

the Repair Guys

Hersey Model FDC
PRODUCTS, INC.

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 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., Post Office Box 37025, Tallahassee, FL 32315.

— Mark Inman and Jason Gregg

[Editor's note: The graphics for this month's segment are a 3/4-inch model FDC. Although there is a variation in the construction between the 1 1/2-inch and 3/4-inch assemblies, many of the design elements are similar to highlight the important points made by Mark and Jason.]

QUESTION —

I need to do some work on a 1-1/2 inch Hersey/BEECO Model FDC double check valve assembly. I've tested this model before, but until now have never had to do any repairs. I'm thinking of starting with, at the very least, a rubber kit. Can you give me a rundown of this model, and any tips needed that would make my life easier while repairing this assembly?

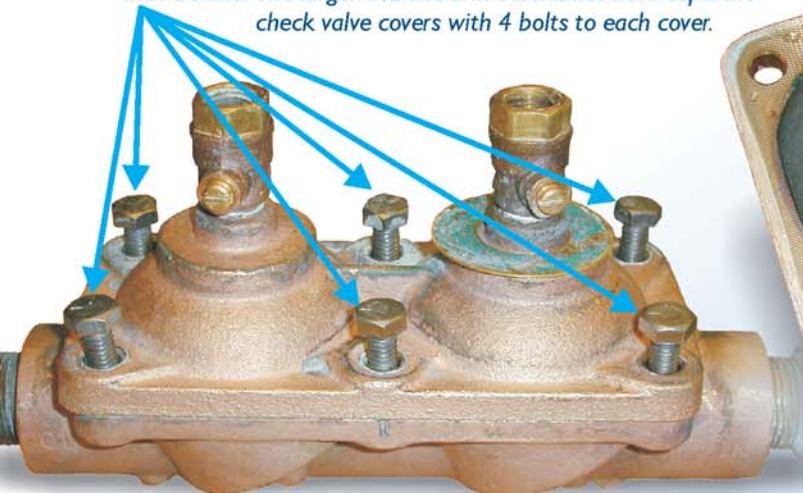
Mark -

The Hersey Model FDC is produced in the 3/4, 1, 1 1/2, and 2 inch sizes. The 1 1/2 and 2 inch sizes have two (2) separate check valve covers, which are sealed with gaskets. The check valves in this assembly are modular in design, and are sealed with an o-ring. The check springs are contained in the module. The check valve module for the 1 1/2 inch is held into the device body with four (4) stainless steel slotted screws. The check valve modules must be removed to replace the rubber parts correctly. The two best tips I can give you about this assembly is to be very careful with the check valve screws, they are small and easy to lose. Also, make sure you have spare cover gaskets on hand before removing the covers.

- Jason

Typically the cover gasket will get stuck to the device body and may tear when you remove the check

The smaller 3/4 and 1 inch assemblies (shown here) have one cover with 6 bolts. The larger 1 1/2 and 2 in assemblies have separate check valve covers with 4 bolts to each cover.



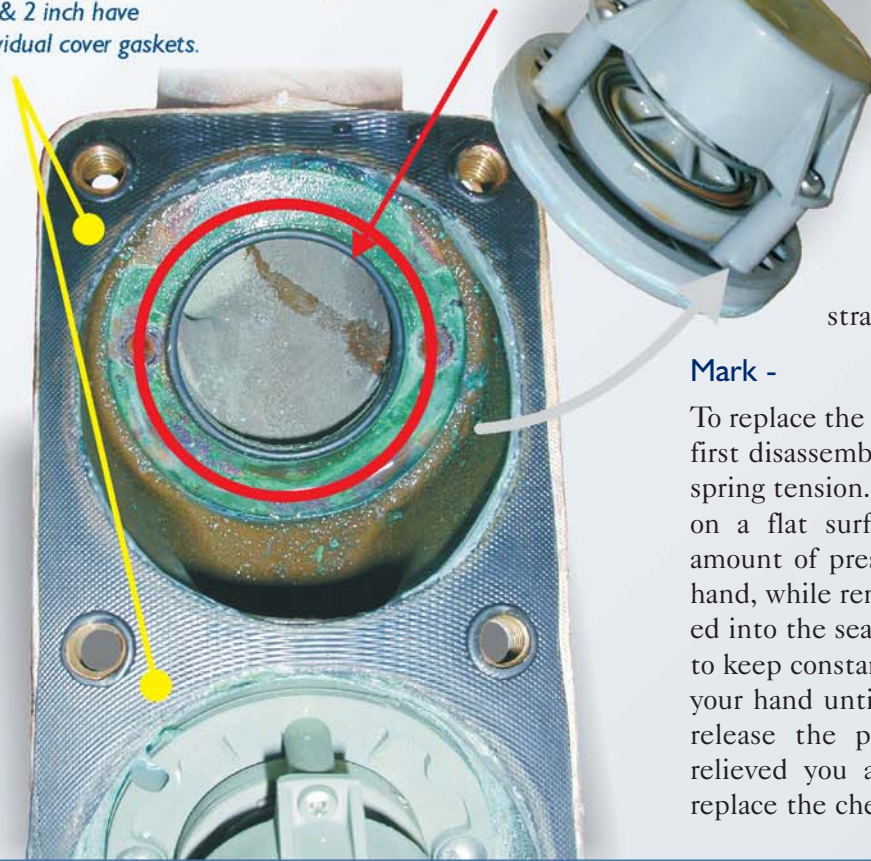
Spring retainer screws - 3 for the 3/4 & 1 inch assemblies and 4 screws for the 1 1/2 & 2 inch assemblies.

Mounting screws - 2 for the 3/4 & 1 in. and 4 screws for the 1 1/2 & 2 in.



Carefully inspect the large gasket for any tear or damage (shown: ¾ & 1 inch 1½ & 2 inch have individual cover gaskets.

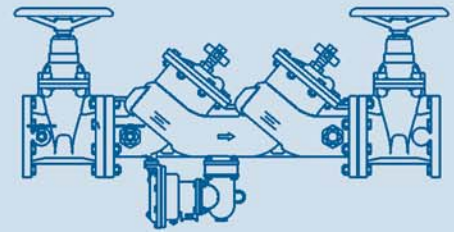
When the check valve is removed, carefully inspect the O-ring for any damage - and repair as needed.



valve cover. If this happens, be sure to scrape off all excess gasket material before installing the new gasket and check valve cover. To remove the check module, you'll first need to remove the four (4) mounting screws holding the check valve module into the body. (Caution) Make sure that you remove the 'mounting screws' nearest the check valve seat area and not the spring retainer cap screws, because these are under tension. Once the screws have been removed, you can pull the module straight up and out of the device body.

Mark -

To replace the rubber parts on the check valves, you must first disassemble the check valve module and relieve the spring tension. To do this, take the check valve and place on a flat surface seat-side down. Apply a reasonable amount of pressure on the spring retainer cap with one hand, while removing the four (4) screws that are threaded into the seat guideposts, with the other hand. Be sure to keep constant pressure on the spring retainer cap with your hand until all the screws are removed, then, slowly release the pressure. Now, with the spring tension relieved you are able to remove the disc holder and replace the check valve disc.



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Use caution when removing the spring retainer screws - remember there are 3 screws for the 3/4 & 1 inch units and 4 screws for the 1 1/2 and 2 inch units.



Try to obtain a copy of the manufacturer's literature before starting any assembly repair.



Hersey

DOUBLE CHECK VALVE ASSEMBLY
SIZES 3/4", 1", 1 1/2", 2"

MODEL FDC WITH ASSE #1315 APPROVALS



DESCRIPTION

The Hersey Model FDC Double Check Valve Assembly is an economical safety device, which is designed for the control of cross connections between potable water systems and supplies which are susceptible to contamination by backflow.

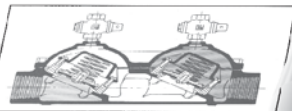
The device consists of two independent spring loaded proper type check valve assemblies mounted to a common body. Two optional gate valves and four test cocks for full testing capacity are included. For ease of repair, the one-piece modular check valve assemblies which include valve, spring and seat, can be removed and replaced quickly using the tool replacement kit, without removing device from the line.

All parts are made from corrosion resistant materials.

The Hersey Model FDC features low pressure loss over its entire operating range up to maximum rated flow with smooth transitions from low to high flow rates.

SPECIFICATIONS

Body Bronze
Check Valve Seats EPDM Rubber
Valve Discs EPDM Rubber
1/2" Ring Stainless Steel
Springs Stainless Steel
Maximum Working Pressure 150 psi
Temperature Range 33°-190° F



- Jason

Now that you have the check valve disassembled, it would be a good time to inspect the check valve seat surface and guiding posts for wear or debris and replace if necessary. If you decide to clean the seating surface, use only a damp cloth. (Abrasives and/or solvents could damage the plastic material). Upon reassembly of the check valve module, keep constant pressure on the spring retainer cap with your hand until all the screws have been tightened and secured. Make sure not to over-tighten the retainer cap screws, because it is very easy to strip or even crack the check seat guiding posts. After assembling the check valve, lube the seat o-ring and place module into the device body. Then install the four (4) mounting screws, which hold the module in place. Also, remember that the seat o-ring makes the seal between the device body and the module so, there's no need to torque down too much on the mounting screws.

dw&bp

Although the Hersey FDC and FRP models appear to be old, they are currently approved by the Foundation for Cross-Connection Control & Hydraulic Research.



Clean the check valve seat with a clean non-abrasive material. Do not use anything that may scratch the seat or allow the plastic to break down.

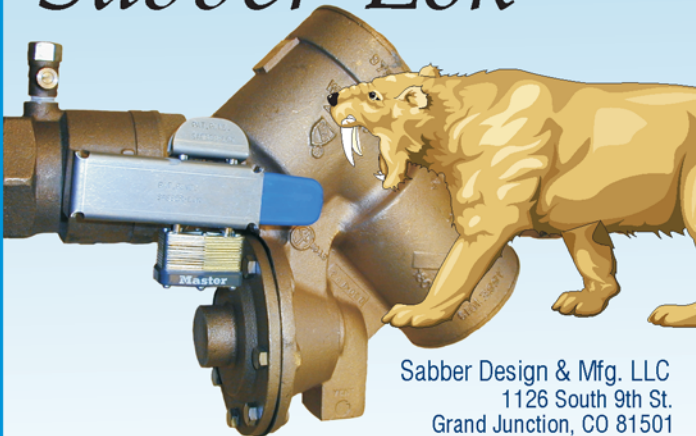
To remove the check valve disc, first remove the screw and disc retainer. The disc is then easily removed from the holder.

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