Creating the Ideal Environment
for Accelerated Drying Times on Construction and Restoration Projects

Moisture Removal Systems

www.groundheaters.com
www.wackerneuson.com
Controlling moisture on the job

Challenges

**Rain, humidity, and temperature** can cause construction materials such as lumber, sheetrock, and trim to absorb moisture, and without the right environment, it is difficult to effectively dry these materials.

**Water damage** from Mother Nature, defective material, broken pipes, and fire can seriously harm structures and businesses. If immediate action is not taken, the standing moisture will permeate and encourage growth of mold and bacteria.

Solutions

**Create the ideal environment** for evaporation by encouraging wet molecules to migrate to dry molecules. The drier the surrounding air becomes, the faster moisture will release from saturated materials and turn from a liquid to vapor. Equipment ranging from dehumidifiers to heat exchangers to air movers is available to help manage important factors required for moisture removal: humidity, temperature, and airflow.
Effective methods to remove moisture from construction materials and buildings:

Match your machine selection to your site needs

Dryvex™ refrigerant systems
Maintain a low humidity level by removing moisture from the air and surrounding material. Moisture-laden air passes across the evaporator coil causing water to condense from a vapor to a liquid.

The best solution for:
- Speeding tape, mud, and paint processes
- Drying concrete
- Reducing mold growth
- Spaces occupied by people
- Water damaged structures

Refrigerant dehumidification maintains a low humidity level safely, efficiently, and economically.

Dryvex™ convection systems
Utilizing heat and air movement, this powerful open drying system uses clean outside air, rather than recycled air, to dry flooded structures and their contents. The outside air is conditioned to a low relative humidity of 5 to 15 percent and blown into the building using flexible ductwork. Thermostatically controlled, the supply blower circulates dry, fresh air throughout the structure. Large quantities of moisture are absorbed and extracted from the building through a second return blower.

The best solution for:
- Flooded or water damaged buildings
- Extracting moisture from construction materials such as: wall studs, subflooring, hardwood floors, sheetrock, ceiling tiles, and wood trim

Convection dehumidification facilitates extremely quick drying while eliminating potential mold or bacteria growth in the building.
Controlling moisture on the job

Effective methods to remove moisture from construction materials and buildings:

**Challenges**

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  **Liquid-to-air dehumidification** enables quick drying and eliminates potential mold or bacteria growth in the building.

Liquid-to-air systems

Used in conjunction with any or our hydronic heaters, this closed drying system utilizes a series of liquid-to-air Heat Xchanger™ systems to dry flooded structures and their contents. The Heat Xchanger systems are placed inside the structure to pressurize, heat, and condition the air to a low relative humidity. Air movers are used to extract the moisture-laden air from the building.

Dryvex™ air movers

Speed drying time by improving the water evaporation process. During evaporation, moisture naturally wicks to the surface of a material before converting to a vapor. A layer of water vapor gas — called the boundary layer — forms. In order to speed the evaporation process, the boundary layer must continuously be swept away from the surface. These high cfm air movers are a convenient and economical way to provide rapid air movement.

- **Works best:**
  - In conjunction with a refrigerant, convection, or liquid-to-air dehumidification system

  Air movers are vital to create an ideal moisture removal environment.

Liquid-to-air dehumidification enables quick drying and eliminates potential mold or bacteria growth in the building.

Wacker Neuson Climate Technology is a proud member of the USGBC. Additionally, heaters featuring this logo, may assist with LEED project certification for Indoor Air Quality Credits IEQ 3.1/3.2
Control your environment

Reducing drying time determines the success or failure of many construction and restoration projects. Introducing Energy in the form of Heat, accompanied with a higher airflow rate leads to greater evaporation potential, resulting in reduced drying times.

How to control the evaporation rate:

Remember HAT...

- **Humidity** – If the temperature remains constant, a lower relative humidity will occur, resulting in a faster drying rate.

- **Airflow** – The rate at which evaporation will occur. A higher airflow rate will speed up the evaporation process, while a lower airflow rate will slow down the process.

- **Temperature** – Nothing influences evaporation rate more than heat. Rising air temperatures increase the moisture-holding capacity of the air. If relative humidity remains constant, and air temperature and vapor pressure are high, evaporation will take place at a faster rate.

The amount of water that air molecules can hold depends upon temperature. Hot or warm air can retain much more than cool and cold air.

This chart illustrates how much moisture air can hold by temperature at saturation, 100 percent humidity.

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<th>Temperature °F</th>
<th>Temperature °C</th>
<th>Grains/Pound</th>
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Expandable drying solutions
Drying • Heating • Air exchange

Whether it’s simply drying out construction materials or restoring a water damaged building, the Wacker Neuson Climate Technology line offers a number of solutions to match any size challenge.

Key Features and Benefits:
- Mobile units are completely self-contained with onboard generator and fuel tank
- Drastically minimizes reconstruction costs
- Shortens insurance claim cycles and decreases claim costs by reducing drying time
- Decreases secondary damage from mold and bacteria growth

Refrigerant Commercial Dehumidifiers
Use a Dryvex™ refrigerant system to keep your restoration and construction projects on schedule and within budget. Inexpensive to run and easy to use, the Dryvex™ dehumidifier is guaranteed to decrease drying time.

Indirect-Fired Air Heaters
Versatile, innovative and robust indirect-fired air heaters offer safe, clean and dry heat and are extremely fuel efficient, helping lower operating cost and keeping your restoration projects on schedule. Wacker Neuson offers variety of models and sizes, including Diesel or Natural Gas/LP options.

Air Movers
Complete the perfect environment for fast, efficient drying. Equipped with an ultrahigh-efficiency 16-inch axial fan, the AM3000 moves an impressive 3,000 cfm on just 2 amps of power. Attach the optional caster package for “top-down” drying.

Liquid-to-Air Heat Xchangers™
Finish work is a breeze with an HX™ Heat Xchanger system on the job. Simply position the equipment in the desired location and enjoy a clean, warm, dry environment. This accessory is used with any Wacker Neuson hydronic heater. Three models are available: HX50, HX100, and HX200.