BLG76
Rising Fenced Barrier

Engineering Specifications

ENGINEERING SPECIFICATIONS

BLG76 Rising Barrier

SECTION 08 34 56 – Security 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 rising fenced barrier.

1.02 REFERENCES

A. The rising fenced barrier must be evaluated and approved per CAN / CSA requirements contained in SPE-1000, Model Code for the Field Evaluation of Electrical Equipment.

1.03 SYSTEM REQUIREMENTS

A. The rising fenced barrier must control and restrict vehicle and pedestrian traffic between secured and unsecured zones.

B. Must feature rising fence to block vehicles and pedestrians and prevent access to restricted areas without authorization.

C. Must be mechanically locked at the vertical (up position), and the horizontal (down position).

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

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

F. 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.

G. Must permit the operator to manually raise and lower the gate.

H. The fence must be made of aluminum.

I. Bottom of fence can be provided with safety edge to prevent it from closing on a vehicle.

J. Design of the unit must provide provision for visual and audible notifications for intuitive process.

K. Can be used in a standalone barrier or master/slave configuration for up to 32 ft (10m) opening.

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 rising fenced barrier on leveled concrete base as per implementation drawing.

1.07 QUALITY ASSURANCE

A. The rising fenced barrier must be manufactured in North America.

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

C. Source Limitations: obtain the rising fenced 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.

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.ca@automatic-systems.com

B. Products:
   1. Rising fenced barrier, Model BLG76

2.02 CONSTRUCTION

A. Operator frame
   1. Frame must be manufactured from 11 gauge to 25/64'' (3 mm to 10 mm) thick steel, corrosion-protected by powder coat paint (standard color: orange).

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. Left or right mounted arm,
   2. Round and manufactured from aluminum, painted white with red and white reflective strips,
   3. The arm is composed of 2 segments of Ø 3 7/8'' and 3 ½'' (100-90 mm).

D. Fence
   1. Frame to be manufactured from aluminum (length 13'1'' or 16' 6'' / 4m or 5m)
   2. Fence to be manufactured in one section (height 6ft / 1.8m)
   3. Wire mesh to be in galvanized steel.
   4. Fence to be topped by barb wire.

E. Enclosure
   1. Design of the unit's enclosure must ensure an IP 43 degree of protection.

2.03 DIMENSIONS

A. Fence dimensions:

*** NOTE TO SPECIFIER ** Chose from the following subparagraphs in brackets, or add as necessary.*

   1. *[The fence dimensions must be 6 ft by 13' 1'' (1.8m by 4m) including barb wire]*
   2. *[The fence dimensions must be 6 ft by 16' 6'' (1.8m by 5m) including barb wire]*

B. Operator dimensions:
   1. Overall dimensions of BLG76 operator:
      a. Height: 46 7/8'' (1190mm)
      b. Footprint: 21'' x 24'' (540mm x 600mm)
   2. Rotation axis height
      a. 39 1/8'' (994mm)

2.04 OPERATION

A. Automatic mode (arm Normally Closed & Controlled by a loop or access control device):
   1. Command to barriers. In stand-by position, the passageway must be blocked by the fence.
   2. Upon receipt of a signal from the access control system or the inductive loop, the fence 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 with a special tool.
   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 exit / entrance,
   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 fence to securely block the passageway:

B. Must have mechanical locking integrated. The fence must be mechanically locked 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 12.5 ft (3.8m) 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 fence 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 fence will complete its opening.
   2. If a presence is detected in the safety area during a closing motion, the fence can be set to either immediately stop or re-open depending on the selected mode.
   3. The obstacle will operate again after the safety zone has been cleared.

C. The fence controller motor must be provided with an entrapment protection device that automatically reverses or stops the movement whenever the fence strikes an object during a closing action.

2.07 VEHICLE GUIDANCE

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

2.08 DRIVE UNIT

A. Three-phase asynchronous geared motor combined V-belt driven gear reducer and a clutch with crank-and-rod linkages ensuring perfect mechanical locking in both extreme positions.

2.09 CONTROLLER

A. 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. 1 analog and 14 digital inputs,
      d. 3 output relays, 4 digital outputs and 1 analog output.
   2. The logic must be equipped with two (2) loop detector connectors when loops are used as safety or to control the barrier opening/closing.
   3. The barrier operator may be equipped with an extension module that adds 4 inputs and 4 outputs.

2.10 POWER SUPPLY

A. Power supply: 208 Volts AC 3 phases 60 Hz

B. Nominal power consumption:
   1. At rest: 50W
   2. In operation: 1000W (including 500W heater)

2.11 PERFORMANCE

A. Opening Time & Closing Time:
   1. The obstacle opening time: 5 -8 seconds
   2. The obstacle closing time: 5-8 seconds

B. MCBF: 500,000 average number of cycles between breakdowns, when respecting manufacturer's recommended maintenance.

C. Operating Temperatures: -4° to 113°F (-20° to 45°C) without optional heater.

2.12 OPTIONAL EQUIPMENT

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

1. *[Push button box]*
2. *[Key switch on housing]*
3. *[Command by radio transmitter/receiver]*
4. *[Inductive loops for car or truck detection]*
5. *[Presence detector].*
6. *[Photo electric cell (automatic opening, closing, safety) fixed on post or housing]*
7. *[Standard tip support]*
8. *[Electro-magnetic tip support] (standard except for Master/slave)*
9. *[Arm lighting]*
10. *[Traffic lights fixed on a post or housing]*
11. *[STOP traffic sign]*
12. *[Master/slave configuration with interlock mechanism between the 2 fences]*
13. *[500 W heater for operation in temperatures as low as -40°F (-40°C)]*
14. *[Non standard color]*
15. *[Optional I/O board]*
16. *[Traffic light optional board for third party traffic signs]*

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. Rising fenced 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 rising fenced barrier in strict accordance with manufacturer's instructions. Set units level. Anchor securely into place.

3.03 ADJUSTMENT

A. Installer must adjust rising fenced 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