

**ANSI/ASHRAE Standard 26-1996 (RA 2006)
Reaffirmation of ANSI/ASHRAE Standard 26-1996**



ASHRAE STANDARD

Mechanical Refrigeration and Air-Conditioning Installations Aboard Ship

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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 ANSI requirements for a standard and may contain material that has not been subject to public review or a consensus process.)

FOREWORD

This is a reaffirmation of ASHRAE Standard 26-1996. This standard was prepared under the auspices of the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE). It may be used, in whole or in part, by an association or government agency with due credit to ASHRAE. Adherence is strictly on a voluntary basis and merely in the interests of obtaining uniform standards throughout the industry.

This standard for refrigeration and air-conditioning installations aboard ship incorporates requirements for ventilation, leak detection, self-contained breathing apparatus, refrigerant use, piping, compressors, and system installations. Commonly used and appropriate practices for marine applications as well as the requirements of the US Coast Guard, American Bureau of Ships, Lloyd's Register, and other marine societies are also included.

This standard provides both recommendations and requirements for the service and operation of equipment installed aboard ship. While many individual sections are detailed and precise, others are quite general. It is intended that this standard not only prescribe but promote the safe and efficient operation of air-conditioning and refrigerating systems aboard ship. It is not a document that precludes the application of common sense and first-hand experience but, rather, a logical listing of requirements and specific examples that guide the reader toward the proper installation and use of a vital ship's utility system.

The changes made for the 2006 reaffirmation were that the title of the standard was added to the Contents page.

1. PURPOSE

The purpose of this standard is to provide the minimum general requirements for the design, construction, installation, operation, inspection, and maintenance of mechanical refrigerating and air-conditioning equipment aboard ship to permit the safe, efficient, and reliable operation of such systems.

2. SCOPE

2.1 This standard covers

- a. refrigerating and air-conditioning systems that are an integral part of the main mechanical plant of merchant, fishing, and seafood-processing ships and
- b. refrigerated seawater and brine-chilling systems that air condition and dehumidify passenger and cargo spaces, chill or freeze perishable cargoes, or maintain storage of chilled or frozen cargo.

2.2 This standard does not cover

- a. details of system designs or applications;

- b. small, self-contained units that are not an integral part of the ship's main mechanical plant, such as electric water coolers, reach-in refrigerators, and room air conditioners;
- c. cargo containers with self-contained refrigerating systems; and
- d. liquefied gas ships.

2.3 Exceptions to the literal details of this standard may be used when approved by the authorities having jurisdiction when equivalent safety, efficiency, and reliability are achieved.

3. DEFINITIONS

Definitions given below are compiled for the purpose of clarifying this standard only.

accessible: easy to approach for service or use.

aft: toward the stern of the ship.

air conditioning: in enclosed spaces, the combined treatment of the air to control, as specified, temperature, relative humidity, velocity of motion, and radiant heat energy level, with consideration of the need for removal of airborne particles and contaminant gases. Some air conditioners may not accomplish all of these controls and are selected for their capability to control specific phases of air treatment.

Air conditioning is applied on board ships for passenger and crew accommodations.

ambient air temperature: when used in connection with machinery, temperature of air in the engine room or refrigeration machinery compartment surrounding such machinery. When used in connection with refrigerated compartments, temperature of the surrounding air outside the ship or in adjacent spaces.

approved: acceptable by the authorities having jurisdiction, such as the Classification Society, U.S. Coast Guard, U.S. Department of Transportation, and Maritime Administration.

auxiliary machinery space: a compartment assigned to machinery, generally other than main propulsion equipment.

azeotrope: a mixture of liquids whose vapor and liquid phases in equilibrium have identical compositions (the boiling point is constant).

brine: a secondary coolant that is a solution of salt and water.

brine chiller: a colloquial term for a heat exchanger used to refrigerate a secondary coolant.

brine, electrolytic: any brine capable of causing chemical decomposition of one of two dissimilar metals by electrolysis or galvanic corrosion.

bypass: a pipe or duct, usually controlled by valve or damper, for conveying a fluid around an element of a system.

capacity of refrigerating system: the cooling effect produced by the change in enthalpy between the refrigerant liquid entering the expansion valve and the vapor leaving the evaporator, generally measured in Btu per hour (kW or tons of refrigeration).