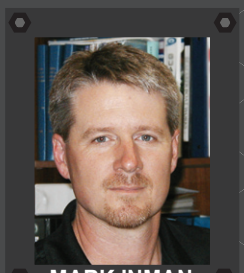
The Repair Guys



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.

Question

The City has recently notified me that I'm required to install a reduced pressure assembly on the boiler feed line in our mechanical room. However, the mechanical room also houses some of the Hospital's computer and alarm stations. I'm concerned about the discharge of water from the relief valve. Any discharge from the assembly, no matter the amount, has the potential to ruin some very expensive equipment. How can I keep this from happening?

MARK

Always remember that a backflow assembly works with water, so one day water will have to drain out when it is repaired, tested, or if the relief valve discharges. My best suggestion for the protection of your equipment would be to install the assembly outside or in another mechanical room. If this is not a possibility, then I would recommend installing an air gap drain on the assembly. An air gap drain is basically an adapter that will create a physical separation between the relief valve port and a drain line. All manufacturers offer an air gap drain for each size and model of their reduced pressure assemblies. Air gap drains are designed to be connected to a drain line that can be plumbed either outside or to a floor drain. Periodic pressure fluctuations and/or water hammer can cause a reduced pressure assembly to spit or drip water out of the relief port, which is normal. This can be handled with an approved air gap drain and a properly installed drain line.

DOUG

Be aware that in some cases the air gap drain may not be able to handle the volume of water from the relief port if it fully discharged. You also need to make sure that the drain line does not become clogged. Obviously this would cause an overflow and inevitable damage to your equipment. I would recommend having a backup for your air gap drain. There are manufacturers that offer a reduced pressure assembly with an integral relief valve monitor switch. This switch is capable of sending a signal or even sounding an alarm when the relief valve opens to a predetermined level. This switch can even be tied into phone lines with the ability to call the appropriate person and give a prerecorded message.

Wilkens Model 975XLBMS
Reduced Pressure Principle Assembly
with Integral Battery Operated Monitor Switch

The 975XLBMS is ideal for use in mechanical rooms, basements and enclosures where undetected relief valve discharge could potentially cause water damage. It is equipped with a phone jack for alarm output to an on-site alarm system, a remote alarm company, or a auto dialer.

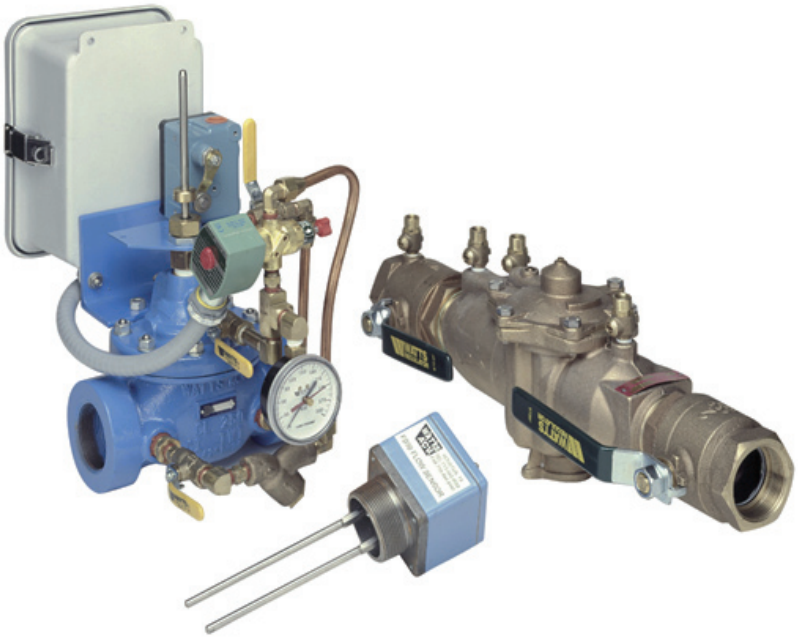
MARK

These monitors are a great idea for notifying someone of a problem. Meanwhile, in the time it takes for someone to respond to an alarm, your mechanical room could be flooding. Larger assemblies have the potential of

delivering a greater volume of water at a much faster rate. A large amount of water discharging from the relief valve could easily overflow an air gap drain and flood a mechanical room very quickly and long before someone could respond to a phone call. With this in mind, I would feel much safer with a complete shutdown of the system in the case of a major failure.

DOUG

Another product on the market is the Flood Protection Shutdown Valve. They are available in 1-1/4-inch through 10-inch sizes. This is a control valve that remains fully open under normal conditions, and has a time delay that enables the valve to stay functional throughout intermittent dumping. However, excessive flow through the drainpipe attached to the air gap will trip the flow sensor which closes the control valve directly upstream of the backflow assembly literally turning the water off to the system. This concept would ensure the safety of your equipment until you arrived to repair the device and reset the control valve. Both ideas work great! The choice of which one to use depends on the size of the device and the particular situation.



The WATTS 'Series 113-6RFP Flood Protection Shutdown Control Valves prevent property damage due to relief valve discharge that can occur due to dirt or debris within the valve or a mechanical failure within the backflow prevention assembly. The Series 113-6RFP remains fully open under normal conditions. If the RPZ relief valve should open, excess flow through the drain pipe trips the flow sensor which energizes the solenoid and closes the valve. They feature a time delay relay to prevent false alarms and a control valve switch to provide a visual and audible indication of valve closure.