

REFRIGERANT CONDENSERS

Guide Specifications

T-Series SPLIT SYSTEM UNITS

TSA

R-410A - 60 HZ

September 5, 2012



Note: This Specification is for **Allied Commercial T-Series 6- to 20-ton, outdoor air conditioner split system (TSA)** units. Revise specification section number and title below to suit project requirements, specification practices and section content. Refer to CSI MasterFormat for other section numbers and titles.

Optional text or text requiring a decision is indicated by bolded brackets []; delete text not required in final copy of specification. Specifier Notes typically precede specification text; delete notes in final copy of specification. Trade/brand names with appropriate symbols typically are used in Specifier Notes; symbols are not used in specification text. Metric conversion, where used, is soft metric conversion.

REFRIGERANT CONDENSERS

SECTION 23 63 00

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. Split System Condensing Units

Specifier Note: Revise paragraph below to suit project requirements. Add section numbers and titles per CSI *MasterFormat* and specifier's practice.

1.2 RELATED SECTIONS

Specifier Note: Article below may be omitted when specifying manufacturer's proprietary products and recommended installation. Retain Reference Article when specifying products and installation by an industry reference standard. If retained, list standard(s) referenced in this section. Indicate issuing authority name, acronym, standard designation and title. Establish policy for indicating edition date of standard referenced. Conditions of the Contract or Division 1 References Section may establish the edition date of standards. This article does not require compliance with standard, but is merely a listing of references used. Article below should list only those industry standards referenced in this section. Retain only those reference standards to be used within the text of this Section. Add and delete as required for specific project.

1.3 REFERENCES

- A. Air-Conditioning and Refrigeration Institute (ARI):
 - 1. ARI 270-2008/370-2001 Sound Rating of Outdoor Unitary Equipment
 - 2. ARI 340/360 Commercial and Industrial Unitary Air-Conditioning and Heat Pump Equipment (ANSI approved)
- B. Servicing Standards and Codes:
 - 1. National Electric Code (NEC)
 - 2. Underwriters Laboratories (UL)
 - 3. Underwriters Laboratories of Canada® (ULC)
 - 4. Canadian Electric Code (CEC)
- C. ISO 9001, units manufactured to quality standard
- D. Meet Minimum EPACK 2005, and addendums, efficiency levels

Specifier Note: Article below should be restricted to statements describing design or performance requirements and functional (not dimensional) tolerances of a complete system. Limit descriptions to composite and operational properties required to link components of a system together and to interface with other systems.

1.4 PERFORMANCE REQUIREMENTS

- A. Condensing Unit- Single compressor [6-, 7.5-, 10-ton capacity]or Dual Compressor[10-,12.5-, 15- and 20-ton capacity]
- B. Electrical Characteristics:

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1. 60 Hz
 2. 3 phase
 3. Voltage: [208/230 V] [460 V] [575 V]

Specifier Note: Article below includes submittal of relevant data to be furnished by Contractor before, during or after construction. Coordinate this article with Architect's and Contractor's duties and responsibilities in Conditions of the Contract and Division 1 Submittal Procedures Section.

1.5 SUBMITTALS

- A. General: Submit listed submittals in accordance with Conditions of the Contract and Division 1 Submittal Procedures
- B. Product Data: Submit product data for specified products
- C. Shop Drawings:
 1. Submit shop drawings in accordance with Section [01 33 00 - Submittal Procedures]
 2. Indicate:
 - a. Equipment, piping and connections, together with valves, strainers, control assemblies, thermostatic controls, auxiliaries and hardware and recommended ancillaries which are mounted, wired and piped ready for final connection to building system, its size and recommended bypass connections
 - b. Piping, valves and fittings shipped loose showing final location in assembly
 - c. Control equipment shipped loose, showing final location in assembly
 - d. Field wiring diagrams
 - e. Dimensions, internal and external construction details, installation clearances, recommended method of installation, sizes and location of mounting bolt holes
 - f. Detailed composite wiring diagrams for control systems showing factory installed wiring and equipment on packaged equipment or required for controlling devices or ancillaries, accessories, controllers
- D. Quality Assurance:
 1. All units to be factory tested before shipping
 2. Manufacturer's Instructions: Manufacturer's installation instructions

Specifier Note: Coordinate paragraph below with Part 3 Field Quality Requirements Article herein. Retain or delete as applicable.

- E. Closeout Submittals: Submit the following:
 1. Warranty: Warranty documents specified herein
 2. Operation and Maintenance Data: Operation and maintenance data for installed products in accordance with Division 1 Closeout Submittals (Maintenance Data and Operation Data) Section. Include methods for maintaining installed products and precautions against cleaning materials and methods detrimental to finishes and performance. Include names and addresses of spare part suppliers
 3. Provide brief description of unit, with details of function, operation, control and component service
 4. Commissioning Report: Submit commissioning reports, report forms and schematics in accordance with Section [01 81 00 – Commissioning]

1.6 QUALITY ASSURANCE

- A. Qualifications:
 - 1. Installer experienced in performing work of this section who has specialized in installation of work similar to that required for this project
 - 2. Manufacturer Qualifications: Manufacturer capable of providing field service representation during construction and approving application method
- B. Preinstallation Meetings: Conduct preinstallation meeting to verify project requirements, manufacturer's installation instructions and manufacturer's warranty requirements. Comply with Division 1 Project Management and Coordination (Project Meetings).

1.7 DELIVERY, STORAGE & HANDLING

- A. General: Comply with Division 1 Product Requirements
- B. Ordering: Comply with manufacturer's ordering instructions and lead time requirements to avoid construction delays
- C. Packing, Shipping, Handling and Delivery:
 - 1. Deliver materials in manufacturer's original, unopened, undamaged containers with identification labels intact
 - 2. Ship, handle and unload units according to manufacturer's instructions
- D. Storage and Protection:
 - 1. Store materials protected from exposure to harmful weather conditions
 - 2. Factory shipping covers to remain in place until installation

Specifier Note: Coordinate article below with Conditions of the Contract and with Division 1 Closeout Submittals (Warranty).

1.8 WARRANTY

- A. Project Warranty: Refer to Conditions of the Contract for project warranty provisions
- B. Manufacturer's Warranty: Submit, for Owner's acceptance, manufacturer's standard warranty document executed by authorized company official. Manufacturer's warranty is in addition to, and not a limitation of, other rights Owner may have under Contract Documents.

Specifier Note: Coordinate paragraph below with manufacturer's warranty requirements.

- C. Warranty Bond: Commencing on Date of Installation
 - 1. Compressor: 5 year limited (nonresidential applications)
 - 2. Other Covered Components: 1 year limited (nonresidential applications)

PART 2 - PRODUCTS

Specifier Note: Retain article below for proprietary method specification. Add product attributes, performance characteristics, material standards and descriptions as applicable. Use of such phrases as "or equal" or "or approved equal" or similar phrases may cause ambiguity in specifications. Such phrases require verification (procedural, legal and regulatory) and assignment of responsibility for determining

“or equal” products.

2.1 OUTDOOR CONDENSING UNITS

- A. Manufacturer: Lennox Industries
 - 1. Contact: 215 Metropolitan Drive, West Columbia, SC 29170
 - 2. Web site: www.allied-commercial.com
- B. Proprietary Products/Systems: TSA units, including the following equipment:
 - 1. Cabinet:
 - a. Galvanized steel
 - b. Based rails with fork slots both sides
 - c. Pre-painted finish
 - d. Refrigerant line connections to be located outside the unit
 - e. Control access
 - f. All controls factory wired
 - 2. Compressor:
 - a. Scroll Type
 - b. Resiliently mounted on rubber mounts for vibration isolation
 - c. Overload protected
 - d. Internal excessive current and temperature protection
 - e. Crankcase heater
 - f. 1 or 2 single stage compressor(s) per unit
 - 3. Refrigerant System
 - a. General
 - 1. Refrigerant: R410-A
 - 2. Fully serviceable liquid and suction line service valves
 - 3. Gauge ports
 - b. Refrigerant System (large):
 - 1. High pressure switch
 - 2. Loss of charge (low pressure) switch
 - 3. Hi-capacity driers
 - 4. Outdoor Coil(s):
 - a. Aluminum rippled and/or lanced fins
 - b. Copper tube construction
 - c. Aluminum fins to be mechanically bonded to copper tubes
 - d. All coils to be high pressure leak tested at factory
 - e. [Coating option for corrosion protection]
 - 5. Outdoor Coil Fans/Air Mover:
 - a. Direct drive, propeller type fan(s)
 - b. Totally enclosed fan motors with rain shield
 - c. PVC coated steel fan guards
 - d. Fan service by removal of fan guard
 - 6. Controls
 - a. Low Ambient Operation, down to 30 °F
 - 7. [Field Installed Options/Accessories]:
 - a. Outdoor Coils:
 - 1. [Hail Guards: heavy duty metal mesh enclosures]

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2. [Coil Guards]
 - b. Controls
 1. [Low Ambient Control, down to 0 °F]

2.2 PRODUCT SUBSTITUTIONS

- A. Substitutions: No substitutions permitted

PART 3 - EXECUTION

3.1 MANUFACTURER'S INSTRUCTIONS

Specifier Note: Revise article below to suit project requirements and specifier's practice.

- A. Compliance: Comply with manufacturer's written data, including product technical bulletins, product catalog installation instructions and product carton installation instructions.

3.2 EXAMINATION

- A. Site Verification of Conditions: Verify substrate conditions, which have been previously installed under other sections, are acceptable for product installation in accordance with manufacturer's instructions.

3.3 INSTALLATION

- A. Install Condensing Units in accordance with manufacturer's instructions and regulations of authorities having jurisdiction.

END OF SECTION