

**BEFORE THE
U.S. DEPARTMENT OF ENERGY
Washington, D.C. 20585**

In the Matter of:)
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)
FHP) Case Number: 2018-SE-43006
(commercial package air-conditioners and)
heat pumps))

Issued: April 20, 2020

NOTICE OF NONCOMPLIANCE DETERMINATION

Small commercial package air conditioning and heating equipment are covered equipment subject to federal energy efficiency standards. 42 U.S.C. § 6311(1)(B); 42 U.S.C. § 6313(a); 10 C.F.R. § 431.97. Manufacturers and private labelers are prohibited from distributing covered equipment in the United States that do not comply with applicable federal energy conservation standards. 10 C.F.R. § 429.102(a)(6); 42 U.S.C. § 6316(a).

Specifically, water source heat pumps¹ with a cooling capacity of less than 17,000 Btu/h and manufactured on or after October 9, 2015, must have an energy efficiency ratio (“EER”) performance of not less than 12.2. Water source heat pumps with a cooling capacity of greater than 17,000 Btu/h and less than 135,000 Btu/h, and manufactured on or after October 9, 2015, must have an EER performance of not less than 13.0. Water source heat pumps with a cooling capacity of less than 135,000 Btu/h, and manufactured on or after October 9, 2015 must have a coefficient of performance (“COP”) of not less than 4.3. 10 C.F.R. § 431.97.

Manufacturers and private labelers are prohibited from distributing covered products in the United States that do not comply with applicable federal energy conservation standards. 10 C.F.R. § 429.102(a)(6); 42 U.S.C. § 6302(a)(5).

TESTING AND CERTIFICATIONS

In January 2018, FHP Manufacturing Company (“FHP”), a joint venture of Carrier Corporation (“Carrier”) and Robert Bosch North America Corporation (“Bosch”), reported to the U.S. Department of Energy (“DOE”) that a review of test data raised questions about whether certain models of water source heat pumps complied with applicable DOE efficiency standards. As a result, FHP reported that it immediately stopped shipment of the questionable models and began to test for compliance with DOE rules.

¹ *Water-source heat pump* means a single-phase or three-phase reverse-cycle heat pump that uses a circulating water loop as the heat source for heating and as the heat sink for cooling. The main components are a compressor, refrigerant-to-water heat exchanger, refrigerant-to-air heat exchanger, refrigerant expansion devices, refrigerant reversing valve, and indoor fan. Such equipment includes, but is not limited to, water-to-air water-loop heat pumps. 10 C.F.R. § 431.92.

In March, May, and September 2018, FHP provided DOE with a variety of information and confirmed that it distributed in commerce in the United States various water source heat pumps models that were noncompliant with applicable DOE efficiency standards at 10 C.F.R. § 431.97. In November 2019, FHP provided DOE with additional model-specific information, including the relevant brands and individual model names, the cooling capacity of each model, and the results of testing², which indicated whether or not the models met the relevant EER and COP standards. The information provided by FHP is summarized below, along with the basic model containing the relevant individual models.

Brand	Individual Models	Basic Model (as identified in FHP's certifications to DOE)	Measured Cooling Capacity (Btu/hr)	Minimum Efficiency Standard & FHP's Reported Test Results
BOSCH	LV007-1VT/CF/HZ*_*_*_*P*B	LV007-1VT/CF/HZ*_*_*_*P*B SV007-1VT/CF/HZ*_*_*_*P*B 50PCH/V007***3/CA LV007-1VT/CF/HZ*_*_*_*P LV007-2VT/CF/HZ*_*_*_*P*B LV007-2VT/CF/HZ*_*_*_*P	Between 4,972 and 6,473	EER Standard: 12.2 Test Results: 7.12 to 11.20 EER (ranging across the various individual models)
FHP	LV007-1VT/CF/HZ*_*_*_*P*B			
BOSCH	SV007-1VT/CF/HZ*_*_*_*P*B			
CARRIER	50PCH/V007***3/CA			
BOSCH	LV007-2VT/CF/HZ*_*_*_*P*B			
FHP	LV007-2VT/CF/HZ*_*_*_*P*B			
BOSCH	SV007-2VT/CF/HZ*_*_*_*P*B			
CARRIER	50PCH/V007***4/DA			
GEOEXCEL	RD007-2VT/CF/HZ*_*_*_*P*B ³			

BOSCH	LV009-1VT/CF/HZ*_*_*_*P*B	LV009-1VT/CF/HZ*_*_*_*P*B SV009-1VT/CF/HZ*_*_*_*P*B 50PCH/V009***3/CA LV009-1VT/CF/HZ*_*_*_*P LV009-2VT/CF/HZ*_*_*_*P*B LV009-2VT/CF/HZ*_*_*_*P LV009-2VT/CF/HZ*_*_*_*P*B	6,760	EER Standard: 12.2 COP Standard: 4.3 Test Results: 8.24 EER 4.22 COP
FHP	LV009-1VT/CF/HZ*_*_*_*P*B			
BOSCH	SV009-1VT/CF/HZ*_*_*_*P*B			
CARRIER	50PCH/V009***3/CA			
BOSCH	LV009-2VT/CF/HZ*_*_*_*P*B			
FHP	LV009-2VT/CF/HZ*_*_*_*P*B			
BOSCH	SV009-2VT/CF/HZ*_*_*_*P*B			
CARRIER	50PCH/V009***4/DA			

² For each tested model, it appears that FHP reported the mean of multiple tests.

³ FHP did not specifically identify this individual model but did identify that it sold units of a Geothermal model related to model group LV007-*VT/CF/HZ*_*_*_*P*B. Review of FHP's various certifications to DOE revealed that the relevant Geoexcel individual model is RD007-2VT/CF/HZ*_*_*_*P*B, which belongs to basic model LV007-1VT/CF/HZ*_*_*_*P*B.

BOSCH	LV012-1VT/CF/HZ*_*_*P*B	LV012-1VT/CF/HZ*_*_*P*B SV012-1VT/CF/HZ*_*_*P*B RD012-1VT/CF/HZ*_*_*P*B 50PCH/V012***3/CA LV012-1VT/CF/HZ*_*_*P LV012-2VT/CF/HZ*_*_*P*B LV012-2VT/CF/HZ*_*_*P LV012-2VT/CF/HZ*_*_*P*B	Between 9,280 and 10,023	EER Standard: 12.2 Test Results: 7.11 to 11.49 EER (Ranging across many individual models);
FHP	LV012-1VT/CF/HZ*_*_*P*B			
BOSCH	SV012-1VT/CF/HZ*_*_*P*B			
GEOEXCEL	RD012-1VT/CF/HZ*_*_*P*B			
CARRIER	50PCH/V012***3/CA			
BOSCH	LV012-2VT/CF/HZ*_*_*P*B			
FHP	LV012-2VT/HZ/CF*_*_*P*B			
BOSCH	SV012-2VT/HZ/CF*_*_*P*B			
GEOEXCEL	RD012-2VT/HZ/CF*_*_*P*B			
CARRIER	50PCH/V012***4/DA			

BOSCH	LV036-1VT/CF/HZ*_*_*P*B	LV036-1VT/CF/HZ*_*_*P*B SV036-1VT/CF/HZ*_*_*P*B 50PCH036Z/B/S/E**3/CA LV036-1VT/CF/HZ*_*_*P	37,282	COP Standard: 4.3 Test Results: 4.08 COP
FHP	LV036-1VT/CF/HZ*_*_*P*B			
BOSCH	SV036-1VT/CF/HZ*_*_*P*B			
CARRIER	50PCH036Z/B/S/E**3/CA			

BOSCH	LV041-1VT/CF*_*_*P*B	LV041-1VT/CF*_*_*P*B SV041-1VT/CF*_*_*P*B 50PCV041L/R**3/CA	Between 38,266 and 38,805	EER Standard: 13 COP Standard: 4.3 Test Results: 12.20; 12.77 EER 4.18; 4.22 COP
FHP	LV041-1VT/CF*_*_*P*B			
BOSCH	SV041-1VT/CF*_*_*P*B			
CARRIER	50PCV041L/R**3/CA			

BOSCH	LV060-3VT/CF/HZ*_*_*P*B	LV060-1VT/CF/HZ*_*_*P*B LV060-3VT/CF/HZ*_*_*P*B LV060-3VT/CF/HZ*_*_*P	61,701	COP Standard: 4.3 Test Results: 4.21 COP
FHP	LV060-3VT/CF/HZ*_*_*P*B			
BOSCH	SV060-3VT/CF/HZ*_*_*P*B			
CARRIER	50PCH060Z/B/S/E**5/EA			

BOSCH	LV060-1VT/CF/HZ*_*_*P*B	LV060-1VT/CF/HZ*_*_*P*B SV060-1VT/CF/HZ*_*_*P*B 50PCH060Z/B/S/E**3/CA LV060-1VT/CF/HZ*_*_*P	61,491	COP Standard: 4.3 Test Results: 4.11 COP
FHP	LV060-1VT/CF/HZ*_*_*P*B			
BOSCH	SV060-1VT/CF/HZ*_*_*P*B			
CARRIER	50PCH060Z/B/S/E**3/CA			

BOSCH	LV070-1VT/CF/HZ*_*_*P*B	LV070-1VT/CF/HZ*_*_*P*B SV070-1VT/CF/HZ*_*_*P*B 50PCH070Z/B/S/E**3/CA LV070-1VT/CF/HZ*_*_*P	63,007	EER Standard: 13 Test Results: 12.15 EER
FHP	LV070-1VT/CF/HZ*_*_*P*B			
BOSCH	SV070-1VT/CF/HZ*_*_*P*B			
CARRIER	50PCH070Z/B/S/E**3/CA			

BOSCH	CA012-0**_*_*P*B	CA012-0**_*_*P*B BC012-0**_*_*P*B 50PEC12***0/B	11,708	EER Standard: 13 COP Standard: 4.3 Test Results: 11.86 EER 3.94 COP
FHP	BC012-0**_*_*P*B			
CARRIER	50PEC12***0/B			
FHP	CA012-0**_*_*P*B			

FHP informed DOE that it ceased distribution of all of the listed individual models in December 2017 and that all of the models were permanently removed from the market.

In December 2018, FHP informed DOE that Air-Conditioning, Heating, and Refrigeration Institute (“AHRI”) testing of water source heat pump model CA015-0/WLHP in November 2018 demonstrated noncompliance with applicable standards of 12.2 EER and 4.3 COP. In February 2019, FHP informed DOE that further testing of CA015-0/WLHP also demonstrated noncompliance. The test reports indicated that the two tested units had cooling capacities less than 17,000 Btu/h each, EER performances of 11.55 and 9.49, and COP performances of 4.24 and 4.26. Notably, between July 2017 and September 2019, FHP submitted various certifications of compliance to DOE for the model under basic model CA015-0**-*****B. Notwithstanding the certifications of compliance, FHP stated that no units of the model have been sold on or after October 9, 2015.

FINDINGS

Based on the facts stated above, DOE finds, after applying the calculations in 10 C.F.R. Part 429, Subpart C, Appendix A, that the basic models listed in the above table and basic model CA015-0**-*****B, (collectively, “the basic models”)⁴ do not comply with applicable EER and/or COP standards at 10 C.F.R. § 431.97(b).

NOTICE

Distribution in commerce of covered equipment that does not meet the energy conservation standards is a violation subject to civil penalty, regardless of the issuance of this Notice. If FHP continues to distribute the basic models, DOE may assess a higher civil penalty for units sold after the date of this Notice.

MANDATORY ACTION BY FHP

Between March 2018 and February 2019, FHP provided information to DOE regarding the total number of units of the basic models that FHP distributed in commerce in the United States. Upon DOE request, FHP may be required at a later date to provide further information regarding the units of the basic models that were distributed in commerce. 10 C.F.R. § 429.114(a).

If you claim that any of the information provided by FHP constitutes confidential commercial material within the meaning of 5 U.S.C. § 552(b)(4), or is protected from disclosure pursuant to 18 U.S.C. § 1905, you must (1) provide one complete and full copy and one copy with the confidential information deleted and (2) submit supporting information together with the materials that are the subject of the confidentiality request. See 10 C.F.R. § 429.7. Failure to adhere to these procedures will result in a rejection of your request for confidential treatment.

OPTIONAL ACTIONS BY FHP

FHP may elect to modify a basic model to bring it into compliance with the applicable standards.

⁴ For the purposes of this determination, a “basic model” is all units manufactured by FHP that have the same primary energy source and which have the same or comparable compressors, same or comparable heat exchangers, and same or comparable “nominal” capacity. 10 C.F.R. § 431.92.

A modified basic model shall be treated as a new basic model under the regulations and must be certified in accordance with the provisions of 10 C.F.R. Part 429. In addition to satisfying all requirements of part 429, any individual models within the basic model must be assigned new model numbers and FHP must also maintain, and provide upon request to DOE, records that demonstrate that modifications have been made to all units of the new basic model prior to distribution in commerce. Prior to distribution in commerce in the United States, FHP must provide to DOE test data demonstrating that the modified basic model complies with the applicable standards. All units must be tested in accordance with DOE regulations, and FHP shall bear the costs of all such testing that is conducted.

If, after this testing, DOE determines that the modified basic model complies with the applicable standards, DOE shall issue a Notice of Allowance to permit FHP to resume the distribution of the modified basic model in the United States.

CONSEQUENCES FOR FAILURE TO COMPLY WITH THIS NOTICE

Should FHP distribute in the United States any units of the basic models, this letter serves as notice that DOE may seek a judicial order within 30 calendar days to restrain further distribution. If, however, FHP provides DOE with a satisfactory statement within that 30-day period detailing the steps that FHP will take to ensure that units of the noncompliant model will no longer be distributed in commerce in the United States, DOE may elect to defer seeking such an order until a more appropriate time, if needed.

The distribution of any units of a noncompliant basic model may result in DOE seeking all appropriate legal remedies available under federal law, including injunctive relief and civil penalties with respect to each unit of the basic model distributed in violation of federal law.

/S/ _____
Laura L. Barhydt
Assistant General Counsel
for Enforcement