SMART COOLING

HUMANITAS RESEARCH HOSPITAL

CASE STUDY

Hospital Humanitas, Italy, Milan

In the summer season the biggest consumer of energy in hospitals is air conditioning and cooling equipment! It is responsible for even up to 50% of the total energy consumption.

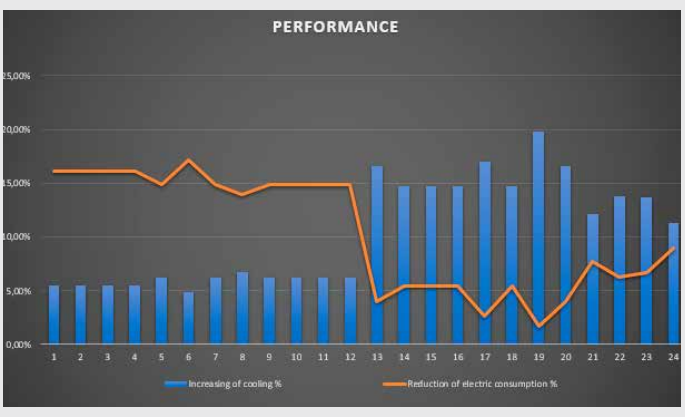
"Smart Cooling™" adiabatic pre-cooling system:

- *Increases efficiency of the cooling equipment, provides additional cooling power by up to 23%*
- *Reduces energy consumption of air conditioning and cooling equipment by 21%*
- *Reduces the load to the compressors of air conditioning and cooling equipment.*
- *Prolongs the life expectancy of compressors.*

Humanitas is a highly specialized hospital, research and teaching center. It is accredited by the National Health-Care System. Built around centers for the prevention and treatment of cancer, cardiovascular, neurological and orthopedic diseases – together with an Ophthalmic Canter and a Fertility Center – Humanitas also operates a highly specialized Emergency Department. One of the most advanced hospitals in Europe is located in Italian city of Bergamo providing 672 patient places on the total area of 57,000 m2.

DESCRIPTION OF SITUATION

In the summer season the energy consumption of the hospital's cooling equipment accounted to 52% of the total energy consumption at the hospital - this is a heavy burden on the total budget of the hospital. During the hot summer when the outside temperature reaches + 35°C, there is a sharp drop of the cooling power - around 19%. The responsible HVAC engineers established the deficit of cooling power and overload of the chiller compressors.



SOLUTION:

In summer 2014 decision was made to install "Smart Cooling™" adiabatic system, manufactured by Swiss Integrated energy technologies AG, on the cooling equipment Climaveneta SRAQ/SL – 2404, Climaveneta ERACS- Q/LT-SL 2722, Climaveneta FOCS-CA-R 2722/SL. Total cooling capacity 1957 kw.

RESULTS

Energy monitoring and test results showed that after installing the adiabatic system "Smart Cooling™" on the cooling equipment: Chiller Climaveneta FOCS

• the efficiency of the cooling equipment and the cooling power increased by 23%.

• the energy consumption of the cooling equipment was reduced by 21%

• the cooling equipment operated smoothly and ensured the required climate indoors.

WHAT THE CUSTOMERS SAY:

"Smart Cooling™" won the tender due to the 3 main criteria being considered:

a) a) comparing the technical parameters, the equipment, "Smart Cooling™" adiabatic system provided the highest efficiency and results;

b) the experience and references of the company in other projects;

c) return period.

Of course, the professionalism of the company that caught our attention and their proposals played an important role as well.
I would not hesitate to recommend installing "Smart Cooling™" adiabatic system in other hospitals as well, because "Smart Cooling™" equipment is a really powerful tool.
Owing the operational results of the "Smart Cooling™" adiabatic system, Humanitas hospital claims to receive the White certificate, which will aid the hospital in gaining additional funds.
We increased efficiency, reduced capital investments and operational expenses – at the same time ensuring the optimum level of cooling system of the building. Return period of the adiabatic system - 14 operation months.