Washington State Building Code Council

Improving the built environment by promoting health, safety and welfare

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STATE BUILDING CODE OPINION NO. 23-08

CODE: 2018/2021 Washington State Energy Code

SECTION: Primarily R405, R406, and C406, cited efficiency values

QUESTION: Our current residential and commercial energy codes specify certain equipment performance minimums in terms of their tested HSPF. Beginning next year, the HSPF is being replaced with HSPF2 to reflect a new testing method that better represents actual operating conditions. This creates a problem for determining compliance with the energy code since new equipment will only be listed with HSPF2, not an HSPF rating, that is currently in the 2018 code.

Will the SBCC be providing a conversion chart to providing equivalence between HSPF and HSPF2 for the Commercial and Residential energy codes?

ANSWER: **The attached table from AHRI and CEE may be used to convert SEER, EER and HSPF to the new DOE efficiency standards.**

SUPERSEDES: 23-04, 22-02

REQUESTED BY: SBCC

Consortium for Energy Efficiency

Converting Between Appendices M and M1

Beginning with the January 1, 2023 Initiative update, CEE Residential Electric HVAC Specifications are utilizing the Appendix M1[1] metrics of SEER2, EER2 and HSPF2, and no longer utilizing the Appendix M metrics of SEER, EER and HSPF. However, models that have not yet tested to Appendix M1 but have equivalent or higher tested Appendix M values still qualify as meeting CEE Tiers. CEE is utilizing the following "crosswalks", provided by AHRI, to convert between the appendices.

How do I convert from Appendix M ratings to Appendix M1?

If looking to convert Appendix M ratings to new Appendix M1 ratings, AHRI recommends using the following crosswalk. To use, multiply the Appendix M rating (SEER, EER, HSPF) by the appropriate number of the corresponding Appendix M1 heading (SEER2, EER2, HSPF2) in the table below.

System Type	SEER2	EER2	HSPF2
Ducted	0.95	0.95	0.85
Ductless	1.00	1.00	0.90
Packaged	0.95	0.95	0.84

How do I convert from Appendix M1 ratings to Appendix M?

If looking to convert new Appendix M1 ratings to Appendix M values, AHRI recommends using the following equations below.

System Type	Equation
Split System Air Conditioner and Heat Pump	SEER = SEER2 X 1.05
Split System Air Conditioner and Heat Pump	EER = EER2 X 1.04
Split System Heat Pump	HSPF = HSPF2 X 1.18
Packaged Air Conditioner and Heat Pump	SEER = SEER2 X 1.04
Packaged Air Conditioner and Heat Pump	EER = EER2 X 1.04
Packaged Heat Pump	HSPF = HSPF2 X 1.18
Ductless Heat Pump	HSPF = HSPF2 X 1.12
Space Constrained System	SEER = SEER2 X 1.01
Space Constrained System	HSPF = HSPF2 X 1.17
Small Duct High Velocity System	SEER = SEER2 X 1.00
Small Duct High Velocity System	HSPF = HSPF2 X 1.18

[1] US Department of Energy 10 CFR Part 430 Subpart B – Uniform Test Method for Measuring the Energy Consumption of Central Air Conditioners and Heat Pumps.