



LOADING DOCK EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Loading dock equipment of the following types:
 - 1. Dock bumpers.
 - 2. Dock safety packages.
 - 3. 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 MH30.1- Industrial Loading Dock Boards (Ramps).
 - 2. ANSI MH29.1- Industrial Scissor Lifts.
 - 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. Bumpers: Indicate unit dimensions, method of anchorage, and details of construction.
 - 2. Levelers: Indicate materials and finish, installation details, roughing-in measurements, 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. Dock Levelers: Conform to requirements of ANSI MH30.1.
- B. Vehicle Restraining Devices: Conform to requirements of ANSI MH30.3.
- C. Manufacturer Qualifications:
 - 1. Manufacturer specializing in manufacturing Products specified with minimum 30 years experience.
 - 2. Manufacturer to have quality assurance improvement programs and ISO certified.
 - 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.
- D. Installer Qualifications: Company specializing in performing the Work of this Section with minimum 5 years experience.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Refer to Section 01600 - Product Requirements: Transporting, handling, storage, installation and protection of products.

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: mpoeltl@bluegiant.com; Web: www.BlueGiant.com

2.2 DOCK SAFETY PACKAGES

- A. Air-powered Air Cylinder Series (ACS) as manufactured by BLUE GIANT.
 - 1. **Dock Leveler:** Recessed, pit installed hinged dock leveler. U-beam construction. Air-operated with independent control of deck and lip.
 - 2. **StrongArm SVR303A Vehicle Restraint:** Air-operated non-impact design. Wall or ground mounted. Overall body dimensions 15 1/2"W x 33 inches L x 8 inches H (394 x 838x 203 mm).
 - a. Model ACS6006: 72 inches (1829 mm) W by 75-1/2 inches (1918 mm) L.
 - b. Model ACS6008: 72 inches (1829 mm) W by 99-1/2 inches (2527 mm) L.
 - c. Model ACS6010: 72 inches (1829 mm) W by 123-1/2 inches (3137 mm) L.
 - d. Model ACS6606: 78 inches (1981 mm) W by 75-1/2 inches (1918 mm) L.
 - e. Model ACS6608: 78 inches (1981 mm) W by 99-1/2 inches (2527 mm) L.
 - f. Model ACS6610: 78 inches (1981 mm) W by 123-1/2 inches (3137 mm) L.
 - g. Model AC7006: 83 inches (2108 mm) W by 75-1/2 inches (1918 mm)

- L.
- h. Model ACS7008: 83 inches (2108 mm) W by 99-1/2 inches (2527 mm) L.
- i. Model ACS7010: 83 inches (2108 mm) W by 123-1/2 inches (3137 mm) L.

3. **Operation:**

- a. **Dock Leveler:** Easy to operate, quiet and smooth cycling. Tankless, on-demand air compressor motor is pit mounted with bracket and 14' (4,267 mm) air lines. Air raising and gravitational lowering of the dock leveler is controlled via a wall-mounted control station. Includes means of lowering the dock leveler below platform level with lip retracted behind dock bumpers. Fluid-based velocity fuse limits the free-fall of a loaded ramp. Comes with one lip cylinder and one deck cylinder.
- b. **StrongArm SVR303A Vehicle Restraint:** The unit has 2.5 inches (64 mm) bore cylinders for arm and lock system. The switchless Intelligent Positioning System, which is rated NEMA6/IP67 (submersible), communicates the position of the restraint arm to the control station via a network, enabling the interior and exterior lights to display the appropriate safety signals. Should a power failure occur, the restraint arm may be lowered manually using a tool (not supplied) designated for that purpose.
- c. **Lights Communication System:** Advanced communication package includes LED interior red/yellow/green lights mounted on controller and 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 and dock lip. If vehicle has no restraining ICC 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.
- d. **Control Station:** The Blue Genius Gold Series III is a multiple touch button control station with constant pressure "DECK", "LIP", "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 provides complete motion freeze of restraint and dock leveler.

4. **Dock Leveler Function:**

- a. **Vertical Travel:** Working range of 12 inches (305 mm) above and 12 inches (305 mm) below dock level.
- b. **Automatic Vertical Compensation:** Unit provides float of 12 inches (305 mm) above and 12 inches (305 mm) below dock level.
- c. **Automatic Lateral Compensation:** Leveler shall have deck flex up to 4 inches (102 mm) to compensate for non-level trailer beds. Rear hinge fixed and does not come up above floor level.
- d. **Lip Operation:** Air-powered lip, controlled independently of main deck cylinder. Lip will yield under impact of incoming vehicle and will automatically drop pendant upon vehicle's departure. The length of the lip extension shall not be less than 16 inches (406 mm) from the ramp edge.

5. **Vehicle Restraint Function:**

- a. **Vertical Restraining Range:** From 8 inches to 26 inches (203 mm to 660 mm) above grade, minimum 4 inches (101 mm) contact required.
- b. **Horizontal Restraining Range:** From 0 inches to 12 inches (305

- c. mm) beyond the face of the dock.
- c. **Mounting System:** Dock face mounting using four (4) heavy duty wedge anchor bolts 3/4 inch dia. x 6 inches long (20 x 152 mm). Transfer of pulling force to driveway improves restraining strength by equalizing forces on anchors. Trailer rear impact guard (ICC bar) during backing-in does not impact restraint's body.
- 6. **Rated Capacities:**
 - a. Welding procedure compliant with ANSI AWS D1.1 (2008) specifications. All units rated in compliance with ANSI MH30.1 (2007). ANSI/NFPA70 approved electrical components. Dock Leveler capacities available from 30,000lb to 45,000lb (13,636 kg to 20,454 kg). Structural deck support to includes minimum six each high-tensile solid steel U-beam members. Restraint rated at 35,000 lb (15,909 kg) pull-out force and 100,000lb (45,454 kg) mounting force.
- 7. Power: __ V, __ Amps, __ Phase.
- 8. **Safety Devices:**
 - a. Vehicle restraint bypass (allows the control station and traffic lights to be manually operated if the restraint cannot be engaged).
 - b. Dock leveler and restraint interlock to prevent cycle of dock until restraint is engaged and to prevent release of dock until restraint is returned to stored position.
 - c. Full operating range metal toe guard protection, painted in high visibility colors.
 - d. Fluid-based velocity fuse "fall safe" to limit free fall,
 - e. Cross traffic support - lip engaged in saddles.
 - f. Corner safety stops.
 - g. Telescopic v-grooved maintenance strut, integral to unit.
 - h. Beveled lip
 - i. Door interlock terminals, 24VDC provided
- 9. **Finish and Color:**
 - a. **Dock Leveler:** Toe guards painted safety yellow as specified by ANSI Z535.1. High visibility OSHA safety striping on stationary side toe guards.
 - b. **Vehicle Restraint:** Welded structural steel housing. Restraint arm is constructed of 11/2"(38 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 and cylinder rod has nitride coating.
 - c. **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 (101 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.
- 10. **Standard Accessories:**
 - a. Night Locks.
 - b. Two model DB411 laminated bumpers 14 inches W by 10 H by 4.5 inches D (355 by 254 by 114mm).
 - c. Manual override (to lower the restraining arm in event of power failure)
 - d. Four mounting bolts.
- 11. **Optional Accessories:**
 - a. Foam insulation underside of deck
 - b. Pour-in pan (dock leveler welded to a steel pan, allowing it to be "poured in place" after concrete slab is poured)
 - c. Clean pit frame.
 - d. Three wheel forklift center deck support
 - e. Audible alarm.

- f. SVR303A extension plates to suit extended dock leveler pits.
- g. Overhead door interlock photo sensor (24VDC).

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 dock leveler and/or dock lift unit in prepared opening in accordance with manufacturer's instructions.
- B. Set square and level.
- C. Anchor unit securely, flush with dock. Weld back of dock leveler to pit frame. Touch-up welds with matching paint.
- D. Install dock bumpers in accordance with manufacturer's instructions.

3.3 ADJUSTING

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

END OF SECTION