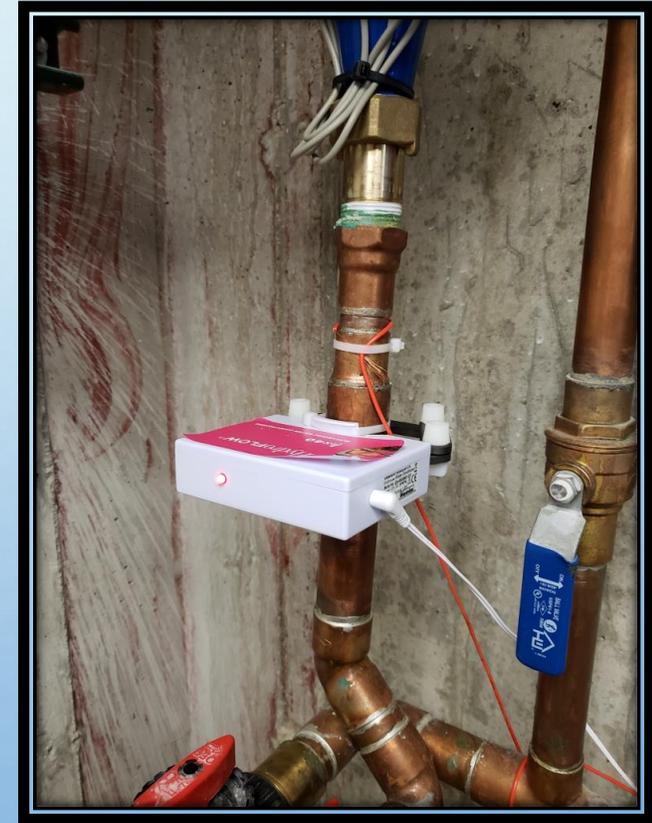
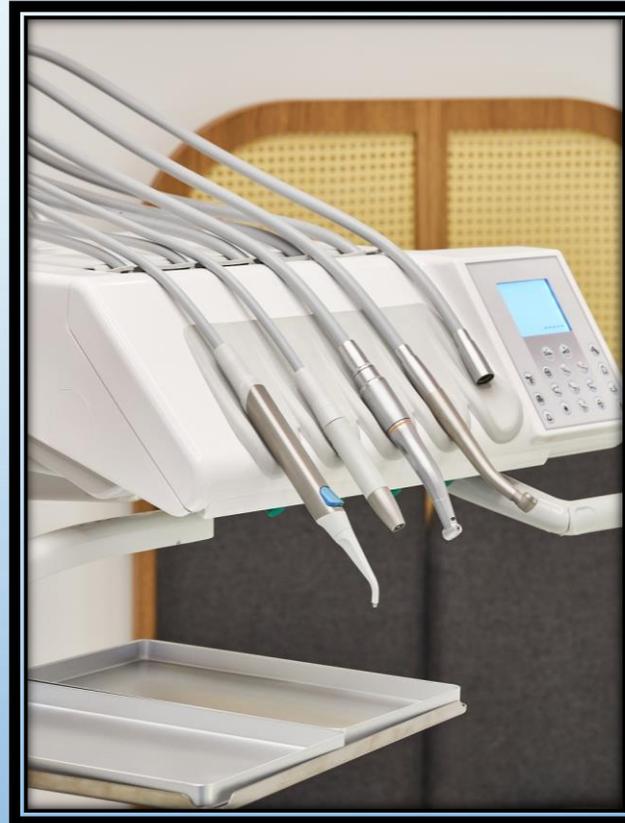


HydroFLOW Case Study

Scale Reduction - Private Dental Practice, U.S.A.

January 2022



Background

The Customer

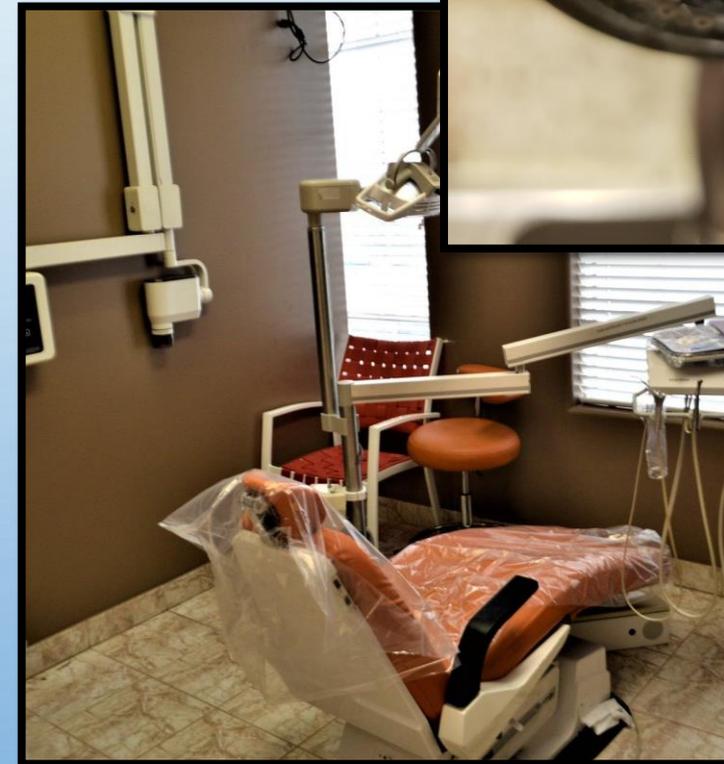
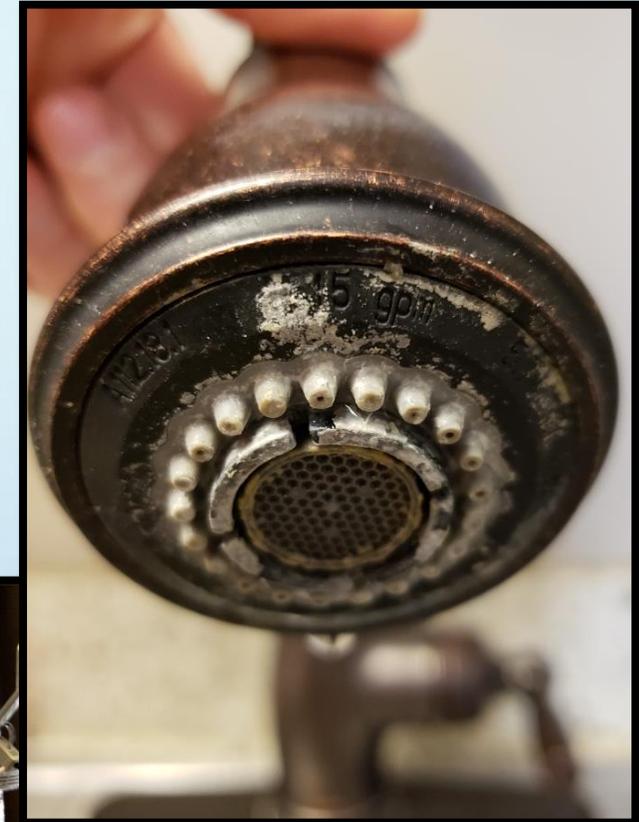
With a water hardness of 385 PPM, scale accumulates throughout the building, requiring frequent manual cleaning. A traditional salt-based water softener can reduce scale build-up, but it adds salt to the water, which is unhealthy for both people and plants. Instead of a salt-based water softener, the dental practice decided to install salt-free *HydroFLOW* water conditioners throughout the building.

***HydroFLOW* Water Conditioners**

A *HydroFLOW* water conditioner treats the water by inducing a robust yet harmless signal of 150 kHz into the plumbing systems. These electric waves cause mineral ions to form suspended clusters that turn into stable crystals when temperature or pressure changes occur. The suspended crystals will prevent scale from building up in pipes, nozzles and on heating elements, thus increasing heat transfer efficiency, lowering maintenance costs and reducing chemical usage. Additional information can be found here: <https://www.hydroflow-usa.com/>

Key Success Factors

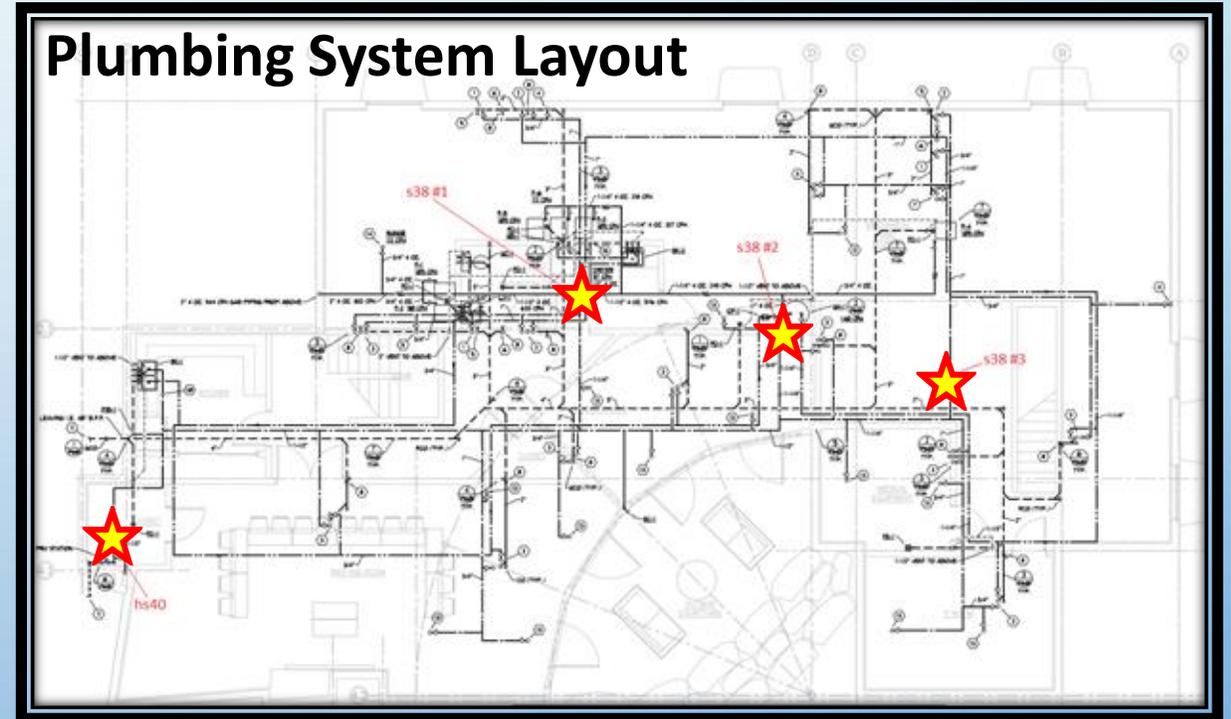
- Reduction of hard scale deposits at sinks, toilets, and dental chairs.
- Extend the time between manual scale removal.
- Gradual removal of existing scale from inside the piping system.



Installation Points

To ensure full coverage of the plumbing system, four *HydroFLOW* units were strategically placed throughout the building.

- 1 x *hs40* installed on the 1.5" incoming water line.
- 1 x *s38* installed on the 1" cold water line entering the hot water tank.
- 1 x *s38* installed on 1" the cold water line running beneath the kitchen.
- 1 x *s38* installed on the 1" cold water line running beneath procedure room 5.



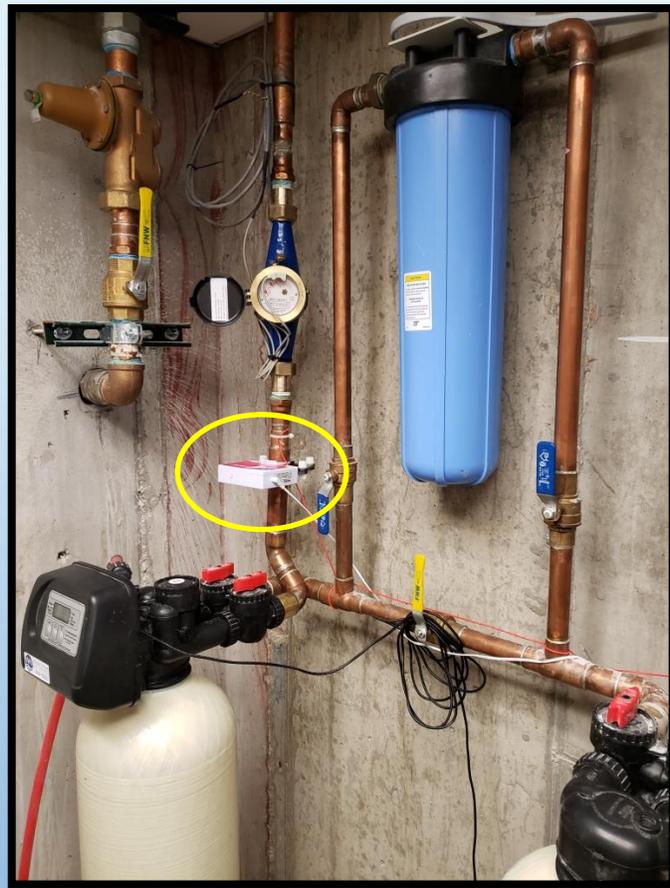
Note: Normal sanitary cleaning was conducted during the first 8-weeks, but no manual scale removal was performed in order to demonstrate *HydroFLOW*'s descaling ability.

Installation Points

s38 on cold water line to the water heater



hs40 on incoming water line before filtration



s38 on cold water line beneath the kitchen



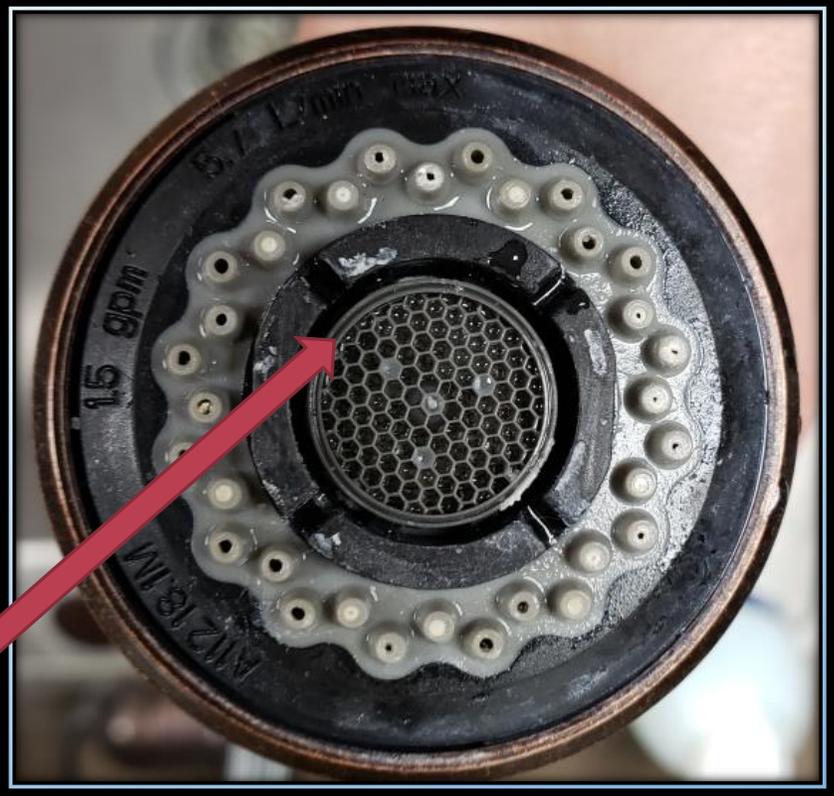
Note: In order to ensure Hydropath signal propagation past the filter, a jumper wire was used to boost the signal past the filter.

Results - Lab Faucet

Baseline



Week 8



Note scale removal without manual cleaning

Results - Toilet

Baseline



Week 8



Note scale
removal without
manual cleaning

Results - Kitchen Faucet

Baseline



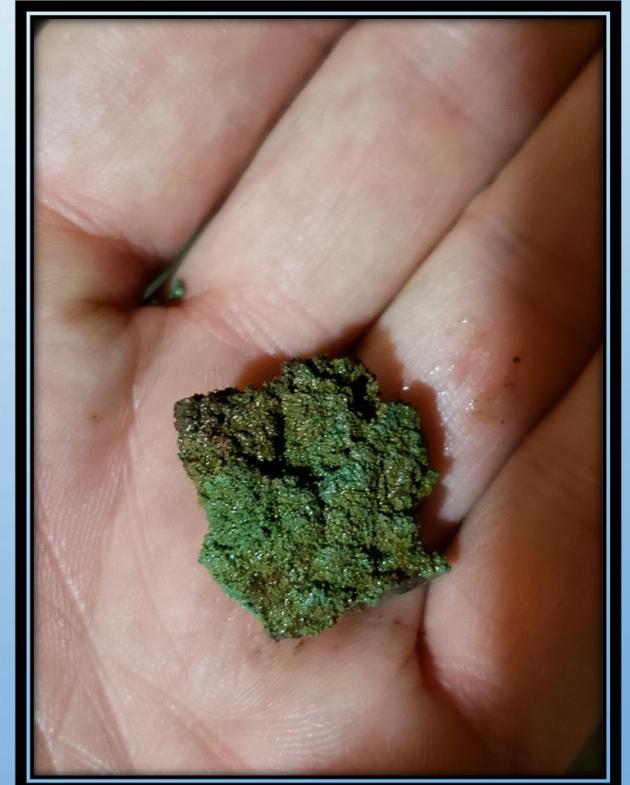
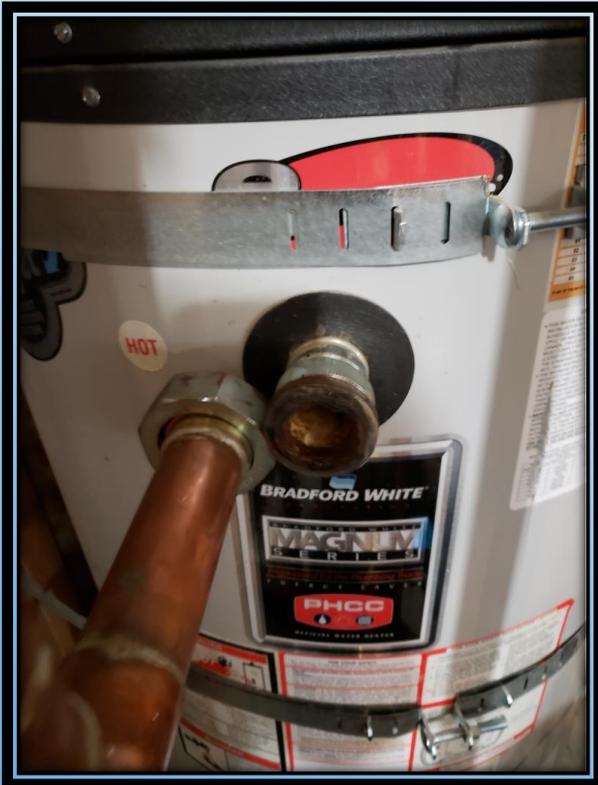
Week 8



Note scale
removal without
manual cleaning

Results - Water Heater

A local plumbing contractor inspected the water heater prior to the installation and 8 weeks after installation. The inspecting plumber provided the following statement after the final examination: “*HydroFLOW* took out years of scale in roughly 2 months. If you install a *HydroFLOW* unit on the cold water pipe feeding your water heater, it will significantly extend its life-cycle.”



Conclusion

During the 8-week assessment period, scale accumulation greatly reduced and most of the existing scale buildup was naturally removed. With the *HydroFLOW* devices, manual scrubbing of the fixtures was less labor intensive and not as frequent. While weekly cleaning of the fixtures was still performed for sanitary purposes, the amount of scale was negligible.



For additional information, please contact:

<https://www.hydroflow-usa.com/contact>