PRO Barrier Engineering LLC

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The Arrestor Vehicle Barrier Specification Summary

See *Installation, Operations, & Maintenance Manual* for additional information

MECHANICAL	
Impact resistance	*Arrestor* Model anti-terrorism vehicle barrier; K-12 crash certified on 10/27/2005 per DOS SD-STD-02.01, Rev A Test Method for Vehicle Crash Testing of Perimeter Barriers and Gates, dated March 2003 to stop a 15,000 lb vehicle traveling at 50mph with less than one meter penetration of the cargo bed.
Barrier substructure	Shall consist of heavy-duty structural channels, beams and weldments, and shall utilize the patented below-ground anchoring mechanism which vectors the impact load into the steel substructure and concrete foundation while minimizing the bending moment imparted on the supporting structure. The entire barrier structure shall be hot-dip galvanized for corrosion protection.
Beam obstacle	The above-ground portion of the barrier shall consist of a painted steel shell containing multiple bands of energy-absorbing elastic material for reduction of the peak impact loading on the supporting structure. Tamper proof locking pins are provided for enhanced safety during regular maintenance. Top of the beam is 42 inches above road surface.
Clear Vehicle Opening	144 inches (12 ft standard clear opening between arms). Available in widths ranging from 108-in to 300-in (9 ft to 25 ft)
Barrier Dimensions	Clear Opening inches + 44 in W x 72 in L x 24 in D. See *PBE Engineering Drawings.*
Weight	Equipment approximately 8,000 pounds for standard 12 ft clear opening (complete with standard concrete slab approximately 40,000 pounds).
Color	PPG Yellow - Standard. Call *PBE* for PPG Color Chart.
Hydraulic Power Unit	Includes 5.0HP continuous duty cycle motor and accumulator (standard size for HPU mounted within 50 feet of barrier), a thermostatically-controlled reservoir heater, valves, ports, fittings and cycle counter. Double-acting hydraulic cylinders located under the two arms shall actuate the beam. Cylinders must be dual-plumbed to ensure that bypass oil is contained and system is free from contamination. A pre-plumbed manually operated backup pump and handle shall be provided in case of power failure. HPU shall be configured to meet the project requirements for distance between HPU and barrier location, speed of actuation, recovery time, speed of vehicle throughput, and other functional or environmental considerations.
Hydraulic Fluid	Mobil EAL Envirosyn H Series - ISO Viscosity Grade 32 (to be procured locally by others, not shipped with barrier)
Reservoir Capacity	Approximately 10 Gallons, depending upon the barrier to HPU distance.
Operating Speed	Field adjustable based on customer requirements. Standard operating speed 5 seconds up, 5 seconds down; Emergency function speed is 2 seconds or less.

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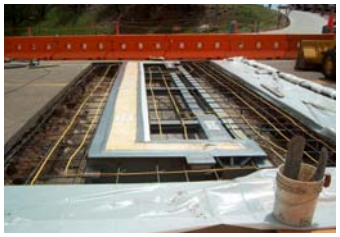

ELECTRICAL	
Line Voltage	Dedicated 208VAC, 3-Phase, 30AMP, 60Hz on emergency backup power circuit (additional line voltage may be required based on project specifications for external equipment) Other power configurations are available for HPU package.
Primary User Interface	Standard barrier user interface shall include a table or wall mountable Operator Control Panel (OCP). OCP includes a Joystick for barrier movement up/down; barrier position indicator lights; an Emergency Close button with key reset and barrier ready light; and a power on/off switch with indicator light. Power requirements dependent upon Operator Control Panel (OCP) distance from barrier HPU (24VDC or 120VAC) and other factors. Many user interface options available.
Functional Control	Standard Control Package is configured using Point-to-Point relay wiring. An Advanced Control Package utilizing universal programmable logic control (PLC) can be customized to meet the required actuation and sequence of operation for timing and/or integration of card access systems, remote push buttons, speed/radar sensors, ground loop sensors, fire/life safety systems, CCTV systems, or other user security devices. Fiber, ethernet or other communication cabling may be required. Power requirements based on electrical control configuration.
Safety Options	Many safety packages available. Standard safety package should include: Red/Yellow traffic lights (one set per direction of travel); ground loops and detector system; high speed gate arm and operator system; IR safety sensor; and CCTV viewing and recording. Final ancillary component package to be determined by functionality needs and sequence of operation. Power requirements based on electrical control configuration.
Climate Control	Heat tracing wires should be embedded in the concrete surrounding the barrier to minimize snow and ice accumulation and permit free operation of the barrier. Separate line voltage required for Heat Trace and varies with each location (typical is 208VAC, 3-Phase, 30AMP dedicated circuit). HPU Heater should be considered to maintain temperature of hydraulic and electrical components. Heat trace design is contingent upon local weather conditions and customer requirements.
QUALITY CONTROL	
Excavation	Clear Opening inches + 60 in W x 96 in L x 24 in D; 24-inch depth is minimum required, and should be increased as necessary for frost protection and drainage. See *Engineering Drawings* .
Concrete	Minimum strength required: 6,000 psi for barrier. Estimate 10 cubic yards for barrier foundation of a standard lane width, excluding HPU pad.
Supervision	Installation shall be by an approved installer, trained by the manufacturer or by an installer that is supervised by a manufacturer's factory technician. Install in strict accordance with manufacturer's instructions and contract documents.
Warranty	One (1) year from the date of shipment on manufactured components and workmanship. Purchased components and accessories are covered under their respective warranties. Excludes labor. See *PBE Warranty* for details.