SMART COOLING

CASE STUDY
Banks

SEB

“After installation of Intelligent Adiabatic Pre Cooling System “Smart Cooling ™” on SEB Bank cooling equipment electric energy consumption dropped by 25% and produced cooling capacity increased by 23% on average.”

CUSTOMER

ICE Arena. The building was constructed in 2006. Its total area is 22,568 square meters and it can hold 14,500 spectators. Since ice is maintained in the arena and the cooling of spacious premises is necessary in the hot period, cooling efficiency was a very important issue for the arena. The cooling equipment: chiller York, and dry cooler Alfa Laval, with the total cooling capacity Q = 556kw, has been installed in the arena to ensure the maintenance of ice and cooling.
SEB bank is one of the largest Scandinavian banks. Its main office consists of two buildings and has ten storeys. The total area of building is 14,340 m^2. Two chillers Airwell are installed to ensure the cooling of banks data center.

CHALLENGE

Airwell facilities needed additional cooling capacity in the hot period to ensure the cooling of data center. In the hot period, when the air temperature exceeded +30°C, the equipment was overloaded and periodically switched off. The electrical energy consumption increased considerably, the same happening to the costs. Therefore it was actual to provide a solution for ensuring additional cooling capacity in the hot period and to reduce the electrical energy consumption.

SOLUTION

To equip the cooling facilities with Intelligent Adiabatic Pre Cooling System “Smart Cooling™”. In the hot period, when the air temperature reaches +30°C, due to the adiabatic panels, the facilities will operate in a lower outdoor temperature mode because the temperature of the air that flows in the cooling equipment condenser will be lowered by 10 - 15°C. In such a mode the equipment can produce considerably more cooling capacity and consumes less electrical energy.
Adiabatic panels were installed on both cooling facilities of bank data center: chillers Airwell with the total cooling capacity 1120 kw. The aforementioned facilities were found on the roof and equipment condensers were subject to direct sunlight. After the installation of “Smart Cooling™” Pre Cooling panels, their special material membranes also ensure additional shading of condensers.

RESULTS

SEB banks Engineering department informed that, after the installation of Adiabatic Pre Cooling panels “Smart Cooling™”, the cooling equipment of bank has been able to produce the required cooling capacity and the heat exchange has improved. Obtained results: cooling capacity raised in average by 23%, electric energy consumption diminished by 25%. The return on investment period (ROI) of installed Adiabatic Pre Cooling System “Smart Cooling™” – 7 months.
The operating cycles of compressors have become shorter and electrical energy consumption in the hot period has considerably diminished.

COOLING CAPACITY INCEASED BY	↑ 23%
ELECTRIC ENERGY CONSUMPTION REDUCED BY	↓ 25%

ROI 9 MONTHS

***Smart Cooling* adiabatic panels are state of the art technology ensuring excellent energy saving results.**

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

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