

Pool Room Units Topics

The following are the topics that will be covered during the Pool Units course. Technicians must pass a written exam with a score of 80% or higher based off the topics below in order to become a Desert Aire Certified Service Technician.

1. Room designs
 - a. Duct layouts
 - b. Water piping
 - c. Sensor locations
 - d. Water features
 - e. Condensate drain sizing
 - f. Unit sizing – sq ft of space vs pool
2. Space conditions / sequence of operation
 - a. Pool room RH settings
 - b. Pool water temp settings
 - c. Air temp settings
 - d. Outside air pre-heater
3. Airflow Measurements
 - a. Testing equipment Unocc / Occ modes – LC units
 - b. Balancing internal dampers – SA units
 - c. External static pressure – Duct designs
 - d. Coil pressure drop
4. Water flow
 - a. Coil Pressure drop
 - b. External booster pumps
 - c. Valve configurations
5. Pool Room chemicals
 - a. Storage of Chemicals – Covered containers
 - b. Unit deterioration Green copper / White powder / Rust
 - c. Chloramines – Airborne problems / Eye irritation / burning nostrils / General illness
 - d. Protective coatings – Heresite / Electro fin
 - e. Chlorine deactivator filters
6. Unit start up procedures
 - a. Desert Aire – management of job site
 - b. Expectations of installation contractor / jobsite preparation / unit inspection for damage
 - c. Expectations of CST / Completion of start-up report / payment
7. Unit set up
 - a. Tighten all electrical connections
 - b. Inspect and tighten all refrigeration valves
 - c. Adjustment of internal components / TXV / Hot gas / EEV
8. Controller set up – Carel
 - a. Unit set points



- b. Service menus – password entry
 - c. Factory configuration mode – password entry
 - d. BMS set up – configuration of controllers
 - e. Carel programs – Bacset tools
 - i. LON
 - ii. Ethernet
 - iii. MSTP
 - iv. Modbus
9. Controller set-up – Honeywell CA 2500
- a. Controller locations / sensor locations
 - b. LON connections
 - c. Programming features
 - d. Customer programming / compared to T7350
 - e. Firmware & software upgrades
10. Obsolete controls
- a. Johnson Controls – Metasys / UNT / AHU / Zone Terminals
 - i. Computer requirements
 - ii. Required software
 - iii. Required connection devices
 - b. FX Controller
 - c. CA 2300 – DigiTemp
 - d. Mercury switches
 - e. Controls by others
11. Review in detail – HPR / LC / SA
- a. Piping diagrams –
 - b. Electrical schematics
12. ROC set up
- a. Pressure switches – fan activation settings
 - b. Vertical & Horizontal installations
 - c. Lineset configurations –
 - i. Use of traps
 - ii. Adding additional oil
13. Preventative Maintenance
- a. Air filters change frequency
 - b. Belts
 - c. Coil cleaning
14. Components failures
- a. Compressor change out – Burnout / Tandem replacement
 - b. Refrigerant clean up
 - c. Evacuation / Micron levels / Multiple condensers
 - d. Reuse of refrigerant