ASSE LEC 2011-2022

Listing Evaluation Criteria for

Legionella Reduction and Treatment Devices

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ICS Codes: 13 060 99

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General Information

No product may be said to be ASSE approved unless the manufacturer has applied to the ASSE International, has had his product tested according to the applicable ASSE standards or listing evaluation criteria, and when the product has passed the test and complied with ASSE's product certification requirements and displays the ASSE Seal on the product.

Instructions for receiving the authorization to display the Seal are available from ASSE's International Office. Organizations wishing to adopt or list to any ASSE standard or listing evaluation criteria should print the ASSE number on the cover page first and in equal or larger type to that of the adopting or listing organization.

ASSE International
Mokena, Illinois

LEC 2011 Working Group

Tom Palkon – Chairman
IAPMO R&T
Chicago, IL

Kimberly Alexander
Special Pathogens Laboratory
Pittsburgh, PA

Raymond Knispel
Argonide
Sanford, FL

Christoph Lohr
IAPMO
Phoenix, AZ

George Lukasik, PhD
BCS Laboratories
Gainesville, FL

Rebecca Marino, PhD
Special Pathogens Laboratory
Pittsburgh, PA

Janet Stout, PhD
Special Pathogens Laboratory
Pittsburgh, PA

Muralidhara Sakhumalla PhD
IAPMO India
Bangalore, India

Yuly Vesga
Argonide
Sanford FL

Foreword

This foreword shall not be considered a part of the standard; however, it is offered to provide background information.

ASSE International Standards are developed in the interest of consumer safety. Legionnaires' disease is a pulmonary infection brought on by the aspiration or inhalation of aerosolized *Legionella* bacteria. While there are always various species of microorganisms in the public water supply, *Legionella* has gained attention in recent years due to the rising number of identified individuals who contracted Legionellosis (i.e., Legionnaires' Disease, Pontiac Fever). Risk management plans for a premise include the prevention of bacterial species proliferation in the water system and their aerosolization. Cooling towers, HVAC humidity controls, showers, evaporative (e.g., swamp) coolers, and other means of creating water vapor are fed by plumbing systems that can have a means of temperature control or water treatment. The bacteria typically proliferate when the water temperature is between 68-122 °F (20-50 °C). This standard defines the performance requirements for those plumbing devices in order to reduce the downstream risk due to *Legionella* bacteria.

Unlike this standard, most potable water treatment standards apply to devices that service cold water supplies rather than elevated temperatures.

Most water treatment products when installed become part of the plumbing system. Proper installation and care should be taken to ensure the integrity of the plumbing system remains in tack and compliant with plumbing codes.

Recognition is made of the time volunteered by members of the Working Group and of the support of the manufacturers who also participated in the meetings for this standard.

This standard does not imply ASSE International's endorsement of a product which conforms to these requirements.

Compliance with this standard does not imply acceptance by any code body.

It is recommended that these devices be installed consistent with local codes by qualified and trained professionals. It is recommended that these devices be maintained and serviced per the manufacturer's recommendation, and that filters are replaced at regular intervals per the manufacturer's instructions.

ASSE LEC 2011
Legionella Reduction and Treatment Devices

SECTION I

1.0 General

1.1 Application

Legionella reduction and treatment devices are designed to reduce the microorganisms in the genus *Legionella* (e.g., *Legionella pneumophila*) typically found in potable water systems. The devices reduce the number of the bacteria through inactivation and/or filtration. They can reduce or prevent the downstream bacterial colonization of a water system and thus ultimately the release of the bacteria into the product water. Devices are intended to be used at Point of Entry (POE) or Point-Of-Use (POU) in applications for hot or cold-water or both for drinking water, washing hands or showering.

1.2 Scope

1.2.1 Description

The device reduces the quantity of *Legionella* bacteria that exit the device. Major components may include a disinfecting chemical inlet, mixing chamber, thermal element, housing, filtration media, and ultraviolet (UV) light source. The performance requirements in this standard are for full systems and are not intended to apply to components (i.e., filters).

1.2.2 Size Range - Plumbed Devices

Include inlet sizes from NPS ¼ inch (DN 8) through NPS 1-½ inch (DN 40).

1.2.3 Flow Range

Device(s) may provide flow rates up to 100 GPM (378.5 L/min).

1.2.4 Temperature Range

Inlet and outlet water temperature ranges from 33.0 °F (0.56 °C) up to 180 °F (82.2 °C).

1.2.5 Pressure Range

A maximum design pressure of 125.0 psi (827.4 kPa).

1.3 Reference Standards/Documents:

- APHA/AWWA/WEF, *Standard Methods for the Examination of Water and Wastewater, 23rd edition*
- ASHRAE 188-2018, *Legionellosis: Risk Management for Building Water Systems*
- ASME B1.20.1-2018, *Pipe Threads, General Purpose (Inch)*
- ASME B1.20.3-1976 (R2018), *Dryseal Pipe Threads (Inch)*
- ASME B16.18-2021, *Cast Copper Alloy Solder Joint Pressure Fittings*