

American Society of Sanitary Engineering
PRODUCT (SEAL) LISTING PROGRAM



ASSE STANDARD #1017 - REVISED: 2009
Temperature Actuated Mixing Valves
for Hot Water Distribution Systems

MANUFACTURER: _____

CONTACT PERSON: _____ E-MAIL: _____

ADDRESS: _____

LABORATORY FILE NUMBER: _____

MODEL # TESTED: _____

MODEL SIZE: _____

ADDITIONAL MODELS REPORT APPLIES TO: _____

ADDITIONAL MODEL INFORMATION (i.e. orientation, series, end connections, shut-off valves): _____

DATE MODELS RECEIVED BY LABORATORY: _____

DATE TESTING BEGAN: _____

DATE TESTING WAS COMPLETED: _____

IF MODELS WERE DAMAGED DURING SHIPMENT, DESCRIBE DAMAGES: _____

PROTOTYPE OR PRODUCTION: _____

General information and instructions for the testing engineer:

The results within this report apply only to the models listed above.

There may be items for which the judgment of the test engineer will be involved. Should there be a question of compliance with that provision of the standard, a conference with the manufacturer should be arranged to enable a satisfactory solution of the question.

Should disagreement persist and compliance remain in question by the test agency, the agency shall, if the product is in compliance with all other requirements of the standard, file a complete report on the questionable items together with the test report, for evaluation by the ASSE Seal Board. The Seal Board will then review and rule on the question of compliance with the intent of the standard then involved.

Documentation of material compliance must be furnished by the manufacturer. The manufacturer shall furnish to the testing agency, a bill of material which clearly identifies the material of each part included in the product construction. This identification must include any standards which relate thereto.



SECTION 1

1.0 General

1.1

Application

Did the device comply with the application section of this standard?

☐ Yes

☐ No

1.2

Scope

1.2.1

Does the device have a hot water inlet connection, a cold water inlet connection and mixed water outlet connection?

☐ Yes

☐ No

Does the device have a temperature sensing and controlling element, and a means of adjusting the outlet water temperature?

☐ Yes

☐ No

☐ Questionable

If questionable, explain: _____

1.2.2

Connections

Do the pipe threads, flanges, or other connections conform to appropriate industry standards?

☐ Yes

☐ No

What standard(s) do they conform to: _____

1.2.3

Maximum Working Pressure

What is the maximum working pressure indicated by the manufacturer?

_____ psi (_____ kPa)

Is the pressure in compliance with the requirements of the standard?

☐ Yes

☐ No

1.2.4

Temperature Range

1.2.4.1

Inlet Water Temperature Range

What is the hot water inlet temperature range as indicated by the manufacturer:

_____ °F to _____ °F (_____ °C to _____ °C)

What is the cold water inlet temperature range as indicated by the manufacturer:

_____ °F to _____ °F (_____ °C to _____ °C)

1.2.4.2

Outlet Water Temperature Range

What is the outlet temperature range as indicated by the manufacturer:

_____ °F to _____ °F (_____ °C to _____ °C)

Is the temperature range in compliance with the standard?

☐ Yes

☐ No

Is the inlet hot water supply temperature at least 20.0°F (11.0°C) greater than the outlet water temperature?

☐ Yes

☐ No

In compliance?

☐ Yes

☐ No

SECTION II

2.0 Test Specimens

2.1

Samples Submitted for Test

State the number of devices of each size and model provided for the laboratory evaluation.

2.2

Samples Tested

How many devices were utilized during the laboratory evaluation? _____

If more than one (1) device was used, state why an additional device was utilized? _____



2.3

Drawings

Were assembly drawings, installation drawings and other technical data necessary to determine compliance with this standard submitted to the laboratory? ☐ Yes ☐ No

Were these drawings and other data reviewed by the laboratory? ☐ Yes ☐ No

2.4

Rejection

Failure of one (1) device shall be cause for rejection of the model and size submitted for evaluation.

SECTION III

3.0 Performance Requirements and Compliance Testing

3.1

Conditioning Test

What was the water temperature used for this test? _____ °F (_____ °C)

What was the flowing pressure used for this test? _____ psi (_____ kPa)

Duration of test: _____ hours

Was there any indication of leaks, distortion, damage or indication of change to the physical characteristics of the device? ☐ Yes ☐ No ☐ Questionable

If questionable, explain: _____

3.2

Temperature Control Test

The manufacturer's maximum advertised flow rate is: _____ GPM (_____ L/m)

The manufacturer's minimum advertised flow rate is: _____ GPM (_____ L/m)

- a) At a differential pressure of 10.0 psi \pm 0.5 psi (69.0 kPa \pm 3.4 kPa) and a mixed water outlet temperature of 110.0°F \pm 2.0°F (43.3°C \pm 1.1°C), allow the water to flow for one (1) minute, then record all temperatures, pressures and flow:

Hot water inlet temperature (T_1): _____ °F (_____ °C)

Hot water inlet pressure (P_1): _____ psi (_____ kPa)

Cold water inlet temperature (T_2): _____ °F (_____ °C)

Cold water inlet pressure (P_2): _____ psi (_____ kPa)

Mixed water outlet temperature (T_3): _____ °F (_____ °C)

Mixed water outlet pressure (P_3): _____ psi (_____ kPa)

Mixed water outlet flow: _____ GPM (_____ L/min)

- b) Reduce the mixed water flow by 50%. Allow water to flow for one (1) minute, then record all temperatures, pressures and flow:

Hot water inlet temperature (T_1): _____ °F (_____ °C)

Hot water inlet pressure (P_1): _____ psi (_____ kPa)

Cold water inlet temperature (T_2): _____ °F (_____ °C)

Cold water inlet pressure (P_2): _____ psi (_____ kPa)

Mixed water outlet temperature (T_3): _____ °F (_____ °C)

Mixed water outlet pressure (P_3): _____ psi (_____ kPa)

Mixed water outlet flow: _____ GPM (_____ L/min)

Variation of mixed water outlet temperature was: _____ °F (_____ °C)

In compliance? ☐ Yes ☐ No ☐ Questionable

If questionable, explain: _____

- c) Increase the hot water supply temperature (T_1) by 25.0°F \pm 1.0°F (13.9°C \pm 0.6°C) within five (5) minutes. (See chart below for acceptable temperature ranges.) Allow water to flow for one (1) minute, then record all temperatures, pressures and flow:

Hot water inlet temperature (T_1): _____ °F (_____ °C)

Hot water inlet pressure (P_1): _____ psi (_____ kPa)

Cold water inlet temperature (T_2): _____ °F (_____ °C)



Cold water inlet pressure (P_2): _____ psi (_____ kPa)
Mixed water outlet temperature (T_3): _____ °F (_____ °C)
Mixed water outlet pressure (P_3): _____ psi (_____ kPa)
Mixed water outlet flow: _____ GPM (_____ L/min)
Variation of mixed water outlet temperature was: _____ °F (_____ °C)

Starting Temperature	Acceptable Range
138°F (58.9°C)	162°F to 164°F (72.2°C to 73.3°C)
139°F (59.4°C)	163°F to 165°F (72.7°C to 73.9°C)
140°F (60.0°C)	164°F to 166°F (73.3°C to 74.4°C)
141°F (60.6°C)	165°F to 167°F (73.9°C to 75.0°C)
142°F (61.1°C)	166°F to 168°F (74.4°C to 75.5°C)

In compliance? ☐ Yes ☐ No ☐ Questionable
If questionable, explain: _____

d) With the valve of the device open to full flow, allow the water flow for one (1) minute, then record all temperatures, pressures and flow:

Hot water inlet temperature (T_1): _____ °F (_____ °C)
Hot water inlet pressure (P_1): _____ psi (_____ kPa)
Cold water inlet temperature (T_2): _____ °F (_____ °C)
Cold water inlet pressure (P_2): _____ psi (_____ kPa)
Mixed water outlet temperature (T_3): _____ °F (_____ °C)
Mixed water outlet pressure (P_3): _____ psi (_____ kPa)
Mixed water outlet flow: _____ GPM (_____ L/min)
Variation of mixed water outlet temperature was: _____ °F (_____ °C)

In compliance? ☐ Yes ☐ No ☐ Questionable
If questionable, explain: _____

3.3 Hydrostatic Pressure Test

Pressure applied: _____ psi (_____ kPa)
How long was the pressure applied? _____ minutes

Any indication of leaks? ☐ Yes ☐ No
Any indication of damage? ☐ Yes ☐ No

In compliance? ☐ Yes ☐ No ☐ Questionable
If questionable, explain: _____

SECTION IV

4.0 Detailed Results

4.1 Materials

Did this device comply with the material requirements per Section 4.1 for metals, solders and fluxes that come in contact with potable water? ☐ Yes ☐ No ☐ Questionable
If questionable, explain: _____
If no, submit all applicable documentation regarding material toxicity.

4.2 Installation and Maintenance Instructions

4.2.1 Were instructions submitted for installing, adjusting and maintaining the device? ☐ Yes ☐ No



- 4.2.2 Does the packaging or installation instructions for the device include the following information:
- a) Device Size? ☐ Yes ☐ No
 - b) Temperature range or maximum setting? ☐ Yes ☐ No
 - c) Maximum working pressure? ☐ Yes ☐ No
- 4.2.3 Were instructions submitted that indicates the installation and field adjustments are the responsibility of the installer? ☐ Yes ☐ No
- 4.2.4 If an external means for temperature adjustment is provided, is this accessible with the device in service? ☐ Yes ☐ No
- 4.2.5 Are internal controlling components accessible for repair and/or replacement without disturbing the pipe connections? ☐ Yes ☐ No
- 4.2.6 Does the device incorporate check valves? ☐ Yes ☐ No
- Did the manufacturer's instructions include a recommendation to use a check valve(s) to prevent cross-flow? ☐ Yes ☐ No
- 4.3 Identification and Markings**
- 4.3.1 Markings of Device
- List the following information as shown on the device:
- Name or trademark of manufacturer: _____
- Model number: _____
- Hot and cold indications on inlets: _____
- Are the markings visible in the installed position? ☐ Yes ☐ No
- How were the markings applied? _____
- 4.3.3 If provided, is the external valve outlet temperature adjusting mechanism clearly identified and permanently marked with its means of operation? ☐ Yes ☐ No



TESTING AGENCY: _____

ADDRESS: _____

PHONE: _____ FAX: _____

TEST ENGINEERS: _____

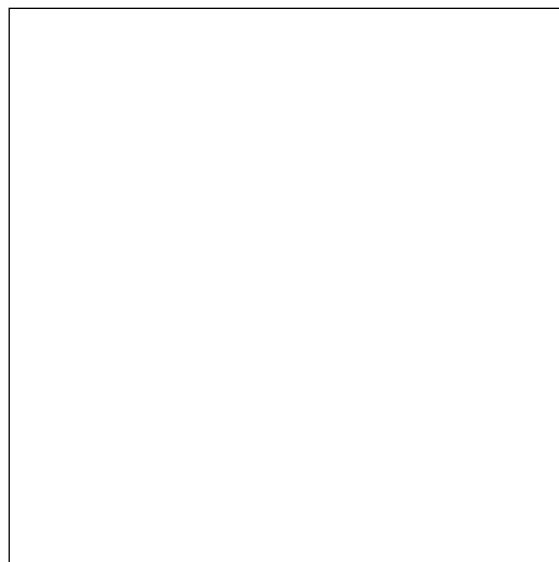
We Certify that the evaluations are based on our best judgements and that the test data recorded is an accurate record of the performance of the device on test.

SIGNATURE OF THE OFFICIAL OF THE AGENCY: _____

TITLE OF THE OFFICIAL: _____ DATE: _____

SIGNATURE AND SEAL OF THE REGISTERED PROFESSIONAL
ENGINEER SUPERVISING THE LABORATORY EVALUATION:

SIGNATURE: _____



PE SEAL

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