

# Heat Pump Home Runs

- Air Source Heat Pump
- 2-Story Colonial with Basement



**NYS Clean Heat**  
Supported

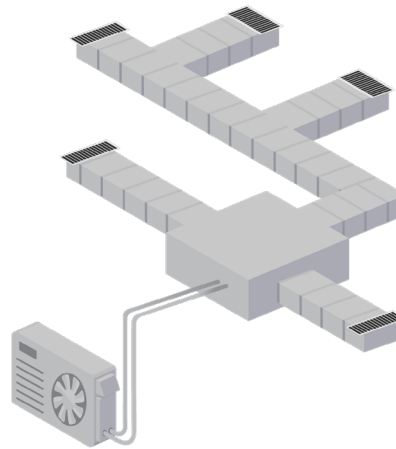


Colonial-style homes are a popular housing design and the home's vintage, square footage, and duct location make a big difference in choosing the right heat pump configuration. We assume this home has adequate panel capacity. See other home types in the series for options when panel capacity is limited.

## Existing Duct Work Evaluation

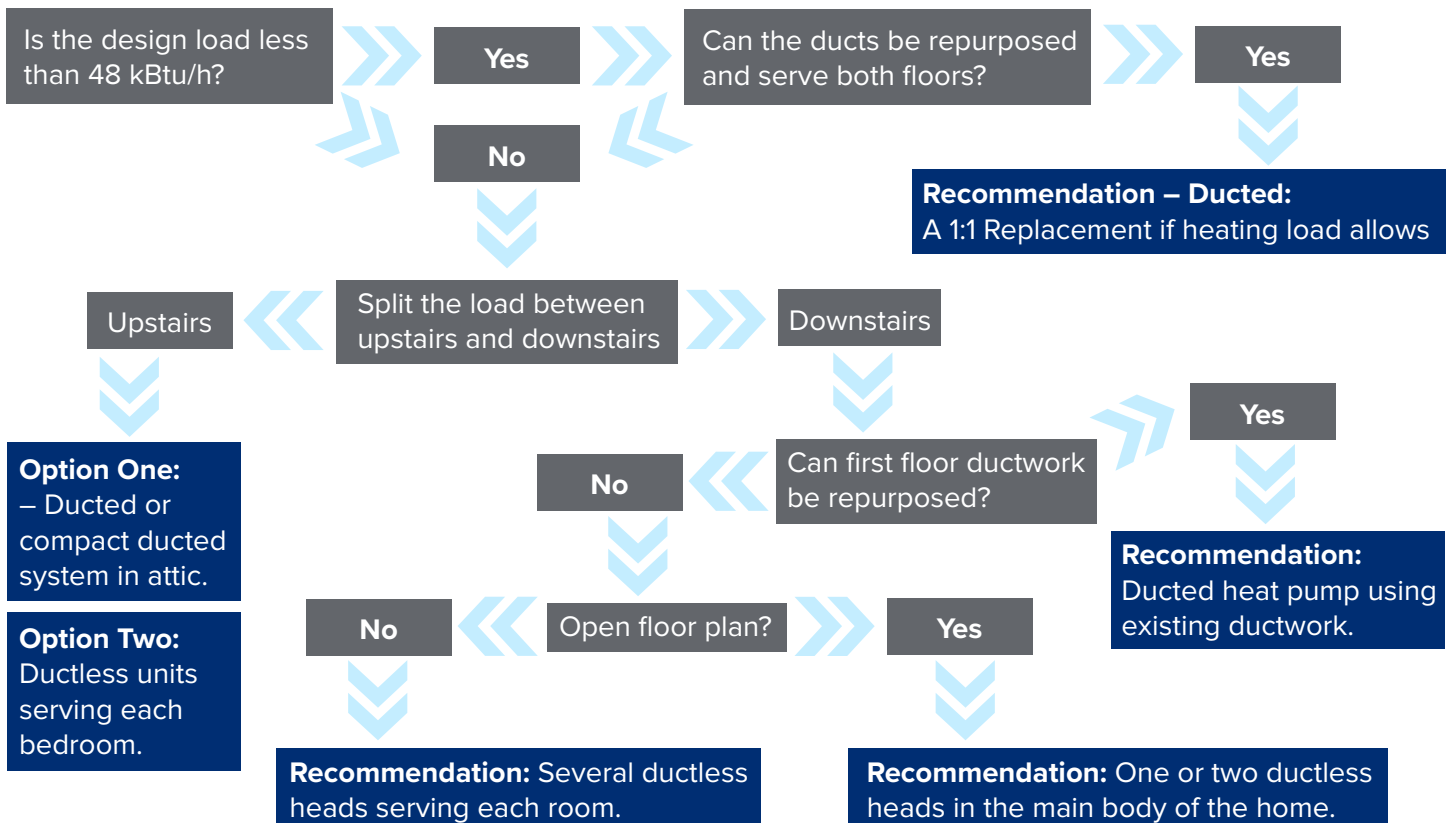
If the answer to any of the questions below is “no” then the distribution system is not in good working order and likely needs modification or replacement.

- » 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?



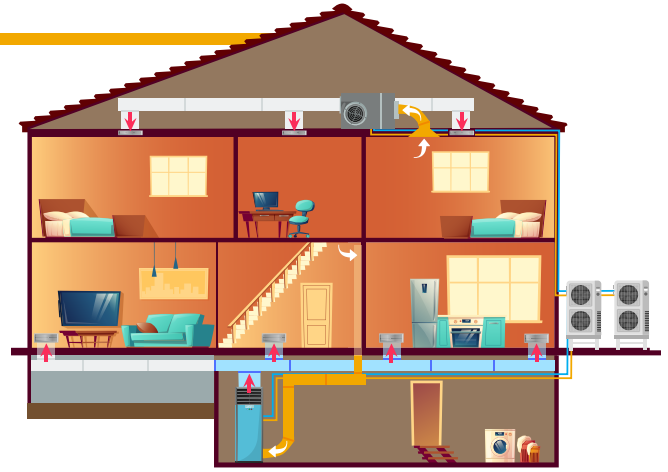
- » Measure system airflow to get a baseline
- » Perform a Manual D to determine required duct sizing

## Which heat pump design is right for this house?



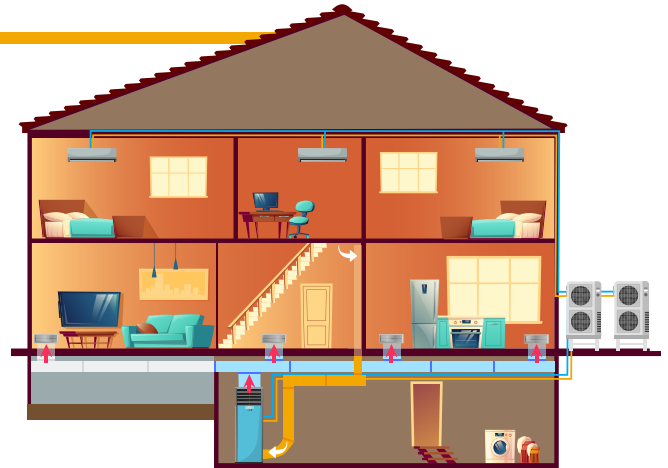
## Ducted, 2:1 Replacement Considerations

- » Repurpose existing ductwork to serve first floor only.
- » Install a separate system in the attic with an air handler and new ductwork serving the bedrooms.
- » Ensure the unit is easily accessible for service and filter changes.
- » Seal new ductwork.
- » Insulate ductwork or bury the ducts in new insulation.



## Reuse Downstairs Ductwork, Ductless Upstairs

- » Repurpose existing ductwork to serve first floor only.
- » Install ductless heads for each room on the second floor.
- » Consider a multi-split unit but beware of oversizing and pay attention to the manufacturer's capacity ratings for each head.



## Compact Duct Upstairs, Ductless Downstairs

- » Use this option for homes without ductwork or when the existing ductwork can't be reused.
- » Install a separate system in the attic, either a compact-duct or full-duct, serving the rooms on the second floor.
- » Ensure the attic unit is easily accessible for service and filter changes.
- » Consider the floor plan when designing the downstairs heads. An open floorplan can likely be served by one or two ductless heads.



## Follow Best Practices

- » Improve building envelope to reduce loads and allow full displacement of the fossil fuel system, and potentially, a 1:1 replacement.
- » Perform load calculations to confirm heating load.

