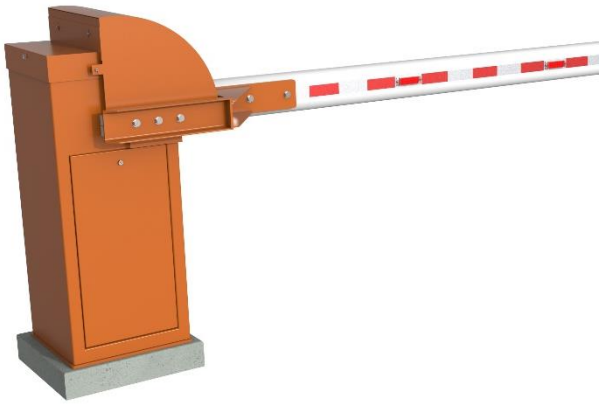
AUTOMATIC SYSTEMS
Access controlled...
Future secured

BL43
Security Barrier



Engineering Specifications

With a constant view to adopting the latest technological developments, Automatic Systems reserves the right to amend the above information at any time.

ENGINEERING SPECIFICATIONS

BL43 Security Barrier

SECTION 08 34 56 – Security Gates

SECTION 11 12 33 – Parking Gates

SECTION 28 13 00 – Access Control

SECTION 34 71 13 – Vehicle Barriers

PART I – GENERAL

1.01 SECTION INCLUDES

This section covers the furnishing and installation of a security barrier.

1.02 REFERENCES

A. The security barrier must be certified by a recognized laboratory according to UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.

B. The security barrier 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 security barrier must control and restrict vehicle traffic between secured and unsecured zones.

B. Must feature security arm to block vehicle and prevent access to restricted areas without authorization.

C. Must be able to automatically operate and must be bidirectional, allowing traffic in both directions.

D. Must be configurable in one of three (3) states:
   1. Open - arm remains in the open or up position.
   2. Closed - arm remains in the closed or down position.
   3. Automatic - arm is normally in the closed position and controlled by the associated entry/exit hardware.

E. Must be able to 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.

F. Must be able to manually raise and lower the gate.

G. Bottom of arm can be provided with safety edge to prevent arm from closing on a vehicle.

H. Design of the unit must provide visual aid for intuitive process.

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1.04 SUBMITTALS

A. Submit product data: equipment description, dimensions, electrical wiring diagrams for installation, and manufacturer's technical manuals for each product being used, including:
   1. Preparation instructions and recommendations.
   2. Storage and handling requirements and recommendations.
   3. Installation methods.
   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 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 the security barrier on leveled concrete base.

1.07 QUALITY ASSURANCE

A. The security barrier must be manufactured in North America.

B. Manufacturer Qualifications:
   1. Manufacturer must be a company specialized in designing and manufacturing security barriers with a proven minimum experience of ten (10) years.

C. Source Limitations: obtain the security barriers from Automatic Systems.

1.08 WARRANTY

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

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PART II – PRODUCTS

2.01 MANUFACTURERS

A. Manufacturers: 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 : www.automatic-systems.com E-mail : sales.nam@automatic-systems.com

B. Products:
   1. Security barrier, Model BL43

2.02 CONSTRUCTION

A. Operator frame
   1. Frame must be manufactured from 1/8 to 5/16'' (3 mm to 8 mm) thick steel, corrosion-protected by zinc coating and polyester paint (standard color: orange RAL 2000),

B. Access panels
   1. The top and side panels must be removable to allow easy access to both the electro-mechanical drive and electronic control units
   2. Openings must be key-locked

C. Arm
   1. Center mounted arm,
   2. Oval and manufactured from aluminum (from 6' 6'' to 19' 9'' / 2m to 6m), painted white with red reflective strips,
   3. The oval arm is 6 7/8'' x 3 7/8'' (175 x 100 mm)

D. Enclosure
   1. Design of the unit's enclosure must ensure an IP 44 degree of protection.

2.03 DIMENSIONS

A. Arm length:
   1. The arm length for equipment must be 6' 6'' to 19' 9'' (2m to 6m)

B. Operator dimensions:
   1. Overall dimensions of BL43 operator:
      a. Height: 53 ½ '' (1358mm)
      b. Footprint: 19 ½'' x 19 ½'' (498mm x 498mm)
   2. Rotation axis height
      a. 37 ¼'' (948mm)

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2.04 OPERATION

A. Automatic mode (arm Normally Closed & Controlled by a loop or access control device):
   1. In stand-by position, the passageway must be blocked by the arm.
   2. Upon receipt of a signal from the access control system or the inductive loop, the arm must open, freeing the passageway.
   3. The obstacle immediately closes after passage or after a configurable delay.

B. Power Failure
   1. In case of power failure, the barrier can open/close manually.
   2. After the power has been restored, the unit must return to its previous operating mode.

C. Emergency Operation
   1. The unit can be set to remain open upon receiving an emergency signal. The obstacle opens and allows unobstructed entry / exit.
   2. This operating mode continues as long as the emergency signal is active.
   3. After the emergency signal has been turned off, the unit must return to its previous operating mode.

2.05 SECURITY

A. Must provide operator and arm to securely block the passageway.

B. Must integrate a locking device that mechanically locks the arm in the closed position to prevent any attempted break-in.

C. The cabinet's side panels and top cover must be key-locked.

2.06 SAFETY

A. Must provide minimum 6.6 ft (2m) wide passageway.

B. Passage can be monitored in both directions by means of a loop detector, infrared beams, safety edge or other means of monitoring, to ensure user safety and prevent arm from closing when a vehicle is crossing the passageway:
   1. If a presence is detected in the obstacle safety area during the opening motion, the arm will complete its opening, unless a stop command is issued.
   2. If a presence is detected in the safety area during a closing motion, the arm can be set to either immediately stop or re-open, depending on the selected mode. The obstacle will operate again after the safety zone has been cleared.

C. The arm controller motor must have provision for an optional protection device that will automatically reverse or stop the movement whenever the arm strikes an object during a closing action.

D. Must be equipped with a protection hood preventing entrapment as per UL325 requirement.

2.07 VEHICLE GUIDANCE

A. Visual notification with clear graphics should be incorporated in each direction to control flow and to warn users.

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2.08 DRIVE UNIT

A. Three-phase asynchronous geared motor combined with gear and sprocket.

B. Variable-speed controller ensuring progressive accelerations and gradual decelerations, for safe movement without vibrations.

C. Electronic torque limitation.

2.09 CONTROLLER

D. Microprocessor-based controller with the following characteristics:
   1. The logic must be equipped with:
      a. Digital screen to facilitate the configuration of the barrier,
      b. LED indicators showing the status of the inputs and outputs,
      c. 14 configurable digital inputs,
      d. 3 configurable output relays, 6 configurable digital outputs.
   2. The logic must be able to accommodate any loop detector with dry contact outputs.
   3. The barrier operator must allow the installation of an extension module that adds 8 configurable inputs and 8 configurable output relays.
   4. The operating device must be equipped with an Ethernet connection module and an SD card to store the usage log.

2.10 POWER SUPPLY

A. Power supply: 120 Volts AC 60 Hz

B. Nominal power consumption:
   1. At rest: 50W
   2. In operation: 450W

2.11 PERFORMANCE

A. Opening Time & Closing Time:
   1. The obstacle opening time: 5.5 seconds (adjustable through the control board)
   2. The obstacle closing time: 5.5 seconds (adjustable through the control board)

B. MCBF: 3.000.000 average number of cycles between breakdowns, when respecting manufacturer's recommended maintenance.

C. Operating Temperatures: 14° to 122°F (-10° to 50°C) without heater.

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2.12 OPTIONAL EQUIPMENT

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

1. *Automatic opening of the arm during power failure]*
2. *[Push button box]*
3. *[Key switch on housing]*
4. *[Command by radio transmitter/receiver]*
5. *[Inductive loops for car or truck detection]*
6. *[Presence detector].*
7. *[Photo electric cell (automatic opening, closing, safety) fixed on post or housing]*
8. *[Adjustable STD tip support]*
9. *[Folding tip support]*
10. *[Electro-magnetic tip support]*
11. *[Safety edge]*
12. *[Arm lighting]*
13. *[Traffic lights fixed on a post or housing]*
14. *[STOP traffic sign]*
15. *[400 W heater for operation in temperatures as low as -49°F (-45°C)]*
16. *[Raised base]*
17. *[Rotating base]*
18. *[Insulation anti-corrosion base)*
19. *[Non standard color]*
20. *[Optional I/O board AS1623]*
21. *[Traffic light optional board for third party traffic signs]*
22. *[Smart Touch monitoring and control panel]*

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PART III – EXECUTION

3.01 INSPECTION

A. Installer must examine the installation location and advise the Contractor of any site conditions inconsistent with proper installation of the product. These conditions include but are not limited to the following:
   1. Security barrier operator must be installed on a level concrete pad,
   2. Power supply and control wiring must be installed. Follow manufacturer's recommendations.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 INSTALLATION

A. Install security barrier in strict accordance with manufacturer's instructions. Set units level. Anchor securely into place.

3.03 ADJUSTMENT

A. Installer must adjust security barrier for proper performance after installation.

3.04 INSTRUCTION

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

3.05 CLEANING

A. Clean barrier operator 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

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