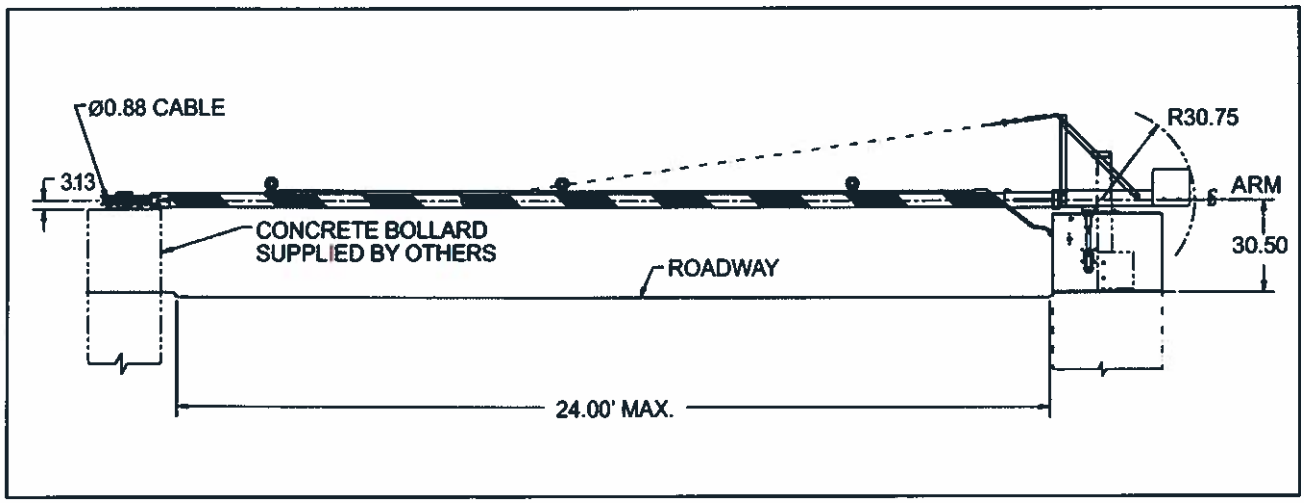
B&B

We put quality first.
And make it last.

MODEL CR-25E

ELECTROMECHANICAL CRASH BEAM BARRIER GATE



GENERAL

The crash beam barrier shall be B & B type CR-25E or an approved equal. These specifications are the minimum that shall be acceptable. The barrier shall be of the standard vertical to horizontal arm type, shall be equipped with an energy absorption cable assembly, shall have a weatherproof housing and operating mechanism and shall include such controls, accessories and modifications as specified.

APPLICATIONS

The Model CR-25 Electromechanical Crash Beam Barrier Gate shall typically be used as a safety barrier. Typical applications shall include embassies, nuclear facilities, "High-Risk" At-Grade crossings, government facilities and any light to medium traffic barrier installation where site security is a primary consideration. When a horizontal barrier is required, refer to the TB-7200 and TB-8200 barriers.

Revised 02/14/11

CR-25E ELECTROMECHANICAL CRASH BEAM BARRIER GATE SPECIFICATIONS

HOUSING

The housing shall be fabricated from 3/8-inch steel plate and shall be hot dip galvanized after fabrication. Formed, channel-shaped side plates shall be used to produce a strong configuration without welded corners. The housing shall receive a finish coat of aluminum paint.

An access door shall be provided to service the operating mechanism and electrical equipment. The door shall be sealed with neoprene strip gaskets and bolted in place with corrosion-resistant, hex-head bolts.

The housing base shall provide 12 1-1/4-inch holes for mounting on the customer's foundation. Anchor bolts and templet shall be supplied by the gate manufacturer. Standard anchor bolt size shall be 1 - 8 x 18 + 4 hot dip galvanized.

ARM

The beam arm shall be constructed from 4-inch 6061-T6 aluminum pipe which shall contain the wire rope assembly. Maximum arm length shall be 25 feet.

Dimension "A", measured from the centerline of the pivot to the centerline of bollard, shall not exceed 322.25 inches.

Gate arms shall be covered with 16-inch alternating red and white engineering grade reflectorized sheeting. Other striping materials, dimensions and colors shall be used, when specified.

ARM MOUNTING TUBES

Arm mounting tubes shall be hot dip galvanized carbon steel. The roadway arm shaft centerline shall be 30-1/2 inches above the base line of the gate housing.

COUNTERWEIGHTS

Each gate shall be equipped with suitable hot dip galvanized steel counterweights of the sectional, bolt-on type.

ARM SHAFTS

The main arm shaft shall be mounted in heavy-duty ball bearings. The main arm shaft shall be not less than 2 inches in diameter. Shaft material shall be ASTM A311 Class B high strength, stressproof steel.

TRANSMISSION

The transmission shall be a fully enclosed, all gear, direct drive unit running in an oil bath. The drive train shall not use belts or chains and shall be connected to the arm shaft with a connecting rod having self-aligning ball ends. The connecting rod shall be constructed of ASTM A311 Class B high strength stressproof steel.

During the opening and closing cycles, the gate arm shall begin with zero velocity and accelerate smoothly reaching maximum velocity at mid-stroke (45 degrees). The arm shall then decelerate smoothly to zero velocity at full stroke (90 degrees) preventing bounce or whip of the arm. Standard operating time to open or close the gate shall be 13 seconds. Consult the factory for other available speeds.

MOTOR

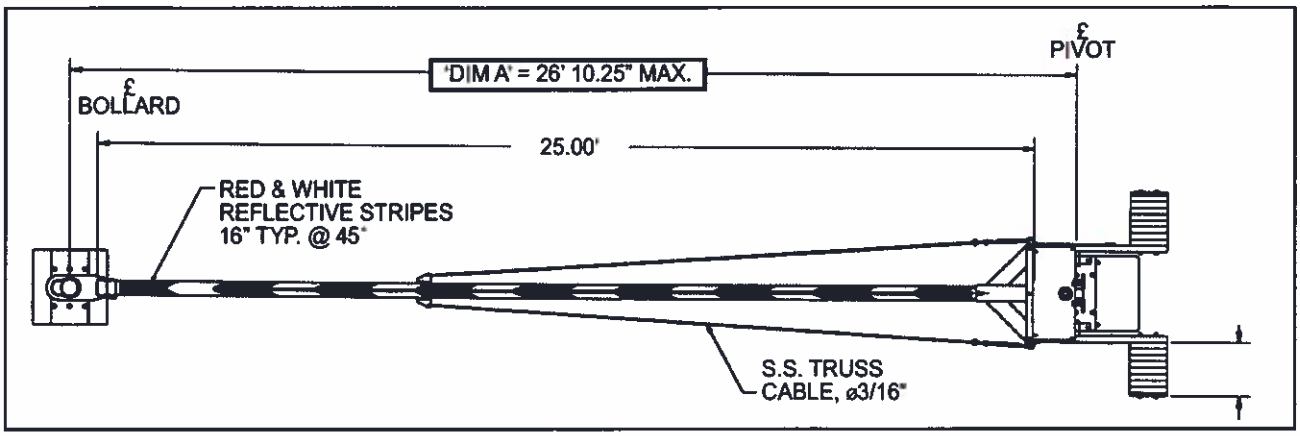
The motor voltage and phase shall be per customer's specifications. Horsepower shall be determined by manufacturer according to arm length and accessories required. The motor shall be of the flange mounted type, attached to the transmission case with not less than four bolts. The motor shall be of the instant reversing type to permit reversing movement of the arms at any point of travel. Motor data shall appear in the manual.

BRAKING MECHANISM

A solenoid release, automatic motor brake shall be furnished as part of the gate drive mechanism. The brake shall automatically release when the handcrank is inserted to manually operate the gate.

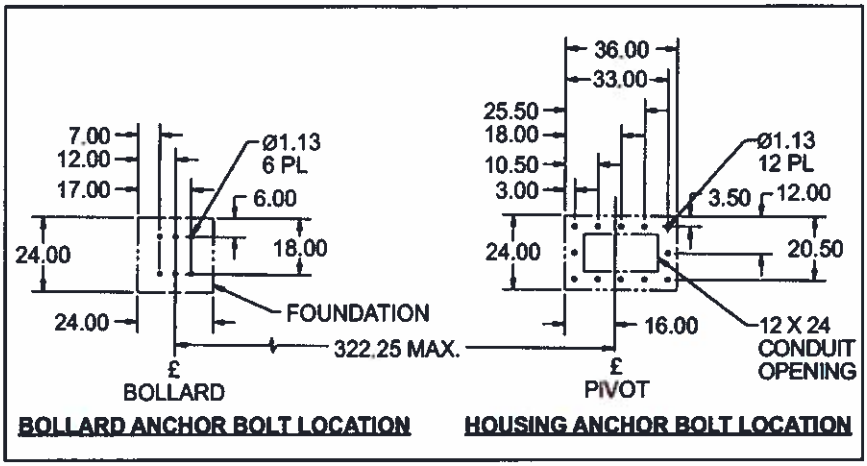
HANDCRANK

A handcrank and drill crank shall be included with each gate to operate the gate during power failure. An automatic handcrank safety switch shall automatically break the control circuit power when handcrank is inserted to allow for manual operation.



LIMIT SWITCH

The gate limit switch shall be a unit assembly containing eight individual switches having one set of normally open and one set of normally closed contacts each. Contacts shall be totally enclosed and shall have a U.L. rating of not less than 15 amperes at 220 volts AC. Limit switch shall be readily accessible and easily replaced with normal hand tools. Each individual switch shall be controlled by an independent cam, which shall be adjustable with a hex socket cap screw. The limit switch body, shafts and cams shall be of corrosion-resistant, non-ferrous materials.



SAFETY SWITCHES, TERMINAL BLOCKS AND WIRING

To protect operating and maintenance personnel from injury during service or installation, a manual disconnect switch shall be furnished, installed and fully wired in the main motor leads. Automatic disconnect switches shall be arranged to break the control circuit when the door is opened. Pressure type terminal blocks shall be provided and installed inside the housing. All control wires shall terminate on these blocks. Each terminal shall be clearly labeled and all conductors shall be color coded and/or numbered. The wiring diagram shall reflect such colors or numbers. A GFI receptacle shall be supplied in the gate housing. No conductor shall be smaller than #16 AWG stranded. Each housing shall contain a laminated electrical schematic secured to the inside of the housing for reference by service personnel.

ENERGY ABSORPTION CAPACITY

The CR-25 crash beam has been successfully crash tested per U.S. Navy specifications (OR-98-09-99 and M-56-86-05 with a level 1/L2 rating) and Department of the Army rating level of KN1-LN2. The barrier exceeded all requirements. The crash beam shall be capable of stopping a 5,000 pound vehicle at 56 mph within 6.8 feet of impact point with an absorption of 701K foot/pounds of kinetic energy, causing a deceleration of 21g's.

ENERGY ABSORPTION CABLES

A 7/8-inch diameter galvanized, double-extra improved plow steel 6 x 9 IWRC (independent wire rope center) wire rope shall provide the primary vehicle restraint capability of the barrier. The cable shall have closed, cad-plated swage sockets on each end. Both ends of the cable shall be anchored securely at the operator end of the beam doubling the cable. The cable assembly shall be enclosed inside the arm and shall form a loop at the end of the beam arm.

CABLE ANCHORING SYSTEMS

The cable assembly shall be designed to securely engage an anchor post at the arm end on impact. The engaged assembly shall be designed to anchor the cable assembly at each end of the beam at all times when the arm is in the closed position to withstand collision loads.

Engagement of the anchoring assemblies at each end shall not rely upon any electrical, hydraulic, magnetic or other powered devices. A clevis mounted on the end of the crash beam shall be designed to securely and passively engage and lock itself to the bollard upon vehicle impact with the beam.

QUALITY ASSURANCE

Manufacturer of the traffic control gate operator shall have a minimum of five years experience in the manufacture of industrial gate operators and barriers, and shall make available replacement parts for 10 years. All gates are individually tested and inspected at time of final assembly. Each gate shall be tagged "ACCEPTED" upon completion of inspection and "Certification of Testing" shall be supplied in the handbook for validation of meeting internal Quality Assurance standards.

Power Door Products

(914) 698-5083

www.PowerDoorProducts.com