ASSE International
Product (Seal) Listing Program

ASSE 1022-2021
Performance Requirements for Backflow Preventer for Beverage Dispensing Equipment

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 Minimum Flow

What is the Device Type?

❍ Device A ❍ Device B ❍ Device C

1.2.3 Inlet and Outlet Connections

What is the size of the inlet and outlet connections? _____ inch (_____ DN)

1.2.4 Pressure Range

Pressure range of the device: _____ psi to _____ psi (_____ kPa to _____ kPa)

1.2.5 Temperature Range

Temperature range of the device: _____°F to _____°F (_____°C to _____°C)

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 Hydrostatic Pressure

3.1.2 Procedure

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

How long was water run for? _____ minutes

What pressure was the device pressurized to? _____ psi (_____ kPa)

How long was the pressure held for? _____ minutes

3.1.3 Criteria

Was there any indication of leakage?

❍ 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 Hydrostatic Test of Check Valves

3.2.2 Procedure

3.2.2.1. Downstream Check Valve

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

What pressure was the device pressurized to? _____ psi (_____ kPa)

How long was the pressure held for? _____ minutes

Was there any indication of leakage at the atmospheric port?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

3.2.2.2. Upstream Check Valve

What pressure was the device pressurized to? _____ psi (_____ kPa)

How long was the pressure held for? _____ minutes

Was there any indication of leakage out of the inlet of the device?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

3.2.3 Criteria

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

3.3 Atmospheric Port Leakage

3.3.2 Procedure – Step 1

What was the pressure maintained at Gauge #1? _____ psi (_____ kPa)

How long was the pressure held for? _____ minutes

3.3.3 Procedure – Step 2

What was the pressure maintained at Gauge #1? _____ psi (_____ kPa)

How long was the pressure held for? _____ minutes

3.3.4 Criteria

Was there any indication of leakage from the atmospheric port?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

3.4 Water Flow Test

3.4.2 Procedure

What pressure drop was attained? _____ psi (_____ kPa)
What flow rate was reached? _____ GPM (_____ L/s)

3.4.3 Criteria

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

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

3.5.2 Procedure

What was the water temperature used for this test? _____°F (_____°C)
What was the water pressure used for this test? _____ psi (_____ kPa)
What was the flow rate used for this test? _____ GPM (_____ L/s)
How many total hours was the water circulated through the device? _____ hours

On completion of this test, what was the water temperature reduced to? _____°F (_____°C)
What was the water pressure? _____ psi (_____ kPa)
How many hours was the water circulated through the device? _____ hours

3.6 Check Valve Sealing Pressure

3.6.2 Procedure

3.6.2.1. Upstream Check Valve

What was the pressure in the water column/pressure gauge? _____ psi (_____ kPa)
How long was pressure held for? _____ minutes
Was there any leakage from the outlet after that time?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____
Was there any loss in pressure below 14.0 inches (356 mm) of water?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

3.6.2.2. Downstream Check Valve

What was the pressure in the water column/pressure gauge? _____ psi (_____ kPa)
How long was pressure held for? _____ minutes
Was there any leakage from the outlet after that time?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____
Was there any loss in pressure below 14.0 inches (356 mm) of water?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

3.6.3 Criteria

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

3.7 Endurance and Cycle Testing

3.7.2 Procedure

What was the temperature of the water that the device was submerged in? _____°F (_____°C)

How long was the device submerged in water? _____ minutes

3.7.2.1.

Open Solenoid Valve, S2 to atmosphere.

What was the flow rate used for this test? _____ GPM (_____ L/s)

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

What was the flowing pressure used for this test?

_____ psi (_____ kPa) from Solenoid Valve, S1

3.7.2.2.

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

What was the backpressure used for this test?

_____ psi (_____ kPa) from Solenoid Valve, S3

How many cycles were completed? _____ cycles

How long was each cycle? _____ seconds

Number of pressure spikes above 210.0 psi (1448 kPa): _____ pressure spikes

3.7.3 Criteria

Was there any leakage from the atmospheric port?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

3.8 Atmospheric Port-Opening Pressure

3.8.2 Procedure

What was the outlet pressure? _____ psi (_____ kPa)

When air discharge was observed from the atmospheric port in the form of bubbles, what was the:

Inlet pressure? _____ psi (_____ kPa)

Outlet pressure? _____ psi (_____ kPa)

Repeat the test with the inlet pressure at 75.0 psi (517 kPa).

What was the outlet pressure? _____ psi (_____ kPa)

When air discharge was observed from the atmospheric port in the form of bubbles, what was the:

Inlet pressure? _____ psi (_____ kPa)

Outlet pressure? _____ psi (_____ kPa)

Repeat the test with the inlet pressure at 150.0 psi (1034 kPa) or the manufacturer's maximum rated working pressure, whichever is greater.

What was the outlet pressure? _____ psi (_____ kPa)

When air discharge was observed from the atmospheric port in the form of bubbles, what was the:
Inlet pressure? _____ psi (_____ kPa)
Outlet pressure? _____ psi (_____ kPa)

3.8.3 Criteria
Is the device in compliance with this section?
❍ Yes ❍ No ❍ Questionable
If no or questionable, explain _____

3.9 Check Valve Leakage

3.9.2 Procedure

3.9.2.1. Downstream Check Valve
The open inlet of the device was submerged _____ inches (_____ mm).
What was the backpressure on the downstream check raised to? _____ psi (_____ kPa)
How long was this backpressure held for? _____ minutes
Was there any air leakage at the inlet?
❍ Yes ❍ No ❍ Questionable
If yes or questionable, explain _____

Repeat at a backpressure of 5.0 psi (35 kPa).
The open inlet of the device was submerged _____ inches (_____ mm).
What was the backpressure on the downstream check raised to? _____ psi (_____ kPa)
How long was this backpressure held for? _____ minutes
Was there any air leakage at the inlet?
❍ Yes ❍ No ❍ Questionable
If yes or questionable, explain _____

Repeat at a backpressure of 200.0 psi (1379 kPa) or the manufacturer's maximum rated working pressure, whichever is greater.
The open inlet of the device was submerged _____ inches (_____ mm).
What was the backpressure on the downstream check raised to? _____ psi (_____ kPa)
How long was this backpressure held for? _____ minutes
Was there any air leakage at the inlet?
❍ Yes ❍ No ❍ Questionable
If yes or questionable, explain _____

3.9.2.2. Upstream Check Valve
The open inlet of the device was submerged _____ inches (_____ mm).
What was the backpressure on the downstream check raised to? _____ psi (_____ kPa)
How long was this backpressure held for? _____ minutes
Was there any air leakage at the inlet?
❍ Yes ❍ No ❍ Questionable
If yes or questionable, explain _____

Repeat at a backpressure of 5.0 psi (35 kPa).
The open inlet of the device was submerged _____ inches (_____ mm).
What was the backpressure on the downstream check raised to? _____ psi (_____ kPa)
How long was this backpressure held for? _____ minutes

Was there any air leakage at the inlet?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

Repeat at a backpressure of 200.0 psi (1379 kPa) or the manufacturer's maximum rated working pressure, whichever is greater.

The open inlet of the device was submerged _____ inches (_____ mm).

What was the backpressure on the downstream check raised to? _____ psi (_____ kPa)

How long was this backpressure held for? _____ minutes

Was there any air leakage at the inlet?

❍ Yes ❍ No ❍ Questionable

If yes or questionable, explain _____

3.9.3 Criteria

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 and Toxicity

What is the lead content, by mass, of the solder and fluxes in contact with potable water? _____%

If compliance is known for the polymers and elastomers in contact with potable water, state the certification bodies and certificate/file numbers as appropriate: _____

_____

_____

_____

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

4.2 Design and Constructions

4.2.1 Corrosion of Interior Parts

Do the metal parts (except springs) in contact with the water flowing through the device have a corrosion resistance equal to a copper allow of not less than fifty-eight percent (58%) copper?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

4.2.1.a

Are any copper and copper alloys used downstream of the upstream check sealing area, inclusive of the seal?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If yes or questionable, explain _____

4.2.2 Metal to Metal Seating

Is there any metal-to-metal seating of check valves and ports?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If yes or questionable, explain _____

Is the seat or valve disc, or both, made of elastomeric material having a hardness not exceeding 90 durometer, Shore A, when tested in accordance with ASTM D2240?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

4.2.3 Springs

Do the springs in contact with the water flowing through the device have a corrosion resistance at least equal to chrome nickel stainless steel, Series 300?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

4.2.4 Atmospheric Vent Port(s)

Does the atmospheric vent port have provision for direct connection through a sight tube for the purpose of extending the vent to an approved air-gapped termination and giving a visible indication of any discharge from the device?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

4.2.5 Threads and Other Connections

4.2.5.1. Pipe Threads

Do the pipe threads comply with ASME B1.20.1?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

4.2.5.2. Dryseal Threads

Do the dryseal threads comply with ASME B1.20.3?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

4.2.5.3. Female Pipe Threaded Connections

Are the female pipe threaded connections constructed such that it is impossible to run a pipe into the connection far enough to restrict the flow through the device or interfere with working parts?

❍ Yes ❍ No ❍ Questionable ❍ N/A

If no or questionable, explain _____

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

4.3 Markings

4.3.1

State the information given on the product:

Name or trademark of manufacturer: _____

Type or model number of the device: _____

Maximum rated working pressure: _____

Maximum rated working temperature: _____

Direction of normal flow: _____

4.3.2

How were the markings applied to the body of the device? _____

Is the device in compliance with this section?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain _____

4.4 Installation Instructions

4.4.1

Were complete instructions for installation, operation, and maintenance supplied with the device?

❍ Yes ❍ No ❍ Questionable

If no or questionable, explain: _____

4.4.2

Were these statements found in the installation instructions?

a) Correct installed position to enable proper venting
b) Venting recommendation
c) A prohibition on the use of copper tubing downstream of the device when used in carbonated beverage dispensers

❍ 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: _____