



LOADING DOCK EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Loading dock equipment of the following types:
 - 1. Vehicle (truck) restraints.
 - 2. Control stations.

1.2 RELATED SECTIONS

- A. Section 03100 - Concrete Forms and Accessories: Placement of anchors into concrete.
- B. Section 03300 - Cast-In-Place Concrete: Docks and pits.
- C. Section 05500 - Metal Fabrications: Metal angles for edge of dock.

1.3 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI MH29.1 - Industrial Scissor Lifts.
 - 2. ANSI MH30.1 - Industrial Loading Dock Boards (Ramps).
 - 3. ANSI MH30.3 - Vehicle Restraining Devices (Safety, Performance, and Testing).

1.4 SUBMITTALS

- A. Section 01330 - Submittals Procedures: Procedures for submittals.
- B. Product Data: For each product specified.
 - 1. Vehicle Restraints: Indicate unit dimensions, method of anchorage, details of construction, materials and finish, installation details, and operation of unit.
- C. Shop Drawings:
 - 1. Indicate required opening dimensions, tolerances of opening dimensions, placement dimensions, and perimeter conditions of construction.
 - 2. Wiring diagrams including location of control stations and disconnect switches.
- D. Assurance/Control Submittals:
 - 1. Certificates: Manufacturer's certificate that Products meet or exceed specified requirements.
 - 2. Qualification Documentation: Submit documentation of experience indicating compliance with specified qualification requirements.

1.5 QUALITY ASSURANCE

- A. Vehicle Restraints: Conform to requirements of ANSI MH30.3.

- B. Manufacturer Qualifications:
 - 1. Manufacturer specializing in manufacturing Products specified with minimum 30 years' experience.
 - 2. Manufacturer to have quality assurance improvement programs.
 - 3. Manufacturer shall be associated with Loading Dock Equipment Manufacturers (LODEM) setting ANSI standards.
 - 4. Manufacturers welding procedure compliant with A.W.S.D1 .1 specifications.
- C. Installer Qualifications: Company specializing in performing the Work of this Section with minimum 5 years' experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store and handle materials and products in strict compliance with manufacturer's instructions and recommendations and industry standards. Store materials within absolute limits for temperature and humidity recommended by manufacturer. Protect from damage.
- B. Store products in manufacturer's labeled packaging until ready for installation.

1.7 WARRANTY

- A. Warranty: Provide manufacturer's standard warranty.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Blue Giant Equipment Corp., which is located at:
85 Heart Lake Rd. S., Brampton, ON, Canada L6W 3K2
Toll Free Tel: 800-668-7078 Tel: 905-457-3900
Email: marketing@bluegiant.com
Web: www.BlueGiant.com
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01600.

2.2 VEHICLE (TRUCK) RESTRAINTS

- A. Vehicle restraint shall be Model SVR303 as manufactured by BLUE GIANT.
 - 1. Type: Electro-hydraulic operated non-impact design. Wall or ground mounted. Comes complete with Blue Genius Touch Controls with interior/exterior communications light package and driver warning signs.
 - 2. Size: Overall body dimensions 15-1/2 inches W by 34 inches L by 8 inches H (394 mm by 863 mm by 203 mm). Refer to approval drawing for complete dimensional details.
 - 3. Function:
 - a. Vertical Restraining Range: From 8 inches to 26 inches (203 mm to 660 mm) above grade, minimum 4 inches (102 mm) contact required.
 - b. Horizontal Restraining Range: From 0 inches to 13 inches (0 mm to 330 mm) beyond the face of the dock.
 - c. Mounting System: Dock face mounting using 4 heavy duty wedge anchor bolts 3/4 inch diameter by 7 inches long (20 mm by 178 mm).

Transfer of pulling force to driveway improves restraining strength by equalizing forces on anchors. Trailer rear impact guard (RIG bar) during backing-in does not impact restraint's body.

4. Operation:
 - a. Operating System: 1 HP totally enclosed non-ventilated (TENV) motor available in all standard voltages, to be mounted in remote location with 20 feet (6,096 mm) hydraulic hoses and bracket. 24V control, NEMA4X/IP65 (wet and corrosion resistant) rated control station with touch buttons for engage, disengage, or reset of restraint. Intelligent positioning system (IPS) shall ensure proper communications and positive locking of the restraint arm. IPS sensor is rated NEMA6 and is resistant to wet or flooded conditions.
 - b. Lights Communication System: Advanced communication package includes LED interior red/yellow/green lights mounted on controller and LED exterior red/green traffic lights mounted on wall, along with mirror image driver warning signs. The lighting system alerts both dock attendant and truck driver to the status of the restraint. If vehicle has no restraining RIG bar, the interior communications lights will remain red while flashing yellow, and the exterior traffic lights will remain red, warning the dock attendant that the vehicle is not secured and requires wheel chocks.
 - c. Control Station: The Blue Genius Gold Series II is a multiple touch button control station with "ENGAGE", and "RELEASE" touch buttons. NEMA4X/IP65 (wet and corrosion-resistant) rated polycarbonate enclosure. Overall dimensions 11-¼ inches L x 7-½ inches W x 5-½ inches D (287 x 190 x 140 mm). Onboard diagnostics and communications feature a user-friendly LCD intelligent display and keypad with supervisory override features. STOP button cuts power to the restraint: should the arm be in mid-travel, it will lower to a hard stop via gravity.
5. Rated Capacity:
 - a. Welding procedure is compliant with A.W.S.D1.1 specifications. Unit provides restraining strength 35,000 lb (15,909 kg) and mounting force of 100,000 lb (45,454 kg).
6. Construction and Finish:
 - a. Vehicle restraint: Welded structural steel housing. High-visibility restraint arm is constructed of two 1-1/4 inch (32 mm) thick solid steel. The housing protects all components from damage from weather, dirt and debris. To resist corrosion and reduce maintenance, housing is zinc plated, main hinge pin is made of stainless steel, includes self-lubricating bushings and bearings and dual double acting cylinder rod has chrome coating. Unit is submersible; can operate during wet or flooded conditions. Overall dimensions including back mounting plate 15-1/2 inch W x 33 inch L x 13 inch H (394 x 838 x 332 mm).
 - b. Exterior LED Traffic Lights: Housing shall be one-piece, weatherproof constructed and made of ultra-high molecular weight plastic. The lights shall be 4 inch (102 mm) diameter of red and green color. Overall body 5 inches W x 11-1/2 inch L x 1/2 inch D (127 x 292 x 13 mm) in size. Slim profile limits the risk of impact damage. Rated NEMA6 (resistant to wet, corrosive, or flooded conditions).
7. Warranty:
 - a. Warranties are subject to standard limitations on liability. Please

consult Blue Giant warranties at <http://www.BlueGiant.com> for full details on warranty information and product registration.

8. Standard Accessories:
 - a. Wall bracket for power pack and 20 foot (6,096 mm) hydraulic hoses
 - b. Four mounting wedge anchor bolts
 - c. Vehicle restraint bypass (allows the control station and traffic lights to be manually operated if the restraint cannot be engaged).
 - d. Interlock control station with interlock sensor to advise when dock is parked
 - e. 'STOP' button that permits the operator to halt the restraint in mid-motion should an unsafe condition arise
 - f. 'Ice breaker' feature that breaks apart or dislodges obstructions that prevent the restraint arm from parking
 - g. Audible alarm (mounted externally to the control station; aids alerting the dock attendant of unsafe or override conditions when the trailers rear impact guard is not secured)
 - h. Audible touch buttons and keypad on the Blue Genius™ provide instant sound feedback to user input

9. Optional Accessories:
 - a. Manual release (to lower the restraining arm in event of power failure)
 - b. Extension plates to suit extended dock leveler pits and edge of dock levelers
 - c. Pour-in place bracket for new construction installation
 - d. Weather/debris seal kit, includes vinyl bellows for extreme environmental conditions
 - e. Pit-mounted hydraulic power pack with 14 feet (4267 mm) of hose
 - f. Arctic oil (temperature range of -57 to 150 degrees C)
 - g. Biodegradable oil (temperature range of -36 to 230 degrees C) in lieu of standard hydraulic oil

PART 3 EXECUTION

3.1 EXAMINATION

- A. Section 01700 - Execution Requirements: Verification of existing conditions before starting work.
- B. Verification of Conditions: Verify that field measurements, surfaces, substrates and conditions are as required, and ready to receive Work.

3.2 INSTALLATION

- A. Install vehicle restraint in prepared opening in accordance with manufacturer's instructions.
- B. Set square and level.
- C. Anchor unit securely, flush with dock.

3.3 ADJUSTING

- A. Adjust installed unit for smooth and balanced operation.

END OF SECTION

