

SMART ICE, BRIGHT FUTURE

CAPREOL'S CURLING REVOLUTION

H. WILKINSON 2024

TIME TO TAKE CONTROL BACK



When the Capreol Curling Club's second heat exchanger failed, forcing a complete shutdown for the 2023-24 season, it marked a critical moment for this cherished rural community hub. Already having wrestled with aging equipment, a failing chiller, and mounting operational costs, the club faced a pivotal decision. They needed more than just a patchwork fix—they needed a complete reimagining of their facility operations to achieve reliability, simplify operations and control costs.

A PRACTICAL AND SAFE ALTERNATIVE

While exploring their options, the harsh realities of traditional ammonia/brine systems became clear. Despite ammonia's efficiency as a refrigerant, these systems demanded substantial investments in safety measures, mechanical upgrades, and specialized training—not to mention elevated insurance premiums.

For a small, membership-dependent club like Capreol, the operational demands of an evaporative condenser system, including water requirements, treatment, and storage, made ammonia systems both financially and logistically impractical. Safety concerns loomed large too, with requirements for life safety systems and evacuation strategies adding another layer of complexity.

THE SOLUTION



After thorough evaluation, the club found their answer in Oxford's OLPP™ on Ice—a fully digitalized, low-maintenance chiller system integrated with comprehensive building automation. This advanced split system combines a rooftop condenser, high-efficiency fans, subcooled circuits, an outdoor receiver, and a space-saving indoor refrigeration skid, perfectly suited for limited spaces and staged retrofits while meeting all safety requirements.

The indoor compressor skid transforms the facility's operations.,

Its compact design eliminates clutter, reduces noise, simplifies maintenance and most importantly, elevates safety for the confidence of members and staff. The system employs a minimal charge of next-generation refrigerant—recyclable, non-toxic, and non-flammable—ensuring both safety and regulatory compliance without the burden of specialized training. Its refined architecture and enhanced safety reduce installation and operational costs, lower insurance premiums, and provide an edge over ammonia systems.



TRANSITION FROM BRINE TO GLYCOL

The switch to a propylene glycol system marked another significant improvement. Where brine's corrosive nature accelerates equipment wear and demands frequent maintenance, glycol's non-corrosive, lubricating properties extends equipment life and reduces maintenance needs. The transition eliminates the constant cycle of water treatment, leak detection, and specialized maintenance, offering a more reliable and straightforward solution.

While brine systems might seem more economical initially, their higher maintenance costs often exceed any upfront savings. Glycol systems deliver superior long-term performance, minimize operational downtime, and provide greater safety—making them ideal for community clubs like Capreol.

OPTIMIZING EFFICIENCY

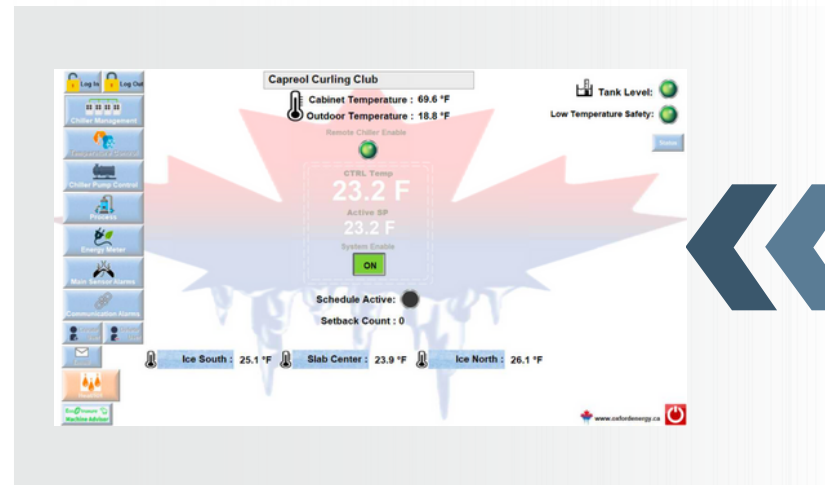
At the heart of the system, three scroll compressors work in concert, with the primary one utilizing VFD technology for precise control. This eliminates overshooting and excessive cycling, improving energy efficiency while reducing component wear. A stainless-steel heat exchanger maximizes performance with minimal refrigerant use, while the floating head design ensures consistent operation by adapting to ambient temperature changes.

The system's comprehensive digital management connects all components through the BAS, enabling real-time monitoring and analysis. Through detailed vision boards, operators can track performance metrics, including real-time data on compressor operation and its effects on other system components. Technicians can monitor every device, understanding how heat and humidity enter the facility and their impact on ice quality, leading to more informed decision-making for maintaining optimal conditions.

With intuitive touchscreen controls and remote monitoring capabilities, the system enhances reliability while minimizing the risk of critical failures. These features ensure the system remains adaptable and user-friendly while effectively managing facility needs. The fully digitalized system excels at matching load requirements—anticipating and responding to heat absorption by the ice deck.

FUTURE FORWARD INVESTMENT

The Capreol Curling Club's adoption of Oxford's digitalized Chiller System demonstrates a forward-thinking approach to facility management. Like a car's fuel gauge providing clear readings, this integrated refrigeration platform offers comprehensive system visibility, allowing operators to precisely maintain temperatures without guesswork. The system's emphasis on



load matching and variable control delivers remarkable efficiency, with the club's daily operating costs averaging just \$36 for compressors, condensers, and pumps.

Beyond operational efficiency, the platform prioritizes safety through its low-charge design and environmentally safer refrigerants. This modern ice-building solution is engineered with future adaptability in mind, ensuring the club can meet evolving environmental standards while maintaining reliable performance. The system truly represents a technological leap forward in ice facility management.

This strategic investment does more than secure stable operations and reduce the risk of failures – it allows the Capreol Curling Club to focus on its primary mission of fostering a vibrant curling community. By embracing this innovative technology that emphasizes safety, efficiency, and cost-effectiveness, the club is solidifying its position as a cornerstone of the community for years to come. 🍁