

# Design Checklist for Traditional Pools\*

Having a checklist comes in handy when designing complex jobs. Dehumidified Air Solutions is pleased to provide this dehumidification design checklist for your convenience.

## KEY DESIGN CONCERNS FOR TRADITIONAL POOLS\*:

1. Operating conditions in writing from end user (pool water temperature, room air temperature).
2. System supply CFM delivers 4-6 air changes per hour. The room volume dictates the supply CFM.
  - Supply air gets to the 'breathing zone'
  - Return duct location compliments supply duct
  - No short circuiting
3. Outdoor air CFM per Standard 62
  - Baseline: 0.48 CFM/ft<sup>2</sup> of water and wet deck for regular pool
  - Add 7.5 CFM per spectator (swimmers are not considered spectators and are covered in the baseline OA CFM)
4. Exhaust Air
  - Room is at slight negative pressure (0.05 to 0.15 inches of water column)
  - 110% the outdoor air CFM is generally recommended
  - Source capture contaminants:
    - Evacuator system onsite?
    - Exhaust air drawn from above the whirlpool or any other warm or highly active water area
5. Load Calculation
  - Latent load (pools, OA and spectators)
  - Sensible cooling load has been calculated for the space design temperature
  - Heating load has been calculated for the space design temperature and includes OA
6. Condensation and Vapor Migration
  - Vapor barrier on the warm side of the dew point temperature in all walls, ceiling and floors
  - All exterior windows, doors and skylights are fully blanketed with supply air (3-5 cfm per sq ft)
7. Energy & LEEDs Considerations
  - Energy Standard 90.1 – pool water heating option
  - Heat recovery between the minimum OA and minimum EA
  - Condensate reclaim
  - System refrigerant charge reduction
8. Swim Meet Mode
  - Number of spectators and competitors expected?
  - Spectator areas
    - 6-8 air changes supply air to spectator seating areas
    - Micro climate via separate air handler for larger spectator areas
9. Service and Maintenance
  - Internet monitoring
  - Unit is accessible
  - Unit has adequate service clearance

\* Please contact us for Waterparks and pools heavy with water features. Design standards have been established for 'traditional' bodies of water and do not adequately address the special needs of these facilities.

## LOAD CALCULATION DETAILS

POOL DESIGN DATA					
	POOL #1	POOL #2	POOL #3	POOL #4	POOL #5
Type of Pool (Lap, Spa...)					
Surface Area (ft <sup>2</sup> )					
Water Temperature (°F)					
Room Design Temp:	# of Spectators:		Room Volume (ft <sup>3</sup> ):		

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