



Using UV water disinfection to combat Legionnaires disease

Legionnaires disease – a threat to those in aged care facilities and hospitals

Legionnaires disease is a potentially fatal form of pneumonia caused by the Legionella bacteria that thrives in warm moist environments. Those with lowered immune systems are at higher risk of contracting the disease that can be transmitted through hot and warm water systems, such as those found in aged care facilities and hospitals.

Legionella loves warm water

Low levels of Legionella are commonly found in drinking water supplies, however these multiply quickly to dangerous levels within warm water infrastructure if there are no disinfection strategies in place.

- Above 70°C - Legionella dies almost instantly
- At 60°C - 90% die in 2 minutes
- At 50°C - 90% die in 80–124 minutes, strain dependent
- 48 to 50°C - Can survive but do not multiply
- 32 to 42°C - Ideal growth range
- 25 to 45°C - Growth range
- Below 20°C - Can survive (dormant), even below freezing

Thermostatic mixing valves, commonly used in health care and hospitality industries to provide water to a pre-set temperature, do not provide microbial control and can promote the growth of Legionella and other micro-organisms.

Each Australian state has different regulations relating to how the Legionella risk must be controlled. The good news is that UV water disinfection is an effective safeguard against Legionella.

Chemical free safe water for the elderly and high risk patients

Finding an economical and reliable way of controlling Legionella is no longer difficult thanks to UV-Guard's water treatment systems. All of UV-Guard's products can disinfect warm and hot water systems ensuring safe, disinfected water for health care providers and aged care facilities.

UV-Guard's systems for warm and hot water applications use low-pressure amalgam UV lamps. Unlike standard low pressure UV lamps, UV-Guard's amalgam UV Lamps provide a stable UV output up to operating temperatures of 60 Degrees Celsius. The output of standard low pressure UV lamps can be reduced by up to 40% at 60 Degrees Celsius.



Benefits of UV water disinfection

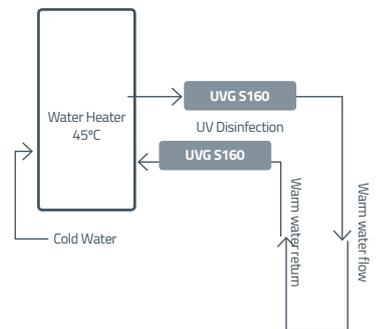
- Effective against all microorganisms – including chlorine-resistant Cryptosporidium and Giardia
- UV-Guard systems are accredited by the Australian WaterMark certification scheme
- No danger of overdosing - a higher UV dose has no detrimental impact on water
- No chemicals involved and by-product free – producing safe and odour free water without altering taste

How UV works

The UV light bombards the passing water flow with a high intensity ultraviolet light that inactivates Legionella.

Where to Locate your UV

An established and cost effective method is to install a UV disinfection system on either or both the warm water outlet or return line of the water heater. This is shown in the following schematic.



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