

General Notes

The works under this subsection shall comprise of design, manufacture, installation, commissioning, training and maintenance of the following described pedestrian turnstile and disabled access door systems.

The work for all sites shall include, but not be limited to the supply and installation of access-controlled power operated pedestrian turnstiles and disabled access door systems as shown on sub drawings at various locations.

The turnstile and disabled door systems are to be controlled by access control cards and voice communication systems as specified and shown on drawings.

The objective of this project is to restrict access by unauthorized personnel.

The method to be used for construction is to be in the form of an electrically operated full height decorative pedestrian turnstile with matching disabled swing door at the locations shown on the drawings.

The construction and detailing used has to be suitable for an extremely secure location, offering strict access control to each location.

- All system must be reliable, functional and shall be based on the proven technology for performance systems.
- All tenders shall allow providing data and control cables to suit each turnstile situation i.e. card access and intercom systems.
- All tenders shall allow to provide a 240 volt 15Amp circuit to power each turnstile system and associated equipment. This shall be from the nearest suitable existing switchboard.
- All tenders are to allow to supply all necessary conduit work associated with the cabling to all the relevant Australian Standards (i.e. electrical orange, data white).
- All tenders are to allow to conduit and cable all equipment points at each turnstile intersection so as to interconnect these locations.
- All tenders shall allow to train all relevant site personnel on each site in the proper use of their system.
- All tenders shall allow to supply a list of clientele showing where equipment of this type has been installed. This list should include site contracts and phone numbers.
- All tenders shall allow to supply as built drawings and two sets of technical and maintenance manuals per turnstile system installation.
- All tenders shall allow to supply a 12-month defects and liability warranty on parts and labor.
- All tenders shall allow to demonstrate on an existing site all equipment as specified, this with emphasis on all safety systems and performance.
- All tenders shall provide information to confirm that the automatic turnstile systems as offered are up to date technically, of industry quality, high in duty cycle and reliable.

The automation company offered should adequately demonstrate that this work is their core business.

It is preferred that Australian made products be offered for these works providing they meet the technical specifications.

It is desirable that the successful turnstile manufacturer is based within NSW. This base should include full manufacturing and support facilities. Any company that has performed this type of work previously for our organization should detail these works, sites and contacts.

The systems provided overall are to be the latest in technology and up gradable without major parts redundancy. It shall be a formidable barrier, heavy in construction.

All operations shall be smooth and quiet. Each turnstile system shall satisfy all safety requirements for entry and exit of pedestrians.

The company providing this product should be a specialist company in this field. Systems such as the Ezi range of turnstile as provided by Ezi Automation Pty. Ltd. will be acceptable for consideration.

Ezi Turn- 01

Turnstile (Framework)

Each turnstile system shall consist of the following items, mainframe, column, and pelmet and flexi glass style sections.

All items shall be manufactured utilising heavy-duty materials. All items shall be fully seam welded. All items shall be manufactured from 316 stainless steel with a No. 2 brush finish.

Minimum Material Sizes

Main Frame	50sq SHS316 No. 2 brush finish
Mid Rail	10 x 100 flat bar 316 No. 2 brush finish
Vertical Rails	50sq SHS 316 No. 2 brush finish
Motor Cover	Stainless steel clad drum, 316 No.2 brush finish
Column	100 O.D. round tube, 316 stainless steel No. 2 brush finish

Each full height pedestrian security turnstile system shall be constructed as follows:

Height	2500mm
Diameter	1700mm
Disabled Door Height	2100mm plus 400mm of matching pelmet
Disabled Door Width	1040mm

Infill materials, toughened glass or Plexiglas material. The infill material shall be capable of repelling aggressive blows and low velocity projectiles. All fixings and fasteners are to be stainless steel. The mid and bottom rails of each turnstile and disabled access door shall be matching in height.

The centre column of the turnstile shall be 120 degree segmented. Each of the 3 doors attached to the column, shall be of full height and only have clearance of 10mm around the edges.

All fixings are to be tampering proof and secure. Each disabled access door shall open outward and comply with the relevant fire regulations.

Each turnstile and disabled access door shall be capable of being electronically operated by an access control system. In this case bi-directional i.e. card in/card out for turnstile and card in/card out for disabled door.

The disabled access door shall be linked to the fire evacuation system or as a minimum have a glass break fitted to the secure side of each door.

Full Height Decorative Security Turnstile Systems

The glass style decorative turnstile shall incorporate a fully monitored no go area or dead zone. This zone will be at all times monitored by an arrangement of 3 x photo sensors. Should an invalid entry be attempted through this zone, the turnstile is to recognize this attempt and push the perpetrator back out of the turnstile. The turnstile unit offered must be tried and proven for this feature and must at all times operate in the safe manner. Finger or bar design turnstiles will not be considered adequate for this application (full length and width doors only).

Each turnstile and disabled door must be capable of providing a formidable barrier to intruders. A light ballistic rating is required for the infill materials as offered on the turnstiles and doors and shall be demonstrated by the successful tender (to the customers satisfaction).

Ezi Turn- 02

Drive Motor and Gearbox

Each turnstile motor gearbox drive unit shall be a 3-phase .75Kw unit. These motor gearbox units shall be IP56 rated and be of true industrial grade and quality. This drive motor gearbox unit must be rated for a 100° duty cycle.

The drive motor gearbox system is to utilise an inbuilt safety mechanism to protect the unit from excessive drive torque. A power fail brake system or lock is to be built into this drive motor gearbox system. This shall lock the gate in the closed position and lock the gate during power fail. A brake

release override handle is to be included with the system. Each motor is to be installed on a cushion mounted motor platform, which allows for safe compression of components under load. The motor gearbox and platform assembly shall bolt together and this assembly shall be housed within the turnstile pelmet.

Ezi Turn- 03

Electronic Equipment Enclosure

Each turnstile control logic module shall be housed within an IP56 steel or poly enclosure, size shall be no less than 600 x 400 x 200mm. Each controller shall have a hinged door and key locking system. Each of these enclosures shall house a PLC, frequency inverter, power supply, RCB, single GPO, test button and miscellaneous items such as duct, cable etc. to suit the relevant turnstile electronic control.

All equipment mounted within these enclosures shall be installed on din rail. All cabling within each enclosure where practical shall be trunked with duct. No equipment shall be mounted on the enclosure door. All cable penetrations shall have proper glands fitted. An electrical schematic shall be installed within a plastic sleeve on the inside of the enclosure door.

Each equipment enclosure door shall be numbered and a site location shall be nominated. The distribution point for the relevant power feed shall also be nominated on this door. All labels shall be screw fixed trifoliate.

All work within these cabinets shall conform to all the relevant Australian Standards.

Ezi Turn- 04

Programmable Logic Controller

Each turnstile motor drive system is to be PLC controlled utilising a NIAS GEC brand compact PLC. Each PLC shall be fully programmable and have a minimum of 14.I.O. (being 8 outputs and 6 inputs).

These control units shall be capable of being programmed on site after installation for possible further ancillary functions. Each PLC must be expandable if required and offer possibilities of networking. All safety systems described shall be constantly monitored by this PLC system. The background for the proposed program utilised on each turnstile PLC shall be field tried and proven for a minimum of two years.

Ezi Turn- 05

Frequency Inverter

A frequency inverter is to be utilised on each turnstile system. This frequency inverter shall be utilised for the control of the turnstile operating speeds and control the ramp up and ramp down settings. These units shall be suitable for use on up to 2HP motor ratings. Each frequency inverter shall have a built in program keypad which should remain with the turnstile system after programming and commissioning.

Ezi Turn- 06

Power Supply

A switching power supply is to be installed in each turnstile system control logic module. This power supply shall be din rail mounted and suitable for industrial applications. These power supplies shall be of a regulated type i.e. voltage drop off with over current.

Ezi Turn- 07

Test Button

Each equipment module shall have a din rail mounted test button installed within the enclosure. This button shall have trifoliate test button label mounted below it. This button when depressed shall pulse the turnstile system open.

Ezi Turn- 08

Proximity Sensor

Three cylindrical proximity sensors and blocks shall be utilised to determine and control the turnstile position at all times. This proximity sensor shall be set up to detect the proximity blocks as secured to the rotor flange of the turnstile system.

This providing position sensing for the turnstile system. The cabling for these proximity sensors shall have conduit up and into the control logic enclosure. The proximity sensors are to be set up within the confines of the pelmet head. The turnstile system shall not become lost or confused.

**Technical Specifications
Full Height Decorative Security Turnstile Systems**

Ezi Turn- 09

Optional- Backup Power Supply

A separate price is required to provide suitable UPS (uninterruptible power supply) for each turnstile drivers system. Each UPS is to be capable of providing power during the event of a power failure. Each unit should be capable of at least 10 full cycle turnstile operations. During this condition each cycle shall consist of a full opening and closing of the relevant gate and associated turnstile electronics. Each UPS system shall be wired so that at all times, it is powering the relevant turnstile system. The units should be based on battery storage. Each UPS unit should be housed locally to its relevant turnstile system.