



**STANDARD**

**ANSI/ASHRAE Standard 188-2018**  
(Supersedes ANSI/ASHRAE Standard 188-2015)  
Includes ANSI/ASHRAE addenda listed in Annex D

# **Legionellosis: Risk Management for Building Water Systems**

See Informative Annex D for approval dates.

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#### NOTE

Approved addenda, errata, or interpretations for this standard can be downloaded free of charge from the ASHRAE website at [www.ashrae.org/technology](http://www.ashrae.org/technology).

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## FOREWORD

ASHRAE Standard 188 establishes minimum legionellosis risk management requirements for building water systems. The 2018 edition benefits from changes to improve usability and from comprehensive updates that replace permissive language with enforceable, code-intended language to facilitate adoption of the standard for code and regulatory purposes. For a full list of changes to the 2015 edition of Standard 188, see Informative Annex D.

“Legionellosis” refers to two distinct clinical illnesses. When the bacterium *Legionella* causes pneumonia, the disease is referred to as “Legionnaires’ disease” (LD). The Centers for Disease Control and Prevention (CDC) estimates that each year there are between 8000 and 18,000 cases of LD in the United States and that more than 10% of these cases are fatal. *Legionella* can also cause a less-severe influenza-like illness known as “Pontiac fever.” Most outbreak cases of legionellosis are the result of exposure to *Legionella* associated with building water systems.

The presence of *Legionella* bacteria in building water systems is not in itself sufficient to cause LD. Other necessary factors include building water system design and use conditions that promote the growth of *Legionella*; a means of transmitting the bacteria to people in the building, such as aerosol generation; and exposure of susceptible persons to LD colonized water that is inhaled or aspirated into the lungs. *Legionella* bacteria have been only once attributed to transmission from person to person and are not generally transmitted into the lungs through normal eating or drinking of contaminated water. Susceptible persons considered at-risk for Legionnaires’ disease include, but are not limited to, those receiving treatment for burns, chemotherapy for cancer, solid organ transplant, or bone marrow transplant; those with underlying diseases, such as cancer, renal disease, diabetes, and chronic lung disease; and people that are immunocompromised, such as the elderly, smokers, and those taking drugs that weaken the immune system.

This standard is intended for use by owners and managers of human-occupied buildings and those involved in the design, construction, installation, commissioning, operation, maintenance, and service of centralized building water systems and components.

Standard 188 consists of numbered normative sections followed by normative and informative annexes. The normative sections and the normative annex contain the requirements that must be met in order to comply with this standard. Building water systems vary substantially in their design, use, and capability for transmission of *Legionella*. The informa-

tive annexes contain additional information that may be helpful for a given building water system.

ASHRAE Standing Standard Project Committee (SSPC) 188 has devoted a considerable amount of time and thought to reviewing and responding to continuous maintenance proposals and public review comments by affected and interested parties. The committee thanks everyone who participated in the development of the standard, especially those who submitted proposals and public review comments.

Standard 188 is on a continuous maintenance cycle, which allows it to be updated through the publication of approved addenda. The current schedule anticipates republication of Standard 188, with approved addenda and errata, every third year.

## 1. PURPOSE

The purpose of this standard is to establish minimum legionellosis risk management requirements for building water systems.

## 2. SCOPE

**2.1** This standard provides minimum legionellosis risk management requirements for the design, construction, commissioning, operation, maintenance, repair, replacement, and expansion of new and existing buildings and their associated (potable and nonpotable) water systems and components.

**2.2** This standard applies to human-occupied commercial, institutional, multiunit residential, and industrial buildings. This standard does not include single-family residential buildings. Only where specifically noted in this standard shall certain building water systems or parts of building water systems be exempt.

**2.3** This standard is intended for use by owners and managers of human-occupied buildings, excluding single-family residential buildings. This standard is also intended for those involved in the design, construction, installation, commissioning, operation, maintenance, and service of centralized building water systems and components.

## 3. DEFINITIONS

**analysis of building water systems:** the systematic evaluation of potentially hazardous conditions associated with each step in the process flow diagrams.

**at-risk:** any person who is more susceptible than the general population to developing legionellosis because of age, health, medication, occupation, or smoking.

**authority having jurisdiction (AHJ):** an organization, office, or individual responsible for enforcing the requirements of this standard.

**beneficial occupancy:** stage of construction when all or part of a building is to be occupied for its intended purpose, whether before or after completion.

**building water systems:** potable and nonpotable water systems in the building or on the site.