



Valves

Handling the world's dry bulk solids™



Technical Bulletin

Fill Pass™ Diverter - Shimming Instructions

The performance of the Vortex® Fill Pass Diverter can be enhanced by re-shimming. The fill pass diverter is one of the few valves that cannot be shimmed while the valve is in service. Each valve must be removed from service to accomplish this procedure. If you are working with a stacked unit, the valves should be separated and worked on individually.

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 shim thickness will allow the valve to actuate smoothly. Conversely, if a valve is dusting, reducing the shim thickness will create a better seal (assuming the pressure plates are not scarred or severely worn)).

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.

Increasing compression load :

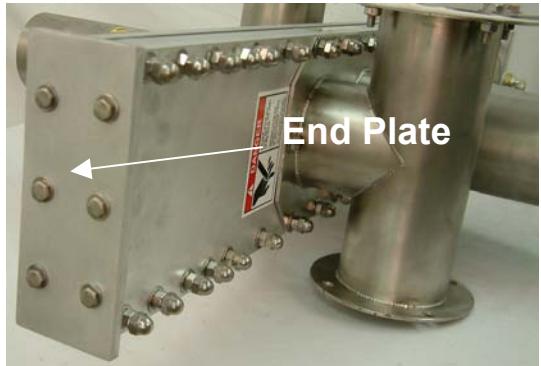


Valve shown in photos is a Vortex® Fill Pass™ Diverter

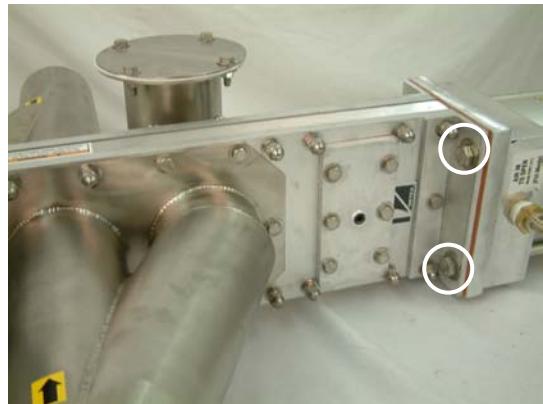
Note: The Fill Pass Diverter is a full-flanged Unit capable of being pressurized. With this feature the need for valve shimming will occur less often. However, care must be taken not to disturb the internal rubber seals located between the flanges and side bars.



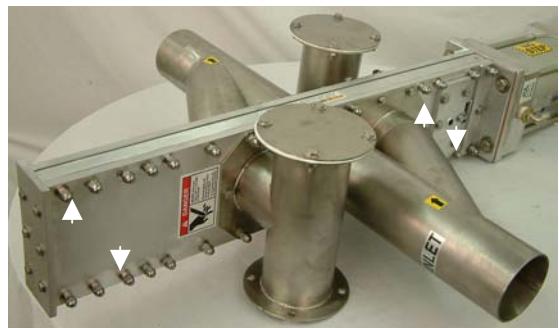
- 1) Remove the end plate from the valve assembly.



- 2) Loosen, but do not remove, the four (4) bolts holding the angled end frames to the air cylinder.



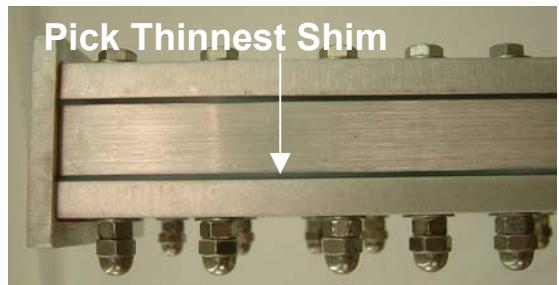
- 3) Remove all the cap nuts along the top and bottom side bars.



- 4) On the **top of the valve only**, barely loosen the hex nuts located beneath the cap nuts that have just been removed.



- 5) Use a flat knife to “pull/pick out” the Thinnest shim from between the side bar and the body flange on the top of the valve.



Note: An internal rubber seal exists between the side bar and the body flange. Take care not to “over loosen” the hex nuts prior to removing a shim piece.

6) Once the shim is removed, tighten the hex nuts.

7) Repeat steps 4 – 6 on along the bottom side bar. (Be sure to remove an identical thickness shim from the same side of the side bar as was removed in step 5. The load needs to be equal.)
Be careful not to disturb internal rubber seal.

8) Tighten hex nuts.

9) Re-install the cap nuts, air cylinder bolts and end plate. (Use loctite on cap nuts.)

Reducing compression load . . .

Follow same instructions as above, only add shim instead of removing it.

Remember: Shim should be added equally to the top or bottom of either side of the valve.



Shim is available individually, or in kits containing 5mm, .75mm, and 1.25mm thickness.

For test purposes only, the gate should operate smoothly at approximately 2.5 barg. If not, more shim may need to be added or subtracted. A minimum of 5 barg is needed when the valve is returned to system operation.

Badly worn or damaged Pressure Plates with Load Seals or damaged blade must be replaced.