



## Pilot Study

# Limescale Problems in Holiday Homes, France

## 4 Month Evaluation

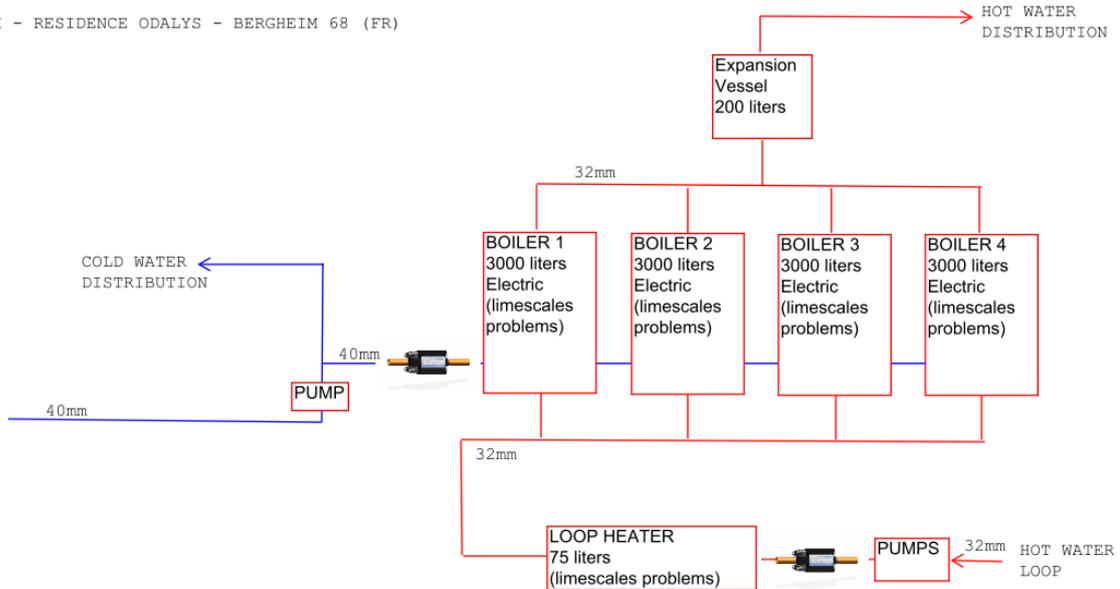


**Date of installation:** 29/04/2014

**Date of inspection:** 28/08/2014

### Brief Summary

IDEX ENERGIES, in charge of maintenance of the hot water production for the residence wished to propose a solution to the ODALYS group to reduce the high maintenance costs related to the issue of limescale. The substation consists of 4 hot water cylinders of 3000 liters each, equipped with and electric heater (an “immersion” or “resistance” heater) for a water temperature of about 60 ° C.



## Problems at the site

There is a significant presence of limescale in the four electric cylinders (about 200kg/ year) and the hot water recirculation loop, with approximately 5cm thick limescale on the electric heater.

According to Sébastien THOMANN (maintenance worker) 5 heaters have been changed within a year due to the presence of scale (at a cost of € 1,750 / year)

## Proposed Solution

The unit was installed after the booster on the cold water located before the hot water cylinders.



## Results



**Without HydroFLOW:** Limescale covers the bottom of the cylinder, and is very solid and compact (200kg total)



**With HydroFLOW:** Limescale was reduced (<10kg). It is light, fragile and transforms to powder when touched.



**Without HydroFLOW:** Limescale creates a strong bond between the electric heater coils. The layer is very solid and compact and can only be broken with a hammer. The heaters are unusable.



**With HydroFLOW:** Limescale was reduced by 95% It is light, delicate and turns into powder at a touch. The heater is operational.

Criteria	Base Criteria (Existing Data)	Expected Results	Actual Results
Presence of Limescale	Limescale securely attached 5cm thick on electric heater	Prevent new scale formation on electric heater	
Energy costs	Not measured to date, but estimated at 14x6kW - 75% yield = 20kW eff.	Cost reduction of energy and return to nominal value of 84kW	Estimated at >50% Savings
Maintenance costs	Replacing 5 heaters per year Cost: €1750 / year	No degradation of heater. Saving of whole replacement costs	Estimated Savings: €1750 / year
Maintenance costs	200kg of limestone evacuated by year + 2 smaller interventions / year	Significant reduction in costs	Reduction to 10kg of limescale Reduction of 50% maintenance costs

## Customer Testimonial

The effectiveness of the HydroFLOW C60 system that was installed in the test is undeniable. The agent is delighted not to have to evacuate 200 kg of limestone from the cylinder. The few remaining kg crumble like sugar and facilitate maintenance, and the budget for overall maintenance can easily be reduced.

The electric heaters will be able to work in good conditions and with their nominal performance that will allow a significant reduction in the replacement thereof, as well as a substantial energy saving that we can estimate as more than 50% savings.