



From monastery to energy efficient apartments using heat pump technology.

In collaboration with Ice Airconditioning, a completely transformed monastery will be provided with energy efficient heat pumps. What used to be a monastery is now transformed into fifteen apartments in Nieuwegein.

STULZ is responsible for supplying a total of fifteen heat pumps from Mitsubishi Heavy Industries to Ice Airconditioning for De Lantaern project. The main aim of the project is to achieve high efficiency and optimal comfort. This project is an excellent example of how heat pumps can contribute to optimal comfort and is also a sustainable choice when it contributing to a green environment.

THE FACTS

The customer

Ice Airconditioning
De Lantaern

Hardware

HMK
FDCW

Task

The supplying of heatpumps

THE CUSTOMER

STULZ collaborated with Ice Airconditioning, which is situated in Lopik, to ensure this project was completed successfully. Ice Airconditioning is characterized by his extensive knowledge of, among other things, heat pumps and air conditioning. The company has a lot of experience on successful projects. In addition, the company proved itself as a reliable partner of STULZ. Terberg Totaal Installaties was also involved as the main contractor providing the hydraulic connections. With more than 70 years of experience in an extensive range of disciplines, Terberg Totaal Installaties offers a wide range of technical solutions.

The collaboration between all parties involved, translates into the ideal mix in terms of installation and sustainability. This set the tone for the start of a successful project.

THE LOCATION

The monastery, located in Nieuwegein, underwent several architectural and substantive changes during the century. In 2019, the monastery was given a completely new purpose.

Under the supervision of the architects of Arco Architecten BNA from Oudewater, the monastery is being renovated and transformed into a contemporary apartment complex on behalf of DAK Woningbeleggingen Utrecht. The building has the status of a national monument, which makes it a special venue for this project.

THE CHALLENGES

The customer demand, was divided into two parts. Firstly, the heat pumps should be able to make sufficient heat available per residential unit in the apartments. In addition, sufficient tap water must also be prepared by the heat pumps.

Secondly, due to height differences between the indoor units and outdoor units, additional calculations were required from Mitsubishi Heavy Industries and STULZ to guarantee that all units would fit perfectly into the previously conceived construction plans. The earlier illustrated wishes and challenges served one ultimate goal: optimal (shower) comfort for the residents of the apartments.



THE SOLUTION

To achieve optimal comfort and efficiency, STULZ selected the Hydrolution heat pump units from Mitsubishi Heavy Industries. The Hydrolution (HMK) heat pump, in combination with the FDCW outdoor unit, is characterized by its energy savings and high efficiency. With the inverter-controlled compressor of the FDCW, energy consumption is optimized and therefore saved on operating costs. The outdoor unit is designed to be as efficient as possible even at lower ambient temperatures and comes with standard drip tray heating to prevent freezing. The COP level of the heat pump varies from 4.09 - 5.32 in heating mode.

In order to limit any noise nuisance in and to increase the comfort around the apartment complex, the heat pumps are equipped with a silent mode. The design of the indoor unit is compact, making it easy to integrate into the apartments. Hot water is no problem for this heat pump with its 200L boiler tank. All aspects added together, the Hydrolution from Mitsubishi Heavy Industries, with its comfort and efficiency, fits perfectly with the requirements and wishes of the De Lantaern project.

