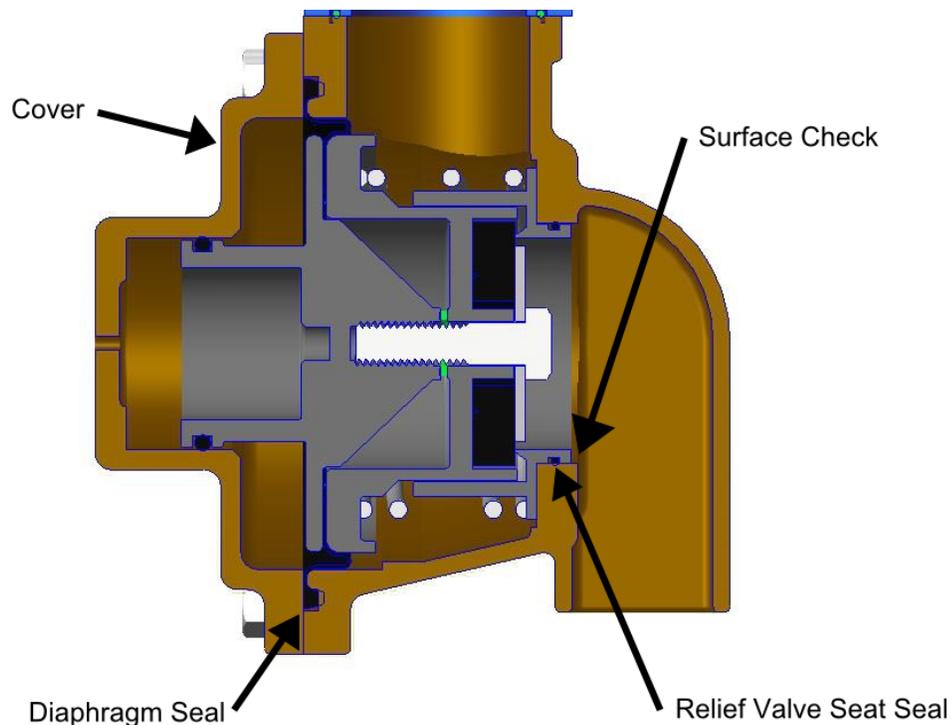


FRV6.00 (Covers sizes 2-1/2" through 6") Leak Prevention Procedures

The BEECO Relief Valve on the large cast iron backflow devices has a couple of critical areas that must be assembled properly for the valve to operate properly without any leakage. These two areas are the diaphragm seal and the seat seal. This procedure is only relevant if none of the internal components are damaged or broken.

The diaphragm seals along the bead on the outer edge of the rubber diaphragm and the groove in the body. Due to the convolution in the diaphragm and the spring load on the valve as the cover is sealed it is critical to get the procedure correct when placing the cover back on the assembly. First, place some grease (Dow Corning 111) along the outer bead of the diaphragm. Second, make sure the cover's mounting surface is parallel to the body mounting surface when pushing the assembly together. Third, just push the cover close enough to the body to get the cover screws one or two turns into the body. Lastly, once all of the screws are started, begin cross tightening them by making a couple of turns of one screw, then move next to the screw across from it and then move to the next pair of screws and repeat this pattern while checking to make sure the diaphragm seal bead is seating into the body groove. This procedure may have to be repeated until it seals. However, make sure the edge of the diaphragm where the bead is located hasn't pinched or permanently deformed as that will cause the seal to fail.

The next area of note is the relief valve seat seal. This seal is very tight so it may seem to be seated in the body when it actually isn't. When placing the seat in the body, place some grease (Dow Corning 111) on the o-ring to ease the process. Do NOT push the seat on the plastic cage as it may break. Push at the wide flange on it's base that seats against the body. To check to see if it is properly seated, place a finger inside the dump area of the valve and check the surface where the base of the seal sticks through the body. There should be a small edge there. If it feels like a large edge, the seat probably isn't seated completely. If the leak is here, you can place your finger inside the exit area when the main valve is open and feel around the seal to see if it's leaking.



In the image shown above, the critical areas of the relief valve assembly are shown for reference.