CLIMAVENETA
TECHNICAL REPORT

- Milan - Italy - 2009
- Application: Office Buildings
- System type: Hydronic System
- Total Cooling Capacity: 1500 kW
- Installed appliances: 2x ERACS-QI-LT-SL 2722
- Designer: Lombardini 22 - R. Cereda
- Architect: Garretti Associati - P. Garretti

INTEGRA UNITS FOR THE FIRST PLATINUM LEED CERTIFIED BUILDING IN ITALY

Two INTEGRA multi-purpose units for the high efficiency plant in Vimercate Energy Park, Building 03

The new Building 03 in the Vimercate Energy Park is the first Italian building to achieve the LEED Platinum Core & Shell 2.0 certification.
Designed by Segro in collaboration with the architectural and integrated designers Garretti Associates, and engineering company Lombardini22 who are responsible for mechanical and electrical engineering, the Energy Park is located in the heart of the famous Polo Tecnologico della Brianza, about 20km from the centre of Milan.

Strategically located near the main northern arterial roads, the Park covers a total area of 160.000 square meters and includes, at various stages, an area of 57.500 square meters divided into five new buildings.

The Building 03, which houses SAP headquarters, becomes one of the seven european buildings that have achieved this certification under the category Core & Shell. The building was designed by Segro, a leading international Real Estate player, and a member of Italy's Green Building Council (GBC Italy). The Building 03 has been certified LEED Platinum, thanks to the installation of solutions to reduce energy consumption e.g. lighting, water and other materials, as well as other additional strategies to increase the sustainability of the building.

"The consumption rationalization, the use of materials with low environmental impact, quality and efficiency of the spaces that we develop are always our core strategy. To get this prestigious award, by an international body provides further demonstration of the excellence that we have been able to achieve with the Energy Park Vimercate project", says Marco Simonetti, Segro Italy CEO.

The overall coordination and architectural design was conducted by Garretti Associates, an integrated design studio and member of GBC Italy. "In 2008 we moved in the direction of LEED enthusiastically", says Gianluca Padula, architect of the study and coordinator of LEED activities, "but with initial worries and unaware of what it would mean.

It is now a great joy and satisfaction to note the achievement of the maximum possible target, clear evidence of our inherent capacity to develop complex projects with a keen eye on economic and environmental sustainability aspects."

The design of electrical, mechanical and special plants was followed by Lombardini22, another company based in Milan and associated with GBC Italy, on behalf of Garretti Associates.

The cooling units used are a mix between a fan coil and a primary air system. The primary air distribution goes through 4 cable vaults that have been installed next to the two staircases in the middle of the square. The secondary air distribution passes through the roof, in the area next to the offices.
The production of fluids is entrusted to two multi-purpose hybrid condensing units. The control system, depending on climatic conditions and building requirements, decides the priority of one of the two units, one air cooled and the other water-cooled. The water condensation circuit consists of water taken and released from separate wells.

The circuit is disconnected from the condensation circuit of the multipurpose units by means of a plate heat exchanger.
The water circuit consists of an underground well and a discharge one, which are connected by the condensing circuit through a plate heat exchanger. The main advantage of multi-purpose units lies in the fact that they are able to satisfy the demand for hot and cold water simultaneously, through a system that does not require seasonal switching and is therefore a valid alternative to traditional plants of chillers and boilers. This gives further value to the excellent performance of the ERACS units.

"In designing the air conditioning system, we applied integrated solutions for the system 'Building-Plant' and developed the energy modeling on the basis of demands made by end-user", says Mr Cereda by Lombardini22, who goes on, "the analysis led us to choose a system based on multi-purpose units. A further improvement of the system efficiency is the combination of multi-purpose units with the use of ground water for the condensation system. The result is a substantial energy saving and availability of fluids that meet all loads. Cooling and heating are always available in any room, in all seasons. Thanks to this approach, to Lombardini22 team passion and commitment to the Green Setting, it has been possible to optimize the plant choices for the unit's installation and to achieve an outstanding result, as proven by the Platinum LEED certification".

Working in the Energy Park means that for tenants they have the opportunity to work in a building designed to offer the best performance in terms of work space and efficiency. The technologically advanced complex has benefited from constant research to improve the quality of life and work space, and this is demonstrated by the certification of the LEED Core & Shell Platinum 2.0.