



# PRODUCT BULLETIN

TPB-4010-01-A-1 July 30, 2019

## TVS/D CONDENSING UNITS: GENERAL SPECIFICATIONS

*Features single or dual compressor(s) and a vertical discharge air-cooled condenser that is suitable for large walk-in coolers and freezers, blast freezers, warehouse applications and spaces where roof mounted condensers are most practical*



### 1. General:

The packaged refrigeration systems are cULus Approved and designed as an Outdoor Unit. This unit includes the outdoor weather housing, compressor and condenser systems and electrical control panels, all housed within a single assembly. All of the component parts, options and accessories will be provided, mounted, piped and wired, as required by the manufacturer. The Unit is compatible with all Low GWP Refrigerants. The systems can be configured with a single or dual compressor setup.

### 2. Enclosure:

Condensing unit shall be equipped with a base frame made from 12 gauge G90 galvanized steel. A 16 gauge G90 galvanized steel weather-resistant housing surrounds the compressor compartment and condenser section. All fixed external fasteners shall be zinc plated huck-bolts. All components of the enclosure shall be assembled and cleaned.

### 3. Compressors and Condenser Systems:

All compressors shall be Copeland semi-hermetic or Bitzer semi-hermetic; and operate using all compatible with low GWP refrigerants as required. Each Compressor shall be filled with refrigerant compatible refrigeration oil by the compressor manufacturer. All compressors will utilize a crankcase heater powered from the control circuit through a normally closed auxiliary switch.

Compressor low and high-pressure safety and operating controls to be automatic reset and fully adjustable type. Condensing units with two (2) or more condenser fans in length shall be equipped with a pressure fan cycling switch.

All fan sections are individually baffled with full height partitions and clean-out covers. Coils are constructed with Thermospan™ Coil Design using high-efficiency sine wave aluminum fin 0.0055" thickness mechanically bonded to seamless copper tubing. Internally enhanced copper is 0.375" OD on 1-3 fan long models and 0.500" OD on 4 fan long models. One-fan wide models are standard with one single refrigeration circuit. Two-fan wide models are standard with two-equal refrigeration circuits. A liquid sub-cooling circuit is standard on all L6, L8 & M8 models.

All fan motors are permanently lubricated direct drive with male electrical plug and moisture slinger available in 1140 RPM or electronically commutated (EC) variants. Motors are mounted to 12 gauge rails spanning each fan section.

Fans are mill finish aluminum swept wing with powder-coated steel spider and zinc plated hub with keyway. Fan guards are PVC coated steel wire using 0.125" dia rings and 0.250" dia support rods. PVC coating meets UL Standard 1332

## **TVS/D CONDENSING UNITS: GENERAL SPECIFICATIONS (cont'd)**

### **4. Refrigeration Piping:**

All condensing units shall include a horizontal receiver tank suitably sized for the refrigeration system's refrigerant charge. Receivers will be provided with pressure relief and, at its inlet and outlet, an isolation valve with a service port. Adjustable and/or no flooding head pressure control may be provided as required. All internal refrigeration piping shall be refrigerant grade copper tubing and held in place with protective clamps. The condenser shall be tested for leaks at a minimum pressure of 450 pounds per square inch/gauge (psig).

### **5. Control Panel:**

Electrical control panels are resistant to water ingress and secured with a locking latch. A job-specific wiring diagram of the refrigeration system shall be permanently affixed to the inside of the control panel. All internal wiring shall be individually numbered. The wire numbers shall be shown on the wiring diagram. All overcurrent protection shall be accomplished with CC Class and/or J Class fuses as applicable. A fused 230V control circuit for all internal controls shall be provided by the use of a transformer where required.

### **Additional Resources:**

#### **Products Affected:**

TVS/D Condensing Units: <https://t-rp.com/tv>

#### **Affected Products Documentation:**

TVS/D Product Data and Specifications: <https://docs.t-rp.com/1073951.pdf>

Condensing Unit Installation and Maintenance: <https://docs.t-rp.com/1068156.pdf>

#### **Related Product Specialist Group:**

Medium/Large Condensing Units: [mDCU-lgcu@t-rp.com](mailto:mDCU-lgcu@t-rp.com) 1-844-893-3222 ext. 522

### **Additional Resources:**

Trenton Refrigeration website: <https://t-rp.com>

Trenton Refrigeration Condensing Units page: <https://t-rp.com/product-category/condensing-units>

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