

# The Energy Duo of the Future: g-box and Heat Pumps in perfect Harmony



The St. Franziska-Stift in Bad Kreuznach, a facility specializing in rehabilitation operated by ctt Reha-Fachkliniken GmbH, is relying on a modern, sustainable, and future-proof solution for its energy supply. As part of an innovative combined project, the facility will be equipped with a smart heating and electricity supply system that combines high energy efficiency with maximum comfort for rehabilitation patients and staff.

At the heart of the system are four afilia air M-sl 4 AEK-R290 air-to-water heat pumps. Each heat pump delivers a thermal output

of 262 kW and is delivered as a preconfigured plug-and-play solution in a container. This allows for quick and efficient on-site installation. The system is supplemented by a g-box 50plus installed in the boiler room, with an electrical output of 50 kW and a thermal output of 105 kW. Together, the g-box and the heat pumps form the so-called GreenCube - a high-performance energy solution that reliably supplies the clinic with electricity and heat. The intelligent interaction of both technologies ensures a particularly economical and

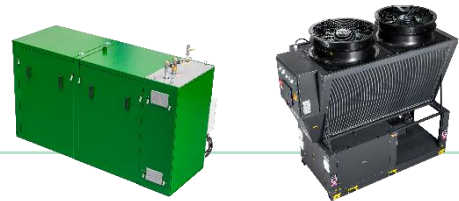
sustainable energy supply.

Special attention was paid to noise levels in this project. Peace and quiet are essential for the success of rehabilitation patients' rehabilitation. For this reason, a particularly quiet energy solution was chosen. The heat pumps used achieve a sound pressure level of just 45 dB(A) at a distance of ten meters, thereby ensuring undisturbed clinic operations. The g-box falls even below this value and further contributes to a quiet environment.

The project also sets new standards in terms of sustainability: The heat pumps use the natural refrigerant propane (R290), which, thanks to its very low global warming potential, represents an environmentally friendly alternative to conventional refrigerants. As a result, the system makes an important contribution to reducing emissions and supports the clinic's commitment to sustainability. Diehl Apleona Wolfferts, based in Bad Sobernheim, is supporting the implementation as a project partner. The experienced heating engineering company has extensive expertise in modern energy technology and is also firmly rooted in the region.

With this investment, the St. Franziska-Stift is not only strengthening its long-term

energy supply but is also sending a clear signal in favor of sustainable, efficient, and rehabilitation-oriented building technology. The project impressively demonstrates how innovative energy solutions can successfully combine environmental responsibility, cost-effectiveness, and the highest level of comfort.



### St. Franziska Stift

1 x g-box 50plus  
4 x afilia air M-sl 4 AEK-R290  
Natural gas  
g-box: 50 kW electrical | 105 kW thermal  
Heat Pumps: 4 x 262 kW thermal

