DXAIR INDOOR POOL DESIGN GUIDELINES
MECHANICAL SPACE REQUIRED

DO IT RIGHT THE FIRST TIME

Mechanical space for these systems has always been one of the most overlooked and completely ignored aspects of these projects. All 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. Lastly 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 others.

Why is this so important?

- **Contrary to popular belief, rooftop installation is NOT the least expensive installation. All rooftop equipment is subjected to the outdoor weather conditions and in some cases is not maintained nor is preventive maintenance provided at regular intervals. In general, clients wait until rooftop systems fail before service calls are made. This & prevailing weather conditions, cold, warm, salt air- in itself shortens the lifespan of all hvac systems. Ducting, plumbing, electrical, and craning costs are much greater than utilizing a unit that will fit into a space often times the size of a bathroom! Yes- larger equipment takes up more room (perhaps 16x16 or 16x20 feet); however when you do the numbers and tally up related costs of installation, craning, and the additional 30-40% in maintenance fees, along with the fact that new technology is easily installed through a standard 36" doorway with any size system— inside installation is the least expensive, least maintenance budget costs, and the lifespan of the equipment is increased considerably.**
- **The International Mechanical Code for mechanical space based on amount of refrigerant in systems simply is ignored.**
- **The lack of mechanical space or space sized too small to house the system has been a problem for this industry for many years. Not allowing proper space can create problems for the installing contractor, duct work and eventually 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 - will not allow the proper air flow to reach the pool room, and subsequent condensation and potential damage can occur. Remember: 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.**
- **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, etc.: Once again, we recommend the appropriate mechanical space be designed into new construction. Crawls, Attics, Garages, etc. 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.**
- **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 and damages to the dehumidification system.**
- **Some form of sound attenuation may need to be addressed.**
- **For 1-12 Tons 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.**

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