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CASE STUDY - Harris County Sheriff's Building

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Carrier 30XA AquaForce™ Chiller Delivers Durability, Corrosion Resistance and Energy Efficiency

PRODUCT

30XA AquaForce™ Air-Cooled Chiller



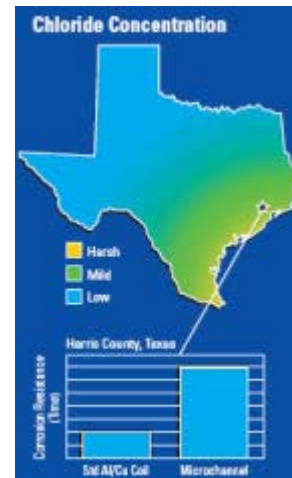
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Harris County, Texas, one of the 10 largest counties in the United States, is situated inland from the Gulf Coast and poses a number of environmental challenges that place high demands on heating, ventilating, and air-conditioning equipment. First, the consistently high temperatures and humidity mean the equipment is in continual use. Add to that the exposure to mild, salty air from the nearby gulf, and you have a scenario that tests the integrity of the machines used to keep the building occupants cool and comfortable.

“After many years in this coastal hot environment, the chiller had met its match,” said Johnnie Krolczyk, air conditioning shop supervisor of Harris County Facility Property Management. “In addition, we knew that if we installed a newer chiller, we would also benefit from increased efficiency.”

Krolczyk and his staff worked with Carrier to specify and install one of the first 30XA AquaForce™ air-cooled chillers available, to take advantage of the unit’s efficiency and unique microchannel technology.



The Carrier 30XA AquaForce™ air-cooled chiller employs microchannel technology for improved coil corrosion resistance in coastal areas with salty, corrosive air.

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Improved protection from corrosion due to environmental factors is a key attribute of Carrier's microchannel technology. The Microchannel heat exchanger employs aluminum tubes and fins with special metallic coatings compared to the standard copper tube coil/aluminum fin combination found on traditional designs. As a result, corrosion is limited and the life of the coil extended compared to traditional designs. As an added bonus, the microchannel coils use 30% less refrigerant.

"I like the way the coils are designed. They seem to be much easier to keep clean since they are more like a radiator rather than a traditional condenser coil," said Krolczyk.

The 30XA is one of the highest efficiency air-cooled chillers available, which translates directly into energy savings for Harris County. From November '05 through April '06, energy savings with the new chiller have amounted to \$2,767.37. Efficiency is extremely important to Harris County because energy costs have increased from \$0.075/kWh last year to \$0.082 this year. Based on the project cost and energy savings, the 30XA will provide an estimated simple payback of just 2.5 years.

"We were able to save taxpayer money by using our own staff to install the new 30XA, and we had it up and running quickly with help from the Carrier team," said Krolczyk. "Thus far, it has been running smoothly."



Installation of Carrier 30XA chiller

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Johnnie Krolczyk,
Air Conditioning Shop
Supervisor of Harris
County Facility Property
Management

[Learn more](#) about AquaForce™ chillers or [download](#) the complete case study.

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