American Society of Sanitary Engineering

PRODUCT (SEAL) LISTING PROGRAM

ASSE STANDARD #1015 - REVISED: 2011

Double Check Backflow Prevention Assemblies and Double Check Fire Protection Backflow Prevention Assemblies

Separate, complete laboratory evaluation report forms for each alternate orientation much be submitted to ASSE for review.

MANUFACTURER: _____

CONTACT PERSON: _____ **E-MAIL:** _____

ADDRESS: _____

LABORATORY FILE NUMBER: _____

MODEL # TESTED: _____

MODEL SIZE: _____

ADDITIONAL MODELS REPORT APPLIES TO: _____

ADDITIONAL MODEL INFORMATION (i.e. orientation, series, end connections, shut-off valves): ○ DC ○ DCF

_____ ○ HORIZONTAL

DATE MODELS RECEIVED BY LABORATORY: _____ ○ VERTICAL FLOW UP

DATE TESTING BEGAN: _____ ○ VERTICAL FLOW DOWN

DATE TESTING WAS COMPLETED: _____ **OTHER** ○ _____

IF MODELS WERE DAMAGED DURING SHIPMENT, DESCRIBE DAMAGES: _____

PROTOTYPE OR PRODUCTION: _____

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 Board. The Seal 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 1

1.0 General

1.1 Does the purpose of this device agree with that of the standard? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

NOTE: This standard applies to single as well as manifold assemblies.

1.2.1 Description

Does the device conform to the product described in the standard? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

1.2.2 Size _____inches (_____ mm)

1.2.3 Rated Pressure

What is the minimum working pressure as noted by the manufacturer?

_____ psi (_____kPa)

What is the maximum working pressure as noted by the manufacturer?

_____ psi (_____kPa)

NOTE: DC and DCF devices have different pressure requirements

1.2.4 Temperature range as noted by the manufacturer:

_____ °F to _____ °F (_____ °C to _____ °C)

1.3.2.1 Were female pipe threaded connections so constructed that it would not be possible to run a pipe into them far enough to restrict the flow through the assembly or interfere with working parts? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

1.3.2.2 Is the assembly repairable and seats replaceable without removing the assembly from the line? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

1.3.2.4 Were test cocks properly located? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

1.3.2.5 List the inlet and outlet thread size(s) for the test cocks.

Inlet thread size: _____inches (_____ mm)

Outlet thread size: _____inches (_____ mm)

1.3.2.6 State the manufacturer size and model number of all shut-off valves tested with the device:

_____

Was the assembly equipped with an air gap device? ○ Yes ○ No

If yes, did it comply with ASME A112.1.3? ○ Yes ○ No

SECTION II

2.0 Test Specimens

2.1 State the quantity of units provided for the evaluation of the orientation requested. _____

2.2 How many units were utilized during the laboratory evaluation?_____

2.3 Drawings

Were assembly drawings, installation drawings and other technical data which are needed to enable a testing agency to determine compliance with this standard submitted with the assembly?
○ Yes ○ No

Were these drawings reviewed in the laboratory? ○ Yes ○ No

Alternate Orientation:

Has an alternate orientation, other than that marked on page 1 of this laboratory evaluation report form been requested? ○ Yes ○ No

If yes, were the required additional samples submitted per Section 2.1? ○ Yes ○ No

NOTE: Separate, complete laboratory evaluation report forms must be submitted for each alternate orientation. The correct number of devices specified in the standard for each intended orientation must be submitted to the testing facility for evaluation to this standard.

2.4 Manifold Assembly

Is this a manifold assembly type backflow preventer? ○ Yes ○ No

If yes, were the individual devices that constitute the manifold tested to each section of the standard in their intended orientation based on the pipe size for each individual assembly?
○ Yes ○ No ○ Questionable

If questionable, explain: _____

SECTION III

3.0 Performance Requirements and Compliance Testing

3.1 Independence of Components

How was the independence of components verified?
○ Drawing Review
○ Physical cycling of components
○ Other _____

In Compliance? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

3.2 Hydrostatic Test of Complete Device

The assembly was pressurized to: _____ psi (_____ kPa)

The test period was for: _____ minutes

Were there any external leaks from the assembly? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

3.3 Seat Leakage Test for Shut-Off Valves

What was the pressure applied to the inlet side of the #1 shut-off valve?
_____ psi (_____ kPa)

How long was the pressure held? _____ minutes

What was the pressure applied to the outlet side of the #1 shut-off valve?
_____ psi (_____ kPa)

How long was the pressure held? _____ minutes

Was the sealing mechanism different between the #1 shut-off valve and the #2 shut-off valve?
○ Yes ○ No

If yes:
What was the pressure applied to the inlet side of the #2 shut-off valve?
_____ psi (_____ kPa)
How long was the pressure held? _____ minutes

What was the pressure applied to the outlet side of the #2 shut-off valve?
_____ psi (_____ kPa)
How long was the pressure held? _____ minutes
Was there any leakage from the shut-off valve(s)? ○ Yes ○ No

3.4 Hydrostatic Backpressure Test of Checks

What was the pressure applied to the downstream side of the first check valve?
_____ psi (_____ kPa)
What was the pressure on the upstream side? _____ psi (_____ kPa)
The test period was for _____ minutes

What was the initial height of water in the sight glass in test cock #2?
_____ inches (_____ mm)
What was the final height of water in the sight glass in test cock #2?
_____ inches (_____ mm)

What was the pressure applied to the downstream side of the second check valve?
_____ psi (_____ kPa)
What was the pressure on the upstream side? _____ psi (_____ kPa)
The test period was for _____ minutes

What was the initial height of water in the sight glass in test cock #3?
_____ inches (_____ mm)
What was the final height of water in the sight glass in test cock #3?
_____ inches (_____ mm)

3.5 Allowable Pressure Loss at Rated Flow For DC Assemblies

Was the assembly installed per Figure 1? ○ Yes ○ No
If no, explain: _____

What was the rated water flow for the assembly? _____ GPM (_____ L/s)
What was the supply pressure used for this test? _____ psi (_____ kPa)
What pressure loss through the piping system (if any) was deducted?
_____ psi (_____ kPa)

For DCF Assemblies

Was the assembly installed per Figure 1? ○ Yes ○ No
If no, explain: _____

What was the rated water flow for the assembly? _____ GPM (_____ L/s)
What was the supply pressure used for this test? _____ psi (_____ kPa)
What pressure loss through the piping system (if any) was deducted?
_____ psi (_____ kPa)

For DCF Assemblies & Manifold DCF Assemblies

What was the pressure loss observed at flows of:

GPM	L/s	psi	(kPa)
05.0	0.32	_____	_____
10.0	0.63	_____	_____
15.0	0.95	_____	_____
20.0	1.26	_____	_____
25.0	1.58	_____	_____
30.0	1.89	_____	_____
35.0	2.21	_____	_____
40.0	2.52	_____	_____
45.0	2.84	_____	_____
50.0	3.15	_____	_____

Rated Flow

150% of Rated Flow for DCF and manifold assemblies _____ psi (_____kPa)
200% of Rated Flow for DCF and manifold assemblies _____ psi (_____kPa)
What was the maximum pressure loss observed at flows from (0) GPM to rated flow (both ascending and descending) for both DC and DCF assemblies?
_____ psi (_____kPa)

For DCF assemblies, did the pressure drop generally increase from static up to a flow of 50.0 GPM (3.15 L/s) with a maximum total downward deviation of 10% from the highest previous valve at any point? ○ Yes ○ No
Was there any damage or permanent deformation of the internal components of the assembly? ○ Yes ○ No
Was the assembly on test in complete compliance with the criteria of Section 3.5? ○ Yes ○ No

3.6 Drip Tightness of First Check

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____ inches (_____ mm)

3.7 Drip Tightness of the Second Check

What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.8 Deterioration at Manufacturer's Extremes of Temperature and Pressure Ranges

Temperature range as noted by the manufacturer:
_____ °F to _____ °F (_____ °C to _____ °C)
Maximum rated pressure as noted by the manufacturer: _____ psi (_____kPa)

Water at: _____ °F (_____ °C)
was circulated through the assembly at: _____ psi (_____ kPa)
at a flow rate of: _____ GPM (_____ L/s)
for: _____ hours

While still at temperature, the assembly shall be retested to Sections 3.6 and 3.7:

Retest Section 3.6

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____ inches (_____ mm)

Retest Section 3.7

What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.8 continued

Upon completion of the 100 hours and the retesting of Sections 3.6 and 3.7, water at: _____ °F (_____ °C) was circulated through the assembly.

Once the assembly reaches ambient temperature, the assembly shall be retested to Sections 3.2 and 3.4 as shown below:

Retest Section 3.2

The assembly was pressurized to: _____ psi (_____ kPa)
The test period was for: _____ minutes
Were there any external leaks from the assembly? ○ Yes ○ No ○ Questionable
If questionable, explain: _____

Retest Section 3.4

What was the pressure applied to the downstream side of the first check valve?
_____ psi (_____ kPa)
What was the pressure on the upstream side? _____ psi (_____ kPa)
The test period was for _____ minutes

What was the initial height of water in the sight glass in test cock #2?
_____ inches (_____ mm)
What was the final height of water in the sight glass in test cock #2?
_____ inches (_____ mm)

What was the pressure applied to the downstream side of the second check valve?
_____ psi (_____ kPa)
What was the pressure on the upstream side? _____ psi (_____ kPa)
The test period was for _____ minutes

What was the initial height of water in the sight glass in test cock #3?
_____ inches (_____ mm)
What was the final height of water in the sight glass in test cock #3?
_____ inches (_____ mm)

3.8 continued

Upon completion of testing at ambient water temperature,
water at: _____ °F (_____ °C)
was circulated through the assembly for: _____hours
and then the assembly was retested to Sections 3.6 and 3.7:

Retest Section 3.6

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____inches (_____ mm)

Retest Section 3.7

What was the initial height of water in the sight glass at test cock #3: _____ inches(_____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.8 continued

Was the assembly on test in complete compliance with the criteria of Section 3.8?
○ Yes ○ No

3.9 Cycle Test

DC Assemblies

(a) Flow water at 25% of the rated flow (see Table 1)
What was the flow rate? _____ GPM (_____ L/s)
What was the supply pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(b) What was the static pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(c) The pressure was decreased to: _____ psi (_____kPa)
The test period was for _____ seconds

(d) Backpressure was increased to: _____ psi (_____kPa)
The test period was for _____ seconds

(e) Remove backpressure

(f) Steps (a) through (e) were repeated for _____ cycles.

(g) Retest assembly to Sections 3.6 and 3.7:

Retest Section 3.6

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____inches (_____ mm)

Retest Section 3.7

What was the initial height of water in the sight glass at test cock #3: _____ inches(____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.9 continued

(h) (a) Flow water at 50% of the rated flow (see Table 1).
What was the flow rate? _____ GPM (_____ L/s)
What was the supply pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(b) What was the static pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(c) The pressure was decreased to: _____ psi (_____kPa)
The test period was for _____ seconds

(d) Backpressure was increased to: _____ psi (_____kPa)
The test period was for _____ seconds

(e) Remove backpressure

(i) Steps (a) through (e) were repeated for _____ cycles.

(j) Retest assembly to Sections 3.6 and 3.7:

Retest Section 3.6

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____inches (_____ mm)

Retest Section 3.7

What was the initial height of water in the sight glass at test cock #3: _____ inches(____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.9 continued

(k) A back pressure of: _____ psi (_____kPa)
was applied for: _____ minutes
Record the leakage at test cock #3: _____ GPM (_____ L/s)

(l) A back pressure of: _____ psi (_____kPa)
was applied for: _____ minutes
Record the leakage at test cock #3: _____ GPM (_____ L/s)

(m) A back pressure of: _____ psi (_____kPa)
was applied for: _____ minutes at test cock #3
Record the leakage at test cock #2: _____ GPM (_____ L/s)

(n) The backpressure at test cock #3 was raised to: _____ psi (_____kPa)
for: _____ minutes
Record the leakage at test cock #2: _____ GPM (_____ L/s)

(o) (a) Flow water at 75% of the rated flow (See Table 1).
What was the flow rate? _____ GPM (_____ L/s)
What was the supply pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(b) What was the static pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(c) The pressure was decreased to: _____ psi (_____kPa)
The test period was for _____ seconds

(d) Backpressure was increased to: _____ psi (_____kPa)
The test period was for _____ seconds

(e) Remove backpressure

(p) Steps (a) through (e) were repeated for _____ cycles.

(q) Retest assembly to Sections 3.6 and 3.7:

Retest Section 3.6

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____inches (_____ mm)

Retest Section 3.7

What was the initial height of water in the sight glass at test cock #3: _____ inches(____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.9 continued

(r) (a) Flow water at 100% of the rated flow (See Table 1).
What was the flow rate? _____ GPM (_____ L/s)
What was the supply pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(b) What was the static pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(c) The pressure was decreased to: _____ psi (_____kPa)
The test period was for _____ seconds

(d) Backpressure was increased to: _____ psi (_____kPa)
The test period was for _____ seconds

(e) Remove backpressure

(s) Steps (a) through (e) were repeated for _____ cycles.

(t) Retest assembly to Sections 3.6 and 3.7:

Retest Section 3.6

What was the initial height of water in the sight glass at test cock #2: _____ inches (_____ mm)
What was the initial height of water in the sight glass at test cock #3: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #2 and #3? _____inches (_____ mm)

Retest Section 3.7

What was the initial height of water in the sight glass at test cock #3: _____ inches(____ mm)
What was the initial height of water in the sight glass at test cock #4: _____ inches (_____ mm)
The test period was for: _____ minutes.
What was the final height difference in the water levels between the sight glasses at test cocks #3 and #4? _____ inches (_____ mm)

3.9 continued

(u) (k) A back pressure of: _____ psi (_____kPa)
was applied for: _____ minutes
Record the leakage at test cock #3: _____ GPM (_____ L/s)

(l) A back pressure of: _____ psi (_____kPa)
was applied for: _____ minutes
Record the leakage at test cock #3: _____ GPM (_____ L/s)

(m) A back pressure of: _____ psi (_____kPa)
was applied for: _____ minutes at test cock #3
Record the leakage at test cock #2: _____ GPM (_____ L/s)

(n) The backpressure at test cock #3 was raised to: _____ psi (_____kPa)
for: _____ minutes
Record the leakage at test cock #2: _____ GPM (_____ L/s)

DCF Assemblies

(a) Flow water at 25% of the rated flow (see Table 1)
What was the flow rate? _____ GPM (_____ L/s)
What was the supply pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(b) What was the static pressure? _____ psi (_____kPa)
The test period was for _____ seconds

(c) While at a static pressure of: _____ psi (_____ kPa) (b)
the backpressure was increased to: _____ psi (_____kPa)
The test period was for _____ seconds

(d) The supply pressure was increased to: _____ psi (_____kPa)
The test period was for _____ seconds

(e) The supply pressure was fluctuated from: _____ psi (_____kPa)
to: _____ psi (_____kPa)
and repeated for: _____ times

(f) Steps (a) through (e) were repeated for: _____cycles

Retest Section 3.4

What was the pressure applied to the downstream side of the first check valve?
_____ psi (_____ kPa)
What was the pressure on the upstream side? _____ psi (_____ kPa)
The test period was for_____ minutes

What was the initial height of water in the sight glass in test cock #2?
_____inches (_____ mm)
What was the final height of water in the sight glass in test cock #2?
_____inches (_____ mm)

What was the pressure applied to the downstream side of the second check valve?
_____ psi (_____ kPa)
What was the pressure on the upstream side? _____ psi (_____ kPa)
The test period was for_____ minutes

What was the initial height of water in the sight glass in test cock #3?
_____inches (_____ mm)
What was the final height of water in the sight glass in test cock #3?
_____inches (_____ mm)

3.9 continued

Was the USC Life Cycle test protocol used? ○ Yes ○ No
If yes, attach these test results.

Was the assembly on test in complete compliance with the criteria for DC, DCF assemblies or with the USC Test Protocol? ○ Yes ○ No

3.10 Body Strength for Type DCF Assemblies Only

What was the pressure used for this test? _____ psi (_____ kPa)
How long was the pressure held? _____ minutes

Was their a structural failure in the assembly that caused leakage? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

3.11 Seat Adhesion Test for Type DCF Assemblies Only

Did the adhesion test meet all of the requirements of Section 18 of the UL Standard 3.12?
○ Yes ○ No ○ Questionable

If questionable, explain: _____
Attach the test results.

3.12 High Velocity Test for DCF Assemblies

What was the flow velocity used for this test? _____ ft/sec (_____ m/sec)
This velocity was maintained for _____ minutes

Was there any damage or permanent deformation to any of the internal components of the assembly? ○ Yes ○ No
Did any portion of the assembly become dislodged or restrict flow during this velocity test?
○ Yes ○ No
Was the assembly (or assemblies) used for testing of 3.1 through 3.12 in complete compliance with the criteria of this standard? ○ Yes ○ No

SECTION IV

4.0 Detailed Results

4.1 Materials

Did the manufacturer provide evidence that the materials make-up of the device has been used successfully in similar applications for at least one (1) year? ○ Yes ○ No

4.1.1 Did any solder and fluxes in contact with the potable water supply exceed 0.2% lead content? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.2 Did all of the elastomers and polymers in contact with the water comply with the requirements of the U.S. Code of Federal Regulations (CFR) Title 21, Section 177? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.3 Did all ferrous cast parts conform to ASTM A126 for gray iron or ASTM A536 Grade 65-45-12 for ductile iron? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.4 Were all ferrous cast parts in contact with the water flowing through the assembly protected against corrosion by epoxy coating or other equivalent methods? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.5 Were all stainless steel components in contact with water of Series 300 s/s? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.6 Were all non-ferrous wetted parts of a corrosion resistance of at least equal to an alloy of 79% copper? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.7 Were all internal non-cast parts of a corrosion resistance of at least equal to an alloy of 79% copper? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.8 Were all springs in contact with the water flowing through the assembly of a corrosion resistance of at least equal to stainless steel series 300? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.9 Were all flexible non-metallic parts of a design to withstand all the criteria of this standard without change in their physical characteristics? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.10 List the seating materials of:

Disc Seats: _____

Valve Disc Seats: _____

4.1.11 Were the seat rings of a corrosion resistance of at least equal to an alloy of 79% copper? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.12 Were the test cocks of a corrosion resistance of at least equal to an alloy of 79% copper. ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.13 Do all pipe flanges conform to ASME B16.24 for bronze flanges and ASTM A126 for cast iron flanges? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.1.14 Do all pipe threads conform to ASME B1.20.1 for taper pipe threads and ASME B1.20.3 for dryseal? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.2 Grooved Connections

Do inlet and outlet grooved connections comply with AWWA C606? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.3 Marking Instructions

4.3.1 Identify the markings found on the test assembly/manifold assemblies:

(a) Manufacturer's name or trademark: _____

(b) Type (DC or DCF) and model number of the assembly: _____

(c) Maximum rated pressure: _____

(d) Maximum rated temperature: _____

(e) Serial number consistent with the manufacturer's standard practice: _____

(f) Nominal valve size: _____

(g) Direction of water flow: _____

(h) Each shut-off valve shall be marked with the manufacturer's name or trademark and model number: _____

4.3.2 Describe how these markings were made: _____

4.4 Installation and Maintenance Instructions

4.4.1 Were instructions for installation and maintenance submitted with the device? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.4.2 Did the installation instructions indicate the tested and approved installation orientation of the assembly? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.4.3 Was the test assembly capable of being maintained or repaired while in-line? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

4.4.4 Were field testing instructions furnished? ○ Yes ○ No ○ Questionable

If questionable, explain: _____

TESTING AGENCY: _____

ADDRESS: _____

PHONE: _____ **FAX:** _____

TEST ENGINEERS: _____

We Certify that the evaluations are based on our best judgements 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: _____

PE SEAL

*To insert images into document (PE seal and signatures)
Adobe Acrobat Pro users: At the top of the page, go to: Tools > Advanced Editing > TouchUp Object Tool. Once you have selected TouchUp Object Tool, right click within the document and select Place Image. Choose the image you want to place (PE seal or signature) and then select Open. Once the image is in the document, move and re-size the image accordingly. Save and send to ASSE.
Adobe Reader users: Adobe Reader does not allow users to place images into the document. You must print this completed document and then sign and stamp the PE seal by hand. You may then send the completed document to ASSE via fax or mail, or you can scan the completed document and send via e-mail.

COMMENTS: