounting and location information.



Two-Stage Thermostat with Three Low Voltage Wires to Remote

Overcurrent Protection

The following overcurrent protection devices are approved for use.

- Time delay fuses
- HACR type circuit breakers

These devices have sufficient time delay to permit the motor-compressor to start and accelerate its load.

Three Phase Compressor Rotation

CAUTION

Use care when handling scroll compressors. Dome temperatures could be hot.

Three phase compressors are power phase dependent and can rotate in either direction.

Verify proper rotation for three phase compressors by ensuring the suction pressure drops and discharge pressure rises when the compressor is energized.

NOTE: When operated in reverse, a three phase scroll compressors is noisier and its current draw substantially reduced compared to marked values.

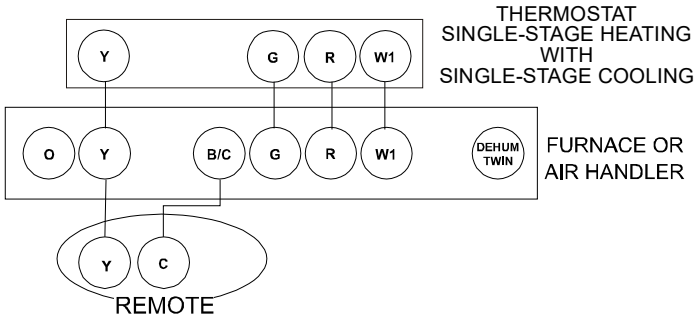
To correct, disconnect power and switch any two leads at the unit contactor and re-observe.

High Voltage Connections

Route power supply and ground wires through the high voltage port and terminate in accordance with the wiring diagram provided inside the control panel cover.

Low Voltage Connections

Condensing unit control wiring requires 24 Volt minimum, 25VA service from the indoor transformer. Low voltage wiring for two-stage units depends on the thermostat used and the number of control wires between the indoor unit and the condensing unit. Route control wires through the low voltage port and terminate in accordance with the wiring diagram provided inside the control panel cover.



Single-Stage Thermostat with Two Low Voltage Wires to Remote

SYSTEM START UP

WARNING

HIGH VOLTAGE!
Disconnect ALL power before servicing or installing this unit. Multiple power sources may be present.
Failure to do so may cause property damage, personal injury or death.

CAUTION

POSSIBLE REFRIGERANT LEAK
To avoid a possible refrigerant leak, open the service valves until the top of the stem is 1/8" from the retainer.

When opening valves with retainers, open each valve only until the top of the stem is 1/8" from the retainer. To avoid loss of refrigerant, DO NOT apply pressure to the retainer. When opening valves without a retainer remove service valve cap and insert a hex wrench into the valve stem and back out the stem by turning the hex wrench counterclockwise. Open the valve until it contacts the rolled lip of the valve body.

NOTE: These are not back-seating valves. It is not necessary to force the stem tightly against the rolled lip.

NOTE: Power must be supplied to the outdoor units containing ECM motors before the power is applied to the indoor unit. Sending a low voltage signal without high voltage power present at the outdoor unit can cause malfunction of the control module on the ECM motor.

Adequate refrigerant charge for the matching HSVTC evaporator coil and 15 feet of lineset is supplied with the condensing unit. If using evaporator coils other than HSVTC coil, it may be necessary to add or remove refrigerant to attain proper charge. If line set exceeds 15 feet in length, refrigerant should be added at .6 ounces per foot of liquid line.

NOTE: Charge should always be checked using superheat when using a piston and subcooling when using TXV equipped indoor coil to verify proper charge.

Break vacuum by fully opening liquid service valve. After the refrigerant charge has bled into the system, open the suction service valve. The service valve cap is the secondary seal for the valves and must be properly tightened to prevent leaks. Make sure cap is clean and apply refrigerant oil to threads and sealing surface on inside of cap. Tighten cap finger-tight and then tighten additional 1/6 of a turn (1 wrench flat), or to the following specification, to properly seat the sealing surfaces.

1. 3/8” valve to 5 - 10 in-lbs
2. 5/8” valve to 5 - 20 in-lbs
3. 3/4” valve to 5 - 20 in-lbs
4. 7/8” valve to 5 - 20 in-lbs

Do not introduce liquid refrigerant from the cylinder into the crankcase of the compressor as this may damage the compressor.

CAUTION

POSSIBLE REFRIGERANT LEAK
To avoid a possible refrigerant leak, open the service valves until the top of the stem is 1/8” from the retainer.

1. Break vacuum by fully opening liquid and suction base valves.
2. Set thermostat to call for cooling. Check indoor and outdoor fan operation and allow system to stabilize for 10 minutes for fixed orifices and 20 minutes for expansion valves.

Charge Verification

WARNING

REFRIGERANT UNDER PRESSURE!
- **Do not overcharge system with refrigerant.**
- **Do not operate unit in a vacuum or at negative pressure.**

Failure to follow proper procedures may cause property damage, personal injury or death.

CAUTION

Use refrigerant certified to AHRI standards. Used refrigerant may cause compressor damage. Most portable machines cannot clean used refrigerant to meet AHRI standards.

NOTICE

Violation of EPA regulations may result in fines or other penalties.

CAUTION

Damage to the unit caused by operating the compressor with the suction valve closed is not covered under the warranty and may cause serious compressor damage.

Final Charge Adjustment

Airflow and Total Static Pressure for the indoor unit should be verified before attempting to charge system.

1. Total static pressure is .5” WC or less.
2. Airflow is correct for installed unit.
3. Airflow tables are in the installation manual and Spec Sheet for Indoor Unit.
4. Complete charging information are in Service Manual RS6200006.

NOTE: Superheat adjustments should not be made until indoor ambient conditions have stabilized. This could take up to 24 hours depending on indoor temperature and humidity. Before checking superheat run the unit in cooling for 10-15 minutes or until refrigerant pressures stabilize. Use the following guidelines and methods to check unit operation and ensure that the refrigerant charge is within limits.

The outdoor temperature must be 60°F or higher. Set the room thermostat to COOL, fan switch to AUTO, and set the temperature control well below room temperature.

Units matched with indoor coils equipped with a non-adjustable TXV should be charged by Subcooling only. Superheat on indoor coils with adjustable TXV valves are factory set and no adjustment is normally required during startup. Only in unique applications due to refrigerant line length, differences in height between the indoor and outdoor unit and refrigerant tubing sizes or poor performance should Superheat setting require adjustment. These adjustments should only be performed by qualified service personnel. For detailed charge and TXV adjustments refer to the appropriate Service Manual.

Fixed Orifice

CAUTION

To prevent personal injury, carefully connect and disconnect manifold gauge hoses. Escaping liquid refrigerant can cause burns. Do not vent refrigerant into the atmosphere. Recover all refrigerant during system repair and before final unit disposal.

1. Purge gauge lines. Connect service gauge manifold to base-valve service ports. Run system at least 10 minutes to allow pressure to stabilize.
2. Temporarily install a thermometer 4-6” from the compressor on the suction line. Ensure the thermometer makes adequate contact and is insulated for best possible readings. Use vapor temperature to determine superheat.
3. Refer to the superheat table provided for proper system superheat. Add charge to lower superheat or recover charge to raise superheat.
4. Disconnect manifold set, installation is complete. **Superheat Formula = Suct. Line Temp. - Sat. Suct. Temp.**

System Superheat Targets for Piston Match-ups (+/- 1.0 °F)									
Outdoor Dry Bulb Temperature, °F	**Indoor Wet Bulb Temperature, °F**								
	55	**57**	**59**	**61**	**63**	**65**	**67**	**69**	**71**
60	10	13	17	20	23	26	29	30	31
65	8	11	14	16	19	22	26	27	29
70	5	8	10	13	15	19	23	24	25
75	---	---	6	9	11	15	20	21	23
80	---	---	---	---	7	12	17	18	20
85	---	---	---	---	---	8	13	15	16
90	---	---	---	---	---	7	10	11	13
95	---	---	---	---	---	---	7	8	10
100	---	---	---	---	---	---	---	7	8
105	---	---	---	---	---	---	---	---	7
110	---	---	---	---	---	---	---	---	---
115	---	---	---	---	---	---	---	---	---

SUPERHEAT FORMULA = SUCT. LINE TEMP. - SAT. SUCT. TEMP.

SATURATED SUCTION PRESSURE TEMPERATURE CHART	
SUCTION PRESSURE	SATURATED SUCTION TEMPERATURE ºF
PSIG	R-410A
50	1
52	3
54	4
56	6
58	7
60	8
62	10
64	11
66	13
68	14
70	15
72	16
74	17
76	19
78	20
80	21
85	24
90	26
95	29
100	31
110	36
120	41
130	45
140	49
150	53
160	56
170	60

SATURATED LIQUID PRESSURE TEMPERATURE CHART	
LIQUID PRESSURE	SATURATED LIQUID TEMPERATURE ºF
PSIG	R-410A
200	70
210	73
220	76
225	78
235	80
245	83
255	85
265	88
275	90
285	92
295	95
305	97
325	101
355	108
375	112
405	118
415	119
425	121
435	123
445	125
475	130
500	134
525	138
550	142
575	145
600	149
625	152

NOTE: Specifications And Performance Data Listed Herein Are Subject To Change Without Notice.

EXPANSION VALVE SYSTEM

NOTE: Units matched with indoor coils equipped with a TXV should be charged by Subcooling only.

SUBCOOLING FORMULA = SATURATED LIQUID LINE TEMPERATURE - LIQUID LINE TEMPERATURE

1. Purge gauge lines. Connect service gauge manifold to base-valve service ports. Run system at least 10 minutes to allow pressure to stabilize.
2. Clamp a pipe clamp thermometer on the liquid line near the liquid line service valve and 4-6" from the compressor on the suction line.
   a. Ensure the thermometer makes adequate contact to obtain the best possible readings.
   b. The temperature read with the thermometer should be lower than the saturated condensing temperature.
3. The difference between the measured saturated condensing temperature and the liquid line temperature is the liquid Subcooling value.
4. TXV-based systems should have a Subcooling value of 8°F +/- 1°F.
5. Add refrigerant to increase Subcooling and remove refrigerant to decrease Subcooling.

NOTE: Units matched with indoor coils equipped with a TXV should be charged by Subcooling only. Superheat can also be utilized to best verify charge levels with an adjustable TXV and make adjustments when needed in unique applications due to refrigerant line length, differences in height between the indoor and outdoor unit and refrigerant tubing sizes. These adjustments should only be performed by qualified service personnel.

Superheat Settings for Expansion Valve System	
Tonnage	SH at Compressor
1.5	14°F +/- 1°F
2	11°F +/- 1°F
2.5	9°F +/- 1°F
3	9°F +/- 1°F
3.5	9°F +/- 1°F
4	9°F +/- 1°F
5	9°F +/- 1°F

Superheat settings for TXV systems for DX3SE, DX5SE and DX4SE family.

ADVANCED ADJUSTMENT RECOMMENDATIONS

NOTE: Units matched with indoor coils equipped with a TXV should be charged by Subcooling only.

SUPERHEAT FORMULA = SUCTION LINE TEMPERATURE - SATURATED SUCTION TEMPERATURE

1. Clamp a pipe clamp thermometer near the suction line 4-6” from the compressor on the suction line.
   a. Ensure the thermometer makes adequate contact for the best possible readings.
   b. The temperature read with the thermometer should be higher than the saturated suction temperature.
2. The difference between the measured saturated suction temperature and the suction line temperature is the Superheat value.
3. TXV-based systems should have a Superheat value as shown in the table below.
4. Adjust Superheat by turning the TXV valve stem clockwise to **increase** and **counterclockwise** to **decrease**.
   a. If Subcooling and Superheat are low, **adjust** the TXV to the superheat setting specified in the table below and then check Subcooling.
   b. If Subcooling is low and Superheat is high, **add** charge to **raise** Subcooling to 8°F +/- 1°F then check Superheat.
   c. If Subcooling and Superheat are high, **adjust** the TXV valve to the superheat specified in the table below then check the Subcooling value.
   d. If Subcooling is high and Superheat is low, **adjust** the TXV valve to the superheat specified in the table below and **remove** charge to lower the Subcooling to 8°F +/- 1°F.

NOTE: <u>DO NOT</u> adjust the charge based exclusively on suction pressure unless for general charging in the case of a gross undercharge.

NOTE: Check the Schrader ports for leaks and tighten valve cores if necessary. Install caps finger-tight

Superheat Settings for Expansion Valve System	
Tonnage	SH at Compressor
1.5	12°F +/- 1°F
2	12°F +/- 1°F
2.5	9°F +/- 1°F
3	9°F +/- 1°F
3.5	9°F +/- 1°F
4	9°F +/- 1°F
5	9°F +/- 1°F

Superheat settings for TXV systems for DX3SQ and DX4SQ family.

TROUBLESHOOTING INFORMATION

Complaint	No Cooling							Unsatisfactory Cooling					System Operating Pressures				
POSSIBLE CAUSE DOTS IN ANALYSIS GUIDE INDICATE "POSSIBLE CAUSE" SYMPTOM	System will not start	Compressor will not start - fan runs	Compressor and Condenser Fan will not start	Evaporator fan will not start	Condenser fan will not start	Compressor runs - goes off on overload	Compressor cycles on overload	System runs continuously - little cooling	Too cool and then too warm	Not cool enough on warm days	Certain areas to cool others to warm	Compressor is noisy	Low suction pressure	Low head pressure	High suction pressure	High head pressure	Test Method Remedy
Power Failure	•																Test Voltage
Blown Fuse	•		•	•													Impact Fuse Size & Type
Loose Connection	•			•	•	•											Inspect Connection - Tighten
Shorted or Broken Wires	•	•	•	•	•	•											Test Circuits with Ohmmeter
Open Overload				•	•												Test Continuity of Overloads
Faulty Thermostat	•		•	•					•								Test Continuity of Thermostat and Wiring
Faulty Transformer	•		•														Check Control Circuit with Voltmeter
Shorted or Open Capacitor		•		•	•	•											Test Capacitor
Internal Compressor Overload Open		•															Test Continuity of Overload
Shorted or Grounded Compressor		•				•											Test Motor Windings
Compressor Stuck	•					•											Use Test Cord
Faulty Compressor Contactor	•	•	•			•											Test Continuity of Coil and Contacts
Faulty Fan Relay				•													Test Continuity of Coil and Contacts
Open Control Circuit																	Test Control Circuit with Voltmeter
Low Voltage		•				•	•										Test Voltage
Faulty Evaporator Fan Motor				•									•				Repair or Replace
Shorted or Grounded Fan Motor				•	•											•	Test Motor Windings
Improper Cooling Anticipator									•								Check Resistance of Anticipator
Shortage or Refrigerant							•	•					•	•			Test For Leaks, Add Refrigerant
Restricted Liquid Line							•	•					•	•			Replace Restricted Part
Undersized Liquid Line								•		•			•				Replace Line
Undersized Suction Line													•				Replace Line
Not Enough Air across Indoor Coil								•		•	•		•				Speed Blower, Check Duct Static Pressure
Too Much Air across Indoor Coil															•		Reduce Blower Speed
Overcharge of Refrigerant						•	•					·			•	•	Recover Part of Charge
Noncondensibles							•			•						•	Recover Charge, Evacuate, Recharge
Recirculation of Condensing Air							•			•						•	Remove Obstruction to Air Flow
Infiltration of Outdoor Air								•		•	•						Check Windows, Doors, Vent Fans, Etc.
Improperly Located Thermostat									•								Relocate Thermostat
Air Flow Unbalanced									•		•						Readjust Air Volume Dampers
System Undersized								•		•							Refigure Cooling Load
Broken Internal Parts												•					Replace Compressor
Broken Valves												•					Test Compressor Efficiency
Inefficient Compressor								•						•	•		Test Compressor Efficiency
High Pressure Control Open			•														Reset and Test Control
Unbalanced Power, 3PH		•				•	•										Test Voltage
Wrong Type Expansion Valve						•	•			•							Replace Valve
Expansion Valve Restricted						•	•	•		•			•	•			Replace Valve
Oversized Expansion Valve												•			•		Replace Valve
Undersized Expansion Valve						•	•	•		•			•				Replace Valve
Expansion Valve Bulb Loose												•			•		Tighten Bulb Bracket
Inoperative Expansion Valve						•		•					•				Check Valve Operation
Loose Hold-down Bolts												•					Tighten Bolts

FOR DETAILED SERVICE INFORMATION, REFER TO THE REMOTE CONDENSING UNIT SERVICE MANUAL.

NOTICE

UNITS WITH ROTARY OR RECIPROCATING COMPRESSORS AND NON-BLEED TXV'S REQUIRE A HARD START KIT.

SPLIT SYSTEMS

AIR CONDITIONING AND HEAT PUMP HOMEOWNER'S ROUTINE MAINTENANCE RECOMMENDATIONS

*We strongly recommend a bi-annual maintenance checkup be performed before the heating and cooling seasons begin by a **qualified servicer**.*

REPLACE OR CLEAN FILTER

IMPORTANT NOTE: NEVER OPERATE UNIT WITHOUT A FILTER INSTALLED AS DUST AND LINT WILL BUILD UP ON INTERNAL PARTS RESULTING IN LOSS OF EFFICIENCY, EQUIPMENT DAMAGE AND POSSIBLE FIRE.

An indoor air filter must be used with your comfort system. A properly maintained filter will keep the indoor coil of your comfort system clean. A dirty coil could cause poor operation and/or severe equipment damage.

Your air filter or filters could be located in your furnace, in a blower unit, or in "filter grilles" in your ceiling or walls. The installer of your air conditioner or heat pump can tell you where your filter(s) are, and how to clean or replace them.

Check your filter(s) at least once a month. When they are dirty, replace or clean as required. Disposable type filters should be replaced. Reusable type filters may be cleaned.

You may want to ask your dealer about high efficiency filters. High efficiency filters are available in both electronic and non-electronic types. These filters can do a better job of catching small airborne particles.

COMPRESSOR

The compressor motor is hermetically sealed and does not require additional oiling.

MOTORS

Indoor and outdoor fan motors are permanently lubricated and do not require additional oiling.

CLEAN OUTSIDE COIL (QUALIFIED SERVICER ONLY)

WARNING

HIGH VOLTAGE!
DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

Air must be able to flow through the outdoor unit of your comfort system. Do not construct a fence near the unit or build a deck or patio over the unit without first discussing your plans with your dealer or other qualified servicer. Restricted airflow could lead to poor operation and/or severe equipment damage.

Likewise, it is important to keep the outdoor coil clean. Dirt, leaves, or debris could also restrict the airflow. If cleaning of the outdoor coil becomes necessary, hire a qualified servicer. Inexperienced people could easily puncture the tubing in the coil. Even a small hole in the tubing could eventually cause a large loss of refrigerant. Loss of refrigerant can cause poor operation and/or severe equipment damage.

Do not use a condensing unit cover to "protect" the outdoor unit during the winter, unless you first discuss it with your dealer. Any cover used must include "breathable" fabric to avoid moisture buildup.

BEFORE CALLING YOUR SERVICER

- Check the thermostat to confirm that it is properly set.
- Wait 15 minutes. Some devices in the outdoor unit or in programmable thermostats will prevent compressor operation for awhile, and then reset automatically. Also, some power companies will install devices which shut off air conditioners for several minutes on hot days. If you wait several minutes, the unit may begin operation on its own.

CAUTION

TO AVOID THE RISK OF EQUIPMENT DAMAGE OR FIRE, INSTALL THE SAME AMPERAGE BREAKER OR FUSE AS YOU ARE REPLACING. IF THE CIRCUIT BREAKER OR FUSE SHOULD OPEN AGAIN WITHIN THIRTY DAYS, CONTACT A QUALIFIED SERVICER TO CORRECT THE PROBLEM.
IF YOU REPEATEDLY RESET THE BREAKER OR REPLACE THE FUSE WITHOUT HAVING THE PROBLEM CORRECTED, YOU RUN THE RISK OF SEVERE EQUIPMENT DAMAGE.

- Check the electrical panel for tripped circuit breakers or failed fuses. Reset the circuit breakers or replace fuses as necessary.
- Check the disconnect switch near the indoor furnace or blower to confirm that it is closed.
- Check for obstructions on the outdoor unit. Confirm that it has not been covered on the sides or the top. Remove any obstruction that can be safely removed. If the unit is covered with dirt or debris, call a qualified servicer to clean it.
- Check for blockage of the indoor air inlets and outlets. Confirm that they are open and have not been blocked by objects (rugs, curtains or furniture).
- Check the filter. If it is dirty, clean or replace it.
- Listen for any unusual noise(s), other than normal operating noise, that might be coming from the outdoor unit. If you hear unusual noise(s) coming from the unit, call a qualified servicer.

START-UP CHECKLIST

Condenser / Heat Pump (including all Inverter)					
	Model Number				
	Serial Number				
ELECTRICAL (Outdoor Unit)					
Line Voltage (Measure L1 and L2 Voltage)	L1 - L2				
Secondary Voltage (Measure Transformer Output Voltage) **NOT ALL MODELS**	R - C				
Compressor Amps					
Condenser Fan Amps					
TEMPERATURES (Indoor Unit)					
Return Air Temperature (Dry bulb / Wet bulb)			DB °F		WB °F
Cooling Supply Air Temperature (Dry bulb / Wet bulb)			DB °F		WB °F
Delta T (Difference between Supply and Return Temperatures)			DB °F		
PRESSURES / TEMPERATURES (Outdoor Unit)					
Suction Circuit (Pressure / Suction Line Temperature)	PSIG			TEMP	°F
Liquid Circuit (Pressure / Liquid Temperature)	PSIG			TEMP	°F
Outdoor Air Temperature (Dry bulb / Wet bulb)			DB °F		WB °F
SUPERHEAT / SUBCOOLING	SH			SC	
Line set length in Feet					
Additional Refrigerant Charge Added over Factory Charge (Ounces)					
Additional Checks					
Check wire routings for any rubbing					
Check factory wiring and wire connections.					
Check product for proper clearances as noted by installtion instructions					
°F to °C formula: (°F - 32) divided by 1.8 = °C **°C to °F formula: (°C multiplied by 1.8) + 32 = °F**					

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CUSTOMER FEEDBACK

Daikin is very interested in all product comments.
Please fill out the feedback form on the following link:
https://daikincomfort.com/contact-us
You can also scan the QR code on the right to be directed to the feedback page.

PRODUCT REGISTRATION

Thank you for your recent purchase. Though not required to get the protection of the standard warranty, registering your product is a relatively short process, and entitles you to additional warranty protection, except that failure by California and Quebec residents to register their product does not diminish their warranty rights. The duration of warranty coverages in Texas differs in some cases.

For Product Registration, please register by following this link:
https://daikincomfort.com/owner-support/product-registration
You can also scan the QR code on the right to be directed to the Product Registration page.

19001 Kermier Rd. Waller, TX 77484
www.daikincomfort.com

GAS-FIRED WARM AIR FURNACE
USER'S INFORMATION MANUAL

⚠ WARNING

IF THE INFORMATION IN THESE INSTRUCTIONS IS NOT FOLLOWED EXACTLY, A FIRE OR EXPLOSION MAY RESULT CAUSING PROPERTY

– DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY – OTHER APPLIANCE.

- DO NOT TRY TO LIGHT ANY APPLIANCE.
- DO NOT TOUCH ANY ELECTRICAL SWITCH; DO NOT USE ANY PHONE IN YOUR BUILDING.
- IMMEDIATELY CALL YOUR GAS SUPPLIER FROM A NEIGHBOR'S PHONE. FOLLOW THE GAS SUPPLIER'S INSTRUCTIONS.
- IF YOU CANNOT REACH YOUR GAS SUPPLIER, CALL THE FIRE DEPARTMENT.

– INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR THE GAS

Installer *- Affix this manual, Installation Guide, and Warranty adjacent to the appliance.*

Owner *- Read and keep all product literature in a safe place for future reference.*

⚠ WARNING

SHOULD OVERHEATING OCCUR OR THE GAS SUPPLY FAIL TO SHUT OFF, TURN OFF THE MANUAL GAS SHUTOFF VALVE EXTERNAL TO THE FURNACE BEFORE TURNING OFF THE ELECTRICAL SUPPLY.

⚠ WARNING

TO PREVENT POSSIBLE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH DUE TO ELECTRICAL SHOCK, THE FURNACE MUST BE LOCATED TO PROTECT THE ELECTRICAL COMPONENTS FROM WATER.

⚠ WARNING

PRODUCT CONTAINS FIBERGLASS WOOL. DISTURBING THE INSULATION IN THIS PRODUCT DURING INSTALLATION, MAINTENANCE OR REPAIR WILL EXPOSE YOU TO FIBERGLASS WOOL. BREATHING THIS MAY CAUSE LUNG CANCER. (FIBERGLASS WOOL IS KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.) TO REDUCE EXPOSURE OR FOR FURTHER INFORMATION, CONSULT MATERIAL SAFETY DATA SHEETS AVAILABLE FROM THE ADDRESS SHOWN BELOW.

⚠ RECOGNIZE THIS SYMBOL AS A SAFETY PRECAUTION.

HID-2004
7/2014

5151 San Felipe St., Suite 500, Houston, TX 77056
www.daikincomfort.com

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Dear Homeowner, please recognize the following safety information. This information will alert you to the potential for personal injury.

WARNING - Indicate hazards or unsafe practices which **COULD** result in severe personal injury or death.

WARNING

THIS PRODUCT CONTAINS OR PRODUCES A CHEMICAL OR CHEMICALS WHICH MAY CAUSE SERIOUS ILLNESS OR DEATH AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM.

WARNING

TO AVOID POSSIBLE EQUIPMENT DAMAGE, PERSONAL INJURY, FIRE OR DEATH, THE FOLLOWING INSTRUCTIONS MUST BE OBSERVED REGARDING UNIT LOCATION, AIR REQUIREMENTS AND OPERATING PROCEDURES.

WARNING

HEATING UNIT SHOULD NOT BE UTILIZED WITHOUT REASONABLE, ROUTINE, INSPECTION, MAINTENANCE AND SUPERVISION. IF THE BUILDING IN WHICH ANY SUCH DEVICE IS LOCATED WILL BE VACANT, CARE SHOULD BE TAKEN THAT SUCH DEVICE IS ROUTINELY INSPECTED, MAINTAINED AND MONITORED. IN THE EVENT THAT THE BUILDING MAYBE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ALL WATER-BEARING PIPES SHOULD BE DRAINED, THE BUILDING SHOULD BE PROPERLY WINTERIZED, AND THE WATER SOURCE CLOSED. IN THE EVENT THAT THE BUILDING MAY BE EXPOSED TO FREEZING TEMPERATURES AND WILL BE VACANT, ANY HYDRONIC COIL UNITS SHOULD BE DRAINED AS WELL AND, IN SUCH CASE, ALTERNATIVE HEAT SOURCES SHOULD BE UTILIZED.

Important Note to the Owner regarding Product Limited Warranty

Your limited warranty certificate is supplied as a separate document with the unit installed by your contractor. Read the limited warranty certificate carefully to determine what is and is not covered and keep the warranty certificate in a safe place. If you are unable to locate the warranty certificate please contact your installing contractor or contact customer service (855-770-5678) to obtain a copy.

Before using this manual, check the serial plate for proper model identification.

The installation and servicing of this equipment must be performed by qualified, experienced technicians only.

Unit Location

1. The furnace area and the vicinity of any other gas appliances must be kept clear and free of combustible materials, gasoline, and other flammable vapors and liquids. Also, do not store or use flammable items such as paint, varnish, or lacquer in the area.
2. Do not store or use chlorine or fluorine products (bleaches, cements, strippers, aerosols) near the unit. They can corrode the heat exchanger.
3. Do not use the furnace closet as storage for brooms, mops, brushes and oily rags or cloths. The area must be kept clear, clean and free of lint. Furnace must be kept free and clear of exposed or loose insulation materials in the area of installation. Examine the furnace area when the furnace or additional insulation is added since some insulation materials may be combustible.
4. Make sure the furnace is always connected to an approved vent, in good condition, to carry combustion products outdoors.
5. Familiarize yourself with the controls that shut off the gas and electrical power to the furnace. If the furnace is to be shut down at the end of the heating season, turn off both the gas and electrical power. For safety, always turn the gas and electrical power off before performing service or maintenance on the furnace.
6. Establish a regular maintenance schedule to insure efficient and safe operation of the furnace. The furnace should be checked at the beginning of each heating and cooling season by a qualified service technician.

WARNING

TO AVOID PERSONAL INJURY OR FIRE, MINIMUM CLEARANCES TO COMBUSTIBLE SURFACES MUST BE FOLLOWED.

7. Make certain the required clearances for the furnace are always maintained. These clearances are listed on the furnace clearance label. If any question develops, contact the installer of the furnace or another qualified servicer.

Unit Installation

Examine the furnace installation to determine the following:

1. All flue product carrying passages external to the furnace (i.e. chimney, vent connector) are clear and free of obstructions.
2. The vent connector is in place, slopes upward and is physically sound without holes or excessive corrosion.
3. The return air duct connection is physically sound, sealed to the furnace casing, and terminates outside the space containing the furnace.
4. The physical support of the furnace is sound without sagging, cracks, or gaps around the base so as to provide a seal between the support and the base.
5. There are no obvious signs of deterioration of the furnace.
6. Check for proper burner flame performance. Flame should extend directly outward from burners without curling, floating, or lifting off.

Air Requirements

WARNING

To avoid property damage, personal injury or death, sufficient fresh air for proper combustion and ventilation of flue gases must be supplied. Most homes require outside air be supplied into the furnace area.

Improved construction and additional insulation in homes have reduced the heat loss and made these homes much tighter around doors and windows so that air infiltration is minimal. This creates a problem to supply ventilation and/or combustion air for gas fired or other fuel burning appliances. Any use of appliances that pull air out of the house (clothes dryers, exhaust fans, fireplaces, water heaters, non-direct vent furnaces, etc.) could reduce combustion air to the furnace.

If fuel-burning appliances are starved for air, the flue gases produced may not vent outdoors properly. These flue gases may include carbon monoxide.

DANGER

CARBON MONOXIDE POISONING HAZARD

Special warning for installation of furnaces or air handling units in enclosed areas such as garages, utility rooms or parking areas. Carbon monoxide producing devices (such as automobiles, space heaters, gas water heaters, etc.) should not be operated in enclosed areas such as unventilated garages or utility rooms because of the danger of carbon monoxide (CO) poisoning resulting from the exhaust emissions. If a furnace or air handler is installed in an enclosed area and a carbon monoxide producing device is operated therein, there must be adequate direct outside ventilation. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode. CO can cause serious illness including permanent brain damage or death.

DANGER

RISQUE D'EMPOISONNEMENT AU MONOXYDE DE CARBONE

Avertissement special au sujet de l'installation d'appareils de chauffage ou de traitement d'air dans des endroits clos, tets les garages, les locaux d'entretien et les Stationnements. Evitez de mettre en marche les appareils produisant du monoxyde de carbone (tels que les automobile, les appareils de chauffage autonome,etc.) dans des endroits non ventilés tels que les d'empoisonnement au monoxyde de carbone. Si vous devez faire fonctionner ces appareils dans un endroit clos, assures-vous qu'il y ait une ventilation directe provenant de l'exterier . Les émissions de monoxyde de carbone peuvent etre recircules dans les endroits clos, si l'appareil de chauffage ou de traitement d'air sont en marche. Le monoxyde de carbone peut causer des maladies graves telles que des dommages permanents au cerveau et meme la mort.

PELIGRO

RIESGO DE INTOXICACIÓN POR MONÓXIDO DE CARBONO

Advertencia especial para la instalación de calentadores ó manejadoras de aire en áreas cerradas como estacionamientos ó cuartos de servicio. Los equipos ó aparatos que producen monóxido de carbono (tal como automóvil, calentador de gas, calentador de agua por medio de gas, etc) no deben ser operados en áreas cerradas debido al riesgo de envenenamiento por monóxido de carbono (CO) que resulta de las emisiones de gases de combustión. Si el equipo ó aparato se opera en dichas áreas, debe existir una adecuada ventilación directa al exterior. Las emisiones de monóxido de carbono pueden circular a través del aparato cuando se opera en cualquier modo. El monóxido de carbono puede causar enfermedades severas como daño cerebral permanente ó muerte.

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Carbon monoxide or “CO” is a colorless and odorless gas produced when fuel is not burned completely or when the flame does not receive sufficient oxygen.

Be aware of these air starvation signals which indicate conditions that my result in carbon monoxide or that carbon monoxide may be present:

1. Headaches, Nausea, Dizziness, Flu-like symptoms.
2. Excessive humidity, heavily frosted windows or a moist “clammy” feeling in the home.
3. Smoke from a fireplace will not draw up the chimney.
4. Flue gases that will not draw up the appliance vent pipe.

Combustion Air

The air for combustion and ventilation can also (where local codes permit) be obtained from the surrounding unconfined space or louvered closet door. Observe the following precautions concerning air availability:

- When a furnace is installed in a closet and the closet door is louvered, DO NOT OBSTRUCT LOUVERS. Louvers must be open and clear to provide combustion air to the furnace.
- When a furnace is installed in a confined space within a home and the air for combustion and ventilation enters the space through ducts from the outside, be sure to routinely check the entering and outlet, grilled openings to verify that they are always clear and clean.
- Do not partition off a small area around the furnace utilizing a non-louvered door. This could obstruct the combustion air from reaching the furnace.

Indoor Humidity

Relative humidity is the amount of water vapor in the air relative to the amount the air can hold at the same temperature. The colder the air; the less moisture it can hold. As air is warmed, its ability to hold moisture is increased. Relative humidity is important to your health and home as proper humidification helps reduce respiratory difficulties and helps improve the indoor air quality.

A good relative humidity is one just high enough to barely start condensation along the lower edges or lower corners of the windows. More than that can be damaging.

Frequent fogging or excessive condensation on inside windows indicates the indoor humidity level is too high for outdoor weather conditions. Damage to the building may result if the condition persists. Condensation on inside of storm windows indicates a poor seal inside windows. Adding weather-stripping to tighten inside windows usually corrects this problem.

The following table shows the recommended maximum indoor humidity in relationship to the outdoor temperatures.

Outdoor Temperature	Humidity	
	Single -Paned Glass	Double-Paned Glass
+30°F	30%	50%
+20°F	20%	40%
+10°F	15%	35%
0°F	10%	30%
-10°F	5%	25%
-20°F	5%	20%
-30°F	3%	18%

Propane (LP) Gas Installations Only

For furnaces operating on propane gas, please review the following warnings before use.

WARNING

To avoid property damage, personal injury or death, due to explosion or fire, install a gas detecting warning device. Since the odorant in propane gas can be reduced by iron oxide (rust), a gas detecting warning device is the only reliable method to detect propane gas leaks.

WARNING

If the gas furnace is installed in a basement, an excavated area or confined space, it is strongly recommended to contact a propane supplier to install a gas detecting warning device in case of a gas leak.

- **Since propane gas is heavier than air, any leaking gas can settle in any low areas or confined spaces.**
- **Propane gas odorant may fade, making the gas undetectable**

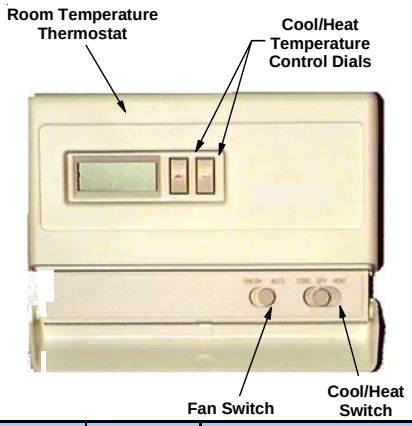
WARNING

An undetected gas leak will create a danger of explosion or fire. If the presence of gas is suspected, follow the instructions on the cover of this manual. Failure to do so could result in SERIOUS PERSONAL INJURY OR DEATH.

Thermostat Functions

There are many types and styles of thermostats but operation is usually similar. BE SURE TO BECOME FAMILIAR WITH YOUR THERMOSTAT. The simplest type of thermostat only starts and stops the furnace to maintain the desired room temperature. The most widely used types will control both heating and cooling functions and will have a Fan Switch with Auto and ON settings. On Auto, the circulating air blower will cycle on/off with the furnace but if switched to ON it will run continuously regardless of whether or not heating or cooling is being provided.

In addition, there are thermostats which automatically switch from heating to cooling mode and those with night set back capability. The night set back, or multiple set back, type allows for a different temperature at night or during the day when no one is at home. Programmable thermostats will allow for more control and tailoring of the heating and cooling functions. The level of this control depends on the type of thermostat applied.



System Switch	Fan Switch	Action
OFF	AUTO	None
COOL	AUTO	System only cools, fan cycles off and on.
COOL	ON	System only cools, fan runs all the time.
HEAT	AUTO	System only heats, fan cycles off and on.
HEAT	ON	System only heats, fan runs all the time.
OFF	ON	No heating or cooling, fan runs all the time.

If this furnace is a part of the Daikin ComfortNet™ family of products, a ComfortNet thermostat may also be used to control this furnace. This thermostat is a programmable type that allows the setting of different temperatures during the night and during the day. It may also be set to automatically switch from heating to cooling. The fan switch may also be set to ON or Auto. The ComfortNet™ system also includes advanced set up and diagnostic features which is explained in the ComfortNet User Manual provided with the control.

Furnace Operation

WARNING

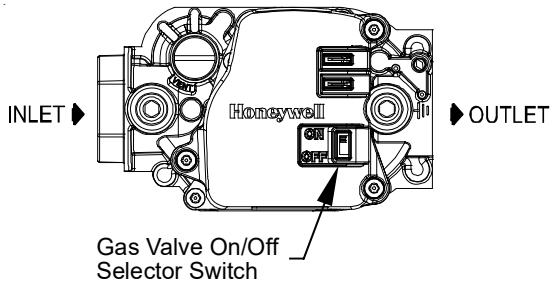
Electrical components are contained in both compartments. To avoid personal injury, electrical shock or death, do not remove any internal compartment covers. Contact a qualified servicer at once if an abnormal condition is noticed.

Keep both doors in place except for inspection and maintenance. An interlock switch prevents furnace operation if the blower door is not in place.

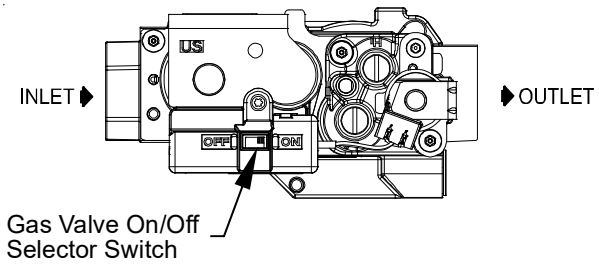
Furnace Start-Up

1. Close the external manual gas shut-off valve.
2. Turn off the electrical power to the furnace.
3. Set the room thermostat to the lowest possible setting.
4. Remove the burner compartment door.

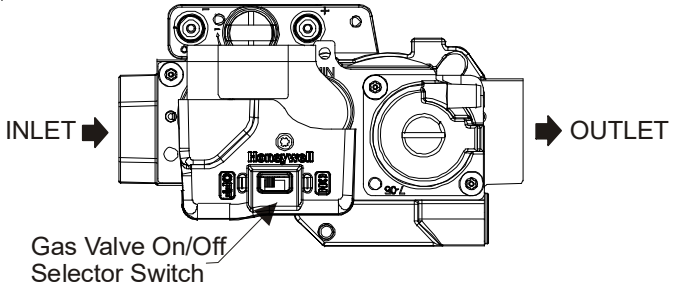
5. This furnace is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
6. Move the furnace's gas valve ON/OFF switch to the OFF position.
7. Wait five minutes to clear out any gas. Then smell for gas, including near the floor as some types of gas are heavier than air.
8. If you smell gas following the five minute waiting period in step 7, immediately follow the instructions on the cover of this manual. If you do not smell gas after five minutes, move the furnace's gas valve ON/OFF switch to the ON position.
9. Replace the burner compartment door.
10. Open the external manual gas shut-off valve.
11. Turn on the electrical power to the furnace.
12. Adjust the thermostat to a setting above room temperature.
13. After the burners are lit, set the thermostat to desired temperature.



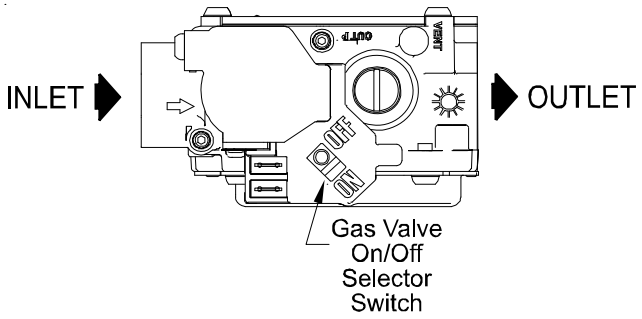
Honeywell Model VR8215 (Single-Stage)



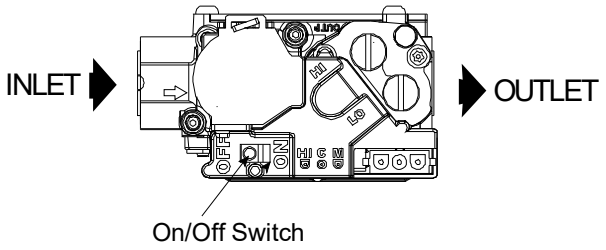
Honeywell Model VR9205 (Two-Stage)



Honeywell Model VR9205R (Modulating Gas Valve)



White-Rodgers Model 36G22/36J22 (Single-Stage)



White-Rodgers Model 36G54/36J54 (Two-Stage)

Furnace Shut Down

To shut down your furnace, follow the steps listed below.

1. Set the thermostat to the lowest setting.
2. Integrated control closes gas valve extinguishing flame.
3. Induced draft blower is de-energized following a 15 second delay. The circulator blower is de-energized following a 90, 120, 150, or 180 second delay period.
4. Remove the burner compartment door.
5. Move the furnace's gas valve ON/OFF switch to the OFF position.
6. Close the external manual gas shut-off valve.
7. Replace the burner compartment door.

Lockout Reset

Furnace lockout is characterized by a non-functioning furnace (circulator blower may be running continuously) providing a diagnostic LED code. Lockout results when a furnace control detects abnormal conditions. If the furnace is in "lockout", it may be reset by any of the following methods:

1. One hour automatic reset. Control will automatically reset itself and attempt to resume normal operations following a one hour lockout period.
2. Power interruption. Interrupt 115 volt power to the furnace for greater than 20 seconds.
3. Thermostat cycle. Interrupt thermostat signal to the furnace for between 0 and 20 seconds.

If the condition which originally caused the lockout still exists, the control will return to lockout. If your furnace frequently locks out, a problem exists which must be corrected. Contact a qualified servicer.

Routine Maintenance

Maintenance is to be performed by a qualified service technician only. User maintenance is to be restricted to frequent air filter changes and to ensure the warnings and notices found elsewhere in this manual be followed. We recommend that at a minimum system maintenance be performed by a qualified service technician prior to the beginning of each heating season, and if equipped with air conditioning, prior to air conditioning season.

⚠ WARNING

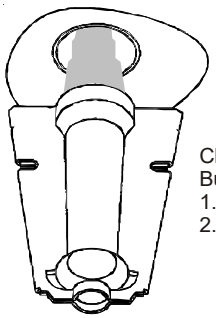
Personal injury or death may result from improper maintenance performed by untrained personnel. Call your installing dealer or other qualified service companies to perform the maintenance inspection.

⚠ WARNING

To prevent personal injury or death due to electric shock, disconnect electrical power before servicing this unit.

Annual Inspection

The furnace should be inspected by a qualified installer, or service agency at least once per year. This check should be performed at the beginning of the heating season by a qualified technician. This will insure that all furnace components are in proper working order and that the heating system functions appropriately. Particular attention should be paid to the following items. Repair or service as necessary.



Check the
Burner Flames for:
1. Stable, soft and blue.
2. Not curling, floating or lifting off.

- Flue pipe system. Check for blockage and/or leakage. Check the outside termination and the connections at and internal to the furnace.
- Combustion air intake pipe system (where applicable). Check for blockage and/or leakage. Check the outside termination and the connection at the furnace.
- Heat exchanger. Check for corrosion and/or buildup within the heat exchanger passageways.
- Burners. Check for proper ignition, burner flame, and flame sense. Flames should extend directly outward from burners without curling, floating or lifting off.
- Wiring. Check electrical connections for tightness and/or corrosion. Check wires for damage.
- Drainage system. Check for blockage and/or leakage. Check hose connections at and internal to furnace.
- Filters. Check that filters are clean and in the proper placement in the furnace or duct system.

Motors

The combustion air motor and indoor blower motor are permanently lubricated and require no further lubrication.

Filters

⚠ WARNING

To avoid property damage, personal injury or death, disconnect electrical power before removing filters or performing any other maintenance. Never operate furnace without a filter installed because dust and lint will build up on internal parts resulting in loss of efficiency, equipment damage or possible fire.

A return air filter is not supplied with this furnace and cannot be installed inside the cabinet; however, a means of filtering all of the return air (intake) must be provided. Your installer will supply filters at the time of installation. Become familiar with filter location and procedures for removing, cleaning and replacing them.

If you need assistance, contact the installer of your furnace or another qualified servicer.

Filters must be inspected, cleaned or changed every two months or as required. As a homeowner, it is your personal responsibility to keep air filters clean. Remember that dirty filters are the most common cause of inadequate heating or cooling performance.

Filter Removal

Depending on the installation, differing filter arrangements can be applied. Filters can be located in a central return grille or a side panel external filter rack (upflow only). To remove filters from an external filter rack, follow the directions provided with external filter rack kit

Horizontal Unit Filter Removal

Filters in horizontal installations are located in the central return register or the ductwork near the furnace.

To remove:

1. Turn OFF electrical power to furnace.
2. Remove filter(s) from the central return register or ductwork.
3. Replace filter(s) by reversing the procedure for removal.
4. Turn ON electrical power to furnace.

To remove all other filter configurations, consult with the installing contractor.

Media Air Filter or Electronic Air Cleaner Removal

High efficiency filters are available in both electronic and non-electronic types. These filters can do a better job of catching small airborne particles. Contact your dealer for further information.

If using a Media or Electronic Air Cleaner, follow the directions provided with the air cleaner for proper filter removal, cleaning, and replacement.

Filter Cleaning and/or Replacement

Disposable filters must be replaced with a filter or filters of the same size as that which is removed. Filters must comply with UL900 or CAN/ULC-S111 Standards.

Permanent filters must be cleaned, washed, and dried as specified by the filter manufacturer. If it becomes necessary to replace a permanent filter, it must be replaced with a filter or filters of the same size as that which is removed. Filters must comply with UL900 or CAN/ULC-S111 Standards.

When reinstalling filters, be careful to maintain correct airflow direction.

Troubleshooting / Before You Request a Service Call

If your furnace is not operating or is performing improperly, take time to perform the following checks before requesting service. A couple of simple checks may allow you to avoid a service call. If the following steps do not resolve the problem, contact a qualified servicer for further troubleshooting and/or repairs. Do not attempt troubleshooting beyond that which is outlined in the following bullet points. Do not attempt repairs yourself.

- Check the blower compartment sight glass. If LED is flashing, record the number of flashes seen in sequence, shutdown your unit as outlined in the “Furnace Start-up” section and contact a qualified servicer for further troubleshooting and/or repairs. Refer to Installation Instructions for code identification. If not flashing, continue with checks.
- Check thermostat for proper operation. Verify that it is set on HEAT and that temperature (above room temperature) setting is appropriate.
- Check the electrical panel for tripped circuit breakers or failed fuses. Reset the circuit breakers or replace fuses as necessary.
- Check to see that the manual gas shut-off valve external to the furnace is in the ON position. If the valve is in the OFF position, turn the gas ON following the start up procedures outlined in the “Furnace Start-up” section.
- Check for dirty filter(s). This in the most common cause of improper furnace operation. Check your filter(s) at least once a month and replace or clean filters as necessary.
- Check for blocked return air or supply air grilles throughout your home. Grilles may be blocked by furniture, drapery, clothes, carpeting, etc. Clear any blockage.
- Check intake and vent terminations on high efficiency furnaces to make sure they are not blocked.
- If your furnace is part of a ComfortNet™ system, check the ComfortNet thermostat for diagnostic alerts or messages. If the system detects a serious fault in either the furnace or outdoor unit, the thermostat will display a “CALL FOR SERVICE” message and scroll the message “CHECK FURNACE”. The thermostat may also scroll “CHECK AIR CONDITIONER” or “CHECK HEAT PUMP” if a serious fault is detected in the outdoor unit (message depends on type of outdoor unit.).

CHECK AIR CONDITIONER
CHECK AIR HANDLER
CHECK FURNACE
CHECK HEAT PUMP

SAFETY LABELS

NOTE: If safety labels are missing or illegible, contact the installing dealer or our Customer Service Department for ordering information.

FOR YOUR SAFETY READ BEFORE OPERATING

If you do not follow these instructions exactly,a fire or explosion may result causing property damage, personal injury or loss of life.

A. This appliance does not have a pilot. It is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.

B. BEFORE OPERATING 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.

WHAT TO DO IF YOU SMELL GAS

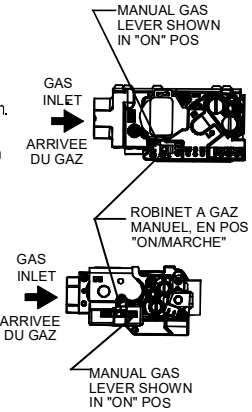
- Do not try to light any appliance.
- Do not touch any electric switch; do not use any phone in your building.
- Immediately call your gas supplier from a neighbor's phone. Follow the gas supplier's instructions.
- If you cannot reach your gas supplier, call the fire department.

C. Use only your hand to push in or turn the gas control lever. Never use tools. If the lever will not push in or turn by hand, don't try to repair it, call a qualified service technician. Force or attempted repair may result in a fire or explosion.

D. Do not use this appliance if any part has been underwater. Immediately call a qualified service technician to inspect the appliance and to replace any part of the control system and any gas control which has been underwater.

OPERATING INSTRUCTIONS

1. STOP! Read the safety infrmation above on this label.
2. Set the thermostat to lowest setting.
3. Turn off all electric power to the appliance.
4. This appliance is equipped with an ignition device which automatically lights the burner. Do not try to light the burner by hand.
5. Push the gas control lever to "OFF" Position. Do not force.
6. Wait five (5) minutes to clear out any gas. Then smell for gas, including near the floor. If you then smell gas, STOP! Follow "B" in the safety. information above on this label if you don't smell gas, go to next step.
7. Push gas control lever to "ON".
8. Replace access panel.
9. Turn on all electric power to the appliance.
10. Set thermostat to desired setting.
11. If the appliance will not operate, follow the instructions "To Turn Off Gas To Appliance" and call your service technician or gas company.



TO TURN OFF GAS TO APPLIANCE

1. Set the thermostat to lowest setting.
2. Turn off all electric power to the appliance if service is to be performed.
3. Push the gas control lever to "OFF" Position. Do not force.
4. Replace control access panel.

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LIRE AVANT DE METTRE EN MARCHELIRE

AVERTISSEMENT: Quiconque ne respecte pas à la lettre les instructions dans le presØnt manuel risque de dØclencher un incendie ou une explosion entraînant des dommages matØriels, des lesions corporelles ou la perte de vies humaines.

A. Cet appareil ne comporte pas de veilleuse. Il est muni d'un dispositif d'allumage qui allume automatiquement le brßleur. Ne pas tenter d'allumer le brßleur manuellement.

B. AVANT DE LE FAIRE FONCTIONNER, renifler tout autour de l'appariel pour decØler une odeur de gaz. Renifler prØs du plancher, car certains gaz sont plus lourds que l'air et peuvent s'accumuler au niveau du sol.

QUE FAIRE S'IL Y A UNE ODEUR DE GAZ

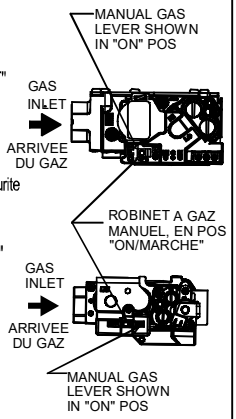
- Ne pas tenter d'allumer d'appareils.
- Ne toucher à aucun interrupteur; ne pas vous servir des tØlØphones dans le bâtiment.
- Appelez immØdiatement votre fournisseur de gaz depuis un voisin. Suivez les instructions du fournisseur de gaz
- Si vous ne pouvez rejoindre le fournisseur de gaz, appelez le service des incendies.»

C. Ne pousser ou tourner la manette d'admission du gaz qu'à la main. Ne jamais emploer d'outil à cette fin. Si la manette reste coincØe, ne tenter pas de la rØparer; appelez un technicien qualifiØ Quiconque tente de forcer la manette ou de la rØparer peut provoquer une explosion ou un incendie.»

D. Ne pas se servir de cet appareil s'il a ØtØ plongØ dans l'eau, mØme partiellement. Faire inspecter l'appareil par un technicien qualifiØ et remplacer toutr partie du systØme de contrôle et toute commande qui ont ØtØ plongØes dans l'eau.»

MISE EN MARCHE

1. ARRÊTEZ Lisez les instructions de sØcuritØ dans la section supØrieure de cette Øtiquette.
2. RØgler le thermostat à la tempØrature la plus basse.
3. Couper l'alimentation Øectrique de l'appareil.
4. Cet appareil menager etant dote d'un systeme d'allumage automatique, ne pas essayer à allumer le brßleur manuellement.
5. Pousse le levier du contrÔle du gaz a "OFF/ ARRET" position.
6. Attendre cinq (5) minutes pour laisser echapper tout le gaz. Renifler tout autour de l'appareil, y compris prØs du plancher, pour dØceler une odeur de gaz. Si c'est le cas, ARRÊTEZ. Passer à l'etape B des instructions de securite sur la portion superieure de cette etiquette. S'il n'y a pas d'odeur de gaz, passer à l'etàpe suivante.
7. Pousse le levier du contrôle du gaz à "ON/MARCHE" position.
8. Remettre en place le panneau d'accØs.
9. Mettre l'appareil sous tension.
10. RØgler le thermostat à la tempØrature dØsirØe.
11. Si l'appareil ne se met pas en marche, suivre les instructions intitulØes Comment couper l'admission de gaz de l'appareil et appeler un technicien qualifiØ ou le fournisseur de gaz.



POUR COUPER L'ADMISSION DE GAZ DE L'APPAREIL

1. RØgler le thermostat à la tempØrature la plus bassØ.
2. Couper l'alimentation Øectrique de l'appareil s'il faut procØder à des operations d'entretien.
3. Pousse le levier du contrôle du gaz à "OFF/ ARRET" position. Ne pas forcer.
4. Remettre en place le panneau d'accØs.

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SAFETY LABELS

⚠ WARNING

RISK OF ELECTRIC SHOCK. CAN CAUSE INJURY OR DEATH: DISCONNECT ALL REMOTE ELECTRIC POWER SUPPLIES BEFORE SERVICING. THIS COMPARTMENT MUST BE CLOSED EXCEPT WHEN SERVICING.

⚠ AVERTISSEMENT

DANGER DE CHOC ÉLETRIQUE OU DE MORT. COUPEZ TOUT LE COURANT AVANT TOUT ENTRETIEN OU REPARATION. LE COMPARTEMENT DOIT RESTER FERMER SAUF PENDANT LÉNTRETIEN.

⚠ ADVERTENCIA

PELIGRO DE CHOQUE ELÉCTRICO O MUERTE. DESCONECTE TODAS LAS FUENTES DE ENERGIA ELÉCTRICA ANTES DE MANTENIMIENTO O SERCICO TECNICO. EL COMPARTIMIENTO DEBE PERMANCECER CERRADO EXCEPTO DURANTE EL SERVICIO DE MANTENIMIENTO.

⚠ WARNING

HEATING UNITS SHOULD NOT BE UTILIZED WITHOUT REASONABLE ROUTINE INSPECTION, MAINTENANCE, AND SUPERVISION. IF THE BUILDING IN WHICH ANY SUCH DEVICE IS LOCATED WILL BE VACANT, CARE SHOULD BE TAKEN THAT SUCH DEVICE IS ROUTINELY INSPECTED, MAINTAINED, AND MONITORED. IN THE EVENT THAT THE BUILING IS EXPOSED TO FREEZING TEMPERATURES, ALL WATER-BEARING PIPES SHOULD BE DRAINED, THE BUILDING SHOULD BE PROPERLY WINTERIZED, AND THE WATER SOURCE CLOSED. SHOULD THE BUILDING BE EXPOSED TO FREEZING TEMPERATURES, ANY HYDRONIC COIL UNITS SHOULD BE DRAINED AS WELL; AND, IN SUCH CASE, ALTERNATIVE HEAT SOURCES SHOULD BE UTILIZED.

⚠ AVERTISSEMENT

UNITÉS DE CHAUFFAGE NE DEVRAIT ÉTRE UTILISÉ SANS RAISONNABLE INSPECTION DE ROUTINE, LA MAINTENANCE ET LA SUPERVISION, SI L'IMMEUBLE DANS LEQUEL UN TEL DISPOSITIF SE TROUVE SERA VACANTE, IL CONVIENT DE VEILLER À CE QUE CE TYPE D'APPAREIL EST RÉGULIÉREMENT INSPECTÉ ET ENTRETENU, ET SURVEILLÉS. DANS LE CAS OÙ L'IMMEUBLE EST EXPOSÉE À DES TEMPÉRATURES DE GEL, TOUTE L'EAU DES TUYAUX DE ROULEMENT DOIT ÉTRE VIDANGÉE, LE BÂTIMENT DEVRAIT ÊTRE CORRECTEMENT URBANO, ET LA SOURCE D'EAU FERMÉ. SI LE BÂTIMENT EST EXPOSÉ À DES TEMPÉRATURES DE GEL, AUCUNE BOBINE HYDRONIQUE UNITÉS DOIT ÊTRE VIDANGÉ AINSI; ET, DANS DE TELS CAS, D'AUTRES SOURCES DE CHALEUR DEVRAIT ÊTRE UTILISÉ.

⚠ WARNING

FIRE, EXPLOSION, AND ASPHYXIATION HAZARD
IMPROPER ADJUSTMENT, ALTERATION, SERVICE, MAINTENANCE OR INSTALLATION CAN CAUSE SERIOUS INJURY OR DEATH.
READ AND FOLLOW INSTRUCTIONS AND PRECAUTIONS IN USER'S INFORMATION MANUAL PROVIDED WITH THIS FURNACE. INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED SERVICE AGENCY OR GAS SUPPLIER.

⚠ AVERTISSEMENT

RISQUE D'INCENDIE ET D'ASPHYXIE
UN RÉGLAGE, UNE MODIFICATION, UNE RÉPARATION, UN ENTRETIEN OU UNE INSTALLATION INCORRECTE PEUT ENTRAINER DES BLESSURES GRAVES OU LA MORT. SUIVEZ LES INSTRUCTION ET LES CONSIGNES DANS LA NOTICE D'UTILISATION QUI ACCOMPAGNE CE GÉNÉRATEUR D'AIR CHAUD. L'INSTALLATION ET L'ENTRETIEN DOIVENT ÉTRE EFFECTUES PAR UN RÉPARATEUR QUALIFIÉ OU PAR LE FOURNISSEUR DE GAZ

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⚠ WARNING: FIRE, EXPLOSION AND ASPHYXIATION HAZARD	⚠ WARNING: FIRE AND EXPLOSION HAZARD
IMPROPER INSTALLATION, ADJUSTMENT, ALTERATION SERVICE OR MAINTENANCE CAN CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH, OR EXPOSURE TO SUBSTANCES IN FUEL OR FROM FUEL COMBUSTION WHICH CAN CAUSE DEATH OR SERIOUS ILLNESS, AND WHICH ARE KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER, BIRTH DEFECTS, OR OTHER REPRODUCTIVE HARM. READ AND FOLLOW INSTRUCTIONS AND PRECAUTIONS IN USER'S INFORMATION MANUAL PROVIDED WITH THIS FURNACE. INSTALLATION AND SERVICE MUST BE PERFORMED BY A QUALIFIED INSTALLER, SERVICE AGENCY OR GAS SUPPLIER.	CAN RESULT IN SERIOUS INJURY OR DEATH. DO NOT STORE OR USE GASOLINE OR OTHER FLAMMABLE VAPORS AND LIQUIDS IN THE VICINITY OF THIS OR ANY OTHER APPLIANCE. STORAGE OF OR USE OF GASOLINE OR OTHER FLAMMABLE VAPORS OR LIQUIDS IN THE VICINITY OF THIS OR ANY APPLIANCE CAN RESULT IN SERIOUS INJURY OR DEATH.
⚠ AVERTISSEMENT: RISQUE D'INCENDIE, D'EXPLOSION ET ASPHYXIE	⚠ AVERTISSEMENT:RISQUE D'INCENDIE ET D'EXPLOSION
UN REGLAGE, UNE MODIFICATION, UN RÉPARATION, UN ENRETIEN OU UNE INSTALLATION INCORRECT PUET ENTRAÎNER DES BLESSURES GRAVES OU LA MORT. SUIVRE LES INSTRUCTION ET LES CONSIGNES QUI FIGURENT DANS LA NOTICE D'UTILISATION QUI ACCOMPAGNE CE GÉNÉRATEUR D'AIR CHAUD. L'INSTALLATION ET L'ENTRETIEN DOIVENT ÊTRE EFFECTURÉS PAR UN RÉPARATEUR QUALIFIÉ OU PAR LE FOURNISSEUR DE GAZ.	RISQUE DE BLESSURES GRAVES OU DE MORT. NE PAS ENTREPOSER NI UTILISER DE L'ESSENCE NI D'AUTRES VAPEURS OU LIQUIDES INFLAMMABLES DANS LE VOISINAGE DE CET APPAREIL, NI DE TOUT AUTRE APPAREIL. LE FAIT D'ENTREPOSER OU D'UTILISER DE L'ESSENCE OU D'AUTRES LIQUIDES OU VAPEURS INFLAMMABLES À PROXIMITÉ DE CET APPAREIL OU DE TOUT AUTRE APPAREIL PEUT CAUSER DES BLESSURES GRAVES OU LA MORT.
SEE INSIDE SURFACE OF BURNER COMPARTMENT DOOR FOR LIGHTING/OPERATING INSTRUCTIONS.	FILTER(S) SHOULD BE INSPECTED FREQUENTLY AND CLEANED WHEN NECESSARY. WHEN REPLACEMENT IS REQUIRED BE SURE TO USE THE SAME TYPE (CLASS 1 OR 2) AND SIZE ORIGINALLY INSTALLED AND THAT IT IS U.L.C.* CERTIFIED. *CANADIAN REQUIREMENT
LES INDICATIONS POUR L 'ECLAIRAGE ET LE SERVICE SE TROUVENT A LA SURFACE INTERIEURE LA PORTE DU COMPARTIMENT DU BRULEUR.	LES FILTRES DOIVENT ETRE FREQUEMMENT INSPECTES ET NETTOYES SI NECESSAIRE. REMPLACES-LES DE FILTRES DU MEME TYPE (CLASSE 1 OU 2) ET FORMAT QUE DANS L'EQUIPEMENT ORIGINAL. CERTIFIES PAR LE U.L.C. 22317001

⚠ DANGER

CARBON MONOXIDE POISONING HAZARD

Special warning for installation of furnaces or air handling units in enclosed areas such as garages, utility rooms or parking areas. Carbon monoxide producing devices (such as automobiles, space heaters, gas water heaters, etc.) should not be operated in enclosed areas such as unventilated garages or utility rooms because of the danger of carbon monoxide (CO) poisoning resulting from the exhaust emissions. If a furnace or air handler is installed in an enclosed area and a carbon monoxide producing device is operated therein, there must be adequate direct outside ventilation. Carbon monoxide emissions can be (re)circulated throughout the structure if the furnace or air handler is operating in any mode. CO can cause serious illness including permanent brain damage or death.

⚠ DANGER

RISQUE D'EMPOISONNEMENT AU MONOXYDE DE CARBONE

Avertissement special au sujet de l'installation d'appareils de chauffage ou de traitement d'air dans des endroits clos, tets les garages, les locaux d'entretien et les Stationnements. Evitez de mettre en marche les appareils produisant du monoxyde de carbone (tels que les automobile, les appareils de chauffage autonome,etc.) dans des endroits non ventilés tels que les d'empoisonnement au monoxyde de carbone. Si vous devez faire fonctionner ces appareils dans un endroit clos, assures-vous qu'il y ait une ventilation directe provenant de l'exterier . Les émissions de monoxyde de carbone peuvent etre recircules dans les endroits clos, si l'appareil de chauffage ou de traitement d'air sont en marche. Le monoxyde de carbone peut causer des maladies graves telles que des dommages permanents au cerveau et meme la mort.

⚠ PELIGRO

RIESGO DE INTOXICACIÓN POR MONÓXIDO DE CARBONO

Advertencia especial para la instalación de calentadores ó manejadoras de aire en áreas cerradas como estacionamientos ó cuartos de servicio. Los equipos ó aparatos que producen monóxido de carbono (tal como automóvil, calentador de gas, calentador de agua por medio de gas, etc) no deben ser operados en áreas cerradas debido al riesgo de envenenamiento por monóxido de carbono (CO) que resulta de las emisiones de gases de combustión. Si el equipo ó aparato se opera en dichas áreas, debe existir una adecuada ventilación directa al exterior. Las emisiones de monóxido de carbono pueden circular a través del aparato cuando se opera en cualquier modo. El monóxido de carbono puede causar enfermedades severas como daño cerebral permanente ó muerte.

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Most questions can be answered by your local dealer. For additional information, please call:

CONSUMER INFORMATION LINE
TOLL FREE
1-855-770-5678 (U.S. only)
email us at: customerservice@daikincomfort.com
fax us at: (731) 856-1821
(Not a technical assistance line for dealers.)

Outside the U.S., call 1-713-861-2500.
(Not a technical assistance line for dealers.)
Your telephone company will bill you for the call.

To obtain the proper labels, the Model Number and Serial Number of the unit must be supplied. These numbers are recorded on the nameplate of the furnace. For convenience, record this information here:

MODEL NUMBER: _____

SERIAL NUMBER: _____

5151 San Felipe St., Suite 500, Houston, TX 77056
www.daikincomfort.com

UPFLOW/DOWNFLOW COILS INSTALLATION INSTRUCTIONS

1. Important Safety Instructions

The following symbols and labels are used throughout this manual to indicate immediate or potential safety hazards. It is the owner's and installer's responsibility to read and comply with all safety information and instructions accompanying these symbols. Failure to heed safety information increases the risk of personal injury, property damage, and/or product damage.

WARNING

HIGH VOLTAGE

DISCONNECT ALL POWER BEFORE SERVICING OR INSTALLING THIS UNIT. MULTIPLE POWER SOURCES MAY BE PRESENT. FAILURE TO DO SO MAY CAUSE PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

WARNING

ONLY PERSONNEL THAT HAVE BEEN TRAINED TO INSTALL, ADJUST, SERVICE, MAINTENANCE OR REPAIR (HEREINAFTER, "SERVICE") THE EQUIPMENT SPECIFIED THIS MANUAL SHOULD SERVICE THE EQUIPMENT.

THIS EQUIPMENT IS NOT INTENDED FOR USE BY PERSONS (INCLUDING CHILDREN) WITH REDUCED PHYSICAL, SENSORY OR MENTAL CAPACITIES, OR LACK OF EXPERIENCE AND KNOWLEDGE, UNLESS THEY HAVE BEEN GIVEN SUPERVISION OR INSTRUCTION CONCERNING USE OF THE APPLIANCE BY A PERSON RESPONSIBLE FOR THEIR SAFETY.

CHILDREN SHOULD BE SUPERVISED TO ENSURE THAT THEY DO NOT PLAY WITH THE EQUIPMENT.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR ANY INJURY OR PROPERTY DAMAGE ARISING FROM IMPROPER SUPERVISION, SERVICE OR SERVICE PROCEDURES. IF YOU SERVICE THIS UNIT, YOU ASSUME RESPONSIBILITY FOR ANY INJURY OR PROPERTY DAMAGE WHICH MAY RESULT. IN ADDITION, IN JURISDICTIONS THAT REQUIRE ONE OR MORE LICENSES TO SERVICE THE EQUIPMENT SPECIFIED IN THIS MANUAL, ONLY LICENSED PERSONNEL SHOULD SERVICE THE EQUIPMENT. IMPROPER SUPERVISION, INSTALLATION, ADJUSTMENT, SERVICING, MAINTENANCE OR REPAIR OF THE EQUIPMENT SPECIFIED IN THIS MANUAL, OR ATTEMPTING TO INSTALL, ADJUST, SERVICE OR REPAIR THE EQUIPMENT SPECIFIED IN THIS MANUAL WITHOUT PROPER SUPERVISION OR TRAINING MAY RESULT IN PRODUCT DAMAGE, PROPERTY DAMAGE, PERSONAL INJURY OR DEATH.

WARNING

DO NOT BYPASS SAFETY DEVICES.

2. Shipping Inspection

Upon receiving the product, inspect it for damage from shipment. Shipping damage, and subsequent investigation is the responsibility of the carrier. Verify the model number, specifications, electrical characteristics, and accessories are correct prior to installation. The distributor or manufacturer will not accept claims from dealers for transportation damage or installation of incorrectly shipped units.

2.1 Handling

Use caution when transporting/carrying unit. Do not carry unit with hooks or sharp object. The preferred method of carrying the unit after arrival at the job site is to carry by two-wheel hand truck from the back or sides or by hand by carrying at the cabinet corners.

3. Codes & Regulations

This product is designed and manufactured to comply with national codes. The Product shall be installed in accordance with national wiring regulations. Installation in accordance with such codes and/or prevailing local codes/regulations is the responsibility of the installer. The manufacturer assumes no responsibility for equipment installed in violation of any codes or regulations.

The United States Environmental Protection Agency (EPA) has issued various regulations regarding the introduction and disposal of refrigerants. Failure to follow these regulations may harm the environment and can lead to the imposition of substantial fines. Should you have any questions please contact the local office of the EPA.

4. Replacement Parts

Inspect the unit to verify all required components are present and intact. Report any missing components immediately to the manufacturer or to the distributor. Make sure to include the full product model number and serial number when reporting and/or obtaining service parts. Replacement parts for this product are available through your contractor or local distributor. For the location of your nearest distributor consult the white business pages, the yellow page section of the local telephone book or contact:

HOMEOWNER SUPPORT
DAIKIN COMFORT TECHNOLOGIES
MANUFACTURING. L.P.
19001 KERMIER ROAD
WALLER, TEXAS 77484
(855) 770-6578

IO-284L
03/2023

5. Pre-Installation Instructions

5.1 Preparation

Keep this document with the unit. Carefully read all instructions for the installation prior to installing product. Make sure each step or procedure is understood and any special considerations are taken into account before starting installation. Assemble all tools, hardware and supplies needed to complete the installation. Some items may need to be purchased locally. Make sure everything needed to install the product is on hand before starting.

5.2 Clearances

Refrigerant lines must be routed depending on configuration of unit to maintain the required 24” minimum clearance for service. Consult all appropriate regulatory codes prior to determining final clearances. In installations that may lead to physical damage (i.e. a garage) it is advised to install a protective barrier to prevent such damage. Always install units such that a positive slope in condensate line (¼” per foot) is allowed.

NOTE: Furnace application requires that the installer MUST review and strictly follow ALL furnace installation clearance guidelines. Failure to do so may result in property/equipment damage, personal injury or death.

CONSULT ALL APPROPRIATE REGULATORY CODES WHEN DETERMINING FINAL CLEARANCES.

6. Application Information

Coils are designed for indoor installation only and must be installed downstream (discharge air) of the furnace. The CAPF/CAPT product line may be installed in upflow or downflow orientations.

7. Condensate Drain Piping

In all cooling applications where condensate overflow may cause damage, a secondary drain pan must be provided by the installer and placed under the entire unit with a separate drain line properly sloped and terminated in an area visible to the owner. This secondary drain pan can provide extra protection to the area under the unit should the primary drain plug up and overflow. As expressed in our product warranty, we will not be liable for any damages, structural or otherwise due to the failure to follow this installation requirement.

Condensate drain connections are located in the drain pan at the bottom of the coil/enclosure assembly. Use the female (¾” FPT) threaded fitting that protrudes outside of the enclosure for external connections. The connectors required are ¾” NPT male, either PVC or metal pipe, and must be hand tightened to a torque of no more than 37 in-lbs. to prevent damage to the drain pan connection. An insertion depth between .36 to .49 inches (3-5 turns) should be expected at this torque.

1. Ensure drain pan hole is NOT obstructed.
2. To prevent potential sweating and dripping on finished space, it may be necessary to insulate the condensate drain line located inside the building. Use Armaflex® or similar material.

A Secondary Condensate Drain Connection, now called for by many building codes, has been provided. Pitch the drain line ¼” per foot to provide free drainage. Provide required support to drain line to prevent bowing. Install a condensate trap in the primary drain line to ensure proper drainage. If the secondary drain line is required, run the line separately from the primary drain and end it where condensate discharge can be easily seen.

CAUTION

If secondary drain is not installed, the secondary access must be plugged.

8. Refrigerant Lines

CAUTION

The coil is shipped under pressure with an R-410A gas mixture. Use appropriate service tools and follow these instructions to prevent injury.

WARNING

A quenching cloth is strongly recommended to prevent scorching or marring of the equipment finish when welding close to the painted surfaces. Use brazing alloy of 5% minimum silver content.

NOTE: Refrigerant tubing must be routed to allow adequate access for servicing and maintenance of the unit.

Do not handle coil assembly with manifold or flowrator tubes. Doing so may result in damage to the tubing joints. Always use clean gloves for handling coil assemblies.

8.1 Tubing Size/Length

For the correct tubing size, follow the specification for the condenser/heat pump. Give special consideration to minimizing the length of refrigerant tubing when installing coils. Refer to Remote Cooling/Heat Pump Technical Publication TP-107* Long Line Set Application R-410A for guidelines for line lengths over 80’. Leave a minimum 3” straight in line set from braze joints before any bends.

8.2 Tubing Preparation

All cut ends are to be round, burr free, and cleaned. Any other condition increases the chance of a refrigerant leak. Use a pipe cutter to remove the closed end of the spun closed suction line.

8.3 Brazing

Braze joints should be made only with the connections provided external to the cabinet. Do not alter the cabinet nor braze inside the cabinet. To avoid overheating after brazing, quench all brazed joints with water or a wet rag.

CAUTION

APPLYING TOO MUCH HEAT TO ANY TUBE CAN MELT THE TUBE. TORCH HEAT REQUIRED TO BRAZE TUBES OF VARIOUS SIZES MUST BE PROPORTIONAL TO THE SIZE OF THE TUBE. SERVICE PERSONNEL MUST USE THE APPROPRIATE HEAT LEVEL FOR THE-SIZE OF THE TUBE BEING BRAZED.

8.4 Special Instructions for Flowrator (Piston) Version

Coils in flowrator version are equipped with a check style flowrator for refrigerant management. For most installations with matching applications, no change to the flowrator piston is required. However, in mix-matched applications, a piston change may be required. See the piston kit chart or consult your local distributor for details regarding mix-matched piston sizing. If the mix-matched application requires a different piston size, change the piston in the distributor on the indoor coil before installing the coil and follow the procedure shown below.

8.5 Tubing Connections for Flowrator Model

1. Loosen the 13/16 nut ***1 TURN ONLY*** to allow high pressure tracer gas to escape. No gas indicates a possible leak.
2. After the gas has escaped, remove the nut and discard the plastic or brass cap.
3. Remove the check piston to verify it is correct and then replace the piston. See piston kit chart in instructions.
4. Use a tube cutter to remove the spin closure on the suction line. DO NOT USE A CUTTING METHOD THAT WOULD RESULT IN THE GENERATION OF COPPER SHAVINGS OR COPPER DUST.
5. Slide the 13/16 nut into place on the tailpiece supplied in the literature bag or with the unit.
6. Insert liquid line into the supplied tailpiece.

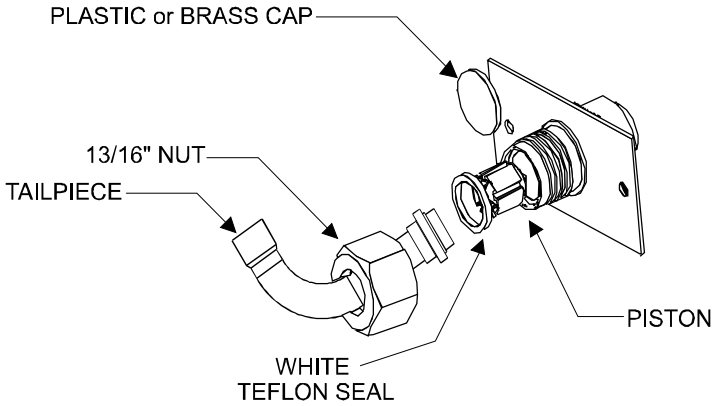

FIGURE 1

7. Insert the suction line into the connection, slide the insulation and the rubber grommet at least 18” away from the braze joint. Braze both liquid and suction line joints.
8. **AFTER THE TAILPIECE HAS COOLED**, confirm position of the white Teflon® seal and hand tighten the 13/16 nut.

CAUTION

EXCESSIVE TORQUE CAN CAUSE ORIFICES TO STICK. USE THE PROPER TORQUE SETTINGS WHEN TIGHTENING ORIFICES.

9. Torque the 13/16” nut to 10-20 ft-lbs. or 1/6 turn past hand tight.
10. Replace suction line grommet and insulation.

8.6 Tubing Connections for TXV Version

TXV models come with factory installed non-adjustable TXV with the bulb permanently located on the suction tube.

1. Remove coil access panel.
2. Remove access valve fitting cap and depress the valve stem in access fitting to release pressure. No pressure indicates possible leak.
3. Replace the refrigerant tubing panel.
4. Remove the spin closure on both the liquid and suction tubes using a tubing cutter. DO NOT USE A CUTTING METHOD THAT WOULD RESULT IN THE GENERATION OF COPPER SHAVINGS OR COPPER DUST.

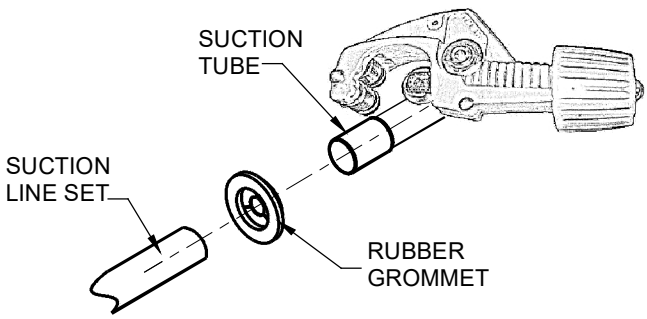

FIGURE 2.1

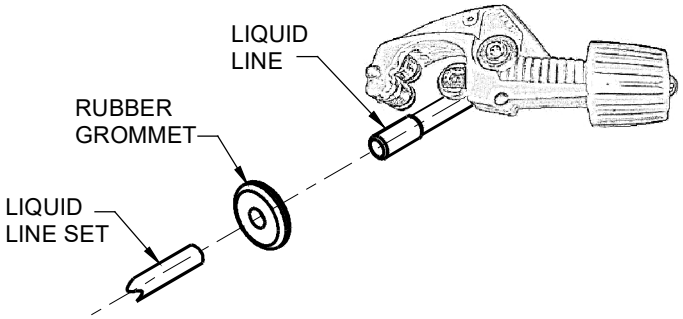

FIGURE 2.2

5. Insert liquid line set into liquid tube expansion and slide grommet about 18” away from braze joint.
6. Insert suction line set into suction tube expansion and slide insulation and grommet about 18” away from braze joint.
7. Braze suction and liquid line joints.

9. Top flanges can be bent for ease in installation to the duct flanges.

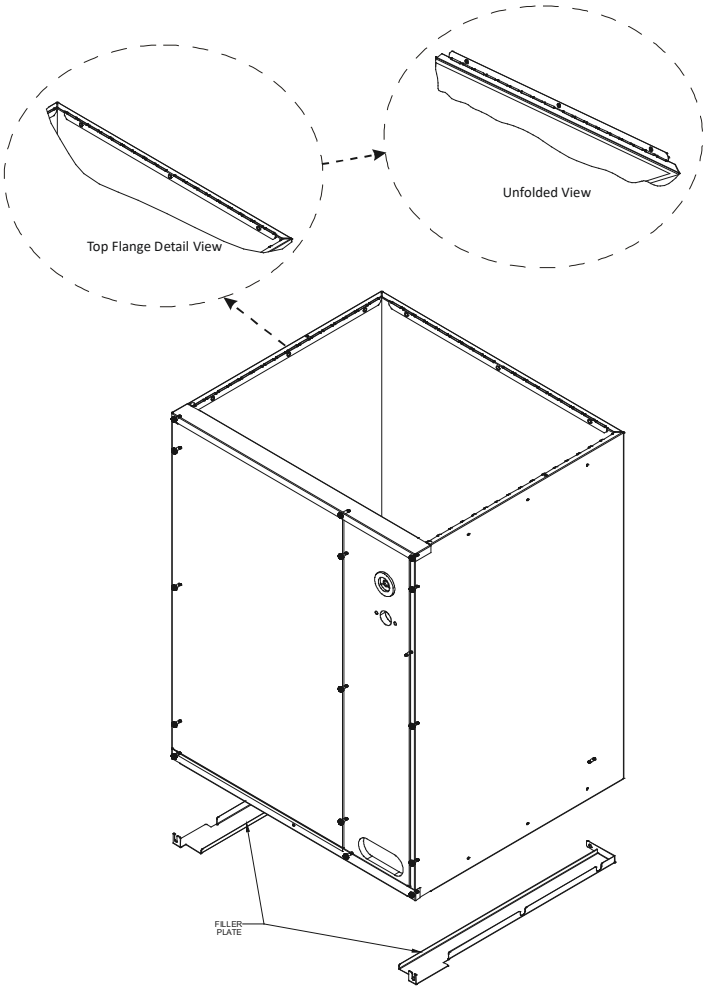

FIGURE 3

10. Filler Plates

Filler plates are supplied on all 17.5, 21, & 24.5 inch chassis to be used for adapting the unit to a furnace one size smaller. If the plenum and furnace openings are the same size, the filler plates must be removed. See Figure 3.

11. Plastic Drain Pan Application

WARNING

DO NOT USE THE COIL PAN SHIPPED WITH THE UNIT ON OIL FURNACES OR ANY APPLICATION WHERE THE TEMPERATURE OF THE DRAIN PAN MAY EXCEED 300°F. A HIGH TEMPERATURE DRAIN PAN SUCH AS KITS HTP-A, -B, -C AND -D FOR NORMAL CABINET WIDTHS OF 14, 17.5, 21 AND 24.5 INCHES, RESPECTIVELY, SHOULD BE USED FOR APPLICATIONS WHERE THE TEMPERATURE EXCEEDS 300°F AND BELOW 450°F. A FIELD FABRICATED METAL DRAIN PAN CAN ALSO BE USED FOR APPLICATIONS WHERE TEMPERATURE EXCEEDS 300°F. FAILURE TO FOLLOW THIS WARNING MAY RESULT IN PROPERTY DAMAGE AND/OR PERSONAL INJURY.

If the uncased coil is to be installed on top of a gas furnace, allow enough space between the top to the furnace and the bottom of the plastic coil drain pan to have a free flow of air. A minimum of 2.0” distance from the top of the furnace and the bottom of the coil pan is required.

NOTE: The coil must be installed with the line set and drain openings to the front of the furnace.

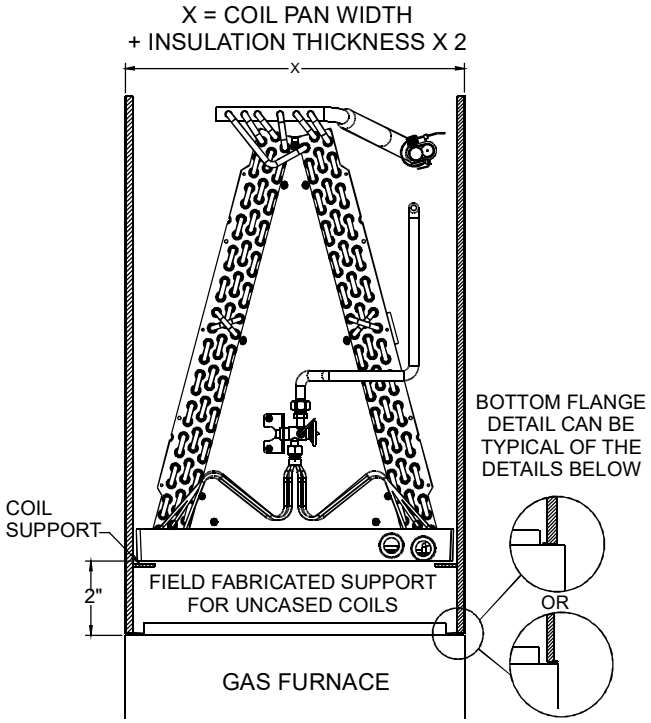

FIGURE 4

NOTE: Water coming from the secondary line means the coil primary drain is plugged and needs immediate attention.

Install a trap in the drain line below the bottom of the drain pan (Figure 5). If using a copper drain line, solder a short piece of pipe, minimum 6” length, to the connector before installing a drain fitting.

DO NOT over torque the ¾” copper connector to the plastic drain connection. Using a wet rag or heatsink material on the short piece to protect the plastic drain pan, complete the drain line installation. Use Figure 6 as a template for typical drain pipe routing. This figure shows how to avoid interference with vent piping.

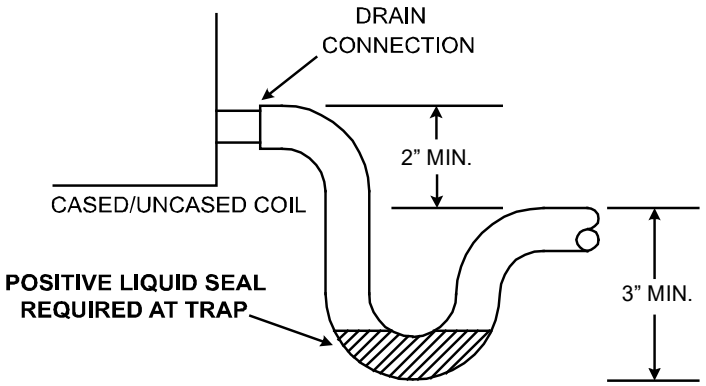

Figure 5

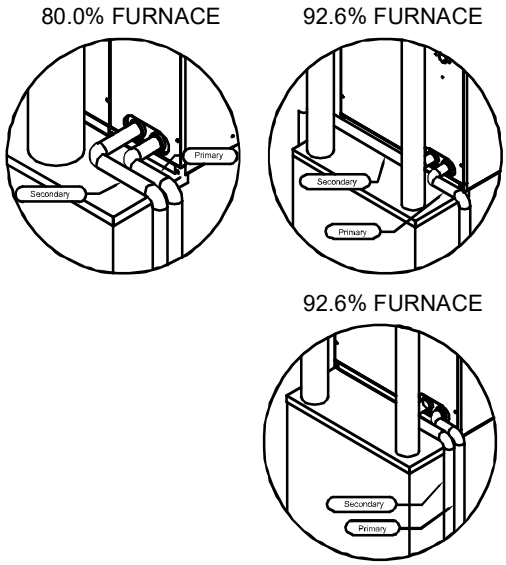

Figure 6

12. Return Ductwork

DO NOT TERMINATE THE RETURN DUCTWORK IN AN AREA THAT CAN INTRODUCE TOXIC OR OBJECTIONABLE FUMES/ODORS INTO THE DUCTWORK.

13. Sealing Along The Panel Gap

IMPORTANT NOTE: To prevent cabinet sweating and airflow leak, apply field provided insulation tape along all joining surfaces between the coil, gas furnace, duct work and panels. See Figure 7.

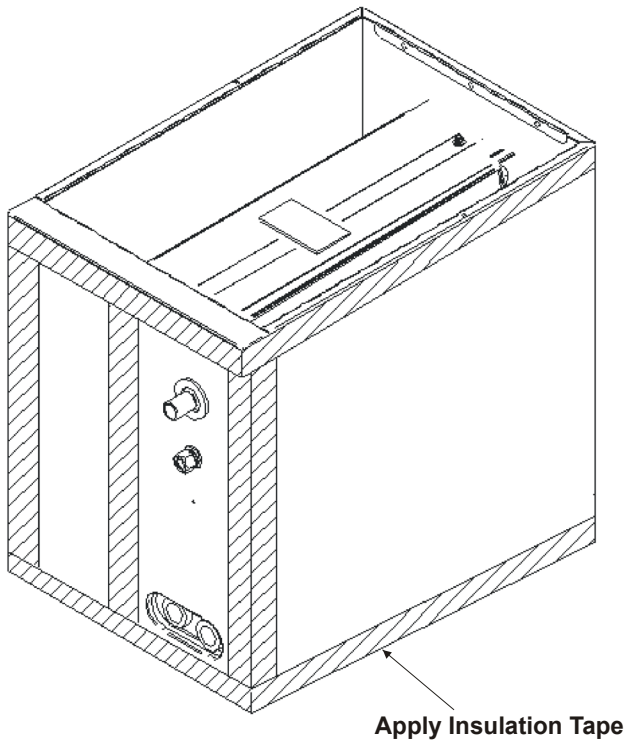

Figure 7

14. Aluminum Indoor Coil Cleaning (Qualified Servicer Only)

This unit is equipped with an aluminum tube evaporator coil. The safest way to clean the evaporator coil is to simply flush the coil with water. This cleaning practice remains as the recommended cleaning method for both copper tube and aluminum tube residential evaporator coils.

It has been determined that many coil cleaners and drain pan tablets contain corrosive chemicals that can be harmful to aluminum tube and fin evaporator coils. Even a one-time application of these corrosive chemicals can cause premature aluminum evaporator coil failure. Any cleaners that contain corrosive chemicals including, but not limited to, chlorine and hydroxides, should not be used.

An alternate cleaning method is to use one of the products listed in TP-109* to clean the coils. The cleaners listed are the only agents deemed safe and approved for use to clean round tube aluminum coils. TP-109 is also available on the web site in Partner Link > Service Toolkit.

NOTE: *Ensure coils are rinsed well after use of any chemical cleaners.*

Start-up Checklist

Air Handler / Coil				
	Model Number	_____		
	Serial Number	_____		
ELECTRICAL				
Line Voltage (Measure L1 and L2 Voltage)	L1 - L2	_____		
Secondary Voltage (Measure Transformer Output Voltage)	R - C	_____		
Blower Amps		_____		
Heat Strip 1 - Amps		_____		
Heat Strip 2 - Amps		_____		
BLOWER EXTERNAL STATIC PRESSURE				
Return Air Static Pressure		_____	IN. W.C.	
Supply Air Static Pressure		_____	IN. W.C.	
Total External Static Pressure (Ignoring +/- from the reading above, add total here)		_____	IN. W.C.	
TEMPERATURES				
Return Air Temperature (Dry bulb / Wet bulb)		_____	DB °F	_____ WB °F
Cooling Supply Air Temperature (Dry bulb / Wet bulb)		_____	DB °F	_____ WB °F
Heating Supply Air Temperature		_____	DB °F	
Temperature Rise		_____	DB °F	
Delta T (Difference between Supply and Return Temperatures)		_____	DB °F	
Air Handler / Coil - (Inverter Matched)				
INVERTER AH / COIL ONLY				
Check EEV and EEV wiring is secure (no adjustment required)		_____		
Additional Checks				
Check wire routings for any rubbing		_____		
Check product for proper draining		_____		
Check screw tightness on blower wheel		_____		
Check factory wiring and wire connections		_____		
Check product for proper clearances as noted by installtion instructions		_____		
°F to °C formula: (°F - 32) divided by 1.8 = °C	**°C to °F formula: (°C multiplied by 1.8) + 32 = °F**			

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CUSTOMER FEEDBACK

We are very interested in all product comments.
Please fill out the feedback form on one of the following links:
Goodman® Brand Products: (http://www.goodmanmfg.com/about/contact-us).
Amana® Brand Products: (http://www.amana-hac.com/about-us/contact-us).
You can also scan the QR code on the right for the product brand you purchased to be directed to the feedback page.

GOODMAN® BRAND

AMANA® BRAND

PRODUCT REGISTRATION

Thank you for your recent purchase. Though not required to get the protection of the standard warranty, registering your product is a relatively short process, and entitles you to additional warranty protection, except that failure by California and Quebec residents to register their product does not diminish their warranty rights. The duration of warranty coverages in Texas differs in some cases.

For Product Registration, please register as follows:
Goodman® Brand products: (https://www.goodmanmfg.com/product-registration).
Amana® Brand products: (http://www.amana-hac.com/product-registration).
You can also scan the QR code on the right for the product brand you purchased to be directed to the Product Registration page.

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NOTE: Specifications and performance data listed herein are subject to change without notice.

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D4271C
COMMERCIAL

Digital Thermostat

Optional accessories available, including Wi-Fi

Owner's Manual and Installation Instructions

CAUTION

Follow the Installation Instructions before proceeding. Set the thermostat mode to "OFF" prior to changing settings in setup or restoring Factory Defaults.

FCC Compliance Statement

This equipment has been tested and found to comply with the limits for an intentional radiator, pursuant to Part 15, subpart C of the FCC rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference in radio communications. However, there is no guarantee that the interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that of the receiver.
- Consult the dealer or an experienced radio or TV technician for help.

Notice: Only peripherals complying with FCC limits may be attached to this equipment. Operation with noncompliant peripherals or peripherals not recommended by Daikin, is likely to result in interference to radio and TV reception. Changes or modifications to the product, not expressly approved by Daikin could void the user's authority to operate the equipment.

FCC - INDOOR Mobile Radio Information:
To comply with FCC/IC RF exposure limits for general population / uncontrolled exposure, the antenna(s) used for this transmitter must be installed to provide a separation distance of at least 20 cm from all persons and must not be co-located or operating in conjunction with any other antenna or transmitter.

This Device complies with Industry Canada License-exempt RSS standard(s). Operation is subject to the following two conditions: 1) this device may not cause interference, and 2) this device must accept any interference, including interference that may cause undesired operation of the device.

Under Industry Canada regulations, this radio transmitter may only operate using an antenna of a type and maximum (or lesser) gain approved for the transmitter by Industry Canada. To reduce potential radio interference to other users, the antenna type and its gain should be so chosen that the equivalent isotropically radiated power (e.i.r.p.) is not more than that necessary for successful communication.

Cet appareil est conforme avec Industrie Canada, exempts de licence standard RSS(s). Son fonctionnement est soumis aux deux conditions suivantes: 1) ce dispositif ne doit pas causer d'interférences, et 2) ce dispositif doit accepter toute interférence, y compris les interférences qui peuvent causer un mauvais fonctionnement de l'appareil.

En vertu des règlements d'Industrie Canada, cet émetteur de radio ne peut fonctionner en utilisant une antenne d'un type et maximale (ou moins) Gain approuvé pour l'émetteur par Industrie Canada. Pour réduire les interférences radio potentielles aux autres utilisateurs, le type d'antenne et son gain doivent être choisis afin que la puissance isotrope rayonnée équivalente (PIRE) ne est pas plus de ce qui est nécessaire pour une communication réussie.

We, Daikin, declare under our sole responsibility that the device to which this declaration relates: Complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

FCC ID: MUH-SKYPORT4

IC: 12547A-SKYPORT4

This Explorer thermostat has the ability to receive updates to its firmware. Periodically firmware updates are released by the manufacturer to add features and/or performance enhancements. This manual was produced reflecting the most current firmware/feature set at the time of publication, firmware rev. 1.0. Firmware releases after rev. 1.0 may not be adequately depicted in this manual. Please refer to the appropriate website or contact your place of purchase to learn about changes to the thermostat after firmware release 1.0.

c UL us
LISTED
4Z95

Thermostat MUH-SKYPORT4
FC Tested to Comply with FCC Standards
FOR HOME OR OFFICE USE

Industry Canada Industrie Canada

Glossary of Terms

Auto-Changeover: A mode in which the thermostat will turn on the heating or cooling based on room temperature demand.

Cool Setpoint: The warmest temperature that the space should rise to before cooling is turned on (without regard to deadband).

Deadband: The number of degrees the thermostat will wait, once a setpoint has been reached, before energizing heating or cooling.

Differential: The forced temperature difference between the *heat setpoint* and the *cool setpoint*.

Heat Setpoint: The coolest temperature that the space should drop to before heating is turned on (without regard to deadband).

Icon: The word or symbol that appears on the thermostat display.

Mode: The current operating condition of the thermostat (i.e. Off, Heat, Cool, Auto).

Non-Programmable Thermostat: A thermostat that does not have the capability of running *Time Period Programming.*

Override: During programmed unoccupied periods, pressing the Override button will force the thermostat into occupied settings. During programmed occupied periods, pressing the Override button will force the thermostat into unoccpied settings.

Programmable Thermostat: A thermostat that has the capability of running *Time Period Programming.*

Temperature Swing: *Same as Deadband.*

Time Period Programming: A program that allows the thermostat to automatically adjust the *heat setpoint* and/or the *cool setpoint* based on the time of the day.

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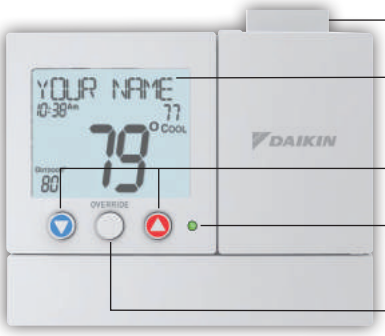
Get To Know Your Thermostat



Optional Wireless Module

Backlit, Scrolling
LCD Display

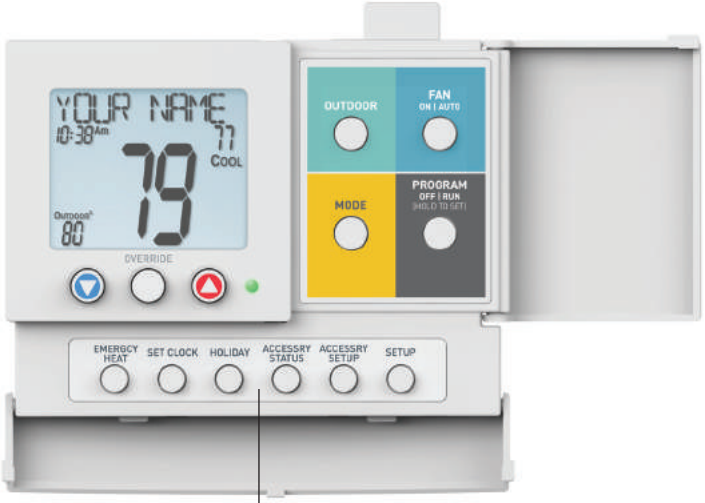
Backlit Cooler & Warmer
Buttons

Heat or Cool
Demand Indicator
Red = Heat, Green = Cool

Override Button

Setup Buttons Behind Door

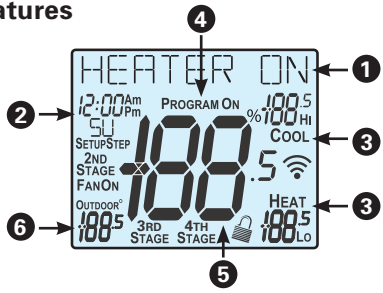
Get To Know Your Thermostat



Setup Buttons

Get To Know Your Thermostat

Display Features



1. The scrolling display will be used to help you easily navigate the setup screens in the thermostat.

2. Clock with Day of the Week
   Indicates the current time and day. This clock is also used to program the time period schedules.

3. Mode Indicators
   Selects the operational mode of the equipment.
   HEAT - Indicates the heating mode.
   COOL - Indicates the air conditioning mode.
   HEAT & COOL - Indicates the system will automatically change-over between heat and cool modes as the temperature varies.
   OFF - Indicates heating and cooling is turned off.

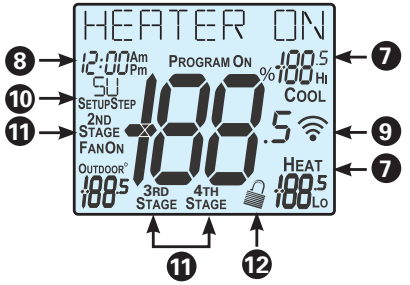
4. **Program** icon
   Indicates that Time Period Programming is running or is enabled to be set.

5. Room Temperature Display
   Indicates the current room temperature and displays the outdoor temperature when selected.

6. **Outdoor** icon
   Indicates the temperature displayed is from the optional outdoor sensor.

Get To Know Your Thermostat

Display Features



7 Desired Set Temperature
Indicates desired room temperature(s). Also displays the highest and lowest temperatures for the day.

8 Occupied & Unoccupied icons
Indicates the program number: Occupied 1, 2, 3 or Unoccupied

9 **Wi-Fi** icons
One dot indicates the thermostat recognizes the wireless module. The "pull" icon indicates the thermostat is currently connected to the Local access point, via the optional Wi-Fi Module.

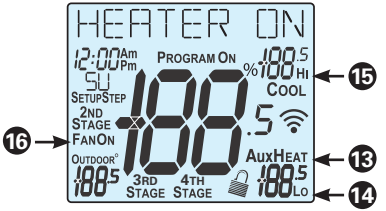
10 **Setup Step** icon
Indicates the step number when the thermostat is in the setup mode.

11 **2nd, 3rd and 4th Stage** icons
Indicates what stage of cooling or heating is currently energized.

12 icon
Indicates the keypad has been locked.

Get To Know Your Thermostat

Display Features



13 **AuxHeat** icon

Indicates 2nd stage electric strip heat is being used when the thermostat is programmed for Heat Pump operation. Only the Aux icon will appear during Cool to Dehumidify to indicate Reheat operation.

14 **Lo** icon

Indicates the lowest recorded outdoor temperature for the day.*

15 **Hi** icon

Indicates the highest recorded outdoor temperature for the day.*

16 **Fan On** icon

Indicates constant, continuous fan operation.
When **Fan On** is not lit - indicates the fan will only operate when necessary to heat or to cool.

** Hi and Lo Temperatures for the day, reset at midnight.*

Quick Start

During Setup and Programming:

Press the WARMER or COOLER buttons to modify the selection.
Press the MODE button to advance and confirm through the setup steps.

Setting the Clock and Day

Not available when wi-fi module is present

Press the SET CLOCK button. Adjust the clock using the WARMER or COOLER buttons. Press MODE to advance to the day setting. Adjust the day using the WARMER or COOLER buttons. Press the SET CLOCK button to confirm settings.

TIP: To adjust the time by hours press and hold the FAN button while pressing the WARMER or COOLER buttons.

Selecting the Heat or Cool Mode

Select mode by pressing the MODE button.

Heating Only - Only the heating operation will be controlled by the thermostat in this mode.

Cooling Only - Only the cooling operation will be controlled by the thermostat in this mode.

Heating or Cooling (Auto-Changeover) - AUTO will automatically select heat or cool based on room temperature demand.

OFF - OFF indicates both heating and air conditioning systems are turned off.

Quick Start

Selecting your desired temperature

AUTO-CHANGEOVER MODE - Pressing the WARMER or COOLER buttons in Auto mode will adjust both the heat and cool setpoints simultaneously. To adjust heat and cool setpoints individually, choose HEAT mode to adjust the heat setpoint and COOL mode to adjust the cool setpoint, then return to AUTO mode.

HEAT OR COOL MODE - Pressing the WARMER or COOLER buttons in Heat or Cool mode will adjust only the heat **or** cool setpoints individually displayed.

Using the Fan Button

Fan On indicates constant fan operation. Fan On is not allowed when the thermostat is in the OFF mode. Pressing the FAN button toggles this feature. If you don't see "Fan On", the fan is in auto mode and will only turn on during a heat or cool demand. The fan is forced into auto mode when running the program and the thermostat shows "unoccupied".

Using the Override Button

NOTE: Override may only be used when the thermostat is set to PROGRAM ON.

UNOCCUPIED OPERATION -
During programmed, unoccupied periods, pressing the OVERRIDE button will force the thermostat into Occupied 1 settings for 30 minutes. Each press of the OVERRIDE button will add another 30 minutes of time for up to 4 hours. If the maximum time has been set, the next press of the OVERRIDE button will reset the timer and return the thermostat to the correct time period program for the day

Occupied Operation - During programmed, occupied periods, pressing the OVERRIDE button will force the thermostat into an unoccupied period for the rest of the day. During this forced unoccupied period the OVERRIDE button will operate as described above.

Current Override Hours (setup step 11)

This counter keeps track of the number of hours that the thermostat is overridden into Occupied settings. Press FAN to reset.

Quick Start

Viewing the Temperature Sensors

OUTDOOR TEMP - Press the OUTDOOR button to view the current outdoor temperature. The high and low temperatures for the day will also be displayed. The high and low temperatures reset at 12:00 am. If connected to a Skyport account, pressing outdoor button will show the temperatures for your location if you don't have a wired sensor connected.

Note: If no outdoor sensor is connected, and there isn't outdoor temperature via Wi-Fi, then 2 dashes [- -] will appear with the first button press.

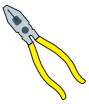
REMOTE/SUPPLY TEMP - Press the **Accessory Status** button to view linked wireless and wired sensors and other accessories. Press the **Accessory Status** button to return to the main screen.

Installation Instructions

Remove and Replace the old thermostat

To install the thermostat properly, please follow these step by step instructions. If you are unsure about any of these steps, call a qualified technician for assistance.

- Assemble tools: Flat blade screwdriver, wire cutters and wire strippers.



- Make sure your Heater/Air Conditioner is working properly before beginning installation of the thermostat.
- Carefully unpack the thermostat. Save the screws, any brackets, and instructions.
- Turn off the power to the Heating/Air Conditioning system at the main fuse panel. Most residential systems have a separate breaker for disconnecting power to the furnace.
- Remove the cover of the old thermostat. If it does not come off easily, check for screws.
- Loosen the screws holding the thermostat base or subbase to the wall and lift away.
- If you have a smart phone handy, take a photo of the wiring for future reference.
- Disconnect the wires from the old thermostat. Tape the ends of the wires as you disconnect them, and mark them with the letter of the terminal for easy reconnection to the new thermostat.
- Keep the old thermostat for reference purposes, until your new thermostat is functioning properly.

Installation Instructions

Wire Connections

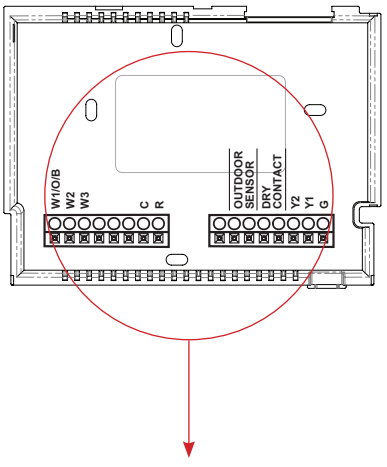
If the terminal designations on your old thermostat do not match those on the new thermostat, **refer to the chart below or the wiring diagrams that follow.**

Wire from the old thermostat terminal marked	Function	Install on the new thermostat connector marked
G or F	Fan	G
Y1, Y	Cooling	Y1
W1, W	Heating	W1/0/B
Rh, R, M, Vr, A	Power	R
C	Common	C
O/B	Rev. Valve	W1/O/B*
W2	2nd Stage Heat	W2
Y2	2nd Stage Cooling	Y2
W3	3rd Stage Heat	W3
Ck1	Dry Contact Switch	DRY CONTACT
CKGND	Dry Contact Switch	DRY CONTACT

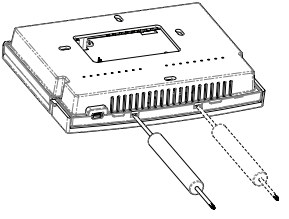
* O/B is used if your system is a Heat Pump.

Installation Instructions

The Thermostat Backplate



To remove the thermostat backplate: Gently separate the display from the base by pulling first from one side, then the other until the two pieces unsnap. A small screwdriver may be used, very carefully, to start seperating the two pieces.



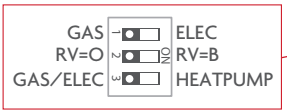
R	24 VAC return	**C**	24 VAC common
G	Fan relay	**OUTDOOR SENSOR**	Outdoor sensor connections
W1/O/B	1st stage heat circuit	**REMOTE SENSOR**	Remote sensor connections
W2	2nd stage heat circuit	**DRY CONTACT**	Dry Contact connections
Y1	1st stage compressor relay		
Y2	2nd stage compressor relay		
W3	3rd stage heat circuit		

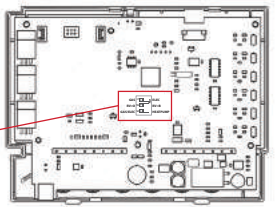
IMPORTANT: This thermostat requires <u>both</u> R (24 VAC Return) and C (24 VAC Common) be connected to the backplate terminals.

Installation Instructions

Check Dip Switch

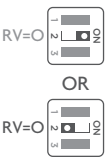
Ensure which switch is correct for your system. Dip switches are located on the back of the thermostat.





1. When GAS/EL or HP is set for GAS/EL:
This switch (GAS or ELEC) controls how the thermostat will control the Fan (G) terminal in heating mode. When GAS is chosen, the thermostat will not energize the Fan (G) terminal in heating. When ELEC is chosen the thermostat will energize the fan in heating.

2. When GAS/EL or HP is set for HP:
This switch (GAS or ELEC) defines the Aux Heat type. When GAS is chosen, the auxiliary heat will not be allowed to run during heat pump operation. When ELEC is chosen, up to two stages of auxiliary strip heat will be allowed to run.



For Heat Pump Only
When the GAS/EL or HP dip switch is configured for HP, this dip switch (O or B) must be set to control the appropriate reversing valve. If O is chosen, the W1/O/B terminal will energize in cooling. If B is chosen, the W1/O/B terminal will energize in heating.

This dip switch configures the thermostat to control a conventional gas/electric system or a heat pump. If your system is anything other than a heat pump, leave this switch set for GAS/EL.

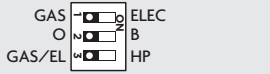
Sample Wiring Diagrams

Conventional Heating and Cooling Systems

3 Wire, Heat Only

Residential & Commercial 1 Stage Heating with **no Fan.**

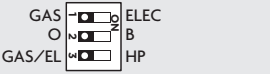
R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**1st Stage Heat**



4 Wire, Cool Only

Residential & Commercial 1 Stage Cooling.

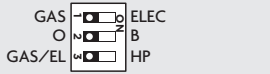
R	**24VAC Power**
C	**24VAC Common**
Y1	**1st Stage Cool**
G	**Fan**



5 Wire, 1 Stage Cooling, 1 Stage Heat

Residential & Commercial 1 Stage Cooling, with 1 stage **Gas Heat.**

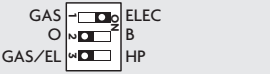
R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**1st Stage Heat**
Y1	**1st Stage Cool**
G	**Fan**



5 Wire, 1 Stage Cooling, 1 Stage Heat

Residential & Commercial 1 Stage Cooling, with 1 stage **Electric Heat.**

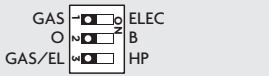
R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**1st Stage Heat**
Y1	**1st Stage Cool**
G	**Fan**



8 Wire, 2 Stage Cooling, 3 Stage Heat

Residential & Commercial 2 Stage Cooling, with 3 stage **Gas Heat.**

R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**1st Stage Heat**
W2	**2nd Stage Heat**
W3	**3rd Stage Heat**
Y1	**1st Stage Cool**
Y2	**2nd Stage Cool**
G	**Fan**



Installation Instructions

Sample Wiring Diagrams

Heat Pump Systems

5 Wire, 1 Stage Cooling, 1 Stage Heat
Residential & Commercial **Heat Pump** with **'O' Reversing Valve**

R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**Reversing Valve**
Y1	**1st Stage Compressor (Cool or Heat)**
G	**Fan**

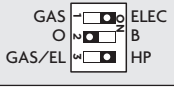
6 Wire, 1 Stage Cooling, 2 Stage Heat
Residential & Commercial **Heat Pump** with **'O' Reversing Valve**

R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**Reversing Valve**
Y1	**1st Stage Compressor (Cool or Heat)**
W2	**Aux Heat**
G	**Fan**

7 Wire, 2 Stage Cooling, 3 Stage Heat
Residential & Commercial **Heat Pump** with **'O' Reversing Valve.**

R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**Reversing Valve**
W2	**3rd Stage Heat**
Y1	**1st Stage Compressor (Cool or Heat)**
Y2	**2nd Stage Compressor (Cool or Heat)**
G	**Fan**

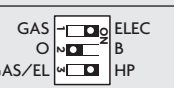
Setup Step 24 is set to 2 (Number of Compressor Stages)



8 Wire, 2 Stage Cooling, 4 Stage Heat
Residential & Commercial **Heat Pump** with **'O' Reversing Valve.**

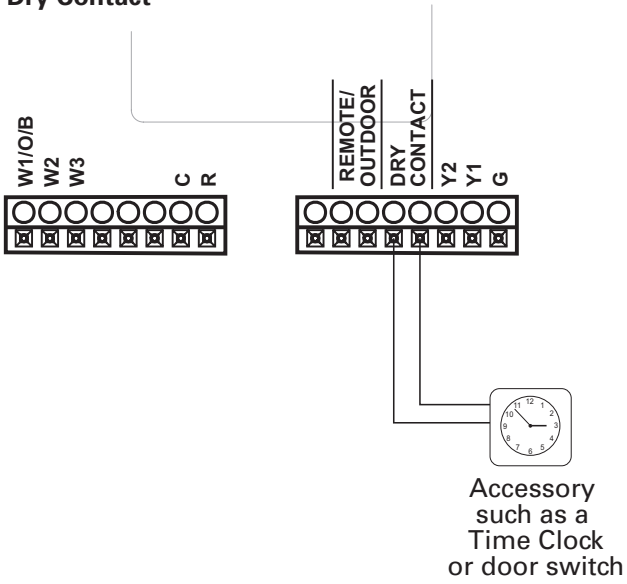
R	**24VAC Power**
C	**24VAC Common**
W1/O/B	**Reversing Valve**
W2	**3rd Stage Heat**
W3	**4th Stage Heat**
Y1	**1st Stage Compressor (Cool or Heat)**
Y2	**2nd Stage Compressor (Cool or Heat)**
G	**Fan**

Setup Step 24 is set to 2 (Number of Compressor Stages)



Sample Wiring Diagrams

Dry Contact



Installation Instructions: Test Operation

The Daikin thermostat has a diagnostic feature that enables testing of all outputs. This feature is contained in **Technician Setup.**

To enter Technician Setup, press and hold the SETUP button for 10 seconds until all the icons appear. Follow the next steps to view settings and test equipment.

1. Press MODE to view the version numbers of the thermostat.
2. Press MODE again to view the jumper settings and current state of the Dry Contact terminal.
3. Press MODE again and the scrolling display will read "TURN ON EQUIPMENT?" Press WARMER for Yes or COOLER for No.

   If Yes is chosen, press WARMER to turn on heat or COOLER to turn on Cooling. The scrolling display will read "NOTHING ON." Next:

   Press WARMER to turn on and cycle up through the heating stages. Press COOLER to turn the heating stages off. Press MODE to exit.

   Press COOLER to turn on and cycle down through the cooling stages. Press WARMER to turn the cooling stages off. Press MODE to exit.
4. Press MODE until "CALIBRATE SENSORS?" appears on the scrolling display. Press WARMER for Yes or COOLER for No. Press MODE to select which sensor to calibrate. Use WARMER or COOLER to modify your selection.

To exit Technician Setup at any time, press the SETUP button. Technician Setup will automatically exit after 10 minutes if no buttons are pressed.

User Setup - Backlight Operation

How to Change Settings in the Setup Screens

To enter Advanced Setup, press the SETUP button, then press MODE. Use the WARMER or COOLER buttons to adjust the value of your selection. Press MODE to advance to the next setup step. Press SETUP again to leave the setup screens.

Backlight (setup step 3-8)

Backlight (setup step 3)

Off - Backlight turns on with any button press and turns off after 8 seconds.

On - Backlight is on continuously.

Backlight Intensity Level (setup step 4)

The backlight can be adjusted between Off and seven levels of brightness.

Night Dimmer (setup step 5) - Selecting **On** allows for automatic dimming of the display at night.

Night Dimmer Brightness (setup step 6)

Off through seven levels of brightness

Night Dimmer Start Time (setup step 7) - 12:00 am to 12:00 am

Night Dimmer Stop Time (setup step 8) - 12:00 am to 12:00 am

Language (setup step 16)

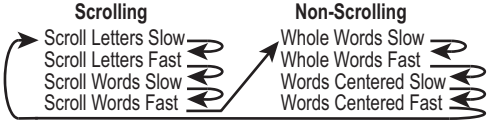
Setup step instructions on the scrolling display can be set for English, Spanish, or French.

Press the SETUP button, then press MODE repeatedly until the Language setup step appears. Use the WARMER or COOLER buttons to make selection. Press MODE to advance to the next step. Press SETUP to leave the setup screens.

User Setup: Scrolling Screen and Display Options

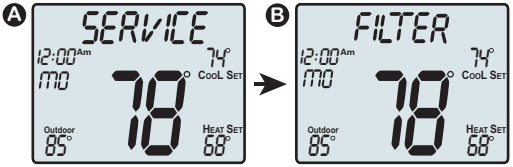
Scrolling Display Method (Setup Step 17)

This option allows the user to choose how the scrolling text is displayed. Options are:



Press the SETUP button, then press MODE repeatedly until the Scrolling Method setup step appears. Use the WARMER or COOLER buttons to make selection. Press MODE to advance to the next step. Press SETUP to leave the setup screens.

Example of "Whole Words Centered":



User Setup

Holiday

The Holiday feature allows the thermostat to use temporary, energy saving settings without having to change regular programming.

Holiday setup/programming at the local thermostat is limited to the number of days employing Holiday settings. When the optional Wi-Fi module is detected in the thermostat, local Holiday programming at the thermostat of the Holiday setup is not allowed. In this case Holiday setup and programming is accomplished with the Skyport Web App. Skyport gives the user extensive control over Holiday settings.

Press the HOLIDAY button to enter Holiday programming.
(no Wi-Fi Module detected).

If there is not a Holiday period active:

Use the WARMER and COOLER buttons to choose the number of days desired to run the Holiday feature. To confirm your setting press the HOLIDAY button again.

When the thermostat is programmed for Holiday operation, and the thermostat is in the Program On mode (running an Occupied/Unoccupied time period schedule), Holiday settings will take effect at 12:00AM of the next day. The thermostat will use the unoccupied mode and setpoints (see page 27) during the holidays.

If the Holiday button is pressed during an active Holiday period:

The active Holiday period may be cancelled by pressing the Mode button.

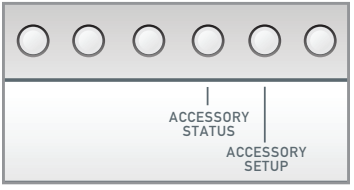
Emergency Heat

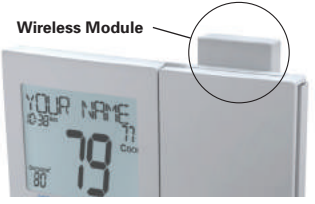
The Emergency Heat function is only available if your thermostat is set to control a Heat Pump.

To initiate the Emergency Heat feature, Press the EMERGENCY button. During Emergency Heat operation the thermostat will turn on the fan and auxiliary stages of heat when there is a demand for heat. The 1st stage of heating and all stages of cooling will be unavailable. To exit Emergency Heat, press the EMERGENCY button.

User Setup

Wireless Module



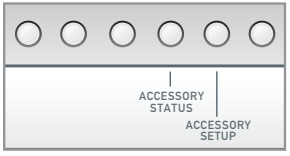


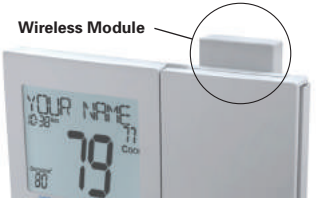
The **Accessory Status** button allows the user to view the status of wired and wireless accessories. For many of the wireless devices this status includes: Battery Level, Signal Strength & Last Time Updated.

If there is an optional wireless module installed, the **Accessory Setup** button allows the user to link or connect wireless devices to the thermostat, or the thermostat to the network.

User Setup

Wi-Fi Module





Please follow the instructions included with the Wi-Fi module to connect to an Access Point or view status. The general instructions are below.

Wi-Fi Module

If the  is present on the display then the thermosat is connected to the Wi-Fi Access Point. If just the "dot" of this icon appears, then just the Wi-Fi module is recognized.

Press the **Accessory Status** button, then press either the Cooler button to view connected Wi-Fi sensors, OR press the Warmer button to view the Wi-Fi status and settings.

Press the Mode button to step through the connected sensors or the Wi-Fi status screens listed below.

a. Wi-Fi status (connecting, connected, etc.)
b. Signal strength
c. Access point name
d. IP address
e. MAC address
f. Skyport status (connecting, connected, etc.)
g. Local API status (Enabled, Disabled)
h. Module version

• At any time press the **Accessory Status** button to leave the status screens.

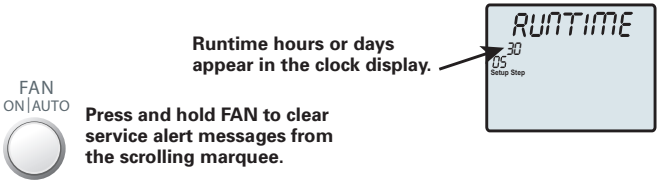
Press the Accessory Setup button to enter Wi-Fi or Skyport setup:
Press the Cooler button to configure Wi-Fi settings.

Press the Warmer button to join this thermostat to a Skyport account. If the theremostat is connected to Wi-Fi and the Internet, a Device ID will appear on the scrolling display of the thermostat. You will enter this code to add this thermostat to your Skyport account via a browser or the Skyport mobile app.

Note: *To connect to Skyport Cloud Services, Setup Step #44 must be set to on.*

User Setup - Service Filter

These setup steps allow the user to monitor equipment runtimes and program service alerts. Service alerts are displayed in the scrolling marquee.



Service Filter Runtime (setup steps 9-10, 13-14)

Current Service Filter Runtime Hours (Setup Step 9) - This counter keeps track of the number of hours of fan runtime in the Heating mode, Cooling mode, and in stand alone Fan operation. Press FAN to reset.

Current Service Filter Calendar Days (Setup Step 10) - This counter displays the total number of calendar days that have elapsed since the counter was reset to help the user track Fan runtime. Press FAN to reset.

Set Service Filter Runtime Hours (Setup Step 13) - This timer allows the user to specify the number of hours the fan will run before the "Replace Filter" alert will be displayed. Press COOLER continuously until **0** is displayed to disable this alert.

Set Service Filter Calendar Days (Setup Step 14) - This timer allows the user to specify the number of calendar days that will elapse before the "Replace Filter" alert will be displayed. Press COOLER continuously until **0** is displayed to disable this feature.

Press the **SETUP** button, then press **MODE** repeatedly until the desired setup step appears. Use the **WARMER** or **COOLER** buttons to make selection. Press **MODE** to advance to the next step. Press **SETUP** to leave the setup screens.

User Setup - System Runtimes

To view, set, or reset System Runtimes, press the SETUP button, then press MODE. Press MODE to advance to the desired setup step. Use the WARMER or COOLER buttons to adjust the value of your selection. Press SETUP again to leave the setup screens.

UV Lamp Runtime (setup steps 12, 15)

Current UV Lamp Calendar Days (setup step 12) - This counter displays the total number of calendar days that have elapsed since last reset to help the user track UV lamp runtime. Press FAN to reset.

Set UV Lamp Calendar Days (setup step 15) - This timer allows the user to specify the number of calendar days the UV Lamp will operate before the "Replace UV Lamp" alert will be displayed. Press COOLER continuously until **0** appears to disable this alert.

User Setup - Time Period Programming

Selecting Your Time Period Schedule (setup step 1)

This thermostat may be configured to be programmable or non programmable.

7 Day Program - Allows all seven days to be programmed independently.

Non Program - No advanced time period programming available.

1 Day Program - Allows one 24 hour day to be programmed. This same schedule will be repeated every day the program is set to run.

5/1/1 Day Program - Allows weekdays, Saturday, and Sunday to be programmed independently.

Selecting Your Available Modes (setup step 2)

Auto-Changeover - Allows the thermostat to turn on heating or cooling based on room temperature demand. Also allows the manual selection of HEAT only or COOL only and OFF.

Heat and Cool - Allows the thermostat to turn on heating or cooling depending on which one has been manually selected. Auto-Changeover is not available when this is selected.

Heat Only - Allows the thermostat to only turn on HEAT or OFF modes.

Cool Only - Allows the thermostat to only turn on COOL or OFF modes.

Programming a Daily Time Period Schedule*

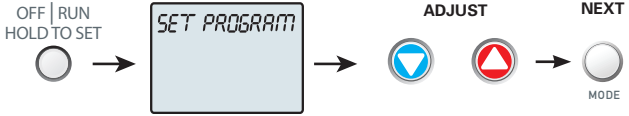
not available when wi-fi module is present

To enable (RUN) or turn ON the Time Period Schedule press the Program button momentarily.

To turn Off the Time Period Schedule stored program press this button again.

To alter the Time Period Schedule settings; press & hold this button for 5 seconds until the "Set Program" prompt appears. Modify the settings with the Warmer and Cooler buttons. Use the Mode button to advance through the steps. Press the Program button again to leave the setup screens.

Program Button



(continued next page)

Programming a Daily Schedule (continued)

Once the Set Program prompt appears the Mode button will step you through the settings as follows:

Set the Unoccupied Mode – Press the Warmer or Cooler buttons to choose the mode for the Unoccupied period. The thermostat is in Unoccupied when the Time Period Schedule is running and there is not an active Occupied period. The choices are: Off, Heat only, Cool only and AUTO changeover.

Adjust the Unoccupied Cool Setpoint – Press the Warmer or Cooler buttons to adjust the Cooling setpoint for times when the thermostat is in Unoccupied.

Adjust the Unoccupied Heat Setpoint – Press the Warmer or Cooler buttons to adjust the Heating setpoint for times when the thermostat is in Unoccupied.

Select the number of Occupied time periods – Press the Warmer or Cooler buttons to choose the maximum number (up to 3 maximum) of Occupied time periods in a day.

Select the Mode for the Occupied period – Press the Warmer or Cooler buttons to choose the mode for the occupied period. The choices are: Off, Heat only, Cool only and AUTO changeover.

Adjust the Occupied Cool Setpoint – Press the Warmer or Cooler buttons to adjust the Cooling setpoint for comfort.

Adjust the Occupied Heat Setpoint – Press the Warmer or Cooler buttons to adjust the Heating setpoint for comfort.

The following steps determine when the Occupied period(s) will be active.

Enable Occupied 1 – Press the Warmer or Cooler buttons to enable (On) or to disable (Off) Occupied 1 on Monday.

Adjust the Start Time for Occupied 1 – Press the Warmer or Cooler buttons to adjust the start time for Occupied 1 on Monday.

Adjust the Stop Time for Occupied 1 – Press the Warmer or Cooler buttons to adjust the stop time for Occupied 1 on Monday.

Upon pressing Mode after the above step; you will be prompted to Save and Exit or Copy this Occupied schedule to another day.

To save and exit – Press the Program button.

To Copy Monday's settings/schedule to Tuesday – Press Up and then Mode. *Press Mode again to copy the Monday Settings/schedule to subsequent days.*

To Program Another Day – Press Down and then press the Mode button to select the day to program. Repeat the above steps for each day you would like to program.

Installer Setup - Setpoint Limits

Setpoint Limits (setup step 18) When this feature is at any setting other than no setpoint limits', the heat and cool setpoints can be restricted to preset levels, set in steps 19 and 20.
This feature allows the user to set 3 different levels of security: (0 - 3).
No Setpoint Limits (0) - When this level is selected, no restrictions are activated.
Use Setpoint Limits (1) - When this level is selected, the heat and cool setpoints can be restricted to preset levels, set in setup steps 19 and 20.

Maximum Heat Setpoint (setup step 19) - (35˚ - 99˚).

Minimum Cool Setpoint (setup step 20) - (35˚ - 99˚).

Force Program Mode (2) - When this level is selected, the heat and cool setpoints can be restricted to preset levels, set in setup steps 19 and 20 and the thermostat is locked into the current mode and time period program setting and the FAN button is locked out.
Setpoints Frozen (3) - When this level is selected, the heat and cool setpoints, the current mode, the FAN button and time period program settings are locked.

Cycles Per Hour (setup step 21) The Cycles Per Hour setting may limit the number of times per hour your HVAC unit may energize. For example, at a setting of 6 cycles per hour the HVAC unit will only be allowed to energize once every 10 minutes. The Cycles Per Hour limit may be overridden and reset by pressing the WARMER or COOLER buttons on the thermostat. Settings are No Limit, 2, 3, 4, 5, or 6.

Compressor Minimum Off Minutes (setup step 22) This feature allows the user to set a minimum off time for the compressor. Settings are 5 mins., 3 mins., or 0 mins.

Minimum Heat/Cool Setpoint Difference (setup step 23) This feature allows the user to set the minimum gap between Heat and Cool setpoints in **AUTO** mode. Select from 0 to 6. If setup step 2 is not set for **AUTO-CHANGEOVER**, this step will not appear.

Number of Heat Stages (setup step 24) This setting assures proper stage callouts on the thermostat display for non-heat pump applications.

Number of Cool Stages (setup step 25) This setting assures proper stage callouts on the thermostat display for non-heat pump applications.

Number of Compressor Stages (setup step 26) ***This feature is for heat pump application only.*** This feature allows the thermostat to control 1 or 2 compressor stages when configured for heat pump.

Number of Aux Stages (setup step 27) ***This feature is for heat pump application only.*** This feature allows for proper Aux Heat Staging. (0-2 stages)

Deadband Settings (setup steps 28 - 37)

The Deadband is the number of degrees or minutes that the thermostat waits before it initiates the stages of heating or cooling.

1st Stage Deadband (setup step 28) - Specifies the minimum temperature difference between the room temperature and the desired setpoint before the first stage of heating or cooling is allowed to turn on. (1 - 6 degrees) For example, if the heat setpoint is 68˚ and the 1st Stage deadband is set to 2 degrees, the room temperature will need to reach **66**˚ before the heat turns on.

2nd Stage Deadband (setup step 29) - Specifies the additional minimum temperature difference after the first stage turns on before the second stage is activated. (0˚ - 10˚)

3rd Stage Deadband (setup step 30) - Specifies the additional minimum temperature difference after the second stage turns on before the third stage is activated. (0˚ - 10˚)

4th Stage Deadband (setup step 31) - ***(Two Stage heat pump only)*** - Specifies the additional minimum temperature difference after the third stage turns on before the final stage of strip heat is activated. (0˚ - 10˚)

Minutes Between 1st and 2nd Stage (setup step 32) - Specifies the *minimum* time (in minutes) after the first stage turns on before the second stage can turn on. (0 - 60)

Minutes Between 2nd and 3rd Stage (setup step 33) - Specifies the *minimum* time (in minutes) after the second stage turns on before the third stage can turn on. (0 - 60)

Minutes Between 3rd and 4th Stage (setup step 34) - Specifies the *minimum* time (in minutes) after the third stage turns on before the final stage can turn on. (0 - 60)

Second Stage Turnoff Point (setup step 35) - Specifies whether second stage will turn off at first stage deadband or remain on until the room temperature demand is satisfied. Choose between Deadband or Setpoint.

Third Stage Turnoff Point (Setup Step 36) - Specifies whether third stage will turn off at second stage deadband or remain on until the room temperature demand is satisfied. Choose between Deadband or Setpoint.

Fourth Stage Turnoff Point (Setup Step 37) - Specifies whether fourth stage will turn off at third stage deadband or remain on until the room temperature demand is satisfied. Choose between Deadband or Setpoint.

Minutes of Fan Purge (setup step 38)

When this feature is activated, the fan will turn on during an unoccupied period at a preset amount of time prior to Occupied 1. This preoccupancy fan purge timer may be set from zero to three hours, in 15 minute increments. Zero means this feature is turned off.

Fan Off Delay in Seconds (setup step 39)

This feature allows the user to increase the cooling or electric strip heating efficiency of the system. The thermostat may be programmed to continue running the fan after a call for cooling or electric strip heating has been satisfied. This delay can be set for 0, 30, 60, 90, or 120 seconds. If set to 0, the fan will not run after a call for cooling or electric strip heating has been satisfied.

Comfort Recovery (setup step 41)

With Comfort Recovery on, the thermostat will attempt to reach the Occupied 1 setpoint temperature at the exact time programmed into the thermostat. Comfort Recovery, only works when the thermostat enters the Occupied mode from the Unoccupied mode. For example, if the Occupied program is set for 6am at 72°F heating and 75°F cooling, the thermostat will turn the system on before 6am in an effort to bring the temperature to its correct setting at exactly 6am. The thermostat learns from experience, so please allow 4-8 days after a program change or after initial installation to give Comfort Recovery time to adjust. If used with a heat pump, electric strip heat will be disabled while Comfort Recovery is active.

Installer Setup

Dry Contact Operation (setup step 42 - 43)

Dry Contact Polarity (setup step 42)

Open (Normally Open) - The dry contact is open until the connected device closes the circuit.

Dry Contact Use (setup step 43)

CONDENSATE - If CONDENSATE is selected when the dry contact is active, the thermostat will lockout the compressor terminal(s) and "CONDENSATE PAN OVERFLOW" will appear on the display.

OCCUPIED - If OCCUPIED is selected, when the dry contact is active, the thermostat will be forced into the programmed occupied mode / setpoints and the 'occupied' icon will blink. This setting is useful for allowing a twist timer to force occupied settings.

FDD - If FDD is selected when the dry contact is active, "EQUIPMENT FAULT" will appear on the display.

Holiday - If HOLIDAY is selected, when the dry contact is active, the thermostat will be forced into the programmed unoccupied mode / setpoints and the 'unoccupied' icon will blink.

Skyport (setup step 44)

Set to ON to allow access to Skyport services or to OFF to not allow access to Skyport services.

Local API (setup step 45)

Set to ON to allow 3rd party software to interface with your thermostat such as home automation software.

Fahrenheit or Celsius (setup step 40)

This feature allows the thermostat to display temperature in Fahrenheit or Celsius.

Press Fan To Clear All Messages (setup step 54)

This feature allows the user to clear all current error messages from the display.

Overview

Explorer thermostats support the handling of specific signals from the utility provider. The utility generated signals carry pricing information and/or setback actions that alter the comfort settings of the thermostat in order to reduce energy usage on demand. This is known as Automated Demand Response or ADR for short. You must register to participate in a utility sponsored program, if offered by your local utility, to take advantage of this feature.

Skyport Cloud Services

From the web application the user will select Thermostat Settings from the left column. Then the Demand Response button is selected.

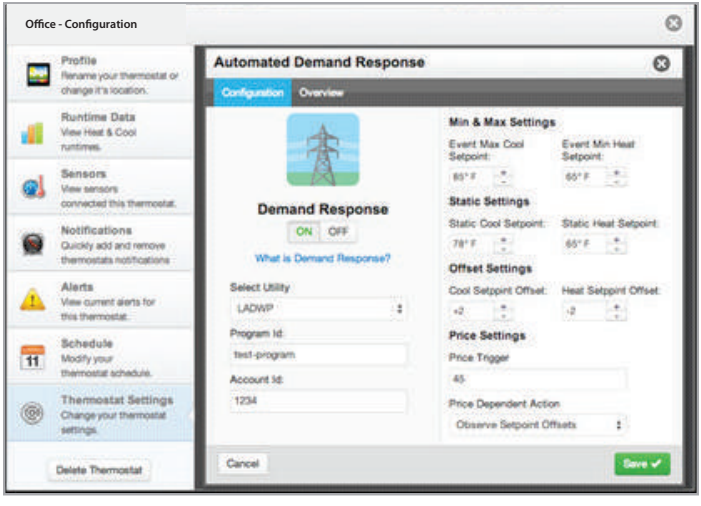
Installer Setup - Automated Demand Response

The Demand Response configuration page, shown below, is where the thermostat is configured to respond to the energy provider's signals. It also sets operational parameters for the thermostat.

The left column of the ADR configuration page allows or prevents access by the utility. Here communication with the utility and your thermostat may be turned On or Off.

The selected utility will provide a Program ID.

The Account ID would normally be the occupants utility account number.



Installer Setup - Automated Demand Response

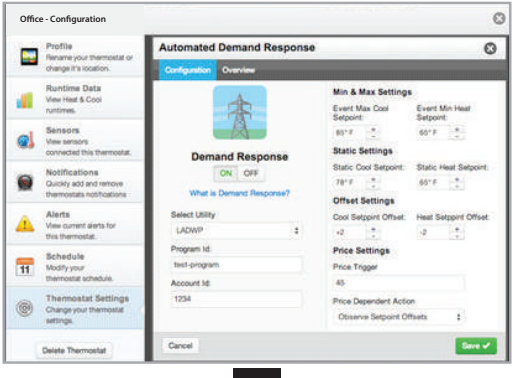
The right column of the ADR configuration page is where the occupant adjusts the operational parameters for ADR. The utility may send up to 3 types of ADR signals to Skyport. These are: **1)** Pricing for the cost of energy, **2)** An Offset to the occupants' comfort setpoints, and **3)** a signal to enforce discrete or Static setpoints.

The Maximum Cooling Setpoint and Minimum Heating Setpoints for ADR events are adjusted here.

The Static Settings are applied when the utility sends a signal to allow the occupant to enforce their own discrete temperature settings during an ADR event.

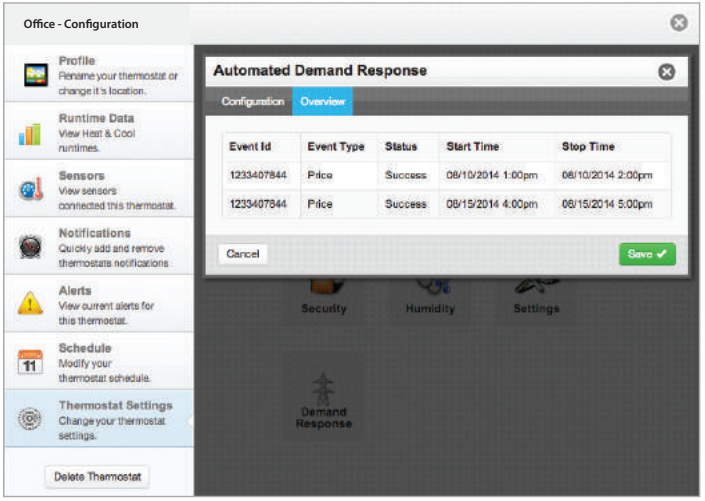
The Offset Settings allow the utility to modify the Cool or Heat setpoints by the value set here during an ADR event.

A Price Trigger setting allows the occupant to set the maximum cost of energy threshold. When this threshold is exceeded the Price dependent action is enforced. This Price Trigger and Dependent action is enforced independent of an ADR event, as long as the utility sends 'real-time' pricing.



Installer Setup - Automated Demand Response

Selecting the Overview tab of the ADR page will cause a summary of ADR events to be displayed.



ADR (setup step 46)

Controls whether you want the thermostat to possibly respond to signals from the utility provider. Select ON to allow this and to have steps 46-52 appear.

Price Dependent Action (setup step 47)

Allows the user to determine what action is taken when the price rises above the set threshold. Note that the threshold price is only adjustable via Skyport.

None – take no action when the set price threshold is exceeded

Observe Setpoint Offsets – will offset the heat and cool setpoints by the amounts specified in setup steps 52 and 53

Observe Static Setpoints – will set the heat and cool setpoints to the values specified in setup steps 50 and 51

Event Max Cool Setpoint (setup step 48)

Event Min Heat Setpoint (setup step 49)

Specifies the range of allowable setpoint adjustments to be enforced when any ADR signal has been received from the utility. Since you might be paying more for energy while an event is active, you can impose tighter limits on setpoint ranges that are only enforced during the event.

Static Cool Setpoint (setup step 50)

Static Heat Setpoint (setup step 51)

Specifies the setpoints that will come into use during an event when the PRICE DEPENDENT ACTION is set to OBSERVE STATIC SETPOINTS

Cool Setpoint Offset (setup step 52)

Heat Setpoint Offset (setup step 53)

Specifies how much the current setpoints in effect prior to an event will be altered during an event when the PRICE DEPENDENT ACTION is set to OBSERVE SETPOINT OFFSETS. The heat setpoint can be automatically lowered by 1 to 10 degrees while the cool setpoint can be automatically raised by 1 to 10 degrees

DISPLAY INDICATIONS WHEN AN ADR EVENT IS HAPPENING

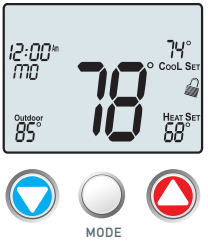
After setting your desired values for use during an ADR event, the scrolling display will give a little information when an event is pending or active. For instance, when an ADR event has been sent to your thermostat, you might see ADR STARTS at 4:15 to notify you of a pending event. Once active, you might see ADR STOPS at 5:30. If you have configured a threshold for cost of energy past which you want to trigger an event, you will see PRICING EVENT on the display. When an event is active, you can press any of COOLER, WARMER or MODE buttons, followed by the WARMER to opt out of the event.

Installer Setup

Locking/Unlocking the Keypad

To prevent unauthorized use of the thermostat, the front panel buttons may be disabled. To disable, or 'lock' the keypad, press and hold the MODE button. While holding the MODE button, press the WARMER and COOLER buttons together. The icon will appear on the display, then release the buttons.

Press all three buttons in the order outlined above for keypad lockout



To ***unlock*** the keypad, press and hold the MODE button. While holding the MODE button, press the WARMER and COOLER buttons together. The icon will disappear from the display, then release the buttons.

Installer Setup

Resetting the Thermostat to the Factory Default Settings

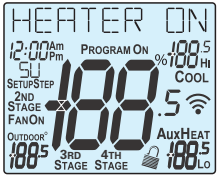
(for default values see page 42-43)

If, for any reason, you desire to return all the stored settings back to the factory default settings, follow the instructions below.

WARNING: This will reset all Time Period and Advanced Programming to the default settings. Any information entered prior to this reset may be permanently lost.

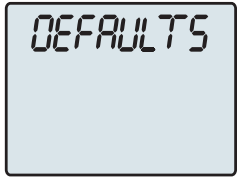
1. Press and hold SETUP for 10 seconds. All icons will appear on the display.

Keep pressing the SETUP button until you see this screen.



2. After all the icons appear, release SETUP. Press and hold FAN for 5 seconds. DEFAULTS will appear on the display.

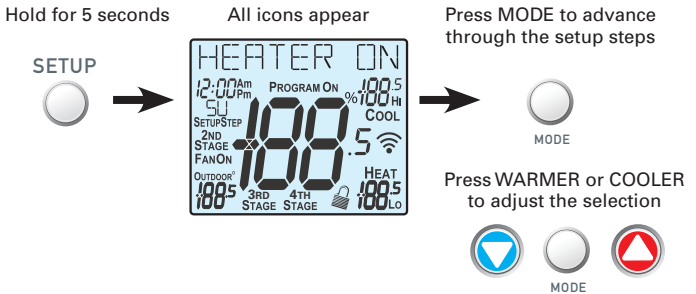
Keep pressing the FAN button until you see this screen.



3. After DEFAULTS appears, release FAN. Press SETUP to return to normal operation.

Technician Setup

To enter Technician Setup, press and hold the SETUP button for 10 seconds. After all the icons appear, press MODE. The version number of the thermostat will appear in the scrolling text. Press MODE to advance to the next step. Use the WARMER or COOLER buttons to adjust the value of your selection. To leave Technician Setup, press SETUP.



Technician Setup is for diagnostic and testing purposes and is intended for use by a qualified technician. See page 14 for more detailed instructions.

Technician Setup contains the following options:

- View the version number of the thermostat.
- View the Dip Switch equipment type settings.
- View the state of the Dry Contact.
- Turn on equipment outputs for testing.
- Calibrate thermostat and remote sensors.

Advanced Setup Table

Default = Factory Default Setting

Step#	Description	Pg#	Range	Default
1	Prog Mode	24	Non, 1 Day, 5/1/1 Day, 7 Day	7
2	Available Modes	24	Heat/Cool/Auto/Off, Heat/Cool/Off, Heat/Off, Cool/Off	Heat/Cool/ Auto/Off
3	Backlight	17	On, Off	Off
4	Backlight Level	17	Off thru 7 levels of brightness	Level 5
5	Night Dimmer	17	On/Off	Off
6	Night Dimmer Brightness	17	Off thru 7 levels of brightness	2 (20%)
7	Night Dimmer Start Time	17	12A-12A	8:00P
8	Night Dimmer Stop Time	17	12A-12A	6:00A
9	Current Service Filter Runtime Hours	22	0-1999 Hours	0
10	Current Service Filter Calendar Days	22	0-720 Days	0
11	Current Override Hours	7	0-1999 Hours	0
12	Current UV Lamp Calendar Days	23	0-720 Days	0
13	Set Service Filter Runtime Hours	22	0-1950 hours	0
14	Set Service Filter Calendar Days	22	0-720 Days	0
15	Set UV Lamp Calendar Days	23	0-720 Days	0
16	Language	17	English, Espanol, Francais	English
17	Scrolling Method	18	"L-R Slow, L-R Fast, Word L-R Slow, Word L-R Fast, Whole Word L Slow, Whole Word R Slow, Whole Word Ctr. Fast, Whole Word Ctr. Slow"	"Whole Words Center Fast"
18	Setpoint Limits	26	0 - 3	0
19	Max Heat Setpoint	26	35 - 99 Degrees	74
20	Min Cool Setpoint	26	35 - 99 Degrees	70
21	Cycles Per Hour	26	No Limit, 2, 3, 4, 5, 6	6
22	Compressor Minimum Off Minutes	26	0, 3, 5 Minutes	5
23	Min. Heat/Cool Setpoint Difference	26	0 - 6 Degrees	2
24	Number of Heat Stages	26	0 - 3	2
25	Number of Cool Stages	26	0 - 2	1
26	Number Of Compressor Stages	26	1, 2	1
27	Number of Aux Stages	26	0, 1, 2	0
28	1st Stage Deadband	27	1 - 6 Degrees	2
29	2nd Stage Deadband	27	0 - 10 Degrees	2
30	3rd Stage Deadband	27	0 - 10 Degrees	2
31	4th Stage Deadband	27	0 - 10 Degrees	2
32	Minutes Between 1st and 2nd Stage	27	0 - 60 Minutes	2
33	Minutes Between 2nd and 3rd Stage	27	0 - 60 Minutes	2
34	Minutes Between 3rd and 4th Stage	27	0 - 60 Minutes	2

cont. next page

Advanced Setup Table

Default = Factory Default Setting

Step#	Description	Pg#	Range	Default
35	2nd StageTurnoff Point	27	Deadband, Setpoint	Deadband
36	3rd StageTurnoff Point	27	Deadband, Setpoint	Deadband
37	4th Stage Turnoff Point	27	Deadband, Setpoint	Deadband
38	Minutes fo Fan Purge	28	0 - 3:00, 15 min. increments - 0 = off	0
39	Fan Off Delay	28	0 - 120 Seconds	0
40	F/C	29	Fahrenheit (F), Celsius (C)	F
41	Comfort Recovery	28	On, Off	Off
42	Dry Contact Polarity	29	Open, Closed	Open
43	Dry Contact Use	29	Condensate Pan, Occupied, FDD, Holiday	
44	Skyport	29	On, Off	On
45	Local API	29	On, Off	Off
46	ADR	34	On, Off	Off
47	Price Dependent Action	34	None, Observe Setpoint Offset, Observe Static Setpoints	None
48	Event Max Cool Setpoint	34	65 - 85	85
49	Event Min Heat Setpoint	34	65 - 85	65
50	Static Cool Setpoint	34	65 - 85	78
51	Static Heat Setpoint	34	65 - 85	68
52	Cool Setpoint Offset	35	1 to 10	2
53	Heat Setpoint Offset	35	-1 to -10	-2
54	Press Fan To Clear All Messages	29		

Troubleshooting

- **SYMPTOM:** The air conditioning does not attempt to turn on.
  CAUSE: The compressor timer lockout may prevent the air conditioner from turning on for a period of time.
  REMEDY: Consult the Owner's Manual in the Installer Setup section to defeat the Cycles Per Hour *(page 28)*.
- **SYMPTOM:** The display is blank.
  CAUSE: Lack of proper power.
  REMEDY: Make sure the power is on to the furnace and that you have 24vac between **R & C.**
- **SYMPTOM:** The air conditioning does not attempt to turn on.
  CAUSE: The cooling setpoint is set too high.
  REMEDY: Lower the cooling setpoint or lower the cooling set-point limit. *See Setpoint Limits (page 22).*
- **SYMPTOM:** The heating does not attempt to turn on.
  CAUSE: The heating setpoint is set too low.
  REMEDY: Raise the heating setpoint or raise the heating set-point limit. *See Setpoint Limits (page 22).*
- **SYMPTOM:** When controlling a residential heat pump, and asking for cooling, the heat comes on.
  CAUSE: The thermostat reversing valve jumper is set for **"B".**
  REMEDY: Set the reversing valve jumper for **"O".**
- **SYMPTOM:** When calling for cooling, both the heat and cool come on.
  CAUSE: The thermostat equipment jumper is configured for **"HP"** and the HVAC unit is a Gas/Electric.
  REMEDY: Set the equipment jumper for **"Gas".**
- **SYMPTOM:** When the Program button is pressed, the display reads "DISABLED".
  CAUSE: Program mode is set to **"NON PROGRAM".**
  REMEDY: Set Program Mode (Setup 1) to **1, 5/2,** or **7 Day.**
  See Selecting Your Program Mode (page 26).

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Warranty

One-Year Warranty - This Product is warranted to be free from defects in material and workmanship. If it appears within one year from the date of original installation, whether or not actual use begins on that date, that the product does not meet this warranty, a new or remanufactured part, at the manufacturer's sole option to replace any defective part, will be provided without charge for the part itself provided the defective part is returned to the distributor through a qualified servicing dealer.

THIS WARRANTY DOES NOT INCLUDE LABOR OR OTHER COSTS incurred for diagnosing, repairing, removing, installing, shipping, servicing or handling of either defective parts or replacement parts. Such costs may be covered by a separate warranty provided by the installer.

THIS WARRANTY APPLIES ONLY TO PRODUCTS IN THEIR ORIGINAL INSTALLATION LOCATION AND BECOMES VOID UPON REINSTALLATION.

LIMITATIONS OF WARRANTIES – ALL IMPLIED WARRANTIES (INCLUDING IMPLIED WARRANTIES OF FITNESS FOR A PARTICULAR PURPOSE AND MERCHANTABILITY) ARE HEREBY LIMITED IN DURATION TO THE PERIOD FOR WHICH THE LIMITED WARRANTY IS GIVEN. SOME STATES DO NOT ALLOW LIMITATIONS ON HOW LONG AN IMPLIED WARRANTY LASTS, SO THE ABOVE MAY NOT APPLY TO YOU. THE EXPRESSED WARRANTIES MADE IN THIS WARRANTY ARE EXCLUSIVE AND MAY NOT BE ALTERED, ENLARGED, OR CHANGED BY ANY DISTRIBUTOR, DEALER, OR OTHER PERSON WHATSOEVER.

ALL WORK UNDER THE TERMS OF THIS WARRANTY SHALL BE PERFORMED DURING NORMAL WORKING HOURS. ALL REPLACEMENT PARTS, WHETHER NEW OR REMANUFACTURED, ASSUME AS THEIR WARRANTY PERIOD ONLY THE REMAINING TIME PERIOD OF THIS WARRANTY.

THE MANUFACTURER WILL NOT BE RESPONSIBLE FOR:

1. Normal maintenance as outlined in the installation and servicing instructions or owner's manual, including filter cleaning and/or replacement and lubrication.
2. Damage or repairs required as a consequence of faulty installation, misapplication, abuse, improper servicing, unauthorized alteration or improper operation.
3. Failure to start due to voltage conditions, blown fuses, open circuit breakers or other damages due to the inadequacy or interruption of electrical service.
4. Damage as a result of floods, winds, fires, lightning, accidents, corrosive environments or other conditions beyond the control of the Manufacturer.
5. Parts not supplied or designated by the Manufacturer, or damages resulting from their use.
6. Manufacturer products installed outside the continental U.S.A., Alaska, Hawaii, and Canada.
7. Electricity or fuel costs or increases in electricity or fuel costs for any reason whatsoever including additional or unusual use of supplemental electric heat.
8. ANY SPECIAL INDIRECT OR CONSEQUENTIAL PROPERTY OR COMMERCIAL DAMAGE OF ANY NATURE WHATSOEVER. Some states do not allow the exclusion of incidental or consequential damages, so the above may not apply to you.

This warranty gives you specific legal rights and you may also have other rights which may vary from state to state.

Programming Worksheet - see page 23

DAY	PERIOD	START TIME	COOL	HEAT	
MONDAY	Unoccupied				
	Occupied 1				
	Occupied 2				
	Occupied 3				
TUESDAY	Unoccupied				*Copy Mon to Tues* ☐ *No* ☐ *Yes*
	Occupied 1				
	Occupied 2				
	Occupied 3				
WEDNESDAY	Unoccupied				*Copy Tues to Wed* ☐ *No* ☐ *Yes*
	Occupied 1				
	Occupied 2				
	Occupied 3				
THURSDAY	Unoccupied				*Copy Wed to Thurs* ☐ *No* ☐ *Yes*
	Occupied 1				
	Occupied 2				
	Occupied 3				
FRIDAY	Unoccupied				*Copy Thurs to Fri* ☐ *No* ☐ *Yes*
	Occupied 1				
	Occupied 2				
	Occupied 3				
SATURDAY	Unoccupied				*Copy Fri to Sat* ☐ *No* ☐ *Yes*
	Occupied 1				
	Occupied 2				
	Occupied 3				
SUNDAY	Unoccupied				*Copy Sat to Sun* ☐ *No* ☐ *Yes*
	Occupied 1				
	Occupied 2				
	Occupied 3				

Patent Pending

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Submittal

Harrison
Energy Partners

Prepared For:
Lewis Architects Engineers

Date:
October 26, 2022

Sold To:
Comfort Systems

Job Name:
Camp Robinson Bldg. 2602

Harrison Energy Partners is pleased to provide the enclosed submittal for your review and approval.

Qty.	Product Summary
1	Split System (CU/F-1)

Jake Skinner | Account Manager
Harrison Energy Partners
1501 Westpark Dr, Ste 9
Little Rock, AR 72204
(501) 539-0301 cell
(501) 661-0621 office

The attached information describes the equipment we propose to furnish for this project, and is submitted for your approval.

Split System

Item	Tag	Qty.	Description	Model Number
A1	CU/F-1	1	3-Ton Upflow Split System	Daikin (DX16SA0371/DM96VC0603BN)

- 208/1/60
- 96% AFUE furnace
- Cooling coil
- Thermal expansion valve
- Scroll compressor
- Concentric vent kit – field-installed
- Filter rack w/ filter – field-installed
- Thermostat – field-installed

Submittal Data Sheet

3 Ton, AC, Single Stage, 16 SEER - DX16SA0371

Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

STANDARD FEATURES

- High-efficiency scroll compressor
- High-density foam compressor sound blanket
- Advanced Copeland CoreSense technology
- Single-speed PSC condenser fan motor
- Factory-installed filter drier
- Copper tube / enhanced aluminum fin coil
- Sweat connection service valves with easy access to gauge ports
- AHRI Certified
- ETL Listed

CABINET FEATURES

- Heavy-gauge galvanized-steel cabinet with grille-style sound control top design
- Custom Nickel Gray powder-paint finish
- 500-hour salt-spray tested
- Wire fan discharge grille
- Steel louver coil guard
- Rust-resistant coated screws
- Top and side maintenance access
- Single-panel access to controls with space provided for field-installed accessories
- When properly anchored, meets the 2010 Florida Building Code unit integrity requirements for hurricane-type winds (Anchor bracket kits available.)

Submittal Data Sheet

3 Ton, AC, Single Stage, 16 SEER - DX16SA0371

Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

PERFORMANCE COMBINATION (HSVTC)

* VALUES SHOWN ARE FOR AHRI RATED HIGH SALES VOLUME TESTED

Outdoor Unit Model No.	DX16SA0371	Outdoor Unit Name:	3 Ton, AC, Single Stage, 16 SEER
Rated Cooling Conditions:	Indoor (°F DB/WB): 80 / 67 Ambient (°F DB/WB): 95 / 75	Rated Heating Conditions:	Indoor (°F DB/WB): / Ambient (°F DB/WB): /
* EER:	12.50	* EER2:	
* SEER:	15.00	* SEER2:	
* Rated Cooling Capacity (Btu/hr):	36,000		

OUTDOOR UNIT DETAILS

Power Supply (V/Hz/Ph):	208/230 / 60 / 1	Compressor Type:	Single Stage
Min. Circuit Amps MCA (A):		Suction Valve Connection Size (inch):	7/8
Max Overcurrent Protection (MOP) (A):	35	Liquid Valve Connection Size (inch):	3/8
Rated Load Amps RLA(A):	15.4	Sound Power (High) (dBA):	73
Refrigerant Type:	R-410A	Cooling Operation Range (°F DB):	65 - 115
Holding Refrigerant Charge (ozs):	93	Heating Operation Range (°F DB):	-
Additional Charge (lb/ft):	0.60	Max. Pipe Length (Vertical) (ft):	80
Pre-charge Piping (Length) (ft):	15	Min. Cooling Range w/Baffle (°F DB):	55
Max. Pipe Length (Total) (ft):	250	Min. Heating Range w/Baffle (°F DB):	
Net Weight (lb):	182	Gross Weight (lb):	215
Dimensions (HxWxD) (in):	36-1/4 x 35-1/2 x 35-1/2		

Submittal Data Sheet

3 Ton, AC, Single Stage, 16 SEER - DX16SA0371

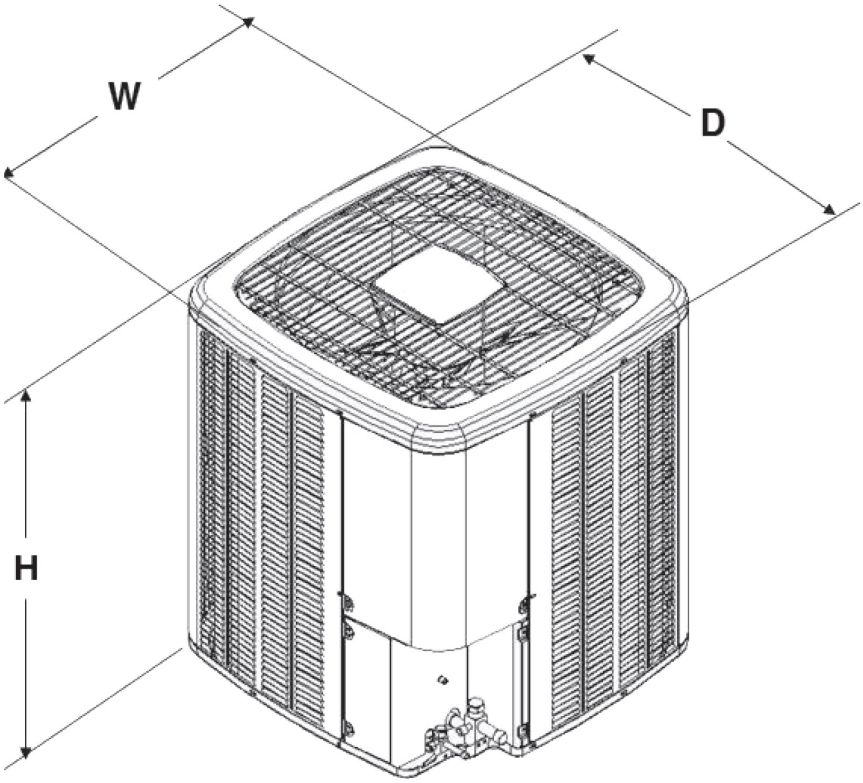
Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

DIMENSIONAL DRAWING



Model	Dimensions		
	W"	D"	H"
DX16SA0181A*	29	29	32¼
DX16SA0241A*	29	29	32¼
DX16SA0301A*	29	29	36¼
DX16SA0311A*	29	29	38¼
DX16SA0361A*	29	29	38¼
DX16SA0371A*	35½	35½	36¼
DX16SA0421A*	35½	35½	36¼
DX16SA0481A*	35½	35½	36¼
DX16SA0601A*	35½	35½	38¼
DX16SA0611A*	35½	35½	38¼

Submittal Data Sheet

3 Ton, Cased Painted Upflow/Downflow, Coil - CAPF3137B6

Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

STANDARD FEATURES

- 1. All-Aluminum evaporator coil
- 2. Optimized for use with R-410A refrigerant
- 3. Check flowrator for cooling and heat pump applications
- 4. Vertical application
- 5. 21" depth for easier attic access
- 6. Galvanized, leather grain-embossed finish
- 7. Rust resistant, thermoplastic drain pans featuring a low water-retention design
- 8. AHRI certified
- 9. ETL Listed

CABINET FEATURES

- 1. Twenty one inch depth for easier attic access
- 2. Split seam front for easy access
- 3. Foil-faced insulation covers the internal casing to reduce cabinet condensation
- 4. Galvanized, leather grain-embossed finish

Submittal Data Sheet

3 Ton, Cased Painted Upflow/Downflow, Coil - CAPF3137B6

Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

PERFORMANCE

Product Model No.	CAPF3137B6	Product Model Name:	3 Ton, Cased Painted Upflow/Downflow, Coil
Type:	Coil	Cooling Capacity (Nominal) (Btu/hr):	36,000

PRODUCT DETAILS

Dimensions (HxWxD) (in):	30 x 17-1/2 x 21	Suction Valve Connection Size (inch):	3/4
Net Weight (lb):	53	Liquid Valve Connection Size (inch):	3/8
Gross Weight (lb):	62	Condensate Connection (inch):	3/4

Submittal Data Sheet

3 Ton, Cased Painted Upflow/Downflow, Coil - CAPF3137B6

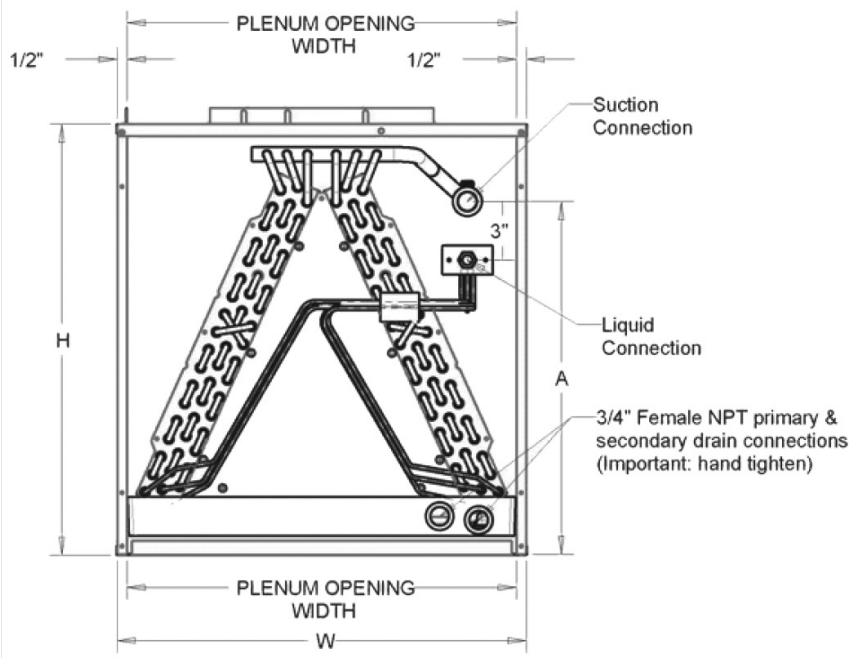
Project: Camp Robinson Bldg. 2602

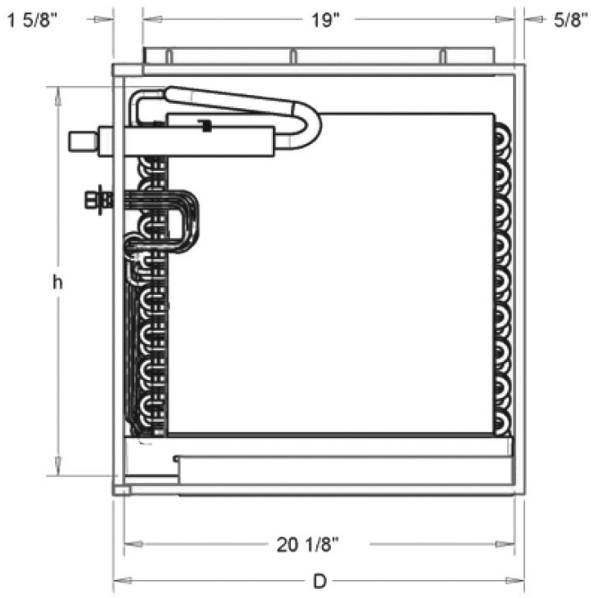
Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

DIMENSIONAL DRAWING





Submittal Data Sheet

Two-Stage, Variable-Speed ECM, communicating Gas Furnace, 60k BTU/h - DM96VC0603BN

Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

STANDARD FEATURES

- Compatible with the Daikin One+ smart thermostat and other Daikin communicating equipment
- Heavy-duty stainless-steel tubular heat exchanger
- Stainless-steel secondary heat exchanger
- Two-stage gas valve provides quiet, economical heating
- Durable Silicon Nitride igniter
- Quiet two-speed induced draft blower
- Utilizes ComfortNet communicating, two stage or single-stage thermostats
- Self-diagnostic control board with constant memory fault code history output to a dual 7-segment display
- Color-coded low-voltage terminals with provisions for electronic air cleaner and humidifier
- Efficient and quiet variable-speed airflow system gently ramps up or down according to heating or cooling demand
- Multiple continuous fan speed options offer quiet air circulation
- Auto-Comfort and enhanced dehumidification modes available
- All models comply with California 40 ng/J Low NOx emissions standard
- AHRI Certified
- ETL Listed

CABINET FEATURES

- Designed for multi-position installation: Upflow, horizontal left or right
- Certified for direct vent (2-pipe) or non-direct vent (1-pipe)
- Easy-to-install top venting with optional side venting
- Convenient left or right connection for gas and electrical service
- Cabinet air leakage (QLeak) less than 2%
- Heavy-gauge steel cabinet with durable finish
- Fully insulated heat exchanger and blower section
- Airtight solid bottom or side return with easy-cut tabs for effortless removal in bottom air-inlet applications

NOTES

- Complete warranty details available from your local dealer or at www.daikincomfort.com. To receive the Lifetime Heat Exchanger Limited Warranty (good for as long as you own your home), the 12-Year Unit Replacement Limited Warranty and the 12-Year Parts Limited Warranty, online registration must be completed within 60 days of installation. Additional requirements for annual maintenance are required for the Unit Replacement Limited Warranty. Online registration and some of the additional requirements are not required in California or Quebec.

Submittal Data Sheet

Two-Stage, Variable-Speed ECM, communicating Gas Furnace, 60k BTU/h - DM96VC0603BN

Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

PERFORMANCE

Product Model No.	DM96VC0603BN	Product Model Name:	Two-Stage, Variable-Speed ECM, communicating Gas Furnace, 60k BTU/h
AFUE % Rating:	96%	Rated Heating Capacity (Btu/hr):	60,000
Temperature Rise Range (°F) (Low/High):	/	Furnace Input Capacity (Btu/hr):	60,000
Rated External Static Pressure - inWG:	0.5	Furnace Output Capacity (Btu/hr):	57,660
Blower Speed (RPM):	1,075	Blower Motor Rating (HP):	1/2
Blower Input Power (kW):	0.86	Blower Available AC Tonnage (L/H):	1.50 / 3.00

PRODUCT DETAILS

Power Supply (V/Hz/Ph):	115 / 60 / 1	Airflow Rate (High) (CFM):	1200
Min. Circuit Amps MCA (A):	7.1	Motor Type:	Variable Speed ECM
Max Overcurrent Protection (MOP) (A):	15.0	Gas Valve Type:	Two Stage
Dimensions (HxWxD) (in):	34-1/2 x 17-1/2 x 28-7/8	Installation Configuration:	Upflow/Horizontal
Number of Burners:	3	Blower Size Diameter (inch):	11
Heating Vent Diameter in. (Min/Max):	/	Blower Size Width (inch):	8
Condensate Connection (inch):		Sound Pressure () (dBA):	
Net Weight (lb):	117	Gross Weight (lb):	129

Submittal Data Sheet

Two-Stage, Variable-Speed ECM, communicating Gas Furnace, 60k BTU/h - DM96VC0603BN

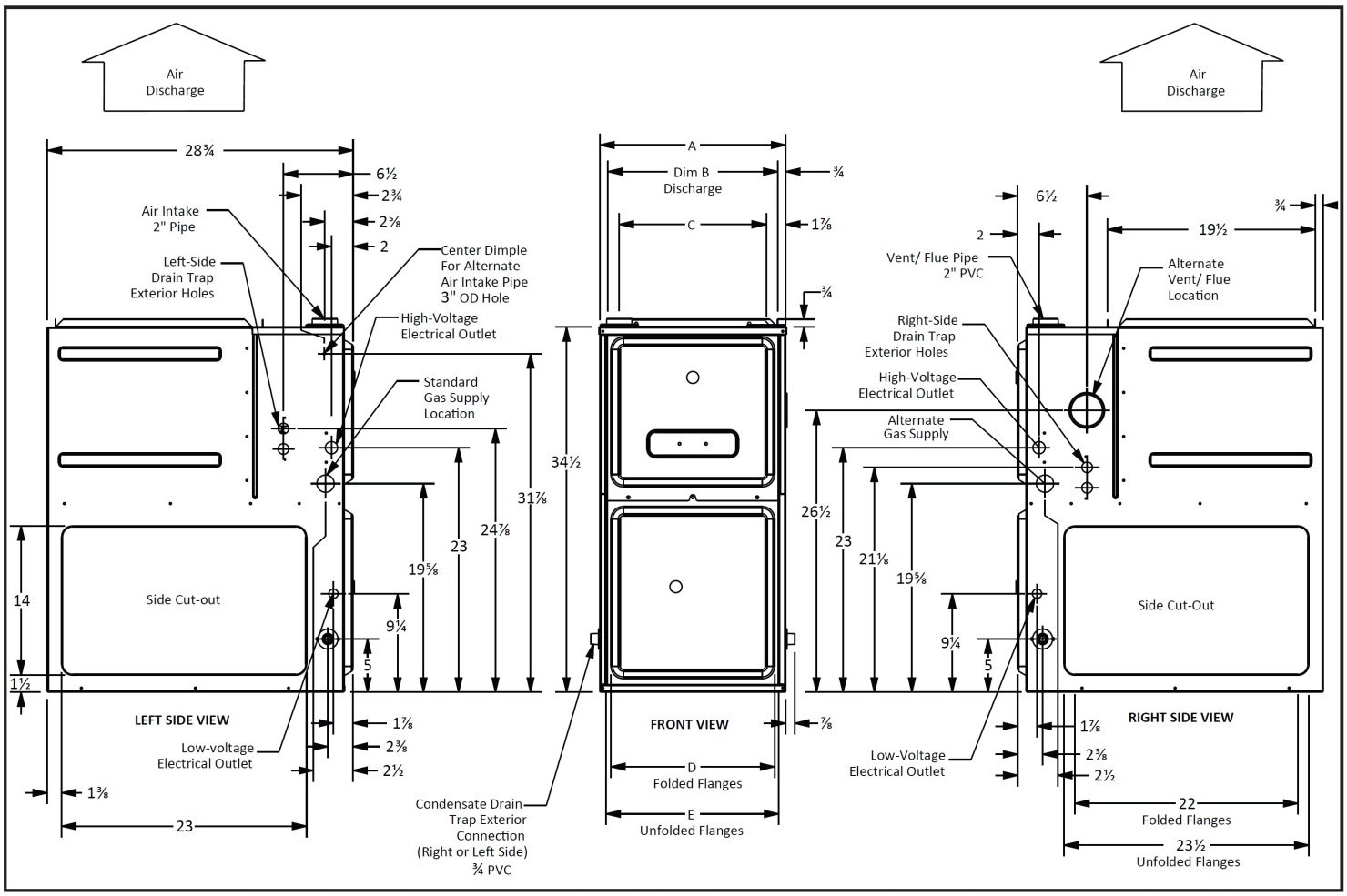
Project: Camp Robinson Bldg. 2602

Submitted by: Tufail Muhammad of HARRISON ENERGY PARTNERS on 10/26/2022

Submitted to: No Engineer Name Specified

Tags: || AHRI 8982299: Products [DX16SA0371, CAPF3137B6, DM96VC0603BN], SEER 16, EER 13, Cooling 35400, Fit 0, AFUE 96

DIMENSIONAL DRAWING



Model	A	B	C	D	E
DM96VC0403BNA	17½"	16"	13⅞"	12⅛"	13⅝"
DM96VC0603BNA	17½"	16"	13⅞"	12⅛"	13⅝"
DM96VC0803BNA	17½"	16"	13⅞"	12⅛"	13⅝"
DM96VC0804CNA	21"	19½"	17⅜"	16"	17½"
DM96VC1005CNA	21"	19½"	17⅜"	16"	17½"
DM96VC1205DNA	24½"	23"	20⅞"	19⅜"	20⅞"

Minimum Clearances to Combustible Materials

Position	Sides	Rear	Front	Bottom	Flue	Top
Upflow	0"	0"	3"	C	0"	1"
Horizontal	6"	0"	3"	C	0"	6"

C = If placed on combustible floor, the floor MUST be wood ONLY.

DAIKIN

Its sleek styling and white color blend beautifully into any decor.

COMMERCIAL models

PREMIUM

Digital Thermostat

5.2"w x 4.2"h x 1.1"d

STANDARD FEATURES

- Gas/electric or heat pump – Multi-stage
- *"Simple as you want Operation™"*
  - Switchable: programmable or non-programmable
  - Switchable: auto changeover, or heat or cool only
- Large, easy to read display
- Scrolling display makes setup easy
- Adjustable backlight intensity
- Backlit, color coded buttons and legends
- Choice of English, French or Spanish for scrolling display
- Bi-color LED indicates a heating or cooling demand
- Dry contact input
- Outdoor sensor ready
- Random start
- Fahrenheit or Celsius display
- Service alert indicators
- Compatible with condensate overflow warning systems – lockout compressor with message on the display
- Keypad lock
- Non-volatile memory
- Wireless connectivity with optional accessory
- ADR (Automated Demand Response) ready
- FDD (Equipment Fault Protection) notification
- API for 3rd party monitor and control
- Night dimmer for brightness control in sensitive areas at night
- Configurator app to easily setup Wi-Fi and thermostat settings

c UL us LISTED 4Z95

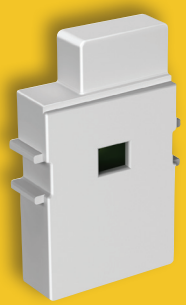
Accessories:
TSTATGAC-LR Lock Ring, TSTATGAC-WP Wall Plate, TSTATGAC-WFS WiFi Sensor and the WiFi module below

Optional Wi-Fi Module available*

Wi Fi

TSTATGAC-VWF

**Not included with thermostat*



Apple, Android and Blackberry mobile apps available

Skyport™ CLOUD SERVICES

model D2200C

All of the standard features plus:

- Non-programmable
- 2 heat, 2 cool stages
- Controls to, or monitors a 2nd sensor
- Setpoint limiting
- Up to 4 hours override
- Controls humidification, dehumidification

model D4271C

All of the standard features plus:

- 4 heat, 2 cool stages *"Simple as you want Operation™" Choose 7-day, 5+1+1 day or 1-day programming. Up to 3 occupied periods per day*
- Adjustable deadbands and timers between stages
- Outdoor sensor ready with high/low temps for the day
- Smart fan operation
- Holiday mode
- Smart recovery
- 365 day holiday programming (when connected to Skyport)
- Title 24 Compliant

model D4272C

All of the D4271C features plus:

- Control to or monitor a 2nd temperature sensor
  - *Can also average 1 remote sensor with the thermostat sensor*
- Controls humidification, dehumidification and reheat
- Pre-occupancy fan purge
- Programmable output
- Light activated
- Energy watch
- Title 24 Compliant

Industry Canada Industrie Canada

c UL us LISTED 4Z95

Thermostat MUH-SKYPORT3 FC Tested to Comply with FCC Standards FOR HOME OR OFFICE USE