



### **Do it right the first time!**

Mechanical space for pool dehumidification systems has always been one of the most overlooked and completely ignored aspects of our projects. All equipment manufacturers face the battle of allowing the appropriate space for mechanical firms to properly install the system, leaving adequate space for ducting, and peripheral items being installed. Long term ease of serviceability and preventive maintenance is ignored when designing these spaces.

DXAir offers the smallest footprint in the industry; therefore we take up much less space than Dectron, PoolPak, DCA, Desert-Aire, Seresco, and all the others. But adequate mechanical space is still very important and it's to your advantage to get it right.

### **Why is this so important?**

Contrary to popular belief, rooftop installations are NOT the least expensive installation. Ductwork, plumbing, electrical, and craning costs are much greater than utilizing a floor level unit indoors with mechanical space that doesn't necessarily have to be any larger than a bathroom.

Also, rooftop equipment is subjected to the outdoor weather conditions and in many cases is not properly maintained, nor is preventive maintenance provided at regular intervals. In general, clients wait until rooftop systems fail before service calls are made. Now imagine extreme heat or extreme cold and a service technician enthusiastically working on your system. Due to all the variables, rooftop units are poorly maintained, brutally assaulted by the elements, and simply don't last very long.

This would be a good time to mention that most of our units will fit through a standard 36" door, use less refrigerant than any other in the industry, have field serviceable parts, and just plain have the lowest cost of ownership. You have everything to gain by designing proper mechanical space. But we'll keep going anyway because of other important matters you need to know to have the healthiest possible pool room environment.

Not allowing proper space can create problems for the installing contractor, ductwork, and even for controlling the environment of your pool room. The typical disposition is to "cram" equipment in the space with pool equipment, which has adverse affects on the HVAC system due to chlorine products.

Space is required to ensure the ductwork (supply and return ducting attached to the system) are sized to move the proper air flow in and out of the pool room. Ductwork that is *choked down*, has numerous "turns" and "square throats" because there wasn't enough room to



install properly designed ductwork. This results in proper air flow being unable to reach the pool room, and subsequent condensation and potential damage can occur. Even our great equipment cannot function properly without good air flow. We call that great heart—bad arteries.

Clearances must be left to access panels for installation and serviceability. 30-36” from access panels and compressors is recommended. Follow all local or other codes for Mechanical Space Requirements based on lbs./refrigerant. The International Mechanical Code for mechanical space based on amount of refrigerant in systems is largely ignored.

**Crawl space mechanical areas: crawl spaces must be sized appropriately, insulated, conditioned, and easily accessible for the system. We do NOT recommend crawl spaces as an appropriate mechanical space.**

**Garages, closets, etcetera: once again, we recommend the appropriate mechanical space be designed into new construction. Crawls, attics, garages, and the like are generally not recommended. However, if they are utilized, they must be designed as a true mechanical room with all codes being followed. They need to be sized appropriately, insulated and conditioned; vapor barriers added if they share the pool room side of the structure; appropriate clearances left for all electrical, plumbing, drains required, and the air delivery system attached to the unit. All spaces should have easy access for installation and future serviceability.**

**Second floor/attic mechanical rooms: a secondary drain pan is required under the unit anytime the unit is installed above grade.**

**Chris and Bob: I turned this red because it should be included for the regular site (but in black), but the hotel section version shouldn't need to include these three points. Let me know if you agree.**

Some form of sound attenuation may need to be addressed depending on your pool room and mechanical room environment.

Suspending equipment inside the pool room is NOT recommended. Due to the high humidity and chemically corrosive environment, this potentially leads to shortened life span, damages to the dehumidification system, and voiding of the warranty.

For 1-12 ton units with underground ducting, generally leave approximately 10x5 feet for smaller systems and 12x6 feet for larger systems to 12 tons. If overhead ducting, 11x5 feet is generally required. For all larger systems, contact DXair directly.