



SPECIFICATION FOR MODEL 850 PORTABLE VEHICLE BARRIER

PART I - GENERAL

1.1 WORK INCLUDED IN THIS SECTION

- A.** Furnish labor, materials, inspections, supervision, etc., necessary for the complete installation and operation of vehicle barrier(s) as shown on the plans and specified herein. Work includes furnishing all items and accessories required or necessary for the correct operation of the vehicle barrier(s) as shown on plans and/or specified herein.

1.2 QUALITY ASSURANCE

- A.** The Company shall specialize in manufacturing of the type barriers specified, with a minimum five (5) years' experience.
- B.** The installer shall have a minimum three (3) years installation experience of similar equipment.

1.3 SUBMITTALS

- A.** Submittals shall contain sufficient plans, elevations, sections, and schematics to clearly describe the apparatus. All conduit runs, controls and similar drawings shall be included.
- B.** Submittals shall include (but not necessarily limited to) the following:
 - 1. All high and low voltage conduit runs.
 - 2. Mounting dimensions and locations.
 - 3. Details of electronic equipment, electrical equipment or any other apparatus deemed necessary by the Owner or Owners representative.
- A.** Installer shall provide two (2) copies of submittal packages.

1.4 INSPECTIONS

Procure all the necessary and usual inspections and certificates for all work to be installed. Deliver same to the Owner/Owners representative before final acceptance.

PART II – PRODUCTS

2.1 PORTABLE VEHICLE BARRIER

A. Application

1. The vehicle barrier shall be designed to contain a medium speed vehicle impact and prevent that vehicle from entering a restricted access control area. The barrier shall consist of a re-locatable foundation frame, raising plate with locking linkage, and associated hardware to allow the plate to move from a horizontal position to a raised, secure position with the aid of a hydraulic cylinder. The unit shall be designed for positioning on an existing concrete slab or roadway, and shall include all necessary accesses for drains and electrical services required. The barrier shall be fully tested and certified by an independent testing facility.

B. Features

1. Height of the Barrier shall be 40 inches (1.02 M) as measured from the roadway surface to the top of the barrier plate.
2. The standard clear opening shall be 144 inches (3.66 M) as measured from the hydraulic pumping unit to the edge of the barrier plate.
3. The entire barrier unit shall be hot dipped galvanized for superior corrosion protection. Standard color shall be black with yellow stripes.

C. Functional Specifications

1. The barrier shall consist of a re-locatable foundation frame, raising plate with locking linkage, and associated hardware to allow the plate to move from a horizontal position to a raised, secure position with the aid of a hydraulic cylinder. The unit shall be designed for positioning on an existing concrete slab or roadway, and shall include all necessary accesses for drains, hydraulic conduits and electrical services required. The barrier shall be fully tested and certified by an independent testing facility
 - a. The pump assembly shall be part of the barrier assembly and shall contain hydraulic hoses which are constructed with JIC fittings to allow removal and installation without sealant.
 - b. The speed of operation shall be controlled by flow control valves. The flow control valves shall be mounted to the hydraulic pumping unit and field adjustable.
 - c. The unit shall also be designed to be rapidly deployed in an emergency situation and fully operational in 15 minutes.
2. Power System
 - a. The electric motor shall be capable of producing a minimum 1.5 horsepower.
 - b. The unit shall be made available as 120/208/230V single phase or 208/230/460V three-phase AC voltage. The motor shall be of the high starting torque, continuous duty, and industrial type, protected against overload by either a thermal or current sensing overload device.

3. Control Circuitry

- a. A built-in PLC controller shall interface between the barrier control stations and the hydraulic power unit. The PLC shall include all necessary inputs, outputs, timers and logic necessary for barrier operation.
- b. The control circuit shall operate from a 24 volt, 50/60 Hz supply.
- c. The control circuit shall be mounted in an enclosure with the hydraulic pumping unit. The enclosure shall be of sufficient size and rating to accommodate accessory devices. All accessory device wiring shall connect to the included terminal strips.

2.2 CONTROL PANELS

(Any or all of the following control panels may be specified as an option)

A. Remote Control Panel

1. A remote control panel shall be supplied to control the barrier operation. This panel shall have a key lockable main switch with "main power on" and "panel on" lights. Buttons to raise or lower each barrier shall be provided. "Up" and "down" indicator lights shall be included for each barrier.
 - a. The remote control panel shall operate on 24 volts.
 - b. The remote control station shall be a standard 19 inch electronics rack type surface mount panel or desktop console type with all devices wired to a terminal strip on the back

B. Remote Control Master Panel

1. A remote control master panel shall be supplied to control barrier operation. This panel shall have a key lockable main switch with "main power on" and "panel on" lights. Buttons to raise and lower each barrier shall be provided. "Up" and "down" indicator lights shall be included for each barrier. The remote control master panel shall have a key lockable switch to arm or disarm the remote slave panel. An indicator light shall show if the slave panel is armed.
 - a. The remote control panel shall operate on 24 volts.
 - b. The remote control station shall be a standard 19 inch electronics rack type surface mount panel or desktop console type with all devices wired to a terminal strip on the back.

C. Remote Control Slave Panel

1. A remote control slave panel shall also be supplied to control barrier operation. This panel shall have a "panel on" light that is lit when enabled by a switch on the remote control master panel. Buttons to raise or lower each barrier shall be provided. Barrier "up" and "down" indicator lights shall be included for each barrier.
 - a. The remote control panel shall operate on 24 volts.
 - b. The remote control station shall be a standard 19 inch electronics rack type surface mount panel or desktop console type with all devices wired to a terminal strip on the back.

2.3 ACCESSORY DEVICES

(Any or all of the following may be specified)

A. Traffic Signals

1. Barrier mounted 8 inch traffic lights shall be supplied to alert vehicles of the barrier position. The (*specify color*) light shall indicate that the barrier is fully down. All other positions shall cause the light to show (*specify color*). The operating voltage shall be 120 volts

2.4 PERFORMANCE

A. Testing

1. Barrier design shall have successfully passed actual full scale crash tests conducted by a qualified independent agency. Any tests other than a full scale crash test (engineered data, computer models) are not acceptable and will not be recognized.

B. Evaluation

1. The barrier shall have been certified by the United States Department of State to meet the K4 rating.

C. Stopping Capacity

1. The barrier system shall be designed to impede a vehicle approaching from the priority direction.
 - a. The barrier shall be capable of immobilizing a vehicle weighing 15,000 pounds traveling at 30 mph.

D. Normal Operating Speed

1. Barrier(s) shall be capable of being raised or lowered in 10 to 20 seconds under normal operating conditions. Barrier direction shall be instantly reversible at any point in its cycle from the control stations.

2.5 QUALITY ASSURANCE

A. Factory Testing

1. Upon completion, the barrier system will be fully tested for proper operation by manufacturer prior to shipment. A nameplate with manufacturer's name, model number, and serial number shall be located within the hydraulic pumping unit.
2. All critical dimensions shall be checked for accuracy against customer approved shop drawings.

2.6 PROCUREMENT SOURCE

The hydraulic barrier system shall be model 850 as manufactured by **B&B ARMOR (800-367-0387), 5900 South Lake Forest Drive, Suite 230, McKinney, TX 75070.**

PART III - EXECUTION

3.1 INSTALLATION

- A. Installation shall be performed according to the manufacturer's instructions. Verify all component locations with contract drawings and shop drawings.
- B. Any disagreement between the Plans, Specifications, and Ordinances, must be called to same before signing of the shop drawings. After the shop drawings have been signed, the Contractor is responsible for having all work meet requirements of the governing ordinances.