SOUTHERN COMFORT
MECHANICAL

Mini Split

Installation guide

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What is a Mini split?

A combination of an outdoor unit that is on the ground or wall with wall mounted indoor unit. Mini splits are the common method to cooling and often heating around the world based on their compact footprint, efficiency, and low noise. The unit is designed to cool one space ranging from one basic air pattern to oscillating patterns to move air across a board area.

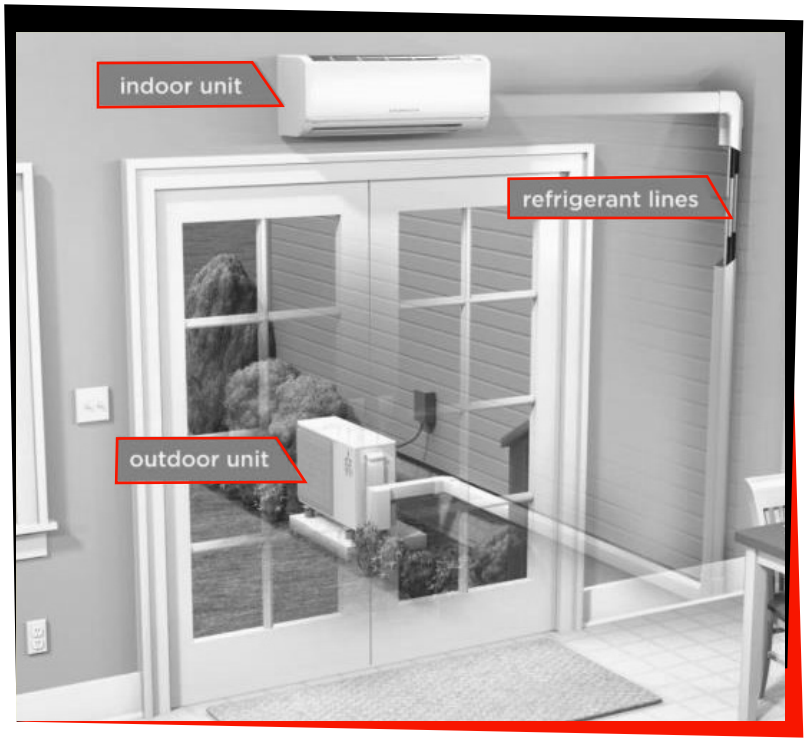
What is a Ductless System?

A ductless system refers to a multi head/ multi area solution with one outdoor unit servicing several indoor units. This can be for a complete home or a specific area that has individual temperature control and can be turned off when not in use. This is compared to a traditional HVAC unit with one indoor unit that has ductwork which moves air to each of the areas of the home and cools or heats everywhere the same.

The cooling and heating take place in the indoor unit, so the unit only cools / heats a specific area when it needs to. The outdoor units have the ability to ramp up and down based on the actual cooling or heating demand, which gives the high efficiency capability.

How do they work?

When in cooling mode, refrigerant is pumped by the outdoor unit to remove any heat and cool the area down, then pumps it back to the indoor unit. The cold refrigerant passes through a heat exchanger within the indoor unit with the warm air from the room passing over it. The warm air is cooled when it passes through the heat exchanger the refrigerant picks up the heat from the air and is pumped back to the outside. The cold air is blown back into the room.



Difference between Minisplit and a Ductless system

A mini- split is a one to one relationship, one outdoor unit matched to an indoor wall mounted unit.
A Ductless system has an outdoor unit configured with more than one indoor unit, typically up to 4 or 5 depending on the outdoor unit specification.
The indoor unit options on a ductless configuration have ceiling mounted cassette, more concealment capabilities.

Difference to a traditional HVAC

A traditional HVAC system has an indoor unit matched to the outdoor unit that pumps refrigerant or a furnace to heat the air – then the conditioned air blows through ductwork to the different areas it serves. In a mini split the cooling or heating takes place inside the indoor unit and puts it directly back into the space no run of ductwork. Ductwork has associated heating and cooling losses as it is in a located in the attic space exposed to extremely hot or cold air. There are also friction losses from turbulence, going around bends which reduce the systems efficiency.

Difference to a window unit

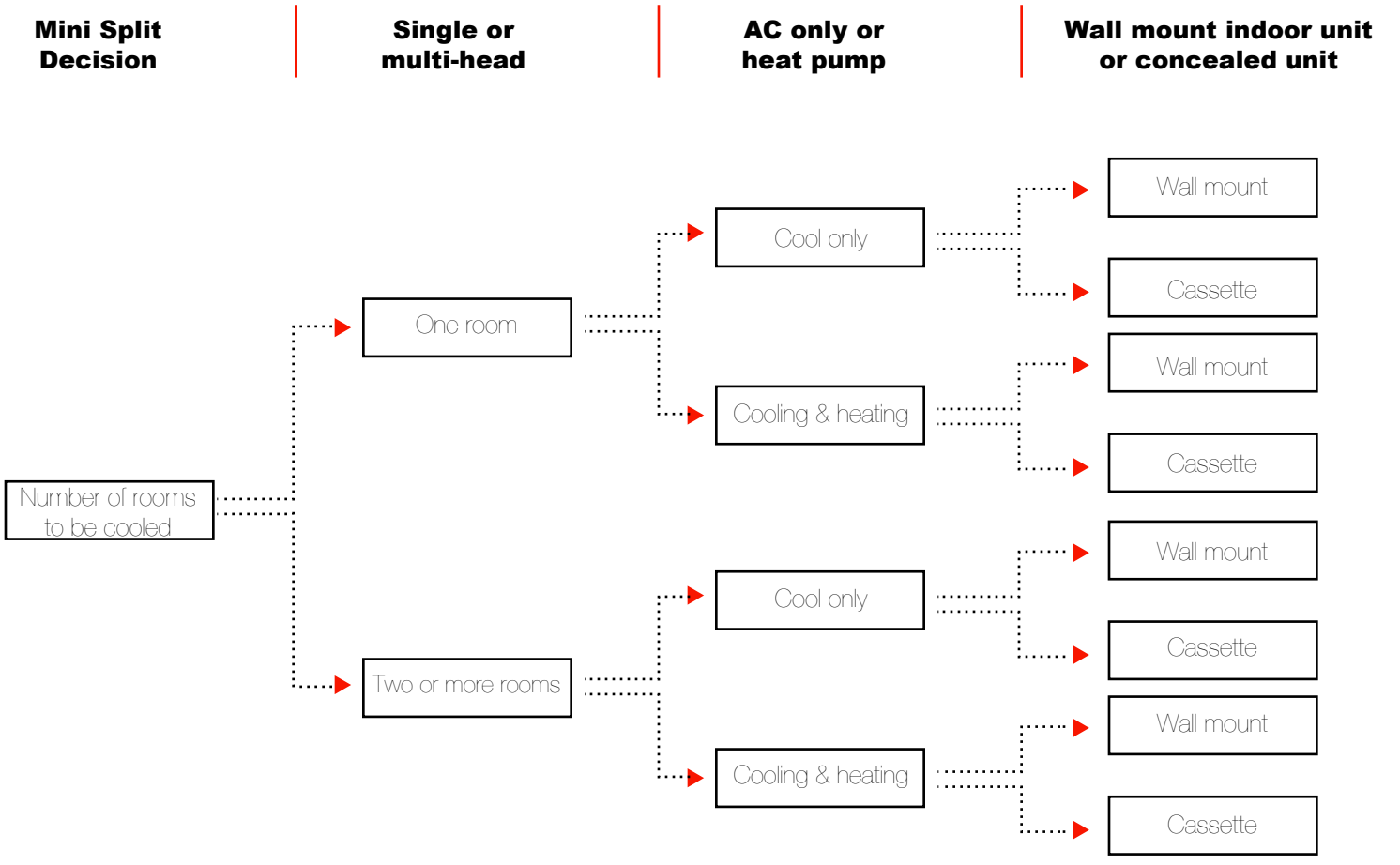
A window unit is stand-alone, somewhat portable and can be self-installed. A mini split with a higher upfront price tag for equipment and installation. The window unit has the indoor unit and outdoor unit fitting into one box which can be lifted and installed versus a mini split that has an indoor and outdoor unit. The outdoor unit normally requires two people to move it around, based on the size of the condenser and case. By design the window unit is less efficient for cooling a space.

What is a heat pump?

A heat pump is a where the outdoor unit can absorb heat from the air outside and pass it to the indoor unit to heat the air. This system is capable of cooling and heating a space giving year-round temperature control and comfort.

Which system works best for you

Below is a guide line decision tree to help address the key questions to determine the type of system for your needs.



A single head has one indoor unit matched to an outdoor unit. A multi head combines an outdoor unit with a unit that has a max of 5 indoor units. The indoor unit can be different sizes, in different rooms.

There are two types of unit capability use; there are cooling only, or cooling and heating units called heat pumps. A heat pump adds year-round comfort capability as it pulls heat from the air outside and passes it to the indoor unit.

Wall mounted head or concealed?

A wall mount is the most common configuration. There is a white rectangular box on the wall however there are a few options beyond the white box in colors. The mounting location is high on an exterior wall so the freon lines can be run through the wall along with the condensate drain.

Concealed configurations are normally cassettes which are mounted in the ceiling or wall inside the room. The visible parts are flush with the ceiling or behind a grill on the wall.

Once these parameters of application have been determined, the last area of options are on the features that are required for your lifestyle – ranging from basic temperature control to weekly schedule to a remote to a wall thermostat.