

TECHNICAL SPECIFICATIONS for Model: HB-2050
SECTION 34 71 13
ACTIVE VEHICLE BARRIERS

PART 1 – GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Crash Rated Automated Hydraulic Retractable Bollard
 - 2. [_____]

1.2 RELATED SECTIONS

- A. Section 03 30 00 – Cast-in-Place Concrete
- B. Section 05 50 00 – Metal Fabrications
- C. Section 09 90 00 – Painting & Coatings
- D. Section 28 13 00 – Security Systems
- E. [_____]

1.3 REFERENCES

- A. ASTM F2656 - Standard Test Method for Vehicle Crash Testing of Perimeter Barriers
- B. PAS 68 Impact Test for Vehicle Security Barrier Systems
- C. IWA 14 Performance Requirement, Vehicle Impact Test Method and Performance Rating
- D. Ingress Protection (IP) Rating

1.4 SUBMITTALS

- A. Product Data:
 - 1. Comply with Section [01 33 00 – Submittal Procedures.] [_____].
 - 2. Product Data: Provide for each type of barrier, component, finish, and accessory specified.
 - 3. Maintenance Data: Submit manufacturer's field touch-up, cleaning, and maintenance instructions.
 - 4. Warranty Documentation: Submit sample of manufacturer's warranty.

1.5 QUALITY ASSURANCE

- A. COMPLY WITH SECTION [01 43 00 – QUALITY ASSURANCE.] [_____].
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with a minimum five years documented experience.

C. Installer Qualifications:

1. Engage an experienced installer who has minimum five years documented experience with projects of similar scope and complexity.
2. Installer is an authorized representative of the vehicle barrier manufacturer for both installation and maintenance of the type of units required for this Project.

D. Source Limitations: Provide each type of product from a single manufacturing source to ensure uniformity.

E. Each Sloan Hydraulic Retractable Bollard M50/P2 is cycled in-house prior to shipment to ensure proper working order and calibration of limit switches.

F. The contractor shall provide laborers and supervisors who are thoroughly familiar with the type of construction involved and materials and techniques specified.

1.6 DELIVERY, STORAGE AND HANDLING

A. Comply with Section [01 66 00 – Product Storage and Handling Requirements.] [_____].

B. The Sloan Hydraulic Retractable Bollard M50/P2 shall be packaged to protect the materials from damage during shipment.

C. While Sloan Security Group does not assume responsibility for injury to persons or property during loading, unloading, transporting or installation, verbal guidance and additional written instructions are available upon request.

D. Sloan Security Group does not assume responsibility for ensuring that the rigging and lifting gear is properly sized and attached when lifting heavy components. Equipment used shall be capable of handling product in an overhang position.

E. Sloan Hydraulic Retractable Bollard M50/P2 is coated to protect materials from the effects of exposure to all outdoor elements; however, when site storage is required Sloan Security Group recommends the following guidelines:

1. Short term storage (0-12 months): Store in such a manner to ensure proper ventilation and drainage. The storage location shall protect against damage, vandalism, and theft.
2. Long term storage (more than 12 months): In addition to the recommendations for short term storage, the Sloan Hydraulic Retractable Bollard (non-crash rated) shall also be covered to prevent exposure to the elements prior to installation. The purpose of this recommendation is to preserve the aesthetic appearance of the coating finish. Long term exposure to the elements naturally degrades coating appearances; therefore, proper storage is essential for ensuring preservation of the material.

F. Upon delivery of Sloan Hydraulic Retractable Bollard M50/P2 control systems, the crate or pallets containing any electrical components shall be marked as such and stored in a covered location that ensures proper ventilation and drainage. The storage location shall protect against damage, vandalism and theft. Control cabinets may not be rated for outdoor exposure; therefore, higher storage measures should be taken.

- G. Upon receipt at the job site, all materials shall be checked to ensure that no damage occurred during shipping or handling. Materials shall be stored in such a manner to ensure proper ventilation and drainage, and to protect against damage, weather, vandalism, and theft.

1.7 WARRANTY

- A. Sloan's active vehicle barrier products carry a standard warranty against defects in material and workmanship on fabricated components for one year when installed by a Sloan authorized installer. Warranty begins at the ship date of product.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Sloan Security Group, Phone: (888) 382-8370, Website: www.sloansg.com, Email: info@sloansg.com
- B. Substitutions: Not Permitted.

2.2 VEHICLE BARRIERS

- A. Basis of Design: Sloan Hydraulic Retractable Bollard M50/P2, Model: HB-2050 as manufactured by Sloan Security Group
 1. Impact Condition Designation M50, Penetration Rating P2, with the capability of stopping a 15,000lb vehicle traveling at speeds up to 50mph and less than 7 meters of dynamic penetration.
 2. Crash test certified according to PAS 68:2013 V/7500[N3]/80/90:5.2/7.8, IWA 14-1:2013 V/7200[N3C]/80/90:5.5 and ASTM F 2656-07 M50/P2
 3. Bollard height shall be 43.31 inches (1100mm) with a diameter of 13.98 inches (355mm)
 4. Wall thickness shall be 1.18 inches (30mm) steel
 5. Bollard shall be complete with screwed on top plate
 6. Raising operating times shall be 5 to 6 seconds and lowering shall be 3 to 4 seconds
 7. Bollard shall remain in raised position during power failure and can be lowered manually
 8. Emergency Fast Operation (EFO) raising time 2 to 3 seconds (with optional accumulator)
 9. Wheel load of 22,480 lbf (100kN) according to SLW60 – DIN 1072
 10. Weight of bollard assembly shall be approximately 3,100 lbs (1400kg)
 11. Temperature operating range shall be -4°F (-20°C) to 149°F (+65°C) with heater option available
 12. Lighting Options:
 - a. UFO-shape top lighting
 - b. Color: LED red, white or yellow
 13. Bollard finish options:
 - a. Standard RAL colors 6005, 7016, 7030, 7035, 9010
 - b. Special optional RAL color
 - c. Stainless steel sleeve and stainless steel top plate
 14. Bollard top plate finish options:
 - a. Galvanized finish
 - b. RAL color same as bollard finish
 - c. Stainless steel (only in connection with stainless steel sleeve option)
 15. Cover plate finish options:
 - a. Galvanized finish
 - b. RAL color same as bollard finish
 16. Metal housing shall be galvanized finish
 17. Additional bollard options:

- a. Tamper resistance switch for top plate and cover plate
 - b. Accumulator for Emergency Fast Operation (EFO), bollard raising time 2 to 3 seconds
 - c. Rechargeable battery pack for one raising movement with charged accumulator
 - d. Heater for up to -22°F (-30°C)
18. Hydraulic fluid shall be Biodegradable hydraulic fluid Plantohyd 22 S, non-hazardous to water, or mineral oil HLP 22
 19. Operator motor: 2hp (1.5kW) 230/400 V, three phase, 50 Hz
 20. Supply power shall be 400 V (3Ph + N + PE), 50 Hz

B. Bollard Controls:

1. Max. distance between bollard and control unit: 164 feet (50m)
2. Microprocessor control unit WE-Tronic II in control box (IP 66) for wall installation inside a building
3. Voltage 24 V DC
4. Control Panels can be customizable per customer specification
5. Optional: Rechargeable battery pack for RO1
6. Optional: Socket SCHUKO type F, plug CEE 7/3 mounted on a top-hat rail inside the control box
7. Optional Outdoor Control Cabinet: Control box installed in outdoor control cabinet complete with rain cover, hygostat, thermostat, heater, fan, hose-proof hood and outdoor coating HxWxD = 1200x1200x400 mm + 200 mm socket (for single, double and triple bollard unit with RO1) or HxWxD = 1000x800x400 mm + 200 mm socket (for all other bollard units) respectively
8. Optional locking mechanism for control cabinet: 3-point locking system with double-bit insert
9. Optional: Folding lever handle with profile cylinder for control cabinet
10. Optional Control Devices:
 - a. Push button "raise/stop/lower" or key switch "raise/stop/lo
 - b. Key switch "fire brigade"
 - c. Key switch "automatic closing on/off"
 - d. Anti-terror push button (for EFO/EO)
 - e. Light beam system
 - f. Remote control receiver, 4-channel including rod antenna
 - g. 2-channel or 4-channel hand-held transmitter
 - h. 1-channel or 2-channel loop detector
 - i. Traffic light red/green, D200
 - j. Flashing permanent beacon or revolving beacon
 - k. Alarm horn for outdoor control cabinet
 - l. Potential free contacts "bollard raised/lowered"
11. Site work materials to include concrete footings, drains or conduit not provided by Sloan.

2.3 MATERIAL

- A. Control Boxes shall conform to IP 66 rating
- B. Sloan will provide material certifications with each order upon request.

2.4 FABRICATION

- A. Fabrication of the members shall be in accordance with manufacturer's instructions, the plan details, and this specification.
- B. Shop drawings can be provided for site specific locations of each barrier upon request.
- C. All Sloan products are coated to the customer specification.

PART 3 – EXECUTION

3.1 SITE EXAMINATION

- A. The purchaser shall indicate the location of all products with suitable means.
- B. The purchaser shall indicate all underground utility locations, USC&G benchmarks, property monuments, and other underground structures that interfere with installation.
- C. Before installing the Sloan Hydraulic Retractable Bollard M50/P2, all necessary site clearing and grading shall be performed by the purchaser. An adequate clearance on both sides of the bollard is required.

3.2 PREPARATION

- A. Examine and verify foundation suitability for product installation.
- B. Clean surfaces thoroughly prior to installation
- C. Prepare surfaces using the methods recommended by the manufacturer for achieving the best results for substrate under the project conditions.

3.3 INSTALLATION

- A. The Sloan Hydraulic Retractable Bollard M50/P2 shall be installed per Sloan's System Drawing. Construct concrete foundations to the dimensions specified by the plans. Excavate a properly sized area for bollard foundations and in accordance with the plans. Place the concrete, install the barrier, and plumb. Use a 100mm diameter PVC tube to connect to a water drainage system for sufficient water drainage. Refer to contract or submittal plans for more installation details.
- B. The Sloan Hydraulic Retractable Bollard M50/P2 Bollard is delivered as a ready to install unit. The electro-hydraulic drive unit is integrated in the blocking element and factory-adjusted.
- C. Sloan's hydraulic retractable bollard M50/P2 are warranted against defects in material and workmanship on structural components for one year from ship date, when installed by a Sloan authorized installer.
- D. Engage an experienced installer who has minimum five years documented experience with projects of similar scope and complexity.
- E. Suggested Installer: Sloan Security Group Phone: (888) 382-8370, Website: www.sloansg.com, Email: info@sloansg.com

3.4 CLEANING

- A. Clean hydraulic retractable bollards M50/P2 in accordance with the manufacture's recommendations to remove dust, dirt, adhesives, and other foreign materials.
- B. Touch-up, repair or replace damaged products before Substantial Completion.
- C. The contractor shall clean the jobsite thoroughly to ensure it is left neat and free of any debris caused by the installation of the active vehicle barrier system.

3.5 CONTINUED SERVICE AND DOCUMENTATION

- A. General maintenance of the Sloan Hydraulic Retractable Bollard M50/P2 System shall consist of removing foreign materials from frame or sub-grade frame as debris may cause damage to the barrier and may cause safety concerns. Refer to the owner's manual for more details on the system maintenance.
- B. Sloan will supply an operator manual that contains recommended maintenance intervals, procedures, and replacement parts lists.
- C. Maintenance instructions shall include routine maintenance procedures, possible breakdowns, and repairs, and troubleshooting guide. The instructions shall include piping layout, equipment layout and simplified wiring, and control diagrams of the systems as installed.
- D. Suggested Maintenance Contractor: Sloan Security Group, Phone: (888) 382-8370, Website: www.sloangsg.com, email: info@sloangsg.com

NOTE: Sloan Security Group reserves the right to change these specifications at any time. Call (888) 382-8370 to ensure that you have the latest edition.

CAUTION: Barriers manufactured by Sloan Security Group are intended for use in controlling vehicular traffic and are not intended to be used by pedestrians or to control pedestrian traffic. **Always install a separate pedestrian entry.**