

Quick Start Guide

ACiQ Next Gen Heat Pump Condenser

Dual Fuel

ACiQ-24-AHB/ACiQ-24-HPB
ACiQ-36-AHB/ACiQ-36-HPB
ACiQ-48-AHB/ACiQ-48-HPB
ACiQ-60-AHB/ACiQ-60-HPB



Dual Fuel System - ACiQ Heat Pump, 3rd Party Furnace, 3rd Party Coil

Congratulations on purchasing an ACiQ Next-Generation heat pump condenser. Using this system in a dual fuel application will dramatically reduce your heating costs in the winter compared to a standard system setup. The heat pump will provide heat in most conditions and the furnace will provide backup heat at extreme low temperatures.

Requirements

1. The indoor coil (often referred to as the evaporator coil or A-Coil) must have a heat pump compatible Thermostatic Expansion Valve (TXV).
2. The indoor coil must be sized correctly. At a minimum it must match the nominal BTU capacity of the selected outdoor unit. It is permissible to oversize the indoor coil by up to 1 ton (12,000 BTU/H).
3. A 24 volt **heat pump** thermostat with a minimum of 2 stages of heating and 2 stages of cooling must be used (2H, 2C).
4. The selected thermostat must have a wired, wireless, or internet-based outdoor temperature sensing feature.

STANDARD HEAT/COOL ONLY THERMOSTATS **WILL NOT** WORK FOR THIS APPLICATION.

REFRIGERANT CONNECTIONS

IMPORTANT: Line Set Size Requirements = 3/8" Liquid Line & 3/4" Suction Line.

IMPORTANT: This system comes with copper adaptors that thread on to the outdoor unit. The other end of the adaptor has a female sweat connection which allows for brazing the line set.

IMPORTANT: Purge with nitrogen during brazing! If you skip this essential step the abrasive, oxidative buildup will dramatically shorten the compressor's life and void the warranty. **DO NOT** skip this step.

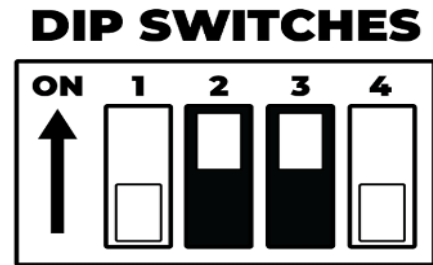
IMPORTANT: To ensure no leaks are present startup the unit in heating mode. While the unit is operating retorque the flare adaptors (while unit is **HOT**). It is recommended to use a digital torque wrench.

IMPORTANT: Only a licensed and certified HVAC professional should complete the installation of this equipment. Please verify your selected technician is section 608-certified.

Reference Guides

Outdoor Unit DIP Switch Location On Circuit Board

Set DIP Switches As Shown Below



L1	Line Voltage Power - Must Also Connect Ground Wire	Wired To Outdoor Disconnect
L2		
R	24 Volt Hot (Power)	Wired To Selected Indoor Unit
C	24 Volt Common	
Y1	Heat/Cool Stage 1	
Y2	Heat/Cool Stage 2 (High Demand)	
B	Reversing Valve (Energized In Heating)	
W	IGNORE - DO NOT USE	
D	IGNORE - DO NOT USE	
L	IGNORE - DO NOT USE	

Thermostat Wiring

IMPORTANT – Every thermostat is different. Modern thermostats will have an “Installer Setup” or “Advanced Options” mode. A dual fuel setup **requires** a heat pump compatible thermostat, which will call on the furnace only as backup heat at extreme low temperatures. Here are general guidelines – refer to your thermostat manual for specifics.

Installer Setup & Advanced Options Settings

System Type: Set To Dual Fuel

Reversing Valve (O/B): Set To Energized In Heating Mode (Opposite Of Most Default Settings)

Backup Heat Type: Set To Gas/Oil Furnace

Outdoor Temperature Sensing: Varies Based On Thermostat (Wi-Fi, Wired, Or Wireless Sensor)

Lockout/Switchover Temperature: Varies Based On Desire For Greater Efficiency Or Comfort. Maximum Comfort = 35 °F, Maximum Efficiency = -10 °F, Our Recommendation = 0 °F

IMPORTANT – the heat pump and the furnace should NEVER run at the same time. Most heat pump thermostats are already configured to prevent this from happening.

Typical Wiring Example



Thermostat wiring to the terminals on the furnace will vary based on the brand of the thermostat. Please refer to the thermostat manual for furnace wiring. Look for a section on dual fuel wiring. Some thermostats send the call for backup heat over the W terminals as shown. Some send the backup call over Aux/E.

18/8 thermostat wire will be required for correct low voltage wiring. A common color scheme is shown in the diagram, but please note colors may vary. Many furnaces do not have an O/B terminal. If this is the case connect the orange O/B wires with a wire nut.



Example of a wire nut. Please note accurate wire color is not represented in this photo.