



Southern Paper Group
Turn to us.

Energy Savings – Part 4 –Keeping Your Shower Nozzles Clean

Even the best shower nozzle is not effective if it becomes plugged.

We list some suggested methods for keeping your PM running at peak performance by keeping your shower nozzles “on the job”.

Ruby and even SS shower nozzles are not helped if reamed out with a hard rod. The particularly bad offender is the cleaning tip for acetylene welding tips. These hard rough surfaced rods will crack the ruby and make the SS orifice out of round. Both will lead to an ineffective stream which leads to ineffective cleaning.

Of course the best way to keep the nozzles clean is to use clean water. The energy savings available with the reuse of water dictates that recycling water is a must. How clean must the recycled water be to not plug a nozzle? Most nozzle suppliers have suggested that particle size in the shower water should not be bigger than 1/6 of the nozzle opening. A safer rule would be 1/10 of the nozzle opening. For a 0.040” (1.0mm) orifice the water should not have a particle larger than 0.007” (0.14mm) or better yet, 0.004” (0.10mm)

We have to be careful here and point out we are talking about particle size not ppm of suspended solids. DAF units, Disc Savalls and like equipment do not provide water of sufficient cleanliness to be used for showering without additional treatment. More on this in the near future..

We have collected some methods that our customers have found effective for suspended solids.

1. Use a thin pliable wire to clean HP nozzles. Any rod/wire that is stiff enough to act as a lever will be able to put enough force on a ruby insert to cause it to crack.
2. Brush showers. Use the low domed type of nozzle. The nozzles that look like a “Witch Hat” will quickly train the brush to separate and completely miss the orifice. Routinely inspect the brushes and replace as necessary. If the brush has a deep “V” at every nozzle it not performing as it should. It might be time to review the type of nozzle and the distance from the outer edge of the brush to the tip of the nozzle.

3. Use vacuum to clear the shower and nozzles. Pipe a flexible hose from the Uhle box or flat box vacuum lines to shower. This line should be connected to the shower water line between the shut off valve and the shower header. To clean the nozzles just close off the shower water, open the vacuum line and as an added assistance use a HP water wand to flush the nozzle from outside to inside.

The practice of water recycling increases the possibility of plugging caused by “water scale”, usually Calcium Carbonate.

For those shower nozzles that become plugged with “water scale” there are several remedies. Prevention of the scale is the preferred method as this will maintain the integrity of the shower nozzle stream.

1. If the scale is so severe it builds up inside the shower pipe the water can be treated with a chemical to prevent or reduce the scale. Other chemicals will make the “hard” scale a “soft” scale that is easily carried away with the shower water. These methods are fairly simple. Give us a call for a complete discussion of the options. USA country code plus 864-268-0015.
2. The nozzles can be removed and soaked in an acid solution to dissolve the “water scale”. We provide an extremely safe acid for this application. Removal and cleaning is a common practice for Trim Squirt nozzles but may not be practical for other nozzles.
3. During short outages a foaming cleaner can be sprayed on the outside of the shower pipe to clean the “water scale”.

There are Spring Purge Nozzles and Air Purge Nozzles that may be value in controlling plugging. Unlike the conventional Needle Jet and Fan Jet nozzles which are replaced when worn these nozzles can be rebuilt to maintain spray integrity.

Southern Paper Group offers a complete line of Nozzles, including Trim Squirt, Ruby insert, SS, Fan, Needle, Air Purge, and Spring Purge. E-mail us for a complete catalog (spg@soupap.com).