



Case study Domestic Hot Water treatment with Flow-Tech Systems 12/2016

Location: Apartments, Anaheim, CA

Duration: July 2016-December 2016

Objective: Compare two treated water heaters with two non-treated units during the same period

Two Cyclone Water heaters are installed in series. Each pair of 200,000/BTU heaters supports 26 apartments plus a laundry facility. The Two Cyclones water heaters were installed on 6/30/16 and 10/1/13, respectively.

The apartments have scaling issues and the life expectancy of the water heaters has been less than anticipated. The test was set up to treat one pair (of the four total pairs) for 4 months. A single Flow Tech model 3.0 was installed to treat the two water heaters and control the scaling. After 4 months, we examined the two treated cyclones and compared the scaling to the two units that were not treated with Flow Tech. The water hardness tested at 820 TDS (Total Dissolved Solids) with a PH of 7.09. All of these units were at the same complex supplied by the same water source. The results of the tested heaters were excellent and convincing.

1. In 4 months, the newer unit had virtually no scale build up. Some scale residue was present in the bottom of the tank but the scale was not adhering to the piping or the tank.



2. In the older heater there was about 4 inches of scale residue evident at the bottom of the tank. Upon flushing, the scale residue was eliminated. It was obvious that the scale had started to dislodge from the tank and the tubing due to the treatment, as we located many pieces (see picture) that had the curved shape of the piping. These scale pieces had dislodged from the piping due to the Flow Tech treatment.

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We then examined a pair of cyclone heaters that were not treated with Flow Tech. These units were installed in 12/18/15 and 11/18/10, respectively. These units also served 26 apartments and a laundry facility. Both units had extensive scale build up. The scale was attached to the pipes and to the tanks. This scale is clearly decreasing the efficiency of the units. When we attempted to flush the units as we did on the treated units the scale build up required we manual break up and dislodge the scale from the tank and the piping. Some of scale pieces were over 3" thick. It was clear that without water treatment the scale had already reduced the efficiency of the heaters and was well on the way to decreasing the life of the water heater due to the scale build up.



Summary:

This test case was very successful. Using Flow Tech eliminates the need for chemicals and salt based systems. Given the cost of these water heaters and the ongoing maintenance if left untreated using a Flow Tech system to control scaling makes sense. The ROI (rate of return) on the water treatment systems makes the Flow Tech water treatment system a smart investment.

To recap, Flow Tech will...

- Increase efficiency by controlling scale on the heating elements and tubing
- Extend the life of the water heater/boiler due to controlling/reducing scale
- Reduce maintenance costs. With flow Tech, scale control, the frequency of flushing out the tanks will be reduced and the time required to clean out/flush the system will be reduced. The Flow Tech technology will control the scaling and keep the scale from 'sticking' to the tank and piping. Once the Flow Tech system has been commissioned and properly programmed, there is very little ongoing maintenance required. An annual flush and verification of the Flow Tech signal propagation should be all that is needed to control scaling and increase the life of the system.