COMFORT PACK

SERVICE GUIDE

3rd Edition

Gas & Electric Models

Go Thru-the-Wall

NATIONAL® COMFORT PRODUCTS
HEATING & A/C EQUIPMENT

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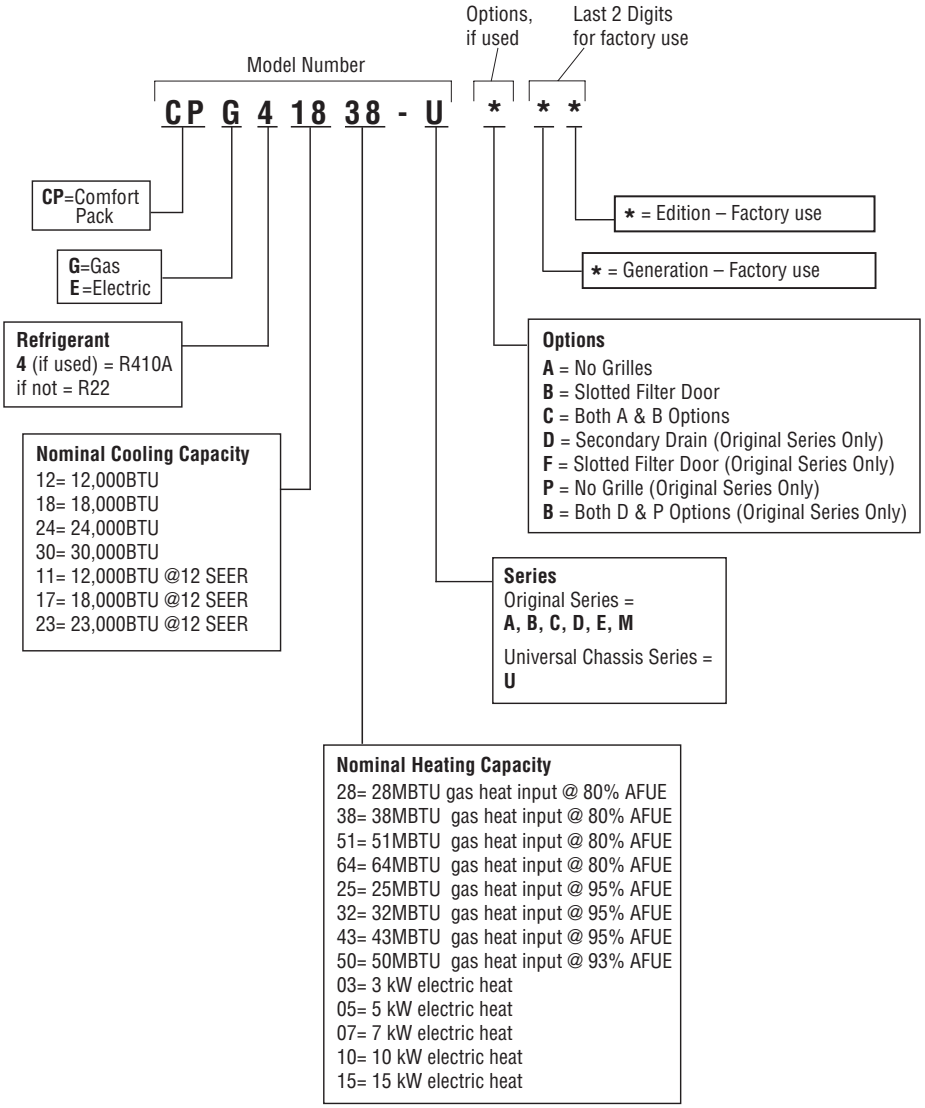
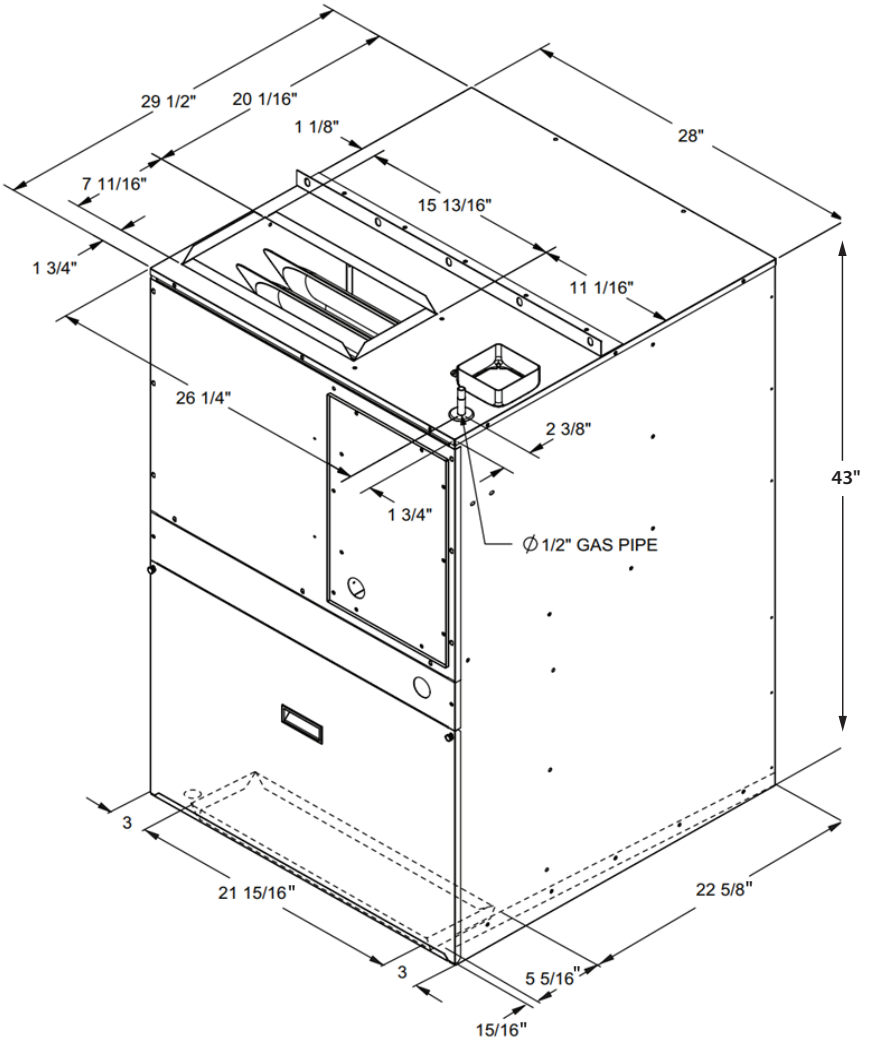
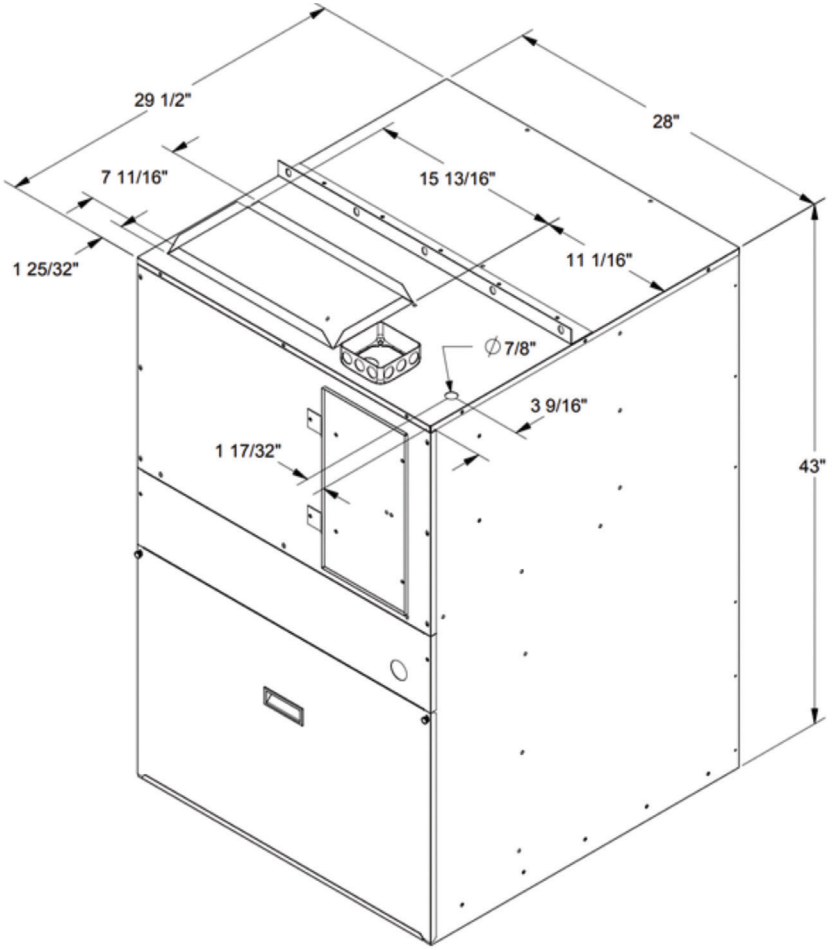
Comfort Pack Model Number Identification



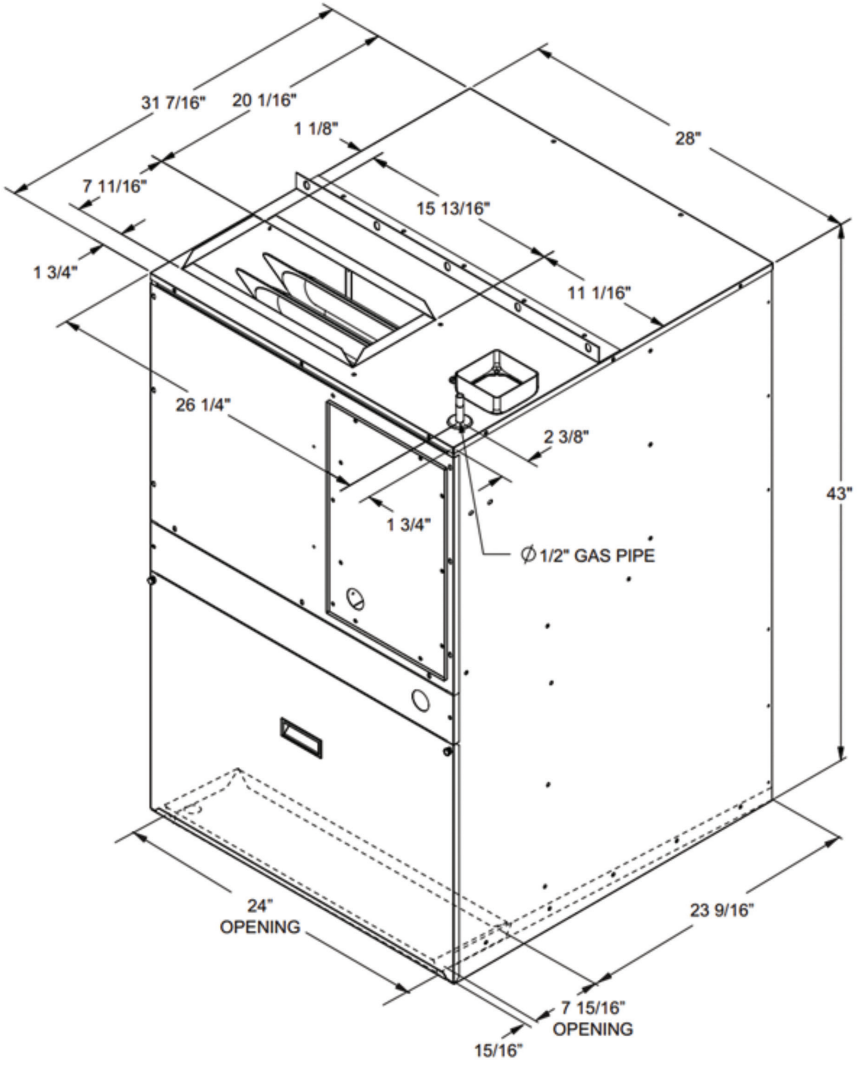
Original R22 with Gas Heat (A & B Series)



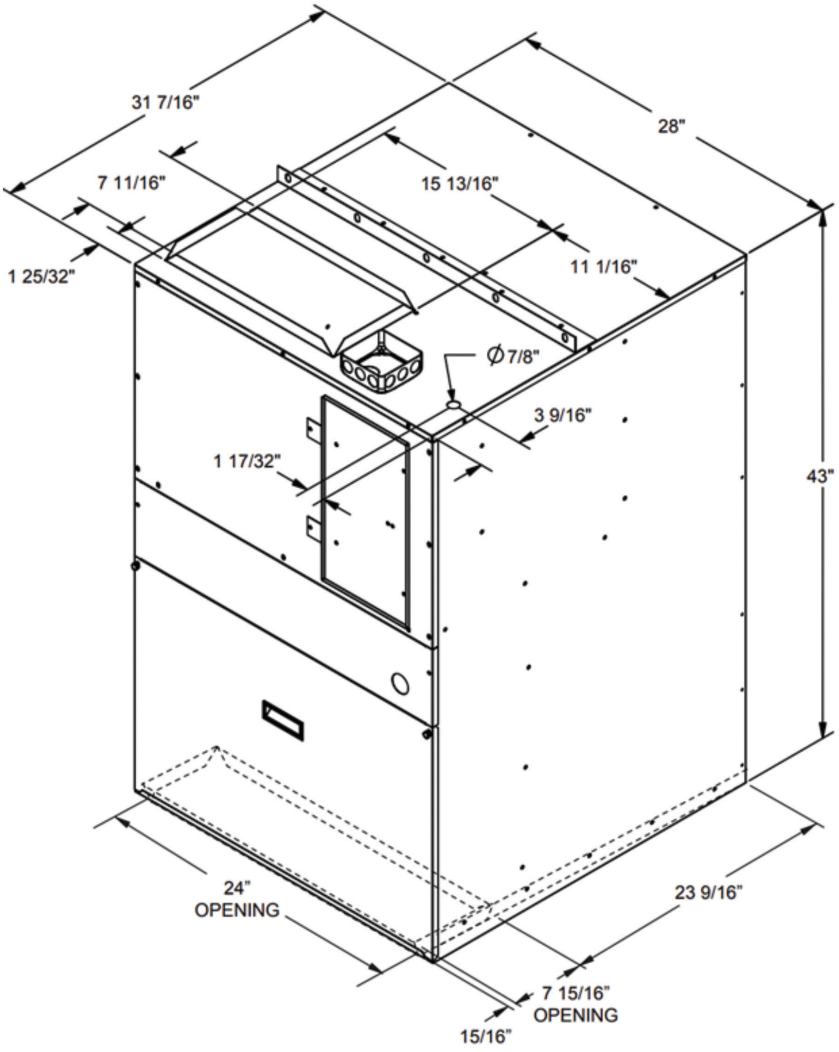
Original R22 with Electric Heat (A & B Series)



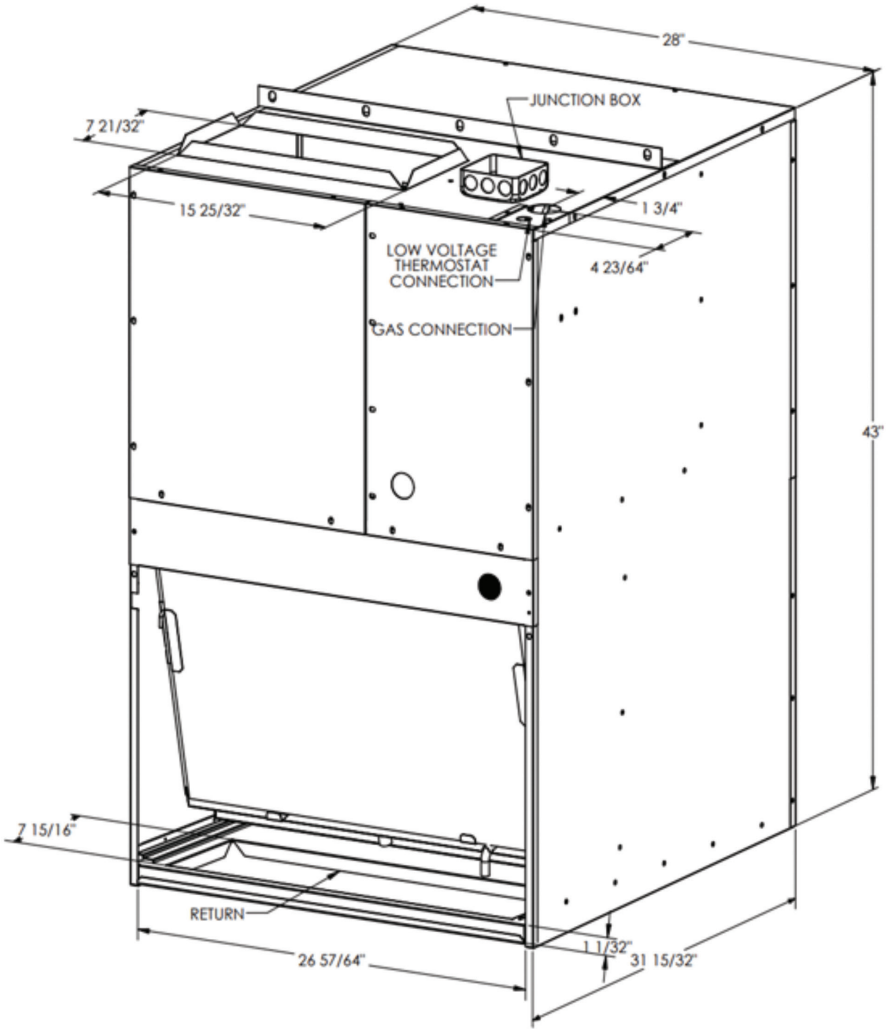
Original R410A with Gas Heat (B, C, D, E Series)



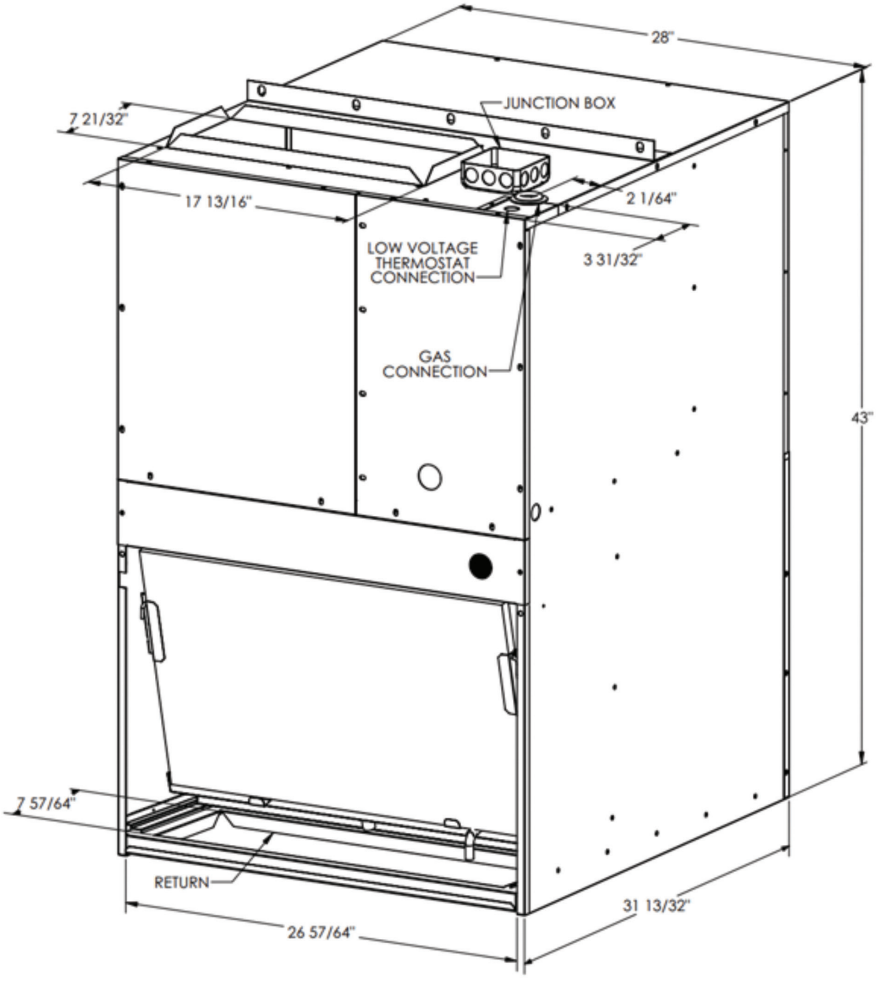
Original R410A with Electric Heat (B, C, D, E Series)



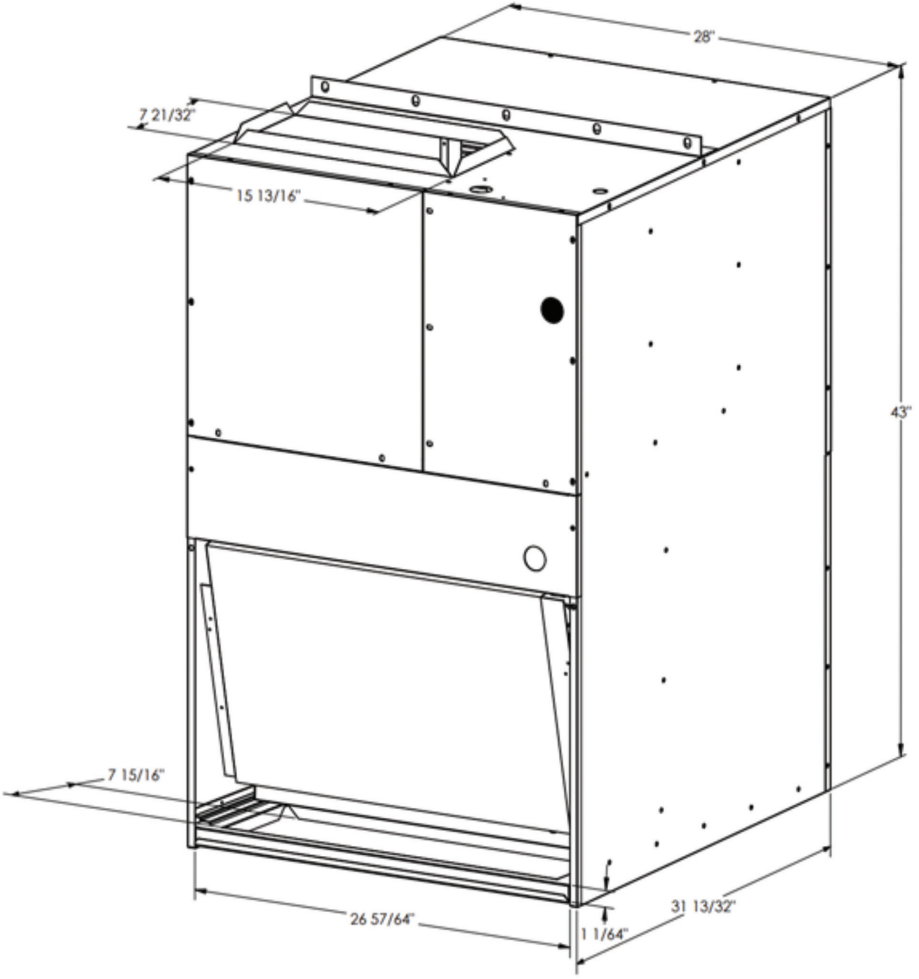
U-Series R410A 80% Gas Heat



U-Series R410A up to 95% Gas Heat



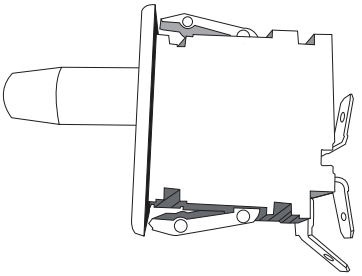
U-Series R410A Electric Heat



IMPORTANT NOTE!

Interlock Door Switch

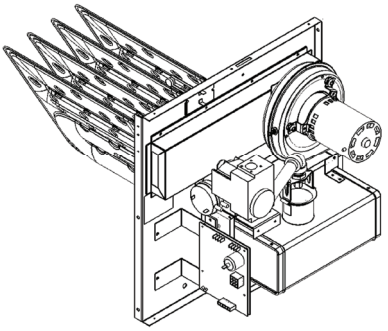
All CPG (GAS MODELS) come equipped with an interlock door switch. This switch is located behind the bottom filter access panel on the left-hand side of the unit. When the filter access panel is removed this switch will open and disconnect all low voltage to the control board. This will shut down the unit but will not disconnect any active line voltage inside the Comfort Pack.



Non-Condensing 80% Gas Furnace

The non-condensing gas furnace is equipped with the following components.

1. Clamshell Heat Exchanger
2. DSI Control Board
3. Inducer Motor w/ Wheel, Housing, and Metal Flue Pipe
4. Single Orifice Ribbon Style Burner Assembly
5. Furnace safeties (Inducer Pressure Switch, Flame Rollout Limit Switch, Main Air High Limit Switch and Flame Sensor
6. Gas Valve
7. DSI Electrode (Spark Ignitor)



Specifications for A, B, C, D & E Series Non-Condensing Furnaces

Heat Module P/N	**14208309**	**14208308**	**14208303**
Input (BTU)	38,000	51,000	64,000
Output (BTU)	30,400	40,800	51,200
Max External Static Pressure (in w.c.)	0.5	0.5	0.5
Temperature Rise (°F)	40 TO 70	40 TO 70	55 TO 85
Blower Speed Setting	LOW	MED	HIGH
Orifice Size (NG)	31	28	22
Orifice Size (LP)	49	2.1 mm	41
Nominal Temperature Rise (°F)	55	55	65
Allowable Air Temperature Range (°F)	140-170	140-170	135-165
CO^2 %- Acceptable Range	4.2 TO 5.2	4.8 TO 5.8	4.5 TO 5.5
CO^1- Air Free - ppm	0-200	0-200	0-200
Sensing Cold (in w.c.)	1.05 +/- .1	1.05 +/- .1	1.05 +/- .1
Pressure Hot (in w.c.)	.8 +/- .05	.8 +/- .05	.8 +/- .05
Efficiency (% - Range)	81.5-82.5	81.5-82.5	80.1-81.1
Stack Temperature (°F)	245-300	245-300	270-330

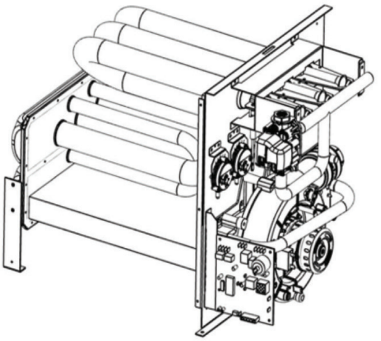
Specifications for U-Series Non-Condensing Furnaces

Heat Module P/N	**14208378**	**14208379**	**14208380**	**14208381**
Input (BTU)	28,000	38,000	51,000	64,000
Output (BTU)	22,400	30,400	40,800	51,200
Max External Static Pressure (in w.c.)	0.5	0.5	0.5	0.5
Temperature Rise (°F)	45 to 60	40 to 70	40 to 70	55 to 85
Blower Speed Setting	Low (5)	Med. Low (4)	Med. High (2)	High (1)
Orifice Size (NG)	39	31	28	22
Orifice Size (LP)	53	49	2.1 mm	41
Nominal Temperature Rise (°F)	52.5	52.5	55	67
Allowable Air Temperature Range (°F)	145-160	140-160	140-160	135-160
CO^2 %- Acceptable Range	3.2 to 3.6	4.5 to 5.2	4.8 to 5.8	4.5 to 5.5
CO^1- Air Free - ppm	0-200	0-200	0-200	0-200
Sensing Cold (in w.c.)	1.3 +/- .1	1.05 +/- .1	1.05 +/- .1	1.05 +/- .1
Presssure Hot (in w.c.)	.95 +/- .05	.8 +/- .05	.8 +/- .05	.8 +/- .05
Efficiency (% - Range)	80.5-81.5	81.5-82.5	81.5-82.5	80.1-81.1
Stack Temperature (°F)	210-260	245-300	245-300	270-330

Condensing Up to 95% Gas Furnace

The condensing gas furnace is equipped with the following components.

1. Tubular Primary Heat Exchanger
2. Fin and Tube Secondary Heat Exchanger
3. Inducer Motor Assembly w/ Inducer Orifice and PVC Flue
4. Inshot Burner Assembly w/ Burner Orifices and Manifold
5. Furnace Safeties (Inducer Pressure Switch, Condensate Pressure Switch, Flame Rollout Limit Switch, Main Air High Temperature Limit Switch, Inducer Limit Switch, Flame Sensor
6. DSI Electrode (Spark Ignitor)
7. Freeze Safety Thermostat
8. Condensate Trap (Field Installed)



Specifications for U-Series Condensing Furnaces

Heat Module P/N	**14208384**	**14208385**	**14208386**	**14208387**
Input (BTU) (NG)	25,000	32,000	43,000	50,000
Output (BTU) (NG)	23,750	30,400	40,850	47,500
Input (BTU) (LP)	25,000	N/A	35,000	50,000
Output (BTU) (LP)	23,750	N/A	33,250	47,500
Max External Static Pressure (in w.c.)	0.4	0.4	0.4	0.4
Temperature Rise (°F)	30 to 60	35 to 65	35 to 65	40 to 70
Blower Speed Setting	Med. Low (4)	Med. Low (4)	Med. High (2)	High (1)
Orifice Size (NG)	51	48	50	47
Orifice Size (LP)	58	N/A	60	56
Nominal Temperature Rise (°F)	45	50	50	55
Allowable Air Temperature Range (°F)	130-160	135-165	135-165	140-170
CO^2 %- Acceptable Range	6 TO 7	6 TO 7	6 TO 7	6 TO 7
CO^1- Air Free - ppm	0-200	0-200	0-200	0-200
Stack Temperature (°F)	80-140	80-140	80-140	80-140
Collector Box Pressure Switch	-0.15+/-0.05	-0.3+/-0.05	-0.3+/0.05	-0.6+/-0.05
Inducer Pressure Switch	-0.9+/-0.05	-0.9+/-0.05	-0.9+/-0.05	-0.7+/-0.05

Sequence of Operations for all Gas Heat Models

1. Call for Heat – The thermostat sends a call for heat therefore energizing the “white” wire to the control board. The control checks to see that the limit switch is closed and the pressure switch is open. If the limit switch is open, the control responds as defined in the “Limit Switch Operation – page 21”. If the pressure switch is closed, the control displays four flashes on the green LED and waits indefinitely for the pressure switch to open. If the pressure switch is open, the control proceeds to 2. Pre-purge.

2. Pre-purge – The control energizes the venter motor and waits up to 240 seconds for the pressure switch to close. If the pressure switch does not close after 3 attempts, the control green LED will flash two times and enter a soft lock out. When the pressure switch is proven closed, the control begins the pre-purge time. If flame is present at any time while in pre-purge, the pre-purge time is restarted. If a flame is present without a call for heating, the control responds as defined in “Undesired Flame - page 34”. The control runs the venter motor for a 30 second pre-purge time, then proceeds to the 3. Ignition Trial Period.

3. Ignition Trial Period – The control energizes the spark and main gas valve. The venter motor remains energized. If a flame is sensed during the first 16 seconds, the spark is de-energized and the control proceeds to 4. Heat Blower On Delay. If a flame has not been sensed during the first 16 seconds, the control de-energizes the spark output and keeps the gas valve energized for an additional one second flame proving period. If a flame is not present after the flame proving period, the control de-energizes the gas valve and proceeds with an ignition retry as specified in “Ignition Retry – page 15”. If a flame is present, the control proceeds to the 4. Heat Blower on Delay.

4. Heat Blower On Delay – The control waits for 20 seconds from the time the gas valve opened and then energizes the blower motor. The gas valve and venter motor remain energized. The control proceeds to 5. Steady Heat.

5. Steady Heat – The control continuously monitors the safeties (high limit, roll-out, and pressure) for open switches, the flame sensor for proving, and the thermostat for a call for heat. When the thermostat's call for heat is removed, the control de-energizes the gas valve and begins (6.) Post-purge and (7.) Blower Off Delay.

6. Post-purge – The venter motor output remains on for a 30-second post-purge period after the thermostat is satisfied.

7. Blower Off Delay – The blower motor is de-energized after a 90 second blower off delay (field adjustable, see pages 29-31). Timing begins when the thermostat is satisfied.

Abnormal Functions

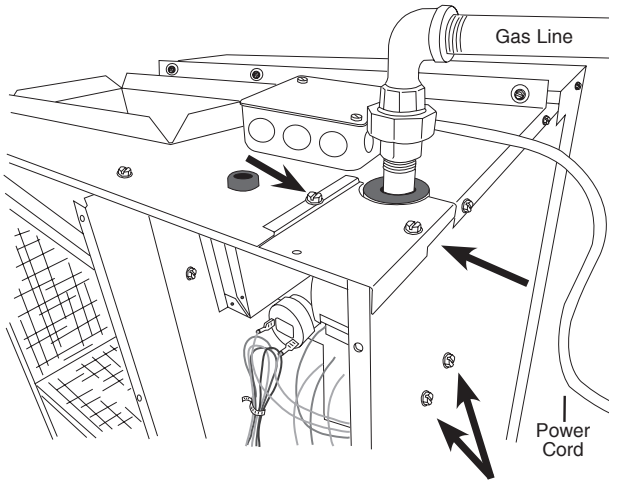
• **Interrupted Thermostat Call for Heat** – If the thermostat demand for heat is removed before the flame is recognized, the control will run the venter motor for the post purge period and de-energize all outputs. If the thermostat demand for heat is removed after successful ignition, the control will de-energize the gas valve, run the venter motor through post purge, and run the blower motor on heat speed for the selected delay off time.
• **Soft Lockout** – The control shall not initiate a call for heat or call a for continuous fan while in lockout. The control will still respond to an open limit and undesired flame. Lockout shall automatically reset after one hour. Lockout may be manually reset by removing power from the control for more than one second or removing the thermostat call for heat for at least 1 second but no more than 20.
• **Hard Lockout** – If the control detects a fault on the control board, the status LED will be de-energized, and the control will lockout for as long as the fault remains. A hard lockout will automatically reset if the hardware fault clears.
• **Power Interruption** – During a momentary power interruption or at voltage levels below the minimum operating voltage for line voltage the system will self-recover without lockout when voltage returns to the operating range. During a momentary power interruption of the 24V control voltage, the board will enter a soft lockout. (Power interruptions of less than 80ms shall not cause the control to change operating states. Power interruptions greater than 80ms may cause the control to interrupt the current operating cycle and restart.)
• **Ignition Retry** – If a flame is not established on the first trial for ignition, the control de-energizes the gas valve and the venter motor remains energized for an inter-purge period of 30 seconds. The spark and gas valve are then re-energized and the control initiates another trial for ignition. If a flame is not established on the second trial, the control de-energizes the gas valve, energizes the blower motor on heat speed, and the venter motor remains energized. The blower motor is shut off after a short period. When the blower motor de-energizes, the spark and gas valve are re-energized, and the control initiates another trial for ignition. (This blower delay is a self-healing feature for an open auxiliary limit switch). If a flame is not established on the third trial for ignition, the control de-energizes the gas valve, and the venter motor remains energized for an inter-purge period of 30 seconds. The control then re-energizes the spark and gas valve and initiates another trial for ignition. If a flame is not established on the fourth trial for ignition (initial try plus 3 re-tries), the control de-energizes the gas valve and goes into lockout. The control displays a one flash code on the green LED to indicate ignition failure lockout.

Slide Out Furnace Instructions

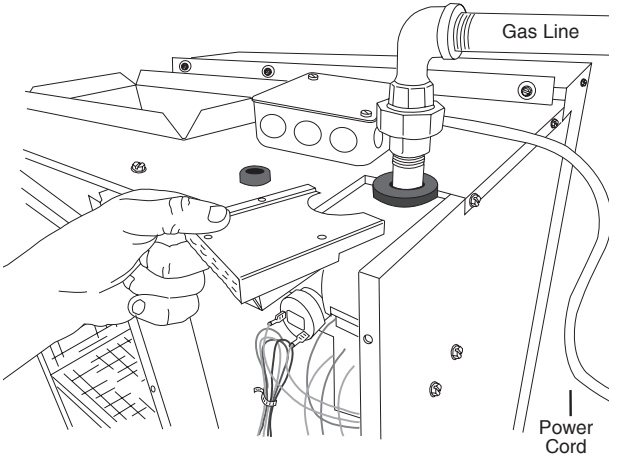
All U-Series Models are equipped with a slide out furnace.

Instructions for sliding out Non-Condensing Furnace.
All Models manufactured after January 2015 feature a Slide-Out Furnace.

1. Remove the (4) screws indicated below.

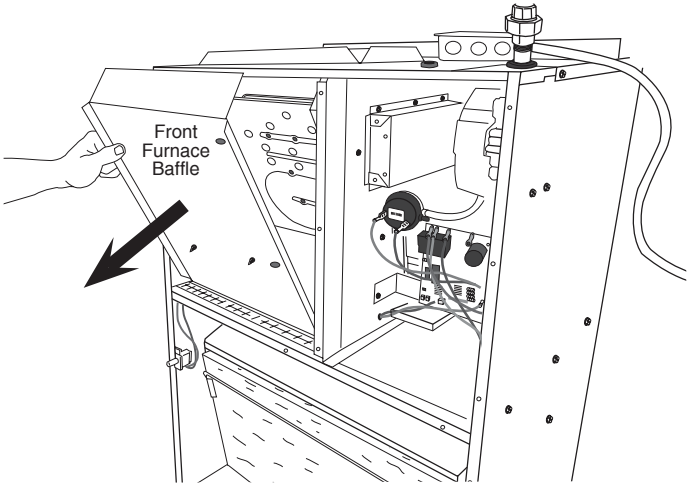


2. Remove the patch plate.

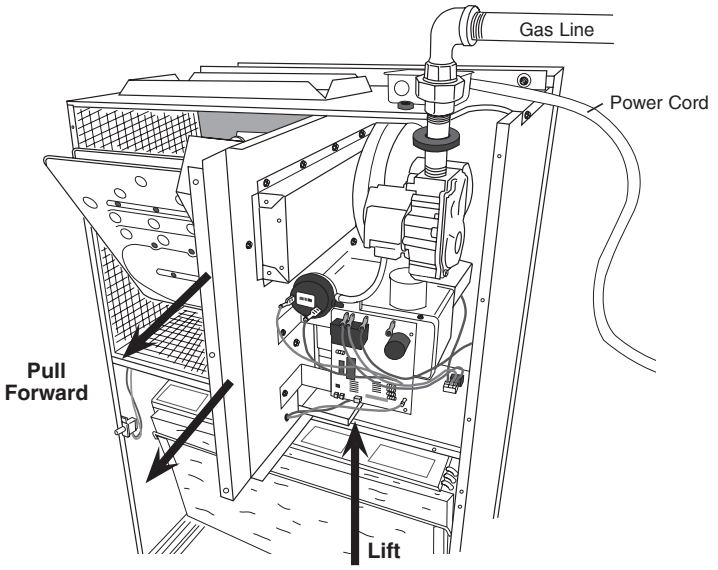


Slide-Out Instructions continued on next page.

3. Remove (2) right side screws and remove the front furnace baffle.

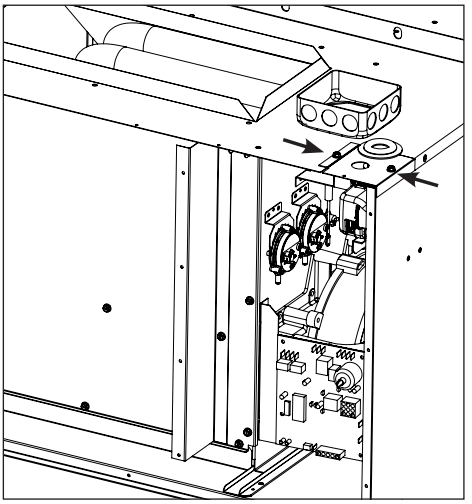


4. Disconnect (2) molex plugs before sliding out the heat exchanger/furnace assembly. (Not Pictured)
5. Grasp the vertical heat exchanger partition firmly with your left hand.
6. With your right-hand, reach under the burner box and lift the drain pan to release the drain plug. Then lift up and pull the assembly forward to slide out the furnace assembly. Be careful not to tear the side and bottom insulation when pulling the heat exchanger/furnace assembly forward.

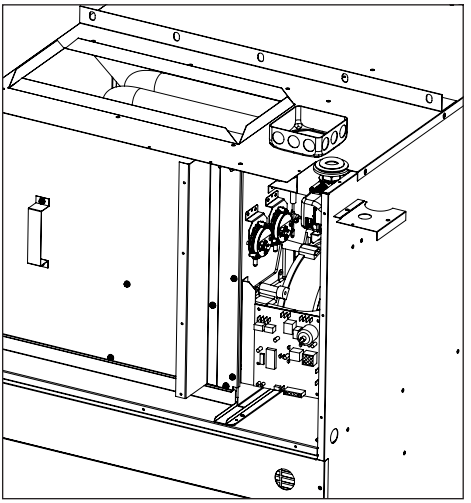


Instructions for Sliding Out Condensing Furnace.

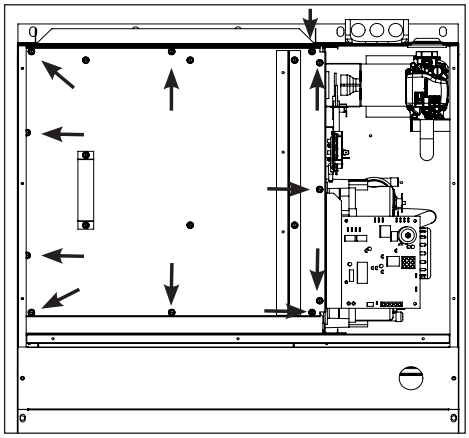
1. Remove the (2) screws indicated below.



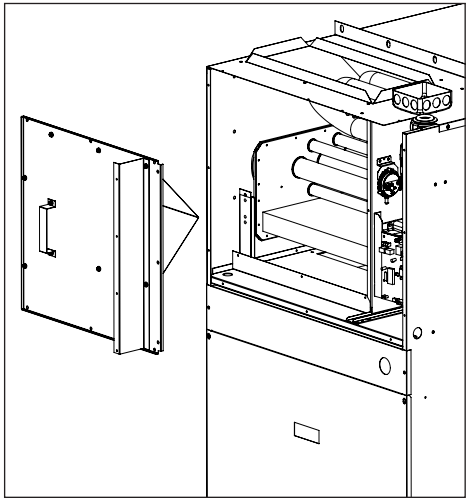
2. Remove the patch plate.



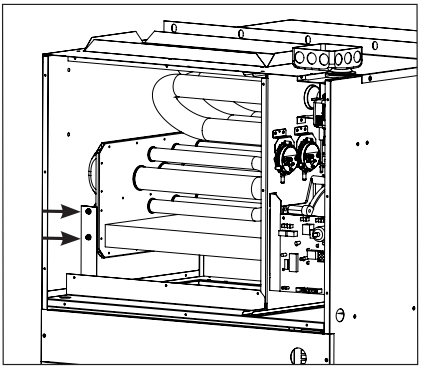
3. Remove the (11) screws.



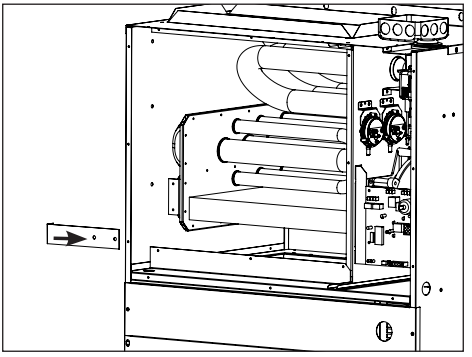
4. Remove the front furnace baffle.



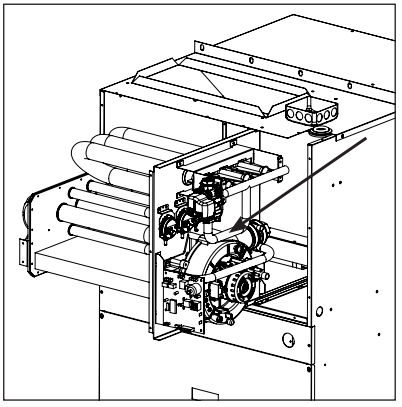
5. Remove the (2) screws from the support leg.



6. Remove support bracket.



7. Disconnect wire harnesses and loosen hose clamp on the flue then proceed with sliding the furnace out.



Do Not Use Manifold as Handle.

*Note: Once removed, the furnace should remain pitched toward the condensate collector box to keep condensate from leaking out of the rear collector pans. Use caution when removing furnace to not damage the fins on the secondary heat exchanger.

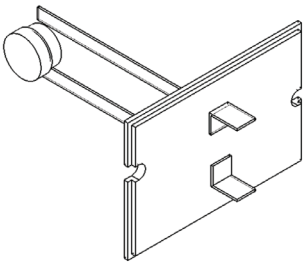
Safety Limit Switches

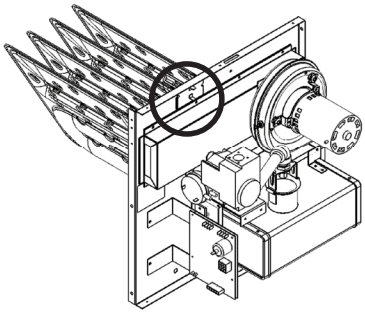
Limit Switch Operation – The limit switches are ignored unless a call for heat is present. If a limit switch is open and a call for heat is present, the control de-energizes the gas valve, turns the blower motor on heat speed, and runs the inducer motor. The control enters soft lockout and flashes fault code “3” before returning to normal operation. When the switch re-closes or the call for heat is lost, the control runs the inducer motor through post purge and runs the blower motor through the selected fan off delay.

Main Air (High Temperature) Limit Switch

The Main Air limit Switch is used to protect the furnace/heat exchanger from overheating, most commonly due to lack of indoor airflow. This switch is normally closed, opens on temperature rise and breaks the limit switch circuit back to the DSI control board. These switches are automatic reset switches.

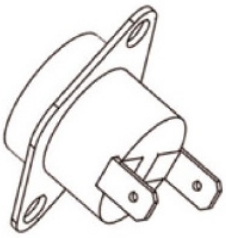
On Non-Condensing Furnaces, the Main Air (High Temperature Limit) Switch is located above the collector box and is mounted with (2) ¼" screws. It is wired in series with the flame rollout switch.

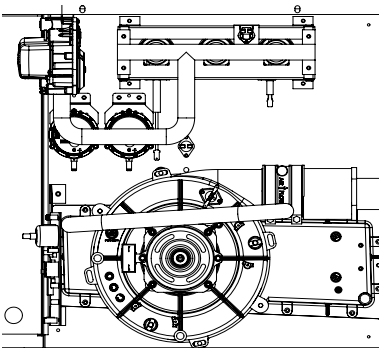




Furnace Size (Btuh)	28k	38k	51k	64k
Cut Out +/- 5°	160°F	160°F	160°F	160°F
Differential	-60	-60	-60	-60

On Condensing Furnaces, the Main Air (High Temperature Limit) Switch is located above the collector box and is mounted with (2) small phillips head screws. It is wired in series with the flame rollout switch and the inducer limit.





Furnace Size (Btuh)	25k	32k	43k	50k
Cut Out	165°F	160°F	140°F	140°F
Differential	-30	-30	-40	-40

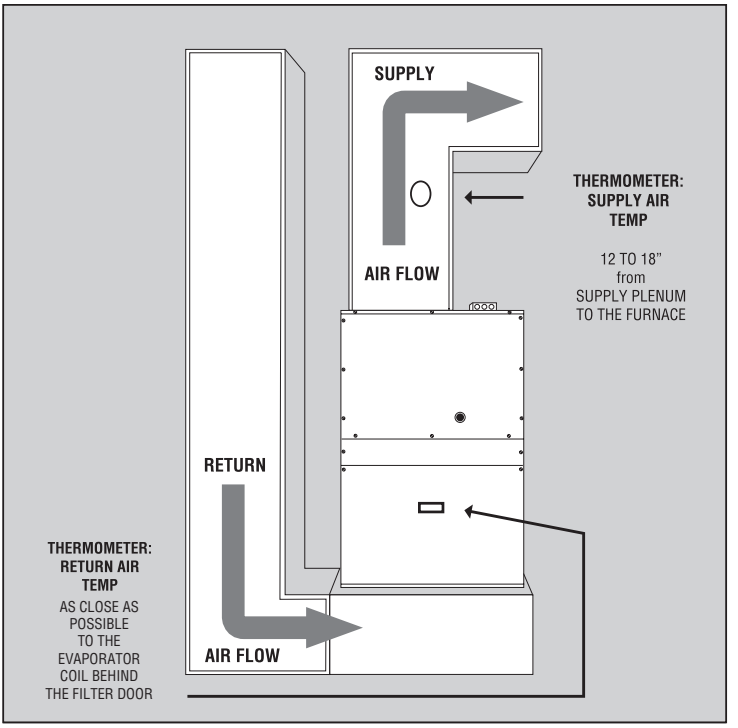
Troubleshooting a Main Air (High Temperature Limit) Switch trip.

First, determine if the main air limit switch has failed open. Once the limit has cooled below the differential setting. Use an ohmmeter and verify there is no continuity across the terminals.

If you have verified that the limit switch has closed, and the control board is still flashing 3 times (see page 14 for soft lockout reset instructions).
If the unit is experiencing main air limit failures or constant tripping, verify your temperature rise (see page 22) and check for the following:

Restricted airflow
- Blocked or dirty air filter
- Blocked or dirty return air grille
- Blocked supply duct (closed fire dampers)
- Blower motor not running (weak capacitor, low voltage)

Overfiring or Oversized
- Gas pressure higher than 3.5” w.c. at outlet of gas valve
- Undersized ductwork (high static pressure or low cfm)



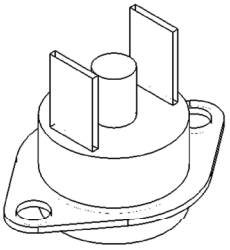
CFM = BTU Output / (1.08 x ΔT)

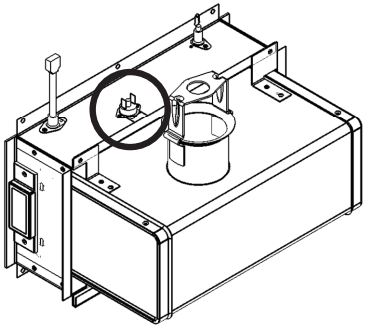
Series	Input	Output	Nominal ΔT	ΔT Range
A, B, C, D-Series Non-Condensing	38,000	30,400	55°	40°F to 70°F
	51,000	40,800	55°	40°F to 70°F
	64,000	51,200	65°	55°F to 85°F
U-Series Non-Condensing	28,000	22,400	52.5°	45°F to 60°F
	38,000	30,400	52.5°	45°F to 60°F
	51,000	40,800	55°	45°F to 65°F
	64,000	51,200	67°	60°F to 80°F
U-Series Condensing	25,000	23,750	45°	30°F to 60°F
	32,000	30,400	50°	35°F to 65°F
	43,000	40,850	50°	35°F to 65°F
	50,000	47,500	55°	40°F to 70°F

Flame Rollout Limit Switch

The flame rollout switch protects the burner area from high temperatures. The switch is normally closed, opens on temperature rise and breaks a circuit back to the DSI Control Board when tripped. These switches are manual reset switches.

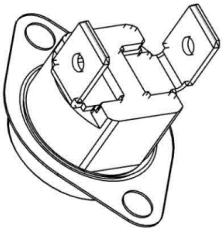
On Non-Condensing Furnaces the Flame Rollout Switch is located on top of the burner assembly with (2) ¼" screws. It is wired in series with the main air high temperature limit switch.

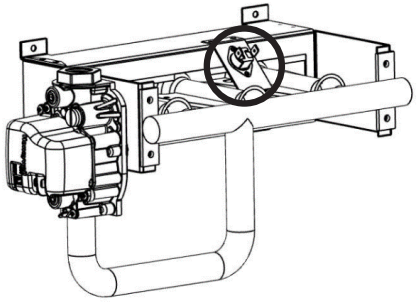




Furnace Size (Btuh)	28k	38k	51k	64k
Temperature Limit +/- 5°F	225°F	225°F	225°F	225°F

On Condensing Furnaces, the Flame Rollout Switch is located on top of the burner assembly with (2) small phillips head screws. It is wired in series with the main air high temperature limit switch and the inducer limit.





Furnace Size (Btuh)	25k	32k	43k	50k
Temperature Limit +/- 5°F	235°F	210°F	210°F	210°F

Troubleshooting a Flame Rollout Switch trip.
(See page 20 Limit Switch Operation)

To prove the roll out switch has failed open, use an ohmmeter and verify there is no continuity across the terminals once the limit has been manually reset from pushing in the red button in between the wire terminals. If the unit is experiencing roll out or constant tripping of the roll out switch check for the following:

Cracked or damaged heat exchanger
- Flame rolling out after the blower motor energizes
- Clean blue flame becomes erratic and more yellow in color

Restricted inducer housing or flue
- Obstructions in the flue pipe or inside the venter housing

Burner misaligned
- Gas piping not secured properly weighing burners out of alignment.
- Damaged or bent burner manifold.

Note: The furnace and its venting system is designed for proper operation of wind conditions up to 40 mph. Driving winds above 40 mph while operating gas heat may lead to the roll out switch opening.

Inducer Limit Switch (Condensing Furnaces Only)

The Inducer Limit Switch protects the inducer from overheating due to lack of inducer airflow. This switch breaks a circuit back to the DSI control board when tripped.

Furnace Size (Btuh)	25k	32k	43k	50k
Temperature Limit +/- 5°F	160°F	160°F	160°F	160°F

Troubleshooting An Inducer Limit Switch Trip

To prove the inducer limit switch has failed open, use an ohmmeter, and verify there is no continuity across the terminals once the limit has been manually reset from pushing in the red button in between the wire terminals.

If the unit is experiencing inducer limit failures or constant tripping check for the following:

- Restricted flue
- Inducer motor not running at proper speed

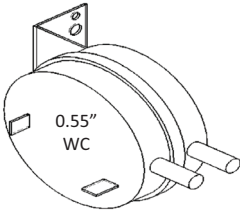
Pressure Switch Operation

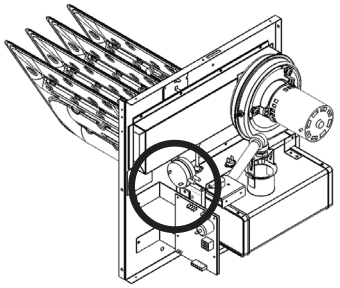
The pressure switches are automatic safety devices that prove the systems inducer motor is pulling the appropriate draft through the system. Pressure switches are normally open and close when a specific negative pressure is applied to them. If a pressure switch is as closed before the inducer motor is energized the system will fault and the control displays four flashes as specified in Step 1 on page 13 "Call For Heat".

Inducer Pressure Switch

The inducer pressure switch is a safety used to prove that the inducer motor is operational and safely removing products of combustion.

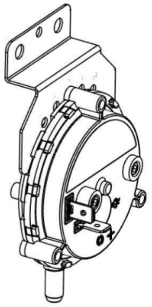
On Non-Condensing Furnaces

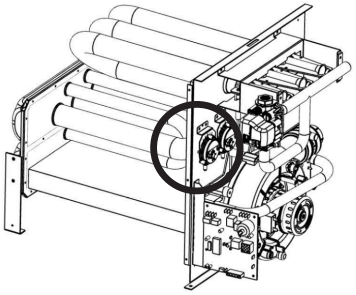




Furnace Size (Btuh)	28k	38k	51k	64k
Opens (in w.c.)	-0.55 +/- .05	-0.55 +/- 0.05	-0.55 +/- 0.05	-.055 +/- 0.05
Closes (in w.c.)	-0.65 Max	-0.65 Max	-0.65 Max	-0.65 Max

On Condensing Furnaces

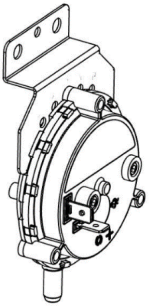


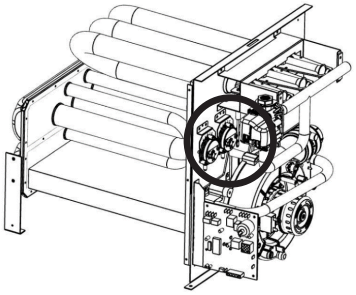


Furnace Size (Btuh)	25k	32k	43k	50k
Opens (in w.c.)	-0.9 +/- 0.05	-0.9 +/- 0.05	-0.9 +/- 0.05	-0.7 +/- 0.05
Closes (in w.c.)	-1.05 Max	-1.05 Max	-1.05 Max	-1.05 Max

Collector Box Pressure Switch (Condensing Furnaces Only)

The collector box pressure switch is a safety used to prove that condensate is draining from the secondary heat exchanger and front collector box.





Furnace Size (Btuh)	25k	32k	43k	50k
Opens (in w.c.)	-0.15 +/- 0.05	-0.3 +/- 0.05	-0.3 +/- 0.05	-0.6 +/- 0.05
Closes (in w.c.)	-0.30 Max	-0.45 Max	-0.45 Max	-0.75 Max

Troubleshooting A Pressure Switch Trip

To check the pressure switch, first prove that the inducer assembly is pulling adequate static pressure at the pressure switch tubing using a manometer.

To prove the pressure switch has welded closed, use an ohmmeter, and verify there is continuity across the terminals when disconnected from the pressure switch tubing.

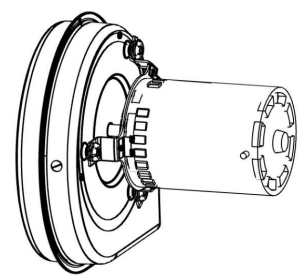
If the unit is experiencing faults with the pressure switch check for the following:

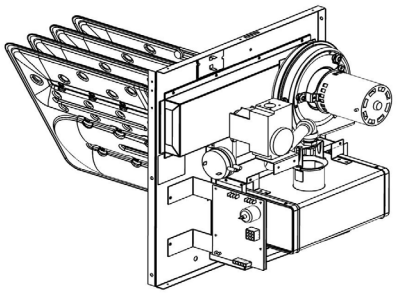
- Proper venter motor operation with no obstructions in the housing.
- Inspect the tubing for blockages, cracks, or other damage.
- Check the ports on the venter housing for blockage with corrosion or debris.
- Verify that the venter tubing is installed properly on the pressure switch (non-condensing models gray – negative side).
- Look for a restricted flue or venter housing (mud wasps nests).
- Verify the inducer orifice is installed correctly and is the proper size (condensing models)

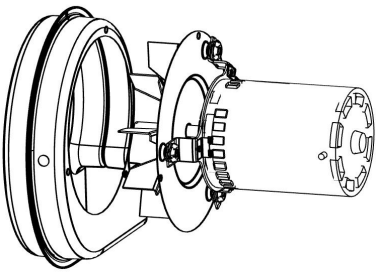
Inducer Assembly

The inducer assembly includes the inducer motor which is powered by 208-230 Volts AC from the DSI control board terminals IND and Neutral.

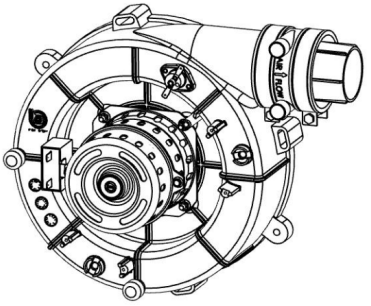
On Non-Condensing Models the inducer motor and wheel are removed from the housing with (3) 5/16" screws.

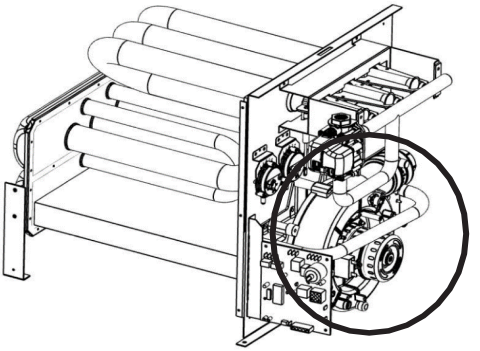






On Condensing Models the entire inducer assembly must be disconnected from the flue pipe by loosening the the 5/16" screw on the worm gear clamp that attaches the rubber connector to the PVC flue. The (4) ¼" screws will need to be removed to release the housing from the collector box.



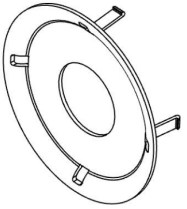


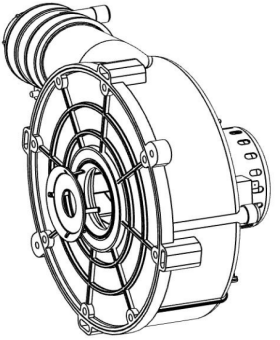
If the inducer motor is not running, verify there is a call for heat with a flashing green light. Then verify that the inducer relay on the control board has closed by checking for the appropriate voltage between the IND and Neutral terminals on the DSI control board.

Inducer Orifice (Condensing Furnaces Only)

The inducer orifice is installed on the inlet of the inducer assembly and affects the overall system pressure.

To access the orifice, you will need to remove the entire inducer assembly.





Furnace Size (Btuh)	25k	32k	43k	50k
Orifice Size (in.)	0.500	0.5265	0.62	0.81

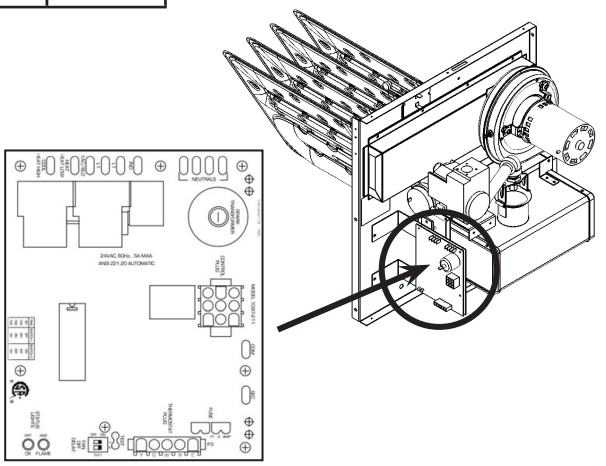
DSI Control - Ignition Module

This control module signals all operations of the CPG including spark ignition.
The green and yellow LED's (visible through the service window) can aid in troubleshooting different failures.

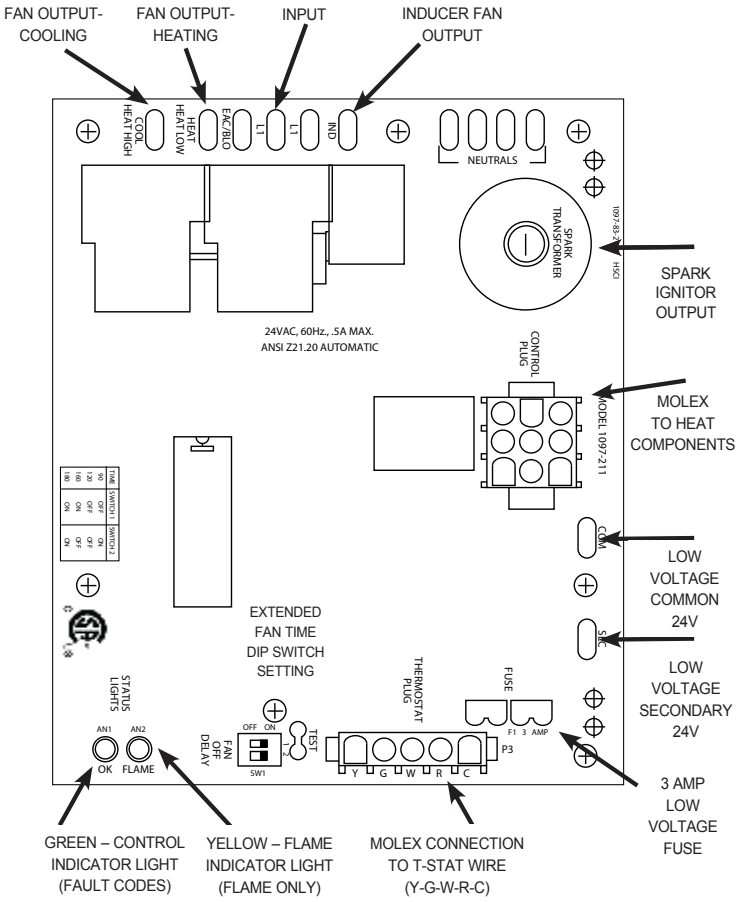
DSI Control Troubleshooting

CONTROL STATUS	GREEN LED
STEADY ON	Normal operation, no call for heat
FAST FLASH	Normal operation, call for heat
1 FLASH	In lockout from failed ignition or flame loss
2 FLASH	Pressure switch does not close within 30 seconds
3 FLASH	Limit switch or rollout switch open
4 FLASH	Limit switch is closed before venter is energized
STEADY OFF	Internal control fault or no power
FLAME STATUS	**YELLOW LED**
STEADY ON	Flame sensed
SLOW FLASH	Weak flame (current below 1.0 microamps = +/-50%)
FAST FLASH	Undesired flame (valve open and no call for heat)

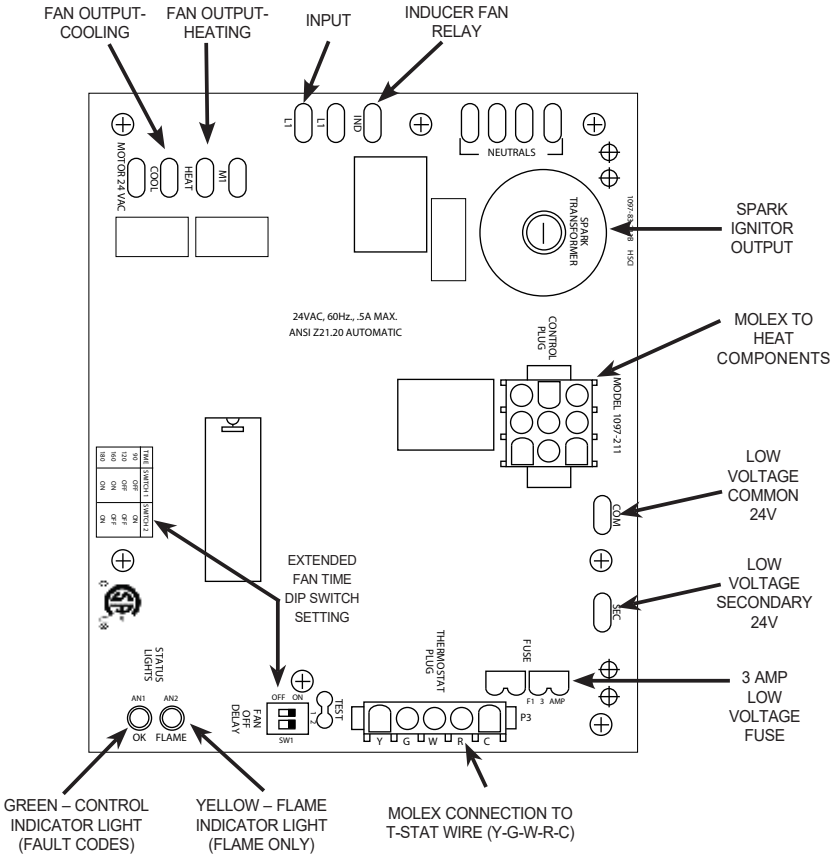
FAN OFF DELAY		
TIME	SWITCH	
	1	2
90	OFF	ON
120	OFF	OFF
160	ON	OFF
45	ON	ON



DSI Control Identification Used For All Original Series Equipment



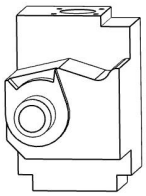
DSI Control Identification - Used For All U-Series Equipment

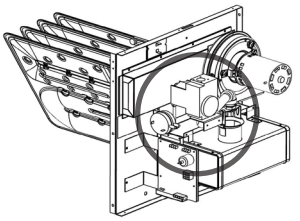


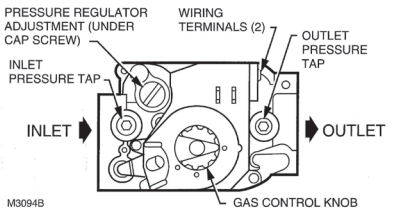
Gas Valve

The gas valve receives a gas supply and regulates gas after a call for heat is initiated. In both models the gas valve is located in the upper right-hand section of the furnace.

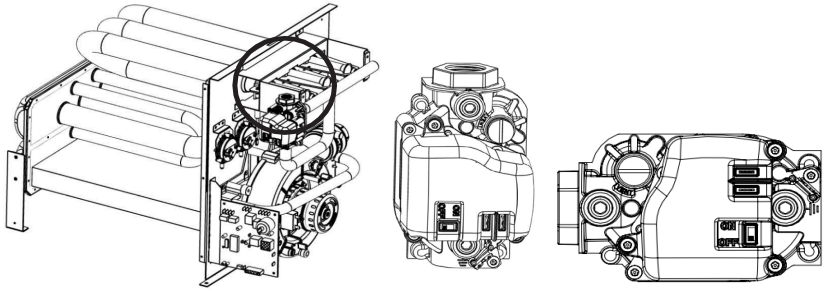
For Non-Condensing Models the gas valve is a slow opening valve that is energized by a 24 Volt signal sent from the DSI control board.







For Condensing Furnaces the gas valve immediately opens when it is energized by a 24 Volt signal sent from the DSI control board.



If the unit is experiencing a spark without ignition check for the following:

- Gas valve power with a voltmeter verify 24 Volts at the gas valve terminals.
- Gas pressure - Check the inlet and outlet (manifold) pressure. Both valves allow access to both the inlet and outlet pressure with an allen wrench. Be sure to shut the gas supply valve off when installing a manometer onto the gas valve.

Pressure requirements:

- Required 3.5"w.c. Natural Gas Outlet Manifold Pressure (10" w.c. LP)
- Minimum of 5" w.c. Natural Gas Inlet (11" w.c. LP)
- Maximum of 10" w.c. Natural Gas Inlet (14" w.c. LP)

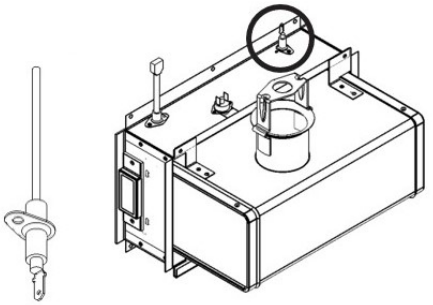
Gas Valve Relay Fault

If the control senses the gas valve as energized for more than one second when the control is not attempting to energize the gas valve, or the gas valve is sensed as not energized when it is supposed to be energized, then the control will lock out with the green LED off. The control assumes either the contacts of the relay driving the gas valve have welded shut or the sensing circuit has failed. The venter motor is forced off to open the pressure switch to stop gas flow unless a flame is present. If the gas valve was sensed as closed when it should be open and has not de-engerized after the ventor motor was shutoff for 15 seconds, then the ventor motor is re-energized to vent the unburned gas.

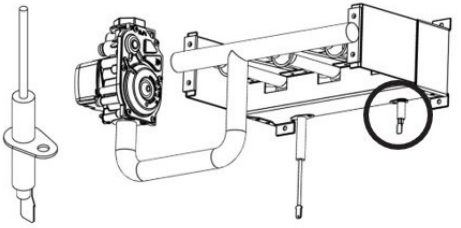
Flame Sensor

The flame sensor is a safety that proves when a flame is present while the gas valve is open and in operation.

For Non-Condensing Models the flame sensor is located on top of the burner assembly with (1) 1/4" screw.



For Condensing Models the flame sensor is located underneath the burner assembly with (1) 1/4" screw.



The Flame Sensor reads the flame from the burner and sends a signal back to the control board via flame rectification.

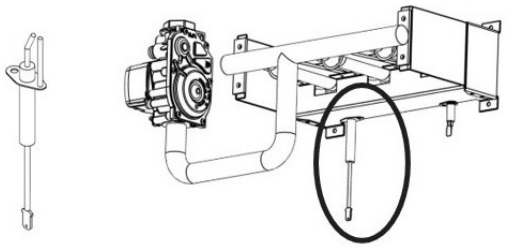
To test the flame sensor use a multimeter capable of reading DC microamps (µA) between 0-20. Measure between the sensor and the wire from the DSI control board while flame is present. The value should be well above 1.5 µA. Different models will provide higher readings.

Undesired Flame

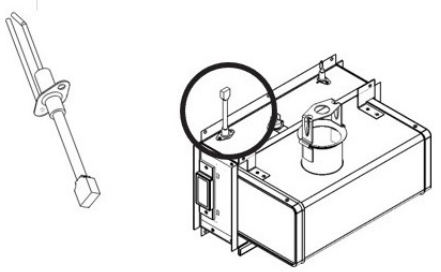
If flame is sensed while the gas valve is de-energized, the control shall energize the venter motor and blower motor on heat speed. When flame is no longer sensed, the venter motor will run through post-purge, and the blower motor will run through the selected heat blower off delay time. The control will do a soft lockout, but will still respond to open limit and flame. The FLAME (yellow) LED shall flash rapidly when lockout is due to an undesired flame.

Direct Spark Ignition Electrode (Spark Ignitor)

For Non-condensing Models the DSI Electrode (Spark Ignitor) is located on top of the burner assembly with (1) 1/4" screws.



For Condensing Models the DSI Electrode (Spark Ignitor) is located underneath the burner assembly with (1) 1/4" screws.



The control board sends a signal which sparks through to the grounded side of the electrode. If the unit is not sparking or is experiencing a weak spark, check for the following:

Ignitor Condition
- Dirty or cracked porcelain insulator base

Spark Gap
- Gap between ground rod and spark rod should be 1/8"

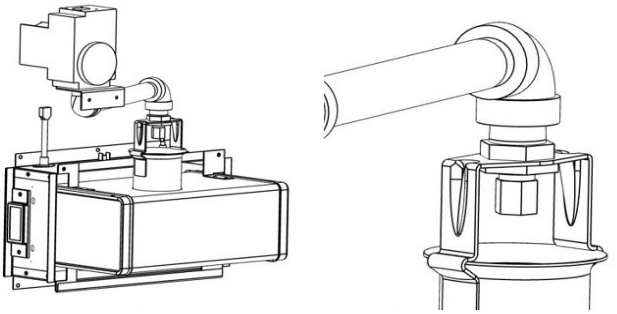
Poor Connection
- Loose or broken connection on the sensor to the board
- Poor ground connection
- With an ohmmeter check for continuity between the spark rod and the wire back to the board

Grounded Ignitor
- Make sure the ignitor rod is not grounded to the furnace assembly or heat exchanger tube.

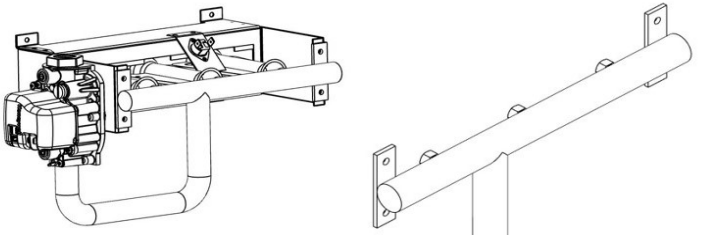
Burner Assembly

On Non-Condensing Models the burner is a single orifice ribbon style burner.

Furnace Size (Btuh)	28k	38k	51k	64k
Orifice Size (NG)	#39	#31	#28	#22
Orifice Size (LP)	#53	#49	2.1 mm	#41



On Condensing Models the burner assembly has multiple inshot burners with their own individual orifices.



Furnace Size (Btuh)	25k	32k	43k	50k
Orifice Size (NG)	#51	#48	#50	#47
Orifice Size (LP)	#58	N/A	#60	#56
Total Burners	2	2	3	3

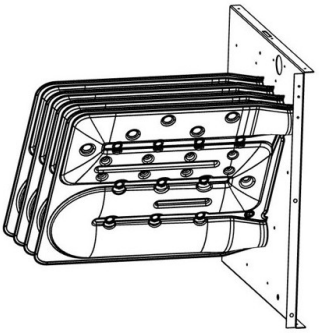
Heat Exchanger

The heat exchanger is located on the left side of the furnaces. The inducer motor pulls fresh air in through the heat exchanger creating a negative pressure. The burner fires creating combustion gases that heat the heat exchanger, collecting and venting them through the flue. The blower motor runs and distributes the heat from the heat exchanger through the ductwork and diffusers. Poor airflow (dirty filters, undersized ductwork), over firing, and equipment oversizing can lead to damage of the heat exchanger.

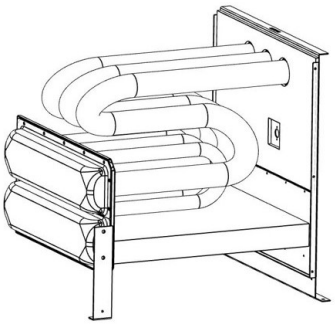
*Verify your temperature rise after installing or servicing to ensure long life of the heat exchanger (see page 22).

Heat exchangers can be accessed by following the steps of the slide out furnace feature. If the model does not include this feature the heat exchanger can be inspected through the top supply duct of by sliding out the cooling chassis and viewing from below.

On Non-Condensing Models the heat exchanger is a clamshell style heat exchanger made with 409 stainless steel.



On Condensing Furnaces there are two sections to the heat exchanger. The primary heat exchanger which is a tubular style made of 409 stainless steel and the secondary heat exchanger which is a coil made of 29/4C stainless steel.

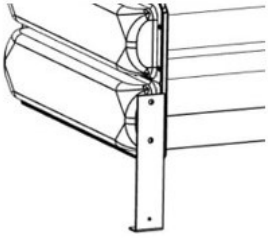


Furnace Condensate Removal (Condensing Furnaces Only)

The secondary heat exchanger is where condensate forms in a condensing furnace. The furnace has different components that aid in the drainage of the secondary heat exchanger.

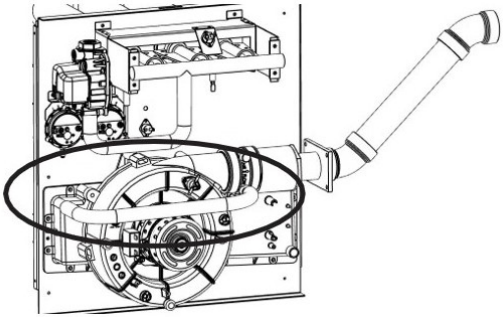
Furnace Support Leg

This leg is in place to help support the back end of the furnace and keep the secondary heat exchanger pitched toward the collector box.



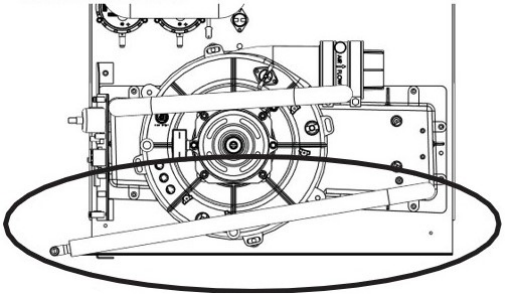
Internal Drain Tubing

There is a drain tube that is located between the flue connector and the top of the collector box. This allows for any drainage that occurs in the flue to pitch back to the collector box.



Drain Outlet Tubing

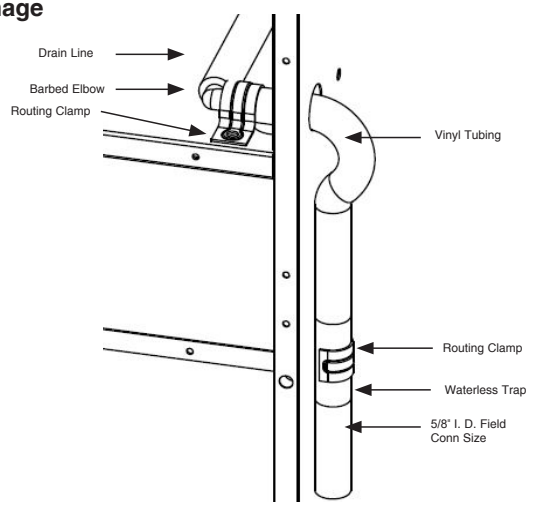
There is a flexible drain tube that is connected to the outlet of the collector box. This tube has a molded 90 degree elbow where it attached to the collector box. Be sure that this elbow is pitched down. The opposite end of this tubing is to connect to a barbed 90 degree elbow. The end of this tubing should be mounted down with provided clamps to eliminate and double trapping or bellying of the drain outlet tube.

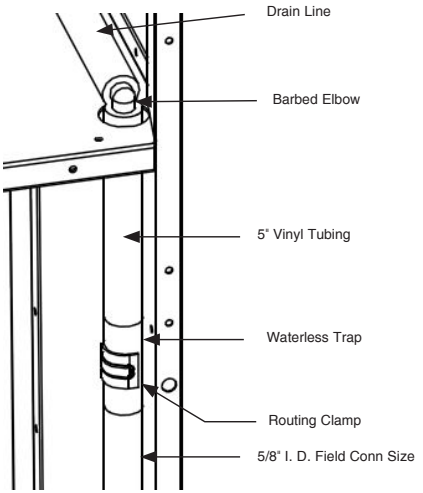


Waterless Trap

The waterless trap is provided with the unit can be installed in two different locations. This trap will seal when the inducer motor starts and will hold a small column of water until the inducer motor operation is terminated. At that point the trap will drain completely. It is important to keep the trap mounted in a vertical position at all times. Since this is the primary trap used for drainage of the furnace it is also important not to build any other trap into the furnace condensate drain.

Furnace Drainage

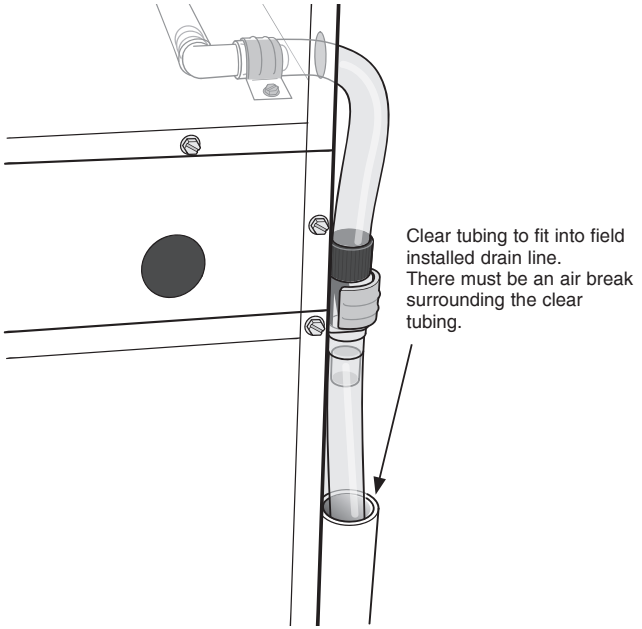




External Draining

The condensing furnace external drainage is critical to the furnaces continued operation. Regardless of the desired drainage configuration, all tubing must be secured with the routing clamps provided using the predrilled mounting holes. Downstream of the waterless trap will be a field connected 5/8" vinyl tube that must be directed into an air break before any other drainage is tied into the unit. This includes the condensate drain for the cooling section.

IMPORTANT: The furnace drain must be in a conditioned space and in some cases additional means for heating the drain line (such as heat tape) will be necessary to avoid freezing.



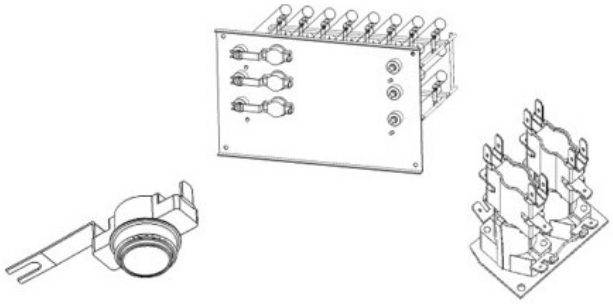
Freeze Safety Thermostat (Certain Models)

The freeze safety thermostat is used to protect the furnace condensate from freezing. The thermostat is wired into the DSI control board in a manner that when it closes it will energize the heating section and allow it to heat up the area where all drainage parts are located.

Electric Heat Models

Components

- Strip Heaters
- High Limits
- Sequencers
- Contactors
- Blower Relay
- Time Delay
- CPE Control Board



Sequence of Operations - Electric Heat, Series A, B, C, D

Call for Heat – The thermostat sends a call for heat by energizing the “white” wire to the sequencer. The sequencers thermo-disc heats and closes the circuit to the limit switch. If the limit switch is closed the heat strips and blower relay will energize. (on 15KW models the second sequencer will initiate in approximately 90 seconds)

Blower Operation – The sequencer completes the circuit to the blower relay which energizes and powers the blower motor. The blower will operate until the sequencer contacts break, de-energizing the blower relay.

Sequence of Operations - Electric Heat, Series U*1

Call for Heat – The thermostat sends a call for heat therefore energizing the “white” wire to the 1st contactor. The 2nd contactor (and 3rd if used) will be powered after an adjustable time entry (factory set for 30 seconds) elapses.

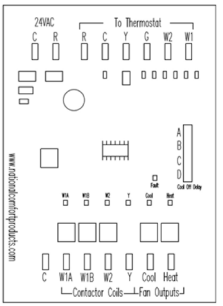
Blower Operation – At the initial call for heat the blower will energize. The blower will run an extended period after all the W's are de-energized.

Sequence of Operations - Electric Heat, Series U*2 (Control Board)

Call for Heat – When a call for heat is active sending power to the W1 and W2 heating terminals on the control board, the board will begin to sequence the heating outputs to energize the heat contactors. Once W1 is energized the board will sequence output W1A after a 3 second delay and W1B after a 28 second delay. Once W2 is energized the board will sequence out W2 after a 45 second delay.

Blower Operation – Once W1, W2, or G is energized the fan will operate. Once de-energized the fan will run for an additional 5 seconds.

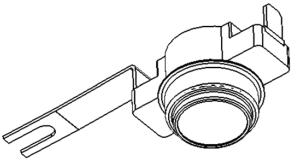
CPE Control Board



Faults – If multiple inputs are received with a cooling input (Y) then the board will automatically fault and run in cooling.

Cooling Blower Operation – Cooling fan will delay 5 seconds on a call for cooling and will delay off when a call is terminated for the duration of the board jumper set point.
(A = 5 sec., B = 30 sec., C = 60 sec., D = 90 sec.)

High Limit Switch



The high limit switch protects the strip heaters from overheating due to lack of indoor airflow. This switch breaks a line voltage directly to the heat elements.

The high limit switch is located on the left side of the electric strip heaters.

The high limit switch is normally closed, opens at 175°F +/- 5°F with an automatic reset differential of 40°F and is wired in series with the heater element.

To prove the high limit switch has failed open, use an ohmmeter and verify there is no continuity across the terminals once the limit has cooled below the differential setting.

If the unit is experiencing high limit failures or constant tripping, verify your temperature rise (see page 22) and check for the following:

Restricted airflow

- Blocked or dirty air filter
- Blocked or dirty return air grille
- Blocked supply duct (closed fire dampers)
- Blower motor not running (weak capacitor, low voltage)

In order to calculate CFM use the formula:

CFM = Voltage x Amperage x 3.414 / (1.08 x ΔT)

Size	3 kW	5 kW	7 kW	10 kW	15 kW
Banks	2	2	2	2	3
Ohms per bank (Ω)	30.4	20.8	14.81	10.4	10.4

Cooling Chassis

The Comfort Packs most serviceable feature is the slide-out cooling chassis.

The cooling chassis consists of a complete refrigeration circuit for cooling and gives the ability of removal from the entire Comfort Pack unit for service and troubleshooting. The integral components of the cooling chassis are as follows:

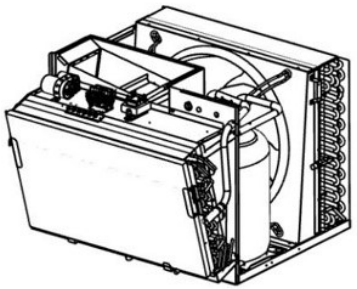
- Evaporator Blower Motor
- Condenser Fan Motor
- Compressor
- Evaporator Coil
- Condenser Coil
- TXV or Capillary Metering Device
- Control Deck
    - Compressor, Contactor, Run Capacitors, Transformer
    - Specific Blower Controls
    - Positive Temperature Coefficient Resistors or Hard Start Devices

The slide out chassis can be field swapped with another chassis of similar capacity. If a U series chassis is being installed into an older A, B, C, D, E or M series cabinet please make sure a Chassis Conversion Kit is used (P#14208604-KIT).

If the chassis needing service must be pulled completely out and tested on site. Chassis extension plugs may be used to operate the chassis outside but still in front of the cabinet (P#14230035-KIT).

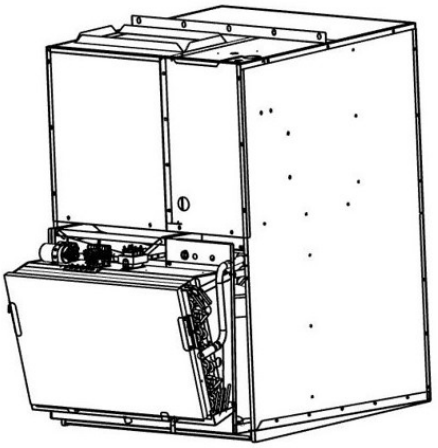
The chassis can be serviced wherever a 208/230 Volt receptacle is available. Using the bench test field wiring harness (P# 14230031), the chassis can be removed and relocated for service then field tested at a remote location.

The Slide-Out Chassis



The slide-out cooling chassis can be easily removed so long that the shipping bolts have been removed prior to installation from both sides of the cabinet.

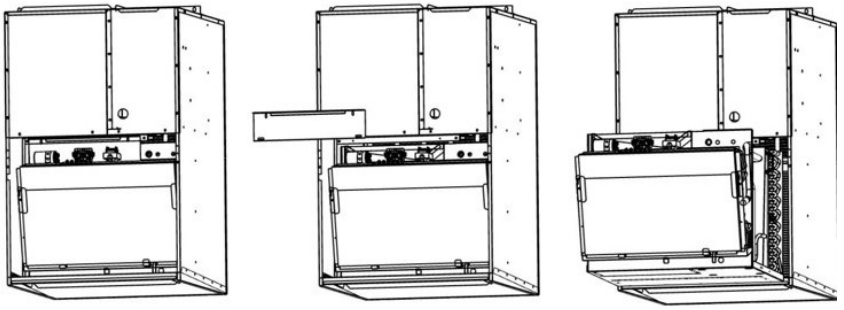
Once removed from the cabinet, all components for the cooling section including the blower can be easily serviced. (Shipping Bolts are located on both sides of the cabinet and must be removed).



Chassis Removal Instructions

- Remove the bottom filter access panel and control access panel.
- Remove 4 screws and slide-out air divider panel
- Disconnect both power and control molex plugs along with main drainpipe and secondary drain. (not shown)
- Slide chassis forward

Note: Only slide-out chassis out enough to access the blower if you do not plan on completely removing from cabinet.



Inducer Blower Motors

14270043
- Permanent Split Capacitor – 1/3 HP
- 1120 RPM - 3 Speed
- Used on all R22 Comfort Packs (Replaces all PSC blower motors)
- Comes with welded bracket for mounting

14270044
- Permanent Split Capacitor – 1/4 HP
- 1075 RPM – Single Speed
- Used on 2 Ton R410A B & C Series
- Blower bracket required for mounting

14270045
- Permanent Split Capacitor – 1/4 HP
- 850 RPM – Single Speed
- Used on 1 & 1.5 Ton R410A B & C Series
- 1 Ton units require with Smart Fan Control
- Blower bracket required for mounting

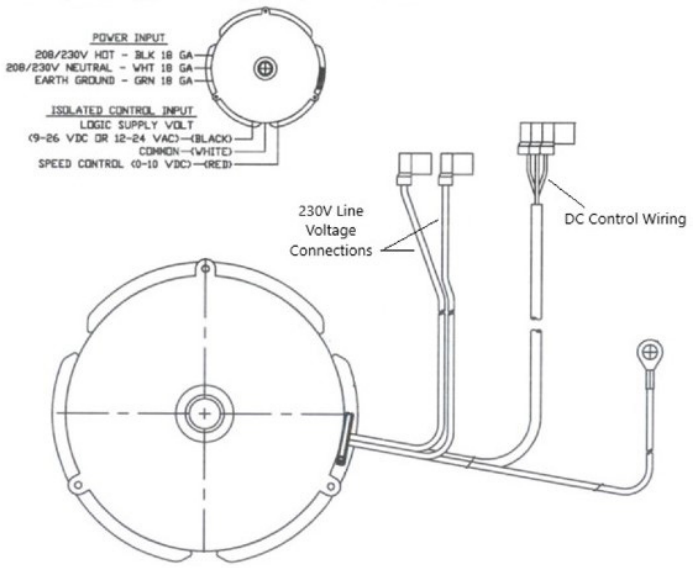
14270048
- Electronically Commutated – 1/3 HP
- 1120 RPM – Multi Speed
- DC Control Board needed to operate
- Used on all R410A E and 2.5 Ton C Series
- Blower bracket required for mounting

14270055
- Electronically Commutated – 1/3 HP
- 1120 RPM – 5 Speed
- No Control Board necessary
- Used on all D and U Series
- Blower bracket required for mounting

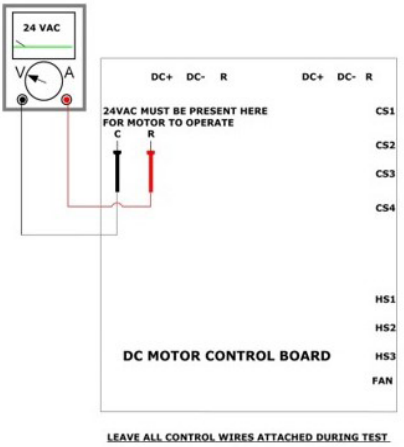
14270059
- Electronically Commutated – 1/2 HP
- 1200 RPM – 5 Speed
- No Control Board necessary
- Used on 2 ton U Series
- Blower bracket required for mounting

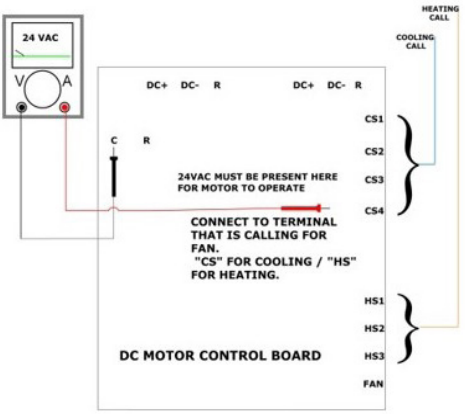
Electronically Commutated Motor Troubleshooting

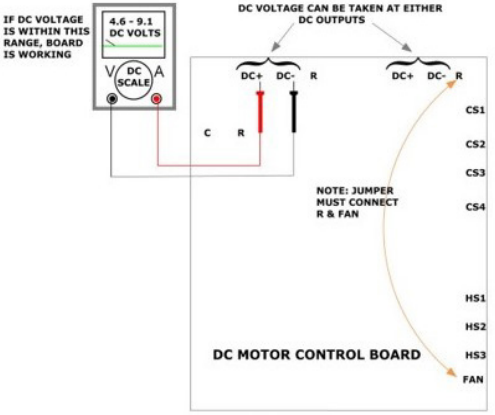
Part# 14270048
DC Controlled Constant Torque Motor
230 Volt, 3.0 Amp , 1120 RPM, 1/3HP, CCW LE, 0-10V DC Controlled



To verify motor operations, disconnect all electrical power to the motor.
Wait at least 2 minutes to allow the motor control circuits to discharge.
Visually inspect the motor for any obstructions and carefully remove if any are found.
Turn the power back on to the motor and verify with a voltmeter the voltage at the line voltage connections from the motor leads. Voltage should read between 197-252 Volts.
Verify DC voltage between the white and red wires on the DC control wiring lead. It should read between 4.6 & 9.1 Volts. If no voltage is measured, verify the controls operations by following the DC Motor Check Steps on the next page.

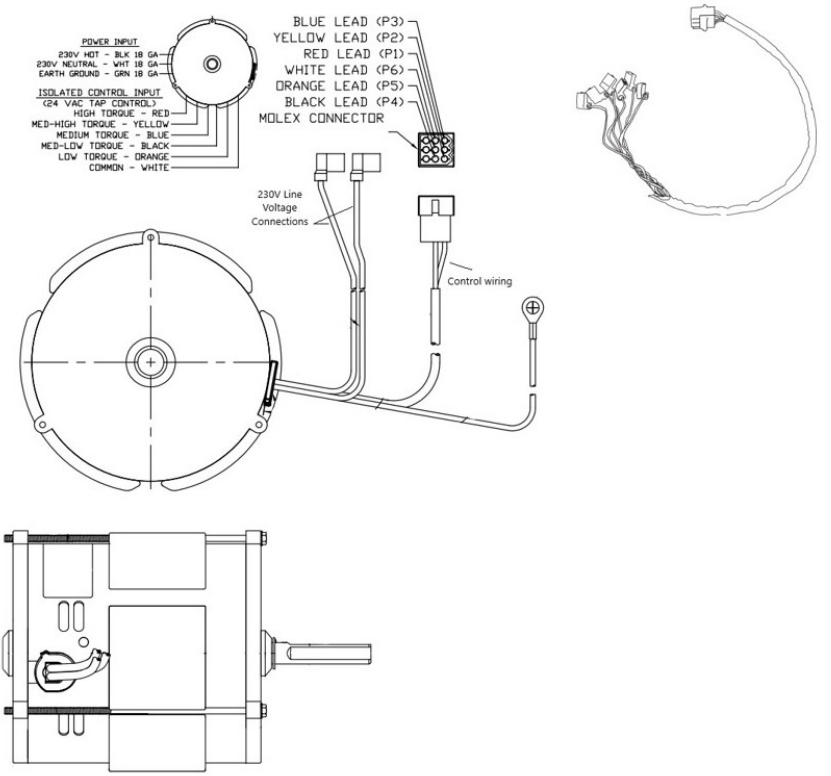

24 VAC
V
A
DC+ DC- R
DC+ DC- R
24VAC MUST BE PRESENT HERE
FOR MOTOR TO OPERATE
C R
CS1
CS2
CS3
CS4
HS1
HS2
HS3
FAN
DC MOTOR CONTROL BOARD
LEAVE ALL CONTROL WIRES ATTACHED DURING TEST


24 VAC
V
A
HEATING CALL
COOLING CALL
DC+ DC- R
DC+ DC- R
C R
24VAC MUST BE PRESENT HERE
FOR MOTOR TO OPERATE
CONNECT TO TERMINAL
THAT IS CALLING FOR
FAN.
"CS" FOR COOLING / "HS"
FOR HEATING.
CS1
CS2
CS3
CS4
HS1
HS2
HS3
FAN
DC MOTOR CONTROL BOARD


IF DC VOLTAGE
IS WITHIN THIS
RANGE, BOARD
IS WORKING
4.6 - 9.1
DC VOLTS
V
DC
SCALE
A
DC VOLTAGE CAN BE TAKEN AT EITHER
DC OUTPUTS
DC+ DC- R
DC+ DC- R
C R
NOTE: JUMPER
MUST CONNECT
R & FAN
CS1
CS2
CS3
CS4
HS1
HS2
HS3
FAN
DC MOTOR CONTROL BOARD

DC Motor Control Check Steps
5 Speed Electronically Commutated Motors

Part# 14270055
Constant Torque Blower Motor

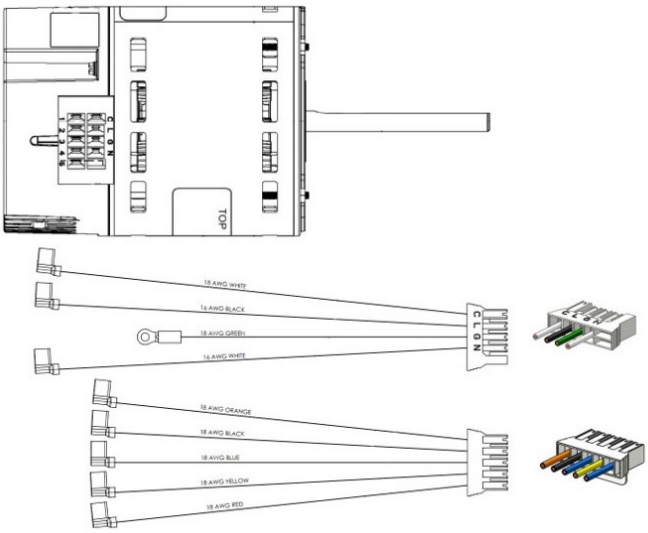


230 Volt, 3.0 Amp, 1120 RPM, 1/3 HP, CCWLE, 24 Volt AC Controlled

To verify motor operations, disconnect all electrical power to the motor.
Wait at least 2 minutes to allow the motor control circuits to discharge.
Visually inspect the motor for any obstructions and carefully remove if any are found.
Turn the power back on to the motor and verify with a voltmeter the voltage at the line voltage connections from the motor leads. Voltage should read between 197-252 volts.
Verify low voltage to the motor control using the 9 pin Molex style connector. Test each setting (speed tap)

- **a.** Check for 24 VAC RMS between pin 6 and each of the other used pins as the pin is selected. Note which pairs if any operate correctly, and what the behavior is on those that don't.
- **b.** Make sure 24 VAC RMS is only applied to one input at a time.

If 24 Volts is not applied to any of the pin combinations check that you are receiving 24 Volts at the 5-pin speed tap terminal board (see page 47).



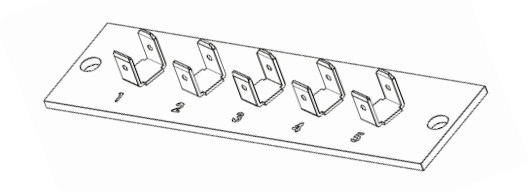
The harnesses from both the 14270055 and 14270059 connect to the 5 pin motor speed terminal board. The motor speed can be adjusted at this board. Each harness has a color that matches up with a number on the board which determines motor speed.

Terminal	Wire Color	Speed/Torque
1	Red	High
2	Yellow	Med-High
3	Blue	Medium
4	Black	Med-Low
5	Orange	Low

Each speed tap is energized by a 24 Volt signal sent through a blower operation wire that originates at the DSI control board.

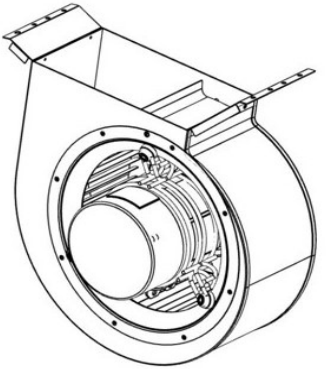
- Orange = Heating and Fan Only operation
- Blue = Cooling operation

To check that the signal is coming from the control board properly measure for voltage at the terminal board where the desired blower operation wire is located and the low voltage common located at the transformer or the contactor coil.

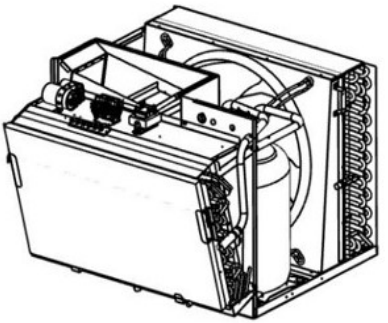


Blower Motor Removal Instructions

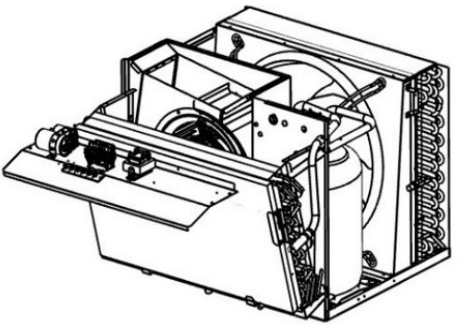
The blower motor can be easily accessed once the chassis is slid out of the cabinet. Follow this procedure on how to easily remove the blower assembly.



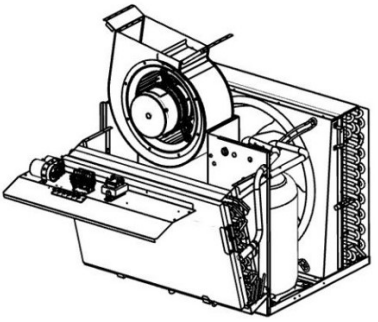
1. Remove the 4 screws from the control deck and carefully slide all motor wiring through the rubber grommet.



2. Move the control deck aside and remove the 4 screws that mount the motor housing.



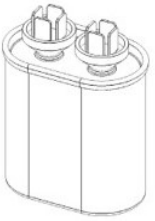
3. Slide the motor assembly up and out of the chassis. Be careful to not damage any refrigeration components while removing the blower assembly.

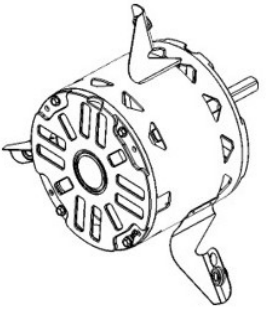


PSC Motors

Check for proper voltage to the motor. All motors operate at 208/230 Volts AC.
Capacitor values for PSC motors:

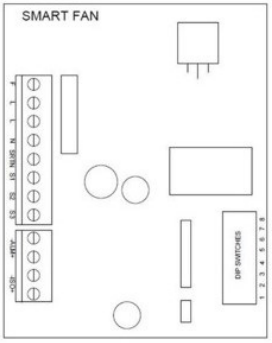
- 14270043 – 7.5 MFD
- 14270044 – 5 MFD
- 14270045 – 5 MFD





PSC Motor with Smart Fan Control

The Smart Fan Control is a Triac control board that lowers voltage to the blower motor, controlling the speed of the motor.
Fixed speed settings are rated at 80%.
Dip switch settings should be: 1-off 2-off 3-on 4-on 5-off 6-on.
The board can be bypassed by removing it from the circuit.



Condenser Fan Motors

14270044
- Permanent Split Capacitor – 1/4 HP
- 1075 RPM – Single Speed
- Used on 2 Ton R410A B & C-Series, all D-Series, all 9.2 EER U-Series, and 1.5 ton 12 SEER U-Series

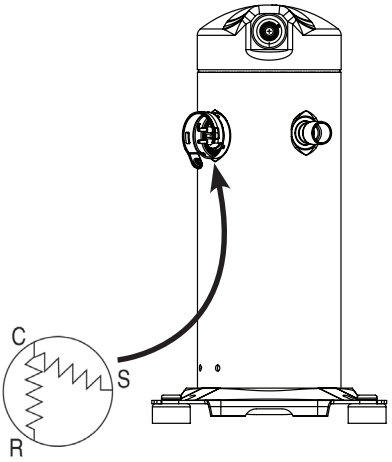
14270045
- Permanent Split Capacitor – 1/4 HP
- 850 RPM – Single Speed
- Used on 1 & 1.5 Ton R410A B & C-Series

14270057
- Electronically Commutated – 1/4 HP
- 1075 RPM – Single Speed
- Used on all 2.5 Ton 9.2 EER U-Series, 1 & 2 ton 12 SEER U-Series

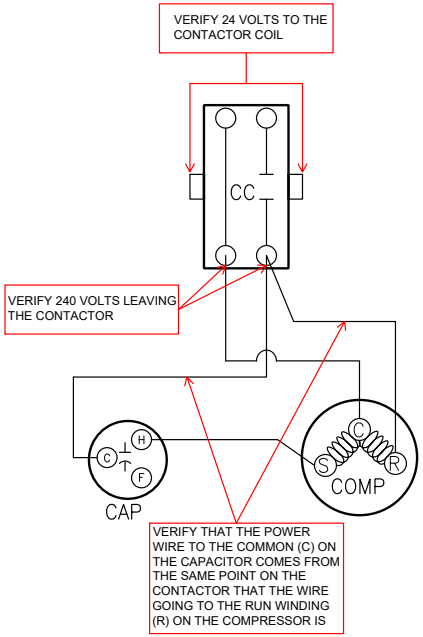
All Units Series including 9.2 EER U-Series units draw air in across the coil and reject the heat from the condenser out the top grille.

All 12 SEER U-Series units blow air across the coil and reject the heat from the condenser out the bottom grille.

Compressor



When diagnosing a compressor that is not starting first verify that the contactor coil has a minimum of 24 Volts. Verify the the load side of the contactor has 208 – 240 Volts when the contactor is energized. Check the wiring to ensure the start winding is not tied into the same leg of power as the common winding on the compressor.

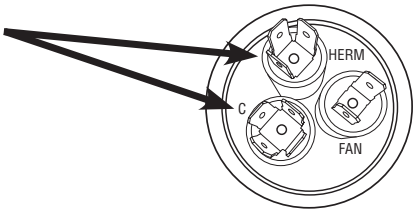


After verifying the wiring, document the following information and compare to the specification on the compressor's data tag.

- Incoming voltage to compressor at contactor
- Compressor starting amps
- Ohm reading between C&S on compressor terminals
- Ohm reading between C&R on compressor terminals
- Ohm reading between R&S on compressor terminals
- Ohm reading between each compressor terminal and ground

Verify the run capacitor charge in microfarads by measuring between HERM and COM terminals.

Do the same for the start capacitor if used.



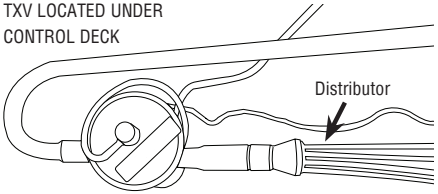
When diagnosing a compressor that is operating, document the following:

- Suction Pressure
- Discharge Pressure
- Suction Temperature
- Discharge Temperature
- Super Heat
- Subcooling

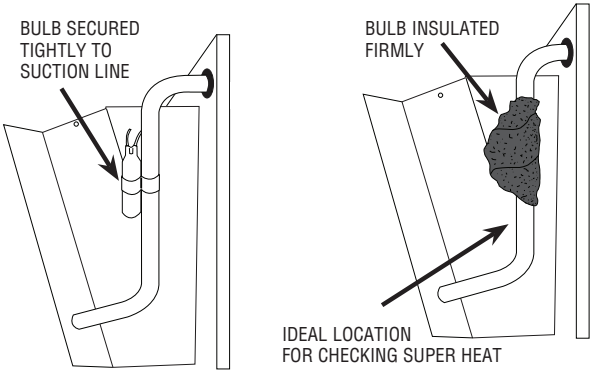
Thermal Expansion Valve (TXV)

The TXV is located underneath the control deck. The TXV meters refrigerant based on pressures in the system and temperatures at the bulb location. The spring tension plus the evaporator pressure (which is measured through the external equalizer tube) counter the pressure in the power element. As the bulb becomes warmer it increases the pressure in the diaphragm of the power element which opens the valve. The valve closes as the evaporator pressure increases and/or the bulb temperature decreases.

Example – The bulb temperature at the outlet of the evaporator is 55°F which equals 155 psig of diaphragm pressure. The evaporator pressure taken from the external equalizer line at the outlet of the evaporator is 110 psig. This added to the spring tension of 25 psig equals a total of 135 psig. The 155 psig diaphragm pressure is greater than the 135 psig combined spring and evaporator pressure so the valve will begin feeding refrigerant



The TXV Bulb (attached to the power element) must be securely fastened and firmly insulated to the suction line as shown below.

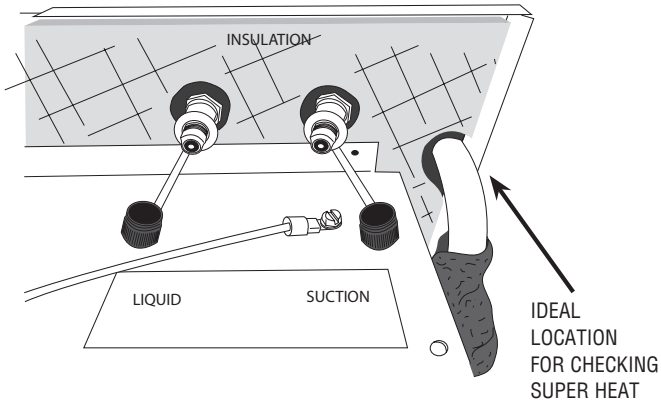


If you are experiencing system pump down, inspect the external equalizer tubing for restriction.

Refrigeration Service

Easy service port access is available on the right-hand side of the chassis above the control deck. Use these ports to verify system operating pressures along with superheat and subcooling for proper refrigeration system diagnosis.

Note – Comfort Pack service ports use Coremax fittings.
A Coremax removal tool is required to remove the fitting while under pressure. Use of a standard schraeder removal tool will damage the Coremax valves.

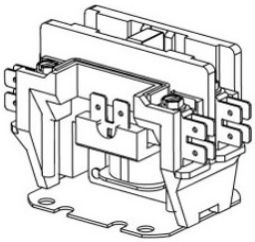


R410A Superheat 8-12°F, Subcooling 12-16°F

SUCTION PRESSURE	DISCHARGE PRESSURE	SUPER HEAT	SUBCOOLING	POSSIBLE CONDITION
LOW	LOW	LOW		INSUFFICIENT AIR FLOW ACROSS EVAPORATOR COIL
LOW	LOW	HIGH	LOW	INSUFFICIENT REFRIGERANT CHARGE / LOW SIDE RESTRICTION
LOW	HIGH	HIGH	HIGH	HIGH SIDE RESTRICTION
HIGH	HIGH	LOW	HIGH	EXCESSIVE LOADING ON EVAPORATOR COIL
HIGH	HIGH	LOW	HIGH	INSUFFICIENT AIR FLOW ACROSS CON- DENSER COIL
HIGH	HIGH	LOW	HIGH	EXCESSIVE REFRIGERANT CHARGE
HIGH	HIGH	VARYING	HIGH	AIR OR NON CONDENSABLE IN SYSTEM
HIGH		LOW		OVERFEEDING METERING DEVICE
HIGH	LOW			DEFECTIVE VALVES IN COMPRESSOR

Compressor Contactor

The compressor contactor is used to send line voltage to the compressor and condenser fan motor.



The 24-volt coil is powered by a call for cooling and wired in series with the high and low pressure switch.
*IF THE CONTACTOR HAS BEEN REPLACED WITH A 2 SWITCHING POLE CONTACTOR VERIFY PLACEMENT OF POWER LEG TO THE BLOWER MOTOR TO ENSURE PROPER OPERATION IN HEATING MODE

Low Pressure Switch

Opens at 50 psi +/- 5 psi Closes at 70 psi +/- 5 psi – Automatic Reset.
The low-pressure switch located on the chassis is a safety feature to keep the compressor from operating at pressures lower then recommended.

The pressure switch is molded and sealed into the refrigeration circuit. The switch breaks the call for cooling from Y to the contactor coil.

Low pressure switch faults could be caused by one of the following:

- Poor air flow
- Frozen coil
- Dirty coil
- Dirty or blocked filter
- Dirty blower
- Blower motor not operating
- System low on refrigerant
- Restriction in the system on the liquid side or before the pressure switch on the suction side

High Pressure Switch

Opens at 625 psi +/- 15 psi Manual Reset Pressure below 478 psi +/- 30 psi - Manual Reset.
The high-pressure switch located on the chassis is a safety feature to keep the compressor from operating at pressures higher then recommended.

The pressure switch is molded and sealed into the refrigeration circuit. The switch breaks the call for cooling from Y to the contactor coil.

High pressure switch faults could be caused by one of the following:

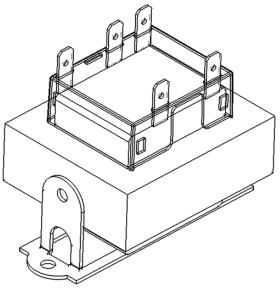
- Poor condenser air flow
- Condenser motor not operating.
- Condenser fan blade in reverse direction
- Dirty Condenser Coil
- Recirculation of condenser air
- Non approved louver system

Transformer

The transformer is used to supply low voltage to the Comfort Pack control circuit. Its primary side must be supplied with 208/240 VAC and its secondary side supplies 24 VAC. It is rated at 40 VA.

Failure to adjust the transformer in 208 Volt applications will then change low voltage output and can affect low voltage components in the unit.

LINE VOLTAGE INPUT (FACTORY SET FOR 240V) MUST BE FIELD ADJUSTED FOR PROPER LOW VOLTAGE OUTPUT.

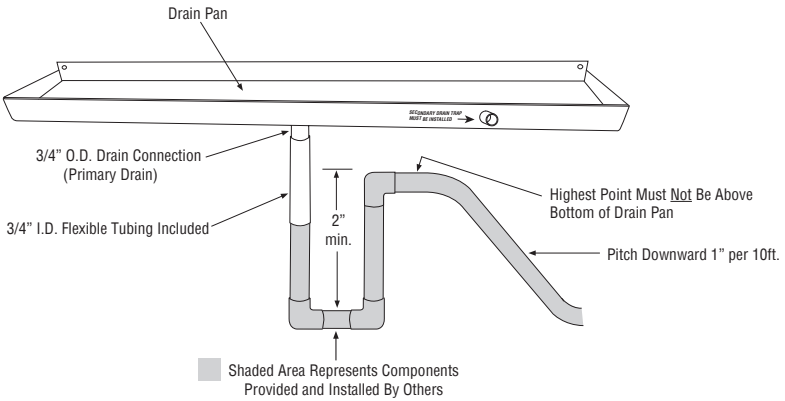


Drainage

(See Page 38 for Furnace Drainage)

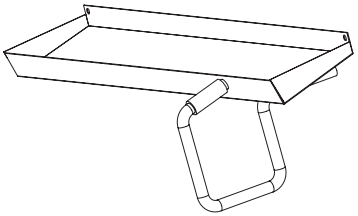
A drain pan is positioned underneath the evaporator coil to collect condensate. A ¾" flexible tube included with the unit should be connected to the drain connection on the drain pan so it can be easily disconnected for chassis removal.

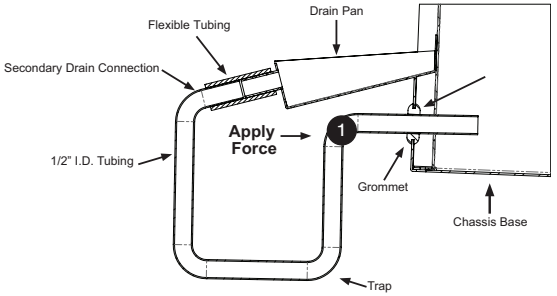
A 2" deep trap should be installed close to the pan.



Secondary Drainage

The secondary drain is an option that offers protection from overflow. The secondary drain feature is piped into the base of the unit and drains through the weep holes outside.

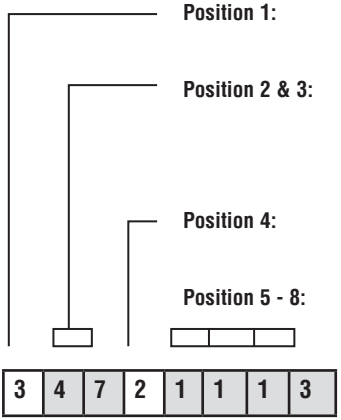




Serial Number Code

FInd Out the Age of the Unit

CURRENT (Effective 01/01/2003 to Current Day)



Position 1: Product Line 2 = NCP & Comfort Pack prior to 2007. After 01/01/2007 3 was used to indicate Comfort Pack.

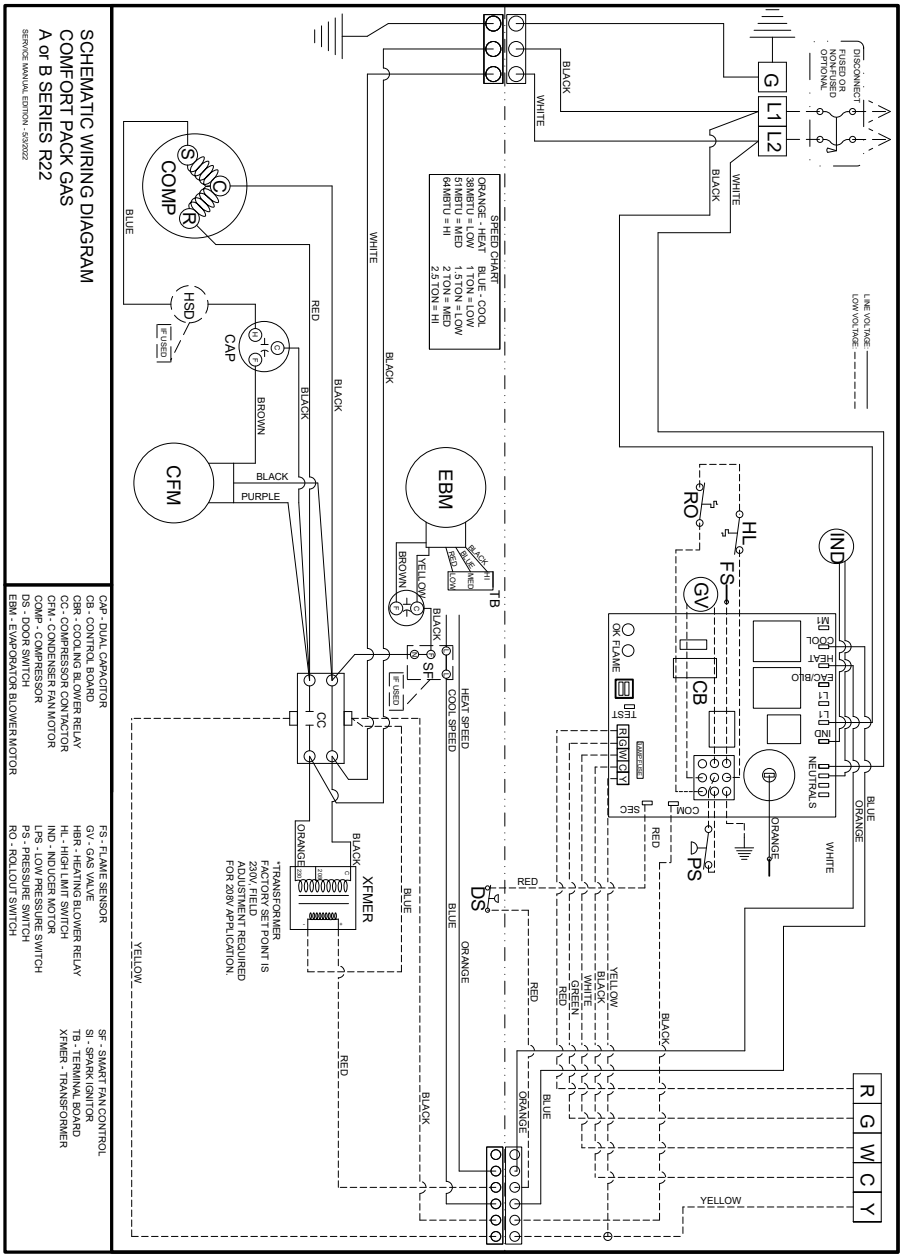
Position 2 & 3: 42=2002, 43=2003, 44=2004, 45=2005, 46=2006, 47=2007, 48=2008, 49=2009, 50=2010, 51=2011, 52=2012, 53=2013, 54=2014, 55=2015, 56=2016, 57=2017, 58=2018, 59=2019, 60=2020, 61=2021, 62=2022

Position 4: Month 1=Jan, 2=Feb, 3=Mar, 4=April, 5=May, 6=June, 7=July, 8=Aug, 9=Sept, A=Oct, B=Nov, C=Dec

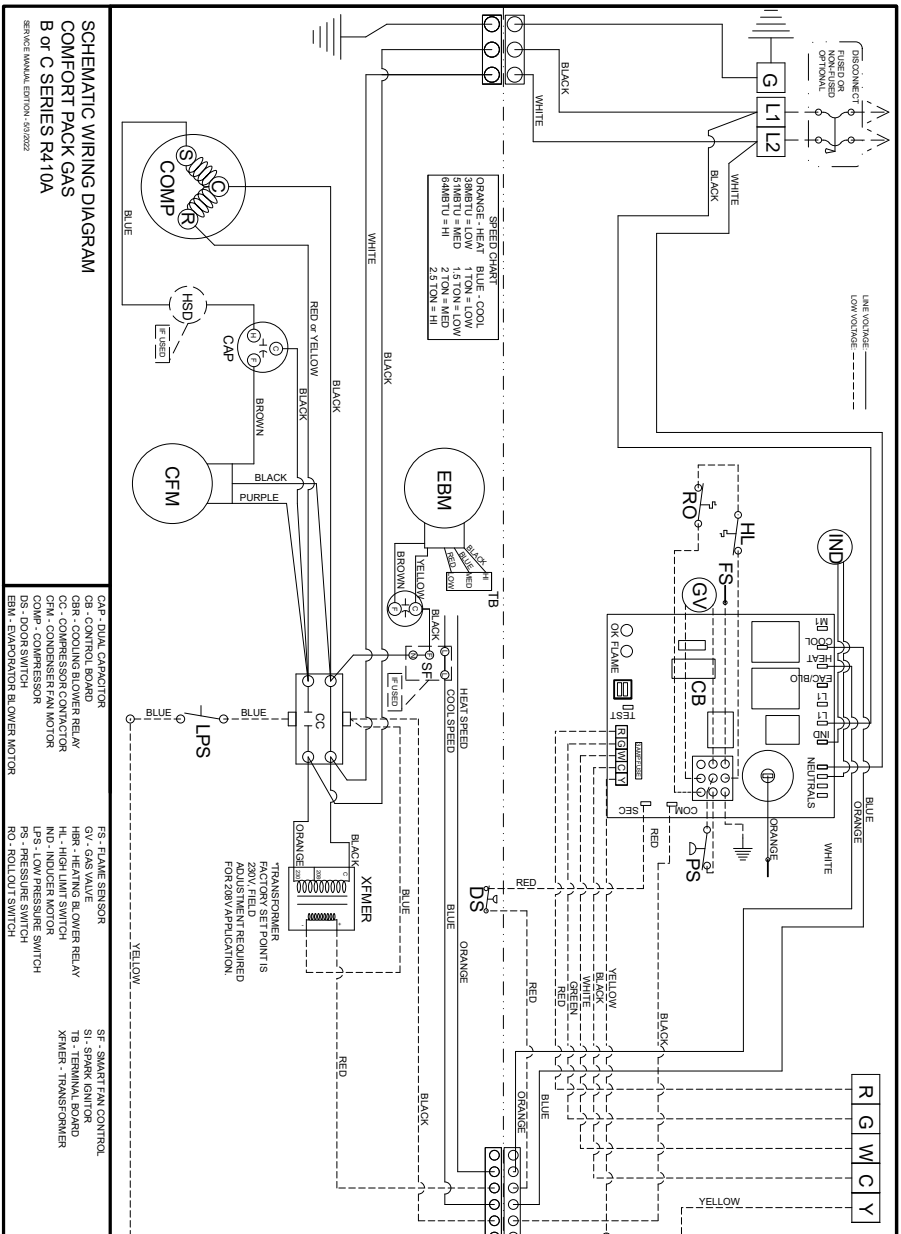
Position 5 - 8: Sequence number

Comfort Pack: (5 Year Warranty On Parts, 5 Year Warranty on Compressor, 10 year on Heat Exchanger)

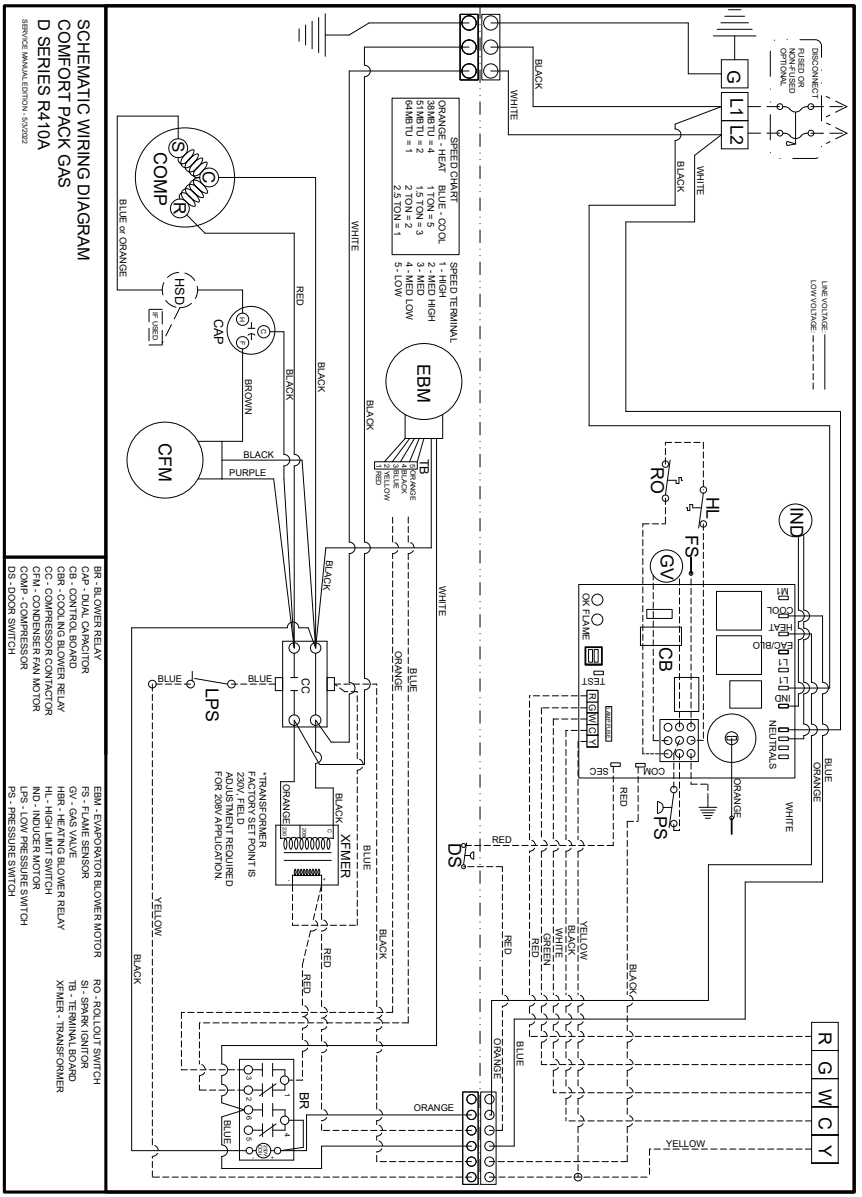
Comfort Pack Gas A or B Series R22



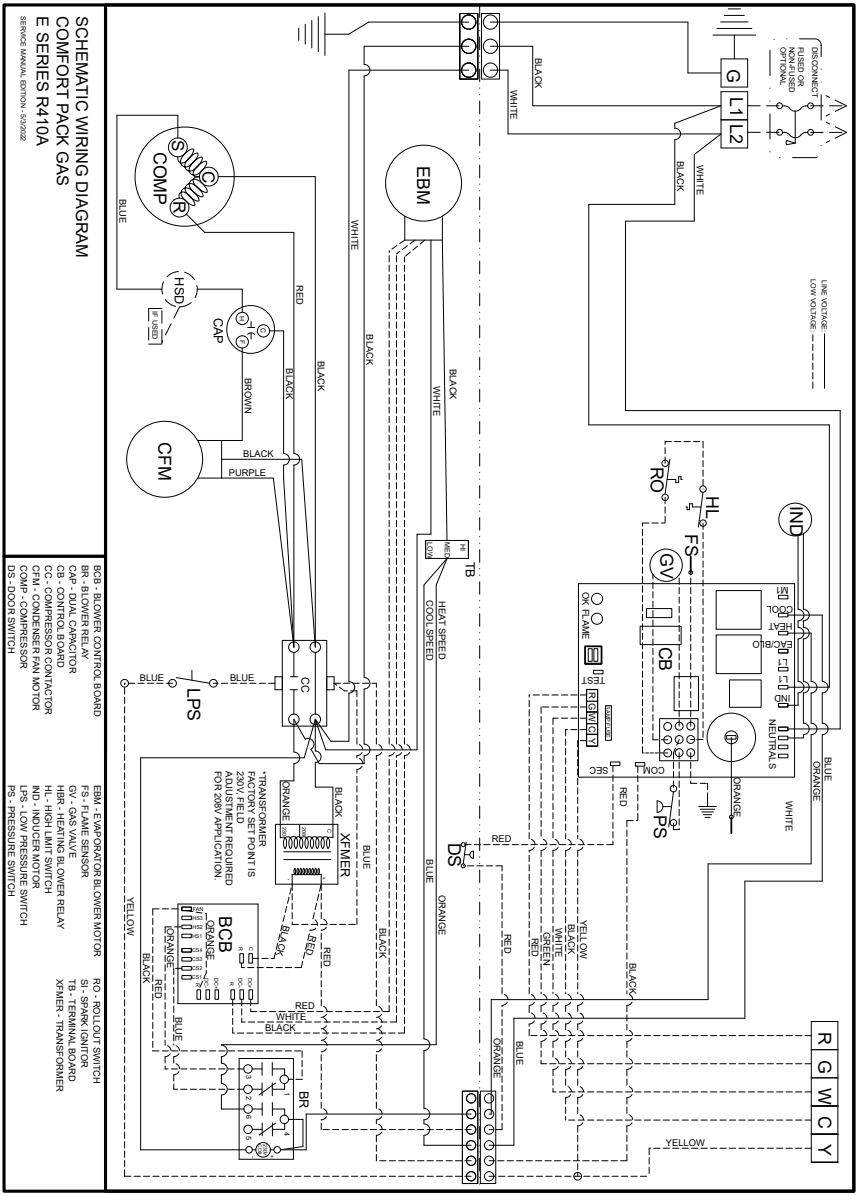
Comfort Pack Gas B or C Series R410A



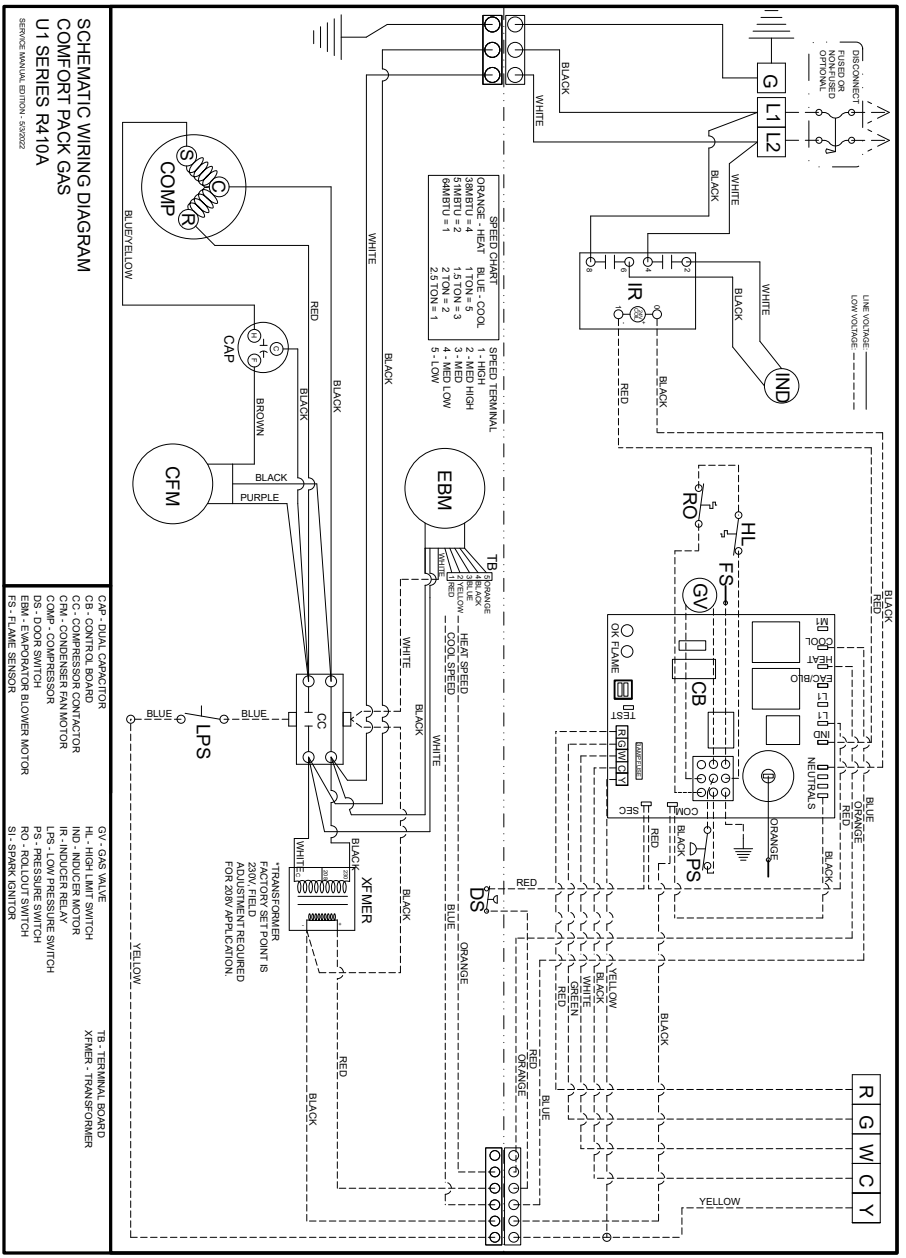
Comfort Pack Gas D Series R410A



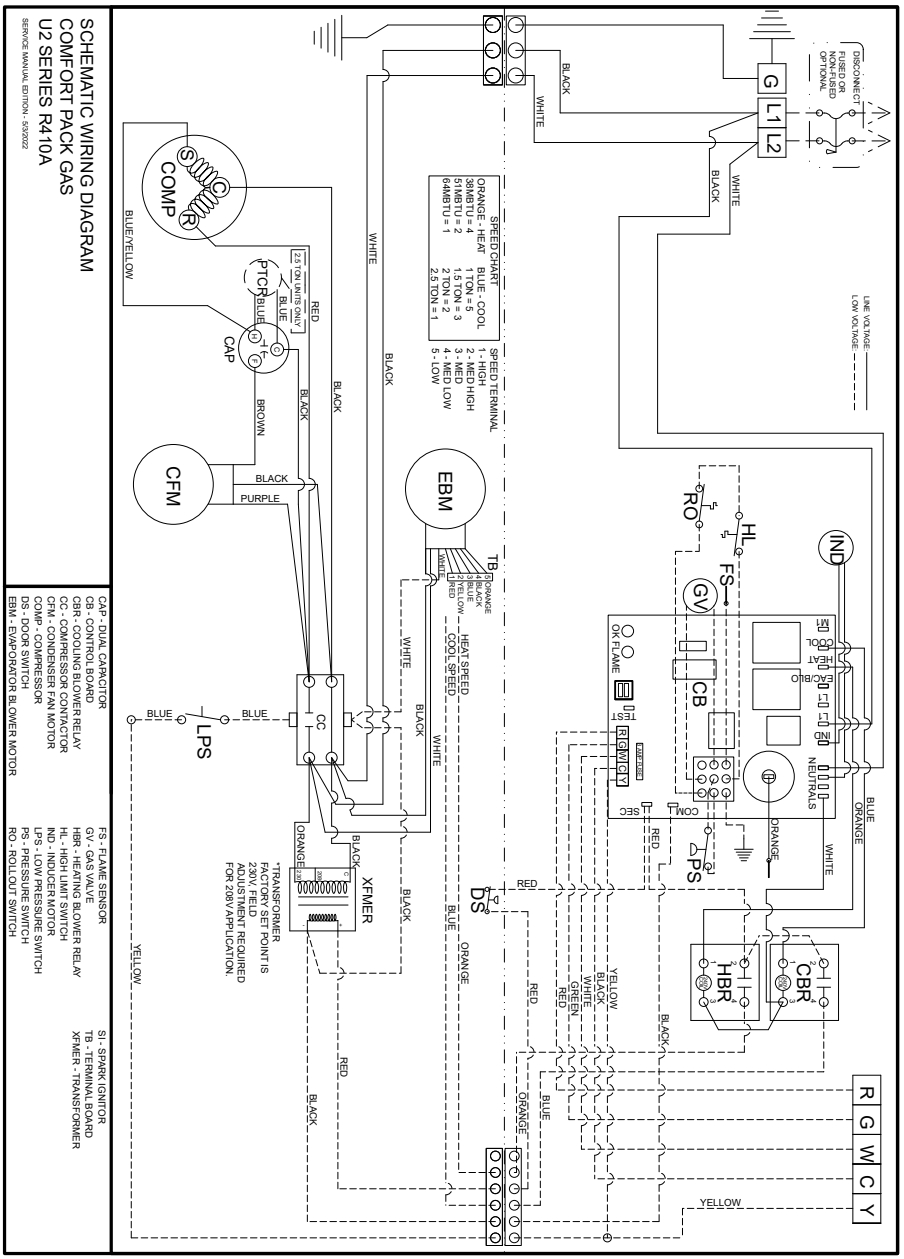
Comfort Pack Gas E Series R410A



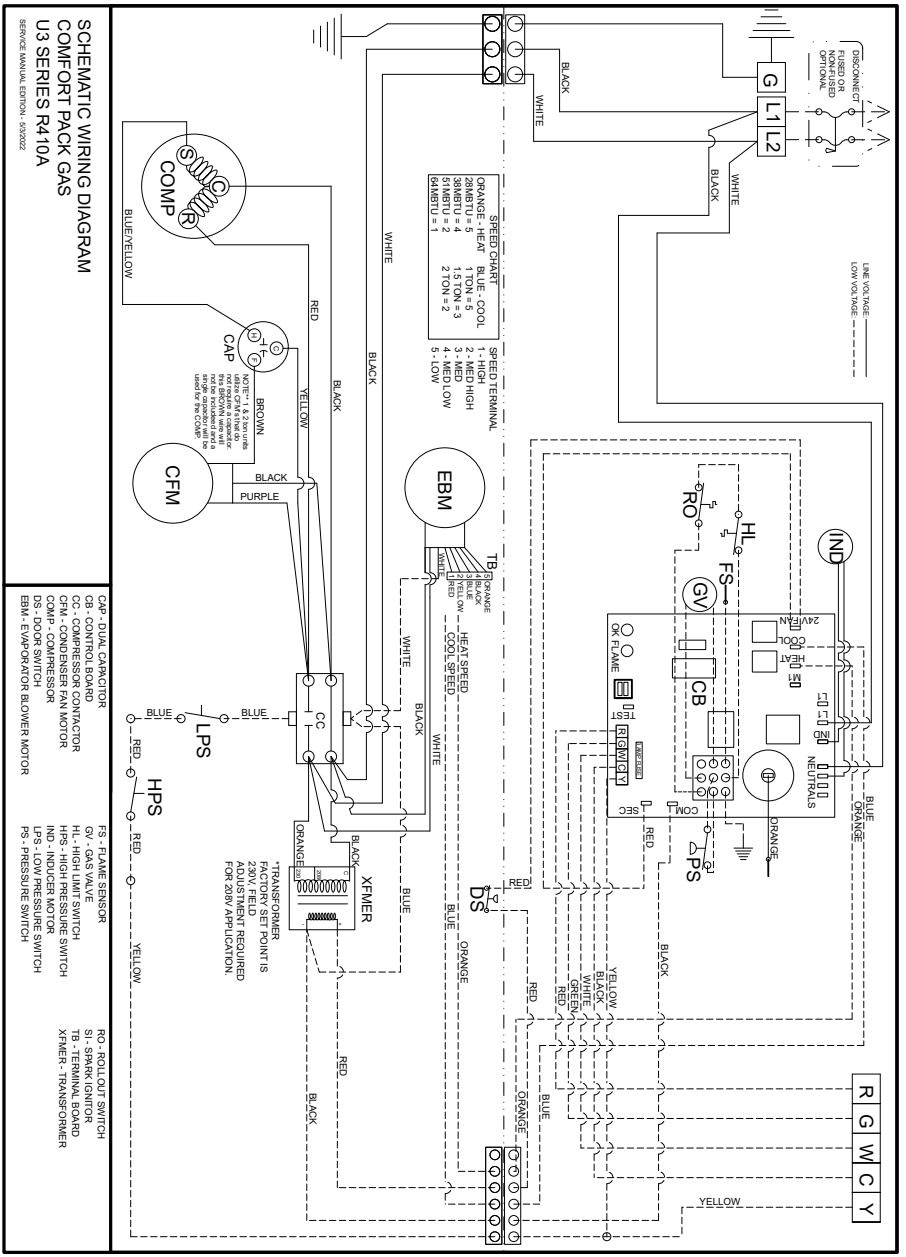
Comfort Pack Gas U11 Series R410A



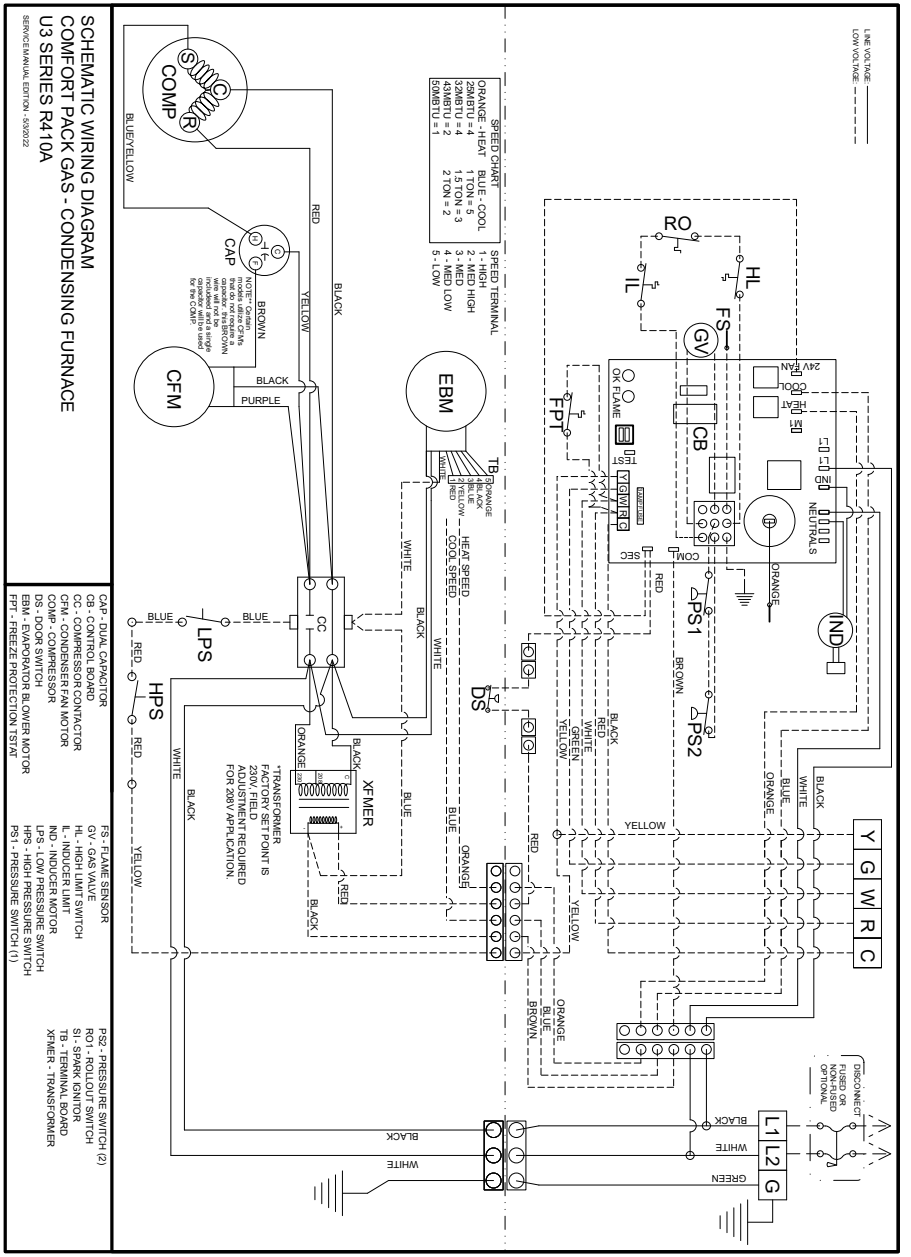
Comfort Pack Gas U12 Series R410A



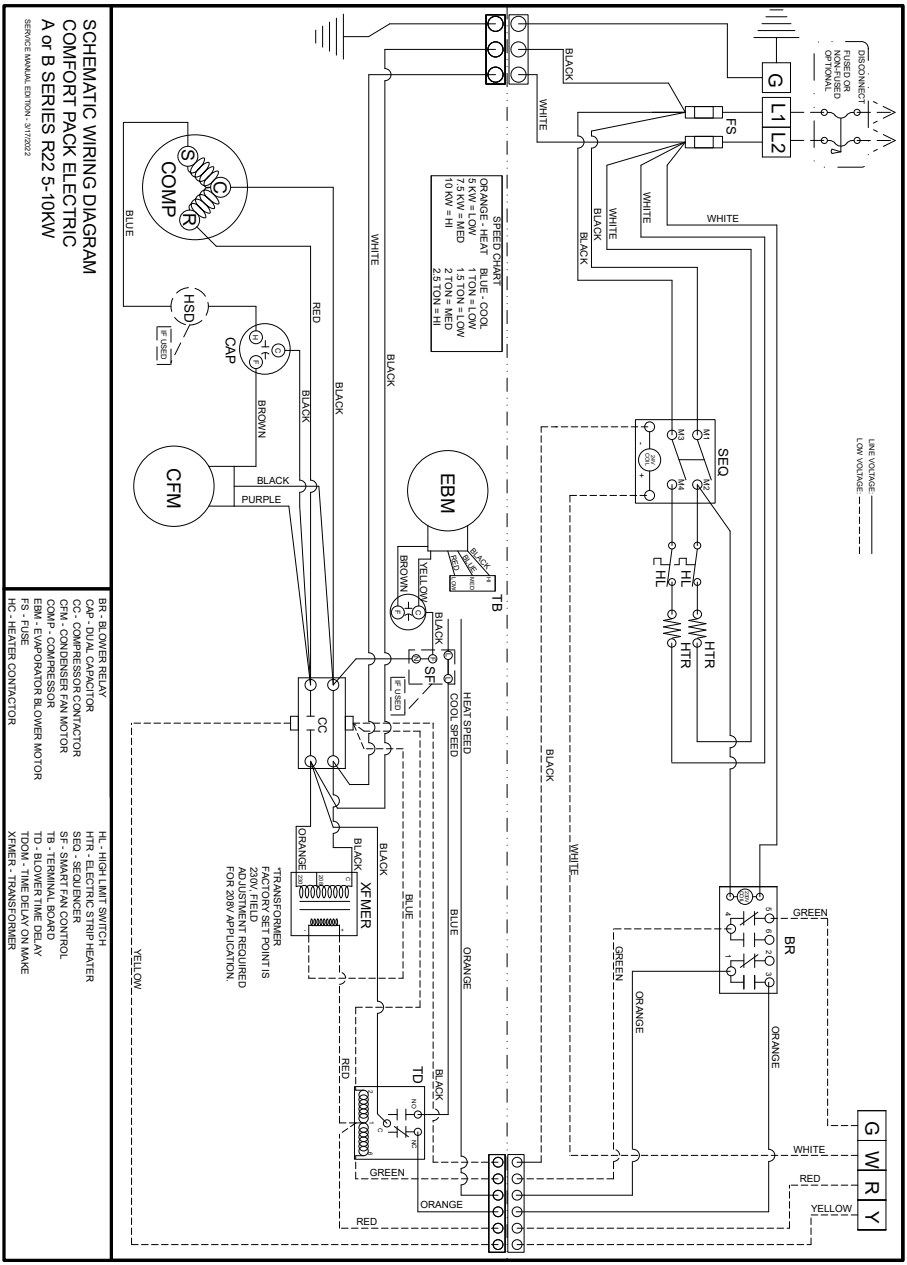
Comfort Pack Gas U33 Series R410A



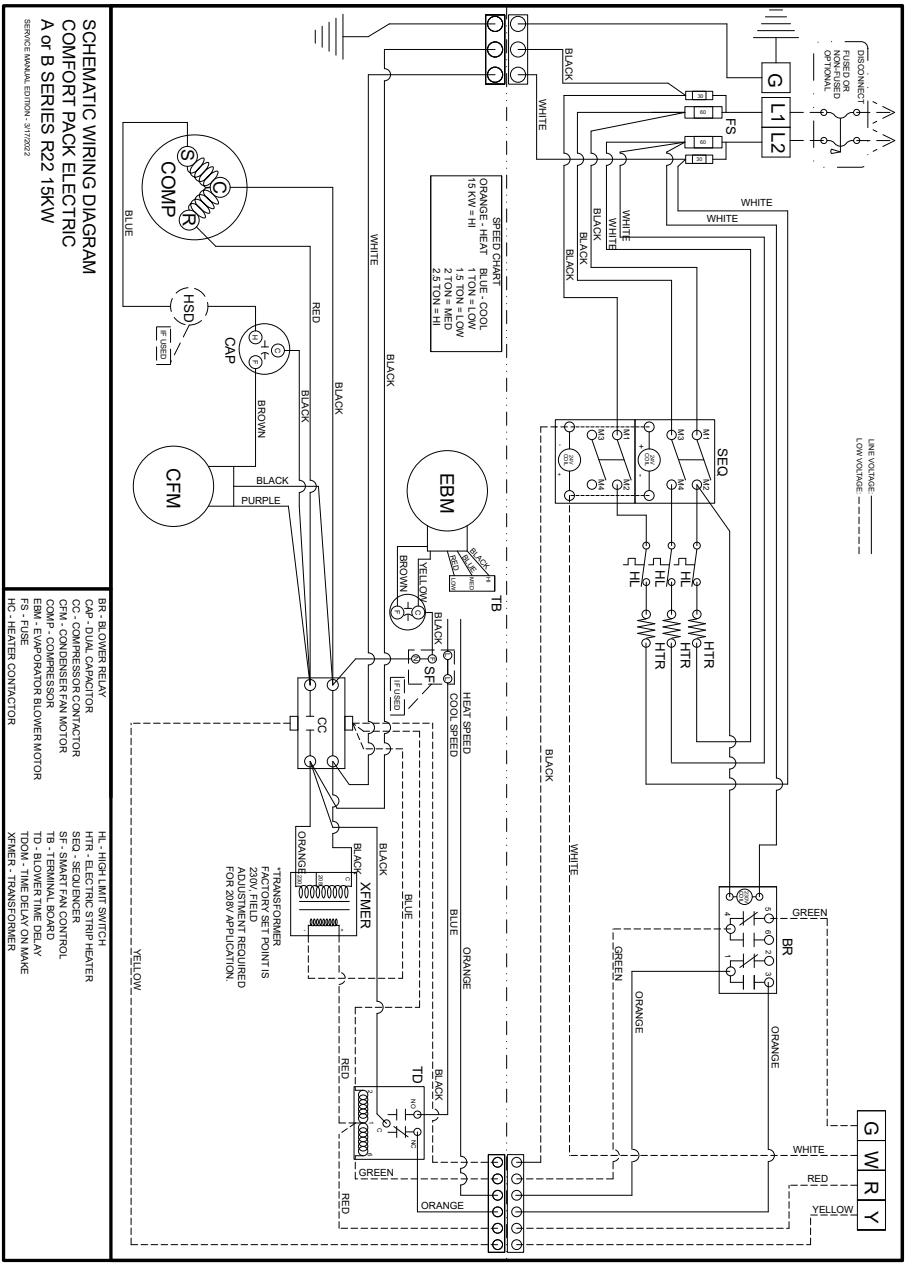
Comfort Pack Gas - Condensing Furnace U33 95% Series R410A



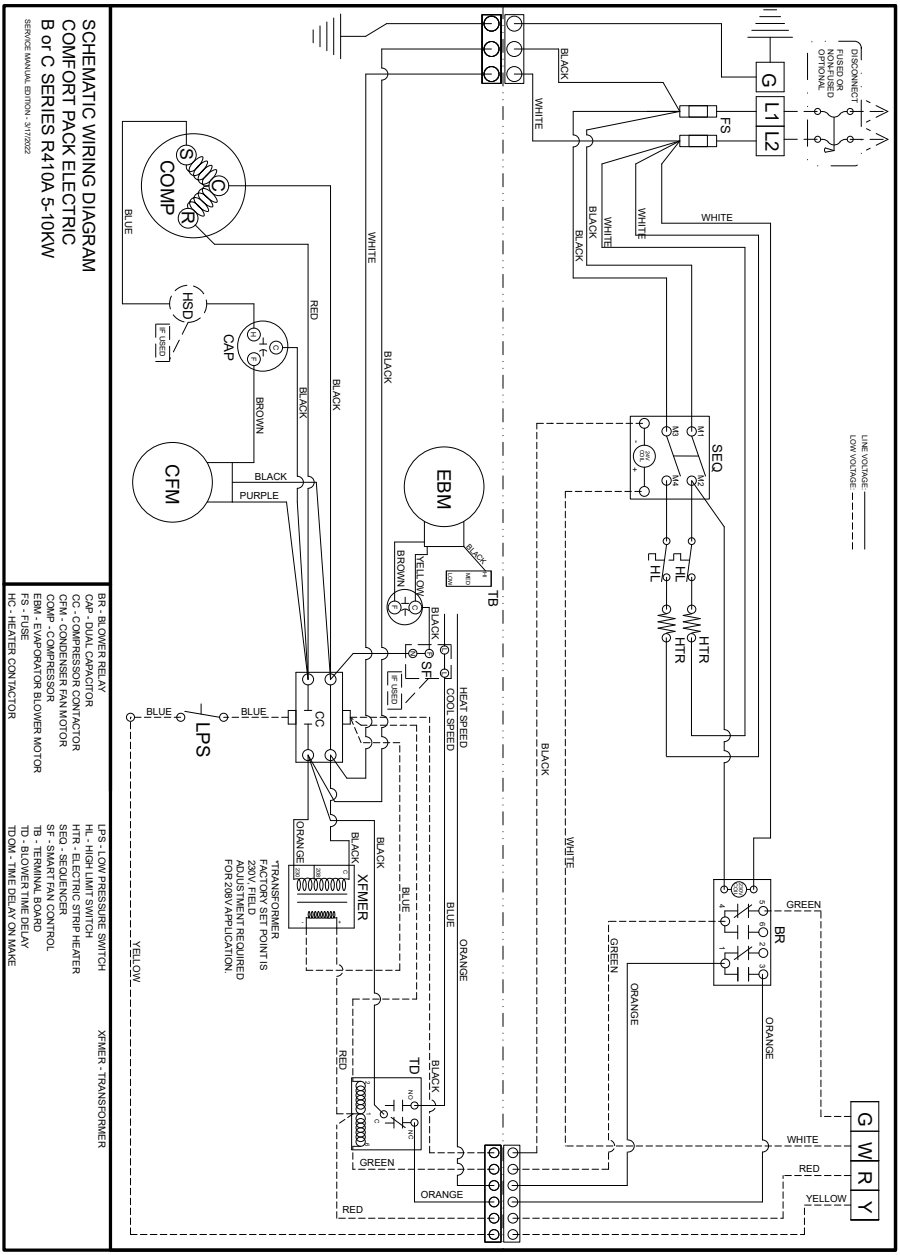
Comfort Pack Electric A or B Series R22 5-10KW



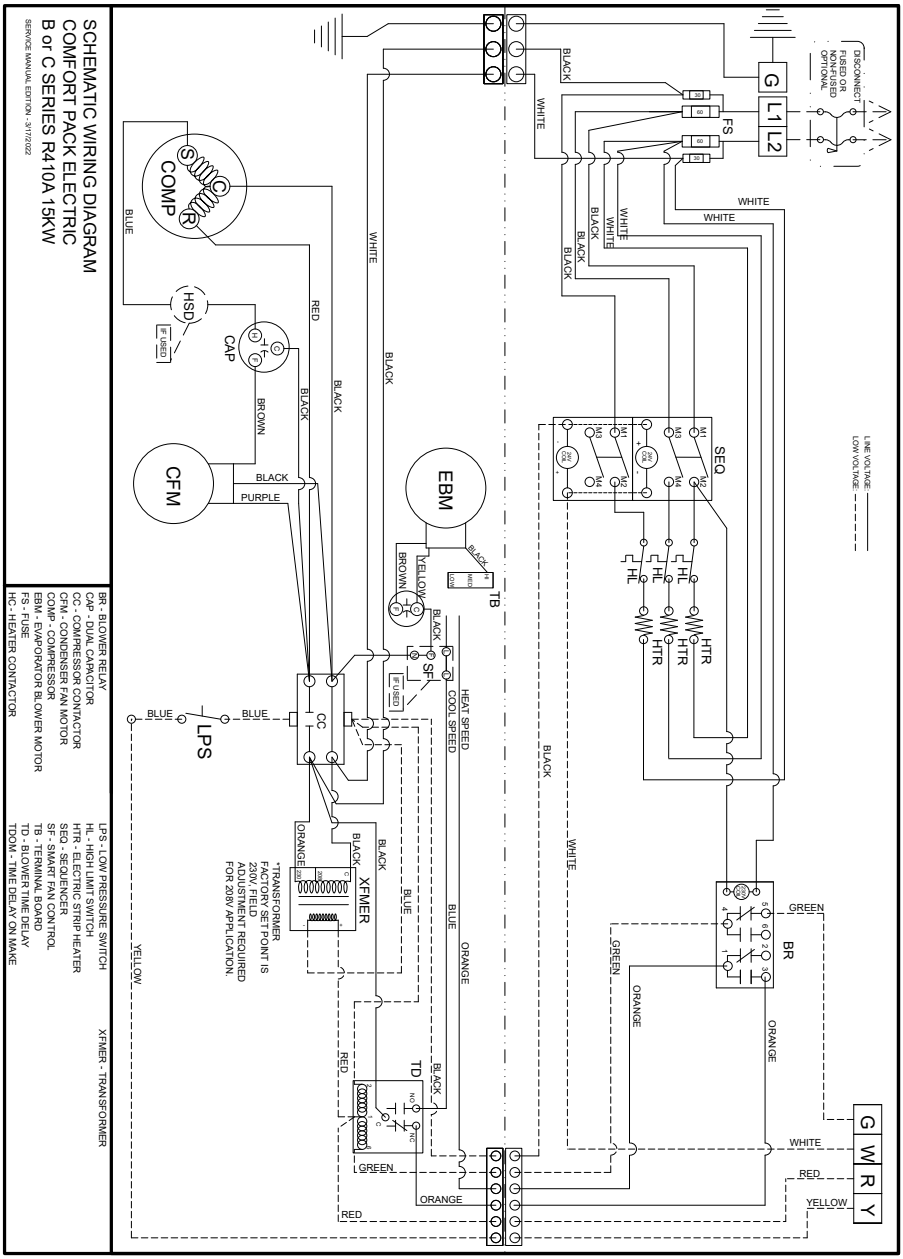
Comfort Pack Electric A or B Series R22 15KW



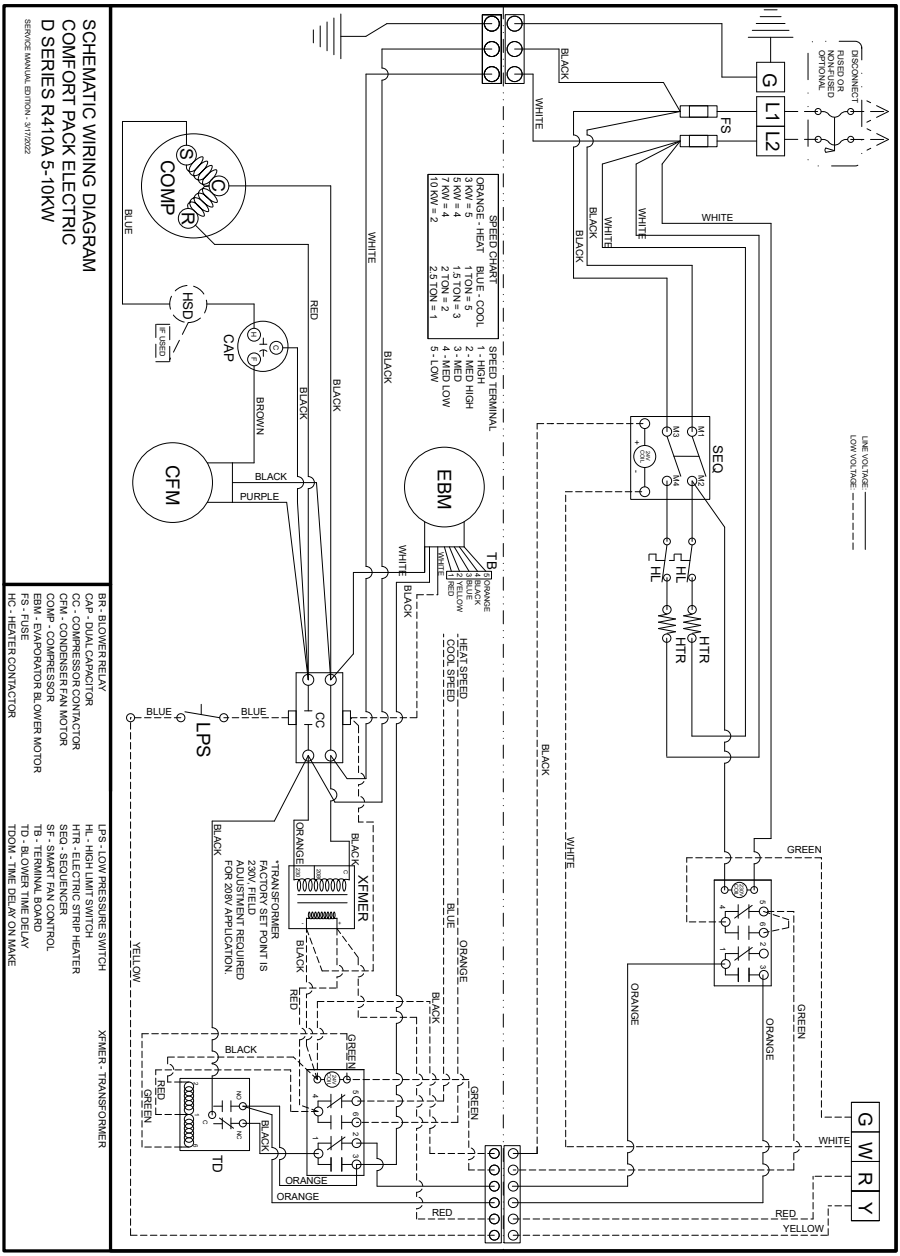
Comfort Pack Electric B or C Series R410A 5-10KW



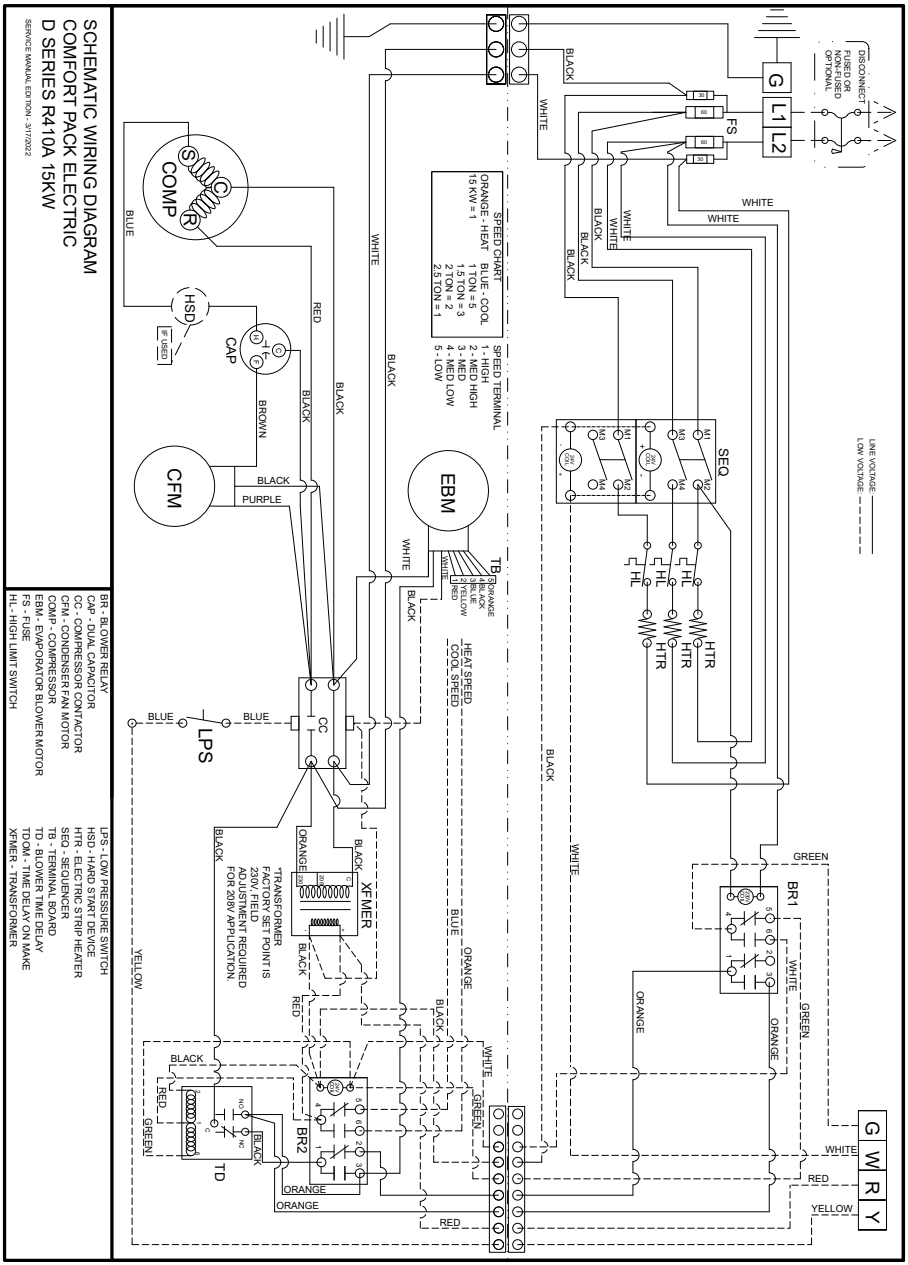
Comfort Pack Electric B or C Series R410A 15KW



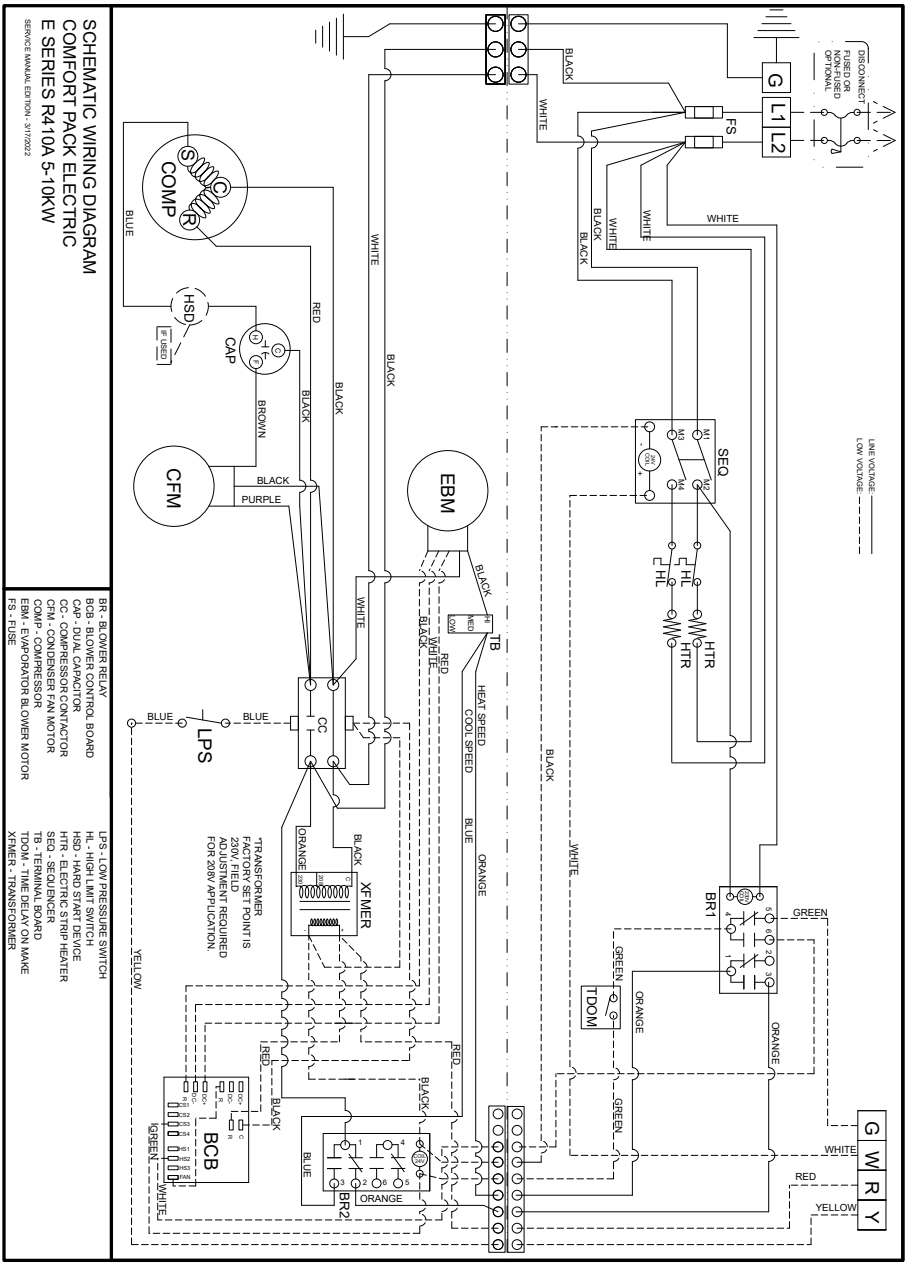
Comfort Pack Electric D Series R410A 5-10KW



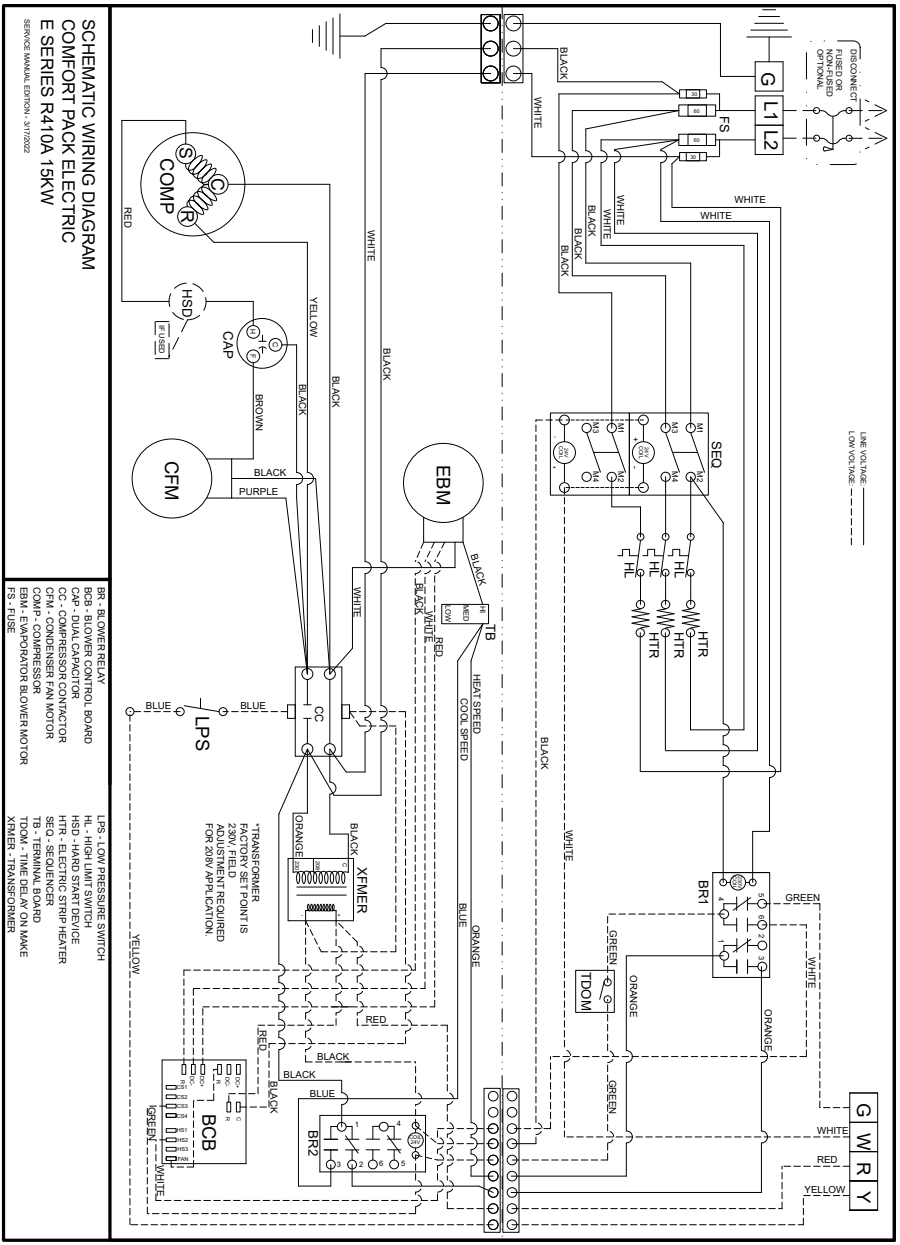
Comfort Pack Electric D Series R410A 15KW



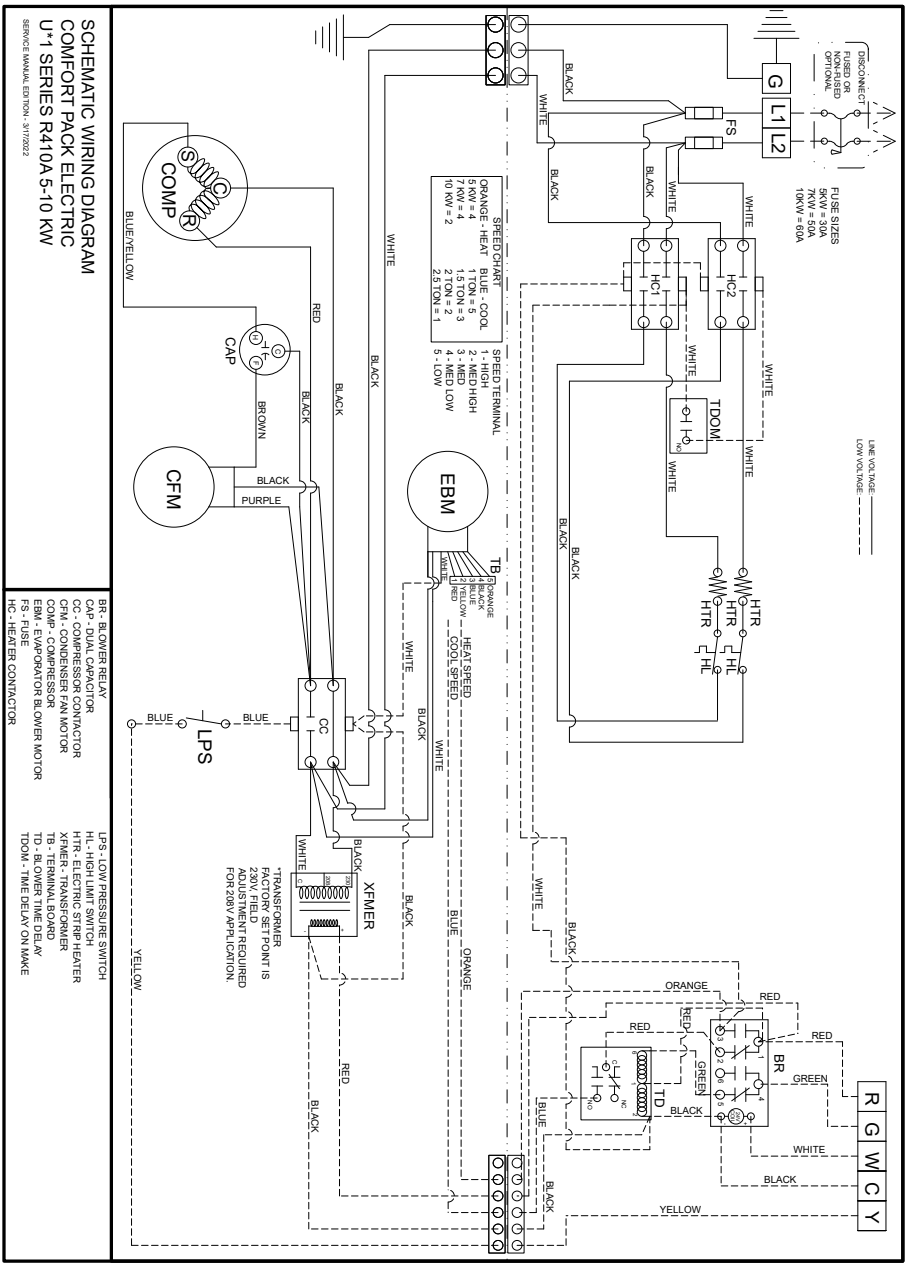
Comfort Pack Electric E Series R410A 5-10KW



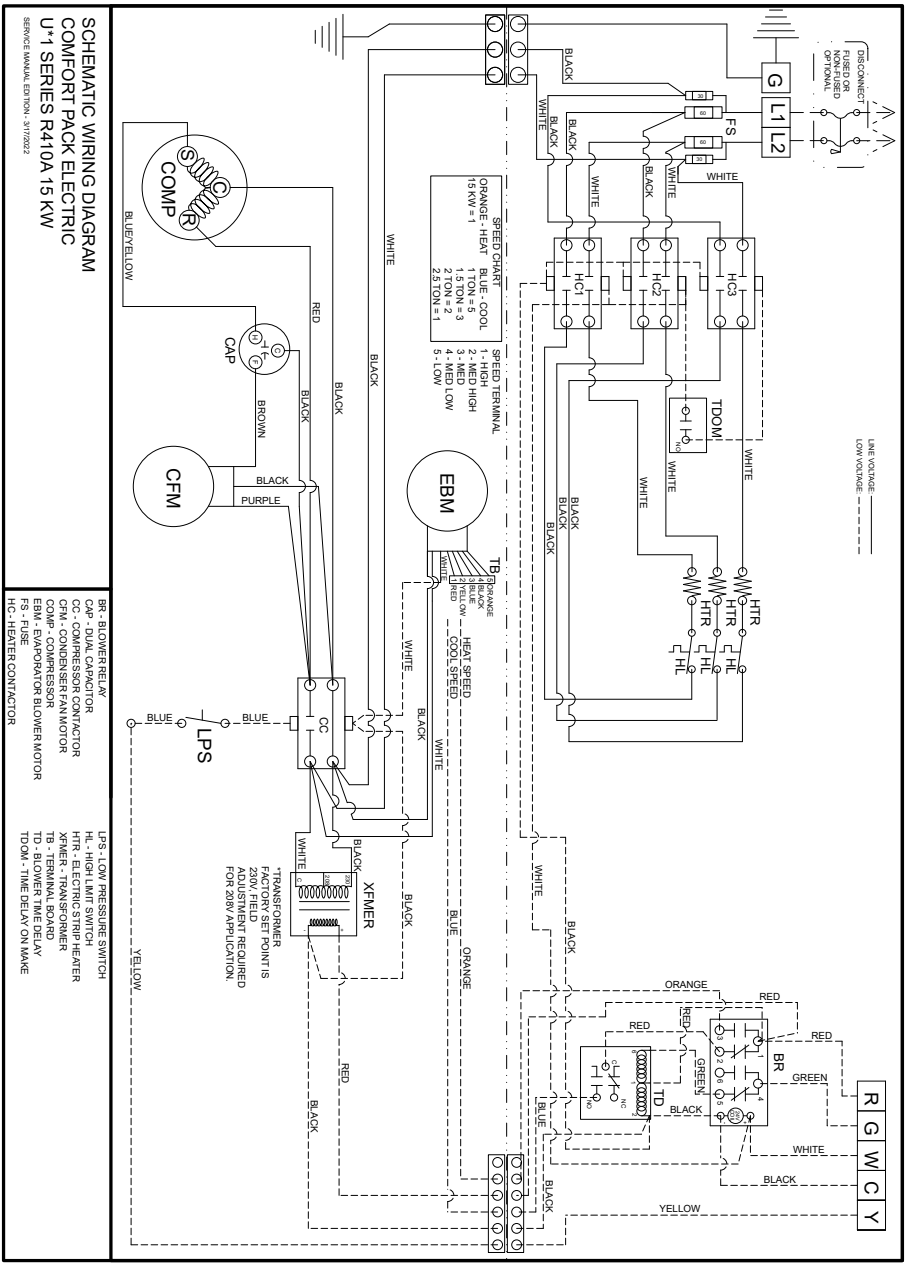
Comfort Pack Electric E Series R410A 15KW



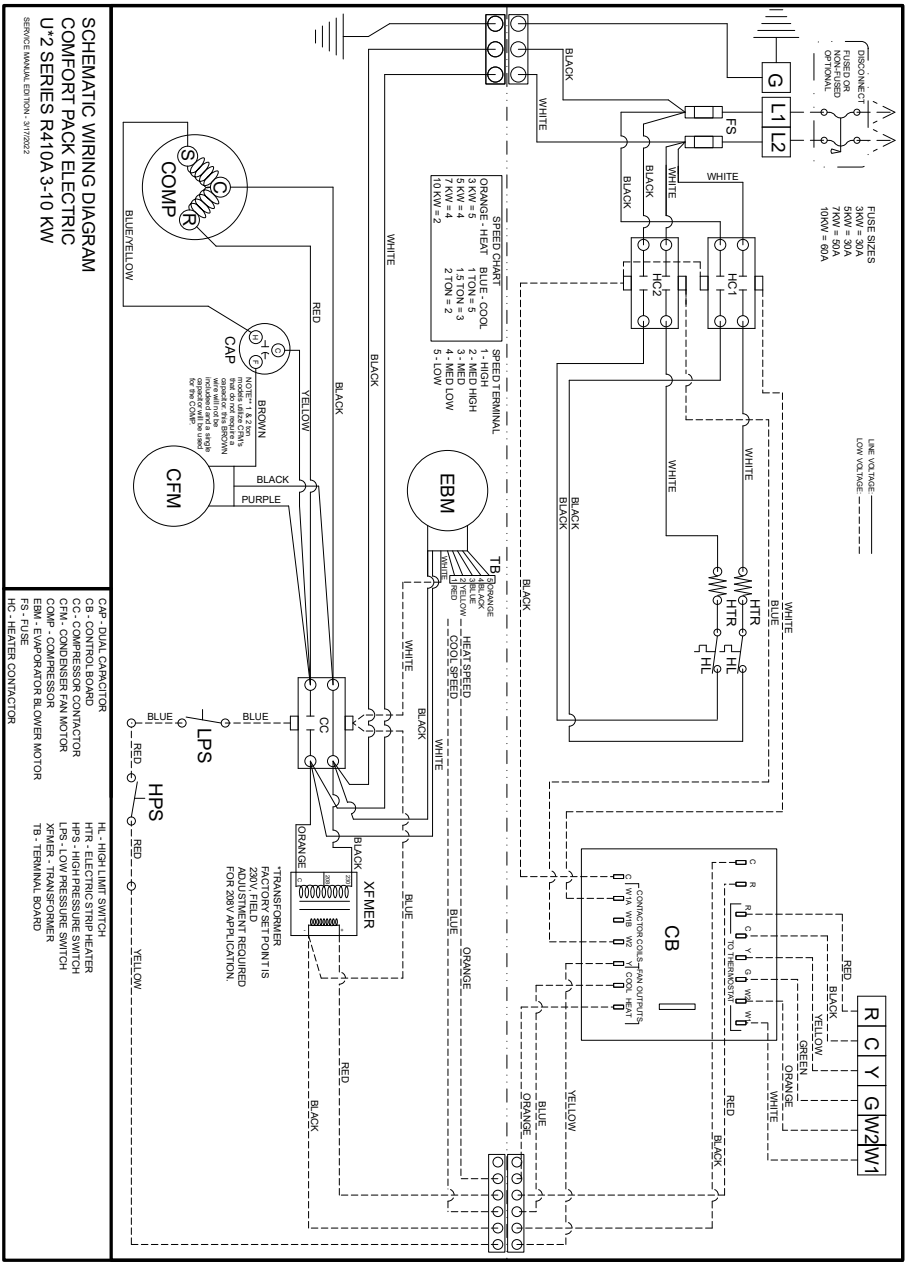
Comfort Pack Electric U11 Series R410A 5-10KW



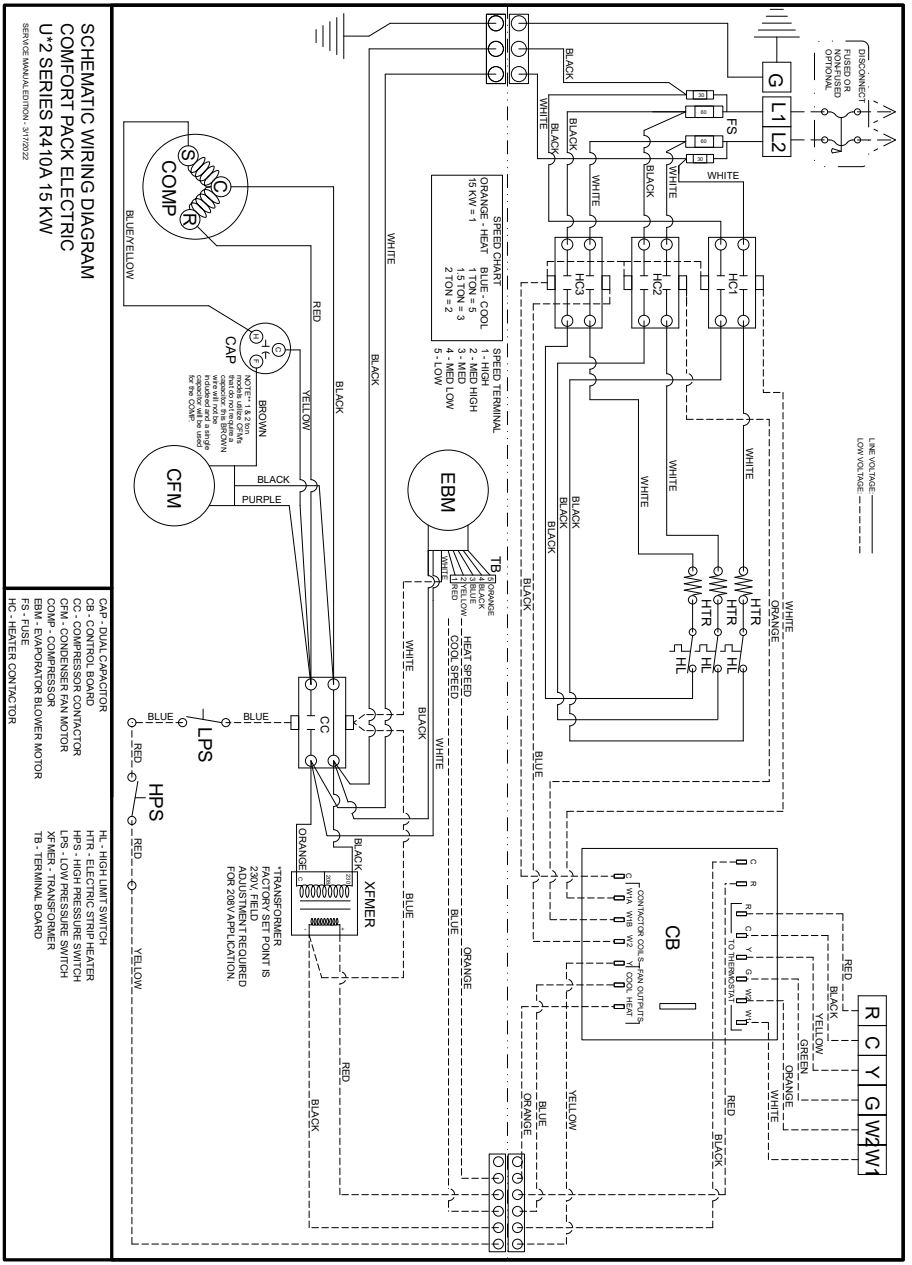
Comfort Pack Electric U11 Series R410A 15KW



Comfort Pack Electric U*2 Series R410A 3-10KW



Comfort Pack Electric U*2 Series R410A 15KW



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