

An Alternative to Traditional Cooling Towers





SUMMARY OF EXPRESS TERMS

The following summarizes the purpose and impact of each section. The summary is for convenience, and it is not a substitute for the express terms of the regulation.

4-1.1 Scope

- Provides that the regulation applies to all owners of cooling towers.

4-1.2 Definitions.

- This section defines key terms.
- In particular, a “cooling tower” is now defined as: “a cooling tower, evaporative condenser, fluid cooler or other wet cooling device that is capable of aerosolizing water, and that is part of, or contains, a recirculated water system and is incorporated into a building’s cooling process, an industrial process, a refrigeration system, or an energy production system.”

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Adiabatic Cooling System: Mitigating the Risk of Legionella

Legionnaires' disease or legionellosis is a severe form of pneumonia caused by the Legionella bacteria. Legionella bacteria are commonly present in natural aquatic environments and cooling systems that require water. The inherent unit design of the Güntner Adiabatic Cooling System helps mitigate the risk of the spread of Legionella. The Adiabatic Cooling System is a hybrid cooler that merges dry and evaporative cooling technologies providing efficient, reliable heat transfer while drastically reducing water consumption.

According to ASHRAE Guideline 12-2000, conditions that are favorable for the amplification, or increased concentration, of Legionella are water systems with warm water (77-108°F), stagnation and sediment. The Adiabatic Cooling System typically utilizes city water, which for most locales has an inlet temperature lower than the warm water condition that can potentially increase amplification. Further, the Adiabatic Cooling System design does not require water to be recirculated or stored for any amount of time. Any water that is not evaporated is promptly removed from the system, hence reducing stagnant water with sediment possibilities.

The most common form of transmission, according to the World Health Organization, is by inhalation of contaminated aerosols. The spread of Legionella can occur when the organism is aerosolized in respirable droplets (1-5 micrometers in diameter) and inhaled. The Adiabatic Cooling System does not incorporate any pressurized water distribution or small sprays for its water system. The unit allows the water to cascade freely down the wetted pad system while air is drawn across it at a low velocity, hence minimizing the threat of exposure through inhalation of water particles or small aerosols.

Güntner has designed the Adiabatic Cooling System to minimize water consumption for cooling systems while providing reliable, efficient performance that helps mitigate the risk of the spread of Legionella. Feel free to let us know if you require any additional details or have any further questions.

Kind regards,

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