

Maintenance Tip: Seal Water Line Restrictions

By Steve Teer

If you find that your pumps are not performing as well as usual, one item to check is your seal water piping.

Having the correct amount of seal liquid going to a Nash pump is critical for optimum performance. Seal water piping restriction causes decreased performance and increased operating temperatures, which can lead to an increase of scale buildup in your vacuum pumps and compressors.

When called to a customer's location to test a pump, I always recommend that they inspect and clean their seal water piping before I arrive. In water conservation and recirculated seal system that have *not* been inspected, I find that the cone seal piping on the pump side of the orifice union is partially clogged in about half of the cases and, in some cases, they are completely restricted with carryover from the recirculated seal system. I have seen pumps requiring over 100 gallons of seal water, with 1 1/2 inch piping, getting absolutely no water through their seal water piping and clogged spray nozzles.

The point is that the seal water piping has to be inspected all the way to the pump, because seal water restrictors, such as orifice unions, strainers and low pressure, will let the buildup settle in the piping all the way into the cone.

To make maintenance easier, you can do the following:

Where the cone seal piping leaves the pump, there will be a 90 degree elbow and then the orifice union. Remove the elbow and install a T-fitting and a 1/4 valve of the same pipe size. Then, you can see into the cone seal piping on the idle end for inspection. On the drive end, if you have a belt drive, you can use a borescope to inspect the piping or run a snake through the piping to make sure it is clear. While the pump is online, you can slightly open the valve and see the flow or feel the vacuum.

One mill installed fittings where they could hook up their high pressure washer and clean the seal water piping while on the run. If only a few gallons of additional seal water are going into a liquid ring pump for the short time necessary to clean the piping, there will be no harm.

