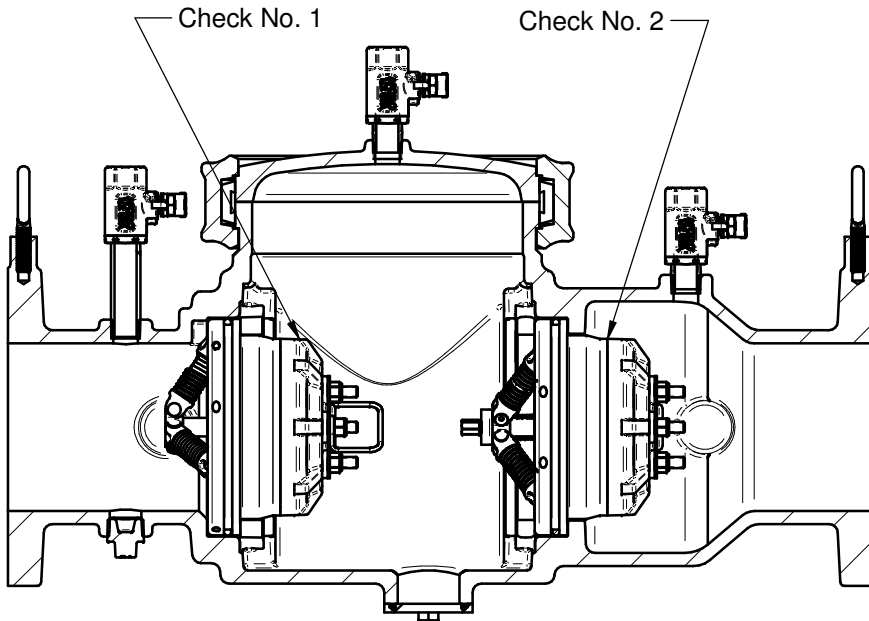
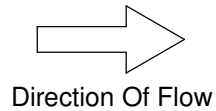


DESCRIPTION AND OPERATION

The Double Check Valve (DC) device consists of two independently acting, spring-loaded check valves and three test cocks complete the assembly.

Each check is designed to maintain a minimum of 7 kPa across the valve during normal operation. If at any time the pressure downstream of the device increases above the supply pressure, both check valves will close to prevent any backflow from occurring.



SPECIFICATIONS

Maximum working water pressure: PN 12 (1200 kPa)

Maximum working water temperature: 60° C

Hydrostatic test pressure: 1500 kPa

End connections: In compliance with AS 2129

TROUBLESHOOTING GUIDE

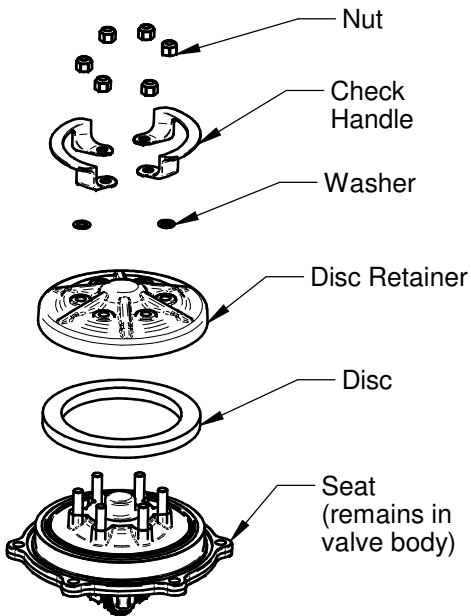
SYMPTOM	CAUSE	CORRECTIVE ACTION
1. Check valve fails to hold 7 kPa.	<ul style="list-style-type: none"> a. Shut-off valve not closed completely. b. Check valve fouled with debris. c. Check poppet stem not moving freely in guide. 	<ul style="list-style-type: none"> a. Close #2 shut-off valve or inspect for possible through leakage. b. Inspect and clean seat disc and seat. c. Inspect for debris or deposit on poppet stem or guide.

Check Removal, DN 200 and DN 250

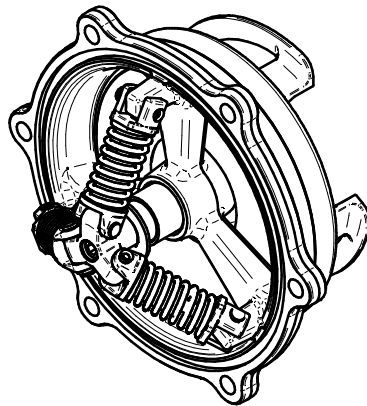
If removing the entire check module is necessary, remove the reusable locknuts on the check seat with a 3/4" socket and ratchet. Lift the entire check module from the body using lifting handles. When replacing the check module, ensure the o-ring is positioned properly in its groove. Lubrication may aid in o-ring retention.

If only cleaning of the disc is necessary, remove only the locknuts on the black plastic disc retainer. The seat will remain in the body. Remove the locknuts, handles, and nuts and lift the disc retainer out of the body. The disc may then be cleaned or replaced as needed. Replace parts in reverse order. Do not overtighten the locknuts.

CHECK VALVE ASSEMBLY (Shown as removed from the valve body for disc cleaning only)



CHECK VALVE ASSEMBLY (Shown as a complete assembly removed from the valve body)



NOTE: The springs are factory installed and should not be removed or adjusted. Serious injury could occur if springs are disassembled.

INSTALLATION

ALL INSTALLATIONS SHALL COMPLY WITH AS/NZS 3500.1

- The DC must be installed in an accessible location to facilitate periodic field testing and maintenance and not subject to freezing.
- Flush all upstream piping thoroughly to remove foreign matter prior to installing the device.
- The device should be installed either horizontally or vertical up for ease of maintenance and testing. A clearance between the lower most portion of the device and flood grade or floor should be provided for ease of maintenance.
- Upstream and downstream resilient seated shutoff valves are required to be installed and a line strainer is required except as provided by AS/NZS 3500.1. After installing the assembly and with downstream or #2 shut-off valve closed, pressurize the device and bleed air through test cock #3. Then open #2 shut-off valve.

Test Setup

1. Obtain permission to shut off the water supply.
2. Determine the direction of flow.
3. Identify and "blow out" test cocks and install appropriate adapters.
4. All test kit valves are closed.

IMPORTANT: THE TEST KIT AND HOSE MUST BE HELD AT PROPER LEVEL.

Note: The bleed valve assembly and vertical tube assembly are not included with the test kit. The bleed valve assembly is only required if #1 shut-off valve leaks by.

TEST #1 DETERMINE THE STATIC PRESSURE DROP ACROSS CHECK VALVE #1.

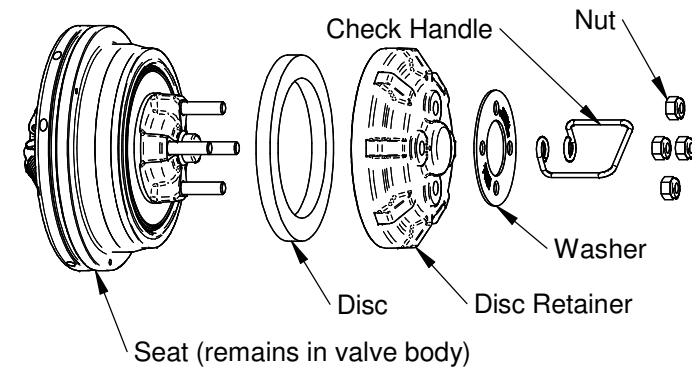
REQUIREMENT: #1 CHECK VALVE PRESSURE DROP SHALL BE AT LEAST 7 kPa.

1. Attach a bleed valve assembly to test cock #1 and high hose of test kit to bleed valve assembly.

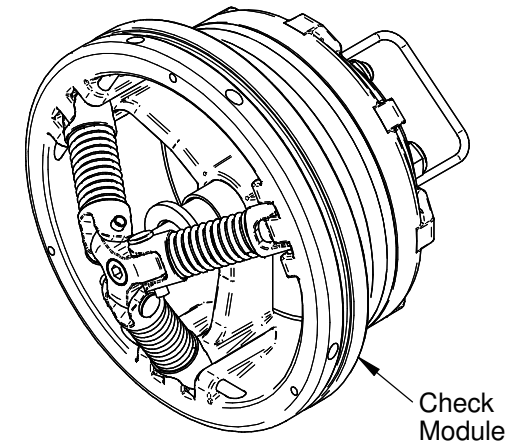
NOTE: The bleed valve assembly is only required if the #1 shut-off valve leaks by. It may be omitted otherwise.

2. Open test cock #1 and bleed test kit by opening high side bleed valve (high and by-pass valves on a 3-valve test kit). Close the bleed high valve (high valve on a 3-valve test kit).
3. Open test cock #2 to fill the vertical tube or test cock, then close test cock #2.
4. Close #2 shut-off valve, then close #1 shut-off valve.
5. With the test kit and hoses at the same height as the water in the tube or test cock #2, slowly open test cock #2.
 - a. If water stops running record #1 check valve pressure drop. Proceed to step #7.
 - b. If water continues to flow from test cock #2. Proceed to step #6.
 - c. If water recedes from test cock #2. Lower the test kit to the centerline of the assembly and record #1 check valve pressure drop. Record #2 check valve and #2 shut-off valve as "leaking"

CHECK VALVE ASSEMBLY (Shown as removed from the valve body for disc cleaning only)



CHECK VALVE ASSEMBLY (Shown as a complete assembly removed from the valve body)

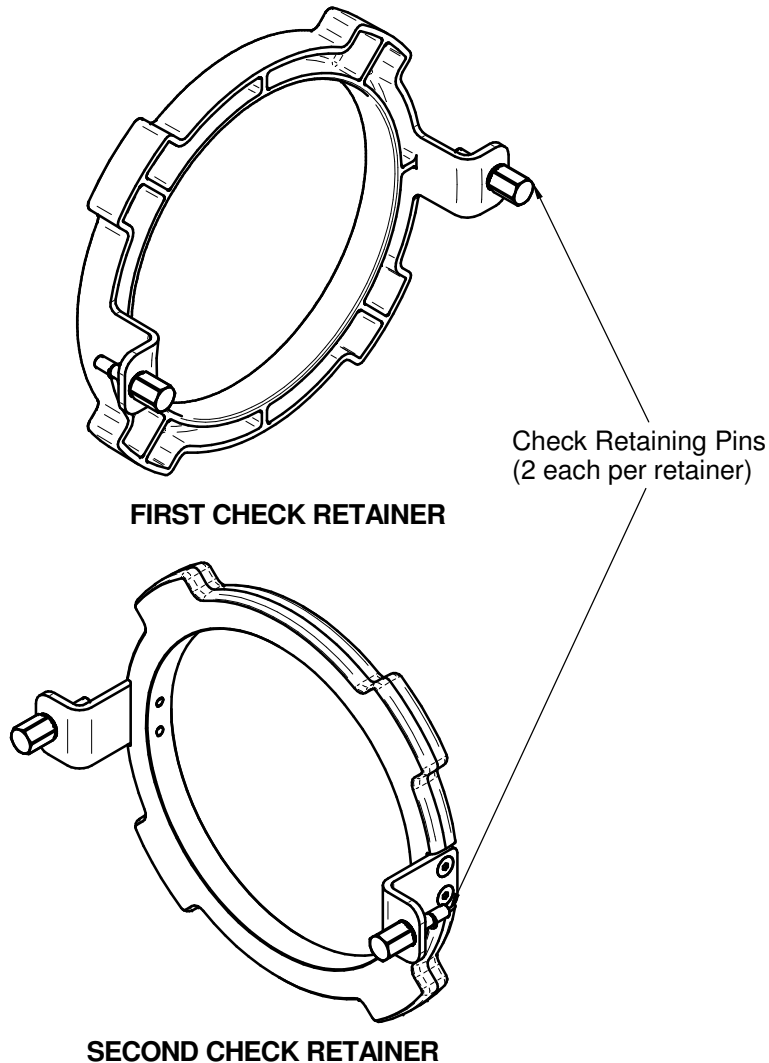


NOTE: The springs are factory installed and should not be removed or adjusted. Serious injury could occur if springs are disassembled.

Check Removal, DN 65 - DN 150

If removing the entire check module is necessary, remove the check retainers by unscrewing the retaining pins with a 3/8" wrench (the pins are retained and will not fall out). When the pins are loose, rotate the check retainer to align the tabs with the slots in the valve body. Then remove the retainer. The first check retainer is plastic. The second check retainer is stainless steel. They are not interchangeable. Lift the entire check module from the body and clean as needed. Replace parts in reverse order. Securely tighten retainer pins.

NOTE: Once installed, the retainer may rotate a few degrees in either direction. This is normal. The retainer pins once installed will prevent the retainer from disengaging its groove.



6. Observe the test kit reading, then slowly open the bleed valve assembly.
 - a. If the bleed valve assembly can be adjusted so there is a slight drip from test cock #2 and flow from the bleed valve assembly, then record the test kit reading as the #1 check valve pressure drop. Proceed to step #7.
 - b. If the bleed valve assembly cannot be adjusted to allow a slight drip from test cock #2, then the leaky #1 shut-off valve must be repaired before the test may be completed.
 - c. If water does not continue to flow from the bleed valve assembly with water still flowing from test cock #2, record the test kit reading as the #1 check valve pressure drop. Record #2 check valve as "leaking" and #2 shut-off valve "leaking under backpressure".
7. Close all test cocks, open #1 shut-off valve, and remove all test equipment.

TEST #2 DETERMINE THE STATIC PRESSURE DROP ACROSS CHECK VALVE #2.

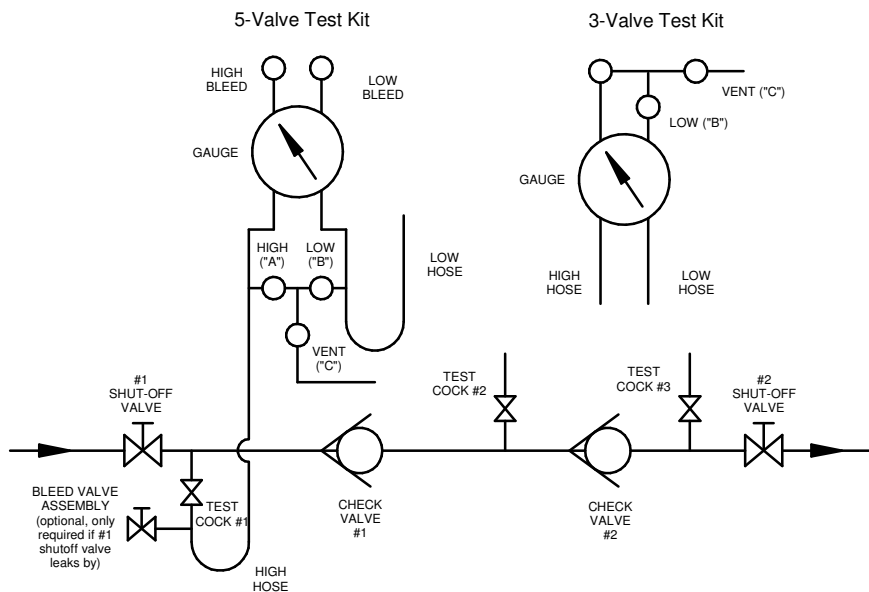
REQUIREMENT: #2 CHECK VALVE PRESSURE DROP SHALL BE AT LEAST 7 kPa.

1. Attach a bleed valve assembly to test cock #2 and high hose of test kit to bleed valve assembly.

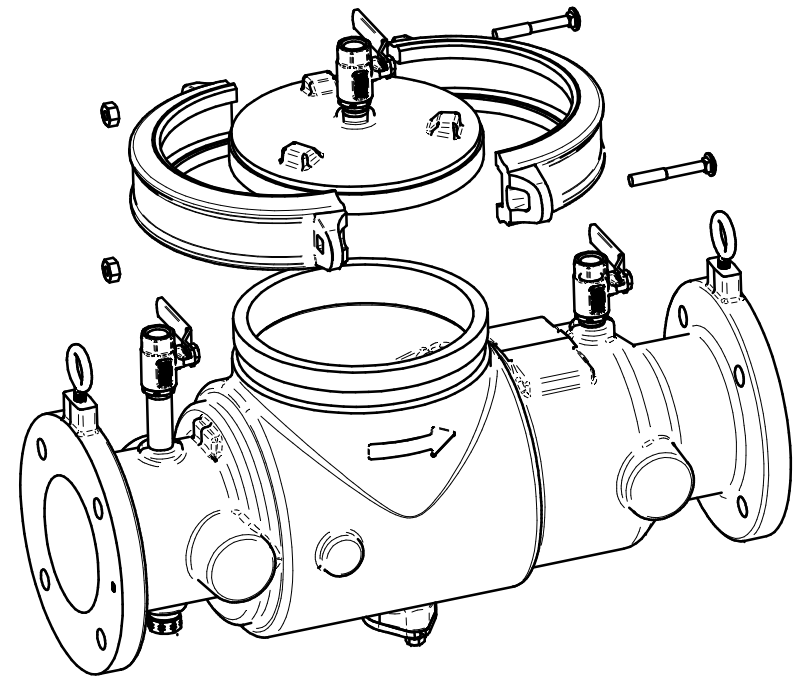
NOTE: The bleed valve assembly is only required if the #1 shut-off valve leaks by. It may be omitted otherwise.

2. Open test cock #2 and bleed test kit by opening high side bleed valve (high valve on a 3-valve test kit). Close the bleed high valve (high valve on a 3-valve test kit).
3. Open test cock #3 to fill the vertical tube or test cock, then close test cock #3.
4. Close #1 shut-off valve.
5. With the test kit and hoses at the same height as the water in the tube or test cock #3, slowly open test cock #3.
 - a. If water stops running, record #2 check valve pressure drop. Proceed to step #7.
 - b. If water continues to flow from test cock #3, proceed to step #6.

- c. If water recedes from test cock #3, lower the test kit to the centerline of the assembly and record #2 check valve pressure drop. Note #2 shut-off valve is leaking. Proceed to step #7
6. Observe the test kit reading, then slowly open the bleed valve assembly:
- If the bleed valve assembly can be adjusted so there is a slight drip from test cock #3 and flow from the bleed valve assembly, then record the test kit reading as the #2 check valve pressure drop. Proceed to step #7.
 - If water does not continue to flow from the bleed valve assembly with water still flowing from test cock #3, record the test kit reading as the #2 check valve pressure drop. Note the #2 shut-off valve leaking under back pressure. Proceed to step #7.
 - If it is not possible to adjust the bleed valve assembly to allow a slight drip at #3 test cock, check #1 shut-off to make sure it is closed tight. If a slight drip cannot be obtained at test cock #3, AND test #1 passed, close the bleed valve assembly and open test cock #1. Record test kit reading as the #2 check valve pressure drop.
7. Close all test cocks and remove all test equipment.
 8. Open #1 shut-off valve, then slowly open #2 shut-off valve.
 9. Open all test kit valves and drain test kit.



CHECK VALVE MAINTENANCE



Make sure there is no pressure on the device by opening all test cocks. Both shut-off valves must be closed.

- Remove the cover's groove connection coupling by removing the bolts and nuts. Slide away the coupling clamps and remove the rubber gasket.
- Lift off the cover.

If only cleaning of the first check is necessary, simply remove the nuts on the black plastic disc retainer. Remove the check handle(s) and washer(s) and lift the disc retainer and disc out of the body. Clean the disc or replace if necessary. The disc may be flipped over for a temporary repair. Replace the disc, disc retainer, washer,(s) handle(s), and nuts.