

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

**Laboratory Evaluation Report for:
Individual Balancing In-Line Valves for Individual Fixture Fittings**

Tested under ASSE Standard 1066• Revised: 1997

Laboratory File Number _____

Manufacturer _____

Model No. _____

Address _____

Serial No. _____

Other Identification Markings _____

Size _____

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 _____

Date Submitted for Review _____ Date Review Complete _____

Were the test units production models? Yes No
or prototypes? Yes No

Section I

1.0 General

1.1 Application

Did the device comply with the application of this standard? Yes
 No
 Questionable

If questionable, explain: _____

1.2 Scope

1.2.1 Description

Does the device meet the description stated in the standard? Yes
 No

1.2.2 Size Range

State the size of the device: _____mm (_____inches)

1.2.3 Flow Rate

See Section 1.3 and 3.4.

1.2.4 Pressure Range

State either the supply pressure range: _____ to _____kPa (_____ to _____p.s.i.)
or the maximum, pressure indicated by the manufacturer: _____kPa (_____p.s.i.)

1.3 Literature

Did the manufacturer submit a graph or chart that illustrated the flow rates at differential pressures of 69, 138, 276, 414, and 552 kPa (10, 20, 40, 60 and 80 p.s.i.)? Yes
 No

Section II

2.0 Test Specimens

2.1 Samples Submitted for Test

State the number of devices provided for the laboratory evaluation. _____

2.2 Samples Tested

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 Drawings

Were assembly drawings and other technical data which are needed to determine compliance with this standard submitted to the laboratory? Yes No

Were these drawings and other data reviewed by the laboratory? Yes No

Section III

3.0 Performance Requirements and Compliance Testing

3.1 Test Sequence

Were the tests conducted in the sequence shown in this section? Yes No

3.2 High Temperature Test

What was the inlet supply pressure? _____ kPa (_____ p.s.i.)

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

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

The test period was for _____ minutes, _____ seconds

Was there any indication of physical changes to the device that would prevent compliance with this standard? Yes No

In compliance? Yes No Questionable

If questionable, explain: _____

3.3 Hydrostatic Pressure Test

What was the test pressure utilized for this test? _____ kPa (_____ p.s.i.)

How long was the duration of the test at steps 3, 4, and 5?

At step 3: _____ minutes

At step 4: _____ minutes

At step 5: _____ minutes

Were there any indications of leakage, damage or distortion of the device? Yes No

In compliance? Yes No Questionable

If questionable, explain: _____

3.4 Flow Rate Test

Record the flow rates for the following differential pressures:

at 69 kPa (10 p.s.i.): _____ L/min (_____ GPM)

at 138 kPa (20 p.s.i.): _____ L/min (_____ GPM)

at 276 kPa (40 p.s.i.): _____ L/min (_____ GPM)

at 414 kPa (60 p.s.i.): _____ L/min (_____ GPM)

at 552 kPa (80 p.s.i.): _____ L/min (_____ GPM)

Were each differential pressure held for three (3) minutes or longer? Yes
 No

Were any flow rates 10% lower than shown in Table 1 or the manufacturer's published values? Yes
 No

In compliance? Yes
 No
 Questionable

If questionable, explain: _____

3.5 Temperature Variation Test

E. Initial Test Conditions

When the 310 kPa (45 p.s.i.) differential pressure is established, allow water to flow one (1) minute and record the following:

Hot water temperature (TC1): _____ °C (_____ °F)

Hot water pressure (P1): _____ kPa (_____ p.s.i.)

Cold water temperature (TC2): _____ °C (_____ °F)

Cold water pressure (P2) _____ kPa (_____ p.s.i.)

Mixed flow rate: _____ L/min (_____ GPM)

Mixed water temperature (TC3): _____ °C (_____ °F)

F. Reduce the hot water supply pressure (P1) by 50% and record the following:

Maximum mixed water temperature variation (TC3): _____ °C (_____ °F)

Did this differ by no more than 1.7°C (3°F)? Yes
 No

Hot water temperature (TC1): _____ °C (_____ °F)

Hot water pressure (P1): _____ kPa (_____ p.s.i.)

Was this within 50% ± 21 kPa (± 3 p.s.i.)? Yes
 No

Cold water temperature (TC2): _____ °C (_____ °F)

Was this within 0.6°C (1°F)? Yes
 No

Cold water pressure (P2): _____ kPa (_____ p.s.i.)

Was this within ± 21 kPa (3 p.s.i.)?

- Yes
 No

K. Reduce the cold water supply pressure (P2) by 50% and record the following:

Maximum mixed water temperature variation (TC3): _____ °C (_____ °F)

Did this differ by no more than 1.7°C (3°F)?

- Yes
 No

Hot water temperature (TC1): _____ °C (_____ °F)

Hot water pressure (P1): _____ kPa (_____ p.s.i.)

Was this within 50% ± 21 kPa (± 3 p.s.i.)?

- Yes
 No

Cold water temperature (TC2): _____ °C (_____ °F)

Was this within 0.6°C (1°F)?

- Yes
 No

Cold water pressure (P2): _____ kPa (_____ p.s.i.)

Was this within ± 21 kPa (3 p.s.i.)?

- Yes
 No

O. Reduce the flow rate to a maximum of 9.5 L/min (2.5 GPM) and record the following:

Hot water temperature (TC1): _____ °C (_____ °F)

Was this within 0.6°C (1°F)?

- Yes
 No

Hot water pressure (P1): _____ kPa (_____ p.s.i.)

Was this within ± 21 kPa (3 p.s.i.)?

- Yes
 No

Cold water temperature (TC2): _____ °C (_____ °F)

Was this within 0.6°C (1°F)?

- Yes
 No

Cold water pressure (P2) _____ kPa (_____ p.s.i.)

Was this within ± 21 kPa (3 p.s.i.)?

- Yes
 No

Mixed flow rate: _____ L/min (_____ GPM)

Mixed water temperature (TC3): _____ °C (_____ °F)

Q. Reduce the hot water supply pressure (P1) by 50% and record the following:
Maximum mixed water temperature variation (TC3): _____ °C (_____ °F)

Did this differ by no more than 1.7°C (3°F)? Yes
 No

Hot water temperature (TC1): _____ °C (_____ °F)

Hot water pressure (P1): _____ kPa (_____ p.s.i.)

Was this within 50% ± 21 kPa (± 3 p.s.i.)? Yes
 No

Cold water temperature (TC2): _____ °C (_____ °F)

Was this within 0.6°C (1°F)? Yes
 No

Cold water pressure (P2): _____ kPa (_____ p.s.i.)

Was this within ± 21 kPa (± 3 p.s.i.)? Yes
 No

V. Reduce the cold water supply pressure (P2) to 50% and record the following:

Maximum mixed water temperature variation (TC3): _____ °C (_____ °F)

Did this differ by no more than 1.7°C (3°F)? Yes
 No

Hot water temperature (TC1): _____ °C (_____ °F)

Hot water pressure (P1): _____ kPa (_____ p.s.i.)

Was this within 50% ± 21 kPa (± 3 p.s.i.)? Yes
 No

Cold water temperature (TC2): _____ °C (_____ °F)

Was this within 0.6°C (1°F)? Yes
 No

Cold water pressure (P2): _____ kPa (_____ p.s.i.)

Was this within ± 21 kPa (± 3 p.s.i.)? Yes
 No

Did all tests in this section maintain a mixed water temperature to within ± 1.7°C (± 3°) of the set point? Yes
 No

In compliance? Yes
 No
 Questionable

If questionable, explain: _____

3.6 Line Pressure Supply Failure Test

Follow steps "A" through "E" of Section 3.5.

When the cold water supply valve is rapidly closed, did the discharge flow rate drop to 1.9 L/min (0.5 GPM) within five (5) seconds after valve was closed?

- Yes
- No

In compliance?

- Yes
- No
- Questionable

If questionable, explain: _____

3.7 Life Cycle Test

Record the discharge flow rate: _____ L/min (_____ GPM)

What was the cycle rate? _____ cycles/min

What was the total cycles? _____

Repeat Sections 3.5 and 3.6. Were these in compliance?

- Yes
- No
- Questionable

If questionable, explain: _____

3.8 Cross Flow Test

Was there any leakage at any time during the cross flow tests?

- Yes
- No

In compliance?

- Yes
- No
- Questionable

If questionable, explain: _____

3.9 Burst Pressure Test

What was the hydrostatic pressure utilized? _____ kPa (_____ p.s.i.)

How long was the test conducted? _____ minutes

Was there any permanent distortions or leakage through the device?

- Yes
- No

In compliance?

- Yes
- No
- Questionable

If questionable, explain: _____

Section IV

4.0 Detailed Requirements

4.1 Materials

Did this device comply with the material and toxicity requirements of the ASSE reference document RD-001?

- Yes
- No
- Questionable

If questionable, explain: _____

4.1.2 Pipe Connections

Did the pipe connections conform to the appropriate standards listed in ASME A112.18.1? Yes

No

In compliance?

Yes

No

Questionable

If questionable, explain: _____

4.2 Markings and Installation Instructions

4.2.1 Marking of Device

List the following information as shown on the device:

a) Name or trademark of manufacturer: _____

b) Type and model number: _____

c) Maximum rated working pressure: _____

d) Maximum rated temperature: _____

e) Nominal size: _____

f) Direction of flow: _____

g) ASSE 1066: _____

4.2.2 How were the markings shown? _____

4.3 Installation Operation Instructions

4.3.1 Were assembly drawings, schematics, and other data submitted with the device?

Yes

No

In compliance?

Yes

No

Questionable

If questionable, explain: _____

4.3.2 Installation Instructions

Were installation, maintenance and testing instructions provided with the device?

Yes

No

In compliance?

Yes

No

Questionable

If questionable, explain: _____

TESTING AGENCY _____

ADDRESS _____

PHONE: _____ FAX: _____

TEST ENGINEER(S) _____

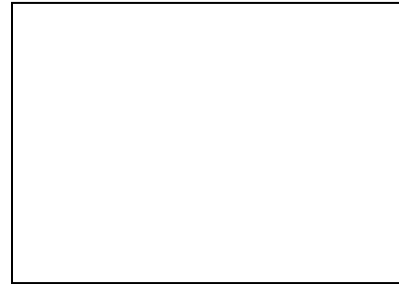
We certify that the evaluations are based on our best judgments and that the test data recorded is an accurate record of the performance of the device on test.

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