

U.S. residential air conditioning market segment Efficiency Regulations



2023 Minimum efficiency change

For 2023, the Department of Energy (DOE) has reanalyzed and adjusted minimums accordingly.

For air conditioners in the North, the minimum efficiency will increase from 13.0 to 14.0 SEER and in the South from 14.0 to 15.0 SEER* under today's test procedure.

The national heat pump minimum efficiency will increase from 14.0 to 15.0 SEER.

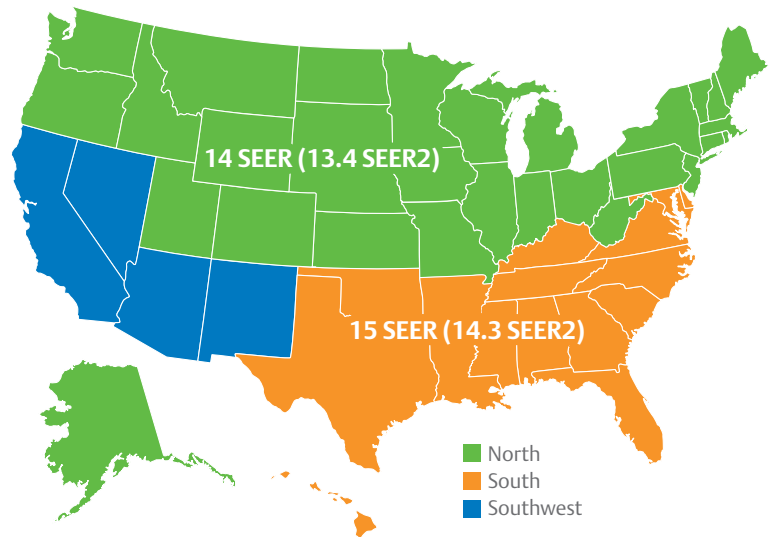
* 15.0 SEER up to 45k BTU, 14.5 SEER at/above 45k BTU

2023 – Appendix M1	All	North	South	Southwest	
Type	HSPF2 (HSPF)	SEER2 (SEER)	SEER2 (SEER)	SEER2 (SEER)	EER2 (EER)
AC < 45K BTU/Hr	–	13.4 (14)	14.3 (15)	14.3 (15)	11.7 (12.2) 9.8 (10.2)
AC > 45K BTU/Hr (NEW*)	–	13.4 (14)	13.8 (14.5)	13.8 (14.5)	11.7 (12.2) 9.8 (10.2)
Heat Pump	7.5 (8.8)	14.3 (15)	14.3 (15)	14.3 (15)	–
Packaged Units	6.7 (8.0)	13.4 (14)	13.4 (14)	13.4 (14)	10.6 (11.0)

A New Normal is Coming for 2023 – 2023 SEER2, EER2 and HSPF2

In addition to increasing the minimum efficiency in 2023, HVAC manufacturers will also be required to comply with a new testing procedure for developing efficiency ratings. Compared to today's test procedure, the external static pressure used when testing will be increased by up to 5X to better reflect field conditions (see graphic on right). Since the new testing requirements are more stringent and reduce the resulting efficiency rating in 2023, there will be new metrics and nomenclature – SEER2, EER2, and HSPF2. Specifically, you will note the following:

The new SEER2 ratings will be lower and the minimum efficiencies will be reduced to account for the more difficult test procedures, compared to the SEER ratings on the same system – e.g., the North region's 14.0 SEER minimum efficiency under the current test procedure will become a 13.4 SEER2 under the new test procedure.



Test Procedure Change

Increased external static pressure by 5X = increase blower motor watts = reduced efficiency rating

Sell Through Deadlines

Split AC – for the North region, any 13.0 SEER AC unit built before January 1, 2023, can still be installed on or after January 1, 2023.

Heat Pump – any 14.0 SEER Heat Pump built before January 1, 2023, can still be installed on or after January 1, 2023.

Packaged Units – small packaged products will not increase in minimum efficiency from 14.0 SEER and 8.0 HSPF, but will be required to comply with the new test procedure.

2023 Regional Standards Enforcement

Least efficient combination for a base unit must meet regional minimum efficiency

Hang tag label

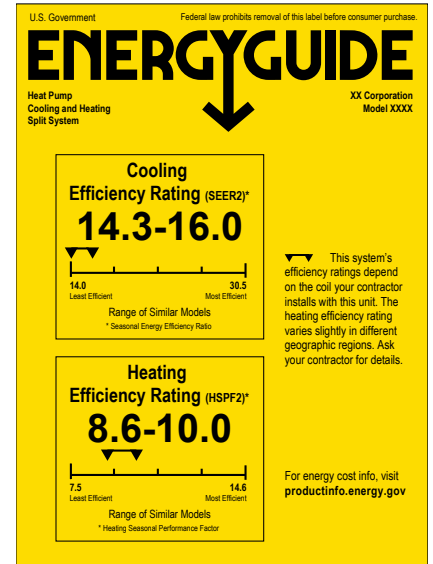
- Will be updated to reflect SEER2 and HSPF2

Record keeping

- Contractors, distributors and manufacturers have record keeping requirements.
- The requirements and retention periods are different for each

Routine violators

- Contractors who repeatedly install wrongfully
- Distributors who knowingly sell to contractors who install/sell in violation of new standards
- Manufacturers can be fined for selling to a routine violator



Emerson Product Highlights

Emerson's latest scroll compressor lineups designed to meet the upcoming 2023 efficiency requirements include:

Copeland™ Scroll ZPK7

The innovative Copeland ZPK7 scroll compressor series is the seventh generation of the product line and delivers optimized efficiency at key SEER2 and HSPF2 operating conditions, to help face unprecedented high-efficiency requirements coming in 2023. The new generation of Copeland compressors are available in 1.5-5-ton models and can be applied in both residential and commercial applications. These compressors are optimized for use with R410A refrigerant.

Copeland™ Scroll ZPSK7

The Copeland ZPSK7 two-stage scroll compressor for residential and light commercial HVAC applications will help OEMs achieve additional efficiencies. These next-generation, Copeland two-stage scroll compressors are available in 1.5-5-ton single phase models. These compressors are regulation-ready and will offer lower-GWP compatibility while being optimized for the R410A refrigerant.



Stay Informed

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