ANSI/ASHRAE Standard 134-2005



ASHRAE STANDARD

Graphic Symbols for Heating, Ventilating, Air-Conditioning, and Refrigerating Systems

Approved by the ASHRAE Standards Committee on February 9, 2005; by the ASHRAE Board of Directors on February 10, 2005; and by the American National Standards Institute on February 10, 2005.

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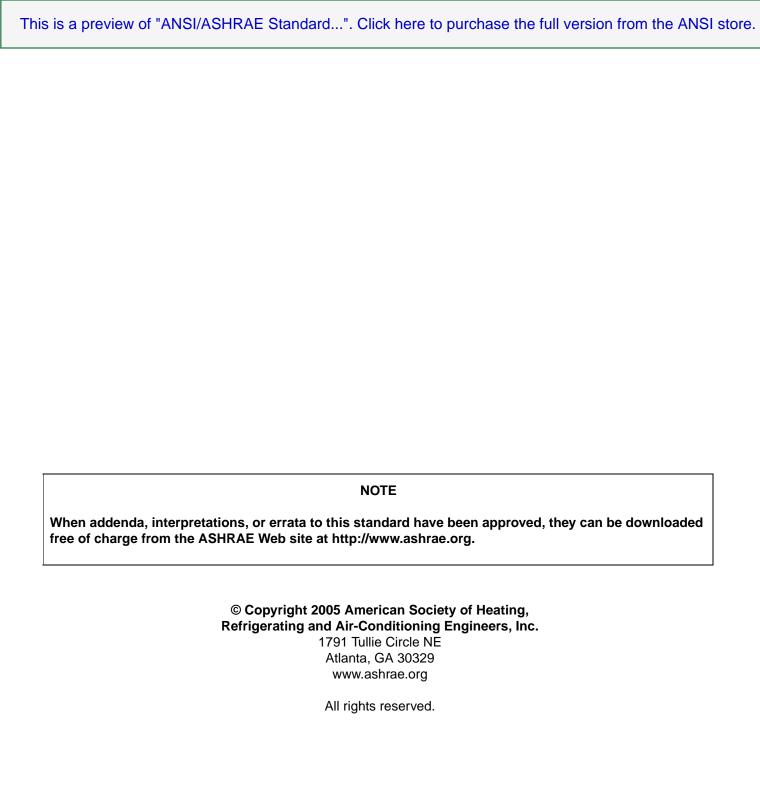
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(This foreword is not part of this standard. It is merely informative and does not contain requirements necessary for conformance to the standard. It has not been processed according to the ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process. Unresolved objectors on informative material are not offered the right to appeal at ASHRAE or ANSI.)

FOREWORD

This standard provides a comprehensive set of symbols for use in drawings and other documents relating to the design of heating, ventilating, air-conditioning, and refrigerating (HVAC&R) systems. The symbols are intended to be usable in both the manual and automatic (CAD system) creation of drawings.

To develop this standard, the project committee surveyed symbols solicited from governments, standards organizations, and consultants from around the world. While the committee found general agreement in some areas of symbol usage and symbolic practice, it discovered wide variation in others. This standard therefore intends to establish a common symbol language for use in HVAC&R drawings, thereby facilitating the understanding of these documents and making them accessible to a wider variety of users. It is anticipated that as the use and understanding of these symbols increase, the accuracy and efficiency with which engineering drawings are translated into actual systems will also increase.

This standard is intended for international use. The text, fonts associated with a symbol, and description box in the tables should be translated into the language of the standard. The filename alpha character should not be changed. The use of I-P (inch-pound) or SI (Standard International) metric units should be used where dual units are shown in the text or with a symbol.

This standard will be under continuous maintenance by ASHRAE, allowing it to be updated on a regular and ongoing basis. Continuous maintenance permits input from users and allows the standard to reflect the changes occurring in technology and engineering practices.

1. PURPOSE

The purpose of this standard is to define graphic symbols for heating, ventilating, air-conditioning and refrigerating systems.

2. SCOPE

- **2.1** This standard covers graphic symbols for heating, ventilating, air-conditioning, and refrigerating systems and equipment, including related controls.
- **2.2** This standard identifies graphic symbols by name, configuration, and description.
- **2.3** The graphic symbols in this standard are intended for use in manual drawings and drawings produced by computer-aided drafting (CAD).

3. DEFINITIONS

- **3.1** Definitions of terms used in this standard may be found in ASHRAE Terminology of Heating, Ventilation, Air Conditioning, and Refrigeration. ¹
- **3.2** Additional terms used in this standard but not found in *ASHRAE Terminology* are defined in this section.

accessories (controls): equipment such as air compressors, air line dryers, compressed air filters, and indicating devices (pressure and temperature) to facilitate monitoring of control system activity.

auxiliary devices (controls): equipment such as relays and switches to manipulate signals.

filename: an alphanumeric designation assigned to each symbol for ease in referencing.

tag: an acronym or abbreviation for identifying equipment.

ACU: air-conditioning unit

AD: access door
AHU: air-handling unit
AP: access panel
AS: air separator

CAV: constant air volume terminal

CC: cooling coil
CH: chiller

CP: condensate pump
CSG: clean steam generator
CUH: cabinet unit heater
EAHU: exhaust air-handling unit

EAV: exhaust air valve EFC evaporative fan cooler

ET: expansion tank
EX: exhaust fan
F: air filter
FCU: fan coil unit

FT: flash tank or fin tube FTR: finned tube radiation

H: humidifierHC: heating coilHRC: heat recovery unit

HVU: heating and ventilating unit

HX: heat exchanger

P: pump

PRV: pressure reducing valve

RAF: return air fan RHC: reheat coil

SA: sound attenuator (trap) SAV: supply air valve

SC: steam coil SF: supply fan

SRV safety relief valve

UH: unit heater

VAV: variable air volume terminal unit VFD: variable frequency (speed) drive