SMART COOLING

CASE STUDY

Audi Showroom

Abu Dhabi, UAE

“

The intelligent adiabatic **Smart Cooling™** system reduced electricity consumption by **17%** and boosted cooling capacity by **20%** on average at the Audi Showroom in the Abu Dhabi, UAE”

SOLUTION

To prevent the overloading of the plant’s cooling equipment, installing the **Smart Cooling™ PRO 10** system was a pressing need. **Smart Cooling ™** would allow the Carrier 30XA1002 chiller to produce more cooling capacity and operate more efficiently, even in extreme heat.

In 2019, Audi Showroom in the Abu Dhabi equipped their cooling facilities with the intelligent adiabatic **Smart Cooling™** system. **Smart Cooling™** lowered the air temperature flowing into the chiller, boosting its cooling capacity and significantly reducing its electricity consumption.

RESULTS

Testing was conducted in September 2020. After the installation of the **Smart Cooling™** system, the cooling equipment produced noticeably more cooling capacity: **20%** on average. Electricity consumption dropped to around **17%** on average.

The return on investment (ROI) period of the **Smart Cooling™** system for this project is of only 12 months.

Test results show that the intelligent adiabatic equipment **Smart Cooling™** increased chiller performance by, on average, **20.59%** during 24 operational hours.

CHECKED AND TESTED FOR PROVEN RESULTS

Efficacy assessment has been conducted and validated. Testing was performed with BTU liquid flow and temperature meter RIF600 and Eniscope energy monitoring equipment.

CUSTOMER

The Audi Group is among the world’s leading producers of premium cars and most recognized brands. Audi offers sporty vehicles, high build quality and progressive design under its “Vorsprung durch Technik” approach.

Audi aims to lead the automotive sector in electrification and the future of mobility. With the #FutureIsAnAttitude movement, Audi states that seeing the world with different eyes is what drives the organization.

CHALLENGE

Abu Dhabi has a hot desert climate. Sunny blue skies can be expected throughout the year. The months of June through September are generally extremely hot and humid with maximum temperatures reaching above **45°C**. During this time, sandstorms occur intermittently, spreading a coat of dust over streets, buildings and equipment.

The challenge was clear: reduce electricity consumption of the chiller during heat season, boost its efficiency and ensure a constant, stable operating mode.

COOLING CAPACITY INCREASED BY ↑20%

ELECTRIC ENERGY CONSUMPTION REDUCED BY ↓17%

ROI 12 MONTHS