

Design Standard Air Terminal Units

Purpose:

Air terminal 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 air terminal 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 for variable air volume terminal units, including reheat central air terminals for a complete and operating system

- Variable air volume (VAV) systems shall typically be zoned so that three to five offices are ganged on a temperature sensor. Offices grouped together shall be ganged in a logical manner, such as having the same floor area, building face exposure, and similar internal loads. Corner zones shall always be independent zones not connected to any other rooms.
- VAV boxes shall have a minimum position setting for ventilation air requirements.
- Use of reheat coils shall be limited to hot water reheat coils. Utilize two row coils only where necessary to meet space temperature loads. 5/8-inch OD seamless copper tubes mechanically expanded to aluminum fins. 150 PSIG working pressure. Sweat connections.
- VAV boxes with perimeter radiation shall be sequenced from the same room temperature sensor to ensure that the systems do not “fight” each other.
- VAV boxes that are DDC type shall have factory-installed controls. Controls are to be furnished by the controls contractor.
- When multiple boxes are used to serve a single zone, all shall be controlled from a single thermostat.
- Location of all boxes shall be accessible for maintenance.
- Box controls shall be pressure independent.

Approved Manufacturers:

- Air terminal units
 - Trane
 - Titus
 - Tuttle & Bailey
 - Krueger
 - Price
 - Carnes
 - Nailor

Substitutes Allowed:

Yes, if performance and quality equivalency can be evidenced.

Associated Design Standards and Construction Specifications

- Division 23 HVAC Design Standards
- 23 05 29 - Hangers and Supports 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 09 23 – Direct Digital Control System for HVAC
- 23 09 53 - Pneumatic and Electric Control System for HVAC
- 23 31 00 – Ductwork Design Standard
- 25 50 00 – Integrated Automation Facility Controls Design Standard

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