



**T-SERIES: TP200-600 SPECS**  
**Tip Up, One Piece Canopy Door System**

**CONSULT MANUFACTURER FOR ADDITIONAL OPTIONS OR MODIFICATIONS**

**PART 1 – GENERAL**

**1.1 SCOPE OF WORK**

- A. Provide one-piece Tip-Up Canopy door including all necessary components, unless otherwise specified. The door, when fully opened, shall provide minimum unobstructed openings xx wide and xx high.
- B. Includes the door section, side tracks, top guide tracks, side and top rollers, sill locks, counterweight guide tower, counterweight enclosure, cables, sheaves and related hardware, electric power operator and controls and weatherstripping. All steel is prime painted.
- C. Work by others includes exterior and interior sheeting, insulation, electric power supply to each door and field wiring between operator, control panel, push button station and limit switches, counterweight material, concrete and finish paint.

**1.2 DESIGN CRITERIA**

- A. Design Criteria: Doors shall be designed to withstand external horizontal wind loads of 25 pounds per square foot in the closed position and designed to operate in a maximum wind load of 5 psf.

**1.3 SUBMITTALS**

- A. Design and submittal drawings shall be approved by the architect prior to hangar door fabrication.
- B. Operation and maintenance manual shall be furnished to the owner.

**1.4 DELIVERY, STORAGE AND PLANNING**

- A. Store delivered materials and equipment in dry locations with adequate ventilation, free from dust and water, so as to permit access for inspection and handling.
- B. Handle materials carefully to prevent damage.

**1.5 WARRANTY**

- A. The door manufacturer shall provide a written guarantee against all defects in material and workmanship for a period of three (3) years from the date of acceptance.
- B. (Option) A five (5) year warranty.

## PART 2 – PRODUCTS

### 2.1 MANUFACTURER

- A. One-piece Tip-Up Canopy door shall be as manufactured by Door Engineering and Manufacturing, 400 Cherry Street, Kasota, MN 56050. Telephone: 800-959-1352 or 507-931-6910.

### 2.2 MATERIALS

- A. All door section framing members, both vertical and horizontal, shall be hot rolled standard structural steel sections equal to or exceeding ASTM A-36 and comply with AISC specifications. Cold formed “C”, “Z” shapes may be used for grits or bracing.
- B. Door section construction. Door shall be fabricated in size convenient for shipping and shall be of bolted and/or welded construction. Framing members shall be true to dimension and square in all directions. Diagonal bracing shall be provided so that the completed door assembly will be adequately braced to withstand operational loads.
- C. Weatherseals on vertical edges, sill and head all attached at the factory. Vertical weatherseals are a bulb type sheet rubber EPDM (Ethylene, Propylene, Diene, Terpolymer) with a resilient urethane foam core. Sill weatherseals are a tear-drop design. Head weatherseals are flap type sheet rubber EPDM (Ethylene, Propylene, Diene, Terpolymer). All weatherseals are shall be retained with full length binding strips attached with rust resistant fasteners.
- D. Hardware. Wire rope to be IWRC, 6x37; sheaves with roller bearings. Counterweight enclosure to support vertical counterweight load from floor and be enclosed to a height of at least 8 feet. Curved top tracks shall be supplied on top of the door with a self aligning top roller assembly. Provide straight side tracks on each side jamb. Sill locks shall be bolted to the concrete floor under the door for the closed door wind load.

### 2.3 OPERATING SYSTEM

- A. The door, suspended on cables, shall be guided at the jambs by vertically rising rollers and at the top by rollers engaged in curved tracks. The opening vertical rise movement shall be followed by a simultaneous tilting and rising motion to the horizontal full open position with the bottom portion of door projecting outside to form a canopy.

### 2.4 ELECTRIC OPERATOR

- A. Shall consist of a floor mounted motor and gear reducer at the counterweight enclosure. Provide for manual operation in case of power failure. Operator installed at the base of counterweight tower shall drive counterweight through a double-reduction chain drive. Door shall open and close at approximately ½ foot per second. Electric power shall be, 230/460 VAC, 60 Hz, three phase.

### 2.5 ELECTRIC CONTROLS

- A. Controls shall be furnished by the door manufacturer in accordance with the latest NEMA standards. Control circuits shall not exceed a nominal 110 volts.
- B. Electric controls above 18 inches and within two (2) feet of the wall or door shall be standard NEMA 4; under 18 inches shall be explosion-proof.
- C. Motor starters, which shall be magnetic reversing, factory wired with overload and under voltage protection, and equipped with mechanical interlocks; and transformers for the control circuits, shall be enclosed in one enclosure with a wiring diagram placed on the inside of the cover.

- D. Pushbuttons shall be marked “OPEN”, “CLOSE” and “STOP”.

Opening: Press “OPEN” button and release. Door will continue to move until stopped by a limit switch or operator pressed the “STOP” button.

Closing: Press “CLOSE” button. Door will continue to move until stopped by a limit switch or operator releases the “CLOSE” button. Constant pressure is required.

Stopping: Press “STOP” button to stop door in any position while opening. Door can be opened or closed from any position.

- E. Field power supply and control wiring shall be specified, supplied and installed under the electric section. Electric controls shall be furnished by the door manufacturer.

### PART 3 – EXECUTION

#### 3.1 PAINTING

- A. Clean all steel surfaces after fabrication. Steel surfaces painted with manufacturer’s structural primer.

#### 3.2 INSTALLATION

- A. Installation of the doors shall be in strict accordance with the approved drawings by skilled and competent mechanics. All door openings, roof and floor shall be completely installed prior to the installation of the door. Permanent or temporary electric wiring shall be brought to the door opening before installation is started.
- B. Door shall be set plumb, level and square, and with all parts properly fastened, mounted, etc. All moving parts shall be tested and adjusted and left in good operating condition.

#### 3.3 ADJUSTING AND CLEANING

- A. Inspection of the doors and complete opening test will be made by the installer in the presence of the general contractor or architect as soon as the erection is complete. Any defects noted shall be corrected. After door approval in the above test, the general contractor must assume the responsibility for any damage or rough handling of the doors during construction until the building is turned over to the owner and final inspection is made.
- B. Clean surfaces and repaint abraded or damaged primed surfaces to match factory-applied finish.

END OF SECTION