



# ScaleBuster – maintenance-free operational service for over 15 years

## Location

James Hornsby School, Basildon, Essex

## Objective

To investigate the useful service life of three different sized ScaleBuster units that had been in use within the school for a period in excess of 15 years. To assess how the water treated by the use of ScaleBusters had affected the calorifiers within the system.

## Background

Three ScaleBusters was installed at the school between August 1998 and February 1999 to protect the calorifiers at the school.

The units were replaced between December 2014 and February 2015 with five new ScaleBusters when the school underwent refurbishment, including the installation of new boilers for the upper and lower schools, as well as the sports hall.

The units that were removed were 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.



## Details of the units removed and inspected

Serial Numbers:	013300 013810 014805
Size:	DN65 DN50 DN75
Model:	2nd generation
Material Construction:	Brass Body, Nickel Plated (flanged models)
Materials used:	Brass Body Zinc Anode PTFE (fin design for flanged models)
Supplied:	08/98 to 02/99
Age:	15 years 10 months

ScaleBuster DN75 - serial number 014805  
- supplied February 1999  
- 2nd generation fin design

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Certificate available on request

UK design & manufacture

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## Inspection results

External inspection showed the body of the units 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 on the flanged units. All fins were present and were tight within their housing indicating that minimal reduction in the anode had taken place.

The PTFE sections within the ISB C50 threaded unit were clean and showed no sign of wear or fouling. All the zinc anodes were in place and although some signs of depletion were evident this was to be expected after having been in use since 1999.

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.

## Inspection results of the Calorifier

The contractor involved in the replacement of the calorifiers took pictures of the inside of the existing calorifiers before they were removed (see opposite). The images show no build up of scale on either the cylinder walls or the heat exchange walls.

Based on this evidence the ScaleBusters had performed their function of preventing the build up of hard scale within the calorifiers during their operational life.

## Conclusion

A detailed internal and external examination of the units 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 a service life in excess of 15 years thousands of cubic metres of water would have been treated as they passed through the three units.

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

The ScaleBusters had protected the build up of hard scale within the calorifiers preventing premature replacement



Internal images of the calorifiers prior to removal

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