

## LEGIONELLA AND SCALDING: TWO RISKS RELATED TO HOT WATER WHICH MUST BE TACKLED HEAD-ON



**Prevent scalding by delivering Hot Water (HW) below 50°C and fight against Legionella by circulating water above 55°C: these two contradictory requirements must be reconciled by the facilities and estate teams in healthcare facilities.**

According to World Health Organization (WHO) figures, over 75% of all reported cases of Legionella are over 50 years old, with about 10 - 15 cases detected per million population in Europe, Australia and Europe. Those at highest risk are people with immune-suppressed systems, and a high proportion of these are found in healthcare facilities. WHO guidance stresses the need for controlling water temperature in hospitals, other health care settings and aged-care facilities to prevent both scalding and legionellosis.

### **The elderly are more vulnerable to scalding and legionella**

Legionella bacteria, naturally occurring in water, are pathogens which cause infection when contaminated water is inhaled in aerosol format. The risk increases with age and for those with a weakened immune system. Hot water circulated at temperatures which are too low, i.e. between 25 - 45°C, provides favourable conditions for bacterial development. Stagnant water, corrosion and scale in the pipework also exacerbate the problem.

The scalding risk is a function of three factors: water temperature, duration of exposure, and the skin's resistance to heat. Hence the increased vulnerability of children and the elderly whose skin will burn four times more quickly because their skin is thinner. For young children 1 second's exposure to hot water above 60°C can cause full thickness burns, and at 55°C it can take just 10 seconds.

Although the elderly are more susceptible to legionella and scalding, they are not the only ones.

In domestic and hot water systems, WHO guidance states that "control measures for reducing the proliferation of Legionella must not increase the risk of scalding, particularly for children, the elderly or people with disabilities."

### **The requirements of anti-legionella regulations regarding hot water**

Many countries use temperature control to prevent the risk of Legionella. The WHO recommends monitoring hot water systems at sentinel points, where the risk of contamination is highest, and in particular, the point furthest away from the hot water production unit.

For recirculating hot-water systems, the temperature of the water leaving the heater should be not less than 60°C and the temperature of the return should be not less than 50°C.

Current guidance recommends that mixers/taps should be installed at the point-of-use which:

- have a maximum temperature limiter,
- incorporate a failsafe system to shut off the hot water instantly if the cold water supply fails,
- prevent any risk of Legionella development,
- can be easily accessed, removed and/or exchanged, and will withstand chemical or thermal disinfection or are compatible with anti-legionella filters.

### **DELABIE complies with anti-legionella and anti-scalding guidance with its SECURITHERM thermostatic valves**

In the fight against bacterial contamination in water systems, and to avoid any risk of scalding, directors of hospitals, care homes and other healthcare facilities – who are legally responsible for the health and welfare consequences of breaches in their obligations – have at their disposal DELABIE's range of **SECURITHERM** thermostatic mixers.

### **This range includes dual control thermostatic mixers**

(one control opens and adjusts the flow, the other controls the temperature) or sequential mixers (with one control for everything, and which systematically opens with cold water) which can be installed on washbasins, in showers or on baths. In addition to their anti-scalding and anti-legionella features, these **mixers allow the manager to optimise the bills while preserving user comfort.**

- **Anti-scalding safety** features on the SECURITHERM thermostatic mixers include:
  - **pre-set maximum temperature limiter(s)** set between 38°C and 41°C depending on the model
  - **the hot water shuts off automatically if the cold water supply fails** (and vice versa to prevent cold showers)
  - **Securitouch thermal insulation on the mixer body** which prevents burns through contact.
- **Anti-legionella safety** features on the SECURITHERM thermostatic mixers include **BIOSAFE** solutions which can be combined and, depending on the model, include:
  - **mixer bodies with a low water volume**, reducing the amount of standing water and, therefore, limiting bacterial development
  - **mixer bodies with a smooth interior**, minimising Biofilm attachment and making it easier to treat
  - **a specific design with no risk of cross flow between the cold and hot water** (i.e. no risk of the hot water contaminating the cold water, or vice versa, so there is no risk of conditions where bacteria can proliferate). DELABIE has developed a unique patent for a **thermostatic mixer where the hot water and the cold water shut off directly at the inlet**, making non-return valves redundant, removing the risk of bacterial proliferation.
  - **the possibility of carrying out thermal or chemical shocks easily.**
  - **the quick removal** of certain mixers for internal cleaning and descaling (**BIOCLIP mixers**).

All DELABIE mixers can also be fitted with anti-bacterial filters (**BIOFIL filters**) if necessary.

**Pressure-balancing (EP)** mixers provide an alternative to thermostatic solutions. Pressure-balancing technology, integrated in the cartridge of certain DELABIE mixers, **compensates for the inevitable pressure variations in the system so that the outlet temperature remains constant**. The hot water flow is automatically reduced if the cold water supply fails. These functions, combined with **Securitouch technology** (cold body), help reduce the risk of scalding for the user by permanently controlling water pressure and temperature at the point of use.

Products that make it possible to prevent both legionella and scalding are, therefore, available. Directors of healthcare facilities, who are duty holders, therefore have every reason to install them. In his memorandum of February 15, 2019, the Minister of Solidarity and Health also proposed a way of analysing risk and the means for how to stay safe.

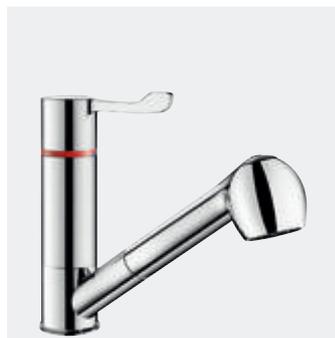
Images available on our website [delabie.com](http://delabie.com), in the PRESS section



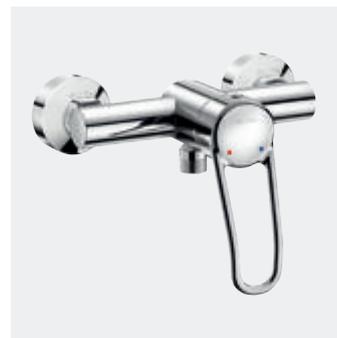
**SECURITHERM H9769 dual control thermostatic shower mixer:**  
No risk of cross flow between the HW and CW (no non-return valves), no risk of scalding  
Ref. DELABIE: DCH\_HEBERGT\_H9769©DELABIE



**SECURITHERM H9769 dual control thermostatic shower mixer**  
Ref. DELABIE: H9769



**SECURITHERM H9612 thermostatic sequential mixer for sinks/showers**  
Ref. DELABIE: H9612



**SECURITHERM EP 2739EP mechanical shower mixer with pressure-balancing**  
Ref. DELABIE: 2739EP

**DELABIE, manufacturer's expertise**

DELABIE, a 100% family-owned French company, founded in 1928, is the European market leader in water controls and sanitary equipment for public and commercial places. The company offers five product ranges specifically for this market: Commercial water controls, Hospital water controls, Accessibility and Hygienic accessories, Stainless steel sanitary ware and Specialist water controls.

Over 2,000 DELABIE manufactured items, including international references, are exported from its factory in France to more than 90 countries.

The company has 9 subsidiaries worldwide: Germany, Austria, Benelux, United Kingdom, Spain, Portugal, Poland, United Arab Emirates (Dubai) and China (Hong-Kong).

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