



MONARCH WATER

Looks can be deceiving!



On the 11th September 2013, an Ariston EP15UR 2kw under sink water heater was fitted on the supply to the hot tap to the staff rest room at Monarch Water by David Hunt a qualified Gas Safe registered engineer. The installation took approx. 3 hours.

The Ariston heater was protected by a Scaleout bespoke unit designed specifically for this application.

Please see http://www.scaleout.co.uk/Scaleout_Success_Story.pdf for additional Scaleout related test work carried out by David Hunt.

Date of Report: 19th June 2014

Objective & Application: To ascertain the effectiveness of Monarch Scaleout within a low water use working environment. The Ariston heater is used with only approx. 500-1000ml draw off per hand rinse no more than 4-6 times a day. The majority of hot water use comes from the under sink heater covered by the report in the link above.

Water Hardness: 574ppm – source Walpole water treatment works – Essex & Suffolk Water.

pH levels: 7.24 pre-Scaleout.
7.22 post-Scaleout.

Evaluation period: 11th September 2013 to 19th June 2014 – a total of 41 weeks (10+ months).

19th June 2014

The under sink water heater was removed and photographs were taken by Mr Iain MacQueen an Unvented System qualified engineer. The removal of the Ariston heater, cleaning of the element and total reinstallation took approx. 1.5 hours – see Pic 1.

Element removal, cleaning and replacement took approx. 20 minutes.

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MONARCH WATER



Pic 1

Pic 1 shows a build-up of white scale around the corners of the element. This is shown in greater detail in Pic 2.



Pic 2

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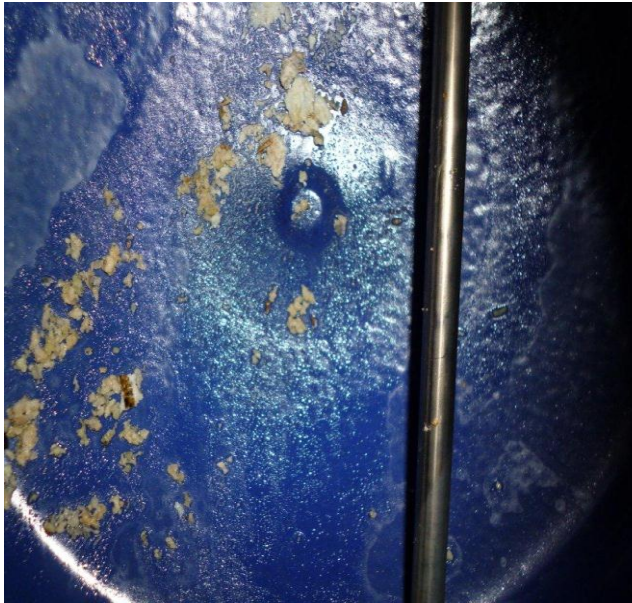


MONARCH WATER

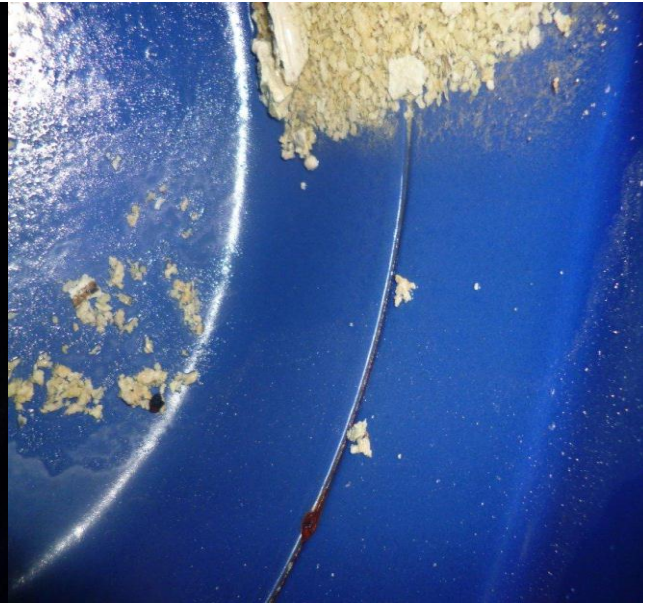
But wait, is it as it appears?

The tank was clean as shown in Pics 3 & 4 apart from a very small amount of loose soft scale!

Pic 3



Pic 4



Once the element had been removed, the scale build-up was found to be a soft scale that came away very easily – see Pics 5 and 6. No acid was required. Soft scale was easily removed by hand and a cloth.



Pic 5

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MONARCH WATER



Pic 6

Final Stage Results:

The under sink water heater had operated continuously for a period of 41 weeks, where due to very low flow demand, heat transfer and scale creation would have been at its maximum. Even in the most demanding of applications, only soft scale was created.

The Scaleout unit was a 20" housing with a measured amount of SP3 resin. No post filter was used. Scaleout is a registered Trademark of Monarch Water Ltd.

Conclusion:

The Monarch Scaleout filter unit...

- Provided protection against hard scale formation in the most demanding low use, high scale creation environment with soft scale easily removed by hand.
- Was effective at 574ppm over a 41 week period.
- Showed no alteration to pH levels.

PH was measured using an Oakton BNC WD3563414 pH tester and was calibrated prior to use.

Approvals and Compliances:

BS6920 Material compatibility

NSF/ANSI-61: Drinking water system components

The average water hardness in the UK is 300-350ppm

With thanks to...

Mr David Hunt – Gas Safe Qualified Engineer

Mr Iain MacQueen – I.D.M Trading Ltd - Unvented System qualified engineer

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