

**ASSE International
Product (Seal) Listing Program**

ASSE 1082-2018
Performance Requirements for Water Heaters with Integral Temperature Control
Devices for Hot Water Distribution Systems

Manufacturer: _____

Contact Person: _____ **E-mail:** _____

Address: _____

Laboratory: _____ **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 sample? _____

Were all tests performed at the selected laboratory? Yes No

If offsite, identify location: _____

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 Control Board. The Seal Control 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 I

1.0 General

1.1 Application

Does the device meet the application?

Yes No Questionable

If questionable, explain: _____

1.2 Scope

1.2.1 Description

Does this device conform to the product described in the standard?

Yes No Questionable

If no or questionable, explain: _____

1.2.2 Maximum Working Pressure

Does the device comply with the following (check all those that apply):

- ASME Boiler and Pressure Vessel Code
- UL 174
- UL 499
- UL 1453
- ANSI Z21.10.1 / CSA 4.1
- ANSI Z21.10.3 / CSA 4.3
- Other

If "Other", explain: _____

What is the maximum working pressure of the device? _____ psi (_____ kPa)

1.2.3 Inlet Water Temperature Range

What is the cold water inlet temperature range of the device? _____ °F to _____ °F
(_____ °C to _____ °C)

1.2.4 Outlet Water Temperature Range

What is the adjustable hot water setpoint temperature range of the device? _____ °F to
_____ °F (_____ °C to _____ °C)

1.2.5 Maximum Flow Rates

Were the maximum flow rates of the water heater at given temperature rises provided on the technical datasheet?

Yes No Questionable

If no or questionable, explain: _____

Attach a copy of the technical datasheet to the end of this report.

Section II

2.0 Test specimens

2.1 Samples Submitted for Test

How many samples were submitted by the manufacturer? _____

2.2 Samples Tested

How many models were selected for testing? _____

2.3 Drawings

Were assembly drawings, installation instructions, and other necessary data submitted with the device?

- Yes No Questionable

If no or questionable, explain: _____

Section III

3.0 Performance Requirements and Compliance Testing

3.1 Maximum Flow and Conditioning Test

3.1.2 Procedure

1. What was the flowing pressure at P1? _____ psi (_____ kPa)
What was the supply water temperature? _____°F (_____°C)
2. What was the water heater's controls setpoint temperature adjusted to?
_____°F (_____°C)
4. What was the maximum flow rate? _____ GPM (_____ L/min)
What was the temperature at T1? _____°F (_____°C)
What was the temperature at T2? _____°F (_____°C)
What was the pressure at P1? _____ psi (_____ kPa)
What was the pressure at P2? _____ psi (_____ kPa)
5. How long was water flowed for this section of the test? _____ minutes
What was the temperature at T1? _____°F (_____°C)
What was the maximum temperature variation from the initial output temperature at T2? ± _____°F (± _____°C)

3.1.3 Criteria

Were there any leaks or indication of change in the physical geometry of the materials?

- Yes No Questionable

If yes or questionable, explain _____

Is the device in compliance with this section?

- Yes No Questionable

If no or questionable, explain _____

3.2 Temperature Control Test – Steady State Conditions

3.2.2 Procedure

1. What was the flowing pressure at P1? _____ psi (_____ kPa)
What was the supply water temperature? _____°F (_____°C)
What was the water heater's controls setpoint temperature adjusted to?
_____°F (_____°C)
2. How long was water flowed for? _____ minutes
What was the flow rate? _____ GPM (_____ L/min)
What was the temperature at T1? _____°F (_____°C)
What was the temperature at T2? _____°F (_____°C)
What was the pressure at P1? _____ psi (_____ kPa)
What was the pressure at P2? _____ psi (_____ kPa)
3. What was the flow rate? _____ GPM (_____ L/min)
How long was water flowed for after the flow rate was reduced? _____ minutes
What was the temperature at T1? _____°F (_____°C)
What was the temperature at T2? _____°F (_____°C)

What was the pressure at P1? _____ psi (_____ kPa)

What was the pressure at P2? _____ psi (_____ kPa)

4. What was the temperature at T2 after closing V1 and waiting 1 minute?
_____ °F (_____ °C)

How long did the unit remain in standby model before closing valve V2?
_____ minutes

Repeat Section 3.2.2 with a supply temperature of 100°F (37.8°C):

3.2.2 Procedure

1. What was the flowing pressure at P1? _____ psi (_____ kPa)

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

What was the water heater's controls setpoint temperature adjusted to?
_____ °F (_____ °C)

2. How long was water flowed for? _____ minutes

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

What was the temperature at T1? _____ °F (_____ °C)

What was the temperature at T2? _____ °F (_____ °C)

What was the pressure at P1? _____ psi (_____ kPa)

What was the pressure at P2? _____ psi (_____ kPa)

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

How long was water flowed for after the flow rate was reduced? _____ minutes

What was the temperature at T1? _____ °F (_____ °C)

What was the temperature at T2? _____ °F (_____ °C)

What was the pressure at P1? _____ psi (_____ kPa)

What was the pressure at P2? _____ psi (_____ kPa)

4. What was the temperature at T2 after closing V1 and waiting 1 minute?

_____ °F (_____ °C)

How long did the unit remain in standby model before closing valve V2?
_____ minutes

3.2.3 Criteria

What was the maximum temperature variation from the initial output temperature at T2?
± _____ °F (± _____ °C)

Were there any observable faults related to high temperature?

Yes No Questionable

If yes or questionable, explain _____

Was there a bleeding temperature relief valve?

Yes No Questionable

If yes or questionable, explain _____

Is the device in compliance with this section?

Yes No Questionable

If no or questionable, explain _____

Section IV

4.0 Detailed Requirements

4.1 Materials

Do the fittings comply with the applicable requirements of NSF/ANSI 61?

Yes No Questionable

If no or questionable, explain _____

Is this device intended for contact with potable water?

Yes No Questionable

If questionable, explain _____

What is the maximum lead content of the solders and fluxes in contact with potable water used in the device? _____%

What is the maximum lead content of the metal alloys in contact with potable water used in the device? _____%

Is this device intended to convey or dispense water for human consumption through drinking or cooking?

Yes No Questionable

If questionable, explain _____

What is the weighted average lead content of the device? _____%

4.2 Installation and Maintenance Instructions

Were instructions for installing, adjusting, and maintaining the water heater included by the manufacturer?

Yes No Questionable

If questionable, explain _____

State the information given on either the packaging or manufacturer's installation instructions except item f). For item f), state whether this was provided:

- a) Water heater connection size: _____
- b) Input and output temperature range or maximum setting: _____
- c) Maximum working pressure: _____
- d) Maximum flow rate at the minimum temperature rise: _____
- e) Minimum flow rate at the maximum temperature rise: _____
- f) Procedures for adjusting the setpoint temperature of the water heater: _____
- g) Maximum flow rate at a +70°F (+39°C) temperature rise: _____
- h) Pressure drop at the maximum flow rate: _____

Do the instructions indicate that the installation and field adjustment of the water heat are the responsibility of the installer and shall be carried out in accordance with the manufacturer's instructions?

Yes No Questionable

If no or questionable, explain _____

Are internal controlling components accessible for repair and/or replacement without disturbing the pipe connections?

Yes No Questionable

If questionable, explain _____

4.3 Identification and Markings

Does the water heater conform to the labelling requirements of the applicable water heater standards?

Yes No Questionable

If no or questionable, explain _____

LISTED LABORATORY: _____

ADDRESS: _____

PHONE: _____ FAX: _____

TEST ENGINEER(S): _____

If applicable:

OUTSOURCED LABORATORY: _____

ADDRESS: _____

PHONE: _____ FAX: _____

TEST ENGINEER(S): _____

Scope of outsourced testing: _____

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 listed laboratory: _____

Signature

Title of the official: _____ Date: _____