



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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ISSN 1041-2336



**American Society of Heating, Refrigerating
and Air-Conditioning Engineers, Inc.**

1791 Tullie Circle NE, Atlanta, GA 30329

www.ashrae.org

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ASHRAE obtains consensus through participation of its national and international members, associated societies, and public review.

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- c. offering constructive criticism for improving the Standard,
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ANSI/ASHRAE Standard 134-2005

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NOTE

When addenda, interpretations, or errata to this standard have been approved, they can be downloaded free of charge from the ASHRAE Web site at <http://www.ashrae.org>.

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Atlanta, GA 30329
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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:	humidifier
HC:	heating coil
HRC:	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