



# 5 Signs That It's Time to Replace Your Dehumidifier

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**Is it time to replace your dehumidifier?** Read below to learn about the signs that your pool dehumidifier may need to be replaced—and why not replacing an old or inadequate dehumidifier could result in potentially costly damage to your facility.

A typical dehumidifier is a hardworking machine in a harsh environment. It's built to do a tough job, and to do it well. Dehumidifiers used in industrial and institutional applications generally have a working life of nine to eleven years. Dehumidification systems can provide great service for longer periods of time. However, they need to be maintained properly and the harsh pool chemicals should not be stored in the same room with the dehumidifier.

Why would anybody keep a dehumidifier in operation when they become un-reliable and need service more than twice a year? Often times, consumers are afraid that it will cost too much to replace or that there simply won't be a replacement unit that is suitable for their facility. Many times the original dehumidifier manufacturer has gone out of business and the supply of replacement parts has dried up.

The truth is that manufacturers, such as Dehumidifier Corporation of America, can easily replace obsolete dehumidifiers. The price that you pay for not replacing an older unit (in terms of damage to equipment and facilities, as well as customer dissatisfaction) can actually outweigh the cost of replacing the dehumidification system.

## Protecting the Infrastructure

The main purpose of a pool dehumidifier is to protect the pool structure from mold and corrosion. In fact, the moisture evaporated from the pool, will over time compromise the building structural features and make the pool environment unsanitary. Additionally, a pool dehumidifier significantly improves the comfort of the environment for those in the room.

What kind of damage can excess humidity cause? Too much humidity in the environment can lead to rusting and corrosion, which can attack both structures and the equipment within the building. Moisture in the air can also carry corrosive chemicals from pool water. These chemicals can and do attack exposed metal surfaces, including ceiling grids, mechanical and electrical parts, and fixtures.

Additionally, excess humidity can lead to moisture build-up in the walls and ceiling insulation resulting in the formation of mold and mildew. If left untreated, it may eventually require gutting the walls and ceiling and replacing them. That's why it's critical to install a vapor barrier between the insulation and the warm side of the pool room walls and ceiling during construction.

## How Dehumidifiers Remove Moisture from the Air

Dehumidifiers use the same working principle as air conditioners. Both systems circulate air across evaporator coils, which cool the air and make the moisture condense. However, the primary purpose of an air conditioner is to cool the air by transferring heat to the outdoors, while the primary purpose of a dehumidifier is to remove moisture from the air.

In a dehumidifier, moist air is cooled by passing over an evaporator coil. There it condenses the moisture that is then channeled into a drain pan and piped to a sanitary drain. The resulting air is dry and warm, and circulated back into the room. However, the air temperature must usually be controlled within a certain range. Pool room dehumidification systems can provide either warm or cool dry air; if the optional remote condenser is also installed. Remember that ultimately the heat balance of a dehumidifier is positive. That's due to the heat created by the energy used by the mechanical parts of the dehumidifier (compressor, fans, etc.) and the latent heat provided during the refrigeration cycle. In contrast, with an air conditioning system, the heat is released outdoors into the atmosphere through the condensing unit.

## Signs of an Aging Dehumidification System

How can you tell if your dehumidification system is getting old, and is in need of replacement?

Watch out for these tell-tale signs:

### 1. You are experiencing more than one or two service calls a year.

An excessive number of service calls could be a sign of a worn dehumidifier, or of inadequate preventive maintenance. Basic preventive maintenance for a dehumidifier includes:

- Maintaining return air filters (periodically inspect and replace)
- Checking for proper tension on the air circulating blower belt and replacing at least once a year
- Ensuring proper air circulation—a good duct system is imperative for proper results
- Inspecting the coil(s) of the outdoor remote condenser, keep clean of grass and tree debris
- Re-tightening of all electrical connections in the dehumidifier and remote condenser

## **2. The dehumidifier runs continually or short cycles.**

A dehumidifier that is adequate for the facility should not typically need to run continuously. Conversely, continued short cycling of the dehumidifier may significantly shorten the ultimate service life. This may be a sign that the unit is malfunctioning. The unit may have been undersized from the start, or the facility's actual conditions may have changed from the original specifications. If, for example the water temperature of the pool has increased appreciably or the room temperature has changed, a re-evaluation of the moisture load must be done. Any additional moisture loads such as a water slide, bubblers or a waterfall may significantly add to the total moisture load as well.

## **3. The unit fails to reach the humidity and temperature of the room to the required set points.**

If the dehumidifier is not controlling the humidity and temperature as required, it may not be doing its job. This may be a result of defective control sensors, which detect the temperature and humidity. The control sensors may also not be calibrated correctly. The dehumidifier may also be failing as a result of the unit being near the end of its useful service life.

## **4. Excess moisture is visible on exposed glass and metal surfaces during cold weather.**

Visible excess moisture is a sign that the humidity in the room may be too high. This condition normally occurs in regions with cold winter temperatures. This is a sign that the unit is not working properly, or that the humidity in the room is beyond the unit's capacity.

## **5. A persistent smell of mold is present in the facility.**

Of all the warning signs, this is the one that you can least afford to ignore. If your dehumidifier is not performing properly, moisture may build up inside your facility's walls and ceiling insulation, providing mold with exactly the kind of cold, humid, dark environment that allows it to thrive. Once mold sets in, it becomes difficult to eradicate. If the smell of mold is persistent, there's a good chance that it is already too late.

## How to Increase the Life of Your Dehumidifier

Along with a good preventive maintenance program, there are a few things that you can do to increase the working life of your dehumidifier. Of these, the two most important methods are:

1. Check for adequate electrical power. Excessive low voltage or persistent phase problems can place a strain on the compressor and blower motor and other electrical components, reducing their working life.
2. Dehumidifiers are often located in mechanical rooms. It may be tempting to store pool chemicals next to the dehumidification system, but such chemicals must be stored in a separate room in sealed containers. Many pool chemicals are corrosive, or can release corrosive gases such as chlorine or bromine. These corrosive substances will attack nearby metals and other sensitive surfaces. Prolonged exposure to these substances can cause serious damage to mechanical and electrical equipment.

## Consult with a Dehumidifier Expert

Are you concerned about the condition of your current dehumidifier? Would you like to know more about new and replacement dehumidification systems? Does your facility require unique or customized dehumidifier features or design? Contact our team today by submitting a request for quote.

