



Valves

Handling the world's dry bulk solids™



Technical Bulletin

QUANTUM® SERIES WYE LINE DIVERTER™ RE-BUILD INSTRUCTIONS

The performance of the Vortex® Quantum® Series Wye Line Diverter™ can be enhanced by re-shimming, while the valve remains in service. This valve has a compression load on the blade. **Reducing the compression load**, by increasing the amount of shim in the valve, allows the valve to actuate more easily. **Increasing the compression load**, by reducing the amount of shim in the valve, allows the valve to seal better. Example: If a valve is not actuating smoothly because of material build up or because of low air pressure, adding .75mm shim thickness will allow the valve to actuate smoothly. Conversely, if a valve is dusting, reducing the shim by .75mm shim thickness will create a better seal, assuming the pressure plates are not scarred or severely worn.

At some point, the pressure plates creating the internal seal may have to be replaced due to wear.



As with any Vortex® Valve, read and follow all safety instructions prior to installing, maintaining or operating equipment. **Failure to comply with instructions may result in personal injury.**



Follow all applicable “cautions” and lockout/tagout safety procedures as outlined in product safety manual.

Disassembly

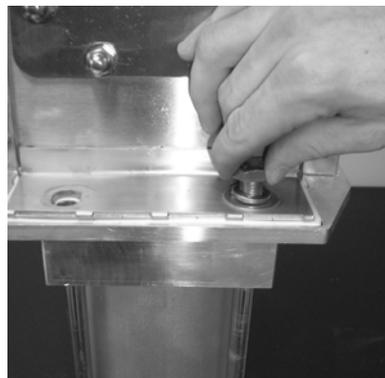
Step 1

With the valve safely removed from service and placed on a sturdy work bench, remove cap nuts and fasteners on both sides of the valve that run the length of the side seal flanges including any through bolting of the inlet/outlet flanges.



Step 2

Remove all the fasteners that hold the power plate and end plate onto the valve and remove the end plate.



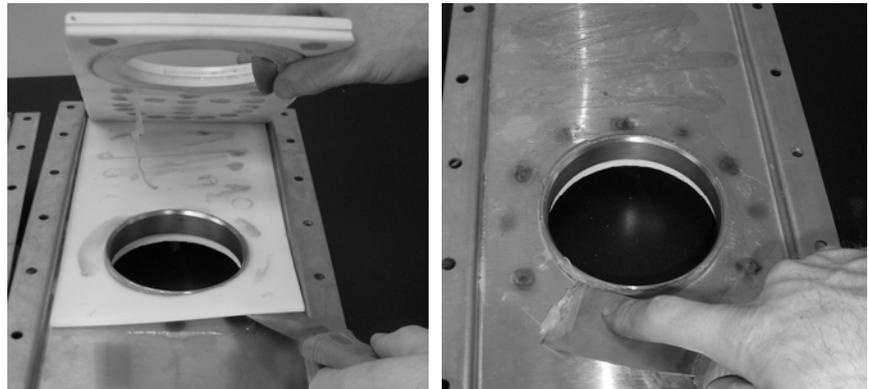
Step 3

Separate each valve body flange and place on the work surface.



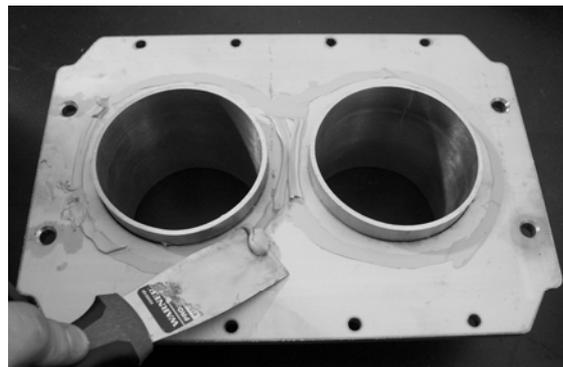
Step 4

Use a putty knife to separate the pressure plate and shim spacer from each of the valve bodies. Thoroughly remove any residual silicone before reinstallation. Clean any material from the inside of both valve bodies. Completely remove any old adhesive that may be located around the orifice of the valve body.



Step 5

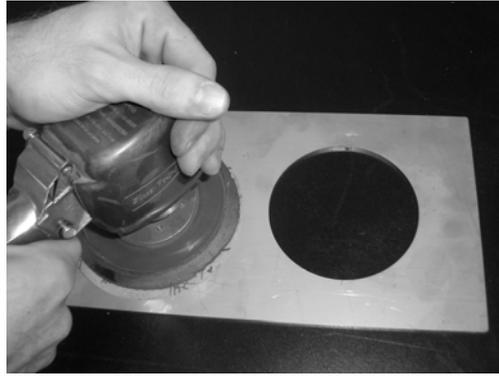
Separate each out-flange from body flange. Use a putty knife to remove adhesive from out-flange and valve body mating surfaces.



Re-assembly

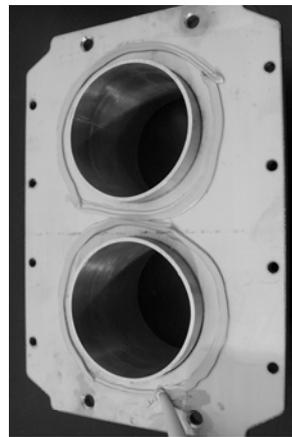
Step 6

Inspect the blade to determine if it needs to be cleaned or replaced. If blade is marred, sand with 180 grit paper.



Step 7

Apply a bead of adhesive around the orifice of each out-flange and reattach to valve body flange.



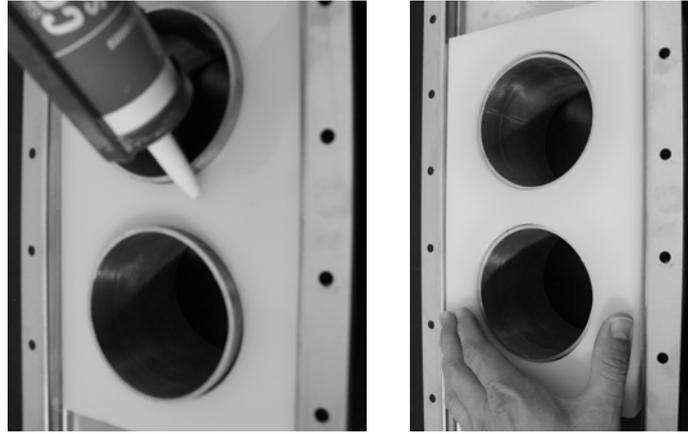
Step 8

Apply a bead of silicone around the orifice of each out-flange. Insert a shim spacer into each valve body flange.



Step 9

Apply a silicon bead around the orifice of each shim spacer. Insert a pressure plate into each valve body flange with the rubber backing against the shim spacer.



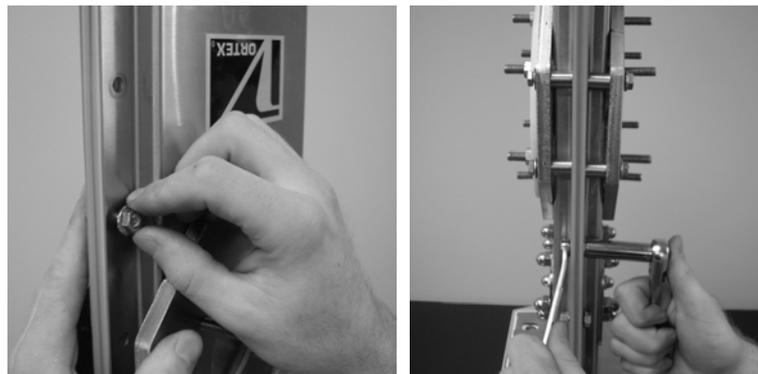
Step 10

Place one valve body flange on the air cylinder and insert a split shim seal on each side. Insert 3.5mm of shim in each split shim seal.



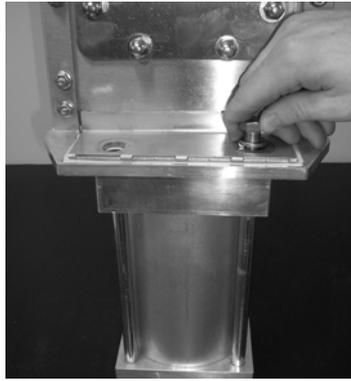
Step 11

Place the other valve body flange on the air cylinder, insert fasteners, and tighten hex nuts. Apply a thread locker to cap nuts and reinstall cap nuts.



Step 12

Reinstall power plate fasteners and tighten. Replace endplate, insert fasteners, and tighten.



It is recommended the gate be bench tested before returning it to service. For test purposes only, the gate should operate smoothly at approximately 2.5 barg. Shim may need to be added or subtracted. A minimum of 5 barg is needed when the valve is returned to system operation.