

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Motorized optical turnstiles with swing glass barriers.

1.3 RELATED DOCUMENTS

- A. Coordinate pedestrian control devices with security access system requirements.

1.4 SYSTEM DESCRIPTION

- A. Optical turnstiles consist of pedestals placed in a parallel arrangement to create bi-directional lanes. Integrated with these lanes is an access control system (provided and installed by others) devised to regulate and monitor entrance/exit, access levels, and time schedules. Barrier arm optical turnstiles incorporate a physical barrier designed to be an additional deterrent to unauthorized access and is configured to allow one person at a time to pass thru the security lane, thereby reducing possibilities of tailgating and unauthorized entry. Handicapped lanes shall provide ADA code compliant access accommodations for wheelchairs.

1.5 SUBMITTALS

- A. Product Data: For each type of product indicated.
- B. CSA Certification to UL 325 Certificates
- C. Shop Drawings: Include plans, elevations, sections, details, and attachments to other work. Detail equipment assemblies and indicate dimensions, required clearances, method of field assembly, components, and location and size of each field connection.
 - 1. Wiring Diagrams: Power, signal, and control wiring.
- D. Qualification Data: For Installer.
- E. Field quality-control test reports.
- F. Operation and Maintenance Data.

1.6 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.

1.7 COORDINATION

- A. Coordinate installation of anchorages for pedestrian control equipment. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- B. Electrical System Roughing-in: Coordinate layout and installation of pedestrian control devices with connections to power supplies and security access control system.

PART 2 - PRODUCTS

2.1 MANUFACTURER

A. The optical barrier arm turnstiles shall be of a proprietary design supplied by GUNNEBO ENTRANCE CONTROL, Inc, Benicia, California.

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2.2 TURNSTILES

A. General: Provide turnstiles consisting of operator and controller housed in cabinet enclosure with restrictive glass barrier panels. Device shall be activated by a signal from optical access control device.

Models: OptiStile 720 Motorized Optical Turnstiles with Swing Glass Barriers:

- a. Model OS720FL: Turnstile First Lane - electrically controlled in both directions.
- b. Model OS720NL: Turnstile Next Lane - electrically controlled in both directions.
2. All turnstiles to meet **ADA** (Americans with Disabilities Act) requirements
3. All turnstiles to be **CSA / UL 325** Certified. (Must provide Certificates)
4. Drive Mechanism:
 - a. Passage swing glass barriers electronically controlled in both directions, via direct drive intelligent positioning (DDIP) induction sensor control motor.
 - b. The opening and closing speeds of the barriers are generally not adjustable, but exceptions can be made. Safety photocell prevents the barriers from closing upon an obstruction. Should the normal barrier operation be stopped by an obstruction, the controlling logic detects an abnormal condition and generates an alarm if the obstruction is not cleared.
5. Method of Operation: On receiving a signal from the access control system, or remote control device, the barriers will open for the direction given. If an unauthorized person tries to tailgate or attempts to enter from the opposite direction, the system detects the unauthorized passage and activates the built-in alarm system.
 - a. The turnstiles shall, without significant modification, accept mode selection from a remote source. In addition to these functions, turnstiles shall have automatic resetting of alarms and shall be capable of providing remote access to authorized persons not in possession of a valid access card.
6. LED Status Lights: 1.97" (50mm) diameter LED display Status Lights flush mounted within the turnstile top or front face. The Green badge symbol is continuously illuminated indicating passage is available. Upon authorization a Green Arrow will illuminate in the direction of passage authorization while in the opposite direction a Red cross symbol will illuminate to indicate the unit is not available for use or is already in use.

7. Power Failure: In the event of a power failure the unit will be totally de-energized and glass barrier panels will release. The barriers can be pushed to the open position.
 8. Fire Alarm: Input facility is available for voltage free N/C contact supplied by others to effect fail state.
 9. Power Supply: 120V AC 60Hz (50Hz available) the circuit is fed via a remote mounted step down transformer supplied with the unit.
 10. Power Rating:
 - a. Stand by or passage use: 10VA / 300VA
 11. Logic Voltage: 24V DC.
 12. Installation Details: The turnstile pedestals are delivered as fully assembled units and may require lifting gear to off load.
 13. Approximate Weight:
 - a. First Lane 242lb per pedestal.
 - b. Next Lane 286lb per pedestal.
- B. Cardreader Mounting:
1. Integration of Access Control Readers into turnstile Top or Front inlays.
 - a. Process is achieved using Gunnebo Entrance Control's standard 4" x 9" card reader inlay with "present card symbol". Inlay to include LED status light pictogram flush mounted into the turnstile lid or turnstile end panels as chosen by the client.
- C. Push Button Control:
1. Simple console to control OptiStile barrier release.
 2. Remote console to specific requirements.
- D. Additional Interface:
1. RS 485 Serial Interface
- E. Traffic Flow Control:
1. LED Way Mode Indicator - Switching Red cross and Green arrow to indicate the unit is available for use
 2. Remote switching of unit for Traffic Flow.

2.3 TURNSTILE SYSTEM COMPONENTS

- A. Unit Dimensions:
1. Casework Length:
 - a. OptiStile 720: 48" (1219 mm)
 2. Casework Height: 38" (965mm)
 3. Casework Width: 6.5" (165mm)
 4. Barriers: 10mm Thick Tempered Glass
- B. Drive: Motorized

C. Function:

- a. The turnstiles shall include the following operating modes as standard:
 1. **Purely Optical (Always Open)** - The barrier glass panels are not used, and alarms will signal unauthorized access attempts or tailgating.
 2. **Full Time Barrier (Normally Closed)** – The barriers remain closed until a valid card is presented. Tailgaters and unauthorized entries are signaled by an alarm tone. If an unauthorized card is presented, the lanes will remain closed to prevent the user from proceeding further without intervention.
 3. **Pop-Out (Normally Open)** – The barriers remain retracted unless there is an invalid transaction attempted. The barriers never pop out for free exit transactions. Tailgaters are still singled out with an alarm condition that includes, a partial “Pop-out” of the barriers to 30 degrees. After a short pause, the barriers then move to a full closed position until the lanes alarm condition is cleared or reset.

2.4 STANDARD FINISHES

A. Materials:

1. Top: Brushed #4 grained stainless steel
2. Front: Brushed #4 grained stainless steel
3. Barrier Housing: Brushed #4 grained stainless steel and tempered glass center section
4. Barriers: 10mm Thick Tempered Glass
5. Plinth: Mild steel with brushed #4 stainless steel finish

2.5 OPTIONAL FINISHES

- A. Lids: Granite, Marble, Wood, Glass, Corian or other solid surface materials
- B. Housings: Mirror polished stainless steel, Brushed brass,
- C. End Panels: Mirror polished stainless steel, Brushed brass,
- D. Swing Glass Barriers: Bead-blasted, logo etching, various glass colors
- E. Other detailed finishes as requested by client, architects etc.

2.6 OPTIONAL PRODUCTS

A. **Human Machine Interface (HMI):** Software Based - Touchscreen Lane Controller

- a. The HMI shall show operation of lane and allow directional control of each lane. The panel shall display the operating mode of each lane and include visual annunciation of all lane activity and status including:
 1. Lane open/closed
 2. Lane direction
 3. Lane alarm
 4. Reset
 5. Free Exit
 6. All turnstile counts (tailgating, enter / exit, free entry, alarms etc)
 7. Input / Output Diagnostic
- b. Mount the HMI less than 75 feet from labeled pedestal #1.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements for installation tolerances, critical dimensions, and other conditions affecting performance.
- B. Examine roughing-in for electrical systems to verify actual locations of connections before parking control equipment installation.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Concrete Bases for Pedestrian Control Devices: Place cast-in-place concrete, made of not less than 3000-psi compressive strength (28 days), dimensioned and reinforced according to manufacturer's written instructions and as indicated on Drawings.

3.3 INSTALLATION

- A. Install turnstile units in accordance with manufacturer's written instructions and in compliance with approved shop drawings.

3.4 FIELD QUALITY CONTROL

- A. Gunnebo Technician to assist with wire terminations, commissioning and testing of turnstiles on-site, upon installation of turnstiles at client's location. All reports should be in writing and copy provided to integrator end user.

3.5 ADJUSTING AND CLEANING

- A. Adjust pedestrian control devices to operate smoothly, easily, and properly. Confirm that locks engage accurately and securely without forcing or binding.
- B. After completing installation of exposed, factory-finished pedestrian control equipment, inspect exposed finishes and repair damaged finishes.

3.6 DEMONSTRATION / Training

- A. Gunnebo technician to provide training to Owner's maintenance personnel to adjust, operate, and maintain pedestrian control equipment.

******* GUNNEBO ENTRANCE CONTROL IS AVAILABLE FOR ANY CUSTOM FINISH REQUIREMENTS, SPECIALISED CARD READER / BIOMETRIC READER CUSTOMIZATION AND OTHER CUSTOM PRODUCT CHANGES AS PER REQUESTED BY THE CLIENT *******

For additional information please contact:

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