

# Dehumidification: Athletic Facilities

## Cost-Effective Climate Control for Athletic Facilities





### Natatoriums

Natatoriums create a very difficult environment for an HVAC system to condition. The pool in a natatorium is heated to a comfortable or therapeutic water temperature which creates a driving mechanism for the evaporation of the pool water to the air. Meanwhile, the air humidity must be maintained at 50% relative humidity to protect the building structure, and control mold and bacteria growth in the space. Swimmers prefer a higher space temperature as they exit the pool. The differential between pool water and space air conditions affects the dehumidification load. These applications require constant and close control of humidity conditions 24 hours a day, every day of the year. Munters desiccant wheel acts like a sponge, adsorbing moisture from the air, enabling natatoriums to maintain the desired relative humidity levels. A direct fired natural gas heater is generally used for heat to reactivate, or dry, the desiccant wheel. Other forms of heat, steam, electric resistance, etc., could also be used as the

reactivation heat source. Adding heating and cooling coils to the air handling unit provides temperature control to the space as well. To ensure the longevity of the facility and the comfort of the swimmers, dehumidification is necessary.

### Ice Rinks

Regardless of being used for recreation and leisure or athletic arena events, indoor ice rinks require very efficient operating systems to reduce humidity. Conventional systems, even those that include refrigeration dehumidifiers, do little to reduce humidity inside an ice arena. As moisture condenses on the rink, the ice softens and forms puddles until the refrigeration system can freeze the condensation. The ice also becomes frosty and vision-obscuring fog forms leading to safety problems. The excess moisture condensing on the roof causes dripping on spectators, damage to the ice, and deterioration of the building structure. To create the ideal ice surface conditions and optimum indoor air quality, the dew point must be as close to the ice surface temperature as possible. Munters desiccant technology is extremely efficient at removing water vapor before it can impact the ice sheet. While providing large volumes of fresh air for increased ventilation, the desiccant wheel soaks up the moisture. A Munters system is capable of doing more work than three standard refrigeration units without the use of Freon. The ice stays hard and your refrigeration system can operate at maximum efficiency, saving energy dollars and expensive system capacity. With more than 30 years of experience dehumidifying skating and curling rinks, Munters is committed to meeting your special needs.



## Gymnasiums

Ventilation, infiltration, and people create the largest moisture loads in gymnasiums. If the humidity is not controlled, it could potentially damage the facility and its materials, such as wooden sports floors.

In the United States and Canada, the Maple Flooring Manufacturers Association (MFMA) specifies that the humidity at the floor level “shall be maintained between 35 and 50% relative humidity at all times.” The consequences of not controlling humidity may be more costly than installing a dehumidification system.

## Fitness Clubs

The demanding environment of fitness clubs can be difficult to control. They can run up to 24 hours a day, 7 days a week, with lots of sweat, humidity and people in a compact area. The excessive and consistent exposure of humidity to the fitness club not only creates odors and bacteria on the expensive equipment, but may also encourage deterioration of the facility and its materials. By controlling the humidity, you will prevent damage caused by condensation and also promote a healthier, more comfortable environment for your customers and personnel.

## Showers & Locker Rooms

The damp feeling and musty smell associated with locker rooms can be prevented. By controlling the humidity, it is possible to limit the growth of bacterial and fungus that generates odors and causes corrosion. If the incoming ventilation air is dry, it will help dry the moist locker room and shower facility quickly and create a more comfortable environment for its occupants

## The Desiccant Solution

Munters has been utilizing desiccant technology for over 70 years to control humidity in a wide variety of applications. The heart of the system is the HoneyCombe® desiccant wheel. This dehumidifying wheel acts like a sponge, adsorbing moisture from the air, enabling athletic facilities to maintain the desired relative humidity levels.



## Benefits

### Protect the Building Structure

Controlling the humidity helps protect the building structure from deterioration caused by the moisture.

### Annual Cost Savings

Desiccant dehumidification removes humidity more efficiently than cooling based systems.

### Reduced Maintenance Costs

If athletic facilities provide dehumidification all day and all year., the facility and its materials will require less maintenance. Personnel will not have to work as hard to keep equipment and locker rooms dry and clean. Corrosion, mold and mildew will be prevented. Keeping your facility dry reduces the amount of maintenance work needed.

### Improved Indoor Air Quality

Maintaining relative humidity at a 45 degree dewpoint or less will reduce mold and bacteria growth in the building. Controlling that growth is critical to the quality of the air in the building and the health of building occupants.

### Reduced Equipment Cost

The deep drying power of desiccant systems often meets moisture loads with a system delivering much less air volume than refrigeration technologies. This reduces installation and operating costs.

Munters is the world leader in humidity control with products and services for dehumidification, humidification and cooling of air. Customers are found in a wide range of segments, the most important being insurance-, utilities-, food-, pharma- and electronics- industries.

Manufacturing and sales are carried out via the Group's own companies in more than 25 countries in Europe, Americas, and Asia. The Group has 2,900 employees and net sales of SEK 4,100 million. Munters is listed on Stockholmsbörsen, the Stockholm Stock Exchange. For more information see [www.munters.us](http://www.munters.us)



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