

Quick Reference Guide

High-Efficiency Horizontal Discharge Variable Speed Heat Pump



Refrigerant
Safety Group
A2L

CAUTION

Risk of fire
This unit uses a mildly flammable (A2L) refrigerant. Refer to *A2L refrigerant safety considerations* in the *Installation Manual* to ensure safe installation, operation, and servicing of this unit.

Low-voltage wiring

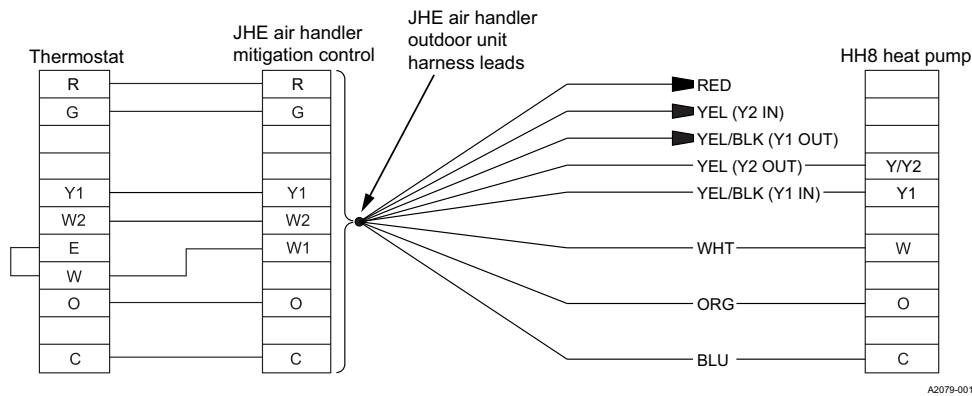


Figure 1: Control wiring diagram - standard ECM air handler and HH8 heat pump

NOTICE

The mitigation control board has a bank of DIP switches. For use with a JHE air handler indoor model, both DIP switches must be in the 0 or off position.

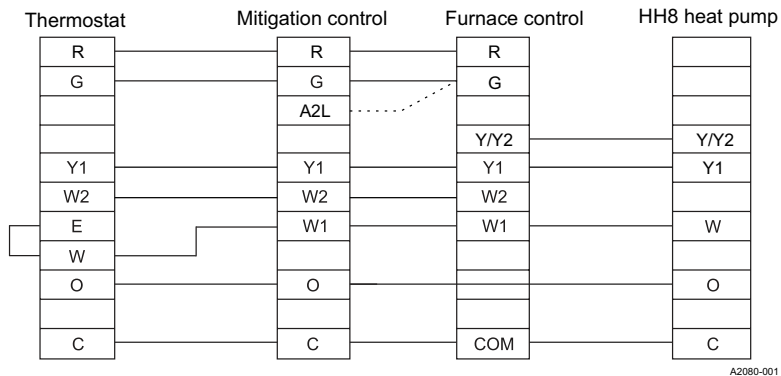


Figure 2: Control wiring diagram - standard ECM gas furnace and HH8 heat pump

NOTICE

The mitigation control board has a bank of DIP switches. Both DIP switches must be in the 1 or on position. The room thermostat must control fossil fuel operation. W2 is applicable on only multi-stage gas furnace models. Use the mitigation control A2L output instead of the G output for Y81E, Z8ES, RL18, Y82E, Z8ET, Y91E, Z9ES, RG19, Y92E, and Z9ET gas furnace models.

Note: Use the O terminal on the thermostat for the reversing valve connection (energized in cooling mode). The room thermostat must control fossil fuel operation if matched with a gas furnace.

CAUTION

This equipment uses an inverter drive that stores hazardous energy up to 5 min after power is removed. Wait for more than 5 min before performing electrical work after power is removed.

Clearance

During installation, maintain the required clearance from walls and adjacent equipment. See Figure 3. When installing multiple units, be careful to avoid intake of discharged air from adjacent units.

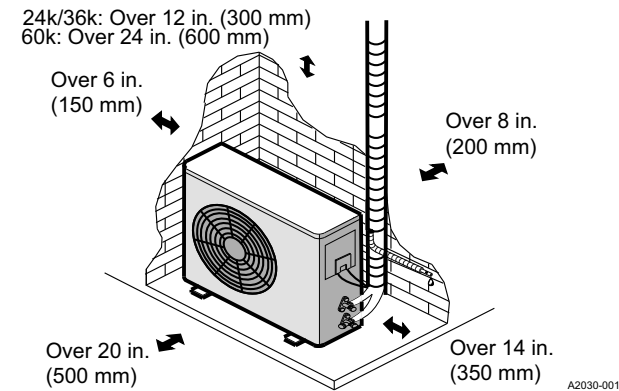


Figure 3: Minimum clearance

NOTICE

Fasten this equipment to a sturdy base for protection against vibration, a strong breeze, or an earthquake. Use anchors and a base adequate to protect the unit against tipping or dislocation.

Connection and access points

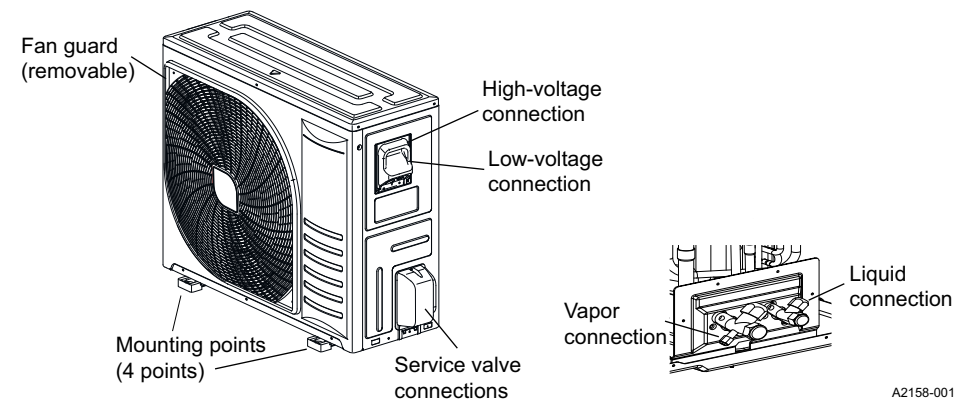


Figure 4: Connection and access points

Note: Refer to the *Tabular Data Sheet* provided with the unit for detailed unit dimensions.

⚠ CAUTION

The indoor coil is under inert gas pressure. Relieve pressure from the coil by depressing the Schrader core at the end of the suction manifold stub out. Dry nitrogen must always be supplied through the tubing while it is being brazed, because the temperature required is high enough to cause oxidation of the copper unless an inert atmosphere is provided. The flow of dry nitrogen must continue until the joint has cooled. Always use a pressure regulator and safety valve to ensure that only low pressure dry nitrogen is introduced into the tubing. Only a small flow is necessary to displace air and prevent oxidation. If a refrigerant leak is discovered after the system is charged, the system must be evacuated to repair the leak. Attempting to braze a line under refrigerant pressure can cause the line to rupture. A rupture can propel hot solder and oil causing injury to the technician attempting to braze the line.

Avoid personal injury and/or equipment damage. Carefully follow the brazing, charging, and other instructions in the *Installation Manual* provided with the unit.

Operating limit conditions

Table 1: Minimum and maximum operating limit conditions

Air temperature	Outdoor coil °F (°C)		Indoor coil °F (°C)	
	DB cool	DB heat	WB cool	DB heat
Minimum	35 (2)*	-13 (-25)	57 (14)	50 (10)
Maximum	125 (52)*	75 (24)	72 (22)	80 (27)

Note: *Refer to the notices in the *Understanding installation and operation limitations* section in the *Installation Manual*.

Standard refrigerant piping

The maximum allowable equivalent refrigerant piping length for this product is 80 ft. The maximum allowable vertical refrigerant piping varies depending on the vertical separation between the indoor and outdoor section. See Table 2 for allowable refrigerant piping lengths and sizing.

Table 2: Allowable refrigerant piping

Model	Maximum pipe length ft (m)	Maximum height difference ft (m)	Additional refrigerant - exceeding 15 ft (4.6 m) oz/ft (g/m)
HH824E2S11	131 (40)	98 (30)	0.54 (15)
HH836E2S11	148 (45)	98 (30)	0.57 (16)
HH860E2S11	246 (75)	98 (30)	0.60 (17)

Refrigerant piping

Keep the connecting pipe as short as possible to ensure optimum performance.

Table 3: Piping requirements

Model	Outdoor diameter of pipe - in. (mm)	
	Gas	Liquid
HH824E2S11	5/8 (15.88)	3/8 (9.52)
HH836E2S11	3/4 (19.05)	3/8 (9.52)
HH860E2S11	7/8 (22.22)	3/8 (9.52)

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Electrical connections

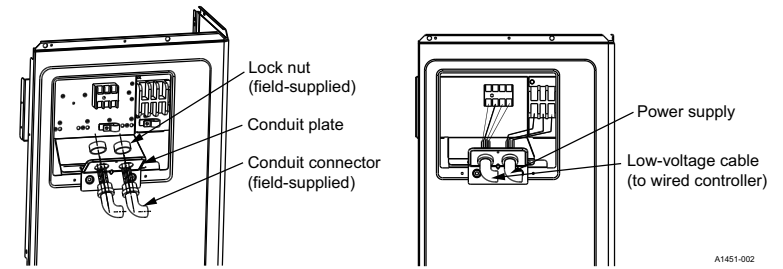


Figure 5: Electrical connections for HH824E2S11 models

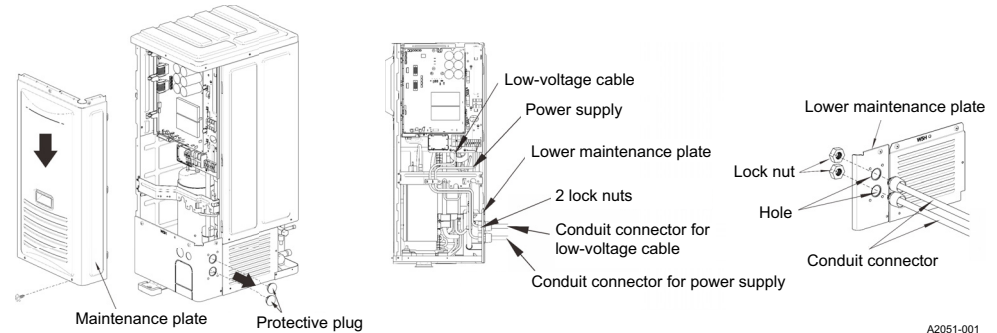


Figure 6: Electrical connections for HH836E2S11 models

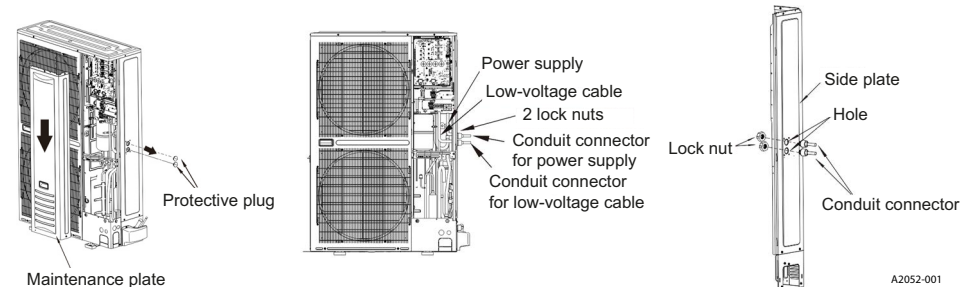


Figure 7: Electrical connections for HH860E2S11 models

Unit charging and startup

It is important to be aware of the following:

- Correct charging of the equipment is essential for correct operation.
- The unit is pre-charged with refrigerant. Add refrigerant as appropriate for the length of the refrigerant piping. Refer to the *Tabular Data Sheet* for more information.
- Perform start-up and verify operation in cooling mode and heating mode. Refer to the *Installation Manual* for instructions on manual operation.