



What is a High Wall Split-System or Mini-Split?

A high wall split-system consists of three main components; a condenser, an evaporator, and a remote control. The condenser (outside unit) is used to create air conditioning and the evaporator (inside unit) is used to distribute the air into the desired area. The condenser and the evaporator are connected with refrigerant line-sets and electrical wiring and can have a distance up to 100 feet between the indoor and outdoor units. High wall split-systems can also provide heat when outdoor temperatures are above freezing level. Split-systems that provide heat are called "Heat Pumps" and use a reversing valve to change the flow of the refrigerant to create warm air instead of cool air. Operating heat pump units below freezing temperatures can destroy the condenser's compressor. High wall systems can produce between 9,000 Btu. and 30,000 Btu. of cooling or heating depending on the size of the system. Each high wall system comes standard with the evaporator, condenser, remote control, and field wiring. A thermostatic defrost wire is included with heat pump units. Some of the benefits of a high wall split-system include:

- ✓ **Efficiency:** Unionaire and AmericAire systems have SEER ratings up to 18 SEER. Seasonal Energy Efficiency Rating (SEER) uses a formula to express efficiency of air conditioner systems. 13 SEER is the minimum legal efficiency rating for the United States. Less than 5% cooling loss occurs with split-systems using insulated refrigerant line-sets versus up to 40% cooling loss for systems that use duct work. Split-systems are also very efficient, because they cool or heat only the areas where indoor units are installed.
- ✓ **Quiet:** Because of the distance between the condenser and the evaporator and specially produced low-noise fan motors and fan blades (as low as 32 decibels); split-systems are ideal for creating a quiet environment.
- ✓ **Easy Installation:** Only a 3" hole is needed through a wall or roof to run the wiring and line-sets between the condenser to the evaporator. This keeps the inside and outside of the home aesthetically pleasing. All wiring is labelled separately to insure proper connections. Flare fitting connectors create a quick, tight connection between the two units and the line-sets. Double insulated line-sets (insulation at least 3/8") are used to reduce condensation from the extreme cool refrigerant that travels through the lines.
- ✓ **Environmentally Friendly:** AmericAire split-systems use environmentally friendly R410A refrigerant to prevent the depletion of the ozone layer that protects us from harmful UV rays produced by the sun.
- ✓ **Inverter Compressors:** Inverter compressors *slowly* change speeds from high to low to create a smooth, quiet, and efficient transition at the desired temperature.



High Wall Split-Systems

Clearance AC

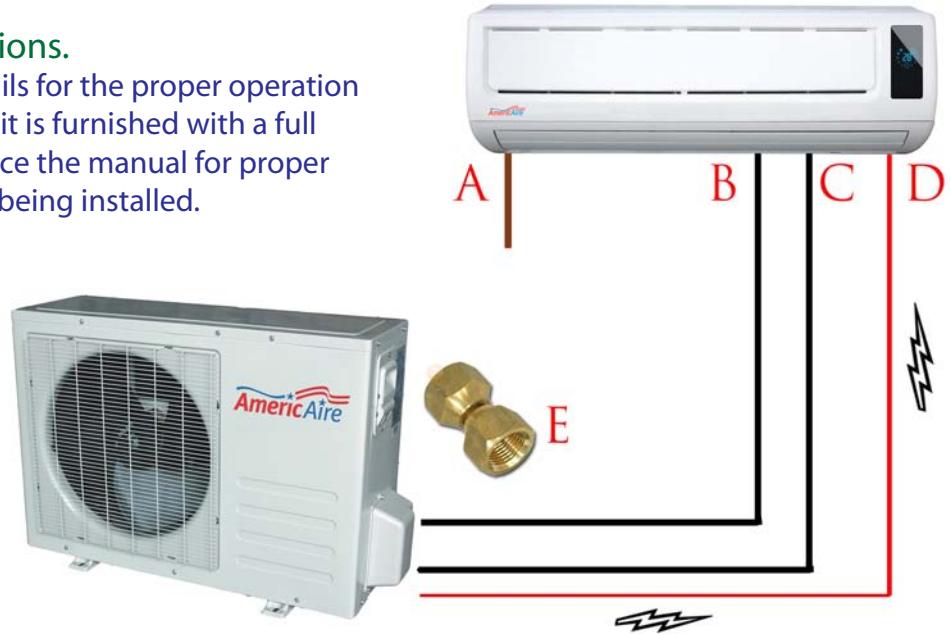
Quality
Products
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High Wall Split-System Operations.

Following is a list of important details for the proper operation of high wall split-systems. Every unit is furnished with a full installation manual. Please reference the manual for proper procedures for specific equipment being installed.

- A. DRAIN HOSE
- B. LIQUID LINE
- C. SUCTION LINE
- D. ELECTRICAL WIRE
- E. FLARE FITTINGS



A. Drain Hose

The drain hose is 18" of 1/2" plastic tubing that can easily be connected to additional plastic tubing to the desired distance expelling water created by the de-humidification function. The drain hose may drain from either the left or right side of the evaporator depending on the placement of the 3" hole.

B. Liquid Line

The liquid line or (high side) refrigerant line is used to impel cool refrigerant from the condenser to the evaporator. The pounds per square inch (PSI) of refrigeration should be 32 PSI above the outdoor ambient temperature on the R22 gauge for Unionaire products and 465 PSI on the R410A gauge for AmericAire equipment. If pressures are below the set PSI requirements, additional refrigerant will need to be added to the system.

C. Suction Line

The suction line or (low side) refrigerant line is used to expel warm refrigerant from the evaporator back to the condenser. The refrigerant in the suction line should be 65 PSI on the R22 gauge for Unionaire products and 252 PSI on the R410A gauge for AmericAire equipment.

D. Electrical Wire

The high wall split-system equipment includes electrical wiring. Electrical wire between the condenser and the evaporator needs to be high voltage 10 to 14 gauge wire depending on the condenser size; consult your installation manual. Wiring for 13 SEER equipment or greater will travel:

1. From the electrical box to a disconnect outdoors.
2. From the disconnect to the condenser (outdoor unit).
3. From the condenser to the evaporator (inside unit).

Please note the proper fuse size, equipment voltage (110/220), wiring diagram (Included in the user manual) and local electrical regulations for proper legal installation. Heat Pump units will have an additional thermostatic defrost sensor wire that must be connected to reverse the system in case of internal icing.

E. Flare Fittings

HVAC flare fittings are standard on all our high wall equipment. Consult the equipment specification brochures or the installation manual for proper fitting size. Also note, that sometimes longer line-sets require larger fittings that will require a reducer fitting. Warranty specifies that all high wall systems require a certified HVAC professional for installation.