

**ANSI/AHRI Standard 390-2003
(Formerly ARI Standard 390-2003)**

2003 Standard for

**Performance Rating of
Single Package
Vertical Air-Conditioners
And Heat Pumps**



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IMPORTANT

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Note:

This standard supersedes ARI 390-2001.

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PERFORMANCE RATING OF SINGLE PACKAGE VERTICAL AIR-CONDITIONERS AND HEAT PUMPS

Section 1. Purpose

1.1 Purpose. The purpose of this standard is to establish, for Single Package Vertical Air-Conditioners and Heat Pumps: 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-assembled commercial or industrial Single Package Vertical Air-Conditioner and Heat Pump equipment as defined in Section 3.

2.1.1 Applicability. AHRI Standard 210/240 (formerly ARI Standard 210/240) and AHRI Standard 340/360 (formerly ARI Standard 340/360) shall not apply to commercial or industrial equipment covered by this Standard.

2.1.2 Energy Source. This standard applies to electrically operated, vapor-compression refrigeration systems.

2.1.3 Installation. The Single Package Vertical Air-Conditioner and Heat Pump is intended for ducted or non-ducted installation with field or factory supplied grilles.

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 Coefficient of Performance (COP). A ratio of 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 Cooling Capacity. The capacity associated with the change in air enthalpy which includes both the Latent and Sensible Capacities expressed in Btu/h [W].

3.2.1 Latent Capacity. Capacity associated with a change in humidity ratio.

3.2.2 Sensible Capacity. Capacity associated with a change in dry-bulb temperature.

3.3 Defrost Range. Ambient conditions such that a heat pump operating in the heating mode will develop frost on the outdoor coil to the extent that temperature ranges/tolerances specified in Table 4 of ANSI/ASHRAE Standard 37 will be exceeded.