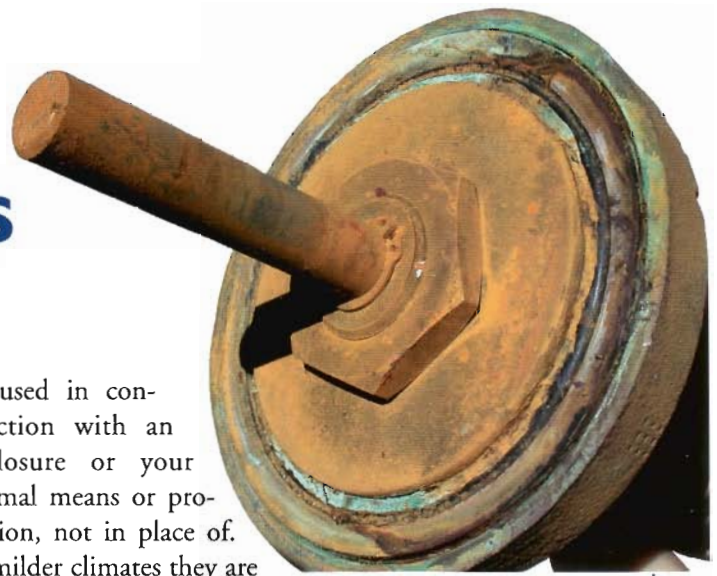


# The Repair Guys



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](mailto:imark@backflowparts.com) or mail us at American Backflow Products Co., P.O. Box 37025, Tallahassee, FL. 32315.

be used in conjunction with an enclosure or your normal means or protection, not in place of. In milder climates they are sometimes used as the only means of protection. This is fine, but there are problems that can arise.

## QUESTION —

I have heard about an automatic valve that can be installed on an assembly that will keep it from freezing without the use of electricity. Can you explain how it is used and if it is reliable?

## Mark —

What you have heard about is called a freeze protection valve. These valves use an element that senses the temperature of the air surrounding the valve. When the temperature drops below a set point, the valve will begin to open and drain water. As the temperature rises above the set point, it will close. The set point will range from 34 to 45 degrees, depending on the manufacturer and model of the freeze protection valve. These valves normally come in 1/4" or 1/2" inlet sizes.

- Jason

The concept behind a freeze protection valve is that if you drain the colder water then it will be replaced with warmer supply water coming up from the meter. It's the same idea as letting your faucets drip during cold weather. Usually they are installed on the #4 testcock on the RPA and DCA or the #2 testcock of the PVB. If possible, the best place to install them is immediately downstream of the outlet shutoff valve in the outlet piping.

## Mark —

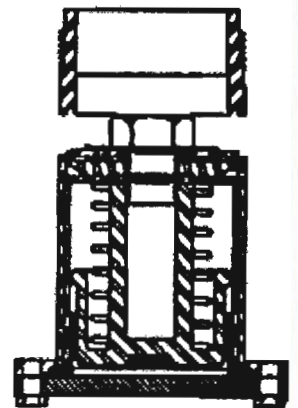
Now, I know this sounds like the perfect cure for freeze problems, but there are some things to be aware of. Freeze protection valves operate mechanically and are not fail proof. This means that they can be ideal as a back-up means of freeze protection especially in colder climates. They should

- Jason

The biggest problem occurs when the testcock that it is connected to is not turned on or is left off. Another major problem is that insects love to nest in the outlet port of the valve, clogging it up. So, if you install them it is a good idea to clean and inspect the freeze valve each time you test the assembly. For the most part, if a freeze protection valve is used properly and installed correctly, it can be a very reliable means of freeze protection.

## QUESTION —

I am working on a 6" Ames 4000SS relief valve. The problem I am having is getting the diaphragm into the proper position between the inside of the sleeve and outside of the piston. The directions suggest that I give the open end of the diaphragm a rapid slap with the palm of my hand. I've been trying this method for about thirty minutes and to this point I have gotten close several times but the diaphragm is still wrinkled. I can't figure out what I'm doing wrong. Do you have any suggestions?



## Mark —

I like to call this the 'hit and miss' method. I can slap it over and over with no luck and then suddenly the diaphragm will form properly. The key here is having a good seal between your hand and the diaphragm when you make contact. With a good seal you are trapping air inside the diaphragm and forcing it into place. So, don't get discouraged if it does not form right the first time.

- Jason

This method works great once you get a feel for it. But, for me, getting a feel for it took a long time. It's almost like trying to win a prize at the county fair. The people that work there make it look easy, but most of us run out of money before we figure out the trick. If you have trouble making a good seal with your hand, invert the assembly so the diaphragm is facing down onto a flat surface and give it a try.

Mark -

The method that has been consistent for me is a little different. Instead of slapping it, I will grasp the sleeve with my left hand and place my right palm over the lip of the diaphragm. This pinches the diaphragm between the rib of the sleeve and my palm (making the seal). With both hands held tightly, I slowly force the diaphragm and sleeve down over the assembly. It is a little harder this way but gets the job done.

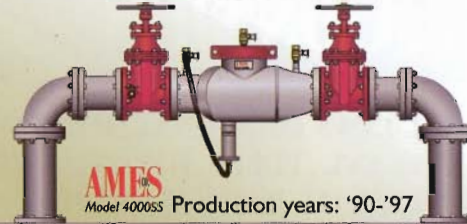
- Jason

Yes, I like this method as well, but I use a trick that works even better for me. After getting your diaphragm lip locked around the sleeve rib, fill the diaphragm up with water. Seal the water in with your right hand and push down into place. Since water cannot be compressed, it will help the diaphragm form evenly and will ensure a good smooth fit every time. Try this and see if it works for you.

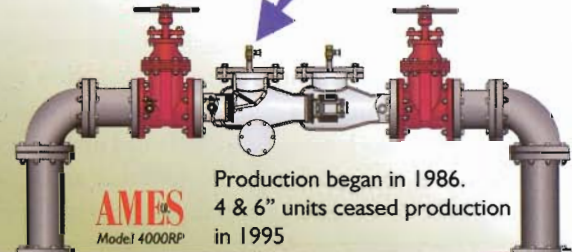
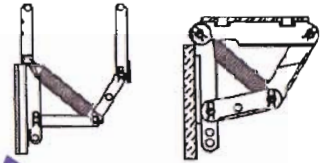
dw&bp

### Correction Notice:

In the February 2001 issue of *Drinking Water & Backflow Prevention*, DW&BP used the wrong graphic for The Repair Guys' article on the AMES Model 4000RP. The graphic DW&BP used is shown above (AMES Model 4000SS). The model relating to the article is shown below (AMES Model 4000RP).



The first check uses the tower mount design of check mechanism which requires the tong tool for proper repair. The second check uses the side mount check mechanism, which requires the retainer clip tool for proper repair.



Production began in 1986.  
4 & 6" units ceased production  
in 1995

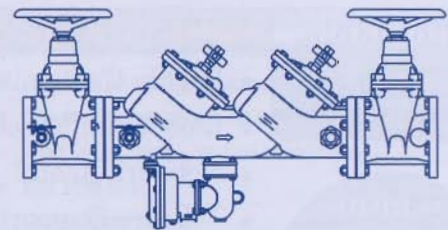


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