

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

**Factory Audit Inspection Test Forms for:
Automatic Compensating Valves for Individual Showers and Tub/Shower
Combinations**

**Tested under ASSE Standard 1016 • Revised: 2005
Factory Audit Inspection Test**

Manufacturer _____
Model No. _____
Address _____
Serial No. _____
Markings _____
Size _____
Connections (nominal pipe thread or copper water tube) _____

3.1 High Temperature Conditioning Test

What was the pressure on the hot and cold water supplies?

Hot water: _____ psi (_____ kPa) Cold water: _____ psi (_____ kPa)

What was the temperature of the hot and cold water supplies?

Hot water: _____ °F (_____ °C) Cold water: _____ °F (_____ °C)

What was the maximum outlet temperature attainable? _____ °F (_____ °C)

What was the outlet flow rate set at? _____ GPM (_____ L/min)

How long was the outlet flow continued? _____ minutes

Was the outlet temperature of the device adjustable from the full cold up to a minimum of 100.0 °F (37.8 °C) when the hot water inlet temperature range was from 120.0 °F to 180.0 °F (48.9 °C to 82.2 °C) and the cold water inlet temperature range was from 39.8 ° to 85.0 °F (3.9 °C to 29.4 °C)? Yes No Questionable

If questionable, explain: _____

Was the test performed in accordance with the standard?

Yes No Questionable

If questionable, explain: _____

3.5 Pressure and Temperature Variation Test

Was the device installed in accordance with Figure 1? Yes No Questionable

If questionable, explain: _____

What type of thermocouples were used for the test, and what was the response rate detect the 63.2% of step change?

T1: Type J or Type T

Response Time: _____ seconds

T2: Type J or Type T

Response Time: _____ seconds

T3: Type J or Type T

Response Time: _____ seconds

The sampling rate for T3 was: _____ hertz

In compliance? Yes No Questionable

If questionable, explain: _____

3.5.2 Type P Devices

Section 3.5.2.1

Incoming cold water supply pressure: _____ psi (_____ kPa)

Incoming hot water supply pressure: _____ psi (_____ kPa)

Incoming cold water temperature: _____ °F (_____ °C)

Incoming hot water temperature: _____ °F (_____ °C)

Outlet temperature at T3: _____ °F (_____ °C)

Flow rate: _____ GPM (_____ L/min)

Section 3.5.2.2

Decrease the hot water supply pressure by 50%. What is the adjusted hot water supply pressure? _____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.2.1.

Increase the hot water supply pressure by 50%. What is the adjusted hot water supply pressure? _____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.2.1.

Decrease the cold water supply pressure by 50%. What is the adjusted cold water supply pressure? _____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.2.1.

Increase cold water supply pressure by 50%. What is the adjusted cold water supply pressure?

_____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.2.1.

During the first five (5) seconds following each pressure change, was there any temperature spike greater than $\pm 3.6^\circ\text{F}$ ($\pm 2.0^\circ\text{C}$) from the initial outlet set temperature that lasted more than one (1) second when measured at the $\pm 3.6^\circ\text{F}$ ($\pm 2.0^\circ\text{C}$) line as noted in Figure 3?

Yes No

After the initial five (5) seconds following each pressure change, was there any temperature variation at T3 greater than $\pm 3.6^\circ\text{F}$ ($\pm 2.0^\circ\text{C}$) from the initial set temperature?

Yes No

In compliance?

Yes No Questionable

If questionable, explain:

3.5.4 Type T Devices

3.5.4.1 Initial Set Conditions:

Incoming cold water supply pressure: _____ psi (_____ kPa)

Incoming hot water supply pressure: _____ psi (_____ kPa)

Incoming cold water temperature: _____ $^\circ\text{F}$ (_____ $^\circ\text{C}$)

Incoming hot water temperature: _____ $^\circ\text{F}$ (_____ $^\circ\text{C}$)

Outlet temperature at T3: _____ $^\circ\text{F}$ (_____ $^\circ\text{C}$)

Flow rate: _____ GPM (_____ L/min)

Section 3.5.2.2

Decrease the hot water supply pressure by 20%. What is the adjusted hot water supply pressure? _____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.4.1.

Increase the hot water supply pressure by 20%. What is the adjusted hot water supply pressure? _____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.4.1.

Decrease the cold water supply pressure by 20%. What is the adjusted cold water supply pressure? _____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.4.1.

Increase cold water supply pressure by 20%. What is the adjusted cold water supply pressure?

_____ psi (_____ kPa)

The test duration was for _____ seconds.

Restore conditions as recorded in Section 3.5.4.1.

Increase the hot water supply temperature by $25.0^\circ\text{F} \pm 1.0^\circ\text{F}$ ($13.8^\circ\text{C} \pm .6^\circ\text{C}$) at a rate of $5.0^\circ\text{F} \pm 1.0^\circ\text{F}$ ($3.0^\circ\text{C} \pm .6^\circ\text{C}$) per minute.

What is the adjusted hot water temperature? _____ $^\circ\text{F}$ (_____ $^\circ\text{C}$)

The test duration was for _____ seconds.

During the first five (5) seconds following each pressure change, was there any temperature spike greater than ± 5.4 °F (± 3.0 °C) from the initial outlet set temperature that lasted more than one and one-half (1.5) second when measured at the ± 5.4 °F (± 3.0 °C) line as noted in Figure 4? 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 and one-half (1.5) seconds when measured at the -9.0 °F (-5.0 °C) line as noted in Figure 4? 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:

3.5.6 Type T/P Devices

Submit test data per Sections 3.5.2.1, 3.5.2.2, 3.5.4.1 and 3.5.4.2 and the criteria information per Section 3.5.3 for Type P devices and 3.5.5 for Type T devices.

In compliance? Yes No Questionable

If questionable, explain: _____

3.6 Cold Water Supply Failure Test, All Types

What was the incoming cold water supply pressure? _____ psi (_____ kPa)

What was the incoming hot water supply pressure? _____ psi (_____ kPa)

What was the incoming cold water supply temperature? _____ °F (_____ °C)

What was the incoming hot water supply temperature? _____ °F (_____ °C)

What was the outlet temperature at T3? _____ °F (_____ °C)

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

Upon cold water failure, state the time required for the flow rate to drop to 0.5 GPM (1.9 L/min) seconds.

Did the outlet temperature at T3 exceed 120.0 °F (48.9 °C) prior to the reduction of flow to 0.5 GPM (1.9 L/min)? Yes No

In compliance? Yes No Questionable

If questionable, explain: _____

3.7 Outlet Temperature and Flow Capacity Test

What was the incoming cold water supply pressure? _____ psi (_____ kPa)

What was the incoming hot water supply pressure? _____ psi (_____ kPa)

What was the flow rate: _____ GPM (_____ L/min)

Section 3.7.2.a

What was the incoming cold water supply temperature? _____ °F (_____ °C)

What was the incoming hot water supply temperature? _____ °F (_____ °C)

With the device adjusted to the minimum outlet temperature, what was the outlet temperature? _____ °F (_____ °C)

With the device adjusted to the minimum outlet temperature, what was the outlet flow?

_____ GPM (_____ L/min)

Did the outlet temperature at T3 obtain 100.0 °F (37.7 °C)? Yes No

Section 3.7.2.b

What was the incoming cold water supply temperature? _____ °F (_____ °C)

What was the incoming hot water supply temperature? _____ °F (_____ °C)

Maintain the device at the minimum outlet temperature. Adjust the device to the full hot position outlet temperature.

What was the outlet temperature? _____ °F (_____ °C)

What was the outlet flow? _____ GPM (_____ L/min)

Did the outlet temperature at T3 exceed 120.0 °F (48.9 °C)? Yes No

Section 3.7.2.c

What was the incoming cold water supply temperature? _____ °F (_____ °C)

What was the incoming hot water supply temperature? _____ °F (_____ °C)

Maintain the device at the minimum outlet temperature. Adjust the device to the full hot position outlet temperature.

What was the outlet temperature? _____ °F (_____ °C)

What was the outlet flow? _____ GPM (_____ L/min)

Did the outlet temperature at T3 exceed 120.0 °F (48.9 °C)? Yes No

Section 3.7.2.d

What was the incoming cold water supply temperature? _____ °F (_____ °C)

What was the incoming hot water supply temperature? _____ °F (_____ °C)

Maintain the device at the minimum outlet temperature.

What was the outlet temperature? _____ °F (_____ °C)

What was the outlet flow? _____ GPM (_____ L/min)

Did the outlet temperature at T3 exceed 120.0 °F (48.9 °C)? Yes No

Did the device maintain a minimum flow rate of 2.25 GPM (8.5 L/min) throughout this test?

Yes No

Did the device limit the outlet temperature to 120.0°F (48.9°C) or less throughout this test?

Yes No

Was the device adjustable from the cold position up to a minimum of 100.0°F (37.8°C) outlet water temperature?

Yes No

In compliance?

Yes No Questionable

If questionable, explain: _____

TESTING AGENCY _____

ADDRESS _____

PHONE: _____ FAX: _____

TEST ENGINEER(S) _____

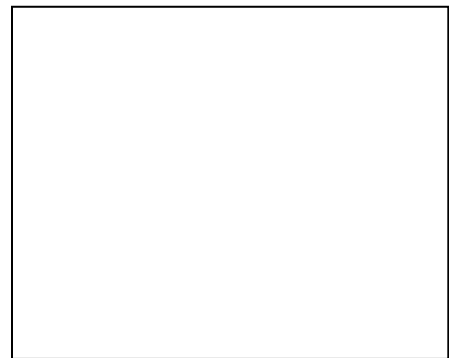
We certify that the evaluations are based on our best judgments and that the test data recorded is an accurate record of the performance of the device on test.

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