

Dramatic savings on energy bills and eradication of Legionella for Hotels and other large Public Buildings!

Hotels and many other large buildings 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 200 bed hotel could be clawing back as much as £55,000 annually on their 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 hotels.

Compliance with L8 has to date meant that hotels 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 hotels. Guests in rooms close to the hot water calorifier risk scalding while guests 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 hotels and buildings in the UK, are able to demonstrate the potential levels of savings depending on the size of the hotel 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 bed hotels all with restaurants and these show energy savings ranging from £27,300 to £55,000 per annum!

The table of calculations are based on typical averages. To best calculate what a particular hotel 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 guests to use.

Attached: Table of possible energy savings calculations



**GUIDE TO POSSIBLE ENERGY COST SAVINGS IF A HOTEL INSTALLS THE
SAFESOL SYSTEM FOR CONSTANT LEGIONELLA CONTROL AND L8
COMPLIANCE**

Number of Beds	† Average water usage per day per person bed and restaurant	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	Total energy savings	Installation cost of SafeSol dosing system	Annual SafeSol chemical cost	Possible saving year 1	* Possible saving annually, year 2 onwards
50	50x250 + 100x110 = 23.5m ³	8 tonnes	£3,270	£9,770	£13,040	£2,000	£1,550	£9,490	£11,490
100	100 x 250 + 100 x 110 = 36m ³	12 tonnes	£4,905	£19,550	£24,455	£2,000	£2,400	£20,005	£22,005
150	150x250 + 100x110 = 48.5m ³	16 tonnes	£6,500	£26,000	£32,500	£2,000	£3,200	£27,300	£29,300
200	200x250 + 100x110 = 61m ³	21 tonnes	£8,600	£48,800	£55,000	£2,000	£4,000	£48,000	£50,000

† Calculations based on bedroom facilities plus restaurant usage

† 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.

* Onward annual saving without dosing installation cost