



French hospital stays legionella-free

AquaProtect anti-legionella tap water systems installed



The 115-bed Les Iris rehabilitation hospital near Lyon, France installed Alfa Laval's AquaProtect anti-legionella tap water system in 2005 to replace old tanks without any inspection openings. The hot water system at the hospital is a complete closed loop up to the second level of the building. Pipe work is running from each level to the different showers at the end of each wing.

Fast facts:

The customer: Cofély, installer with 13,000 employees.

End customer: Hopital Les Iris, Lyon, France

The task: To supply safe and ample domestic hot water to hospital patients.

The challenge: Disinfect circulating water

The solution: One AquaProtect system with a 300 liter tank replaced eight 300 liter tanks with heating coils. This saves a lot of space in the boiler room.

Legionella-safe system installed

The AquaProtect system, which continuously disinfects circulating water at 70°C, requires low maintenance and saves a lot of space in the boiler room. The control box is also easy to operate.

After a public tender, installer Cofély got the contract to install a new tap water heating system in the hospital. The reason for choosing the AquaProtect anti-Legionella system was a long-standing relationship with our Sales Engineer Laurent Bidaud. Also good feedback from an anti-Legionella installation at another clinic in Lyon was taken into consideration. Competitor products were considered, but only Alfa Laval equipment could offer 70°C hot water during peak hours.

In the hospital, one AquaProtect system with a 300-liter tank has replaced eight 500-liter tanks with heating coils.

"The compact system design of the AquaProtect requires low maintenance and is very easy to use and monitor," says Philippe Raquin, the Technical Service Manager at the Iris hospital.

Alfa Laval has a worldwide presence that includes a French speaking team close by, and technical expertise always backs up local sales and service teams. These advantages facilitate smooth and problem-free commissioning and easy service and maintenance afterwards.

Water-born disease

The AquaProtect tap water system uses continuous thermal disinfection of incoming and circulating water to provide Legionella-free domestic hot water for large buildings and institutions.

Studies have shown that many hot water systems contain Legionella and other bacteria of various concentrations.

Enclosed, warm storage vessels, blind spots in pipe-work and water systems containing stagnant water provide an ideal environment in which the bacteria can flourish, particularly if sludge, sediment and scale are present for them to feed on.

“Legionella bacteria multiply more rapidly at temperatures between 20°C and 45°C. Hot and cold water systems in institutions and large buildings are major sources of Legionella bacteria, which cause a life threatening pneumonia called Legionnaires disease,” says Dr. Tom Makin, independent consultant and former directorate manager at the Department of Medical Microbiology at the Royal Liverpool University Hospitals in the UK.

Regular check to trace any sign of legionella

Water samples are taken regularly at different taps by a

Product Facts:

Benefits with AquaProtect system:

- Safe eradication of all legionella
- Continuous disinfection of all circulating water
- Entire network disinfection, periodically or on demand
- Energy efficient system design: no additional energy input is required as recovered heat is used to disinfect
- Adaptable holding time to comply with local rules
- Low scalding at the tap due to precise temperature regulation (60°C)
- Suitable for all water hardness's and different tap flow rates
- Fully factory tested for easy commissioning: plug & Play control box
- Requires low maintenance
- Space saving in your boiler room



nurse-hygienist and are sent to an independent laboratory. Since the installation in 2005 no legionella infection has been detected. However a suspicion of legionella has been registered in 2008, but under the threshold of laboratory standards. This specific result was corresponding to a very low secondary outlet temperature (44°C).

Once the temperature had been adjusted the thermal treatment of the control box was engaged immediately to eradicate any bacteria trace in the entire network. The day after samples showed no trace of any legionella bacterias.

Working principle for anti-Legionella system installed:

AquaProtect always uses two heat exchangers:

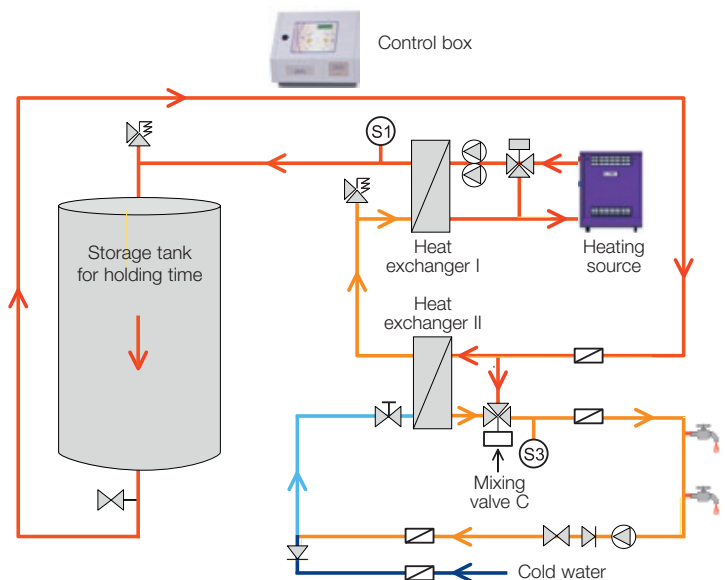
- The first heat exchanger I is connected to the heat source and is used to disinfect water at 70°C.
- The second heat exchanger II is used to cool water from 70°C down to the requested network temperature (60°C) and to pre-heat incoming and circulating water before it enters in heat exchanger I.

Once heated to 70°C, the disinfected water needs to be maintained at this temperature for a given period of time to ensure eradication of any bacteria.

The hospital chose to install a standard storage tank to ensure the holding time. The disinfected water flows to heat exchanger II for the cooling process.

The mixing valve C ensures the requested network temperature by mixing the disinfected water coming directly from the storage vessel at 70°C and the disinfected – but cooled down – water coming from heat exchanger II.

Thus, only disinfected water is introduced into the customer's entire network.



How to contact Alfa Laval

Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com