

COMMERCIAL BUILDINGS

# Hotel Building

**Cooling capacity:** 1 500 kW  
**Savings:** 65 500 EUR / year  
**ROI:** 1,2 years  
**Aim:** Energy saving and peak performance management



## Design parameters

Aim of HeatTank: Energy saving and peak performance management

Size: 20 000 m<sup>2</sup>  
Cooling capacity: 1 500 kW  
Cooling cost: 228 100 EUR/year  
Electricity price: 0,12 EUR/kWh

## Solution

17 pieces of HeatTank 50-1  
Cover the needs for 8-9 hours alone  
Decrease the peak load by 20%  
Total cost of the system: 360 000 EUR  
Reduced cost of the system: 78 100 EUR

# HeatTank

## Type: HeatTank 50-1

Capacity [kWh]: 50  
Max. performance [kW]: 200  
External Volume [m<sup>3</sup>]: 1,84  
Connections [DN]: 42  
Total weight [kg]: 1 516



# Benefits



## Electricity saving

Free-cooling: 9,4%  
Free-cooling at night: 10,5%  
Chiller optimization: 7,6%  
Total savings: 27,5%  
Total savings: 62 700 EUR/year  
Peak performance reduction: 20%



## Less maintenance

The cooling system gets more stable, requiring less maintenance and reduced operation costs.  
Savings: 2 770 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 78 100 EUR instead of 360 000 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 7% increase in every year, which is a very optimistic scenario.

65 500 EUR / year total savings  
4,2 years ROI (1,2 years with reduced price)