ANSI/AHRI Standard 1360 (I-P) with Addendum 1

2013 Standard for

Performance Rating of Computer and Data Processing Room Air Conditioners



Approved by ANSI on November 8, 2013

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ANSI/AHRI STANDARD 1360 (I-P)-2013 WITH ADDENDUM 1, *PERFORMANCE RATING OF COMPUTER AND DATA PROCESSING ROOM AIR CONDITIONERS*

April 2014

Note: This addendum is not ANSI approved but will be submitted to ANSI for approval.

Addendum 1 (dated April 2014) of AHRI Standard 1360 (I-P) -2013, *Performance Rating of Computer and Data Processing Room Air Conditioners*, modifies ANSI/AHRI Standard 1360 (I-P)-2013 as follows. The following changes have been incorporated (additions are shown with shading and the deletions shown with strikethroughs) into the second sentence of Section 6.8 of the already published 2013 version of ANSI/AHRI Standard 1360 (I-P)-2013.In addition, the Certified Ratings list inside the cover page has been updated. The units for pressure drop have been changed from psid to ft H_2O.

The change includes:

6.8 *Tolerances*. To comply with this standard, published Cooling Capacity ratings, ~~pressure drop ratings~~, and Coefficients of Performance shall be based on data obtained in accordance with the provisions of this section and shall be such that any production unit, when tested, will meet these ratings except for an allowance to cover testing and manufacturing variations. ~~Pressure drop ratings shall not exceed 110%~~ Cooling Capacity ratings shall not be less than 95%, and Coefficient of Performances shall not be less than 95% of the published values.

AHRI CERTIFICATION PROGRAM PROVISIONS

Certified Ratings

The following Certification Program ratings are verified by test:

~~1. Net Total Cooling Capacity at Rated Cooling Test A (Table 1), kW~~
2. Net Sensible Cooling Capacity at Rated Cooling Test A (Table 1), kW
3. Net Sensible Coefficient of Performance Rating (NSenCOP) at Rated Cooling Tests A
4. Airflow rate, scfm
5. Fluid Flow Rate (for Water, Glycol, and Chilled Water Units only), gpm
~~6. Fluid Pressure Drop (for Water, Glycol, and Chilled Water Units only), psid~~
7. Fluid Economizer System Flow Rate (for Water, Glycol, and Chilled Water Units only), gpm
~~8. Fluid Economizer System Pressure Drop (for Water, Glycol, and Chilled Water Units only), psid~~

7.1.2.10 Fluid pressure drop at rated cooling Test A (Table 1), ~~psid~~ ft H_2O
7.1.3.10 Fluid pressure drop at rated cooling Test A (Table 1), ~~psid~~ ft H_2O
7.1.4.10 Fluid pressure drop at rated cooling Test A (Table 1), ~~psid~~ ft H_2O
7.1.5.10 Fluid pressure drop at rated cooling Test A (Table 1), ~~psid~~ ft H_2O

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IMPORTANT

SAFETY DISCLAIMER

AHRI does not set safety standards and does not certify or guarantee the safety of any products, components or systems designed, tested, rated, installed or operated in accordance with this standard/guideline. It is strongly recommended that products be designed, constructed, assembled, installed and operated in accordance with nationally recognized safety standards and code requirements appropriate for products covered by this standard/ guideline.

AHRI uses its best efforts to develop standards/guidelines employing state-of-the-art and accepted industry practices. AHRI does not certify or guarantee that any tests conducted under the standards/guidelines will not be non-hazardous or free from risk.

Note:

This is a new standard.

For SI ratings, see ANSI/AHRI Standard 1361 (SI)-2013.

AHRI CERTIFICATION PROGRAM PROVISIONS

Certified Ratings

The following Certification Program ratings are verified by test:

~~1. Net Total Cooling Capacity at Rated Cooling Test A (Table 1), kW~~
2. Net Sensible Cooling Capacity at Rated Cooling Test A (Table 1), kW
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7. Fluid Economizer System Flow Rate (for Water, Glycol, and Chilled Water Units only), gpm
~~8. Fluid Economizer System Pressure Drop (for Water, Glycol, and Chilled Water Units only), psid~~

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PERFORMANCE RATING OF COMPUTER AND DATA PROCESSING ROOM AIR CONDITIONERS

Section 1. Purpose

1.1 *Purpose.* The purpose of this standard is to establish for Computer and Data Processing Room Air Conditioners: definitions; classification; test requirements; rating requirements, minimum data requirements for Published Ratings; marking and nameplate data; and conformance conditions.

1.1.1 *Intent.* This standard is intended for the guidance of the industry, including manufacturers, engineers, installers, contractors and users.

1.1.2 *Review and Amendment.* This standard is subject to review and amendment as technology advances.

Section 2. Scope

2.1 *Scope*. This standard applies to floor mounted Computer and Data Processing Room Air Conditioners (CDPR) which have three types: up-flow air discharge, down-flow air discharge and horizontal free air discharge, as illustrated in Figure 1.

2.2 *Exclusions*. This standard does not apply to the rating of individual assemblies, such as condensing units or direct expansion fan-coil units, for separate use.

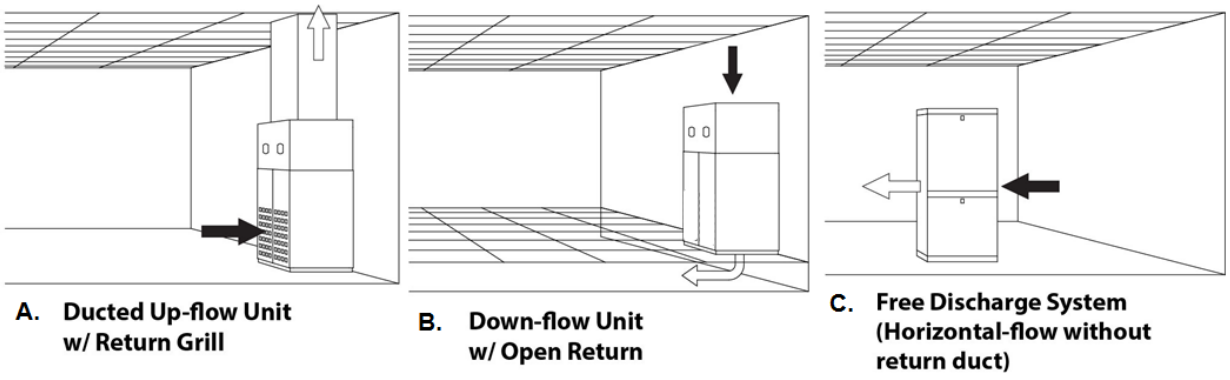


Figure 1. Different CDPR Unit Configurations.

Section 3. Definitions

All terms in this document will follow the standard industry definitions in the ASHRAE Wikipedia website (http://wiki.ashrae.org/index.php/ASHRAEwiki) unless otherwise defined in this section.

3.1 *Computer and Data Processing Room Air Conditioner (CDPR).* A Computer and Data Processing Room Air Conditioner consists of one or more factory-made assemblies, which include a direct expansion evaporator or chilled water cooling coil, an air-moving device and air-filtering devices. The air conditioner may include a compressor, condenser, humidifier or reheating function. Where direct expansion equipment is provided in more than one assembly and the separate assemblies are to be used together, the requirements of rating outlined in this standard are based upon the use of matched assemblies. The functions of a CDPR air conditioner, either alone or in combination with a cooling and heating plant, are to provide air filtration, circulation, cooling, and optional reheating and humidity control.

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