

Opt for better

Ainsworth uses Opteon™ Refrigerant & High Efficiency Parallel Refrigeration System Designs to Support Community Rinks.



Opteon™



“So far we have installed Opteon™ refrigerant in six community rinks across the Canadian prairies, and our customers couldn't be more pleased with the simplicity, reliability & efficiency of the refrigerant & system.”

— Rhett Svingen,
Controls and Engineering Manager,
National Refrigeration, Ainsworth

Ice hockey and curling are mainstays of winter recreation throughout the provinces of Saskatchewan and Manitoba. In these provinces, many ice plants used for curling or hockey rinks are aging and nearing the end of the equipment's life. For these rinks, deciding on the type of new refrigeration system is key to keep hockey sticks on the ice and the brooms sweeping. Due to the expansive geography of these prairie lands, having service technicians as well as systems and components readily available is critical to avoid shutdowns and disruption to rink operations.

National Refrigeration, Div. of Ainsworth, have built and serviced refrigeration equipment in Saskatchewan for more than 25 years. When assisting rink owners and operators in making decisions on new or replacement refrigeration

systems, factors such as equipment capital cost and operational costs, ease of service and availability of technicians, as well as the direct and indirect environmental impact of the system are all considered. For Ainsworth, many of their ice plant systems are intentionally designed to mirror the multi-compressor systems that are commonly used in supermarkets – which helps technicians readily find components for maintenance and repair when servicing the equipment. This design similarity also allows technicians to work on a variety of systems without the need for additional training, which helps assure that a knowledgeable service technician is always available to respond quickly to the rink if needed.

In the recent past, Ainsworth has used R-404A refrigerant, an HFC blend, in these multi-compressor ice rink systems. However, with the HFC regulatory phase-down underway in Canada, for their more recent system installations, Ainsworth worked with the Chemours technical service team to understand their refrigerant options that would support the move towards lower global warming potential (GWP) gases. Through this evaluation, Ainsworth selected Opteon™ XP40 (R-449A), a non-ozone depleting refrigerant that has a 67% lower GWP compared to R-404A, without giving up the ASHRAE safety classification of A1: low toxicity and non-flammability ¹. The selection of XP40 made sense for Ainsworth's customers, because the refrigerant is already readily available, as it is commonly used with leading supermarkets throughout Canada and the US and is approved by major equipment and component manufacturers. Additionally, XP40 has the advantage of very similar operating pressures to the other traditional refrigeration system

designs of R-22 and R-404A with which service technicians are comfortable and familiar ¹.

Beyond the similarity to previous HFC systems, Opteon™ XP40 also provides less burdensome operating requirements when compared to new rink designs with ammonia, which often require added cost layers for safety management, emergency response planning, and upgrading machine rooms for compliance with Class T Specifications. With Opteon™ XP40, an evaporative condenser is not needed, which is a benefit for locations with hard water, leading to additional lower operating costs by avoiding water consumption and maintenance to soften the water, eliminating the need to clean fouled condensers, and preventing system inefficiencies due to mineral buildup.

“So far we have installed Opteon™ refrigerant in six community rinks across the Canadian prairies, and our customers couldn't be more pleased with the simplicity, reliability & efficiency of the refrigerant & system. The cost-effective operation of these rinks is critical to keep ice time costs down and facility doors open. We're proud to be able to contribute to our community in this important way,”

said Rhett Svingen, Controls and Engineering Manager, National Refrigeration, Ainsworth.



Ainsworth at a Glance: Formerly National Refrigeration, Ainsworth is a national building services company with locations across Canada. Ainsworth services a variety of equipment that ranges from supermarkets, to convenience stores to ice rinks. The design group have experience building custom ice plants for more than 40 years. When faced with providing a solution for owners and operators with R-22 ice plants that were nearing end of life, the team at Ainsworth including Matt Hale, Roger Hale and Rhett Svingen develop the optimal proposal for their customers, taking into account: up-front CAPEX, ongoing OPEX, ease of system serviceability and operation, environmental impact, and safety management and the associated costs.

The team at Ainsworth has consistently and successfully resolved numerous chronic rink maintenance concerns for their customers, including cost effective system upgrades and replacements for aging systems, energy efficiency optimization, computerized controllers and MCC replacement, managing the use of hard water in condenser cooling, preventative maintenance programs, providing reliable, responsive & trained labor on-site when maintenance is required, provided emergency response planning for customers with ammonia facilities, and supporting time-sensitive rink start-ups and re-starts to minimize and/or avoid rink downtime. National Refrigeration, Ainsworth provides refrigerant and system upgrades for all ice rink refrigeration and ice field piping systems.

In fact, Ainsworth Refrigeration and the rink owners and operators they work with are not alone in their quest to cost-effectively build, maintain, and replace community ice rink infrastructure. Across North America, enabling an environmentally and economically sustainable community rink infrastructure is vital to the mission of the NHL®, who views the community rinks as the front-lines of their sport, and is committed to educate and share best practices to improve community rink operations through the Greener Rinks Program.

Conclusion

The collaboration and community focus of Ainsworth, working together with the Opteon™ refrigerants team, is just one example of bringing the NHL's Greener Rinks Program to life—providing community rinks in Saskatchewan with a forward-looking, economically and environmentally suitable, ice plant solution.



**For more information on the Opteon™ family of low GWP products,
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¹See *XP40 Product Information Bulletin and References* @ www.opteon.com/en/-/media/files/opteon/opteon-xp40-prodinfo.pdf