Recognition Criteria
Air Source Heat Pumps

Scope

Included products: Residential single-split, packaged, multiple-split, and multi-head mini-split heat pumps as defined below, are eligible for ENERGY STAR® Most Efficient recognition in 2024. The unit may be of a modular design that allows for combining multiple outdoor coils and compressors to create one overall system.

Central air conditioning heat pump (HP)[1]: A product, other than a packaged terminal air conditioner or packaged terminal heat pump, which is powered by single phase electric current, air cooled, rated below 65,000 Btu per hour, not contained within the same cabinet as a furnace, the rated capacity of which is above 225,000 Btu per hour, and is a heat pump or a cooling unit only.

A central air conditioner or central air conditioning heat pump may consist of: A single-package unit; an outdoor unit and one or more indoor units; an indoor unit only; or an outdoor unit with no match. In the case of an indoor unit only or an outdoor unit with no match, the unit must be tested and rated as a system (combination of both an indoor and an outdoor unit).

Non-ducted indoor unit[2]: An indoor unit that is designed to be permanently installed, mounted on room walls and/or ceilings, and that directly heats or cools air within the conditioned space.

Ducted system[2]: An air conditioner or heat pump that is designed to be permanently installed equipment and delivers conditioned air to the indoor space through a duct(s). The air conditioner or heat pump may be either a split-system or a single-package unit. A ducted system may be any one of the following configurations:

a. Ceiling-mount blower coil system: A split system for which a) the outdoor unit has a certified cooling capacity less than or equal to 36,000 Btu/h; b) the indoor unit(s) is/are shipped with manufacturer-supplied installation instructions that specify to secure the indoor unit only to the ceiling, within a furred-down space, or above a dropped ceiling of the conditioned space, with return air directly to the bottom of the unit without ductwork, or through the furred-down space, or optional insulated return air plenum that is shipped with the indoor unit; c) the installed height of the indoor unit is no more than 12 inches (not including condensate drain lines) and the installed depth (in the direction of airflow) of the indoor unit is no more than 30 inches; and d) supply air is discharged horizontally.

b. Low-static blower coil system: A ducted multi-split or multi-head mini-split system for which all indoor units produce greater than 0.01 in. wc. and a maximum of 0.35 in. wc. external static pressure when operated at the cooling full-load air volume rate not exceeding 400 cfm per rated ton of cooling.

---

[1] 10 CFR Part 430, Subpart A, § 430.2 - Definitions

[2] 10 CFR Part 430, Subpart B, Appendix M1 - Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps.

c. Mid-static blower coil system: A ducted multi-split or multi-head mini-split system for which all indoor units produce greater than 0.20 in. wc. and a maximum of 0.65 in. wc. when operated at the cooling full-load air volume rate not exceeding 400 cfm per rated ton of cooling.

d. Mobile home blower coil system: A split system that contains an outdoor unit and an indoor unit that meet the following criteria:

    i. Both the indoor and outdoor unit are shipped with manufacturer-supplied installation instructions that specify installation only in a mobile home with the home and equipment complying with HUD Manufactured Home Construction Safety Standard 24 CFR part 3280;

    ii. The indoor unit cannot exceed 0.40 in. wc. when operated at the cooling full-load air volume rate not exceeding 400 cfm per rated ton of cooling; and

    iii. The indoor and outdoor unit each must bear a label in at least 1⁄4 inch font that reads “For installation only in HUD manufactured home per Construction Safety Standard 24 CFR part 3280.”

e. Small-duct, high-velocity system: A split system for which all indoor units are blower coil indoor units that produce at least 1.2 inches (of water column) of external static pressure when operated at the full-load air volume rate certified by the manufacturer of at least 220 scfm per rated ton of cooling.

f. Conventional ducted system: All ducted central air conditioners and heat pumps not otherwise listed above, tested at a minimum external static pressure of 0.50 in. wc.

Single-package unit[2]: Any central air conditioner or heat pump that has all major assemblies enclosed in one cabinet.

Split System[2]: Any air conditioner or heat pump that has at least two separate assemblies that are connected with refrigerant piping when installed. One of these assemblies includes an indoor coil that exchanges heat with the indoor air to provide heating or cooling, while one of the others includes an outdoor coil that exchanges heat with the outdoor air. Split systems may be either blower coil systems or coil-only systems.

Single-split system[2]: A split system that has one outdoor unit and one indoor unit connected with a single refrigeration circuit.

Multiple-split (or multi-split) system[2]: A split system that has one outdoor unit and two or more coil-only indoor units and/or blower coil indoor units connected with a single refrigerant circuit. The indoor units operate independently and can condition multiple zones in response to at least two indoor thermostats or temperature sensors. The outdoor unit operates in response to independent operation of the indoor units based on control input of multiple indoor thermostats or temperature sensors, and/or based on refrigeration circuit sensor input (e.g., suction pressure).

Multi-head mini-split system[2]: A split system that has one outdoor unit and that has two or more indoor units connected with a single refrigeration circuit. The indoor units operate in unison in response to a single indoor thermostat.

Excluded products: The following products are not eligible for ENERGY STAR Most Efficient recognition in 2024 under this specification:

- Units that run on three-phase power.

- Units rated for more than 65,000 Btu/h of cooling.
- Air conditioners, which do not provide compressor-based cooling.

Recognition Criteria

1) Product must be ENERGY STAR certified consistent with ENERGY STAR Partner Commitments and the requirements set forth in the ENERGY STAR Program Requirements Product Specification for Central Air Conditioners and Heat Pumps, Version 6.1.
2) Products must meet the following cooling and heating performance levels:

Product type	SEER2	EER2	HSPF2
Split system HP	16.9	12.0	8.1
Single-package HP	15.2	11.5	7.2
Cold Climate HP	15.2	10.0	8.1
Ductless HP	16.0	12.0	9.0
Ductless Cold Climate HP	16.0	9.0	9.5

A. To be recognized as ENERGY STAR Most Efficient Cold Climate, heat pumps must be certified as cold climate heat pumps under Version 6.1 of the Central Air Conditioners and Heat Pumps specification.
3) Products must be able to provide cooling and heating at two or more capacity levels.
4) Ducted products must be recognized as having installation benefits per the ENERGY STAR Program Requirements Product Specification for Central Air Conditioners and Heat Pumps, Version 6.1, Section 3.C.

Recognition Period

The U.S. Environmental Protection Agency (EPA) will indicate ENERGY STAR Most Efficient recognition for eligible models on the ENERGY STAR product finder for air source heat pumps from January 1, 2024, through December 31, 2024. The ENERGY STAR Most Efficient 2024 designation may be used in association with models recognized during this period for as long as the model remains on the market.