

Legionella Control, (L8 compliance), with dramatic Energy Control savings

Guidance for Scottish Residential Care Homes regarding water system disinfections which can also deliver energy savings

Scottish residential care homes can save very significant amounts on their annual energy bills if they disinfect their water system using the SafeSol Constant Dosing service.

This is the claim made by SafeSol Limited who distributes a range of highly efficient stabilised hydrogen peroxide water disinfectants in the UK. Based on their calculations a 50 bed residential care home could be clawing back as much as £11,490 annually on the water heating bill!

How can this be? At the beginning of 2002 the H&SE issued a new Approved Code of Practice and Guidance for the Control of Legionella bacteria in water systems referred to L8.

L8 states that water systems in public buildings, should be managed to ensure that there is no possibility of proliferation of Legionella or other harmful bacteria which could pose a risk to human health. This applies to all public buildings which of course includes residential care homes.

Compliance with L8 has to date meant that residential care homes have had to ensure that all of their hot water outlets can reach a temperature of 50°C within one minute. This generally means that the calorifier is set at 60°C or above. This increase in the hot water system temperature should combat the likelihood of infection. The high water temperature of course results in high energy bills, all the more so in today's economic climate.

The approach has been less than satisfactory for many care homes. Residents in rooms close to the hot water calorifier risk scalding while those in rooms remote from the circulating hot water ring main may still be at risk from Legionellosis.

SafeSol Limited, who now have constant dosing systems in many public buildings in the UK, are able to demonstrate the potential levels of savings depending on the size of the care home and the amount of water used, both hot and cold. As examples they have based their calculations on typical usage for 50, 100, 150 and 200 room homes all with typical public and dining room areas and these show energy savings ranging from £11,490 to £50,000 per annum!

The table of calculations overleaf are based on typical averages. To best calculate what a particular care home could save a survey would have to be carried out. However, the figures given honestly demonstrate the level of possible savings achievable when the water temperature is lowered in conjunction with the operation of the SafeSol constant dosing disinfection system.

Lowering temperatures has two effects - The hot water which is used is replaced with cold water that can be heated to a lower temperature using less energy. This saves a small amount. By far the greater saving is achieved by circulating water through the building at a lower temperature. Water leaving the calorifier at a lower temperature loses significantly less heat than water starting at 60 Deg. This saving is much more significant contributing to savings of many tens of thousands of pounds in larger buildings.

Other benefits of the SafeSol disinfection system are: the chemical is non-toxic, has no odour and at the level of dosing means that the guests and staff can continue to use hot and cold water as normal; showerheads (in soft water areas) that require to be regularly disinfected will be kept constantly clean with use and the hot water system will be running at a temperature which is safe for residents to use.



Prepared for the attendees of the 2010 Scottish Care National
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GUIDE TO POSSIBLE ENERGY COST SAVINGS IF A RESIDENTIAL HOME INSTALLS THE SAFESOL SYSTEM FOR CONSTANT LEGIONELLA CONTROL AND L8 COMPLIANCE

No of rooms	† Average water usage per day per person bed and public rooms	Assume 1/3rd is hot water @ 80% occupancy	‡ Possible energy saving by heating water to 48°C instead of 60°C	‡ Energy savings from circulating at 4°C lower	T o t a l Energy Savings	Installation cost of SafeSol dosing system	Annual SafeSol chemical cost	Possible saving year 1	* Possible saving annually, year 2 onwards
50	23.5 ³	8 tonnes	£3,270	£9,770	£13,040	£2,000	£1,550	£9,490	£11,490
100	36m ³	12 tonnes	£4,905	£19,550	£24,455	£2,000	£2,400	£20,005	£22,005
150	48.5m ³	16 tonnes	£6,500	£26,000	£32,500	£2,000	£3,200	£27,300	£29,300
200	61m ³	21 tonnes	£8,600	£48,800	£55,000	£2,000	£4,000	£48,000	£50,000

† Calculations based on bedroom facilities plus public room usage

* Onward annual saving without dosing installation cost

‡ If water is circulated @ 48°C instead of 60°C it will return at 42°C. If it is circulated at 60°C it will return at 50°C. Difference is 4°C equivalent to 4.6 kWh for every tonne of water circulated.



The SafeSol Service

We are keen to support our customers in whatever practical way they think is best. We can do building Risk Assessment, review existing risk assessments or assist with your disinfection or get involved in your more difficult risk assessments. We can install dosing equipment for continuous dosing applications.

In these days when cost will become a constraint to what residential care homes can achieve, SafeSol offer an alternative to the traditional and often high cost, water treatment company approach.



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