

NIMBUS[®]

ADVANCED PROCESS COOLING

CASE STUDY #2

ENHANCING HVACR SAFETY IN ALABAMA

The Challenge

In the Southeast United States, summertime working conditions can become nearly intolerable when factory and warehouse staff are faced with high temperatures and high humidity. One Alabama company recently renovated and expanded their facility, and decided to install air conditioning in the shop area to enhance employee comfort. In the interest of protecting the staff and visitors from the risk of Legionnaires' disease, the architects and decision makers handling the project specified that the VIRGA III[®] hybrid adiabatic cooling system be used to cool the new HVACR equipment. NIMBUS would need to engineer a solution to cool 105°F fluid to 95°F at 304 GPM using hybrid adiabatic technology. Alabama's warm and wet climate (94.5°F summer dry bulb and 79.2°F summer wet bulb temperatures) would also need to be considered.

The Engineered Cooling Solution

After thorough consideration of the customer's need, NIMBUS determined that one custom-manufactured seven-fan VIRGA III[®] hybrid adiabatic cooling system would deliver the required 95°F fluid to the HVACR system at 304 GPM. Since VIRGA III systems use only a fine spray of fresh water when required to cool to the set temperature, one of the primary breeding grounds for Legionella pneumophila, and the costly chemical treatment and maintenance programs associated with traditional evaporative cooling towers, would be eliminated.

The Outcome

Even in the hot and humid conditions, the installed VIRGA III system is often able to operate strictly as a dry air cooling system and uses no water whatsoever. In this instance, the VIRGA III was specified and a traditional cooling tower was not considered. However, the installed VIRGA III saves approximately 592,284 gallons of water compared to what a traditional evaporative cooling tower sized to cool to the required

Case At A Glance

- ▲ Type of Facility: *Industrial Manufacturing*
- ▲ Location: *Alabama, USA*
- ▲ Summer Wet Bulb Temperature: *79.2°F*
- ▲ Required Flow Rate: *304 GPM*
- ▲ Outbound Fluid Temperature Requirement: *95°F*
- ▲ Est. Annual Water Savings: *592,284 gal./88%*

specifications would have consumed. This yields an annual water savings of 88%. Curious as to how much water your operation could save with a VIRGA III system? Visit www.nimbus.cool and input your data into NIMBUS' BE BLUE Water Calculator to receive your estimated water savings.

SAVE WATER



www.nimbus.cool
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