



BLUE GIANT EQUIPMENT CORPORATION

LOADING DOCK EQUIPMENT

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Loading dock equipment of the following types:
 - 1. Vertical dock levelers.
 - 2. Control stations.
 - 3. Dock bumpers.

1.2 RELATED SECTIONS

- A. Section 03 11 19 - Insulating Concrete Forming.
- B. Section 03 30 00 - Cast-in-Place Concrete.
- C. Section 05 50 00 - Metal Fabrications.

1.3 REFERENCES

- A. American National Standards Institute (ANSI):
 - 1. ANSI MH30.1 - Industrial Loading Dock Boards (Ramps).

1.4 SUBMITTALS

- A. Section 01 33 26 - Source Quality Control Reporting.
- B. Product Data: For each product specified. Indicate unit dimensions, method of anchorage, and details of construction. 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. 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.
- 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 Corporation, which is located at: 410 Admiral Blvd.; Mississauga, ON, Canada L5T 2N6; Toll Free Tel: 800-872-2583; Tel: 905-457-3900; Fax: 905-457-2313 Web:<https://www.bluegiant.com>
- B. Substitutions: Not permitted.
- C. Requests for substitutions will be considered in accordance with provisions of Section 01 60 00 - Product Requirements.

2.2 VERTICAL DOCK LEVELERS

- A. Vertical Storing Hydraulic Dock Levelers: Hydraulic Dock Levelers, Model 'V' as manufactured by BLUE GIANT.
 1. Type: Recessed, pit installed hinged dock leveler in vertical storing category. Electro-hydraulically operated with independent control of deck and lip complete with hydraulic lip and deck cylinders and fixed rear hinge. Remote wall-mounted power pack. Pit depth, front 12.5 inches (318mm) and rear 12 inches (305mm). Deck length includes 18 inch (457mm) lip.
 - a. Model V6006: Deck Size - 72 inches (1829mm) W by 74 inches (1880mm) L. Pit - 57-1/2 inches (1461mm) L.
 - b. Model V6008: Deck Size - 72 inches (1829mm) W by 98 inches (2489mm) L. Pit - 81-1/2 inches (2070mm) L.
 - c. Model V6606: Deck Size - 78 inches (1981mm) W by 74 inches (1880mm) L. Pit - 57-1/2 inches (1461mm) L.
 - d. Model V6608: Deck Size - 78 inches (1981mm) W by 98 inches (2489mm) L. Pit - 81-1/2 inches (2070mm) L.
 - e. Model V7006: Deck Size - 83 inches (2108mm) W by 74 inches (1880mm) L. Pit - 57-1/2 inches (1461mm) L.
 - f. Model V7008: Deck Size - 83 inches (2108mm) W by 98 inches (2489mm) L. Pit - 81-1/2 inches (2070mm) L.
 2. Function:
 - a. Vertical Travel (for docks with standard 18 inch / 457mm lip): Working range for 6' docks is 9 inches (229mm) above and 8 inches (203mm) below dock level. Working range for 8' docks is 13 inches (330mm) above and 7.5 inches

- (191mm) below dock level.
 - b. Automatic Vertical Compensation (for docks with standard 16 inch / 406mm lip): Unit provides full electronic float of 9 inches (229mm) above and 7.5 inches (191mm) below dock level for 6' docks and 13 inches (330mm) above and 7 inches (178mm) below for 8' docks.
 - c. Lip Operation: Hydraulically powered lip controlled independently of main deck (double acting) cylinder, 18 inch (457mm) lip.
- 3. Operation:
 - a. Operating System: 24VDC control, NEMA4X/IP65 (Wet and corrosion resistant) rated control station with touch-buttons for restraint control. Onboard diagnostics and communications feature a user-friendly, LCD intelligent display and keypad with supervisory override features. Stop button halts the dock in mid-travel.
 - b. Hydraulic Operating System: Electro-hydraulic raising and lowering of the dock leveler controlled from a remote control station. Includes means of lowering the dock leveler below platform level with lip retracted behind dock bumpers for end loading capability. SoftPark cushioning safeguards the deck cylinder while the unit is parking. IntelliTilt features accurate deck positioning. SmartFloat allows the deck to match trailer movement during loading and unloading. EasyClean deck hinge configuration. The loaded ramp's free fall is limited to not over 3 inches (76mm) by a hydraulic velocity fuse. Unit shall come complete with a 1HP motor. Remote power pack is standard.
 - c. Control Station: Remote control station with touch-buttons. The Blue Genius Gold Series I is a multiple touch-button control station. NEMA4X/IP65 (wet and corrosion resistant) rated polycarbonate enclosure. Overall dimensions 1-11/4 inches L x 7-1/2 inches W x 5-1/2 inches D (286 x 191 x 140mm). LED control station lights (red / green / yellow) signal safety conditions.
 - d. Control Station: Blue Genius Gold Series III Control Panel (for dock leveler-vehicle restraint combos only): to interlock dock leveler and restraint functions. The Blue Genius Gold Series III is a multiple touch-button control station. NEMA4X/IP65 (wet and corrosion resistant) rated polycarbonate enclosure. Overall dimensions 11-1/4 inches L x 7-1/2 inches W x 5-1/2 inches D (286 x 191 x 140 mm). For added safety, the control station has a 'STOP' touch-button that will limit equipment motion when touched.
 - e. Control Station For Dock Leveler - Vehicle Restraint Combination: Blue Genius Platinum Series Master Control Panel to control a combination of dock equipment including dock leveler, vehicle restraint, overhead doors, dock light and inflatable seal. The Blue Genius Platinum Series Master Control Panel is customizable to suit application requirements. The Control Panel polycarbonate enclosure is NEMA4X/IP65 (wet and corrosion resistant) rated. Overall dimensions 20.59 inches L x 14 inches W x 5-1/2 inches D (523 x 356 x 140 mm).
- 4. Rated Capacity:
 - a. Welding procedure compliant with ANSI AWS D1.1 (2008) specifications. All units rated in compliance with ANSI MH30.1. ANSI/NFPA70 approved electrical components. Structural deck support to include minimum eight each high-tensile solid steel J-beam members.
 - b. Rated Capacity: As scheduled and indicated on Drawings.
 - c. Rated Capacity: Heavy class (ANSI MH30.1 - 19,000 lb) (8,700 kg).
 - d. Rated Capacity: Super class (ANSI MH30.1 - 26,000 lb) (11,800 kg).
 - e. Rated Capacity: Extreme class (ANSI MH30.1 - 33,000 lb) (15,000 kg).
 - f. Daily Usage: 8 Full Truck Loads (FTL) or as indicated.
- 5. Power: __ V, __ Amps, __ Phase.
 - a. Motors: Enclosed, non-ventilated, 1 HP rated at 110/120V, 60 Hz, single phase.
 - b. Motors: Enclosed, non-ventilated, 1 HP rated at 208/240V, 60 Hz, single phase.
 - c. Motors: Enclosed, non-ventilated, 1 HP rated at 208/240V, three phase.

- d. Motors: Enclosed, non-ventilated, 1 HP rated at 440/480V, three phase.
 - e. Motors: Enclosed, non-ventilated, 1 HP rated at 575V, 60 Hz, three phase.
 - f. Motors: Enclosed, non-ventilated, 1 HP rated at 380/415V, 50 Hz, three phase.
 - g. Motors: Provide motors for unique applications, consult (option).
6. Standard Safety Devices:
- a. Run-off guards: 3 inch (76 mm) high with high visibility yellow finish
 - b. Non-adjustable hydraulic fall safe (velocity fuse) to limit free fall.
 - c. Maintenance strut that supports deck and enables safe under-deck inspections and maintenance.
 - d. Integral service strut for additional security during under-deck repairs and servicing.
 - e. Deck tilt control integrated into frame and strut
 - f. Lip leading edge, optimized bevel (standard).
 - g. Lip leading edge, extended bevel (option).
 - h. Tapered toe guards with OSHA stripping.
7. Frame Channel for rear hinge and deck mounting:
- a. Deck hinge for EasyClean
 - b. Cylinder mounting bracket
 - c. Service Strut mounting bracket
 - d. Embed frame with concrete anchors to substitute onsite channel (standard)
 - e. Weld-on frame for flat surface installation for onsite channel (option)
 - f. Pit frame depth: 12" (305mm) (standard)
 - g. Pit frame depth: 15" (381mm)
 - h. Pit frame depth: 10.5" (267mm)
8. Finish and Color:
- a. Powder Coated and bake cure, resistant to chemicals, corrosion, and incorporates UV inhibitors to reduce fading of colors (standard).
 - b. Deck, lip, frame powder coated blue or color as specified.
 - c. Tapered toe guards powder coated, OSHA safety striping on sides.
 - d. Remainder of unit zinc enriched powder coat (option).
 - e. Remainder of unit galvanized coated (option).
 - f. Deck and lip surface anti-slip grit powder coat (option).
9. Warranty: Warranties are subject to standard limitations on liability. Consult manufacturer for full details on warranty information and product registration.
10. Standard Accessories:
- a. Lockout on maintenance stand.
 - b. 18 inch (457mm) long lip.
11. Oil: Standard oil (temperature range of -41 to 200 degrees C).
12. Oil: Extreme Arctic oil (temperature range of -57 to 150 degrees C).
13. Oil: Biodegradable oil (temperature range of -36 to 230 degrees C).
14. Dock Bumpers: Standard, two model DB412 laminated bumpers 14 inches (356 mm) W by 20 inches (508 mm) H by 4.5 inches (114 mm) D. Includes 12 inch (305mm) risers.
15. Lip Size: As scheduled and indicated on Drawings.
16. Lip Size: 18 inches (457 mm) long (standard)
17. Lip Size: 20 inches (508 mm) long
18. Lip Size: 22 inches (559 mm) long
19. Lip Size: 24 inches (610 mm) long
20. Tapered Lip for 72 inches (1829 mm) and 78 inches (1981 mm) wide models.
21. Full Width (Non-tapered) Lip for 83 inches (2104 mm) wide models.
22. Features/Accessories: Provide the following optional features/accessories
- a. Deck mounted power pack
 - b. Post-mounted power pack
 - c. Draft pad, underdeck seal
 - d. Wall-mounted lip keepers
 - e. Stainless steel lip pin

- f. Stainless rear hinge pins
- g. Blue Genius advanced communication package for verticals (consists of exterior red/green traffic lights and driver warning sign).

2.3 CONTROL STATIONS

- A. Blue Genius Gold Series I Dock Control Panels: As manufactured by BLUE GIANT.
1. Type: Multiple touch-button control station. Includes independent lip, stop and LED message interface.
 2. Standard Features:
 - a. NEMA4X /IP65 polycarbonate enclosure- resistant to both corrosion and wet conditions.
 - b. Printed circuit board technology.
 - c. Keypad with supervisory override option.
 - d. Network connections- bidirectional communication and power wiring.
 - e. Onboard diagnostics and self-testing.
 - f. LCD intelligent display.
 - g. Programmable ports; two inputs and one output for interlocking purposes.
 - h. Finger safeguard against risk of shock.
 - i. UL approved.
 - j. Audible alarm (mounted externally to the control station; aids alerting the dock attendant of unsafe or override.
 - k. Audible touch-buttons and keypad on the Blue Genius provide instant sound feedback to user input.
 3. Function: The Blue Genius Gold Series I- Dock Control Panel controls an independent hydraulic dock leveler via constant pressure 'Deck' and 'Lip' touch-buttons. The hydraulically powered lip is controlled independently of the main deck cylinder, with driver warning signs. Safety devices include door interlock terminals (24VDC provided) and a 'STOP' touch-button that will stop the unit in mid-motion. The 'Esc' touch-button releases the unit from the stopped condition.
 4. Operation: Operating System: Loading dock equipment connected to the Blue Genius Control Panel is controlled via touch-buttons. The Stop button halts or limits the motion of connected dock equipment.
 5. Power: __ V, __ Amps, __ Phase.
 6. Construction and Finish: The Blue Genius is a multiple touch-button control station. NEMA4X/IP65 (wet and corrosion resistant) rated polycarbonate enclosure. Overall dimensions 11-1/4 inches L x 7-1/2 inches W x 5-1/2 inches D (287 x 190 x 140 mm).
 7. Warranty: Warranties are subject to standard limitations on liability. Consult manufacturer for full details on warranty information and product registration.
 8. Optional Accessories:
 - a. Exterior LED Traffic Lights.
 - b. Blue Genius advanced communication package (includes LED interior red/yellow/green and exterior red/green traffic lights and driver warning signs) with security features (activate / deactivate via code).
- B. Blue Genius Gold Series III Combination Control Panels: As manufactured by BLUE GIANT.
1. Type: Multiple touch-button control station.
 2. Standard Features:
 - a. NEMA4X / IP65 polycarbonate enclosure- resistant to both corrosion and wet conditions.
 - b. Printed circuit board technology.
 - c. Keypad with supervisory override option.
 - d. Network connections- bidirectional communication and power wiring.
 - e. Onboard diagnostics and self-testing.
 - f. LCD intelligent display.
 - g. Red/Green/Yellow LED interior Lights Communication System.

- h. Programmable ports; two inputs and one output for interlocking purposes.
 - i. Finger safeguard against risk of shock.
 - j. UL approved.
3. Function: The Blue Genius Gold Series III- Combination Control Panel controls a combination of powered dock leveler and vehicle restraint via 'Deck', 'Lip', 'Release', and 'Engage' touch-buttons. The LED Lights Communication System (Red, Yellow, and Green) is mounted on the controller and supplemented by driver warning signs. Safety devices include door interlock terminals (24VDC provided) and a 'STOP' button that halts or limits the motion of connected dock equipment.
 4. Operating System: Loading dock equipment connected to the Blue Genius Control Panel is controlled via touch-buttons. The 'STOP' button that halts or limits the motion of connected dock equipment.
 5. Lights Communication System: The lights communication system consists of LED red/yellow/green lights mounted on the control station and a set of exterior red/green traffic lights mounted on exterior wall, on the driver's side of the dock entrance. This system alerts both dock attendant and truck driver to current safety conditions.
 6. Power: __ V, __ Amps, __ Phase.
 7. Construction and Finish: The Blue Genius is a multiple touch-button control station. NEMA4X/IP65 (wet and corrosion resistant) rated polycarbonate enclosure. Overall dimensions 11-1/4 inch L x 7-1/2 inch W x 5-1/2 inch D (287 x 190 x 140 mm).
 8. Exterior LED Traffic Lights: The housing is constructed to withstand exterior weather conditions with a gasket mounting base, conduit punch-out provisions, and head with two visors and colored lenses. The lights shall be LED 4 inches (102 mm) diameter of red and green color. Overall body 5 inches W x 10 inches L x 3 inch D (127 x 254 x 76 mm) in size. 3-wire Voltage: 12-24V AC/DC 150-75 mA
 9. Warranty: Warranties are subject to standard limitations on liability. Consult manufacturer for full details on warranty information and product registration.
- C. Blue Genius Platinum Series Master Control Panel: As manufactured by BLUE GIANT.
1. Type: Multiple touch-button control station.
 2. Standard Features:
 - a. NEMA4X / IP65 polycarbonate enclosure- resistant to both corrosion and wet conditions.
 - b. Printed circuit board technology.
 - c. Keypad with supervisory override option.
 - d. Network connections- bidirectional communication and power wiring.
 - e. Onboard diagnostics and self-testing.
 - f. LCD intelligent display.
 - g. Red/Green/Yellow LED interior Lights Communication System.
 - h. Integral rotary disconnect (nonfused)
 - i. Duplex receptacle / step-down transformer: 4 amp
 - j. Finger safeguard against risk of shock.
 - k. UL approved.
 3. Function: The Blue Genius Platinum Series Master Control Panel controls a combination of dock equipment: dock leveler, vehicle restraint, overhead doors, dock light, and inflatable seal. Software-based operating sequence is customizable to suit application requirements. The LED Lights Communication System (Red, Yellow, and Green) is mounted on the controller and supplemented by driver warning signs. Safety devices include door interlock terminals (24VDC provided), and a 'STOP' touch-button that will limit or halt equipment motion.
 4. Operating System: Loading dock equipment connected to the Blue Genius Platinum Series Master Control Panel Control Panel is controlled via touch-buttons. The 'STOP' button that halts or limits the motion of connected dock equipment
 5. Lights Communication System: The lights communication system consists of LED red/ yellow/green lights mounted on the control station and a set of exterior red/green traffic lights mounted on exterior wall, on the driver's side of the dock entrance. This

- system alerts both dock attendant and truck driver to current safety conditions.
6. Power: ___ V, ___ Amps, ___ Phase.
 7. Construction and Finish: The Blue Genius is a multiple touch-button control station NEMA4X/IP65 (wet and corrosion resistant) rated polycarbonate enclosure. Overall dimensions 20.59 inches L x 14 inches W x 5-1/2 inch D (523 x 356 x 140 mm).
 8. Exterior LED Traffic Lights: The housing is constructed to withstand exterior weather conditions with a gasket mounting base, conduit punch-out provisions, and head with two visors and colored lenses. The lights shall be LED 4 inches (102 mm) diameter of red and green color. Overall body 5 inches W x 10 inches L x 3 inch D (127 x 254 x 76 mm) in size. 3-wire Voltage: 12-24V AC/DC 150-75 mA
 9. Warranty: Warranties are subject to standard limitations on liability. Consult manufacturer for full details on warranty information and product registration.
 10. Optional Accessories:
 - a. 15 amp step-down transformer for dock light or inflatable seal (if equipment voltage does not match the power).

2.4 DOCK BUMPERS

- A. Dock Bumpers: Two per dock leveler as manufactured by Blue Giant.
 1. Type: Weld flange (for riser metal base mount), laminated, and shall be made of nylon impregnated heavy-duty industrial rubber and punched to receive 5/8 inch (16 mm) supporting rod. Bumper material shall be assembled with two 3 inches by 3 inches by 1/4 inch (76 by 76 by 6 mm) thick steel angles, factory painted, and fastened with threaded rod and nut. Dimensions include angle iron for laminated bumpers.
 - a. Model DB412W: 4-1/2 inches D by 8 inches W by 20 inches H (114 mm D by 203 mm W by 508 mm H).
 - b. Model DB512W: 5-1/2 inches D by 8 inches W by 20 inches H (140 mm D by 203 mm W by 508 mm H).
 2. Type: Steel faced bumpers, laminated, and shall be made of nylon impregnated heavy-duty industrial rubber and punched to receive 5/8 inch (16 mm) supporting rod. Bumper material shall be assembled with two 3 inches by 3 inches by 1/4 inch (76 by 76 by 6 mm) thick steel angles, factory painted and fastened with threaded rod and nut. Dimensions include angle iron for laminated bumpers. Comes with minimum-1/2 inch (13mm) steel face plate to reduce bumper wear.
 - a. Model DB412W-FP: 5 inches D by 8 inches W by 20 inches H (127 mm D by 203 mm W by 508 mm H).
 - b. Model DB512W-FP: 6 inches D by 8 inches W by 20 inches H (152 mm D by 203 mm W by 508 mm H).
 3. Optional Features/Accessories: Provide the following optional features/accessories:
 - a. Bumper risers (vertical), range from 2" (51mm) to 15" (381mm) high (select as application suits).
 - b. Bumper extensions (horizontal), (option), select as application suits.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not proceed with installation until substrates are properly prepared and deviations from manufacturer's recommended tolerances corrected. Commencement of the installation constitutes acceptance of conditions.
- B. Prepare substrates using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
- C. If preparation is the responsibility of another installer, notify Architect, in writing, of deviations from manufacturer's recommended installation tolerances and conditions.

- D. Verification of Conditions: Verify that field measurements, surfaces, substrates, and conditions are as required, and ready to receive Work.

3.2 INSTALLATION

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

3.3 ADJUSTING

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

END OF SECTION