

**American Society of Sanitary Engineering  
Seal (Certification) Program**

**Laboratory Evaluation Report for:  
Automatic Temperature Control Mixing Valves**

**Tested under ASSE Standard 1069 • Issued: January, 2005**

**Laboratory File Number \_\_\_\_\_**

**Manufacturer** \_\_\_\_\_

**Model No.** \_\_\_\_\_

**Address** \_\_\_\_\_

**Serial No.** \_\_\_\_\_

**Other Identification Markings** \_\_\_\_\_

**Size** \_\_\_\_\_

General information and instructions for the testing engineer:

Within the text there may be items which are only advisory to conditions which experience indicates could be troublesome. It is not for evaluation related to acceptance of the product.

There may be other 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 Control Board. The Seal Control Board will then review and rule on the question of compliance with the intent of the standard item involved.

Documentation of material compliance must be furnished by the manufacturer. He 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.

Product Name _____		
Model Number _____	Size(s) _____	
Date Submitted for Review _____	Date Review Complete _____	
Were the test units production models?	<input type="checkbox"/> Yes	<input type="checkbox"/> No
or prototypes?	<input type="checkbox"/> Yes	<input type="checkbox"/> No

## Section I

### 1.0

#### General

#### 1.1 Application

Does the application, as stated by the manufacturer, comply with this section?

- Yes  
 No  
 Questionable

If questionable, explain: \_\_\_\_\_

#### 1.2 Scope

Does the device conform to the product classified as an automatic temperature control mixing valve?

- Yes  
 No  
 Questionable

If questionable, explain: \_\_\_\_\_

What is the maximum working pressure indicated by the manufacturer?

\_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

What are the hot and cold water inlet temperature ranges as stated by the manufacturer?

Hot water: \_\_\_\_\_ °F to \_\_\_\_\_ °F ( \_\_\_\_\_ °C to \_\_\_\_\_ °C).

Cold water: \_\_\_\_\_ °F to \_\_\_\_\_ °F ( \_\_\_\_\_ °C to \_\_\_\_\_ °C).

What is the outlet temperature range as stated by the manufacturer?

\_\_\_\_\_ °F to \_\_\_\_\_ °F ( \_\_\_\_\_ °C to \_\_\_\_\_ °C).

What is the minimum flow rate as stated by the manufacturer?

\_\_\_\_\_ GPM \_\_\_\_\_ L/Min)

## Section II

### 2.0

#### Test Specimens

How many devices of each model and size were submitted by the manufacturer to the test laboratory? \_\_\_\_\_

How many devices of each model and size were used by the test laboratory in the test procedures? \_\_\_\_\_

Were assembly and installation drawings and other data needed by the testing laboratory to determine compliance with this standard submitted with the devices?

- Yes  
 No

Were the drawings reviewed by the testing laboratory?  Yes  
 No

## Section III

### 3.0

#### Performance Requirements and Compliance Testing

##### 3.1 High Temperature Conditioning Test

What inlet pressures were used for this test?

Hot side: \_\_\_\_\_psi ( \_\_\_\_\_kPa)

Cold side: \_\_\_\_\_psi ( \_\_\_\_\_kPa)

What inlet temperatures were used for this test?

Hot side: \_\_\_\_\_°F ( \_\_\_\_\_°C)

Cold side: \_\_\_\_\_°F ( \_\_\_\_\_°C)

What was the maximum outlet temperature? \_\_\_\_\_°F ( \_\_\_\_\_°C)

##### 3.2 Working Pressure Test

What pressure was used for this test? \_\_\_\_\_psi ( \_\_\_\_\_kPa)

Were there any leaks with the outlet of the device blocked and the seating members open?  Yes  
 No

Were there any leaks with the seating members closed and the outlet open?  Yes  
 No

##### 3.3 Life Cycle Test

How many cycles did the device undergo for this test? \_\_\_\_\_

Were the cycle steps per Table 1 followed?  Yes  
 No

##### 3.4 Flow Rate and Pressure Drop Test

With a minimum temperature differential of 80.0°F (44.0°C) between the incoming hot and cold water supplies and with the device set to supply water at the mid-point of the incoming supply temperatures was the flow rate at least 90% of the manufacturer's published flow rate at the corresponding pressure drop?

- Yes  
 No  
 Questionable

If questionable, explain: \_\_\_\_\_  
 In compliance?  Yes  
 No

##### 3.5 Pressure and Temperature Variation Test

###### 3.5.2. a,b,c Initial set conditions:

Incoming hot water supply pressure \_\_\_\_\_psi ( \_\_\_\_\_kPa)

Incoming cold water supply pressure \_\_\_\_\_psi ( \_\_\_\_\_kPa)

Incoming hot water supply temperature \_\_\_\_\_°F ( \_\_\_\_\_°C)

Incoming cold water supply temperature \_\_\_\_\_°F ( \_\_\_\_\_°C)

Outlet temperature at T3 \_\_\_\_\_ °F ( \_\_\_\_\_ °C)  
 Flow rate \_\_\_\_\_ GPM ( \_\_\_\_\_ L/min)

**3.5.2 d** Decrease hot water supply pressure by 20% \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

**3.5.2 e** Increase hot water supply pressure by 20% \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

**3.5.2 f** Decrease cold water supply pressure by 20% \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

**3.5.2 g** Increase cold water supply pressure by 20% \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

**3.5.2 h** Increase hot water supply temperature by 25.0° F(13.8°C)  
 \_\_\_\_\_ °F ( \_\_\_\_\_ °C)

During the first five (5) seconds following each incoming pressure or temperature change, was there any temperature spike greater than +5.4°F (+3.0°C) from the initial outlet set temperature that lasted more than 1.5 seconds when measured at the +5.4°F (+3.0°C) line as noted in Figure 3?

- Yes  
 No

During the first five (5) seconds following each incoming pressure or temperature change, was there any temperature spike greater than -9.0°F (-5.0°C) from the initial outlet set temperature that lasted more than one (1) second when measured at the -9.0°F (-5.0°C) line as noted in Figure 3?

- Yes  
 No

After the initial five (5) seconds following each incoming pressure or temperature change, was there any temperature variation at T3 greater than ± 3.6°F (± 2.0°C) from the initial set temperature?

- Yes  
 No

In compliance?

- Yes  
 No  
 Questionable

If questionable, explain: \_\_\_\_\_

### 3.6 Cold Water Supply Failure Test

What was the hot water supply pressure? \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

What was the cold water supply pressure? \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

What was the outlet temperature at T3? \_\_\_\_\_ psi ( \_\_\_\_\_ kPa)

What was the flow rate? \_\_\_\_\_ GPM ( \_\_\_\_\_ L/min)

Did the device reduce the flow to 0.5 GPM (1.91 L/Min) or less for devices 3/4 inch (19.0 mm) and smaller or 1.0 gpm (3.8 L/Min) or less for the devices larger than 3/4 inch (19.0 MM) prior to the outlet temperature at T3 exceeding 120.0 F (48.9 C)?

- Yes  
 No

In compliance?

- Yes  
 No  
 Questionable

If questionable, explain: \_\_\_\_\_

**3.7 Cross Flow Test**

Was there leakage in excess of 0.01 GPM (50 cc/min) from the inlet cold or hot water ports when the mixed water port was blocked and 5.0 psi (34.5 kPa) pressure was applied at the opposite inlet port?  Yes

No

In compliance?  Yes

No

**3.8 Hydrostatic Pressure Test**

What pressure was used for this test? \_\_\_\_\_psi ( \_\_\_\_\_kPa)

How long was the test conducted? \_\_\_\_\_minutes

Was there any leakage from the device?  Yes

No

**Section IV****4.0****Detailed Requirements****4.1 Materials**

Was the lead content in solders and fluxes that come in contact with the potable water supply 0.2% or less?  Yes

No

Was the lead content of metal alloys that come in contact with the potable water supply 8% or less?  Yes

No

**4.2 Marking of Devices**

What markings appear on the device?

\_\_\_\_\_

How were these markings applied?

\_\_\_\_\_

**4.3****Installation and Maintenance Instructions**

Were instructions for installation, maintenance, adjustment and repair packaged with the device?  Yes

No

TESTING AGENCY \_\_\_\_\_

ADDRESS \_\_\_\_\_

PHONE: \_\_\_\_\_ FAX: \_\_\_\_\_

TEST ENGINEER(S) \_\_\_\_\_

We certify that the evaluations are based on our best judgments 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



Seal