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Troubleshooting and Understanding Common Problems with Water Softeners Part 2

If your water softener no longer seems to keep up and/or you believe you have hard water, the following tips may help to shed some light on the subject.

1. Start by testing the hardness of your incoming water as it may have changed. We have seen water hardness change at sites due to a different water source, wells being drilled to supplement the primary water source, water purchased from a different city only during high peak summer months, and changes due to unique conditions. Your water hardness may be different than what is was when the softener was originally set up.

2. The water softener could be short-brining due to salt “mushing” in the bottom of the brine (salt) tank. This occurs when salt breaks down into a fine slurry at the bottom of the brine tank, or when the control valve goes into the brine draw cycle and draws brine from the brine well faster than it can flow into this area. The air check may shut off before all the brine solution has been drawn out. Clean out the brine tank and see if that addresses the issue.

3. The brine refill system on the control valve is not allowing enough water back into the brine tank. There are generally flow controls on the brine refill mechanism. If they become partially plugged due to debris, the refill rate will be restricted, a smaller amount of brine will be made, and your softening capacity will be reduced.

4. Additional demand on the system at a car wash can cause a shortage in capacity. Examples are a Spot Free Rinse System, an additional Self-Serve Bay, additional Rinse Arches, and increasing roll-over automatic speed settings for additional throughput.

5. If you have a single tank system check the time setting on your water softener head. This style of softener is set to regenerate at 2:00 AM when the demand for soft water is minimal. When the softener regenerates which may take 3 to 4 hours, you will have hard water present. Due to power outages it is very common to find time settings off on single tank systems using a time clock.

6. Leaks or washing bay floors down with soft water can cause water softeners to run out of capacity.

7. Salt bridging in the brine tank is a common problem found and can slowly reduce a systems capacity. Brine tanks create humid conditions and salt absorbs moisture. Humid summer weather adds to this condition. If a Softener does not regenerate for a period of time, or an equipment room has the heat turned up it can dry out the salt. The salt can turn rock hard, stick to the side of the brine tank (as one large mass) and does not fall into the water below. There will be no saturated brine available, resulting in hard water.

The salt appears full in the brine tank when in reality there is a giant cavity below the top crust of salt. Attempt breaking the salt bridge by using a large heavy hammer or timber. Strike the salt directly in the center of the tank and if bridged it should break the crust and fall to the bottom of the tank. We also recommend using only coarse type of salt which minimizes salt bridging.

8. The mineral bed in the fiberglass resin tank is bad. Over time the media that is used for softening water breaks down. When this happens you may find signs of deteriorated resin on your car wash floor, stuck in screens, and in float tanks. When this occurs you will experience a drop in water pressure and flow through the softener, and hard water showing up. The media needs to be removed and replaced.

Terry Lee Bosma, President, Pressure Services Inc.

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