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RE: Ex Parte Communication, Docket EERE-2017-BT-TP-0020, Friedrich Air Conditioning, Regarding Test Procedures for Single Package Vertical Units and Docket EERE-2021-BT-TP-0030 regarding Test Procedures for Consumer Central Air Conditioners and Heat Pumps.

On March 31, 2022, representatives from Friedrich Air Conditioning (FAC), a wholly-owned subsidiary of Rheem Manufacturing Company, met with members of the Department of Energy (“Department”) to discuss the subject matter. See below for the complete attendee list. One of the primary purposes of this meeting was to review Friedrich’s Vert-I-Pak® line of products used in commercial applications. For example, FAC discussed DOE’s proposed definition found on page 2495 Federal Register / Vol. 87, No. 10 / Friday, January 14, 2022 / Proposed Rules, which states.

“Therefore, DOE proposes to define in 10 CFR 431.92 “single-phase single package vertical air conditioner with cooling capacity less than 65,000 Btu/h” and “single-phase single package vertical heat pump with cooling capacity less than 65,000 Btu/h” as SPVACs and SPVHPs, respectively, that are either (1) weatherized, or (2) nonweatherized and have the ability to provide a minimum of 400 CFM of outdoor air. Single-phase single package products with cooling capacity less than 65,000 Btu/h not meeting these definitions would be properly classified as CACs, not SPVUs.”

DOE proposes that for a SPVAC, SPVHP to be classified in this category, it **must** have the ability to provide a minimum of 400CFM of outdoor air. As per our understanding, this **new requirement** is irrespective of whether the SPVAC or SPVHP is weatherized or non-weatherized.

- FAC opposes DOE’s proposed definition of the 400CFM outdoor air requirement. ANSI/ASHRAE Standard 62.1–2019 Ventilation for Acceptable Indoor Air Quality, Table 6–1 Minimum Ventilation Rates in Breathing Zone, clearly states the acceptable requirements for each occupancy category.
- FAC opposes the classification of the primary market (that excludes hotels, motels), according to Footnote 5 on page 2495

“ASHRAE Standard 62.1–2019 details ventilation standards for a variety of commercial building spaces, including educational spaces, which are the primary market for floor-mounted, single-phase SPVUs.”

- FAC Vert-I-Pak® installed in hotels, hospitality, and other light commercial lodging locations in conjunction with Dedicated Outdoor Air Systems (DOAS) meet ASHRAE Standard 62.1–2019 details ventilation requirements. These outdoor air requirements are not placed on the rooms’ primary cooling and heating equipment.
- FAC SPVAC and SPVHP units operate with supply airflows between 350 to 650 SCFM. Thus a 400 CFM of outdoor air is anywhere from 61% to 114% of the application supply airflow. Conditioning outdoor air that makes up such a large portion of the supply air will lead to higher energy consumption for the commercial site and a decrease in occupant comfort and may result in humidity issues.

The section on page **2494** Federal Register / Vol. 87, No. 10 / Friday, January 14, 2022 / Proposed Rules is shown below.

“DOE has identified specific technical features that differentiate floormounted, single-phase units intended only for commercial applications (i.e., meaning they are SPVUs) from ones intended for consumer applications, such as multi-family type floormounted, single-phase units (i.e., meaning they are CACs). DOE has preliminarily determined that, in order to meet commercial building ventilation requirements 5 (an indication that a unit is industrial equipment and not a consumer product), floor-mounted, single-phase units on the market have the ability for outdoor air intake. This is evidenced by the existence of outdoor air intake dampers and associated controls. These ventilation air provisions make the unit capable of drawing in and conditioning outdoor air for delivery to the conditioned space (with or without first mixing the outdoor air with return air). Technical specifications for these floor-mounted, single-phase units detail both the incremental and maximum outdoor airflow rates available to meet the specific indoor air quality needs of building occupants. Of the maximum outdoor airflow rates that DOE identified for each unit on the market, the unit with the lowest maximum outdoor airflow rate identified was capable of providing a maximum of 400 cubic feet per minute (“CFM”) of outdoor air, with the same of outdoor air, with the same drive kit and motor settings used to determine the certified efficiency rating of the equipment (as required for submittal to DOE by 10 CFR 429.43(b)(4)(xi)).”

- FAC opposes the assertion that DOE identified **each** unit on the market as having 400CFM of outdoor air. DOE may have looked at a particular subset of SPVUs (not including Friedrich Vert-I-Pak®). The entire set of the market and the entire category were neither identified nor represented in this statement.
- Friedrich Vert-I-Pak® units have been tested and listed according to AHRI 390 since 2005. Since most of these units are installed in hotels and other commercial locations, the unit is installed within a closet. It has a free unducted intake and a short discharge duct (typically less than 15 ft) into the conditioned space. Thus, these units are installed in applications where the External Static Pressure (ESP) is only due to the discharge duct (unlike CACs) and with short duct lengths. The exterior wall is designed explicitly with a large cutout area so that the outdoor heat exchanger can intake and exhaust outdoor air. Figure 1 shows a typical installation.

TYPICAL VERT-I-PAK® INSTALLATION

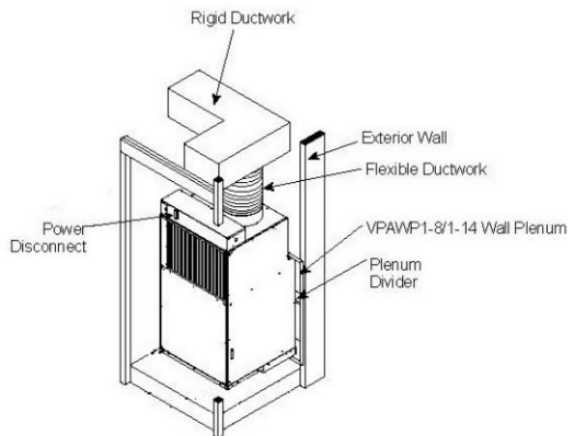


Figure 1. Typical FAC Vert-I-Pak® Installation

- Friedrich Vert-I-Pak® installations are typically no more than 500 square feet. The typical American hotel room is about 350 square feet.
- Furthermore, since this change requires a change in the minimum efficiency, the current install base will be left without any replacement option. Replacements for FAC SPVAC and SPVHP involve high construction costs as the unit size, and method are designed into the building (as described earlier). Any change would require a substantial change to building infrastructure and might not be possible without compromising the integrity of the building structure.

In conclusion, Friedrich Vert-I-Pak® has been part of the AHRI 390 SPVU Category for over 15 years. Based on the reasons above, Friedrich opposes using outdoor air requirements as the criteria to classify a product as a SPVAC or SPVHP. We ask DOE to reconsider the mandated outdoor air requirement.

Sincerely,



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