Heat Pump Home Runs

- Air Source Heat Pump
- One-Story Extended Ranch Home

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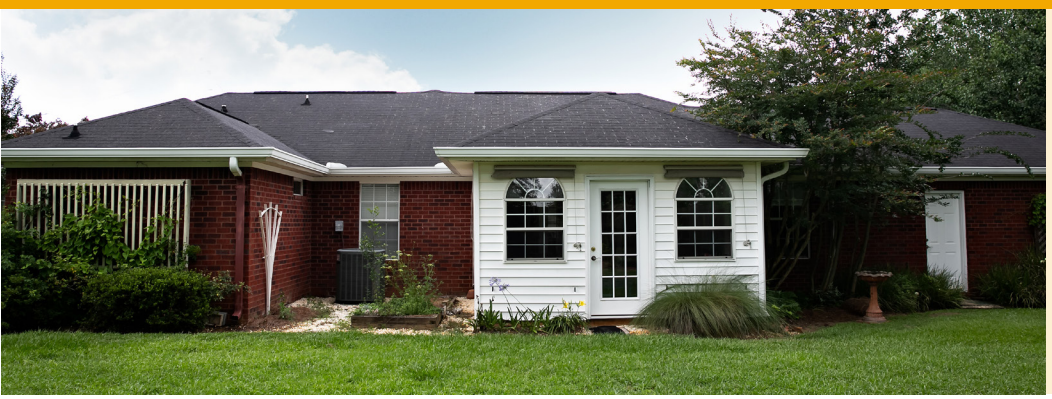
Supported

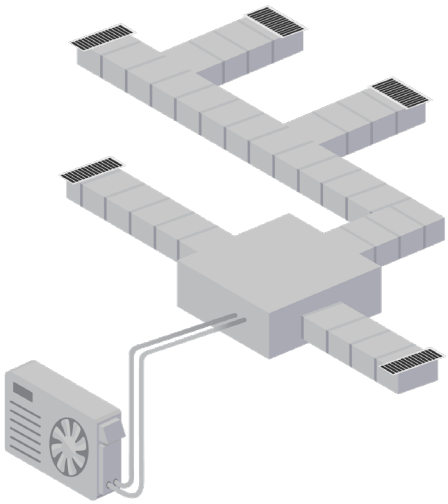


An extended ranch-style home is single story home with a more complicated floorplan. Traditionally this style home has an “L” shape, possible due to an addition. These homes are great candidates for a full displacement heat pump retrofit.

Existing Duct Work Evaluation

If the answer to any of the questions below is “no” then the distribution system is not in good working order and likely needs modification or replacement to accommodate a ducted heat pump.

» Is the duct system obviously noisy with the fan on?
» Is the duct work sealed?
» Is the duct work free from panned or cavity returns?
» Does the current duct system provide adequate airflow for heating with a heat pump?



Follow Best Practices!

» Measure system airflow to get a baseline
» Perform a Manual D to determine required duct sizing

Which heat pump design is right for this house?

Is the ducted distribution in good working order (or can be functionally modified in place)?

Yes → **Recommendation – Ducted + Ductless:** Ducted system using existing ducts where possible. Use additional ductless to main living space to make up load or address hard-to-heat areas.

No, does not have duct work or in it is in poor condition.

Can a compact ducted system fit across the bedrooms?

Yes → **Recommendation – Compact Ducted + Ductless:** A two compressor system with a compact ducted system linking the bedrooms and a ductless unit to main living space.

No → **Recommendation – Ductless:** Several ductless systems to serve each zone of the house.

Follow Best Practices!

» Always perform a load calculation.
» Look for opportunities to reduce the load with air sealing and insulation.

Learn More About System Design Recommendations

Considerations for:
-Compact Ducted + Ductless
-Ductless Only

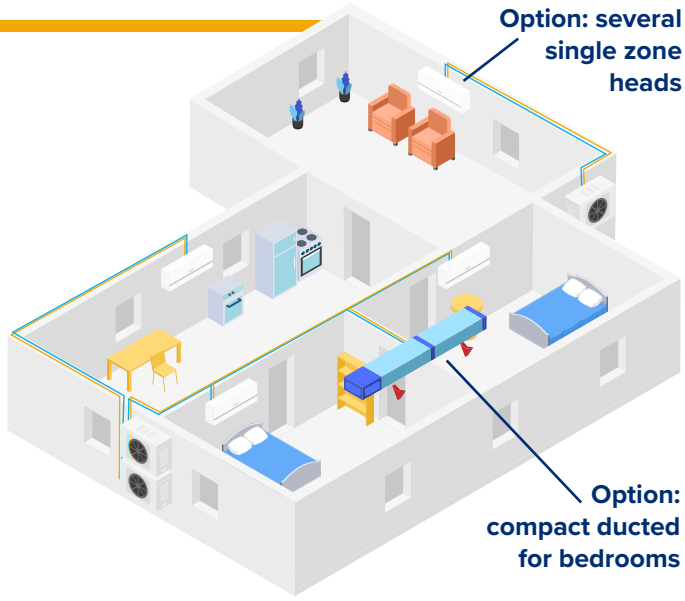
» Evaluate the electric panel capacity.

» Install multiple single-zone heat pumps for the easiest way to match capacity to load.

» Use a single large capacity head to serve an open-plan living/dining/kitchen area or similar.

» Consider a compact ducted system to serve closely clustered bedrooms.

» Avoid over-zoning: using multiple ductless heads for a given outdoor unit requires careful sizing around the min and max capacity of the unit and the load served.



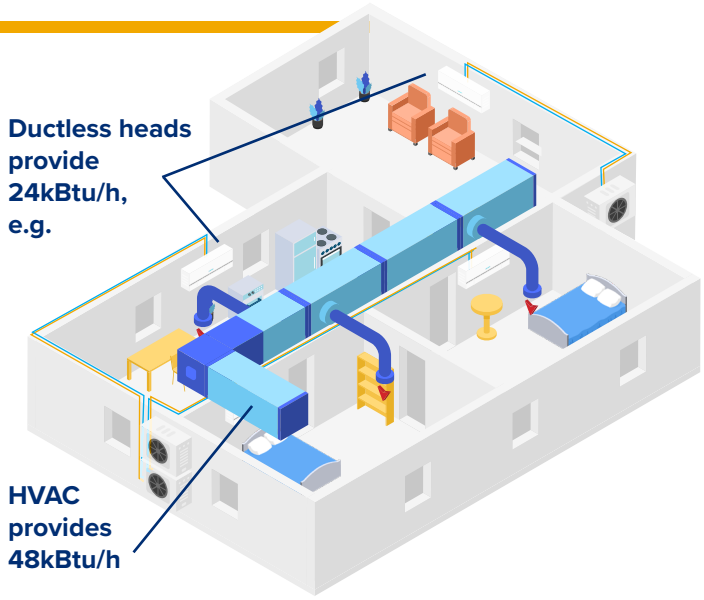
Considerations for:
-Ducted + Ductless

» Evaluate supply and return duct work.

» If there is no existing central AC, evaluate the electric panel capacity.

» Use a single large capacity head to serve an open-plan living/dining kitchen area or similar.

» Consider a single zone head for hard-to-heat rooms.



Electric Panel Capacity Evaluation

Panel upgrades add significant cost to a job. Use the tips below to evaluate the likelihood a panel upgrade is needed.

» If the home already has central AC panel capacity is probably adequate.
» If the house is served by a 100 amp panel an upgrade is likely required.
» If there are fewer than 2 empty breaker slots available, discuss the below options with an electrician.

Options by cost:

$ Support another load with a tandem breaker and use thin double-pole breaker for heat pumps.
$$ Add a subpanel to combine loads to free up space on the main panel.
$$$ Use an automatic circuit sharing device such as NeoCharge, Dryer Buddy and others.
$$$$ Upgrade to a larger panel.

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