

# ASSE LEC 2010-2020



*Listing Evaluation Criteria for*  
**Proportional Flow Control  
Devices, with Protection from Cross-  
Contamination via Hydronic Water,  
for use in Drinking Water Installations**

**ASSE Board Approved:** October 2020  
**ICS Codes:** 23 060 99, 91 140 60





# General Information

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# Foreword

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This foreword shall not be considered a part of the listing evaluation criteria (LEC); however, it is offered to provide background information.

ASSE standards and LECs are developed in the interest of consumer safety.

ASSE International considers LEC's to be of great value in the development of improved plumbing systems.

The working group that developed this LEC was set up within the framework of the Product Standards Committee of ASSE International.

These devices are commonly found in European hydronic systems. This LEC seeks to import the requirements surrounding the product and add the appropriate US and Canadian code needs. This LEC adapts translated requirements from DVGW VP 201 Testing Specification for Flow-rate control devices with double diaphragm and safety valve and ASSE 1012 for Backflow Preventers with intermediated Atmospheric Vent.

Typically, these product are installed as a part of an integrated system to balance flow into both sides of a double-wall heat exchanger. One side increases the cold water supply temperature to supply domestic hot water, the other side receives hydronic hot water that is cooled to supply the hydronic loop. The device controls the flow of water of both the cold water supply and the hydronic loop based on the temperature and flow requirements of the hydronic loop. This helps minimize dead legs in the hot water distribution system to supply fittings.

Recognition is made of the time volunteered by members of the working group and of the support of the manufacturers who also participated in meetings for this LEC.

This LEC does not imply ASSE's endorsement of a product which conforms to these requirements. Compliance with this LEC 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, filters are replaced at regular intervals per the manufacturer's instructions.

# 2020 Product Standards Committee

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**Tsan-Liang Su, PhD, Chair**  
*Stevens Institute of Technology  
Hoboken, NJ*

**Karl Abrahamson**  
*Saint Paul Department of Safety  
and Inspections  
Cottage Grove, MN*

**Brian Andersen**  
*Plumbers' JAC LU130.  
Chicago, IL*

**William Briggs Jr.**  
*JB&B  
New York, NY*

**Terry Burger (non-voting)**  
*ASSE International  
Cleveland, OH*

**William Chapin**  
*Professional Code Consulting, LLC  
Cullman, AL,*

**Mark E. Fish**  
*Zurn Industries, LLC  
Cary, NC*

**Ron George**  
*Plumb-Tech Design & Consulting Services LLC  
Newport, MI*

**Mark Gibeault**  
*Kohler Company  
Kohler, WI*

**Daniel Gleiberman**  
*Sloan Valve Company  
Los Angeles, CA*

**Brandon Gunnell**  
*Precision Plumbing Products  
Portland, OR*

**Chris Haldiman**  
*Watts Water Technologies  
Springfield, MO*

**John F. Higdon, P.E.**  
*Supply Source Products  
Matthews, NC*

**Jim Kendzel**  
*American Supply Association  
Minneapolis, MN*

**Ramiro Mata**  
*American Society of Plumbing  
Engineers (ASPE)  
Mentor, OH*

**Robert Neff**  
*Delta Faucet  
Pendleton, IN*

**David Orton**  
*NSF International  
Ann Arbor, MI*

**Thomas Pitcherello**  
*State of New Jersey  
Bordentown, NJ*

**Daniel Rademacher**  
*Viega, LLC  
Butte, MT*

**Shabbir Rawalpindiwala**  
*Kohler Company  
Kohler, WI*

**Billy Smith**  
*American Society of Plumbing  
Engineers (ASPE)  
Montgomery, AL*

**Chris White (non-voting)**  
*ASSE International  
Mokena, IL*

# ASSE LEC 2010 Working Group

---

**Joerg Claussen**

*Uponor GmbH  
Ochtrup, NRW Germany*

**Tom Palkon (non-voting)**

*IAPMO  
Chicago, IL*

**Michael Drake (non-voting)**

*ASSE International  
Chicago, IL*

**Tim Reising (non-voting)**

*ASSE International  
Chicago, IL*

**Jim Finch**

*Uponor  
Apple Valley, MN*

**Aaron Stotko**

*Uponor  
Apple Valley, MN*

**Conrad L. Jahrling (non-voting)**

*ASSE International  
Chicago, IL*

**Sean Vuu**

*IAPMO R&T  
Ontario, CA*

**Nate Koppi**

*Uponor  
Apple Valley, MN*

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# Listing Evaluation Criteria for Proportional Flow Control Devices, with Protection from Cross-Contamination via Hydronic Water, for use in Drinking Water Installations

## Section I

### 1.0 General

#### 1.1 Application

The purpose of the device is to control the flow of potable water based on the pressure of hydronic water from a hydronic system. The device performs this hydraulically and has integral cross contamination protection between the potable and hydronic water. This device is typically installed in conjunction with a heat exchanger and a part of a hydronic system loop.

#### 1.2 Scope

##### 1.2.1 Description

This device consists of a single potable cold water supply inlet and outlet, and a single hydronic supply inlet and outlet, a means of dynamic flow control, an atmospheric vent, and two sets of three dynamic seals between the potable and hydronic flow paths.

##### 1.2.2 Connections

Pipe threads and other connections shall conform to local plumbing and mechanical codes.

##### 1.2.3 Size Range

Inlet and outlet sizes are ¾" ISO 228.

##### 1.2.4 Flow Range

The maximum rated flow rate on the potable flow path shall be 9.0 GPM (34 L/min).  
The maximum rated flow rate on the hydronic flow path shall be 9.0 GPM (34 L/min).

##### 1.2.5 Temperature Range

The maximum operating temperature for the device is 195 °F (90 °C).

##### 1.2.6 Pressure Range

The maximum static pressure, on the potable and hydronic flow paths, is 180 psi (1241 kPa).