



# Fact sheet



## Dauphin Parkland Recreation Complex Project Overview

The Parkland Recreation Centre, originally constructed in 1951, recently underwent a major renovation and expansion, including the addition of one NHL size arena pad and the integration of the existing 6 sheet curling club refrigeration system. Construction was completed in February 2006, resulting in one of the most appealing and well-equipped full service recreation and family leisure centres in Manitoba, as well as giving the Manitoba Major Junior hockey league, Dauphin Kings, a brand new facility to call home.

Even with a tight construction budget, the City of Dauphin was committed to “Green” technologies and more importantly an energy efficient and fully integrated HVAC & Refrigeration system. The heart of the system is the CIMCO ECO CHILL® ECO-100A Package and CIMCO ECO-Sense™ Control system.

With 1,600,000 BTU/hr (1,600 MBH) of heat being recovered at full load, the ice plant provides warm (92° F) glycol supply to fresh air pre-heat coils, a variety of in-floor radiant loops and underfloor and snow melt heating systems. Additionally, once the existing pool makeup water preheat system and curling club heating systems are expanded, there will be another significant increase in heat recovery.

The current annual equivalent GHG (Greenhouse Gas) emission reduction equals approximately 320 metric tons of CO<sub>2</sub>. This is equivalent to keeping 70 cars, driving 20,000 kms per year off the road, while saving the owner/operator thousands of dollars in gas and electric heating costs that would normally be attributed to a traditional mechanical heating system.

The Dauphin Parkland Recreation Complex is the third of three federally funded projects through the T.E.A.M. (The Early Action Measures) portion of the R.A.P.B. (Refrigeration Action Plan for Buildings).

The energy use is currently being monitored by CANMET/NRCAN.

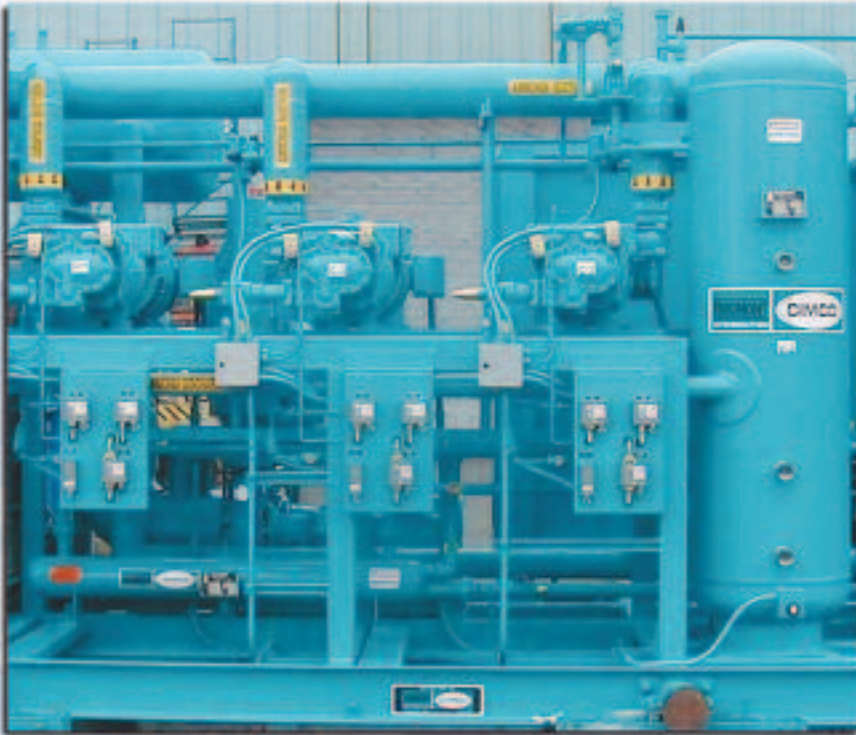


# Dauphin Parkland Recreation Centre Dauphin, Manitoba



## GENERAL INFORMATION

- Owner: . . . . . City of Dauphin
- Project Type: . . . . . Retrofit and new building addition
- Year of Construction: . . . . . 2005/6
- Rink Area: . . . . .  
. . . . . Hockey - 1 pad x 16,327 sq. ft. + 6 curling sheets
- Number of Seats: . . . . . 1800
- Months of Operation (per year): . . . . . 8 months



## REFRIGERATION SYSTEM INFORMATION

- Compressors: . . . . . Bitzer - Qty. x 3
- Horsepower: . . . . . 50 HP - Qty. x 3
- Plant Style: . . CIMCO Factory Skid - Model ECO 100 AX
- Total System Tonnage: . . . . . 100 TR
- Refrigerant: . . . . . R-717
- Evaporator Style: . . . . .  
. . . . . Flooded Plate/Frame + Flooded Shell & Tube (Curling)
- Condenser: Existing evaporative with Plate/Frame (reclaim)
- Secondary Fluid: . . . . . Ethylene Glycol @ 45% mixture

## MECHANICAL HEATING SYSTEM INFORMATION

- Space Heating: . . . . . Yes
- Makeup Air Preheating: . . . . . Yes
- Radiant In Floor: . . . . . Yes
- Service Water Heating/Preheat: . . . . . Yes
- Underpad Frost Protection: . . . . . Yes
- Snow-melt Pit Heating System: . . . . . Yes
- Pool Water Pre-heating: . . . . . Yes

## INTEGRATED CONTROLS SYSTEM DESIGN

- ECO-Sense connected to Building Management System (BMS)

## HEAT RECOVERY INTEGRATION

- . . . . . Glycol Heating Loop (Condenser)

## OPERATING MEASURES

- Floating Head Pressure: . . . . . Yes
- Load Shedding: . . . . . Yes
- Floating Ice Temperature Control: . . . . . Yes
- Setback Temperature Control: . . . . . Yes
- Occupied/Unoccupied Settings: . . . . . Yes
- Remote Computer Monitoring: . . . . . Yes

## SERVICE PROVIDERS

- Refrigeration Contractor: . . . . . CIMCO Refrigeration
- Refrigeration Design: . . . . . CIMCO Refrigeration
- Architect: . . . . . Number 10 Architects
- Mechanical Designer: . . . . . SMS Engineering
- Controls Designer: . . . . . CIMCO Refrigeration
- Building Management System Provider: . . . . .  
. . . . . CIMCO Refrigeration



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