

SECTION 15856

PACKAGED ROOF-TOP HEATING/COOLING UNITS (Information only. Not allowed without specific UCB authorization.)

PART 1 - GENERAL

1.01 SUMMARY

A. Section Includes:

1. Single Zone Packaged Roof-Top HVAC Units.
2. Central System Packaged Roof-Top HVAC Units.

B. Related Sections:

1. Section 15010 - Basic Mechanical Requirements.
2. Section 15050 - Basic Mechanical Materials and Methods.
3. Section 15885 - Air Cleaning.
4. Section 15990 - Testing, Adjusting and Balancing.
5. Section 09900 - Painting

1.02 REFERENCES

- A. Underwriters Laboratories, Inc. (UL).
- B. National Roofing Contractors Association (NRCA).
- C. American Gas Association (AGA).

1.03 SYSTEM DESCRIPTION

A. Design Requirements:

1. General:

- a. Because of problems with appearance, packaged roof-top units are not to be used without special authorization from the University staff.
- b. See UCB Standards 15010-1.05/3.
- c. Units UL Listed and carry UL Label.
- d. Gas units AGA approved specifically for outdoor installation.
Note: RTU manufacturer-specific (e.g., Carrier) gas trains and controls are not acceptable.
- e. Roof curbs to comply with National Roofing Contractors Association

requirements.

- f. Take special care to minimize sound and vibration transmissions to structure by locating units symmetrically over columns and beams.
- g. Provide adequate clearances for servicing filters and unit components.
- h. Specify a 115-volt convenience outlet on unit sized to handle a small power load or service light.
- i. On large units, specify lights with wire guards in accessible sections, factory wired to switch mounted on exterior of casing.
- j. Specify filters to be in accordance with Section 15885 - Air Cleaning.
- k. Provide complete calculations to show:
 - 1) Catalogued capacity rating of packaged unit for standard conditions.
 - 2) Correction factors that have been applied to Sensible Heat Capacity for actual entering drybulb temperature conditions.
 - 3) Actual leaving dry-bulb temperature.
 - 4) Indoor fan motor heat has been included.
 - 5) Deration of total unit capacity for 5400 feet altitude using 105F temperature for air/ entering condenser.
- l. Coordinate Painting Section 09900 to include painting HVAC Roof-Top Units an approved color if units are to be exposed to view.
- m. Specify units with "economizer" cycle with motorized fresh, return, and exhaust air dampers, automatically controlled and pre-wired at the factory.
- n. Provide low ambient control package when required by design conditions.

2. Refer to "Air Handling," Section 15850.

1.04 QUALITY ASSURANCE

- A. Manufacturer's Qualifications: Firms regularly engaged in manufacture of packaged air handling units whose products have been in satisfactory use in similar service for not less than 5 years.

PART 2 - PRODUCTS

2.01 SINGLE ZONE PACKAGED ROOF-TOP HVAC UNITS

- A. Manufacturers:

McQuay
Trane
York

2.02 CENTRAL SYSTEM PACKAGED ROOF-TOP HVAC UNITS

A. Manufacturers:

Energy Labs
Mammoth
McQuay
Pace
Temtrol
Trane
York

PART 3 - EXECUTION

3.01 APPLICATION/INSTALLATION

- A. In general, for project specifications, remove "Design Requirements" Sub-paragraph A in Part 1, paragraph 1.03 "System Description" of this Design Guide and use list to expand on specific project applications in Part 2 - Products and specific installation requirements in this Part 3 for each unit specified.

END OF SECTION