



THE INNOVATIVE HVAC SYSTEM WITH NO DUCTS

Ductless heat pumps, also known as mini-splits or variable refrigerant flow (VRF) HVAC systems, are highly efficient all-electric heating and cooling systems.

HOW DUCTLESS HEAT PUMPS WORK

Ductless heat pumps function very similarly to traditional heat pumps by absorbing energy in the form of heat and moving it to another location. However, the major difference is that they can perform this process without the need for ducts. These systems have the equivalent capacity to other HVAC systems and not only do they provide heating and cooling, but they are also able to transfer energy. By eliminating the duct component, these systems can recover heat from one zone and direct it to another, all while distributing air more quietly and with higher efficiency compared to traditional electric heaters. Additionally, ductless heat pumps have added features that have allowed them to become a more desirable option for homeowners. Within the home, they have the ability to quickly accommodate changes to floor plan arrangements and have the smallest space requirement of all HVAC systems.

Moreover, ductless heat pumps offer a range of benefits, with energy efficiency, comfort and costs being the key advantages.

SAVINGS AND HIGH EFFICIENCY

With their high efficiency, ductless heat pumps can save up to an estimated 36 percent in annual heating and cooling costs, and can make billing more direct for energy usage by zone. Furthermore, there are rebate opportunities available. Compared to other HVAC systems, they use significantly less energy and have excellent efficiency ratings: Seasonal Energy Efficiency Ratios (SEER) of 16 or more, and Heating Seasonal Performance Factors (HSPF) of 8.5 or more, which is 8 to 36 percent more efficient than a traditional ducted electric air source heat pump. Eliminating ductwork may result in much greater savings.

COMFORT

Homeowners can especially enjoy the improved comfort that ductless heat pumps provide by keeping temperatures more consistent and controlled in each zone. Additionally, with integrated air filtration, these systems can improve air quality by circulating and filtering your home's air.

EASY INSTALLATION

To begin with, systems without ducts make for an easier and more affordable installation process. Without the invasive process of installing ducts, the installation can be completed within a few days.

Ductless heat pumps are a beneficial option for most electrically heated homes, but some homes may find more benefit than others. These systems are a particularly great option if you are adding to your home, building a new home, or looking to replace or supplement an existing heating system. Some considerations when looking into ductless heat pumps are:

- The more open the floorplan, the better the indoor air circulation.
- Ask for pricing from three different mechanical contractors to compare options and be sure to contact the contractor's references to confirm that previous customers were satisfied with their new ductless heating pump.
- Though the space requirements are smaller due to space-saving refrigerant piping, ductless heat pumps require wall or ceiling space to be mounted in multiple places throughout a home. The look will take some adjusting to, but the increased control, comfort and energy savings will be well worth it.
- If you are supplementing areas in your home with a ductless heat pump, be sure to seal remaining ductwork at all joints, seams and connections with a duct sealant (mastic) to prevent conditioned air from seeping into attics or crawl spaces.

With their affordability, high energy efficiency and improved home comfort, choosing a ductless system may be the ideal solution for your home.

This article was provided by Advanced Energy, a nonprofit energy consulting firm. For more information, visit www.advancedenergy.org.

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