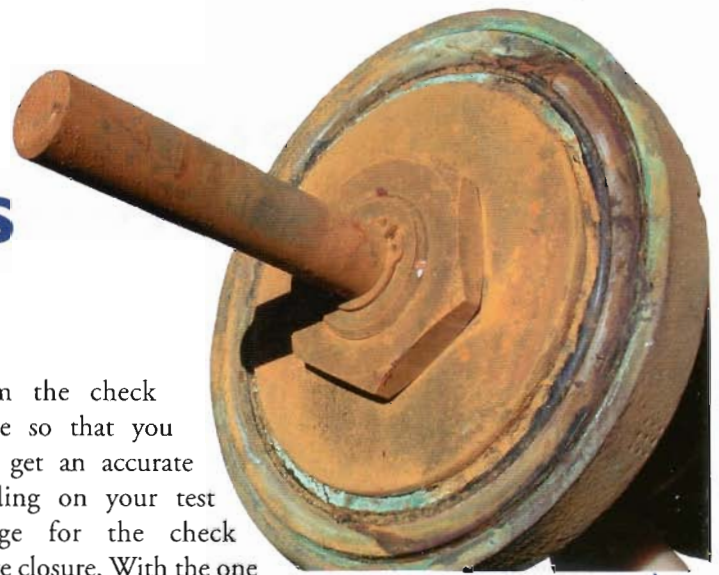


The Repair Guys



In our line of work, we field questions from contractors and technicians concerning repairs, installations, and general backflow prevention practices. We like to share some of the questions we receive and our answers. Everyone has different opinions on these subjects and we would like to hear yours. Contact us with your questions and ideas via email at: imark@backflowparts.com or mail us at American Backflow Products Co., P.O. Box 37025, Tallahassee, FL. 32315.

QUESTION —

I am testing a double check valve assembly using a differential gauge and the one-hose test. I hook the high-pressure hose to testcock number 2. When I open testcock number 3 to drain the water, it will not stop flowing. Can you explain this water flow?

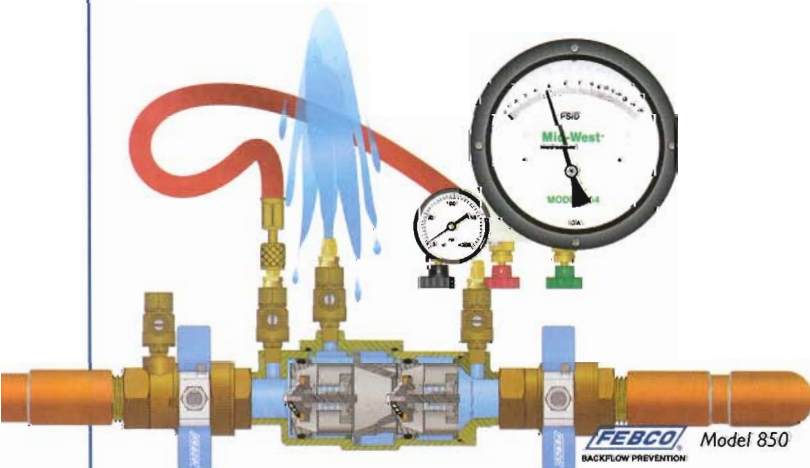
from the check valve so that you can get an accurate reading on your test gauge for the check valve closure. With the one hose test you do this by installing a bleed-off valve assembly on testcock number 2 and attach your high pressure hose to it. Then open the needle valve until the water from testcock number 3 stops flowing. At this time, you simply observe and record your gauge reading for check valve number 1.

Mark -

This works well as long as the leak in the shutoff valve is small. If the bleed-off valve assembly can not divert enough to stop water flowing from stop testcock number 3, you know the inlet shutoff valve is leaking very badly. At this point the shut-off valve must be repaired or replaced in order to test the unit correctly.

- Jason

Once you get your gauge reading for check valve number 1 then you can move on to check valve number 2. Just move the bleed-off valve assembly to testcock number 3 and do the same thing as for check valve number 1. One thing to remember is that some local jurisdictions may not allow a device to pass with leaking shut-off valves. So, it is important to check the approval rules for your area.

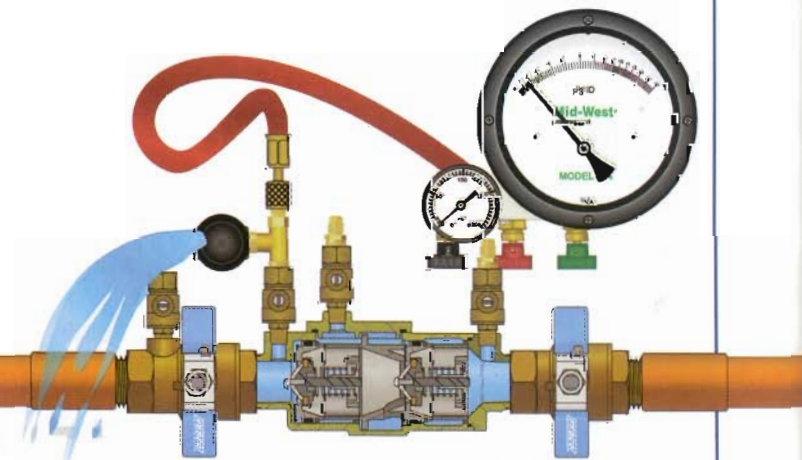


Mark -

Sounds like one of two problems. Either you have not closed both inlet and outlet shutoff valves or you have a leak in one of the shut-off valves. Having a leaking shut-off valve is a common problem, especially on units that use gate valves as shut-offs. To remedy this problem, try opening and closing the valves again, in an effort to make them seal better. If this does not stop the flow, then you will have to compensate for the leaking shut-off valve to proceed with the test.

Jason -

To compensate for a leaking shut-off valve is easier than it sounds. You are simply diverting the flow of water away



Water no longer flows through the check valve. Note the change in differential pressure between the two figures.

QUESTION —

Normally when I test the first check valve on a RPA, I will get a reading of 6.0 PSID to 8.0 PSID. I have a device that has a reading of 12.2 PSID. Can the pressure drop across check valve number 1 be too high?

Mark -

Yes, you can have an above normal psid for check valve number 1, but it does not happen very often. First, we want to make sure that your outlet shut-off valve is closed tight and not leaking. This is usually the cause of a high PSID across check valve number 1. Once you are positive that the outlet shutoff valve is closed tight, then we have to determine what the static PSI is supposed to be for that particular device.

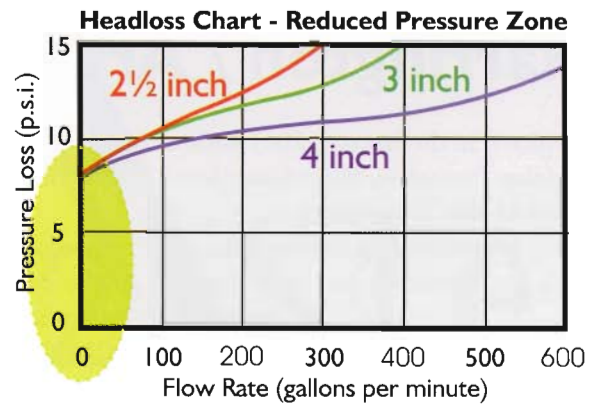
- Jason

We do that by referring to the manufacturers flow curve. That's right, it's time to find the specification sheet that we usually ignore or throw away when we install a device. What we want to look at is the first part of the curve at 0 GPM or flow. This will give you a good idea about what the static pressure drop should be for that assembly.

Mark -

Now, if the flow curve shows that the valve is to be 8.0 PSI and your reading is 8.2 PSI, that does not mean you have a

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If the pressure drop across check valve number 1 exceeds the chart value for the entire assembly at 0 gpm, then there is a problem with the check valve. Remember that some spring vendors supply specified tensions at plus or minus 20 percent.

problem. But if you get a reading of 12.2 PSI, something is not right and the check valve needs to be serviced.

- Jason

Since this is not a very common problem, the cause is usually very obvious when you take the check valve apart. Normally, it can be caused by someone who has not repaired the device correctly in the past. If you need an idea, be on the lookout for a distorted or bent check spring. dw&bp

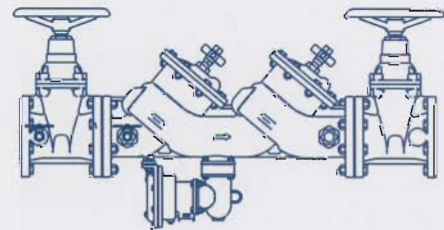


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