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HW-2 HORIZONTAL WARNING GATE
Specifications

GENERAL: The warning gate shall be Model HW-2, as manufactured by B&B Roadway, (888) 560-2060.

APPLICATIONS: The gate shall be designed for use as a warning, traffic control and access control gate. The gate shall be explicitly designed for traffic control on HOV, reversible lanes and similar applications, pedestrian gate operator, parking lot access control gate operator, or any medium duty traffic control or warning installation. (When a heavier duty swing-type operator is required, refer to the HW-4.)

HOUSING: The operating mechanism and main control components shall be contained in a heavy duty weatherproof housing. The housing shall be sturdily constructed of carbon steel shapes and plate, hot dip galvanized after fabrication. *[Option: 5052 and 6061 or 6063 aluminum with natural or anodized finish, as specified.]* Galvanized exterior surfaces shall be painted aluminum. All fasteners shall be corrosion resistant.

Weather-sealed access doors shall be provided to accommodate service of the gate and mechanism. Doors shall be made of same type material as housing (i.e. galvanized steel or aluminum) and finished to match the housing. *[Option: A rear access door may be included if desired by the customer when access to one side of the housing is blocked.]*

MOUNTING: The gate shall be fixed to a suitable foundation, as specified by the project engineer, using four 0.5" (12.7mm) diameter minimum anchor bolts. The gate housing base shall provide four 0.75" (19mm) holes. *[Option: Custom mounting patterns can be provided.]*

ARM or PANEL: The gate shall be equipped with either an arm (typical for vehicular traffic control) or a panel (typical for pedestrian traffic control).

Arm shall be 4" (101.6mm) square, 6005-T5 aluminum extruded tubing. *[Option 1: with 3" square end section of high-strength UV-resistant fiberglass* or *3" square extruded aluminum.]* Maximum arm length shall be 24' (7.3m) from the centerline of the pivot. Front and rear arm surfaces shall be covered with red and white high intensity reflective sheeting. Stripes shall be 16" (406mm) wide, and vertical according to MUTCD. *[Option: Alternative arm designs shall be provided to customer's specifications, when required.]*

Panel shall be constructed of 2" (50.8mm) square aluminum outer frame filled with smaller round aluminum vertical bars spaced approximately 4"-6" (101.6-152.4mm) on center. Panel height and width shall be as shown on plans. Maximum panel length and height shall depend on panel design and overall size and weight. Manufacturer shall be consulted for panels exceeding 12' (3.6m) in length. *[Option: A strip of high intensity reflective sheeting, pre-striped alternating red and white, shall be placed along top edge of frame, when specified.] [Option: Custom panel design shall be provided when specified.]*

ARM/PANEL BASE: When requested, the arm/panel base shall be designed with a shear pin mechanism to minimize damage to the gate and vehicle in the event of a collision. Arm or panel shall be designed to be easily reset by replacing the shear pin.

MOUNTING BRACKET: Arm or panel shall be mounted to the capstan using a hot dip galvanized steel mounting bracket. Two brackets shall be provided for mounting of panels. Bracket shall be designed to enable the arm or panel height to be adjusted. Finish shall be painted aluminum.

CAPSTAN: The capstan shaft shall not be less than 2.5" (63.5mm) outside diameter. Capstan shaft shall turn in relubricable ball and tapered roller bearings.

OPERATING MECHANISM: The warning arm or panel shall pivot in the horizontal plane via a mechanical 4-bar linkage. The linkage shall utilize cranks keyed to the capstan and transmission shaft and an adjustable connecting rod between a pair of self-aligning spherical rod ends. The connecting rod shall be 0.75" (19mm) diameter AISI 4140. The linkage shall be driven by a fully enclosed, double reduction, all gear speed reducer. Gear ratio used shall produce an operation time of approximately 8-13 seconds. Gear ratio (and operation time) shall be selected by the manufacturer to suit the weight and length of the arm or panel.

The velocity of the arm shall follow a sinusoidal pattern to provide smooth operation. The arm shall begin and end its full motion path with zero velocity and accelerate smoothly to maximum velocity at mid-travel.

Standard swing shall be 90 degrees. *[Option: Swing angles other than 90 degrees can be provided. Please consult manufacturer as use of some swing angles may result in different operation characteristics from those described in this section.]*

MOTOR: The motor voltage and phase shall be as specified by the customer. The motor horsepower shall be ½ hp. The motor shall be a C-face design and shall be mounted directly to the transmission. The motor shall be instantly reversing and overload protected.

BRAKING MECHANISM: The motor shall be equipped with a solenoid-release, automatic brake. The brake shall have a manual release to permit manual operation of the gate during emergencies or setup.

HANDCRANK: A handcrank shall be provided with each gate to facilitate manual operation of the gate.

LIMIT SWITCH: The gate limit switch assembly shall be a self-contained unit. The assembly shall provide at least 4 independent SPDT control switches. Switches shall be rated for 15 amps, 480 VAC. Switches shall be controlled by individually adjustable cams. The limit switch assembly design shall permit adjustment of all cams with the gate in any position. The limit switch assembly shall have a removable cover to help prevent accidental contact with switch terminals. Shaft, cams, bushings and housing pieces shall be of non-ferrous corrosion resistant materials.

SAFETY SWITCHES, TERMINAL BLOCKS AND WIRING: A manual disconnect switch shall be provided, pre-wired at the factory to break the main motor leads, to protect personnel during service. A handcrank safety switch shall be provided to prevent powered actuation of the gate during manual operation. Door safety switches shall be installed and set at the factory to break the control circuit when either access door is opened. Door safety switches shall have a pull-to-override feature for test operation and shall automatically reset when doors are closed. Control components and terminal blocks shall be mounted inside an electrical enclosure, except where custom components required by the customer prevent this arrangement. Pressure-type, modular terminal blocks shall be fully labeled and clearly coded to wiring diagrams. All control wiring shall be clearly coded to wiring diagrams and shall terminate at the terminal block. Connections to screw-type terminals shall have lugs. Conductors shall be type XHHW #14 AWG stranded, minimum.

ACCESSORIES AND MODIFICATIONS: All common accessories and modifications shall be available. Custom modifications and accessories shall be available through coordination with manufacturer.

WARRANTY: A 1 year warranty shall cover the gate and related equipment against defective material and components. Manufacturer shall furnish replacement parts for a minimum of 10 years. Replacement parts for standard components shall normally be available within 1 working day. Lamps, fuses and other components designed for a life less than 1 year shall be covered for the rated life of the component or the warranty period of the component manufacturer.

PARTIAL LIST OF AVAILABLE OPTIONS:

Aluminum or Stainless Housing
Anchor Bolts (provided by manufacturer)
Mounting Template
Special Swing Angles
Arm Finishes, Striping Materials and Colors
Fiberglass Arm Section (at end of arm)
Arm Lights
Flasher

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