

Design Standard

Decentralized Unitary HVAC Equipment

Purpose:

Packaged air conditioning units are an essential element of the mechanical space ventilation, cooling, and heating systems. This design standard has the purpose of creating a consistent application of packaged air conditioning unit requirements throughout the East Side Union High School District therefore achieving a standard of quality for maintenance, energy efficiency, and reliability throughout all renovation and new building projects.

Design Standard:

Design and specify work to include materials, installation, and testing of fans used for ventilation and exhaust service for a complete and operating system.

- On campuses where a central chilled water system is available, package A/C units are not preferable due to higher energy consumption and increased maintenance costs.
- Air-cooled packaged air conditioning equipment shall be equipped with low ambient cooling if systems are not provided with economizers or if systems serve a 24/7 cooling load.
- All ducted units shall have a dedicated set of minimum outside air dampers for ventilation requirements. The dampers shall be two-position, and a second set of modulating outside air dampers shall be provided, as required, for economizer operation or tracking with exhaust air.
- Rooftop package air conditioners 5 ton and larger shall be mounted on structural steel channel curbs with curb vibration isolation rails. Smaller units may be mounted on the manufacturer's prefabricated curbs.
- Where hot water is not available, a gas-fired heat exchanger shall be used. (An electric heating coil is NOT acceptable.)
- Casings shall be double-walled, with hinged access doors where available as an option.
- Units shall not be located adjacent to operable windows for classrooms or where noise exceeds the acoustical design standards for adjacent space.
- Fresh air intakes shall meet Code and ESUHSD design standards for separation from sources of odors and contaminants.

Approved Manufacturers:

- Light Commercial Package A/C Units
 - Carrier
- Commercial Package A/C Units
 - Mammoth
 - Governair
 - Petra
- Mini Split Systems
 - Carrier
- Computer Room Units
 - Liebert
 - Stulz
 - APC

Substitutes Allowed:

Yes, if performance and quality equivalency can be evidenced.

Associated Design Standards and Construction Specifications

- 23 05 29 - Hangers and Supports for HVAC Piping And Equipment Design Standard
- 23 05 48 - Vibration and Seismic Controls for HVAC Piping And Equipment Design Standard
- 23 05 53 - Identification for HVAC Piping and Equipment Design Standard
- 23 05 93 - Testing, Adjusting and Balancing Design Standard
- 23 31 00 – Ductwork Design Standard
- 23 62 00 – Refrigeration Design Standard
- Acoustical Design Standard

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