

COMMERCIAL BUILDINGS

Hotel Building

Cooling capacity: 1 500 kW

Savings: 40 620 EUR / year

ROI: 0,8 years

Aim: Energy saving and peak performance management



Design parameters

Aim of HeatTank: Energy saving and peak performance management

Size: 20 000 m²

Cooling capacity: 1 500 kW

Cooling cost: 228 100 EUR/year

Electricity price: 0,12 EUR/kWh

Solution

7 pieces of HeatTank 50-1

Cover the needs for 4-5 hours alone

Decrease the peak load by 10%

Total cost of the system: 172 000 EUR

Reduced cost of the system: 32 100 EUR

HeatTank

Type: HeatTank 50-1

Capacity [kWh]: 50

Max. performance [kW]: 200

External Volume [m³]: 1,84

Connections [DN]: 42

Total weight [kg]: 1 516



Benefits



Electricity saving

Free-cooling: 5,8%
Free-cooling at night: 6,5%
Chiller optimization: 4,7%
Total savings: 17%
Total savings: 38 800 EUR/year
Peak performance reduction: 10%



Less maintenance

The cooling system gets more stable, requiring less maintenance and reduced operation costs.
Savings: 1 820 EUR/year



Higher certification

Higher certification level and better efficiency can attract environmental-conscious guests.



Backup cooling

Backup cooling available to bridge downtime in case of cooling malfunction.



Remote control

Visualized energy reports on monthly base to follow the energy saving.

Due to the decrease of the peak performance, 1 000 EUR/kW cooling capacity could be saved when building a new system or when retrofitting an old system. In this case it means that the full system price will be 32 100 EUR instead of 172 000 EUR.

Additional savings, which are not calculated: close to flat electricity consumption per day means lower electricity price from the system operator. Also, demand response is possible (when you get paid by the system operator for helping in the electric system compensation).

During our calculations, we did not take into account the estimated high scale electricity price increase, we calculated with a 5% increase in every year, which is a very optimistic scenario.

40 620 EUR / year total savings
3,8 years ROI (0,8 years with reduced price)