

ANSI/AHRI Standard 366 (SI)

2009 Standard for

Performance Rating of Commercial and Industrial Unitary Air-Conditioning Condensing Units



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**Air-Conditioning, Heating,
and Refrigeration Institute**

2111 Wilson Boulevard, Suite 500
Arlington, VA 22201, USA
www.ahrinet.org

PH 703.524.8800
FX 703.562.1942

IMPORTANT

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Note:

This standard supersedes ARI Standard 365-2002.
For I-P ratings, see ANSI/AHRI Standard 365 (I-P) – 2009.

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PERFORMANCE RATING OF COMMERCIAL AND INDUSTRIAL UNITARY AIR-CONDITIONING CONDENSING UNITS

Section 1. Purpose

1.1 Purpose. The purpose of this standard is to establish for Commercial and Industrial Unitary Air-Conditioning Condensing Units: definitions; classifications; 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, 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 factory-made Commercial and Industrial Unitary Air-Conditioning Condensing Units greater than or equal to 40.0 kW as defined in Section 3.

2.1.1 Energy Source. This standard applies only to electrically-driven, mechanical compression-type condensing units.

2.2 Exclusions. This standard does not apply to the testing and rating of condensing units for refrigeration purposes, as defined in AHRI Standard 520.

Section 3. Definitions

All terms in this document shall 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 Bubble Point. Refrigerant liquid saturation temperature at a specified pressure.

3.2 Commercial and Industrial Unitary Air-Conditioning Condensing Unit. A factory-made assembly of refrigeration components designed to compress and liquefy a specific refrigerant. It consists of one or more refrigerant compressors, refrigerant condensers (air-cooled, evaporatively – cooled, and/or water-cooled), condenser fans and motors (where used) and factory-supplied accessories.

3.3 Cooling Capacity. The capacity in watts obtained at specific conditions. It is equal to the increase in total enthalpy between the liquid refrigerant entering the expansion valve and superheated return gas multiplied by the mass flow rate of the refrigerant.

3.4 Coefficient of Performance (COP). A ratio of the Cooling Capacity in kilowatts to the power input in kilowatts at any given set of Rating Conditions.

3.5 Dew Point. Refrigerant vapor saturation temperature at a specified pressure.

3.6 Integrated Coefficient of Performance (ICOP). A single number part-load efficiency figure of merit calculated per the method described in this standard.

3.7 Integrated Part-Load Value (IPLV). A single number cooling part-load figure of merit calculated per the method described in Appendix C.