

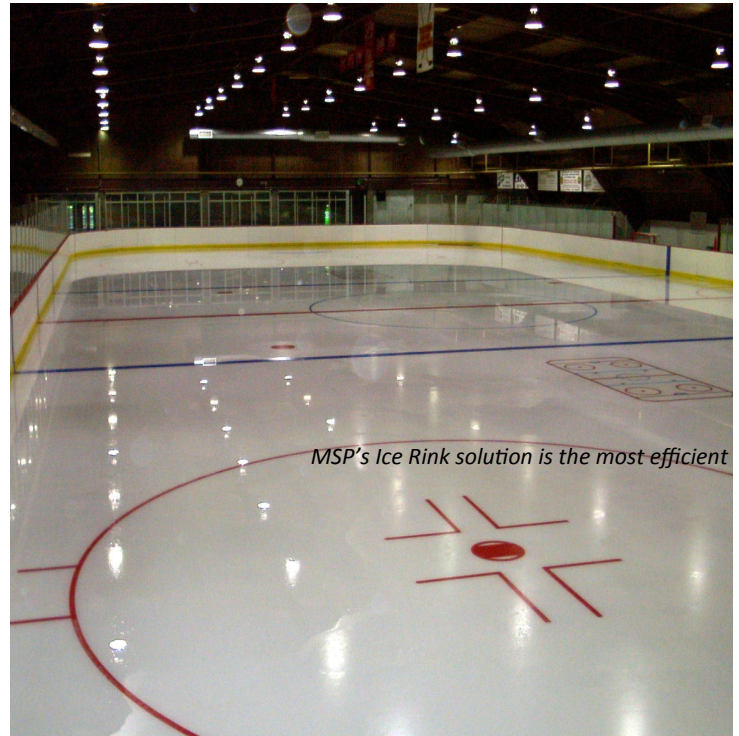
Creating The Ideal Environment For Indoor Ice Rinks

Ice Rinks represent a significant challenge for an HVAC engineer and require particular attention to dehumidification performance. The combination of the large, cold ice surface and fresh air ventilation requirements for arena occupants can lead to excessive condensation on both the ice and building structural surfaces.

Proper humidity control benefits Ice Rink arenas in a few key areas. When moisture in the air condenses on a the ice surface, it introduces additional load on the ice making equipment and can lead to soft ice conditions. Condensation on building surfaces are known to drip onto the ice which can build up during off-hour periods and require additional maintenance. In spring and fall conditions, moist air near the ice surface can produce fog if sufficient dehumidification is not employed.

MSP Technology's Ice Rink Solution—Key Benefits:

- Uses MSP Technology, the most energy efficient dehumidification available.
- Designed to leverage Chilled Brine from the ice making system for dehumidification.



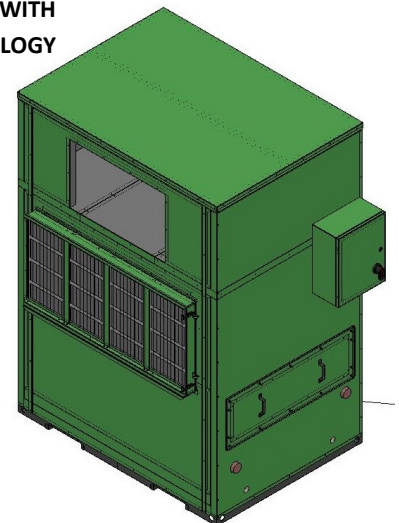
Ice Making Brine Solution for Dehumidification

The MSP Ice Rink Solution is unique in that it is capable of tapping into the chilled brine solution used to maintain the ice and use it for dehumidifying the air. This design significantly reduces the complexity of the dehumidification system, eliminating additional compressors and the condenser components. As the brine solution is typically circulated at a very cold 20 degrees F, the MSP Systems unit is configured with a recirculating pump and valve assembly which maintains the dehumidification brine at a selectable temperature, to optimize dehumidification and avoid freezing. The MSP® Technology pre-cooling feature allows us to achieve low dew points and high efficiency in this brine solution scenario.

▶ Key Benefits & Features

- **Controls Fog and Dripping**
- **Reliable** Simple Technology, No Moving Parts, Low Maintenance
- **Performs** Delivers consistent low dew-point temperatures
- **Sanitary** Full Draining, No Standing Water
- **Efficient** Cuts dehumidification operating costs by up to 50%
- **Fast ROI** Lower capital costs, Competitively priced
- **Versatile** Chilled Water and Refrigerant units
- **Advanced** Single unit provides dehumidification, sensible cooling, heating and ventilation air
- **Flexible** Horizontal, Vertical and Modular configurations for uses with space or access issues
- **Cutting-Edge Control Systems**

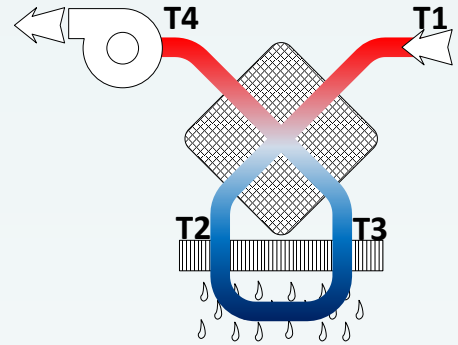
DEHUMIDIFIER WITH MSP® TECHNOLOGY



ABOUT MSP® TECHNOLOGY

MSP Technology is offered in a wide range of super-efficient, industrial grade equipment. Designed specifically for green applications, MSP products are engineered for high performance, guaranteed.

ABOUT MSP® AWG AND DEHUMIDIFICATION TECHNOLOGY



STEP 1 Warm, humid incoming air (T1) flows through the first pass of the plate type air-to-air heat exchangers for pre-cooling and initial dehumidification. This is accomplished by regenerative thermal exchange with the cooler air that is leaving the heat exchanger. (see step 3)

Advantage: Pre-cooling and dehumidification by regenerative thermal exchange are "free" and involve no additional equipment.

STEP 2 Pre-cooled air (T2) then passes twice over conventional cooling coils for final cooling and dehumidification.

Advantage: Pre-cooled and pre-dehumidified air can be treated much more efficiently, using smaller compressors that require as little as one-half the power.

STEP 3 The cool, dehumidified air (T3) is then drawn back through the opposite side of the heat exchanger where it absorbs some heat from incoming air (see step 1) and continues on to the building's HVAC system.

Advantage: No heating coil—and no energy penalty—needed to reheat the dehumidified air before it enters the conditioned environment.

Feature Highlights

High Efficiency

Cuts dehumidification operating costs by up to 50%

Low Maintenance

Direct Drive Fans, No belts and pulleys to adjust

No moving parts in airstream (except fan)

Versatile

Horizontal or Vertical configurations

chilled water or refrigerant

Sanitary

Full Draining, no standing water