

# CASE STUDY

## Hotels



“

Pre-cooling System “Smart Cooling™” on Hilton Al Barsha Dubai hotel cooling Equipment, reduced electric energy consumption by 24% and increased cooling capacity by 15% on average.”



### CUSTOMER

DoubleTree by Hilton is an American hotel chain and a part of Hilton Worldwide. The Hilton Hotels are one of the best hotels in the world and provide unique apartments. The DoubleTree by Hilton Hotel & Residences Dubai – Al Barsha boasts an ideal location in the Al Barsha area – the bustling shopping, dining and entertainment center of Dubai.

### CHALLENGE

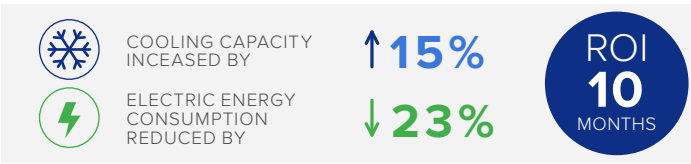
Over last three years during the peak hours of hot summer period hotel has been short of electrical energy, which also affected cooling equipment. When the outdoor air temperature reaches +35°C, cooling equipment operates in the peak regime, which means the equipment compressors become overloaded and switch off. Such a load requires heavy electrical energy consumption- during hot season hotel cooling equipment Carrier 30XA energy consumption increases by 23% on average. Such an increase considerably boosts the operational costs of hotel since the electrical energy is an essential cost position. There was defined task to reduce electrical energy consumption of cooling equipment Carrier 30XA in the hot summer period, to boost the efficiency of this equipment and ensure a normal mode of operation.

### SOLUTION

In order to prevent the overload of equipment, a solution was needed that would enable the installed cooling equipment to produce more cooling capacity in the hot period, i.e. to operate more efficiently. To serve this purpose, in 2019 the customer’s service company equipped the cooling facilities with intelligent adiabatic pre-cooling system “Smart Cooling™”. Adiabatic system lowered inflowing air temperature to the cooling facilities. It allowed cooling facilities to produce more cooling capacity and consume less electrical energy.

### RESULTS

Hilton Al Barsha Dubai hotel technical director has submitted a report, which indicates that, after the installation of “Smart Cooling™” Adiabatic pre-cooling system, cooling equipment can produce noticeably more cooling capacity (the average increase by 15%) and the electrical energy consumption of equipment considerably decreases (by 23% on average). The return on investment period (ROI) of installed Adiabatic pre-cooling system “Smart Cooling™” – 10 months. Additionally, cooling equipment operates under the circumstances of normal load, the operating cycle of compressors is shorter and the equipment does not become overloaded.



**Intelligent Adiabatic pre-cooling system “Smart Cooling™” is state of the art technology ensuring excellent energy saving results.**

- Modular system
- Suitable for all types of dry coolers and chillers
- Easy and fast installation
- Certified system and approved by major cooling equipment manufactures
- Minimal maintenance

