



ScaleBuster – maintenance-free operational service for over 15 years

Location

Phoenix Student residences; The University of Brighton

Annual water consumption of building

11,587 cubic metres

Objective

To investigate the useful service life of a ScaleBuster unit that had been in active use for in excess of 15 years. This was done through the comparison of the unit with the original specification of the unit when it was manufactured.

Background

A 4" ScaleBuster was installed at the student residences in 1996 to protect the cold water supply to cold taps, WCs and unvented hot water cylinders.

The unit was replaced in December 2011 with a 2" ScaleBuster when the University decided to decommission the cold water storage tank and move from a 4" boosted supply to a direct mains water feed with a consequential reduction in flow rate.

The unit that was removed was returned to the original place of manufacture in order to carry out a detailed examination of the product following over 15 years of continual service.



Complete details of the unit removed and inspected

Serial Number:	6792
Size:	DN100 8-off holes 18mm Dia on 210 P.C.D.
Model:	F100 2nd Generation
Flange:	ISO PN10 – (type 21)
Material Construction:	Brass Body, Nickel Plated
Materials used:	Brass Body, Zinc Anode, PTFE fin design
External Max Dimensions:	L375mm x W250mm
Supplied:	25/7/1996
Age:	15 years 5 months

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Certificate available on request

UK design & manufacture

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Inspection results

External inspection showed the body of the unit to be in good order. The nickel plating was in good condition and there was no corrosion or pitting of the brass.

The central spindle and all PTFE fins were in good order. All Fins were present and were tight within their housing indicating that minimal reduction in the anode had taken place.

Internal inspection of the body and anode revealed that internal bore of the brass body of the ISB was found to be in good condition and no corrosion of the brass body was evident.

The ISB F100 removed was a second generation unit with a single zinc anode which was changed to two anodes in later models. The zinc anode was removed from the body and then weighed and measured. This was then compared to the original specifications of the zinc anode in the original second generation units. The dimensions and weight of the anode that had been in service for over 15 years was still within the original manufacturing tolerances of the unit when it was manufactured in 1996.

Conclusion

A detailed internal and external examination of the unit confirmed that despite the use of a zinc anode as a sacrificial element within the ScaleBuster minimal depletion of the anode had actually taken place. During the 15 years when the unit was in service an estimated 170,000 cubic metres of water would have passed through the unit and been treated.

The service life in the case of the removed ISB F100 within the system and water type at the site above was found to be in excess of 15 years.



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