



Proposed Recognition Criteria Central Air Conditioners and Heat Pumps

Scope

Included products. Residential central air conditioners and heat pumps, as defined below, are eligible for ENERGY STAR® Most Efficient recognition in 2014.

Air-Source Heat Pump (ASHP): An air-source unitary heat pump model consists of one or more factory-made assemblies, which normally include an indoor conditioning coil(s), compressor(s), and outdoor coil(s), including means to provide a heating function. ASHPs shall provide the function of air heating with controlled temperature, and may include the functions of air-cooling, air-circulation, air-cleaning, dehumidifying or humidifying.

Central Air Conditioner: A central air conditioner model consists of one or more factory-made assemblies, which normally include an evaporator or cooling coil(s), compressor(s), and condenser(s). Central air conditioners provide the function of air-cooling, and may include the functions of air-circulation, air-cleaning, dehumidifying or humidifying.

Geothermal Heat Pump (GHP): A geothermal heat pump uses the thermal energy of the ground or groundwater to provide residential space conditioning and/or domestic water heating. A geothermal heat pump model normally consists of one or more factory-made assemblies that include indoor conditioning and/or domestic water heat exchanger(s), compressors, and a ground-side heat exchanger. A GHP model may provide space heating, space cooling, domestic water heating, or a combination of these functions and may also include the functions of liquid circulation, thermal storage, air circulation, air cleaning, dehumidifying or humidifying. A GHP system generally consists of one or more GHP models, the ground heat exchanger(s), the air and/or hydronic space conditioning distribution system(s), temperature controls, and thermal storage tanks.

Excluded products. The following products are not eligible for ENERGY STAR Most Efficient 2014 recognition:

- Units that run on three-phase power.
- Central Air Conditioner or Air-Source Heat Pump models rated for more than 65,000 Btu/hr of cooling. This limit does not apply to GHPs.
- Mini-splits, multi-splits and split ductless systems are eligible for ENERGY STAR Most Efficient in 2014 with different requirements.

Recognition Criteria

1) Product must be ENERGY STAR certified consistent with applicable ENERGY STAR Partner Commitments and the requirements set forth in the ENERGY STAR Program Requirements Product Specifications for Central Air Conditioners/Air-Source Heat Pumps and Geothermal Heat Pumps Version 4.1 and Version 3.1, respectively. Product performance must be certified by a certification body recognized by the U.S. Environmental Protection Agency (EPA).

2) Products must meet the following cooling and heating performance levels:

Product type	SEER	EER	HSPF	COP
Split AC	18	12.5		
Split HP	18	12.5	9.6	
Packaged AC	16	12.0		
Packaged HP	16	12.0	8.0	
Closed Loop Water-to-Air GHP		17.1		3.6
Open Loop Water-to-Air GHP		21.1		4.1
Closed Loop Water-to-Water GHP		16.1		3.1
Open Loop Water-to-Water GHP		20.1		3.5
DGX		16.0		3.6

3) Central AC, ASHPs, and ground source heat pumps must have automatic setup, monitoring, and service messaging capabilities as specified below.

A. It will be possible for service personnel to access a log displaying fault history in plain text. The CAC or Heat Pump may enable access through any mechanism, for instance: 1) a text-based display (e.g. LED) permanently incorporated into the unit, 2) at least one thermostat available on the market, 3) a diagnostic tool available on the market which can be brought to the work site by the service personnel. Other equivalent mechanisms are also acceptable.

B. Units which include a blower fan will provide a signal from the blower fan that can be used to estimate static pressure across the fan.

C. Units shall facilitate display, in plain text, of messages to residents. This will include, at minimum, that the air filter needs changing, and that the unit needs professional service. This may be through display on the thermostat or other control device in occupied space in the home, or through any other system that can reach residents directly. Displays on a unit inside a closet, basement or attic, or outside of conditioned space, will not be sufficient.

D. Units shall be capable of transmitting setup information to at least one controller on the market, including capacity, stages of cooling and heating and default air flow requirements. The controller may be a thermostat, or an on-board controller designed to coordinate operation of an entire HVAC system.

Recognition Period

Upon review and approval of applications received from ENERGY STAR Partners, EPA will add qualifying models to the ENERGY STAR Most Efficient 2014 product list for central air conditioners and heat pumps from January 1, 2014 through December 30, 2014. The ENERGY STAR Most Efficient 2014 designation may be used in association with models recognized during this period for as long as the model remains on the market.