Advantages of Closed Loop Cooling Solution

Closed-loop cooling towers provide efficient heat exchange/ rejection by means of evaporative cooling. And not like an open cooling tower, the closed loop design applies a coil heat exchanger, with the process fluid contained within the coil, so there is no straight contact between the HVAC or other industrial process fluid and the air around, thus maintain the cooling liquid through the cooling target neither polluted nor reduced during the whole recycle and cooling process.

A pump circulates water over the outside of the coil bundle, where a small portion is evaporated and the heat is rejected. The closed loop coil design keeps the process fluid free from any airborne particulates, ensuring a contaminant free cooling loop. This mitigates the risk of heat exchange surface fouling, which maximizes system efficiency, and minimizes maintenance and operating costs. Also, by “Closing the Loop,” the closed circuit cooler simplifies the hydraulic loop as compared to designing around cooling towers and heat exchangers. Compared to dry coolers, closed circuit coolers require significantly less space and connected horsepower.

In addition, many closed circuit coolers can be operated as a dry cooler during low load or low ambient dry bulb conditions. This dry mode of operation saves water and eliminates ice management in colder climates.

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Cooling Towers