



BACTERIA

Contronics Dry Misting and (Legionella) bacteria

The Legionella bacterium can occur (in very small quantities) in drinking water. As such, the bacterium isn't dangerous. However, in stagnant water, it can multiply rapidly in temperatures between 25 degrees and 60 degrees Celsius. It becomes dangerous when water which contains a lot of Legionella bacteria turns into mist. Little aerosols (tiny water droplets) that contain Legionella can cause the dreaded legionnaires' disease when inhaled by humans.

Our two-pronged strategy

First and foremost, Contronics aim is to prevent the growth of bacteria:

- During normal operation, the water in the reservoir is continuously in motion. In addition, transducers create kinetic energy that will kill any bacteria present.
- In stand-by mode, water stays in the reservoir. However, a flushing cycle empties, rinses and refills the reservoir every hour, ensuring that the water remains clear and cold (<25 °C). In this way, bacteria are not given time to multiply.
- The humidifier is made of stainless steel and also treated with a chemical polish. As a result, the surface is so smooth that bacteria can find no nestling place.
- When the humidifier is switched off, the reservoir is automatically emptied. This minimises the risk of stagnant water when operations resume

Secondly, Contronics ensures no bacteria can enter the system from outside:

- Before installing the system, the water is tested for Legionella with our hydro-sense test.
- Use of a reverse osmosis filter to demineralise the water is mandatory. This filter only lets water molecules through, while anything larger (including bacteria and viruses) is kept out. In addition to its positive effects on maintenance and longevity, a reverse osmosis filter also keeps the humidifier free of bacteria, or anything they might feed on.
- Contronics has developed its own reverse osmosis filter. This built-in Water Safe Guard is a unique feature. The device continuously monitors the water quality. Should it deteriorate, the humidifier is automatically shut off long before it might become a health hazard.
- Annual inspection and maintenance of the system is mandatory.



BACTERIA

Contronics Proof

Although Legionella is not an airborne pathogen, other bacteria could enter the system that way. Humidifiers in warm, or bacteria-prone environments are therefore equipped with an ozone generator. Ozone (O₃) is a strong oxidant which kills bacteria without leaving behind hazardous chemicals. This disinfection is done every night.

In 1997, Contronics was granted the "Eureka Status" by the EU (no. EU 169211) for its humidification and disinfection by ozone project. In 2002, Contronics was awarded the Eureka Lynx Trophy for this innovative and successful project.

Various studies have shown the effectiveness of these safeguards.

- Reading University RSSL in England ran a number of tests. Bacteria (including Legionella and salmonella) were placed in refrigeration displays with Contronics humidifier, water treatment and ozone generator. The results showed that bacteria did not multiply, and were in fact destroyed. (Ref: RSS/1109/96)
- The University of Wageningen ran a study on our dry mist technology in displays in 2010. It included a Legionella analysis, which found no such bacteria. (Ref: Wageningen UR food & bio based research nr. 1190)
- Various supermarket chains have performed studies of their own, including a risk analysis by the HAS in 's-Hertogenbosch in 2018. All have found no health risks.