

## DXAIR INDOOR POOL DESIGN GUIDELINES EQUIPMENT MAINTENANCE



The best way to ensure that your equipment is operating at its peak performance is to perform regularly scheduled maintenance inspections. However, most dehumidifiers seem to be neglected as far as regular general & preventive maintenance goes. Train staff or have your mechanical firm spend time with you once the installation is completed so that you will know what to check for and what is mechanical responsibility for the pool room. Your warranty depends upon your maintenance!

These maintenance instructions are specific to any piece of refrigerant-based dehumidification equipment. However, dehumidifiers used in natatoriums and other extremely humid, corrosive environments will need maintenance checks more often than standard dehumidifiers. Pool Dehumidifiers for swimming pools are also more expensive; therefore, regular maintenance is a good investment of time and energy.

### **MONTHLY MAINTENANCE – Some of this may fall under mechanical service & warranty agreement you have with the firm installing your system.**

- **Air Filters**– Owner to Check and replace as necessary. If this is a permanent filter it needs to be cleaned regularly. Check filters a minimum of every 2 weeks and clean or replace if required. Dirty filters restrict air flow considerably and unit can shut down.
- Owner to walk around unit, check for any potential leaks, check all drains and condensate lines and ensure they are free of debris and dirt at all times. Check unit to ensure all green lights are on if required (if any red lights are on, call your installing contractor).
- If there appears to be more noise than usual coming from a blower or compressor... call your installing contractor immediately.
- **Fans and Drives**- Check for worn or loose belts; adjust or replace as necessary. When it is necessary to replace one belt in a set, the entire set of belts should be replaced. When fan belts are replaced, they could be retightened 24 to 48 hours after they are put into service. Check that fan bearing and locking collar set screws are tight, and lubricate bearings using high-quality lithium grease.
- **Compressor Oil Level**-The ideal time for checking the oil level is after a period of operation, because then there will be the least amount of refrigerant mixed with the oil. The compressor should have been in operation at least 30 minutes, and the crankcase should feel warm or hot to the touch. During operation, the refrigerant will be pumped out of the oil until only the normal quantity remains. The compressor is equipped with oil sight glass. The oil level in the compressor is correct when liquid oil can be seen in the sight glass between the bottom and two-thirds full.
- **Refrigeration Charge**-Check the refrigerant sight glasses. When the refrigerant charge is correct, there should be no bubbles in the sight glass. (This is done by your mechanical firm)
- **Condensate Line, Drains, Traps**– Owner to check that the lines are free from obstructions. Always keep the condensate trap and lines free and clear. A dehumidification system for an indoor pool is capable of producing up to 25 gallons of condensate per hour. And if water backs up into your system due to plugged lines, we will not be held responsible for lack of preventive maintenance.
- **Unit Interior/Exterior**- Check for torn insulation and repair if necessary. Check for scratches, nicks, rust, etc., and repaint promptly.



- **Long Entries**-Check and record in the logbook the following actual operating values and the values read from the computer display:
  - [ ] Space temperature
  - [ ] Space RH
  - [ ] Pool water temperature; and
  - [ ] Pool water ph/Chlorine/Bromine/Salt chemistry balancing
- **Damper Operation**-Check that the dampers open and close fully without binding.

### **ANNUAL MAINTENANCE**

Annual maintenance should include all items listed under “Monthly Maintenance,” in addition to the following.

- **Compressor and Refrigerant System**- The compressor and refrigerant system should be inspected annually by a qualified service technician. As a minimum, the following items should be done:
  - Change and inspect the refrigerant filter-drier.
  - Perform a complete unit operation test, including log entries.
  - Inspect fan bearing and belts for excessive wear; replace if necessary.
  - Inspect the general refrigeration system for possible leaks, chafing between tubing, and other items detrimental to operation.
  - Check electrical connections for tightness, including the compressor electrical box.
  - Clean debris and dirt from drain pan.

### **DAILY MAINTENANCE**

#### **Pool and Air Temperatures**

Ensure that the pool temperature and air temperature are maintained within Design Conditions for your system. Keep air temperature two degrees warmer than the pool temperature without a cover. Generally your recommended temperatures Are 80-84 Degrees F water, 82-86 Degrees F Air Temperature—50-60% set on Humidistat. Lowering the air temperature below pool water temperature may double the evaporation rate of your water, may cause additional humidity and moisture issues and the dehumidification system may not be designed to keep up with the additional loads.

**Never turn the humidistat lower than 50% RH or higher than 60%RH. Doing so will increase the evaporation rate; and your dehumidification may not keep up with the additional load. Run time is increased along with operating costs.**

### **Chlorine/PH Balance - STINK OR SWIM!**

**If you walk into your pool room and smell chlorine, the pool is out of balance!**

Maintain proper PH and chlorine balance of the pool water at all times. Chlorine, salt, or any chemicals are aggressive in nature and can destroy any equipment, wiring, relays, contactors or metal within the equipment and environment. DXAir nor your mechanical firm will extend any warranty on any parts that show signs of corrosion and chlorine related deterioration. If you have a salt water pool, salt can more corrosive than chlorine —so pool balancing and understanding your chemistry is imperative and your warranty is based in part on the chemistry!