NOVELAIRE TECHNOLOGIES
*Creating the Great Indoors*

**Ice Rink Dehumidifier Design**

Moisture Load Analysis

Proper operation of an ice rink requires precise control of the humidity within the arena. The target conditions for most ice arenas is a temperature range of 55-65F with a 35F dewpoint.The 35F dewpoint is necessary to maintain proper ice conditions and to prevent condensation, mold issues, and to maintain adequate overall indoor air quality.

To properly size a dehumidifier, it is imperative to have a good understanding of the moisture load on the space. The ventilation air requirement is the overwhelming contributor to the humidity load followed by the occupancy load, the building's infiltration leak and permeation rate. The ability to deliver ventilation air from the high moisture (and temperature) months typically seen in the spring, summer, and fall to the low enthalpy conditions of the ice arena requires close attention to the proper sizing of the dehumidifier. So it is imperative to understand the impact of ventilation requirements and the need to not only control the humidity level of the ventilation air but to minimize the amount of ventilation air in order to maintain proper conditions in the ice arena. When filling out the worksheet below, please note if building exhaust air is available for energy recovery. NovelAire can incorporate an energy recovery wheel into its units in order to temper the outside air prior to the DES/DX CR unit. This reduces the energy requirements for processing the outside air considerably and is highly recommended where applicable.

The following worksheet will help us assist you in selecting the proper dehumidifier for your ice arena.

Building Location: _____

Building Size (L) x (W) x (H): _____

Building Construction Type: _____

Ice Rink operation throughout the year? _____ If not, how many months/yr? _____

Maximum Occupancy of the Arena: _____

Is exhaust air available for energy recovery? _____

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