

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

**Laboratory Evaluation Report for:  
Backflow Preventer for Beverage Dispensing Equipment**

Tested under ASSE Standard 1022 • ASSE: 2003 • ANSI: 2003

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

Manufacturer \_\_\_\_\_

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

Address \_\_\_\_\_

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

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

Size \_\_\_\_\_

Connections (screwed, flanged, etc.) \_\_\_\_\_

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 \_\_\_\_\_

## Section I

### 1.0 General

1.1 Application. Does this device, as stated by the manufacturer, comply with this section?

- Yes  
 No  
 Questionable

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

1.2.1 Description. Does the device conform to the product classified as a backflow preventer?

- Yes  
 No  
 Questionable

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

1.2.2 Minimum Flow. What is the minimum flow rate of the device at a maximum pressure of 15 p.s.i. (103.4 kPa)? \_\_\_\_\_ gpm (\_\_\_\_\_ L/min.)

1.2.3 Inlet and Outlet Connections.

What is the inlet connection? \_\_\_\_\_ in. (\_\_\_\_\_ mm)

What is the outlet connection? \_\_\_\_\_ in. (\_\_\_\_\_ mm)

1.2.4 Pressure Range. What is the maximum working pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

What is the minimum working pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

In compliance?

- Yes  
 No  
 Questionable

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

1.2.5 Temperature Range. \_\_\_\_\_ °F to \_\_\_\_\_ °F (\_\_\_\_\_ °C to \_\_\_\_\_ °C)

In compliance?

- Yes  
 No  
 Questionable

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

## Section II

### 2.0 Test Specimens

- 2.1 How many devices of each size and model were submitted? \_\_\_\_\_
- 2.2 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 Were assembly drawings and other data provided?  Yes  No  
Were these reviewed by the laboratory personnel?  Yes  No

## Section III

### 3.0 Performance Requirements and Compliance Testing

#### 3.1 Hydrostatic Pressure

What was the supply pressure at the inlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

Were there any external leaks or damage to the device?

- Yes  
 No  
 Questionable

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

#### 3.2 Hydrostatic Tests of Check Valves

What was the pressure applied to the downstream side of each check valve individually?

\_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

Were there any leaks or rise in the water level of the sight glass?  Yes

- No  
 Questionable

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

**3.3 Atmospheric Port Leakage**

**Low Pressure:**

What was the pressure shown on gauge #2? \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)

What was the flow rate? \_\_\_\_\_ gpm ( \_\_\_\_\_ L/s)

The test period was \_\_\_\_\_ minutes

**High Pressure:**

What was the pressure shown on gauge #2? \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)

What was the flow rate? \_\_\_\_\_ gpm ( \_\_\_\_\_ L/s)

The test period was \_\_\_\_\_ minutes

Was there any leakage from the atmospheric port?

- Yes
- No
- Questionable

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

**3.4 Water Flow Test**

What was the rated flow? \_\_\_\_\_ gpm ( \_\_\_\_\_ L/s)

What was the pressure drop? \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)  
In compliance?

- Yes
- No
- Questionable

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

**3.5 Deterioration at Extremes of Manufacturer's Rated Temperature and Pressure**

**Ranges**

Hot water tested at \_\_\_\_\_ °F ( \_\_\_\_\_ °C). How long was the test period? \_\_\_\_\_ hours.

What was the rated flow? \_\_\_\_\_ gpm ( \_\_\_\_\_ L/s)

Supply Pressure: \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)

Cold water tested at \_\_\_\_\_ °F ( \_\_\_\_\_ °C). How long was the test period? \_\_\_\_\_ hours.

What was the rated flow? \_\_\_\_\_ gpm ( \_\_\_\_\_ L/s)

Supply Pressure: \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)  
In compliance?

- Yes
- No
- Questionable

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

**3.6 Check Valve Sealing Pressure**

**Upstream Check Valve:**

The test period was \_\_\_\_\_ minutes

Water column level? \_\_\_\_\_ in. (\_\_\_\_\_ mm)  
In compliance

- Yes
- No
- Questionable

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

**Downstream Check Valve:**

The test period was \_\_\_\_\_ minutes

Water column level? \_\_\_\_\_ in. (\_\_\_\_\_ mm)  
In compliance?

- Yes
- No
- Questionable

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

**3.7 Endurance and Cycle Testing**

What was the pre-conditioning temperature? \_\_\_\_\_ °F ( \_\_\_\_\_ °C)

Submerged time was \_\_\_\_\_ minutes.

(a) What was the temperature for this portion of the test? \_\_\_\_\_ °F ( \_\_\_\_\_ °C)

What was the supply pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa).

(b) What was the back pressure for this portion of the test? \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)

At a two (2) seconds per cycle, what was the total cycles completed?

\_\_\_\_\_ Cycles

Was there any leakage from the atmospheric port opening during the test?  Yes  No  
Did the device comply with these sections?

- Yes
- No
- Questionable

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

**3.8 Atmospheric Port-Opening Pressure**

**Low Pressure:**

What was the inlet pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

What was outlet pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

At what differential pressure did the atmospheric port open? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

**Intermediate Pressure:**

What was the inlet pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

What was outlet pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

At what differential pressure did the atmospheric port open? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

**High Pressure:**

What was the inlet pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

What was outlet pressure? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

At what differential pressure did the atmospheric port open? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)  
In compliance?

- Yes
- No
- Questionable

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

**3.9 Check Valve Leakage**

**Downstream Check Valves: Low Pressure**

What pressure was applied to the outlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

**Downstream Check Valves: Intermediate Pressure**

What pressure was applied to the outlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

**Downstream Check Valves: High Pressure**

What pressure was applied to the outlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

**Upstream Check Valves: Low Pressure**

What pressure was applied to the outlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

**Upstream Check Valves: Intermediate Pressure**

What pressure was applied to the outlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.

**Upstream Check Valves: High Pressure**

What pressure was applied to the outlet? \_\_\_\_\_ p.s.i. (\_\_\_\_\_ kPa)

The test period was for \_\_\_\_\_ minutes.  
Were there any leaks?

- Yes
- No
- Questionable

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

**Section IV**

**4.0 Detailed Requirements**

**4.1 Materials and Toxicity**

Do the polymers and elastomers that come in contact with potable water comply with any of the following:

- a) US Code of Federal Regulations (CFR)
- b) NSF Standard 61
- c) Certified as non-toxic materials by independent approved testing agency.

4.2.1 Metal to Metal Seating. In compliance?

- Yes     No
- Yes
- No
- Questionable

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

4.2.2 Atmospheric Vent Port(s). In compliance?

- Yes
- No
- Questionable

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

4.2.3.1 Pipe Threads. In compliance?

- Yes
- No
- Questionable

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

4.2.33 Female Pipe Threaded Connections. Is the construction of the device such that it is impossible to run a pipe into the connections far enough to restrict the flow through the device or interfere with the working parts?

- Yes
- No
- Questionable

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

**4.3 Markings.**

Identify the following markings on the device:

(a) Name of manufacturer of trademark \_\_\_\_\_

(b) Type and model number \_\_\_\_\_

(c) Maximum rated working pressure \_\_\_\_\_ p.s.i. ( \_\_\_\_\_ kPa)

(d) Maximum rated water temperature \_\_\_\_\_ °F ( \_\_\_\_\_ °C)

(e) The direction of flow \_\_\_\_\_

Would these markings be visible in the installed position?

- Yes
- No
- Questionable

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

How were the markings shown on the assembly? \_\_\_\_\_

4.4 Instructions. Were instructions furnished with the assembly that included illustrations, installation, operations and maintenance?

- 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