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for

DR AS/NZS 2845.3:2018, Water supply - Backflow prevention devices, Part 3: Field testing and maintenance of testable devices

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Australian/New Zealand Standard™

Public Comment is invited for:

DR AS/NZS 2845.3:2018, *Water supply — Backflow prevention devices*, Part 3: *Field testing and maintenance of testable devices*

Revision of AS 2845.3-2010

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Upon successful conclusion of the Public Comment period it is proposed to publish this Standard as AS/NZS 2845.3:201X.

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Preface

This Standard was prepared by the Joint Standards Australia/Standards New Zealand Committee WS-023, *Backflow Prevention Devices for Water Supply*, to supersede AS 2845.3—2010.

After consultation with stakeholders in both countries, Standards Australia and Standards New Zealand developed this Standard as a joint Australia/New Zealand Standard.

The objective of this Standard is to outline minimum requirements for the testing and maintenance of testable backflow prevention devices in the field.

This Standard is to be read in conjunction with the requirements of the relevant regulatory authority, and the manufacturer's instructions. The safety practices to be followed while performing field testing and maintenance work should comply with the applicable WH&S legislation and the relevant regulatory authority's procedures. The actions stipulated within this Standard are in addition to those requirements.

The terms "normative" and "informative" have been used in this Standard to define the application of the appendices to which they apply. A "normative" appendix is an integral part of a Standard, whereas an "informative" appendix is only for information and guidance.

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Australian/New Zealand Standard

Water supply—Backflow prevention devices

Part 3: Field testing and maintenance of testable devices

PUBLIC COMMENTING DRAFT

Section 1 Scope and general

1.1 Scope

This Standard specifies requirements for field testing and maintenance of the following backflow prevention devices:

(a) Registered break tank (RBT).

(b) Registered air gap (RAG).

(c) Pressure-type vacuum-breaker (PVB).

(d) Spill resistant pressure vacuum-breaker (SPVB).

(e) Reduce-pressure-zone device (RPZD).

(f) Double check-valve (DCV).

(g) Reduced-pressure-detector assembly (RPDA).

(h) Double check detector assembly (DCDA).

(i) Single check-valve (testable) (SCVT).

(j) Single check detector assembly (testable) (SCDAT).

(k) Atmospheric vacuum breakers (AVB).

1.2 Application

This Standard is to be read in conjunction with the requirements of the relevant regulatory authority, and the manufacturer's instructions.

NOTE Testable devices should only be used where there is a maintenance program for device registration and test certification.

1.3 Normative references

The following are the normative documents referenced in this Standard:

AS/NZS 2845.1, *Water supply—Backflow prevention devices, Part 1: Materials, design and performance requirements*

AS 2845.2, *Water supply—Backflow preventions devices, Part 2: Registered air gaps and registered break tanks*

AS/NZS 3500.0, *Plumbing and drainage, Part 0: Glossary of terms*

AS/NZS 3500.1, *Plumbing and drainage, Part 1: Water services*

AS ISO/IEC 17025, *General requirements for the competence of testing and calibration laboratories*

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1.4 Definitions

For the purpose of this Standard, the definitions given in AS/NZS 2845.1, AS 2845.2 and AS/NZS 3500.0 and those below apply.

1.4.1
downstream
the side where the water exits the backflow prevention device or where the water is moving to (e.g. the direction/outlet of the water flow or the side where the water will be going to)

1.4.2
field testing
operational checking (which may include measurements) to ascertain the level of performance of a backflow prevention device for the purpose of maintaining its specified performance

1.4.3
inspection
close and careful scrutiny of an item carried out either without dismantling or with partial dismantling, supplemented by means such as measurement, in order to arrive at a reliable conclusion as to the condition of an item

1.4.4
maintenance
regular routine technical and administrative actions, taken during an item's service life, aimed at retaining it in a state in which it can perform its required functions

1.4.5
shall
indicates that a statement is mandatory

1.4.6
should
indicates a recommendation

1.4.7
upstream
the side where the water enters the backflow prevention device (e.g. the source/inlet of the water flow)

Section 2 Field testing and maintenance

2.1 Field testing

Field testing, which includes inspection, shall be carried out at the frequencies given in Table 1 for the nominated backflow prevention devices, and shall be performed in accordance with the applicable test appendices stipulated in Table 1.

Equipment used for the field testing kit of backflow prevention devices shall be annually calibrated to the Metrology Society of Australia MSA Test Method 2 using:

(a) NATA traceable equipment; or

(b) by a testing laboratory or facility in accordance with AS ISO/IEC 17025.

NOTE AS ISO/IEC 17025 can apply to first-party (i.e. manufacturer or supplier) second-party (i.e. user or purchaser) or third-party testing laboratories and facilities.

The test kit arrangement shall be as shown in Appendix B.

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Table 1 — Test requirements

Device	Test appendix	Test frequency
Registered break tank (RBT) Registered air gap (RAG)	A	After installation, maintenance or repair, and at intervals not exceeding 12 months
Pressure-type vacuum-breaker (PVB)	C	
Spill resistant pressure vacuum-breaker (SPVB)	D	
Reduced-pressure-zone device (RPZD)	E	
Double check-valve (DCV)	F	
Reduced-pressure-detector assembly (RPDA)	G	
Double check detector assembly (DCDA)	H	
Single check valve (testable) (SCVT)	I	
Single check detector assembly (testable) (SCDAT)	J	
Atmospheric vacuum breakers (AVB)	K	

2.2 Test report

2.2.1 General

As a minimum, a test report shall include, but shall not be limited to, the following:

(a) Type of test including the following:

(i) Initial commissioning.

(ii) Annual test.

(iii) Retest.

(iv) Audit test.

(b) Type and serial number of device.

(c) Owner and property details.

(d) Tester details.

(e) Date of inspection.

(f) Results of inspection and testing — pass/fail.

(g) Test kit serial number.

(h) Test kit calibration date.

(i) Appendix the valve has been tested to.

NOTE 1 The relevant authority having jurisdiction should be contacted in advance to confirm the test report format required.

NOTE 2 An example of a typical format for reporting test results for registered air gaps and registered break tanks is given in Appendix L.

NOTE 3 An example of a typical format for reporting inspection and maintenance for backflow prevention devices is given in Appendix M.

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2.2.2 Copies of test reports

A copy of the test report shall be retained and copies forwarded to the following:

(a) Relevant authority having jurisdiction.

(b) Owner of the device.

2.3 Acceptance criteria

The following acceptance test criteria shall be adopted:

(a) *Registered air gap* The measured air gap conforms with Table A3, Appendix A of AS 2845.2—2010 (see Appendix A).

(b) *Registered break tank (see Appendix A)*:

(i) An overflow is fitted and not obstructed.

(ii) No bridging devices are installed.

(iii) The measured air gap conforms with Appendix A of AS 2845.2—2010.

(iv) The measured total height calculation conforms with Appendix A of AS 2845.2—2010.

(c) *Pressure-type vacuum-breaker and spill-resistant pressure vacuum-breaker (see Figure C.1 and D.1, Appendix C and Appendix D):*

(i) The non-return valve measured differential pressure is 7 kPa or greater.

(ii) The air inlet valve opens at 7 kPa or greater.

(iii) Upstream and downstream isolating valves are watertight.

(d) *Reduced pressure zone device (RPZD) and reduced-pressure-detector assembly (RPDA) (see Figures E.1 and G.1, Appendices E and G):*

(i) First check valve pressure differential is 35 kPa or greater.

(ii) Relieves to atmosphere at 14 kPa or greater.

(iii) Second check valve pressure differential is tight.

(iv) Main valve upstream and downstream isolating valves are watertight.

(v) For reduced-pressure detector assemblies, the sum of the main valve check valve pressure differential is greater than 10 kPa of the bypass assembly pressure differentials.

(e) *Single check valve (testable) (SCVT) and single check detector assembly (testable) (SCDAT) (see Figures I.1 and J.1, Appendices I and J):*

(i) Pressure differential of non-return valve is 7 kPa or greater.

(ii) Main valve upstream and downstream isolating valves are watertight.

(iii) For single check detector assemblies, the main inline valve is to have a differential pressure greater than 10 KPa above the bypass assembly pressure differentials.

(f) *Double check valve (DCV) and double check detector assembly (DCDA) (see Figures F.1 and H.1, Appendices F and H):*

(i) Pressure differential of each check valve is 7 kPa or greater.

(ii) Main valve upstream and downstream isolating valves are watertight.

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(iii) For double check detector assemblies, the sum of the main valve check valve pressure differentials is greater than 10 kPa of the by-pass assembly pressure differentials.

(g) *Atmospheric vacuum breaker (AVB)* The movement of the air inlet valve from visual inspection (see Figure K.1 and Appendix K).

2.4 Field maintenance

Repairs to maintain devices shall be undertaken as soon as practicable when a device is known to have failed. During repairs, the same level of protection shall be maintained or the affected section of the water supply system shut down.

NOTE 1 It is recommended that parts used in maintenance are approved by manufacturers.

After repairs are completed, entrapped air shall be bled off in accordance with manufacturer's instructions.

NOTE 2 This prevents possible damage to the device.

Field testing in accordance with Clause 2.1 shall be performed after any repair.

NOTE 3 The owner of the assembly or the owner's agent should be notified that the water supply will be isolated during the test procedure. Special arrangements may be required so that interruptions to services will not create an inconvenience to the user. Where a fire service is to be isolated, the responsible person or organization should be notified.

NOTE 4 If the tester suspects the integrity of the isolating valves is comprised, it would be prudent to request the owner or his agent to operate the isolating valves, at least in the first instance.

2.5 Workplace Health and Safety (WHS) requirements

When field-testing or maintaining backflow prevention devices, all WHS requirements, including electrical safety precautions, shall be complied with.

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Appendix A
(normative)

Field testing of registered air gaps and registered break tanks

A.1 Scope

This Appendix sets out the method for testing registered air gaps and registered break tanks.

A.2 Principle

Measurement of water level is taken and the system inspected for correct configuration.

A.3 Procedure

A.3.1 Registered air gaps

The procedure shall be as follows:

(a) Measure and record the distance from the spill level to the outlet of the water service.

(b) Check the air gap conforms with Table 4.6.3.2 (Minimum air gap) and Figure G.1 of AS/NZS 3500.1:2018.

A.3.2 Registered break tanks

The procedure shall be as follows:

(a) Check the break tank has an overflow fitted below the level of the inlet.

(b) Inspect overflow for any obstructions.

(c) Check there is no bridging device between the outlet of the water supply or float control valve and the water in the tank.

(d) Record the size of the inlet orifice to tank and calculate cross-sectional area for the overflow.

(e) Measure and record the height (h) of water above the invert of the overflow, in millimetres. Height (h) shall conform with the requirements of AS 2845.2.

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Appendix B
(normative)

Test kit arrangement for mechanical backflow prevention devices

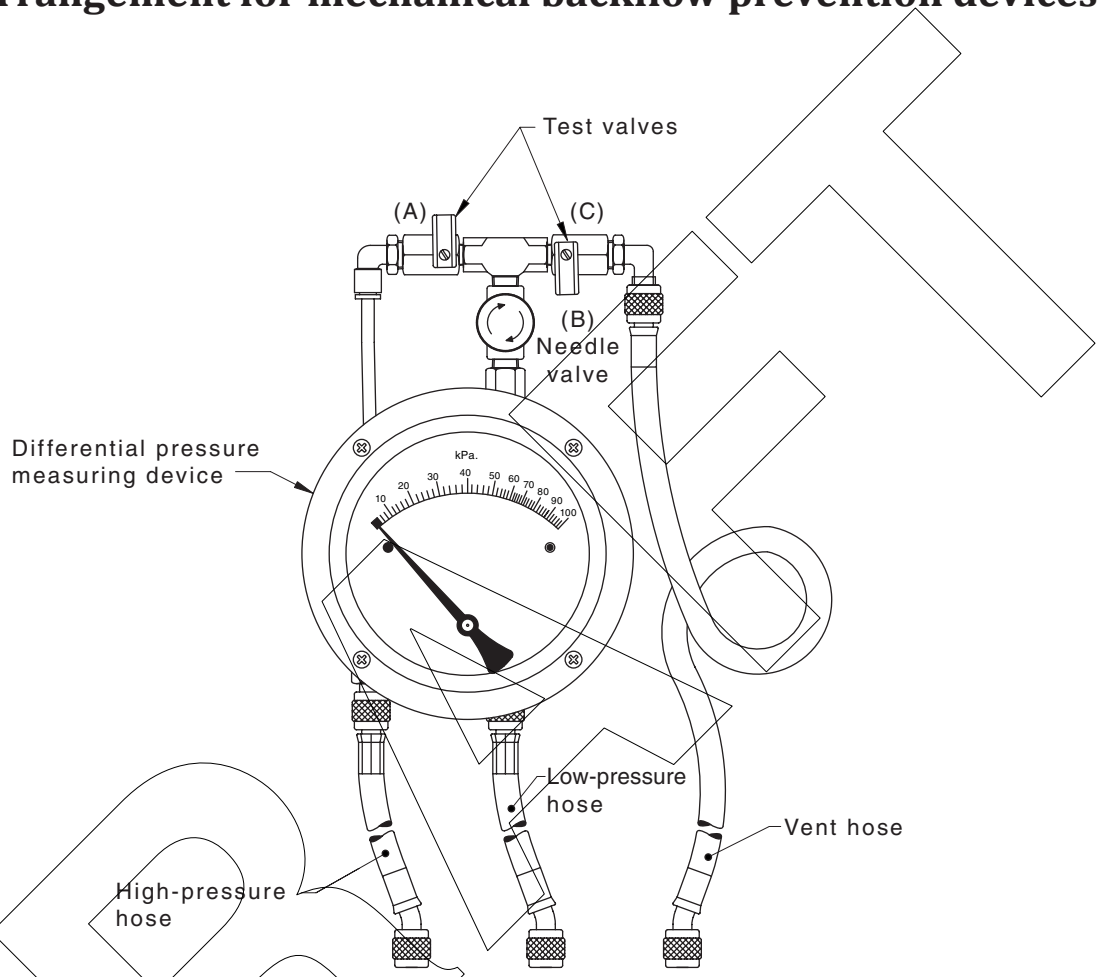

Figure B.1 — Test kit arrangement for mechanical backflow prevention device

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Appendix C
(normative)

Field testing of pressure-type vacuum-breaker backflow prevention device

C.1 Scope

This Appendix sets out the method for field testing pressure-type vacuum-breaker and spill resistant pressure vacuum-breaker backflow prevention devices.

C.2 Apparatus

A test kit, as shown in Appendix B, is required.

C.3 Procedure

References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 5 relate to Figure C.1.

The procedure shall be as follows:

(a) *Test preparation*:

(i) Check, and if necessary, open upstream isolating valve (4).

(ii) Close downstream isolating valve (5).

(iii) In sequence open and close each test taps (1) and (2) to flush out any impurities.

(iv) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect high-pressure hose to test tap (2).

(ii) Slowly open test tap (2) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (4).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (4) or downstream isolating valve (5) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from test tap (1), the upstream isolating valve (4) is leaking.

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If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (5) is leaking.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated. Leakage invalidates the test results.

(c) *To test the air inlet valve*:

(i) Remove air port shield (3).

(ii) Slowly open test kit valve (B). Observe the pressure differential gauge and air inlet valve. Record the reading of the pressure differential gauge when the air inlet valve begins opening.

If a reading below 7 kPa is indicated, the air inlet valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(iii) Close test tap (2) and disconnect high-pressure hose from test tap (2).

(iv) Clean line strainer where fitted.

(v) Open upstream isolating valve (4). Ensure test kit valves (A) and (B) are closed, while (C) is open.

(d) *To test the non-return valve:*

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (1); and

(B) the low-pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Open test kit valve (A) and bleed water through the vent hose.

(iv) Close test kit valve (A).

(v) Slowly open test kit needle valve (B) and bleed water through the vent valve hose (this eliminates air from the system).

(vi) Slowly close test kit needle valve (B) and observe and record the reading on the differential pressure gauge.

If a reading below 7 kPa is indicated, the non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (1) and (2) and open test kit valves (A) and (B). Disconnect the test kit hoses.

(viii) Replace air port shield (3). Open downstream isolating valve (5). This restores the device to operating condition.

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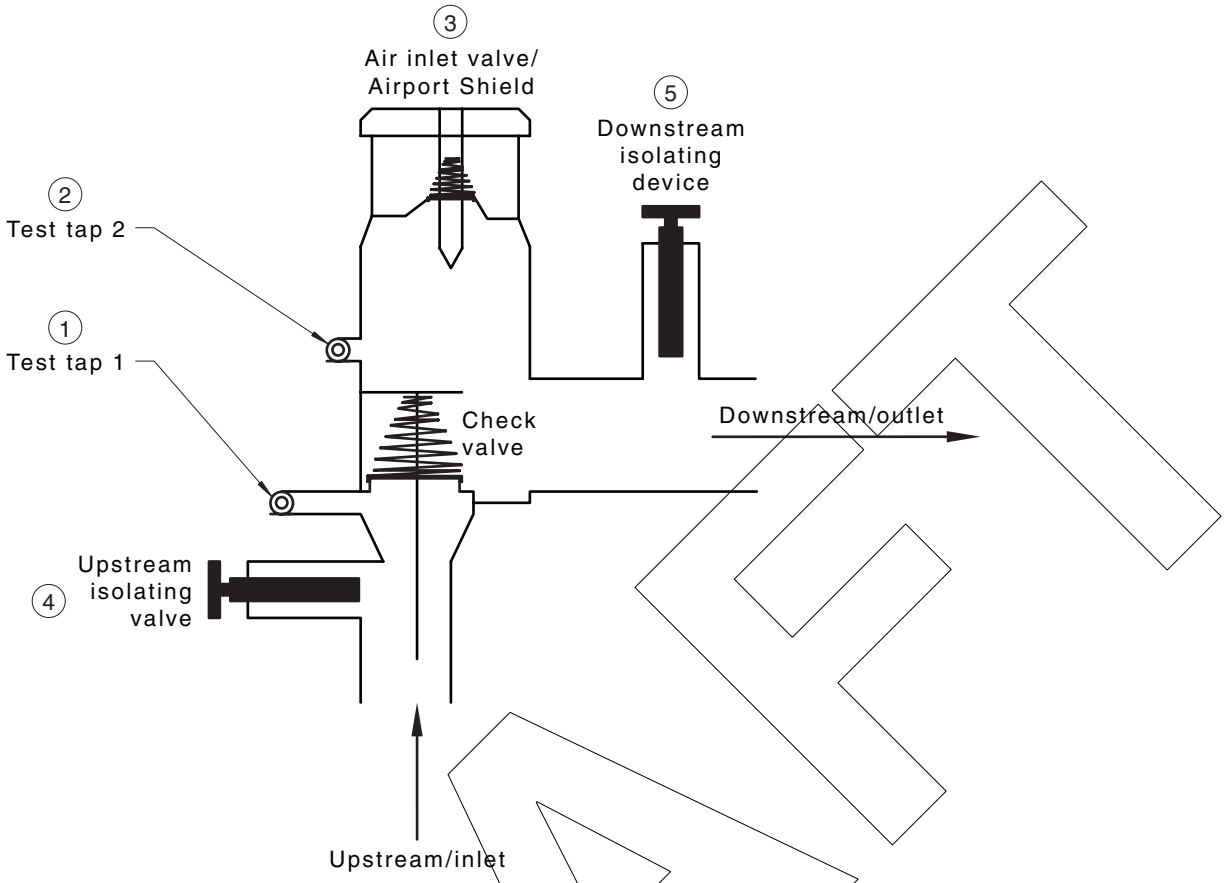

Figure C.1 — Typical pressure-type vacuum-breaker device test arrangement

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Appendix D
(normative)

Spill resistant pressure vacuum-breaker

PUBLIC COMMENTING DRAFT

D.1 Scope

This Appendix sets out the method for field testing spill resistant pressure vacuum-breaker backflow prevention devices.

D.2 Apparatus

A test kit, as shown in Appendix B, is required.

D.3 Procedure

References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 5 relate to Figure D.1.

The procedure shall be as follows:

(a) *Test preparation*:

(i) Check, and if necessary, open upstream isolating valve (4).

(ii) Close downstream isolating valve (5).

(iii) In sequence open and close test tap (1) to flush out any impurities.

(iv) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect high-pressure hose to test tap (1).

(ii) Slowly open test tap (1) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (4).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (4) or downstream isolating valve (5) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from test tap (1), the upstream isolating valve (4) is leaking.

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If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (5) is leaking.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated. Leakage invalidates the test results.

The test kit and hose shall be held at the same level as the SVB during tests.

Open upstream isolation valve, close downstream isolation valve.

(c) *To test the non-return valve*:

(i) Open upstream isolation valve to pressurize the SVB.

(ii) Open the vent screw and the test kit valve (C), close vent screw after the air is purged.

(iii) Close upstream isolation valve.

(iv) Open the vent screw. Allow water to stop flowing through the vent screw.

(v) Record the gauge reading. This gauge reading shall be 7 kPa or greater.

(d) *To test the air inlet valve*:

(i) If not already removed, remove the air inlet canopy.

(ii) Open test kit valve (A), Close (B) and (C).

(iii) Slowly open the test kit valve (B). Record the pressure reading on the gauge when the air inlet opens.

The reading shall be 7 kPa or greater. Continue to reduce pressure to 0.0 kPa. The air inlet needs to be completely open.

(iv) Reinstall air inlet canopy.

(v) Close test tap (1) open test kit valves (C).

(vi) Disconnect the test kit pressure hose and open the upstream and downstream isolating valve (5). This restores the device to operating condition.

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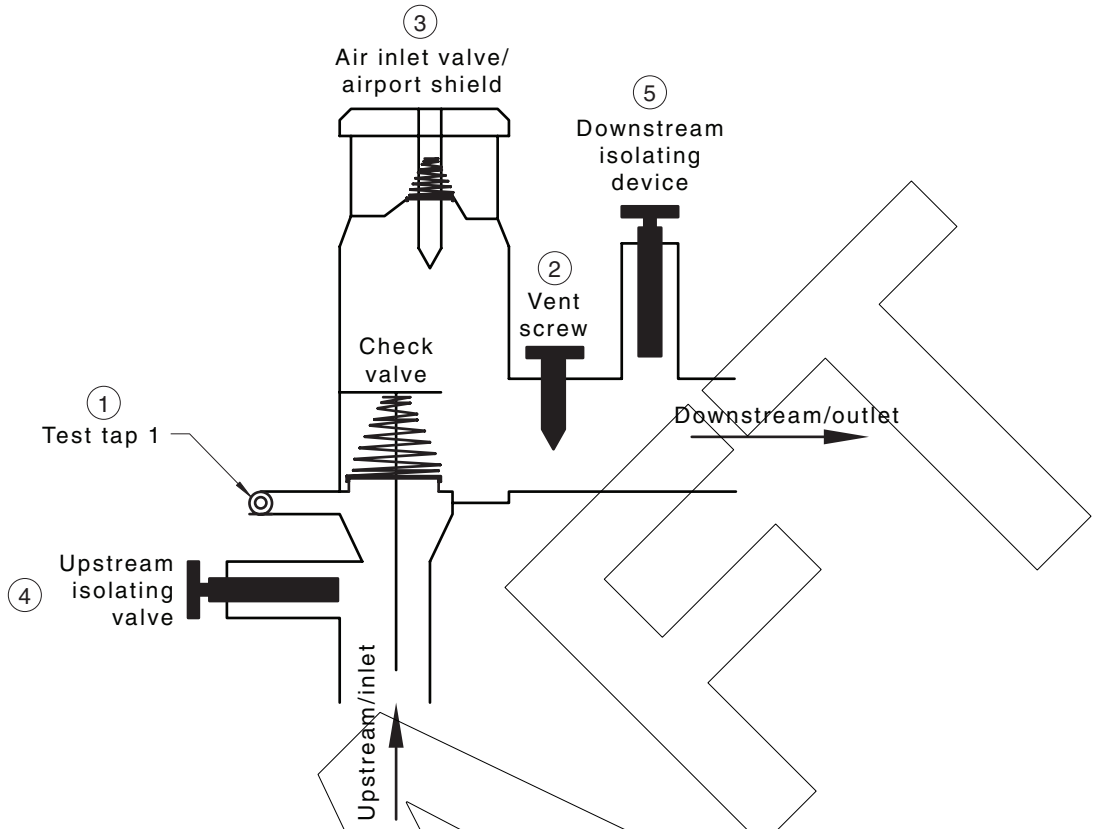

Figure D.1 — Typical spill-resistant pressure vacuum breaker device test arrangement

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Appendix E
(normative)

Field testing of reduced-pressure-zone backflow prevention device

E.1 Scope

This Appendix sets out the method for field testing a reduced-pressure-zone backflow prevention device.

E.2 Apparatus

A test kit, as shown in Appendix B, is required.

E.3 Procedure

References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 5 relate to Figure E.1.

The procedure shall be as follows:

(a) Test preparation:

(i) Check and, if necessary, open upstream isolating valve (4).

(ii) Close downstream isolating valve (5).

(iii) In sequence, open and close test taps (1), (2) and (3) to flush out any impurities.

(iv) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) To test the upstream and downstream isolating valves:

(i) Connect the high-pressure hose to test tap (3).

(ii) Slowly open test tap (3) and vent water through the vent hose.

(iii) In sequence, close test kit valve (C), and upstream isolating valve (4).

NOTE The differential gauge will indicate a high reading. Perform the following actions:

(iv) Slowly open test kit valve (B) and drop the gauge pressure by 20 kPa.

(v) Close test kit valve (B).

(vi) Observe the differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (4) or downstream isolating valve (5) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from the test tap (1), the upstream isolating valve (4) is leaking.

If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (5) is leaking. Leakage invalidates the test results. Faulty isolating valves need to be repaired or replaced, and the test should be needs to be repeated.

(vii) Close test tap (3).

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(viii) Open test kit valve (C) to relieve hose pressure.

(ix) Disconnect high-pressure hose from test tap (3).

(x) Clean line strainer where fitted.

(xi) Open upstream isolating valve (4). Ensure test kit valves (A) and (B) are closed, while (C) is open.

(c) To test the upstream non-return valve:

(i) Connect high-pressure hose (A) of the test kit to test tap (1); and connect (B) the low pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Slowly open test kit valve (A) and bleed water through the vent hose. Close test kit valve (A).

(iv) Slowly open test kit needle valve (B) and bleed water through the vent hose.

(v) Slowly close test kit needle valve (B) and record the reading on the differential pressure gauge.

If a reading below 35 kPa is indicated, the upstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(d) To test relief valve:

(i) Close test kit valve (C) and open test kit valve (A).

(ii) Slowly open test kit needle valve (B) observing both the differential gauge and the relief port.

Record the reading on the pressure differential gauge when the relief port commences discharging.

If a reading below 14 kPa is indicated, the relief mechanism shall be deemed to be faulty. The mechanism shall be repaired or replaced, and the test shall be repeated.

(iii) Close test taps (1) and (2).

(iv) Open test kit valve (C) and close test kit valves (A) and (B).

(e) To test the tightness of downstream non-return valve:

(i) Disconnect low-pressure hose from test tap (2) and reconnect to test tap (3).

(ii) Open test taps (1) and (3).

(iii) Slowly open test kit valve (A) and bleed water through the vent hose; close test kit valve (A).

(iv) Slowly open test kit needle valve (B) and bleed water through the vent hose.

(v) Slowly close test kit valve (C) and open test kit valve (A). Observe the relief port (6) for the presence of a continual discharge.

If continual discharge is present, the downstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(f) To test the downstream non-return valve:

(i) Disconnect the hoses.

(ii) Connect high pressure hose to test tap (2).

(iii) Connect low pressure hose to test tap (3).

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(iv) Open test taps (2) and (3).

(v) Slowly open test kit valve (A) and bleed water through the vent hose; close test kit valve (A).

(vi) Slowly open test kit needle valve (B) and bleed water through the vent hose.

(vii) Slowly close test kit needle valve (B) and record the reading on the differential pressure gauge.

If a reading below 7 kPa is indicated, the downstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(viii) Close test taps (2) and (3), open test kit valves (A) and (B).

(ix) Disconnect the test kit pressure hoses and open the downstream isolating valve (5). This restores the device to operating condition.

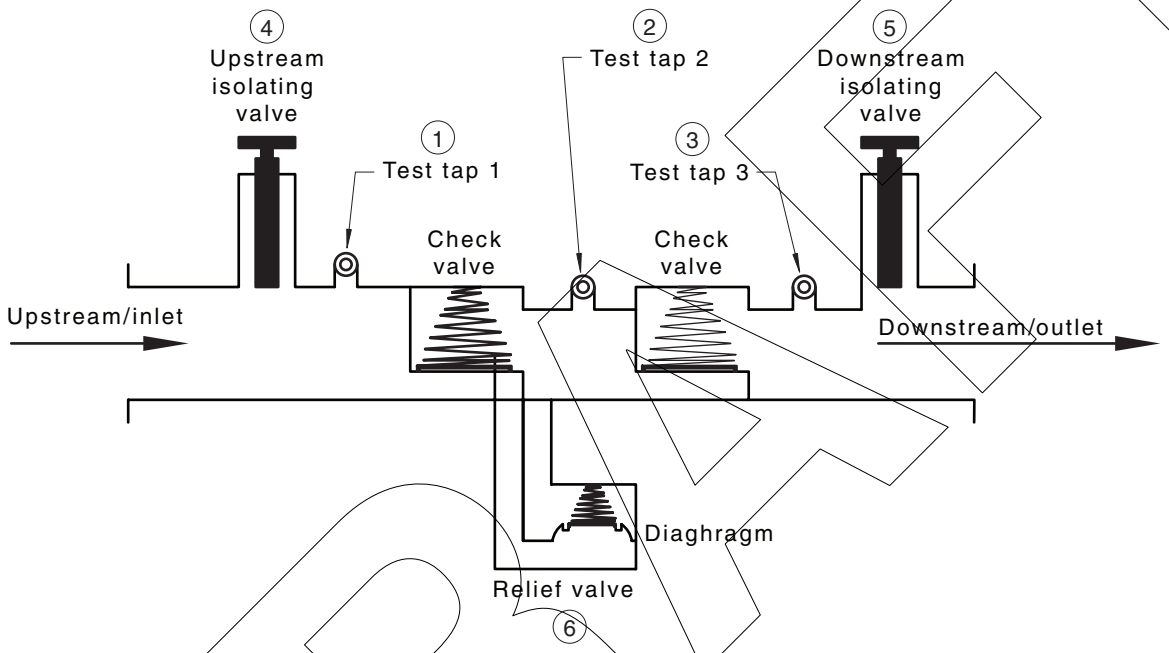

Figure E.1 — Typical test arrangement for reduced-pressure-zone backflow prevention device (RPZD)

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Appendix F
(normative)

Field testing of double check-valve backflow prevention device

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F.1 Scope

This Appendix sets out the method for the field testing of double check-valves.

F.2 Apparatus

A test kit, as shown in Appendix B, is required.

F.3 Procedure

References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 5 relate to Figure F.1.

The procedure shall be as follows:

(a) *Test preparation*:

(i) Open upstream isolating valve (4) where necessary.

(ii) In sequence, open and close test taps (1), (2) and (3) to flush out any impurities.

(iii) Close downstream isolating valve (5).

(iv) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to test tap (3).

(ii) Slowly open test tap (3) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (4).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (4) or downstream isolating valve (5) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from test tap (1), the upstream isolating valve (4) is leaking.

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If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (5) is leaking. Leakage invalidates the test results.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated.

(vii) Close test tap (3).

(viii) Close test kit valves (A) and open test kit valve (C).

(ix) Disconnect high-pressure hose from test tap (3).

(x) Clean line strainer where fitted.

(xi) Open upstream isolating valve (4).

(c) *To test the upstream non-return valve*:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (1); and

(B) the low-pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Open test kit valve (A) and bleed water through the vent hose.

(iv) Close test kit valve (A).

(v) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(vi) Slowly close test kit needle valve (B) and observe and record the reading on the differential pressure gauge.

If a reading below 7 kPa is indicated, the upstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (1) and (2) and open test kit valves (A) and (B). Close test kit valves (A) and (B).

(d) *To test the downstream non-return valve*:

(i) Disconnect the hoses.

(ii) Connect high-pressure hose to test tap (2).

(iii) Connect low-pressure hose to test tap (3).

(iv) Open test taps (2) and (3).

(v) Repeat Steps (c)(iii) to (c)(vi).

If a reading below 7 kPa is indicated, the downstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(vi) Close test taps (2) and (3), open test kit valves (A) and (B).

(vii) Disconnect the test kit pressure hoses and open the downstream isolating valve (5). This restores the device to operating condition.

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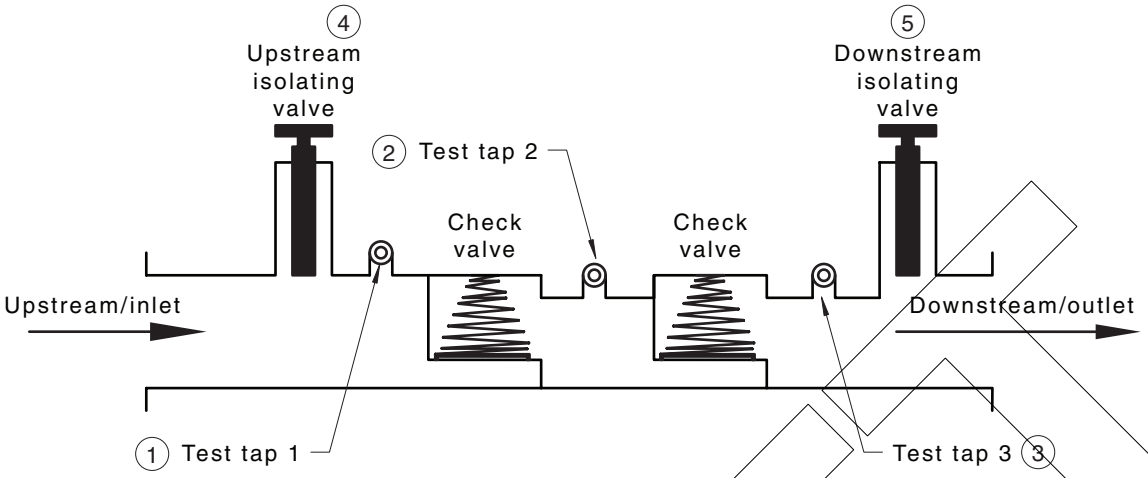

Figure F.1 — Typical double check-valve test arrangement

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Appendix G
(normative)

Field testing of reduced-pressure-detector assembly backflow prevention device

G.1 Scope

This Appendix sets out the method for field testing reduced-pressure-detector assembly.

G.2 Apparatus

A test kit, as shown in Appendix B, is required.

G.3 Procedure

G.3.1 General

The procedure for testing is in two parts as set out in Clauses G3.2 and G3.3. References to valves A, B and C relate to Appendix B. References to taps and valves 1 though to 12 relate to Figure G.1.

G.3.2 Main valve

The procedure shall be as follows:

(a) *Test preparation*:

(i) Close isolating valves (10) and (11) on bypass valve assembly.

(ii) Check and, if necessary, open the main upstream isolating valve (4).

(iii) Close the main downstream isolating valve (5).

(iv) In sequence, open and close test taps (1), (2) and (3) to flush out any impurities.

(v) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to test tap (3).

(ii) Slowly open test tap (3) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) the main upstream isolating valve (4).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

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(vi) Observe the pressure differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (4) or the downstream isolating valve (5) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from test tap (1), the upstream isolating valve (4) is leaking. If there is no continuous discharge, the downstream valve (5) is leaking.

If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (5) is leaking. Leakage invalidates the test results.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated.

(vii) Close test tap (3).

(viii) Open test kit valve (C) to relieve hose pressure.

(ix) Disconnect high-pressure hose from test tap (3).

(x) Clean line strainer where fitted.

(xi) Open upstream isolating valve (4). Ensure test kit valves (A) and (B) are closed, while (C) is open.

(c) *To test the upstream non-return valve*:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (1); and

(B) the low-pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Slowly open test kit valve (A) and bleed water through the vent hose; close test kit valve (A).

(iv) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(v) Slowly close test kit needle valve (B) and record the reading on the pressure differential gauge. This indicates the pressure drop across the upstream non-return valve.

If a reading below 35 kPa is indicated, the upstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(d) *To test relief valve*:

(i) Close test kit valve (C) and open test kit valve (A).

(ii) Slowly open test kit valve (B), observing both the pressure differential gauge and the relief port. Record the reading on the pressure differential gauge when the relief port commences discharging.

If a reading below 14 kPa is indicated, the relief mechanism shall be deemed to be faulty. The mechanism shall be repaired or replaced, and the test shall be repeated.

(iii) Close test taps (1) and (2).

(iv) Open test kit valve (C) and close test kit valves (A) and (B).

(e) To test the downstream non-return valve:

(i) Disconnect hoses.

(ii) Connect high-pressure hose to test tap (2).

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(iii) Connect low-pressure hose to test tap (3).

(iv) Open test taps (2) and (3).

(v) Slowly open test kit valve (A) and bleed water through the vent hose. Close test kit valve (A).

(vi) Slowly open test kit needle valve (B) and bleed water through the vent hose. This eliminates air from the system.

(vii) Slowly close test kit valve (C) and open test kit valve (A). Observe the relief port (6) for the presence of a continuous discharge.

A continuous discharge from the relief port (6) indicates that the downstream non-return valve is leaking. The valve shall be repaired or replaced, and the test repeated.

(viii) Record the reading on the pressure differential gauge. This is the sum of the readings of the pressure differentials of the upstream and downstream non return valves.

This reading will be required later in the test procedure [see Clause G3.3, Step (e)(vi)].

(ix) Close test taps (2) and (3), and open test kit valves (A), (B) and (C). Disconnect the test kit hoses.

G.3.3 Bypass valve

The procedure shall be as follows:

(a) *Test preparation*:

(i) Open upstream isolating valve (10).

(ii) In sequence, open and close test taps (7), (8) and (9) to flush out any impurities.

(iii) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to test tap (9).

(ii) Slowly open test tap (9) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (10).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the pressure differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (10) or the downstream isolating valve (11) is leaking. To determine which valve is leaking, open test tap (7). If there is a continuous discharge of water from test tap (7), the upstream isolating valve (10) is leaking. If there is no continuous discharge, the downstream isolating valve (11) is leaking.

If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (11) is leaking.

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Faulty isolating valves shall be repaired or replaced, and the test shall be repeated. Leakage invalidates the test results.

(vii) Close test tap (9).

(viii) Open test kit valve (C) to relieve hose pressure.

(ix) Disconnect high-pressure hose for test tap (9).

(x) Clean line strainer where fitted.

(xi) Open upstream isolating valve (10). Ensure test kit valves (A) and (B) are closed, while (C) is open.

(c) *To test the upstream non-return valve*:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (7); and

(B) the low-pressure hose of the test kit to test tap (8).

(ii) Open test taps (7) and (8).

(iii) Slowly open test kit valve (A) and bleed water through the vent hose. Close test kit valve (A).

(iv) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(v) Slowly close test kit needle valve (B) and record the reading on the differential pressure gauge (this indicates the pressure drop across the upstream non-return valve).

If a reading below 35 kPa is indicated, the upstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(d) *To test relief valve*:

(i) Close test kit valve (C) and open test kit valve (A).

(ii) Slowly open test kit needle valve (B) and observe both the pressure differential gauge and the relief port. Record the reading on the pressure differential gauge when the relief port commences discharging.

If a reading below 14 kPa is indicated, the relief mechanism shall be deemed to be faulty. The mechanism shall be repaired or replaced, and the test shall be repeated.

(iii) Close test taps (1) and (2).

(iv) Open test kit valve (C) and close test kit valves (A) and (B).

(e) *To test the downstream non-return valve*:

(i) Disconnect low-pressure hose from test tap (8) and reconnect to test tap (9).

(ii) Open test taps (7) and (9).

(iii) Slowly open test kit valve (A) and bleed water through the vent hose. Close test kit valve (A).

(iv) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

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(v) Slowly close test kit valve (C) and open test kit valve (A). Observe the relief port (12) for the presence of a continuous discharge.

A continuous discharge from the relief port (12) indicates that the downstream non-return valve is leaking. The valve shall be repaired or replaced, and the test repeated.

(vi) Record the reading on the pressure differential test gauge. This is the sum of the readings of the pressure differentials of the upstream and downstream non-return valves.

The sum of the readings of the pressure differentials of the upstream and downstream non-return valves of the main reduced pressure zone device [reading in Clause G3.2 Step (e)(vi)] shall be not less than 20 kPa higher than the sum of the readings of the pressure differentials of the upstream and downstream non-return valves of the bypass reduced pressure zone device [reading in Clause G3.3 Step (e)(vi)].

If the sum of pressure differentials is less than 20 kPa, the main valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (7) and (9), and open test kit valves (A), (B) and (C). Disconnect the test kit pressure hoses and open the downstream isolating valves (11) and (5). This restores the device to operating condition.

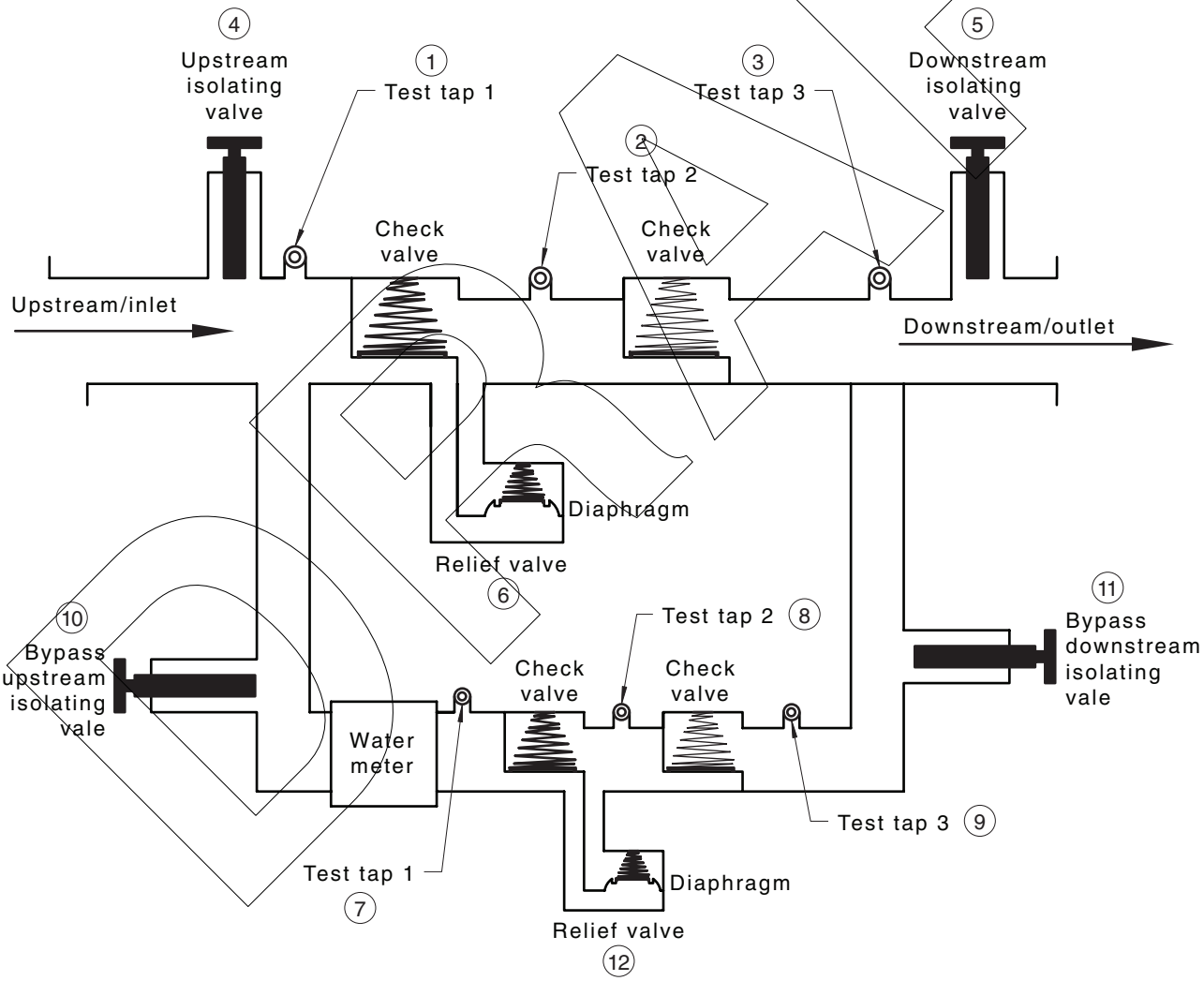

Figure G.1 — Typical test arrangement for reduced-pressure detector assembly (RPDA)

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Appendix H
(normative)

Field testing of double check detector assembly backflow prevention device

H.1 Scope

This Appendix sets out the method for field testing a double check detector assembly backflow prevention device.

H.2 Apparatus

A test kit, as shown in Appendix B, is required.

H.3 Procedure

H.3.1 General

The procedure for testing is in two parts as set out in Clauses H.3.2 and H.3.3. References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 10 relate to Figure H.1.

H.3.2 Main valve

The procedure shall be as follows:

(a) *Test preparation*:

(i) Close isolating valves (9) and (10) on bypass valve assembly.

(ii) Check and if necessary open inlet isolating valve (4).

(iii) In sequence, open and close test taps (1), (2) and (3) to flush out any impurities.

(iv) Close downstream isolating valve (5).

(v) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to test tap (3).

(ii) Slowly open test tap (3) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (4).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

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(v) Close test kit valve (B).

(vi) Observe the pressure differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (4) or the downstream isolating valve (5) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from test tap (1), the upstream isolating valve (4) is leaking. If there is no continuous discharge, the downstream isolating valve (5) is leaking.

If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (5) is leaking. Leakage invalidates the test results.

Faulty isolating valves shall be repaired or replaces, and the test shall be repeated.

(vii) Close test tap (3).

(viii) Close test kit valves (A) and open test kit valve (C).

(ix) Disconnect high-pressure hose from test tap (3).

(x) Clean line strainer where fitted.

(xi) Open upstream isolating valve (4).

(c) *To test the upstream non-return valve*:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (1); and

(B) the low-pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Open test kit valve (A) and bleed water through the vent hose.

(iv) Close test kit valve (A).

(v) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(vi) Slowly close test kit needle valve (B) and observe and record the reading on the differential pressure gauge.

If a reading below 7 kPa is indicated, the upstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (1) and (2) and open test kit valves (A) and (B). Close test kit valves (A) and (B).

(d) *To test the downstream non-return valve*:

(i) Disconnect the hoses.

(ii) Connect high-pressure hose to test tap (2).

(iii) Connect low-pressure hose to test tap (3).

(iv) Open test taps (2) and (3).

(v) Repeat Steps (c)(iii) to (c)(vi).

If a reading below 7 kPa is indicated, the downstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

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(vi) Add the reading recorded in Step (c)(iv) to the reading in Step (d)(iv). This is the sum of the readings of the pressure differentials of the upstream and downstream non-return valves of the main double check valve.

This reading will be required later in the test procedure [see Clause H.3.3, Step (d)(v)].

(vii) Close test taps (2) and (3), open test kit valves (A) and (B). Disconnect the test kit hoses from test taps (2) and (3).

H.3.3 Bypass valve

The procedure shall be as follows:

(a) *Test preparation*:

(i) Open upstream isolating valve (9).

(ii) In sequence, open and close test taps (6), (7) and (8) to flush out any impurities.

(iii) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to the test tap (8).

(ii) Slowly open test tap (8) and vent water through the vent hose.

(iii) In sequence, close —

(A) Test kit valve (C); and

(B) Upstream isolating valve (9).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the differential pressure gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (9) or the downstream isolating valve (10) is leaking. To determine which valve is leaking, open test tap (6). If there is a continuous discharge of water from test tap (6), the upstream isolating valve (9) is leaking. If there is no continuous discharge, the downstream isolating valve (10) is leaking.

If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (10) is leaking. Leakage invalidates the test results.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated.

(vii) Close test tap (8).

(viii) Close test kit valve (A) and open test kit valve (C).

(ix) Disconnect high-pressure hose from test tap (8).

(x) Clean line strainer where fitted.

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(xi) Open upstream isolating valve (9).

(c) *To test the upstream non-return valve*:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (6); and

(B) the low-pressure hose of the test kit to test tap (7).

(ii) Open test taps (6) and (7).

(iii) Open test kit valve (A) and bleed water through the vent hose.

(iv) Close test kit valve (A).

(v) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(vi) Slowly close test kit needle valve (B) and observe and record the reading on the differential pressure gauge.

If a reading below 7 kPa is indicated, the upstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (6) and (7). Open test kit valves (A) and (B). Close test kit valves (A) and (B).

(d) *To test the downstream non-return valve*:

(i) Disconnect the low-pressure hose from test tap (7) and reconnect to test tap (8).

(ii) Disconnect the high-pressure hose from test tap (6) and reconnect to test tap (7).

(iii) Open test taps (7) and (8).

(iv) Repeat Steps (c)(iii) to (c)(vi) inclusive.

If a reading below 7 kPa is indicated, the downstream non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(v) Add the reading recorded in Step (c)(vi) to the reading recorded in Step (d)(iv). This is the sum of the readings of the pressure differentials of the upstream and downstream non-return valves of the bypass double check valve.

The sum of the readings of the pressure differentials of the upstream and downstream non-return valves of the main double check valve [reading in H3.2 Step (d)(vi)] shall not be less than 20 kPa higher than the sum of the readings of the pressure differentials of the upstream and downstream non-return valves of the bypass double check valve [reading in Clause H.3.3 Step (d)(v)].

If the sum of pressure differentials is less than 20 kPa, the main valve shall be repaired or replaced, and the test shall be repeated.

(vi) Close test taps (7) and (8), open test kit valves (A), (B) and (C). Disconnect the test kit pressure hoses and open the downstream isolating valves (10) and (5). This restores the device to operating condition.

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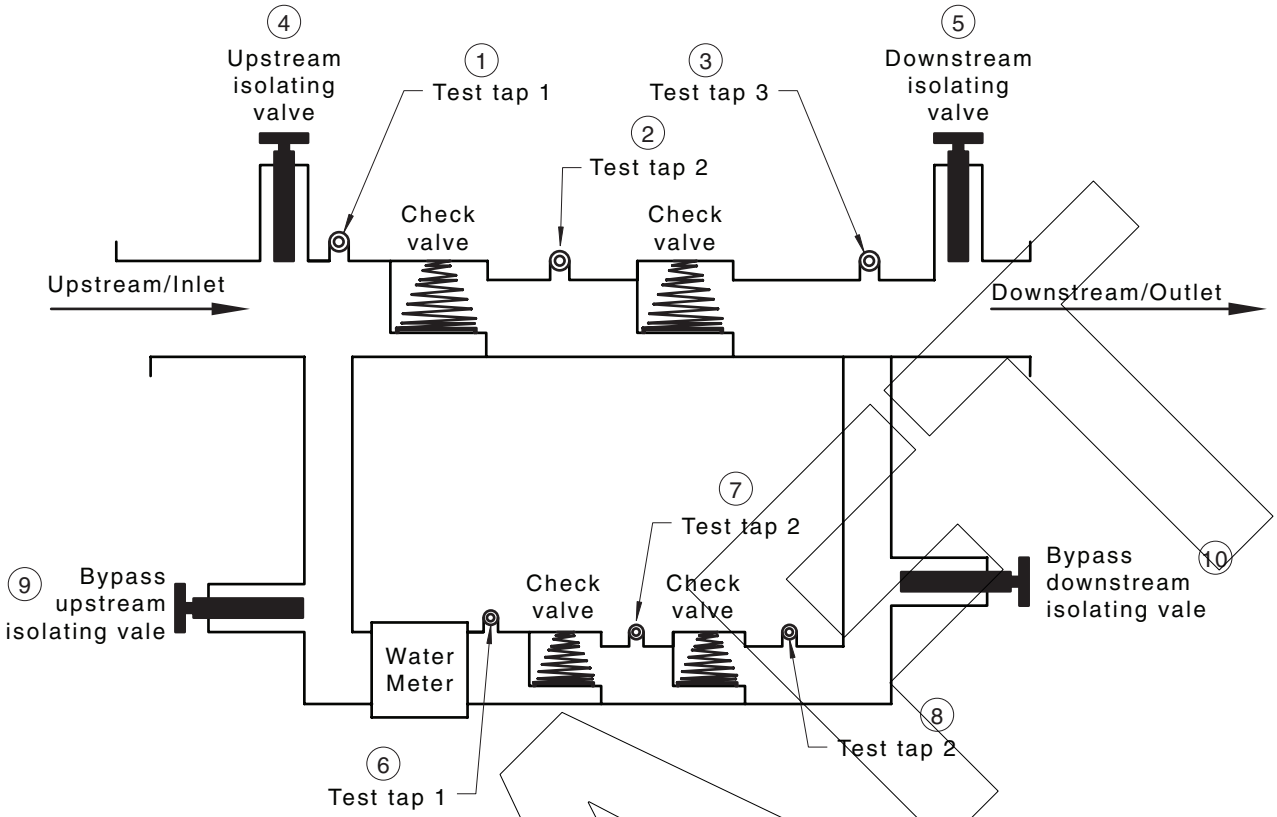

Figure H.1 — Typical test arrangement for double check detector assembly (DCDA)

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Appendix I
(normative)

Field testing of single check-valve (testable) backflow prevention device

I.1 Scope

This Appendix sets out the method for field testing single check valve testable device.

I.2 Apparatus

A test kit, as shown in Appendix B, is required.

I.3 Procedure

References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 4 relate to Figure I.1.

The procedure shall be as follows:

(a) *Test preparation*:

(i) Check and if necessary open upstream isolating valve (3).

(ii) In sequence, open and close test taps (1) and (2) to flush out any impurities.

(iii) Close downstream isolating valve (4).

(iv) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to test tap (2).

(ii) Slowly open test tap (2) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (3).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the pressure differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (3) or the downstream isolating valve (4) is leaking. To determine which valve is leaking, open test tap (1). If there is a continuous discharge of water from the test tap (1), the upstream isolating valve (3) is leaking.

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If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (4) is leaking. Leakage invalidates the test results.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated.

(vii) Close test tap (2).

(viii) Close test kit valve (A) and open test kit valve (C).

(ix) Remove high-pressure hose from test tap (2).

(c) To test the non-return valve:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (1); and

(B) the low-pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Open test kit valve (A) and bleed water through the vent hose.

(iv) Close test kit valve (A).

(v) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(vi) Slowly close test kit needle valve (B) and observe and record the reading on the differential pressure gauge.

If a reading below 7 kPa is indicated, the non-return valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (1) and (2) and open test kit valves (A) and (B). Close test kit valves (A) and (B).

(viii) Disconnect the test kit pressure hoses and open the downstream isolating valve (4). This restores the device to operating condition.

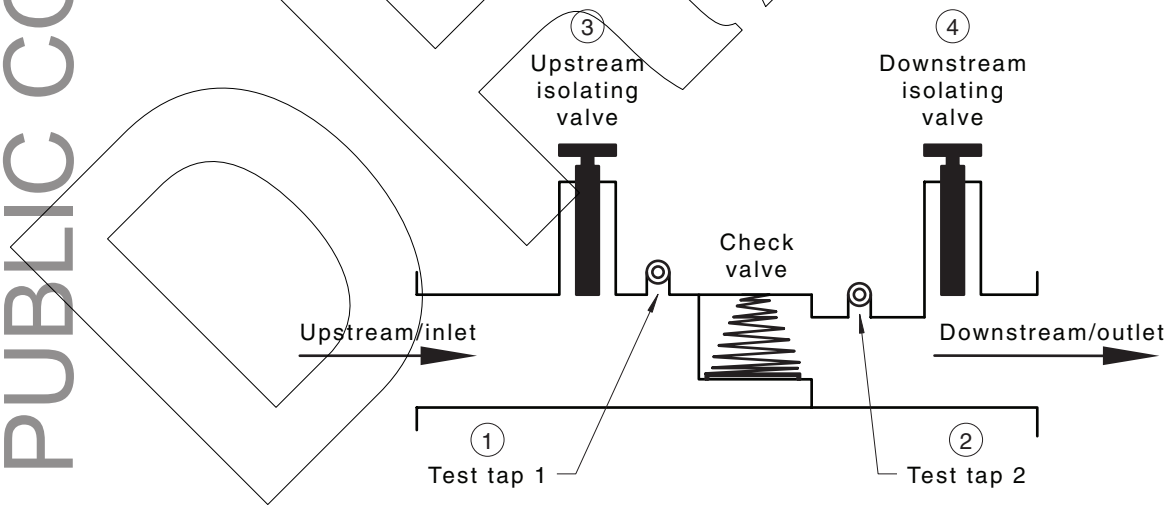

Figure I.1 — Typical test arrangement for single check valve testable (SCVT)

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Appendix J
(normative)

Field testing of single check-valve detector assembly testable backflow prevention devices

J.1 Scope

This Appendix sets out the method for field testing single check-valve detector assemblies.

J.2 Apparatus

A test kit, as shown in Appendix B, is required.

J.3 Procedure

References to valves A, B and C relate to Appendix B. References to taps and valves 1 to 7 relate to Figure J.1.

The procedure shall be as follows:

(a) *Main valve test preparation*:

(i) With reference to Figure J.1 check and, if necessary, open upstream isolating valve (3).

(ii) Close isolating valves (6) and (7) on bypass valve assembly.

(iii) Close downstream isolating valve (4).

(iv) In sequence, open and close test taps (1) and (2) to flush out any impurities.

(v) Ensure test kit valve (A) is open, (B) is closed and (C) is open.

(b) *To test the upstream and downstream isolating valves*:

(i) Connect the high-pressure hose to test tap (2).

(ii) Slowly open test tap (2) and vent water through the vent hose.

(iii) In sequence, close —

(A) test kit valve (C); and

(B) upstream isolating valve (3).

NOTE The differential gauge will indicate a high reading.

(iv) Slowly open test kit valve (B) and drop the gauge pressure (needle) by a visible amount (to observe pressure rise or fall).

(v) Close test kit valve (B).

(vi) Observe the differential gauge.

If the pressure on the gauge is rising, either the upstream isolating valve (3) or the downstream isolating valve (4) is leaking. To determine which valve is leaking, open test tap (1). If there is

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a continuous discharge of water from test tap (1), the upstream isolating valve (3) is leaking. If there is no continuous discharge, the downstream isolating valve (4) is leaking.

If the pressure on the gauge is dropping (approaching zero), the downstream isolating valve (4) is leaking. Leakage invalidates the test results.

Faulty isolating valves shall be repaired or replaced, and the test shall be repeated.

(vii) Close test tap (2).

(viii) Close test kit valves (A) and open test kit valve (C).

(ix) Remove high-pressure hose from test tap (2).

(x) Open upstream isolation valve.

(c) *To test the non-return valve*:

(i) Connect —

(A) the high-pressure hose of the test kit to test tap (1); and

(B) the low-pressure hose of the test kit to test tap (2).

(ii) Open test taps (1) and (2).

(iii) Open test kit valve (A) and bleed water through the vent hose.

(iv) Close test kit valve (A).

(v) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

(vi) Slowly close test kit needle valve (B) and observe and record the reading on the differential pressure gauge.

If a reading below 17 kPa is indicated, the non-return valve shall be deemed to be faulty. The non-return valve shall be repaired or replaced, and the test shall be repeated.

(vii) Close test taps (1) and (2) and open test kit valves (A) and (B). Close test kit valves (A) and (B). Disconnect the test kit pressure hoses.

(viii) Open isolating valves (6) and (7).

(d) *To test the bypass dual check valve*:

(i) Open and close test tap (5) to flush out any impurities.

(ii) Connect —

(A) the high-pressure hose of the test kit to test tap (5); and

(B) the low-pressure hose of the test kit to test tap (2).

(iii) Open test taps (5) and (2).

(iv) Open test kit valve (A) and bleed water through the vent hose.

(v) Close test kit valve (A).

(vi) Slowly open test kit needle valve (B) and bleed water through the vent hose to eliminate air from the system.

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(vii) Slowly close test kit needle valve (B) and observe and record the reading on the pressure differential gauge.

If a reading below 7 kPa is indicated, the dual check valve shall be deemed to be faulty. The valve shall be repaired or replaced, and the test shall be repeated.

The reading of the pressure differential of the non-return valve of the main single check valve [reading in Step (c)(vi)] shall be not less than 10 kPa higher than the readings of the pressure differential of the non-return valves on the bypass dual check valve [reading in Step (d)(vii)].

If the sum of pressure differentials is less than 10 kPa, the main valve shall be repaired or replaced, and the test shall be repeated.

(viii) Close test taps (5) and (2), disconnect the test kit pressure hoses and open the downstream isolating valves (7) and (4). This restores the device assembly to operating condition.

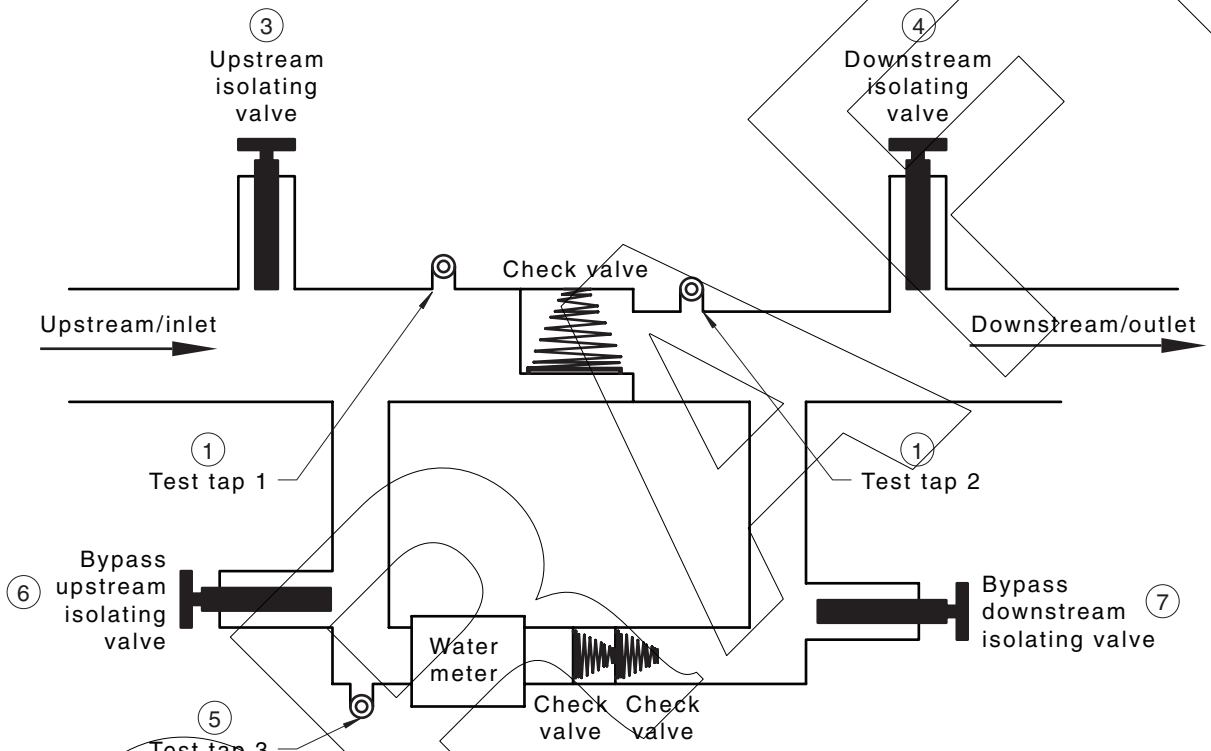

Figure J.1 — Typical test arrangement for single check detector assembly (testable) (SCDAT)

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Appendix K
(normative)

Field testing of atmospheric vacuum breaker backflow prevention devices

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K.1 Scope

This Appendix sets out the method for testing the operation of atmospheric vacuum-breaker backflow prevention devices.

K.2 Apparatus

No apparatus is required.

K.3 Procedure

With reference to Figure K.1, the procedure shall be as follows:

(a) Remove airport shield.

(b) Operate the device by turning on the fixture or equipment and observe that the air inlet valve or float opens (rises) on increase in pressure.

(c) Operate the device by turning off the fixture or equipment and observe that the air inlet valve or float closes (lowers) on decrease in pressure.

If the air inlet valve fails to rise or lower under normal working pressure, the device shall be deemed to be faulty. The device shall be repaired or replace, and the test shall be repeated.

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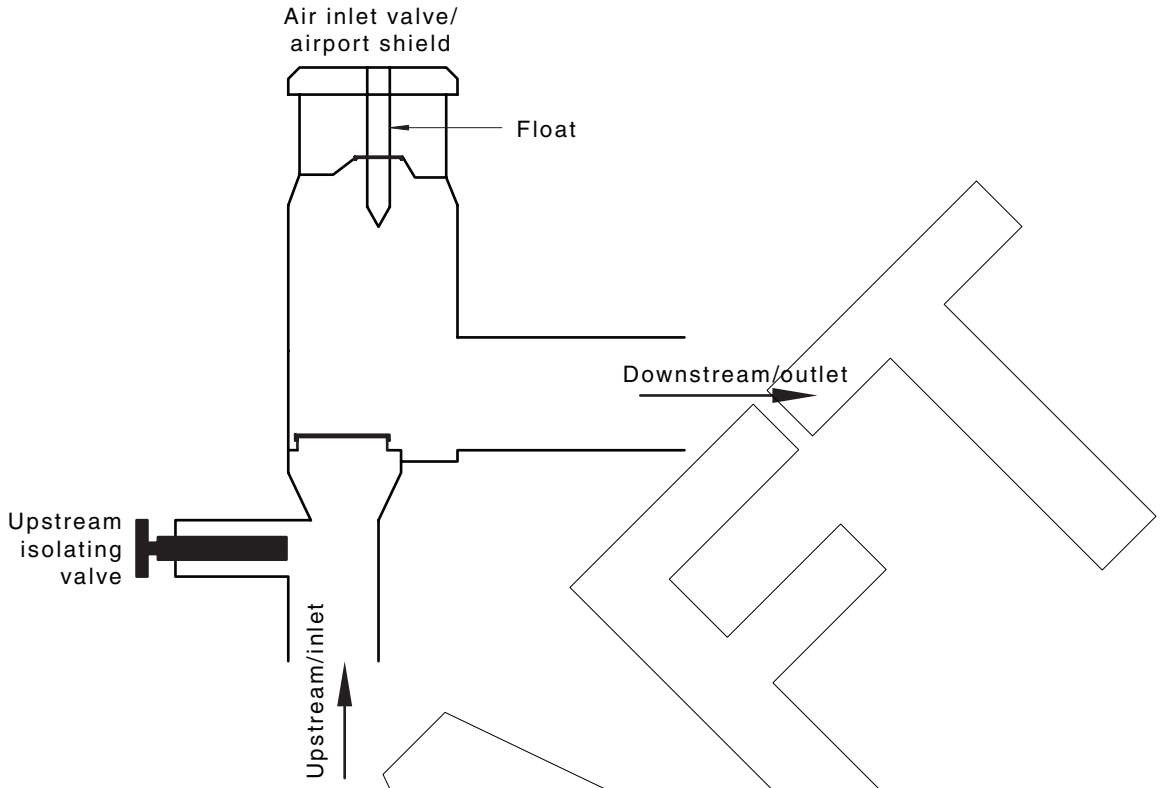

Figure K.1 — Typical test arrangement for atmospheric vacuum breaker (AVB)

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Appendix L
(informative)

Example of format for reporting test results for registered air gaps and registered break tanks

TEST RESULTS FOR REGISTERED AIR GAPS AND REGISTERED BREAK TANKS

Owner of property: Date: DD/MM/YY

Mailing address: Examined by:

Certificate No.:

Postcode:

Contact person: Phone No.:

Device address: Postcode:

Exact device location:

Please tick the appropriate box.

Device type:

☐ Registered air gap

☐ Registered break tank

Registration serial No.:

Does the supply pipework have connections requiring backflow protection?:

☐ Yes ☐ No

Air gap details:

Size of inlet orifice: (d1): mm Size of air gap: mm

Air gap bridged or bypassed?:

☐ Yes ☐ No

Additional details for break tank:

Overflow cross-sectional area (a2) mm^2

Overflow details:	Yes	No
Overflow free of obstructions:	☐	☐
Float control valve free of mechanical/corrosion damage:	☐	☐
Mechanical parts free of damage or wear:	☐	☐
Control valve operational:	☐	☐

☐ PASS ☐ FAIL

Remarks:

Plumber's name: (BLOCK LETTERS)

Plumber's signature: Plumber's licence No.:

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Appendix M
(informative)

Example of format for reporting inspection and maintenance for backflow prevention devices

INSPECTION AND MAINTENANCE FOR BACKFLOW PREVENTION DEVICES					
NOTE: All details to be printed in BLOCK LETTERS.					
☐ **INITIAL TEST** ☐ **RETEST**			☐ **STANDARD TEST** ☐ **AUDIT TEST**		
Owner/occupier: Address: Contact person:			Authorized tester's name: Licence number: Date of test: DD/MM/YY		
DEVICE DETAILS AND TEST RESULTS: Location of device: Make and type: Size (mm): Model No: Serial No.:					
	REDUCED-PRESSURE-ZONE DEVICE DOUBLE CHECK VALVE (Columns 1 and 2)			PRESSURE TYPE VACUUM-BREAKER	
	Check valve Number 1	Check valve Number 2	Differential pressure	Air inlet	Check valve
Initial test before maintenance:	☐ Double check closed tight: RP kPa ☐ Leaked	☐ Closed tight: ☐ Leaked	Opened at: kPa	Opened at: kPa ☐ Not opened	Opened at kPa ☐ Not opened
Described maintenance:					
Parts and materials used:					
Test after maintenance:	☐ Double check closed test RP kPa	☐ Closed tight	Opened at kPa	Opened at kPa	kPa
REMARKS: Test kit serial No.:		Date test kit last verified: DD/MM/YY			
PASS ☐	**FAIL** ☐	Tested to appendix: of AS 2845.3:201X Plumber's name: Plumber's signature: Date: DD/MM/YY			

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Committee WS-023, Backflow Prevention Devices For Water Supply, consisting of the following, is responsible for the issue of this draft:

Australian Building Codes Board
Australian Chamber of Commerce and Industry
Australian Industry Group
Backflow Prevention Association of Australia
Department for Manufacturing, Innovation, Trade, Resources and Energy, SA
Department of Mines, Industry Regulation and Safety, WA
Engineers Australia
Environment and Planning Directorate, ACT
Master Plumbers Australia
Master Plumbers, Gasfitters and Drainlayers New Zealand
NSW Fair Trading
Plastics Industry Pipe Association of Australia
Plumbing Products Industry Group
Queensland Brassware Association
Victorian Building Authority
Water New Zealand
Water Services Association of Australia

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