An air-to-air multi-system at the Arctic Circle

In Europe, the Nordic countries have the highest heating needs. Although most large cities on the Scandinavian Peninsula use district heating, many remote areas across these countries rely on alternative solutions.

Benoit Lecornu,
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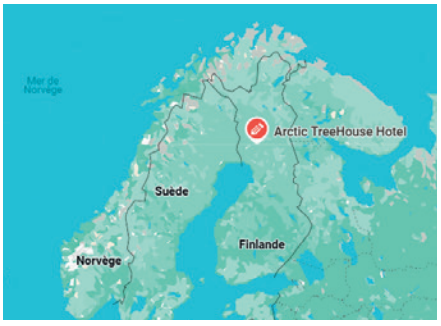
Between tourist sites and secondary residences, there is a significant market for these heating systems. Thermodynamic solutions are becoming increasingly popular, by offering comfort and energy savings, even in the middle of the Arctic Circle. This is demonstrated by the recent installation of an air-to-air multi-system at the Arctic TreeHouse Hotel in Rovaniemi, Finland.

This design-forward retreat is located on the Arctic Circle, hosting approximately 30,000 guests annually. Given its northern location, a reliable heating system is essential to ensure year-round comfort. The main challenge was to upgrade from the existing floor heating and fireplace to an energy-efficient multi-split system, meanwhile facing harsh winter conditions. The system had to provide reliable, maintenance-free heating, better air quality and customisable air conditioning, while blending in seamlessly with the hotel's design. For this reason the hotel has opted for Panasonic's Power Heat Multi solution, specifically developed for Nordic conditions. With a heating capacity of 4.4 kW at -25°C, it ensures warmth during the coldest days.

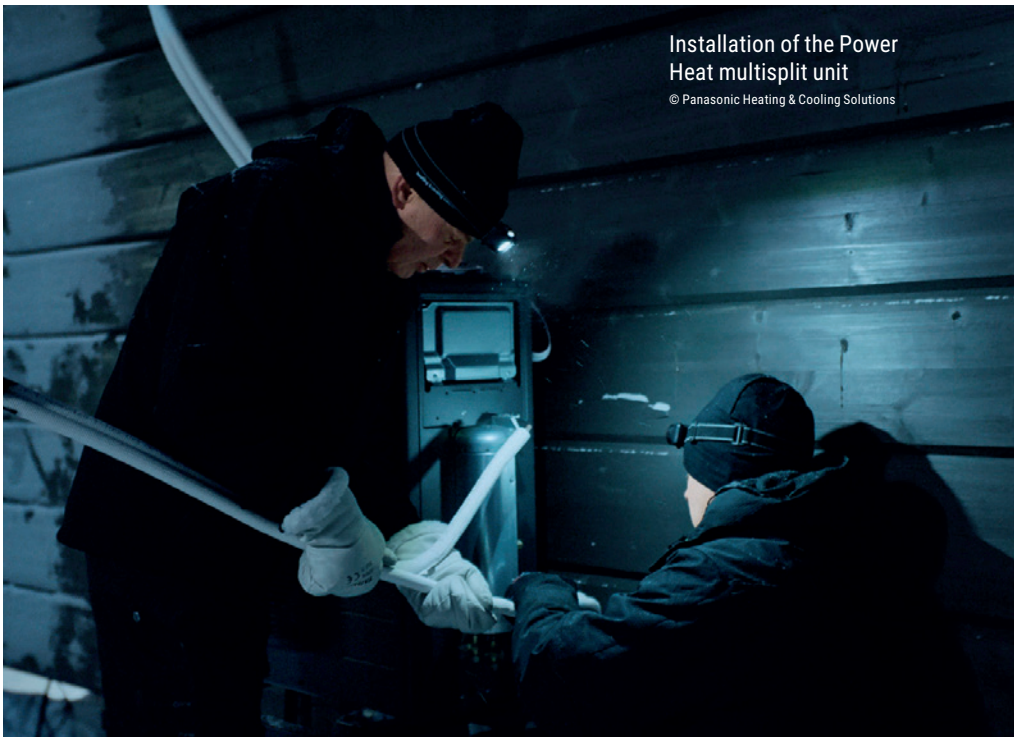
Thanks to sensors installed on site, the system's performance has been monitored, revealing a consistent operation pattern. The system enters defrost mode for 13 to 15 minutes every five hours of operation, ensuring stable performance regardless of weather conditions.

Despite significant temperature fluctuations in the Rovaniemi area during the test period, ranging from around -30°C on the coldest days to +29°C on the warmest days, the heat pump has consistently proven dependable. In addition, during the hottest summer months, the system can easily switch to cooling mode, making it a versatile solution for year-round comfort. "*Even though the temperature changes have been vast, the system has been really reliable.*" Kenneth, CEO of Arctic Tree House Hotel & Santa Park Limited.



The Power Heat Multi system has demonstrated its efficiency with an 80% reduction in energy consumption compared to the old electric heating system. The system also offers other benefits, such as remote control thanks to its connectivity, and improved indoor air quality with nanoe™ X technology, which inhibits certain viruses and bacteria and reduces odours.

Cold winter days are common in Rovaniemi. The weather conditions put this heat pump to the test. However, installing a reliable and efficient direct expansion thermodynamic system made it possible to meet the project's goals, achieve substantial energy, and maintain a high level of comfort. ●



Installation of the Power Heat multisplit unit
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