

The Repair Guys



Mark Inman



Doug Taylor

In our line of work, we field questions from contractors and technicians concerning repairs, installations, and general backflow prevention practices.

We'd like to share some questions that we receive as well as our answers. Everyone has different opinions on these subjects and we would like to hear yours.

Contact us with questions and ideas via email at: imark@backflowparts.com or mail us at American Backflow Products Co., PO Box 37025, Tallahassee, Florida 32315.

You Need to Know Your Hydraulic Conditions

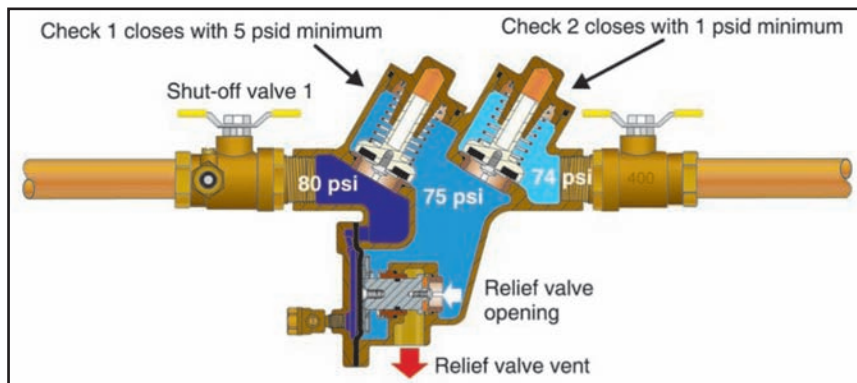
Question:

I have a 4 inch reduced pressure principle assembly that has me puzzled. The Relief Valve (RV) will discharge (drip) during evening hours and stop during the day. As I closed the #2 shutoff valve the discharge immediately stopped. When I inspected the first check valve, everything looked to be in good shape. Could there be a problem with the relief valve?

us trouble shoot the problem. First, can you determine the water usage during the times that the RV is discharging? Second, can you determine what equipment is downstream of the backflow preventer.

Doug:

You may ask why is this information about the plumbing system important and what does it have to do with the backflow preventer?



We want to know what the hydraulic conditions are within the system to help diagnose the problem with the assembly. Let's say that the assembly feeds a small office complex that is vacant during the night and evening hours.

Mark:

Based on what you described, I do not think you have a problem with the relief valve at all. The problem could possibly be with the 2nd check valve. Before we make that diagnosis, we should get a little more information. You noticed that the RV was discharging only at certain times of the day and the discharge stopped when you closed the #2 shutoff valve. In this situation, we should look at the plumbing system to help

An office complex will normally have a water heater within the building as well. You could be dealing with pressure fluctuations, backpressure, or even water flowing through the unit. How the assembly reacts to each of these conditions will help us figure out what the problem could be.

Mark:

In this particular situation the problem may be a combination of backpressure caused by thermal expansion and a fouled #2 check valve. As a general rule, we know that the relief valve will discharge if there is backpressure present and the # 2 check is leaking. The first clue is when you closed the outlet gate valve, you sealed off the





backpressure and the discharge stopped. The second clue was the fact that the discharge occurred only when the building was vacant and there was no discharge during the day when water was being used regularly.

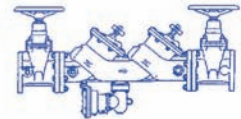
Doug:

If this is true, you will probably find at least a badly damaged second check disc. Many times the information you use to troubleshoot

can come from different sources such as the customer or maintenance person. This is a quick and easy way to collect information, and in some cases, save you time and money on the job. If you find the source of the problem, you can help the customer to correct it, therefore saving him money as well. By the way, after you are done with the repair you may want to explain to your customer the effects of thermal expansion and let him know his options on how to protect the system.



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