

Please read this manual carefully before installation and keep it for future reference.

# Installation & Owner's Manual



**MRCOOL®**

COMFORT MADE SIMPLE

## Hyper-Heat Single-Zone 24K-60K Ducted Air Handler & Condenser

Due to updates and constantly improving performance, the information and instructions within this manual are subject to change without notice. Please visit [www.mrcool.com/documentation](http://www.mrcool.com/documentation) to ensure you have the latest version of this manual.

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## Preparations and Precautions

If air or foreign matter is present within the refrigerant system, it can cause abnormal rises in pressure, which can reduce its efficiency, damage the unit, and/or cause personal injury. Use a vacuum pump and manifold gauge to evacuate the refrigerant system to remove any non-condensable gas and moisture from the system. **This process should be performed upon initial installation and when refrigerant is removed for any reason.**

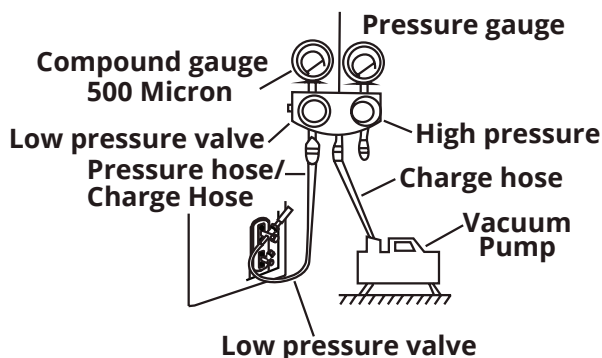
## BEFORE PERFORMING EVACUATION

- Ensure the refrigerant piping between the indoor and outdoor units are connected properly.
- Ensure all wiring and electrical connections are properly connected.

## Evacuation Instructions

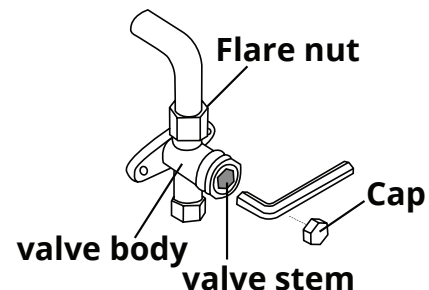
1. Connect the charge hose of the manifold gauge to the service port on the outdoor unit low pressure valve.
2. Connect another charge hose from the manifold gauge to the vacuum pump.
3. Open the low pressure side of the manifold gauge. Keep the high pressure side closed.
4. Turn on the vacuum pump to evacuate the system.
5. Run the vacuum for at least 15 minutes, or until the Micron gauge reads 500 micron.

### Manifold Gauge



6. Close the low pressure side of the manifold gauge and turn off the vacuum pump.
7. Wait 5 minutes, then check that there has not been any change in system pressure.

8. If there is a significant change in system pressure, check for leaks. If there is no change in system pressure, unscrew the cap from the high pressure valve.
  - If pressure rises but becomes stable below 1000 Microns, it is okay to open the valves.
  - If the pressure becomes stable above 1000 but below 2000 Microns there is moisture in the system. Further evaluation and dehydration is required.
  - If pressure rises above 2000 Microns or does not become stable, indicates there is a leak.
9. Then, insert an Allen/hexagonal wrench into the high pressure valve. Open the valve by turning the wrench counterclockwise 1/4 of a turn. Listen for gas to exit the system, then close the valve after 5 seconds.
10. Watch the pressure gauge for 1 minute to ensure that there is no change in pressure. The pressure gauge should read slightly higher than atmospheric pressure.
11. Remove the charge hose from the service port.



12. Using an Allen/hexagonal wrench, fully open both the high pressure and low pressure valves.

## OPEN VALVES GENTLY

- When opening the valves, continue turning the Allen/hexagonal wrench gently until it reaches the stopper. **DO NOT** try to force the valve to open further than this.
  - Ensure the Allen/hexagonal wrench is inserted fully into valve stem socket. Failure to do this, or using a stepped service valve tool could result in stripping the valve stem socket.
13. Tighten the valve caps on all three valves (service port, high pressure, & low pressure) by hand. You may need to tighten them further using a wrench or torque wrench if necessary.

# Air Evacuation & Adding Refrigerant

## Note on Adding Refrigerant

Some systems require additional refrigerant charging depending on pipe lengths. The standard pipe length varies according to local regulations. For example, in North America, the standard pipe length is 25 ft (7.5 m). In other areas, the standard pipe length is 16 ft (5 m). The system **MUST** be operating in cooling mode to add refrigerant. The refrigerant should be charged as liquid from the service port on the outdoor unit's low pressure valve. The additional refrigerant to be charged can be calculated using the following formula:

### Liquid Side Pipe Diameter

	φ 1/4 in (6.35 mm)	φ 3/8 in (9.52 mm)	φ 1/2 in (12.7 mm)
<b>R410A: (Metering device in the indoor unit):</b>	(Total pipe length - standard pipe length) x 30g (0.32oz)/m(ft)	(Total pipe length - standard pipe length) x 65g (0.69oz)/m(ft)	(Total pipe length - standard pipe length) x 115g (1.23oz)/m(ft)
<b>R410A: (Metering device in the outdoor unit):</b>	(Total pipe length - standard pipe length) x 15g (0.16oz)/m(ft)	(Total pipe length - standard pipe length) x 30g (0.32oz)/m(ft)	(Total pipe length - standard pipe length) x 65g (0.69oz)/m(ft)

## ! CAUTION

⚠ **DO NOT** mix refrigerant types.

## Refrigerant Type, Charge, & Design Pressure

Model	Refrigerant Type	Refrigerant Charge	Add'l Charge per Meter	Add'l Charge per Foot	Design Pressure
24k	R-410A	2.9 kg 102.29 oz	65 g/m	.69 oz/ft	550/340
36k	R-410A	4.7 kg 165.79 oz	65 g/m	.69 oz/ft	550/340
48k	R-410A	4.8 kg 169.32 oz	65 g/m	.69 oz/ft	550/340
60k	R-410A	4.8 kg 169.32 oz	65 g/m	.69 oz/ft	550/340