

SECTION 23 74 00  
PACKAGED AIR CONDITIONING UNITS  
Design Standard

PART 1 GENERAL

1.1 PURPOSE

- A. 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 San Mateo County Community College District therefore achieving a standard of quality for maintenance, energy efficiency, and reliability throughout all renovation and new building projects.

PART 2 PRODUCTS

- 2.1 Design and specify work to include materials, installation, testing, and ongoing monitoring, metering and control of packaged systems used for heating, ventilation, air conditioning and exhaust service for a complete and operating system
  - A. 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.
  - B. Air-cooled packaged air conditioning equipment shall be equipped with low ambient cooling if systems are not provided with power economizers or if systems serve a 24/7 load.
  - C. All 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.
  - D. 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. Units located outdoors at Skyline College shall be corrosion proof, including their steel supports.
  - E. Where hot water is not available, a heat pump shall be prioritized over a gas-fired heat exchanger. (An electric heating coil is NOT acceptable.)
  - F. Casings shall be double-walled, with hinged access doors where available as an option.
  - G. Units shall NOT be located adjacent to operable windows for classrooms or where noise exceeds the acoustical design standards for adjacent space.
  - H. Provide all necessary interfaces required to allow full communication, control, monitoring and metering of the air conditioning units with District's Building Automation System.
  - I. All packaged units shall have refrigerant systems that meet all LEED requirements for refrigerant use with regards to ozone depletion and global warming.
  - J. Condensate shall drain to nearby landscaped areas or to catchment systems as appropriate
  - K. For all proposed fossil fuel using systems, a life cycle cost assessment of natural gas using systems and their equivalent electric alternatives should be conducted (see Section 01 81 13)

2.2 APPROVED MANUFACTURERS

A. Light Commercial Package A/C Units:

1. Carrier
2. York
3. McQuay
4. Trane

B. Commercial Package A/C Units:

1. Mammoth
2. Governair
3. Petra

C. Mini Split Systems:

1. Carrier
2. Friedrich
3. Mitsubishi
4. Sanyo
5. Daiken

D. Computer Room Units:

1. Liebert
2. Stulz
3. APC

PART 3 EXECUTION

3.1 SUBSTITUTES ALLOWED?

Yes, if performance and quality equivalency can be evidenced.

3.2 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
- 25 55 00 – Building Management and Control System (BMS)  
Acoustical Design Standard

END OF SECTION