

TRS372

AUTOMATIC
SYSTEMS

Engineering Specifications
NAM-TRS372-ES-EN-F

Full-Height Turnstile Double Passageway



Engineering Specifications

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ENGINEERING SPECIFICATIONS

TRS372 Full-Height Turnstile – Double Passageway

SECTION 08 42 00 – Entrances

SECTION 11 14 00 – Pedestrian Control Equipment

PART I – GENERAL

1.01 SECTION INCLUDES

This section covers the furnishing and installation of a Full-height turnstile for pedestrian access control.

1.02 REFERENCES

- A. The Full-height turnstile must be certified by a recognized laboratory according to UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
- B. The Full-height turnstile must be certified by a recognized laboratory according to CAN / CSA - C22.2 no. 247-92 (R 2008) – Standards for Operators and Systems of Doors, Gates, Draperies, and Louvers.

1.03 SYSTEM REQUIREMENTS

- A. The pedestrian full-height turnstile must control and be able to restrict pedestrian traffic between secured and unsecured areas.
- B. Must feature normally closed full-height rotating obstacle to securely block the pedestrian's path and prevent access in restricted areas without authorization.
- C. Must be manually operated and bidirectional, allowing traffic in both directions. Each direction must be independently configurable in one of three (3) states:
 - 1. Free: all persons are authorized to pass under all conditions,
 - 2. Controlled: each person must present a valid means of authentication to the reader before being authorized to pass,
 - 3. Locked: no one is authorized to pass, and authentication means are ignored.
- D. Must use the access control system to grant or deny access to the facility and operate with a variety of user authentication devices such as card reader devices, ticketing systems or barcode reader systems.
- E. Must be designed to guarantee user safety and ease of passage.
- F. Design of the unit must provide visual notifications for intuitive process.
- G. Must be suitable for outdoor installations.

1.04 SUBMITTALS

- A. Submit product specifications: equipment description, dimensions, electrical wiring diagrams for installation, and manufacturer's technical manuals on each product to be used, including:
 - 1. Site preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation recommendations.
 - 4. Operation and maintenance manuals.
- B. Provide shop drawings and indicate component connections, anchoring methods and installation details.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Deliver equipment to the job site in manufacturer's packaging undamaged, and with complete installation instructions.
- B. Store indoors in a controlled environment, protected from construction activities and debris.

1.06 PROJECT/SITE CONDITIONS

- A. Install full-height turnstile on leveled, finished floor.

1.07 QUALITY ASSURANCE

- A. The full-height turnstile units must be assembled in North America.
- B. Manufacturer's Qualifications:
 - 1. Manufacturer must be specialized in designing and manufacturing of full-height turnstiles with a proven minimum experience of ten (10) years.
- C. Source Limitations: obtain the Full-Height Turnstiles from Automatic Systems.

1.08 WARRANTY

- A. Automatic Systems warrants its products against parts defects for a period of two (2) years from the date of invoicing. This warranty excludes normal wear on finishes or damage that occurs due to abuse or misuse. Obtain full warranty terms from Automatic Systems.

PART II – PRODUCTS

2.01 MANUFACTURER

- A. Manufacturer: subject to compliance with requirements, provide products by the following
 - 1. AUTOMATIC SYSTEMS AMERICA INC., 4005 Matte Boulevard, Unit D, Brossard, Quebec, J4Y 2P4, CANADA
Phone : 800 263 6548
Fax : 450 659 0966
Homepage : <https://www.automatic-systems.ca> / <https://www.automatic-systems.us>
E-mail : sales@automatic-systems.com
- B. Products:
 - 1. Full-Height Turnstile, Model TRS372

2.02 CONSTRUCTION

- A. Frame
 - 1. Galvanized steel structure with two (2) coats of pale gray paint RAL 7038.
- B. Mechanism housing
 - 1. Steel treated by electro-coating with 2 coats of pale gray paint RAL 7038,
 - 2. Must be designed with a diamond point roof for evacuation of water,
 - 3. Doors must be key-locked.
- C. Rotating obstacle

*** NOTE TO SPECIFIER ** Select and retain one (1) of the following two (2) subparagraphs that is appropriate to this project.*

- 1. *[Steel treated by electro-coating with 2 coats of pale gray paint RAL 7038],*
 - 2. *[Brushed stainless steel type AISI 304].*
- D. Enclosure
 - 1. Design of the unit's enclosure must ensure an IP 43 degree of protection.

2.03 DIMENSIONS

- A. Lane width:
 - 1. Double passageway
 - 2. 2 x 25 ¼ in (2 x 640 mm)
- B. Dimensions:
 - 1. Length maximum: 94 ½ in (1540 mm)
 - 2. Height maximum: 90 1/8 in (2289.5 mm)
 - 3. Width maximum: 54 in (1370 mm)

2.04 OPERATION

- A. The unit must be manually operated in both directions
- B. Normal operation (available for "Controlled" operating mode):
 - 1. In standby position, the passageway must be securely blocked by means of a mechanically locked rotating obstacle.
 - 2. Upon receipt of an opening pulse from the access control system, the mechanism must unlock, consequently the user can manually operate the rotating obstacle in the authorized direction.
 - 3. The rotating obstacle immediately locks after passage or after a configurable delay.
- C. Emergency Operation
 - 1. The unit must have an input in order to receive the "fire alarm" signal. When the emergency situation is activated, the unit must react in the following way:
 - a. The rotating obstacle is unlocked and freely rotates to allow easier exit.
 - 2. This operating mode continues as long as the emergency signal is active. After the emergency signal has been turned off, the unit must:
 - a. Return to its previous operating mode.
- D. Power failure

*** NOTE TO SPECIFIER ** Select and retain one (1) of the following two (2) subparagraphs that is appropriate to this project.*

- 1. [In case of emergency or power failure, the rotating obstacle is unlocked and freely rotates to allow an easier exit, (Fail-Safe)],
- 2. [In case of emergency or power failure, the rotating obstacle is mechanically locked (Fail-Lock)],
- 3. After the power supply has been restored, the unit must return to its previous operating mode.

2.05 SECURITY

- A. Must provide three (3) full-height rotating obstacles with straight arms welded to securely block the passageway and ensure single-user throughput.
- B. Must have an integrated mechanical locking device. The rotating obstacle must be mechanically blocked in the rest position to prevent any attempted break-in (only if at least one passage direction is controlled) and to prevent two (2) passages at one time. The mechanical locking of the rotating obstacle must withstand a 1500 Nm torque.
- C. Passage must be electronically controlled and independently configurable in both directions.
 - 1. Free access,
 - 2. Permanently locked,
 - 3. Passage subject to authorization.
- D. The full-height turnstile must feature an anti-pass back mechanism that prevents reverse rotation of the obstacle after 60° rotation from the rest position to deter any unauthorized use and fraud in the opposite direction.
- E. Must include fixed obstacles limiting passage and preventing any fraudulent passage in the opposite direction to the authorized passage.
- F. Must be equipped with a self-centering mechanism to ensure that rotating obstacle returns to the reset position after passage.

2.06 SAFETY AND ERGONOMICS

- A. Must have three (3) rotating obstacles spaced 120° apart to allow comfort and ease of passage.
- B. Must be cushioned by a hydraulic shock absorber to ensure smooth, silent and progressive movement.
- C. Must provide manual release kit to mechanically unlock the rotating obstacle, regardless of the chosen operating mode.

2.07 PEDESTRIAN GUIDANCE

- A. Visual notification with clear graphics must be incorporated into each passageway (one for each direction) to provide status of the lane, to control flow and to warn users.
- B. Passageway must be illuminated by LED integrated lighting to improve user comfort and safety.

2.08 CONTROLLER

- A. Microprocessor-based controller with the following characteristics:
 - 1. Configuration via web pages
 - 2. 4-digit display
 - 3. RS232/485 communication,
 - 4. Mini USB
 - 5. LED indicators for input and output status

2.09 POWER SUPPLY

- A. Power supply: 120 Volts AC 60 Hz.
- B. Nominal consumption in operation:
 - 1. 70 W (maximum) without heater.
 - 2. 520 W (maximum) with heater.

2.10 PERFORMANCE

- A. MCBF: 1,000,000 average number of cycles between breakdowns, when respecting manufacturer's recommended maintenance.
- B. Operating Temperatures: 14° to 122°F (-10° to 50°C) without heater.

2.11 OPTIONAL EQUIPMENT

**** NOTE TO SPECIFIER **** Delete the following subparagraphs [in brackets] if no optional equipment is required, or add as necessary.

- 1. [Reader support for integration of user authentication devices]
- 2. [Fan heater (450W, 120V) for operation down to -31°F (-35°C)]
- 3. [Foundation fixing frame]
- 4. [Canopy to improve weather protection]
- 5. [Heel protectors]

PART III – EXECUTION

3.01 INSPECTION

- A. Installer must examine the installation location and advise the Civil Contractor of any site conditions inconsistent with proper installation of the product. These conditions include but are not limited to the following:
 - 1. Tripod turnstile must be installed on a level concrete pad,
 - 2. Power supply and control wiring must be installed in accordance with the manufacturer's recommendations.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

- A. Install Tripod turnstile in accordance with manufacturer's instructions. Set units level. Anchor securely into place. See complete installation manual for precise instructions and requirements.

3.03 ADJUSTMENT

- A. Installer must adjust Tripod turnstile gate for proper performance after installation.

3.04 TRAINING

- A. A factory trained installer must demonstrate to the owner's maintenance crew the proper operation and the necessary service requirements of the toll barrier gate, including exterior maintenance.

3.05 CLEANING

- A. Clean turnstile and area carefully after installation to remove excess caulk, dirt and labels.

3.06 MAINTENANCE

- A. Maintain the equipment according to the manufacturer's instructions.

Automatic Systems reserves the right to change this specification at any time without notice.

END OF SECTION