**Architectural Specification**

**Section 11 14 00 – Pedestrian Control Equipment (Gates/Turnstiles)**

**PART 1- GENERAL**

* 1. **SECTION INCLUDES**
1. This section covers the furnishing and installation of a tandem full height security turnstile including components and accessories.
2. For further information including project-specific specification writing assistance, contact Hayward Turnstiles at 203-647-9144 or email sales@haywardts.com
	1. **RELATED SECTIONS**
3. 10450 – Pedestrian Control Devices.
4. Section 08400 - Entrances and Storefronts.
	1. **Quality Assurance**
5. Manufacturer shall be a US-based company specializing in the manufacture of security turnstiles for a minimum of 10 years.
6. Steel used in the construction of security turnstiles shall be US-sourced.
7. Installer shall have at least one year’s experience installing security turnstiles and/or shall have direct authorization from manufacturer to install security turnstiles.
	1. **SUBMITTALS**
8. Submit manufacturer’s descriptive literature for equipment specified including finish, components, and options.
9. Provide site-specific shop drawings upon request.
10. Provide installation and operation manuals.
	1. **DELIVERY, STORAGE AND HANDLING**
11. Store products of this section in manufacturer’s unopened packaging until installation.
12. Store off ground, under cover, protected from weather and construction activities.
	1. **Project Site Conditions**
13. Install the HT431T on a level concrete pad.
	1. **WARRANTY**
14. Hayward Turnstiles warranties its products against defects in material and workmanship for a period of one (1) year from the date of invoicing. The warranty covers defects in materials and workmanship. Obtain full warranty terms from Hayward Turnstiles.

**PART 2 PRODUCTS**

* 1. **MANUFACTURER**
1. Acceptable Manufacturer:

Hayward Turnstiles Inc.

160A Wampus Lane, Milford, CT USA 06460

Phone: 203-647-9147 Email: sales@haywardts.com

www.haywardturnstiles.com

**2.02 PRODUCT**

1. **HT431T Tandem Full Height Security Turnstile**: no substitutions.
2. **Dimensions:** Height 89 3/8**”**

Width 96”

 Depth 56 5/8”

**2.03 CONSTRUCTION**

1. **Self-Centering and Self-Adjusting Speed Control Mechanism**:The turnstile shall feature the Hayward Turnstiles Automatic Rotational Control (ARC) Mechanism. The main mechanism components shall be precision cut by laser from corrosion resistant 304 stainless steel. The mechanism shall feature a self-adjusting speed control mechanism that automatically increases or decreases resistance based on the user's pushing force. It shall include a controlled self-centering system that returns the rotor to its "home" position after each rotation. Self-centering shall be precisely regulated to prevent uncontrolled spinning. When the locking arms are disengaged, the rotor shall permit only a single rotation per actuation, even if spun forcefully. The speed control module used shall have a service life of 10 million cycles minimum. All pivot shafts to be made from stainless steel and surrounded by bearings or permanently lubricated oil impregnated bronze bushings. A mechanism that self-centers through spinning without continuous self-adjustments and settling is not acceptable.
2. **Top Channel:**is fabricated from 10-gauge steel. All electrical and mechanical components are attached to the channel. The channel and operating mechanism are covered by a 16-gauge 304 stainless steel cover with a brushed finish.
3. **Rotor (rotating) Assembly**: consists of a one piece center post fabricated from 3” diameter, 1/8” wall steel tube with twelve rows of 1-1/2” diameter 14 gauge steel arms which are welded to the center rotor post. Each rotor section is set at a position 120 degrees apart from one another. Construction material is carbon steel and galvanized and/or powder coated. Rotors that are bolted together instead of fully welded are not acceptable.
4. **Stationary Barrier Assemblies (straight, fixed arms):** fabricated using 2”x3”x.083” steel vertical posts with 6 horizontal 1 ½” diameter 14 gage steel arms welded perpendicularly to the post. The assembly consists of 2 barrier posts and twelve arms welded and equally spaced at an offset to the rotor assembly. Construction material is carbon steel and galvanized and/or powder coated. Stationary barrier assemblies that are bolted to the turnstile instead of fully-welded are not acceptable.
5. **Yoke (angled/curved) Assembly:** The yoke is a fully welded 2 piece assembly consisting of 8 vertical steel tubes (1-1/2” diameter .083 wall) welded upper and lower horizontal steel tubes (2” square .083 wall) formed at an angle to comfortably follow the rotor movement allowing for comfortable patron access.
6. **Bottom Bearing Assembly:** tapered roller bearing. The bearing sits on a 2-3/8” diameter stainless steel floor mount base. The base attaches to the floor with a single anchor bolt through the center.

**2.04 TURNSTILE OPERATION***(NOTE TO SPECIFIER: Select the operation mode desired)*

1. **One-way mechanical operation:** utilizes a ratchet assembly to ensure the turnstile rotor only spins in one direction. Best for one-way traffic enforcement. No electricity required.
2. **Two-way mechanical operation:** allows for free passage in both directions. No electricity required.
3. **Electric operation:** utilizes a 24 VDC pull solenoid and electronic interface PC board with timeout feature, capable of controlling one direction of traffic through an access control device (card reader, RFID, push button, biometric reader, etc.). The timeout feature is used for automatic relocking of the turnstile if entry is not completed. Best for integration with access control software and credential readers to allow single-entrant passage per successful credential.

**2.05 FACTORY TESTING**

1. Product shall be tested at the factory prior to shipment.
2. Product finishes shall be inspected and touched up prior to shipment.

**2.06 FINISH***(NOTE TO SPECIFIER: Select the finish desired)*

1. **Hot-Dip Galvanized**: All exterior components, except the top channel cover and top and bottom bearing covers (which are to be stainless steel) are to be hot-dip galvanized. Electro-galvanizing is not acceptable. For interior and exterior installations.
2. **Powder Coated:** All exterior components, except the top channel cover and top and bottom bearing covers (which are to be stainless steel, are to be painted in a powder coat color specified by the project requirements. For interior installations.
3. **Powder Coated over Galvanized:** All exterior components, except the top channel cover and top and bottom bearing covers (which are to be stainless steel, are to be hot-dipped galvanized and then painted in a powder coat color specified by the project requirements. For exterior installations.

**2.07 Available Options:** All full height turnstiles available clockwise, counterclockwise, or bi-directional passage.
*(NOTE TO SPECIFIER: The following options are available. Delete or use the following as desired)*

1. **Lane Status Indicator Lights:** Highly visible red and green LED lane status indicator lights are flush installed in the turnstile top channel over the passage lane. Red light illuminates when the turnstile lane is locked and green light illuminates when the turnstile lane is unlocked. Only available with electronic operation turnstiles.
2. **Card Reader Mounting Plate**: Plates that allow for mounting of reader devices directly to turnstile frame.
3. **Heavy Duty Out of Service Lock:** Completely locks down the turnstile with a bar and padlock assembly.
4. **Safety Sleeves:** industrial grade PVC arm sleeves to protect patrons from injury and soften impact with steel arms for comfortable passage. Safety sleeves also shield patrons from extremes in metal turnstile arm temperatures due to installation site climate and sun exposure.
5. **Key Override:** Key cylinders installed in the bottom side of the top channel; one for each direction of operation. Used to allow the operating technician to override the regular locking and unlocking functionality of the turnstile (whether manual or electric) and unlock one or both directions of the turnstile.
6. **Home Position Switch:** Allows access control system to identify when turnstile is at rest in its home position.
7. **Integrated Full Canopy:** Stainless steel canopy covers footprint of turnstile and prevents climb over.
8. **Half Canopy:** Stainless Steel half canopy provides cover for passageway.
9. **Cold Weather Package:** Low profile heating element installed in the top channel to provide warmth to the turnstile mechanism in colder climates.
10. **Additional Options Available Upon Request**

**PART 3 EXECUTION**

**3.01 SITE EXAMINATION**

1. **Inspection:** Installer must examine the installation location and advise the Contractor of any site conditions inconsistent with proper installation of the product. Installation shall not begin until unacceptable conditions are rectified. Turnstile must be installed on a level concrete pad.
2. **Installation:** Install turnstiles in accordance with manufacturer’s instructions.
3. **Adjustment:** Installer shall adjust turnstiles for proper performance after installation.

***Note: this specification includes recommended options. Hayward Turnstiles, Inc. reserves the right to change this specification at any time without notice. Hayward Turnstiles, Inc. is not responsible for errors or omissions****.*