ANSI/AHRI Standard 520
(formerly ARI Standard 520)

2004 Standard for

PERFORMANCE RATING OF POSITIVE DISPLACEMENT CONDENSING UNITS

Approved American National Standard
ANSI

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IMPORTANT

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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 its standards/guidelines will be non-hazardous or free from risk.

Note:

This standard supersedes ARI Standard 520-97.

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PERFORMANCE RATING OF POSITIVE DISPLACEMENT CONDENSING UNITS

Section 1. Purpose

1.1 *Purpose*. The purpose of this standard is to establish, for positive displacement condensing units: definitions; test requirements; rating requirements; minimum data requirements for Published Ratings; operating requirements; marking and nameplate data and conformance conditions.

1.1.1 *Intent*. This standard is intended for the guidance of the industry, including manufacturers, designers, 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 electric motor driven, single and variable capacity positive displacement condensing units for air-cooled, evaporatively-cooled, and water-cooled refrigeration applications.

2.1.1 *Refrigerant*. The rating points in this standard are based on commonly used refrigerants.

2.2 *Exclusions*.

2.2.1 This standard does not apply to condensing units intended for use in:

a. Household refrigerators and freezers
b. Automotive air-conditioners
c. Dehumidifiers

Section 3. Definitions

All terms in this document follow the standard industry definitions in the current edition of *ASHRAE Terminology of Heating, Ventilation, Air Conditioning and Refrigeration* unless otherwise defined in this section.

3.1 *Coefficient of Performance (COP).* A ratio of the Cooling/Heating Capacity in watts [W] to the power input values in watts [W] at any given set of Rating Conditions expressed in watts/watt [W/W]. For heating *COP,* supplementary resistance heat shall be excluded.

3.1.1 *Standard Coefficient of Performance.* A ratio of the capacity to power input value obtained at Standard Rating Conditions.

3.2 *Energy Efficiency Ratio, (EER).* A ratio of the Cooling Capacity in Btu/h to the power input values in watts at any given set of Rating Conditions expressed in Btu/(W · h).

3.2.1 *Standard Energy Efficiency Ratio*. A ratio of the capacity to power input value obtained at Standard Rating Conditions.

3.3 *Positive Displacement Condensing Unit*. A specific combination of refrigeration system components for a given refrigerant, consisting of one or more electric motor driven positive displacement compressors, condensers, and accessories as provided by the manufacturer.

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