

Du Vin Restaurant

Commercial Dishwasher Case Study

September 2011

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|---------------------------------|--|---------------------------|-----------------------|
| Location: | <i>Honolulu, Hawaii - USA [Installation performed by Nano Tek-On]</i> | First Inspection: | <i>After 1 month</i> |
| Application: | <i>Commercial Dishwasher</i> | Second Inspection: | <i>After 6 months</i> |
| Purpose of Installation: | <i>Remove existing limescale deposits and inhibit new limescale accumulation</i> | | |
| Installation Date: | <i>February 16, 2011</i> | | |



Installation Details

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|-----------------------------------|---------------------------------------|
| Model of Water conditioner | S38 (Fits pipes up to 1.5") |
| Pipe Diameter (OD) | 3/4" |
| Pipe Material | Metal |
| Installation location | Incoming water line to the dishwasher |

Overview

1. General

The restaurant has 2 water heaters that warm up the domestic incoming water to 120 degrees Fahrenheit. Each of the restaurant's 3 commercial dishwashers has an electric water heater that boosts the temperature to 150 degrees Fahrenheit.

2. The Problem

In addition to standard limescale accumulation on all faucets, the restaurant's 3 dishwashers suffer from severe limescale accumulation that shortens their life cycle, cause waste of electricity, require constant maintenance and cause spotting on glassware and silverware.

3. The Recommended Solution

Install an HS48 water conditioner before the 2 standard water heaters and an S38 water conditioner before the booster heater of each dishwasher. Total water conditioners required: 1 x HS48 and 3 x S38.

Note: In restaurants with a domestic water supply line of under 1.5", an S38 can be used instead of an HS48

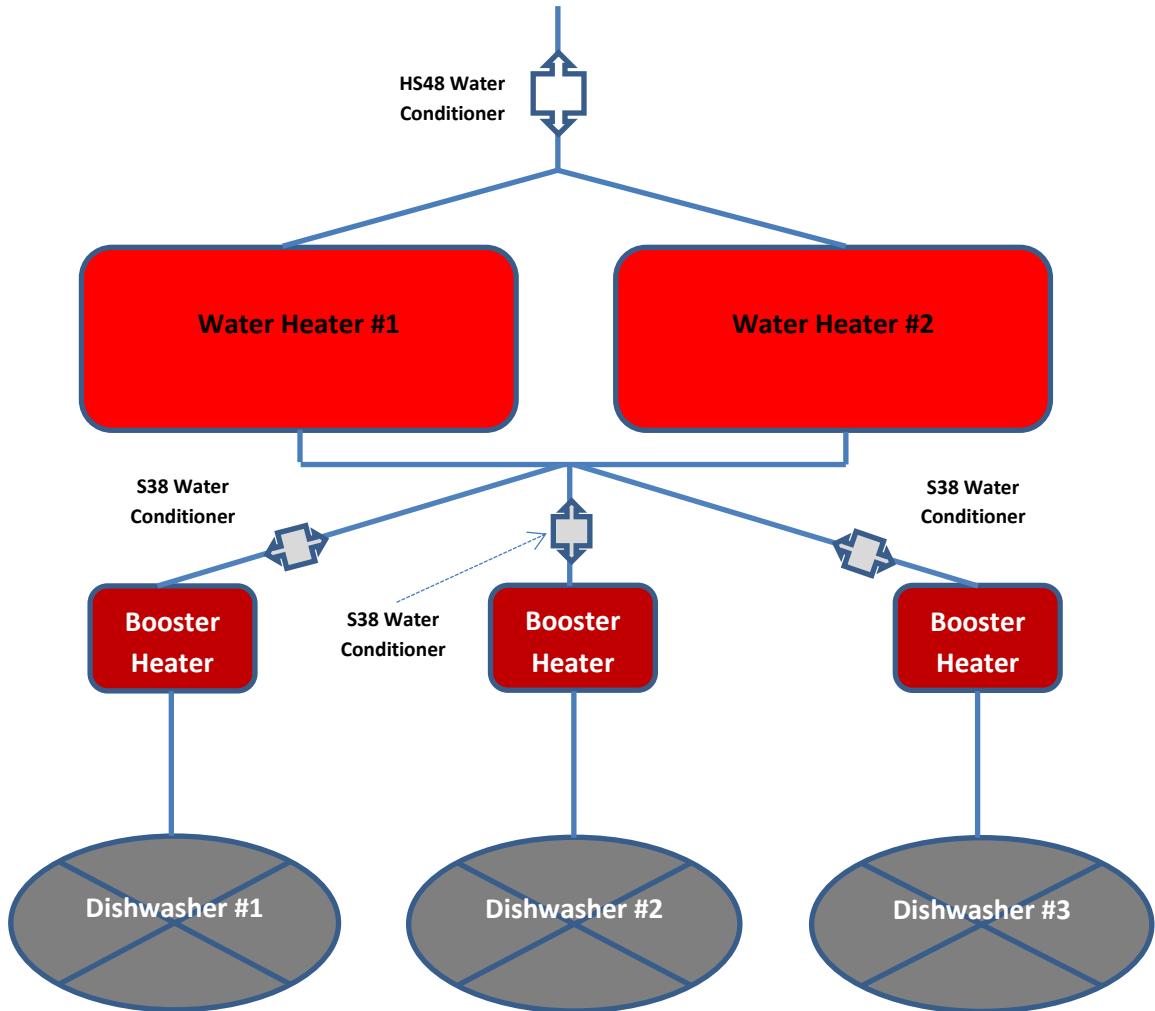
4. Expected results

- a. Limescale will be gradually removed from the heating coils inside the 5 water heaters, extending their life cycle and efficiency.
- b. Limescale accumulation on the faucet heads and inside the dishwashers will immediately stop.
- c. Existing Limescale deposits will gradually dissolve over-time.
- d. Limescale spotting on glassware and silverware will reduce significantly.
- e. Maintenance costs will reduce significantly.

Dishwasher



Recommended Installation Location



Installed S38 water conditioner



Inspections



Prior to installation



1 month after installation



6 months after installation



Results

- Limescale immediately stopped accumulating on the faucet heads and inside the dishwashers.
- Limescale deposits gradually began to dissolve overtime, especially after a chemical descaling wash was performed (after the first inspection).
- The 2 standard water heaters and 3 booster water heaters are operating more efficiently.
- Significant spotting reduction on the glassware and silverware was achieved.
- Maintenance costs went down to a minimum.

Important issues to note regarding the dishwashers

- Limescale accumulation stopped as soon as the water conditioners were activated.
- Severe cases of scaled-up dishwashers might require the assistance of a 1 hour chemical descaling wash. Such a process will soften the limescale and assist the water conditioner with performing its descaling task.
- In some rare cases, where the hindering of spotting on glassware and silverware is not achieved, a dishwasher detergent might be required. *HydroFLOW USA* recommends a product called Lemi Shine (www.lemishine.com).

Referral

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