



MONARCH WATER

Scaleout Success Story – Food Service

Date of Report: 11th March 2014

Objective: To ascertain the effectiveness of Monarch Scaleout within a Food Service environment. Protecting equipment that generated very hot water and including steam.

Water Hardness: 570ppm – source Walpole water treatment works – Essex & Suffolk Water.

pH level: 7.1

Equipment to be protected: Automatic coffee machine (HLF – 4600i) used directly by the public within a busy diner and service station.

Original Evaluation period: 10th July 2012 to 24th April 2013 – a total of 40 weeks (9+ mths).

Application:

The coffee machine was previously protected by a de-alk resin based calcium treatment unit. It was experiencing two water related problems. One being scale from the high level of water hardness (570ppm) and two, dissolving of the brass temperature probe that was suspected of being eroded by a change in pH levels post calcium treatment unit. Monarch Scaleouts produce pH stable water.

The calcium treatment unit was removed on the 10th July 2012 and replaced with a Scaleout S517. A high capacity carbon block in line filter was used as a post filter. See Pic 1.

The Scaleout S517 was installed by Monarch Water Ltd overseen by Graham Salter of Freshpac Teas & Coffees. At the time of the changeover, Mr Salter fitted a new temperature probe. The removal of the calcium treatment unit and installation of the Scaleout took approx. 20 minutes (no flushing required).



Pic 1

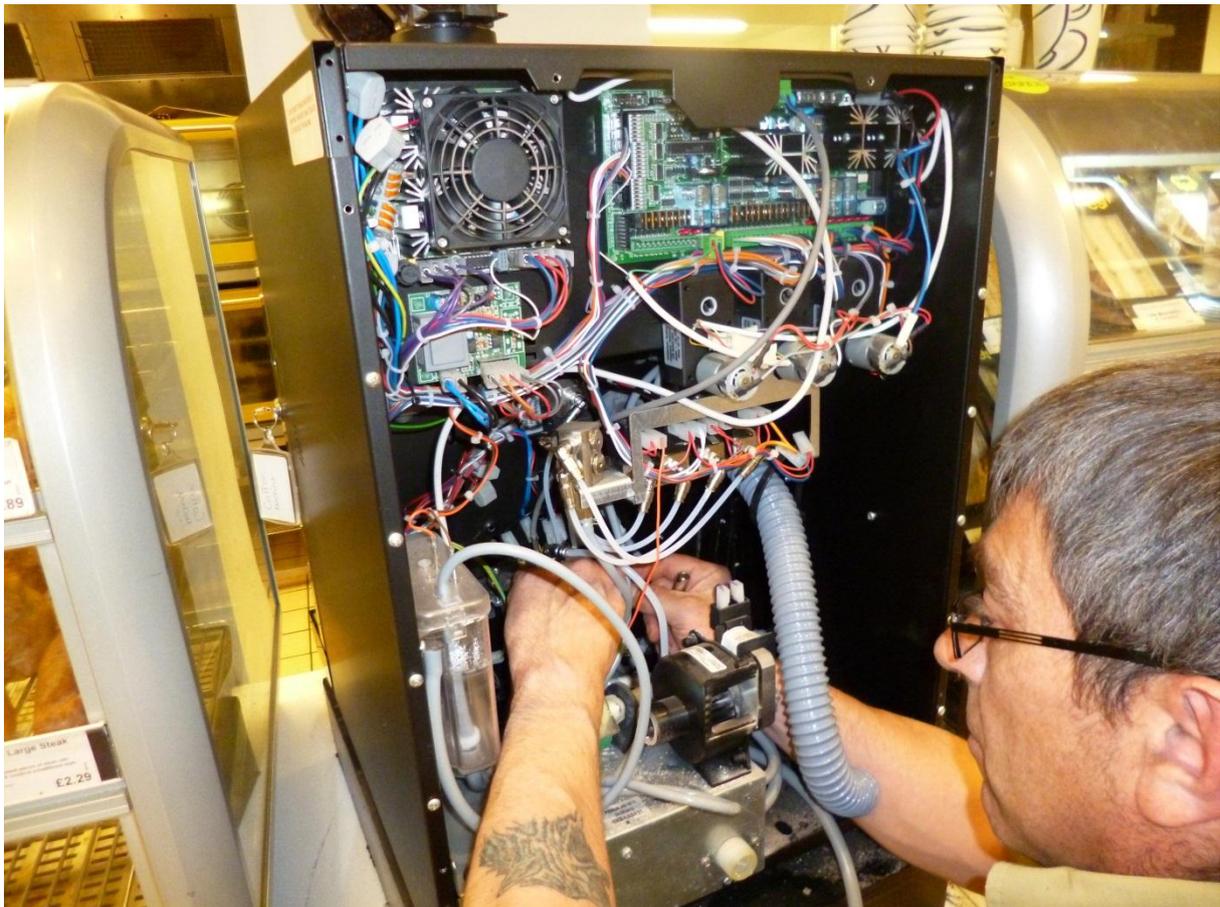
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24th April 2013.

John Cooper of Freshpac Teas & Coffees (Service Technician with 16 years' experience on vending equipment) attended site to remove the pot boiler to ascertain scaling levels in HLF – 4600i vending machine – see Pic 2.



Pic 2

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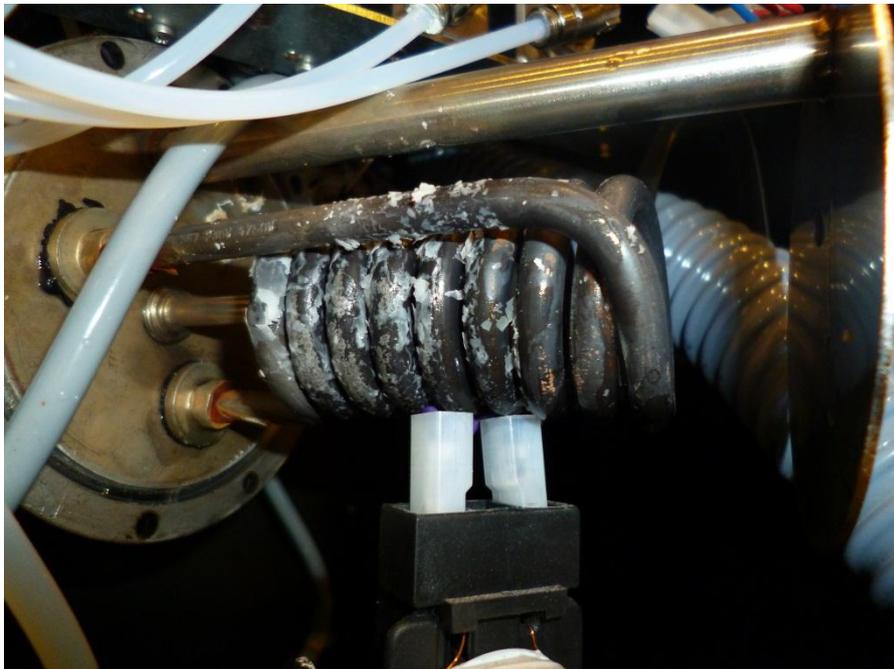


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Pic 3

The water reservoir was free of scale with exception of a small water level line – Pic 3



Pic 4

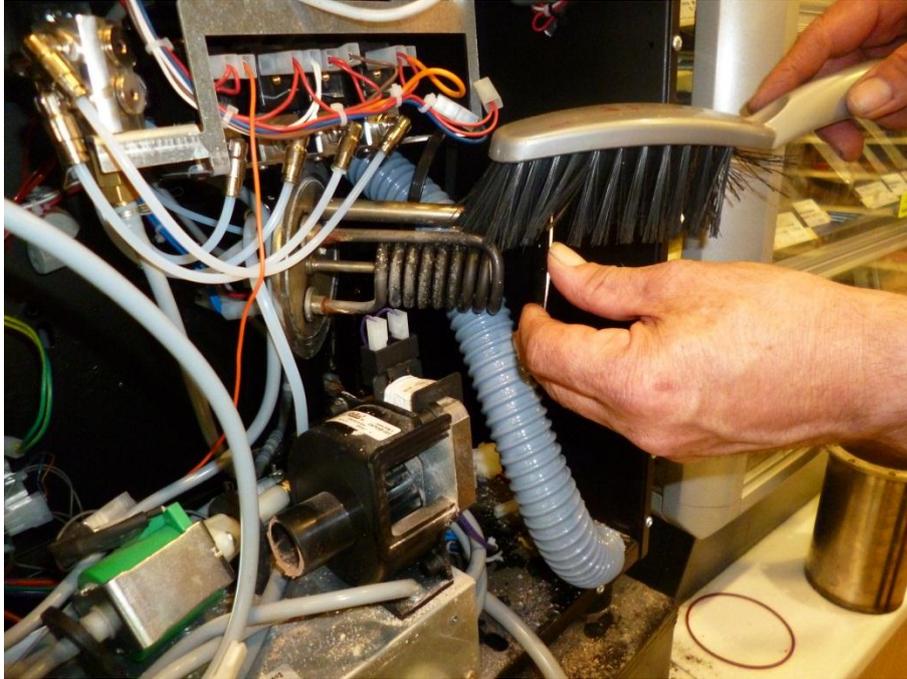
The element once removed, had a miniscule amount of 'soft scale' on approx. 60% of the surface – Pic 4

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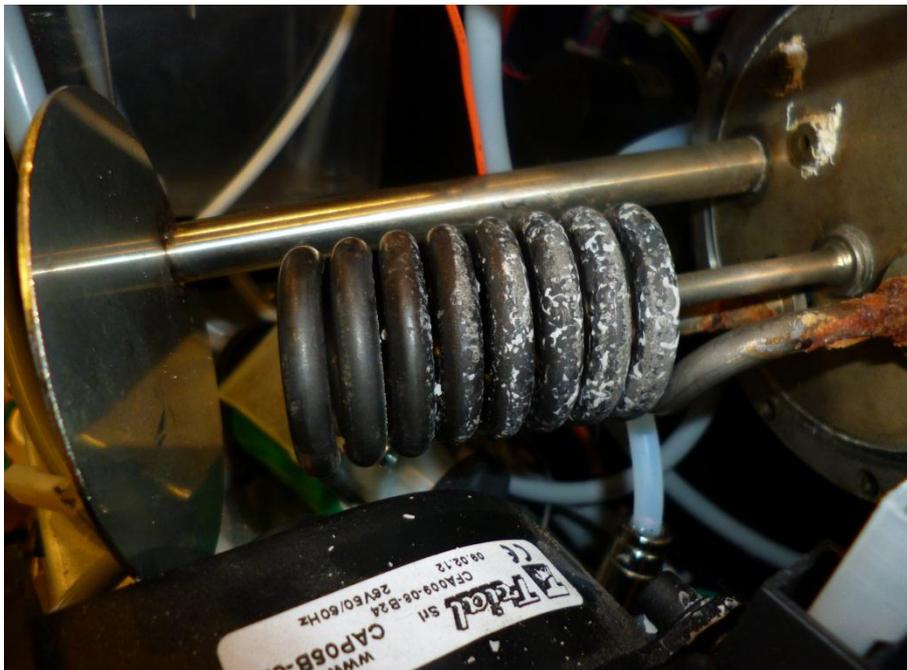


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Pic 5

This soft scale being easily removed with a soft brush – Pic 5



Pic 6

Element with soft scale removed and temperature probe in 'as new' condition – Pic 6

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Pic 7

The pot boiler had a small amount of non-adhesive loose soft scale in the bottom – Pic 7



Pic 8

The pot boiler after simply being rinsed with fresh water, to leave no scale at all – Pic 8

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Stage One Result:

The coffee machine had operated continuously for a period of 40 weeks without interruption and with no need of service or attention.

The Scaleout is based on Filtersorb SP3 resin with a CTO (Chlorine/Taste/Odour) in line post filter.

The Scaleout model was a S517.

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Conclusion:

The Monarch Scaleout S517...

- Removed existing scale on the element
- Provided exceptional protection against future scale deposits from water hardness of 570ppm
- Maintained new temperature probes 'as new' condition

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

END:

With thanks to:

Mr Graham Salter
Freshpac Teas & Coffees,
Unit B Broadway Drive,
Halesworth,
IP19 8QR



Mr Chris Woodruff
Lily's Pantry
Darsham Service Station
Main Road
Darsham
Halesworth
Suffolk



And finally ...

Claire Foreman, manager of Lily's Pantry, having seen both the element and the internal condition of the pot boiler casing, stated 'I am extremely pleased with the results. All we wanted was a scale free machine, and that's what we got'.

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Stage Two:

The coffee machine was re-inspected on 25th February 2014 by Mr Graham Salter of Freshpac Teas & Coffees. Graham Salter has nearly 30 years' experience in the vending industry.

The results are as below.



Pic 9

The element had a miniscule amount of soft scale.

Pic 9 shows this soft scale before it was cleansed with fresh running water. It was not necessary to use a soft brush in this instance as the scale was non-adhering to the element.

The soft scale shown is what had accumulated on the bottom baffle in the pot. As when cleaning the element, this soft scale was simply removed by the use of fresh running water.

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Pic 10

Picture 10 (as per Pic 7) shows the pot boiler with a small amount of non-adhesive loose soft scale in the bottom. This was removed simply by rinsing with fresh water.



Pic 11

Pic 11 shows the other end of the element to Pic 9. Again no scale can be seen. The centre tube is the temperature probe where this all began! No scale and equally importantly – no corrosion!

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Stage Two Results

The coffee machine had operated continuously for a period of 87 weeks without interruption and with no need of service or attention.

The Scaleout is based on Filtersorb SP3 resin with a CTO (Chlorine/Taste/Odour) in line post filter.

The Scaleout model was a S517.

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Conclusion:

The Monarch Scaleout S517...

- Removed existing scale on the element
- Continues to provide exceptional protection against future scale deposits from water hardness of 570ppm
- Continues to maintain new temperature probes 'as new' condition

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

And finally...

Graham Salter of Freshpac stated 'it was the first scale prevention system I have seen where no or little acid was required. The loose soft scale was easily flushed away during inspection and the 4600i coffee machine had a continuous flow of scale free water'.

Mr Chris Woodruff of Darsham Service Station has now removed all his calcium treatment units on other vending machines in favour of the Monarch Scaleouts.

END:

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