



Case study
Växjö, Sweden

Vida Arena

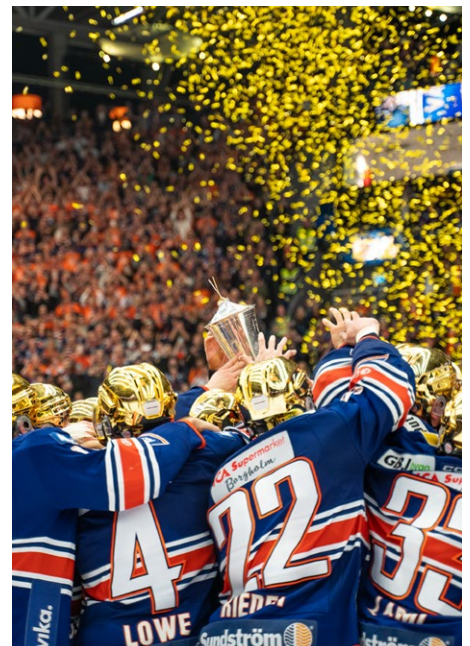


Munters ensure optimal indoor climate at Vida Arena

Creating the perfect ice and a pleasant environment to attract both players and spectators

Vida Arena in Växjö is an impressive multi-arena that proudly serves as the home arena for Växjö Lakers Hockey. Since its opening on September 17, 2011, the arena has hosted thrilling ice hockey matches, other sports events, and music concerts.

To guarantee a superior indoor environment for both spectators and athletes, as well as to maintain an exceptional standard of ice during practices and ice hockey matches, Vida Arena recognized the need for a sustainable climate solution. The existing cooling system was not operating optimally and required significant maintenance. Therefore, Vida Arena conducted a major review of its climate system. After carefully evaluating several alternatives, they upgraded the existing climate system and installed a dehumidification unit from Munters.



"The base is the desiccant dehumidification, which operates 90% of the time. When it is insufficient, especially during match events when the load is high, cooling and ventilation are added to maintain a stable indoor climate"

Micael Lundstedt, Regional Manager South, Ömangruppen

Challenge: Ensuring optimal indoor climate regardless of the season and visitor frequency

Vida Arena sought a more energy-efficient solution to ensure optimal conditions in the arena regardless of the season.

After thoroughly evaluating various options, Vida Arena adopted a comprehensive solution that includes ventilation, heating, cooling, and desiccant dehumidification. Notably, the desiccant dehumidification unit uses the excess heat generated by the chillers to power the unit using heated water. This innovative approach delivers substantial cost savings by reducing both connection power and electricity consumption.

To find the right solution and supplier, Vida Arena collaborated with its partner, Ömangruppen, responsible for ventilation, heating, cooling, and automation. With the upgrade, Vida Arena can ensure an optimal climate for all visitors and the players in Växjö Lakers Hockey, the multiple Swedish champions, regardless of the season or the number of people present in the arena.



A three-step climate solution

The primary purpose of the desiccant dehumidifier at Vida Arena is to maintain the desired climate when the arena is not used for matches. The goal is to keep an absolute humidity level of 4 grams of water per cubic meter of air at a temperature of 14°C.

Given the natural variations in humidity throughout the year in Sweden, the utilization of the dehumidifier varies depending on the season. It is most extensively employed during the season's commencement in August and less so during the drier, colder winter months.

The desiccant dehumidifier, an MW16000, features a heat exchanger that reactivates the rotor in the dehumidifier. This reactivation process involves circulating hot water at approximately 70 degrees, which is excess heat recovered from the ice machines that cool the ice. This method is considerably more energy-efficient than reactivation with hot air at 100-120 degrees, resulting in significantly reduced operating costs, particularly when electricity prices are high.



"Our calculations for Vida Arena demonstrated that Munters solution would yield lower operating costs than competing proposals over time. We observed a noticeable reduction in electrical power demand for fans and other equipment in the hall"

Martin Schmitz. Energy Consultant, Ömangruppen

Munters system operates with dynamic power adjustment, intelligently responding to demand, thereby ensuring a stable indoor climate while minimizing energy consumption.

During match days, the ice rink's climate is efficiently controlled using a combination of ventilation units, cooling systems, and desiccant dehumidification. This integrated approach optimizes humidity and temperature levels, creating a pleasant environment for spectators.

Reduced energy consumption and improved indoor climate

Installing the new dehumidification unit has resulted in a substantial decrease in energy usage within the arena.

Martin Schmitz and his colleagues at Ömangruppen are highly satisfied with the Munters dehumidification solution, which was based on careful consideration of operating costs.

Micael Lundstedt entirely agrees with Schmitz's assessment.

"We recommend other ice arenas to benefit from Munters expertise in dehumidification solutions," he says. "In our experience, Munters are knowledgeable and easy to work with, and we know we can always rely on them whenever needed. Munters undoubtedly stand out as a leading provider in delivering top-notch support, products, and innovative solutions for indoor climate management in ice arenas."



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