In order to run a successful ice arena, it is critical to improve efficiency and eliminate downtime. Most recreational ice arenas operate year round and ice sports continue to gain popularity placing a greater demand for ice time. Constant and efficient humidity control is important. Uncontrolled humidity results in fog, condensation, mold and poor ice conditions — all of which compromise skater performance and safety and spectator enjoyment. Additionally, humidity causes an increased load on the ice refrigeration system resulting in higher energy costs than necessary.

NHL Preferred Supplier

Munters, the world’s largest manufacturer of desiccant dehumidification wheels and systems, has led the way in developing the most efficient and effective way to dehumidify ice arenas. Munters has more than 1,000 ice arena installations in North America.

NHL has named Munters the “Preferred Supplier” of desiccant dehumidification systems. The NHL recommended standard is 60°F and 40% Relative Humidity (RH) which equates to a 35°F dew point temperature. Speed skating venues require even more stringent conditions to create an ice surface worthy of world record times. Such conditions can be difficult if not impossible to achieve with cooling based dehumidification systems. Because sub-freezing dew points are efficiently and continuously achieved with desiccant dehumidification, today most ice arenas rely on Munters.

BENEFITS OF DEHUMIDIFICATION

- Annual cost savings
- High-quality ice surface
- Fresh air without humidity
- Fast recovery from resurfacing
- No fog

Munters Corporation, AirTech
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Munters is the NHL Preferred Supplier of Desiccant Dehumidification Systems

St Louis Blues practice arena.
THE PROBLEMS

Humidity from the air forms as frozen water vapor on the ice sheet surface. The ice softens and forms a “frosty” surface that may develop puddles. This affects the quality of the ice, which impacts skater performance and causes skaters to get wet when they fall. The ice refrigeration system works overtime to refreeze the ice. High humidity causes fog, which obscures the ice action and leads to safety problems. Excess moisture condenses on the glass, structure and cold surfaces causing drips which damage the ice. Floors, seats and stairs become wet leading to mold and deterioration of the building. High energy costs, indoor air quality, safety, mold, mildew and the competitive nature of the industry requires arena owners to focus attention on providing proper arena environmental conditions.

THE DESICCANT SOLUTION

Munters HoneyCombe® desiccant wheel adsorbs moisture from the air, enabling arenas to achieve the desired humidity level. Munters uses titanium enhanced silica gel desiccant permanently impregnated throughout the Honeycombe structure; therefore the silica gel is never replaced. Munters manufactures the wheel and offers a wide range of diameters and depths to suit the moisture load requirements for arenas of all sizes, geographical locations and spectator capacities. Not all desiccant wheels are the same; Munters develops the most efficient desiccant wheels are the same; therefore costs less to operate than our competition. The Munters wheel and therefore costs less to operate than the desiccant wheel, moisture is removed from the air by the desiccant, and the dry air is then delivered to the arena. Desiccant dehumidification process. This can be an energy consuming method of achieving the desired conditions.

HOW IT WORKS

Desiccant dehumidification technology is very simple. Humid air passes through the rotating desiccant wheel, moisture is removed from the air by the desiccant, and the dry air is then delivered to the arena. Desiccant dehumidification removes moisture in a vapor phase, sub-freezing dew points are easily achieved without interruption because defrost is never required. Post cooling is optional on the Munters systems for space temperature control. The post cooling coil would only provide sensible (dry) cooling and therefore never freeze or require a defrost cycle. The Munters system provides uninterrupted environmental control of the arena assuring arena operators a superior ice surface and a safe, comfortable facility.

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