

SECTION 11 13 00

LOADING DOCK EQUIPMENT (rev 12.19.2017)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Loading Dock Seals and Shelters:
 - 1. Impactable, rigid frame shelters.
- B. Hydraulic Dock Levelers:
 - 1. Dock levelers.
- C. Vehicle Restraints:
 - 1. Vertical barrier restraints.

1.2 RELATED SECTIONS

- A. Section 03 30 53 - (Short Form) Cast-in-Place Concrete.
- B. Section 05 50 00 - Metal Fabrications.

1.3 SUBMITTALS

- A. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.
 - 3. Installation methods.
- B. Shop Drawings: Showing overall dimensions (width, height) and location of electrical service panels and motor locations. Supporting construction requirements and equipment structural attachment. Operating range and required clearances.
- C. Closeout Submittals: Submit manufacturer's owner's manual, maintenance manual and master service manual. Submit to COR manufacturer's warranty for each product.
- D. Verification Samples: For each finish product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.

1.4 QUALITY ASSURANCE

- A. Manufacturer Qualifications: Providing sole source for design, engineering, manufacturing and warranty claims handling. Company specializing in manufacturing products specified with a minimum 20 years experiences.
- B. Installer Qualifications: Trained, certified and approved by manufacturer, with documented experience on similar projects.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store products in manufacturer's unopened packaging until ready for installation.
- B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

1.6 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's recommended limits.

1.7 WARRANTY

- A. Manufacturer's Warrantees: Subject to standard limitations on liability.
 - 1. Warranty for Air Tower, Blower and Hoses: Five years for parts and labor standard.
 - 2. Customer Satisfaction Warranty Period: Twelve month money-back warranty.
 - 3. Warranty Period for Parts: Five years, standard.
 - 4. Warranty Period for Labor: One year, standard.
 - 5. Warranty Period for Dock Levelers: Provide optional ten to twenty year warranty, based on Dock Leveler Investment Guide (DLIG).

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Basis of Design: Products from Rite-Hite, which is located at: 8900 N. Arbon Dr.; Milwaukee, WI 53223.
- B. Acceptable Product Suppliers: Poweramp McGuire DLM Systems, Inc. Loading Dock Equipment, Kelly Entrematic Loading Dock Equipment or approved equal.

Bidding on:

Manufacturer: _____

Brand: _____

No.: _____

2.2 DOCK SEALS AND SHELTERS

- A. Product: Survivor 450S Impactable, Rigid Frame Shelter as manufactured by Rite-Hite, or approved equal.

Bidding on:

Manufacturer: _____

Brand: _____

No.: _____

1. Description: Side curtains shall provide full access to trailer. Side frame shall be impactable, semi-rigid polyethylene frame with outer fabric covering, attached to treated lumber backer. Head curtain shall be constructed with five fiberglass stays. Head curtain shall have fabric wear pleats on each end. Height of head curtain shall be 3 inches (76 mm) below height of normal lowest truck to be serviced. Header shall be of fabric construction that diverts water off sides of header. Collapsible draft pads shall seal the gap between the side frames and the sides of the trailer.

2.3 HYDRAULIC DOCK LEVELERS

- A. Hydraulic Dock Levelers: Hydraulic Dock Levelers as manufactured by Rite-Hite, or approved equal.

Bidding on:

Manufacturer: _____

Brand: _____

No.: _____

1. Model: RHH 4000.
2. Compliance:
 - a. Electrical Components, Connections and Wiring: UL listed or recognized.
 - b. Rated Capacity: ANSI MH30.1 - 20,000 lb.
3. Mounting Type, Configuration and Hardware: In accordance with manufacturer's recommendations for application; as scheduled and indicated on Drawings.
4. Nominal Width: As scheduled and indicated on Drawings.
5. Nominal Length: As scheduled and indicated on Drawings.
6. Hydraulics:
 - a. Free Fall Prevention: Non-adjustable hydraulic fuse limits platform free fall to 3 inches (76 mm).
 - b. Platforms: Standard, raised by a 2-1/2 inches (64 mm) ID hydraulic cylinder with a 1-1/2 inches (38 mm) solid guide rod mounted to the leveler frame.
 - c. Lips: Standard, extended by a 1-1/2 inches (38 mm) ID cylinder.
 - d. Hydraulic Pumps: Manifold and oil reservoir contained in integral assemblies.

- e. Hoses: Routed under the leveler platform.
 - f. Flanges and Fittings: JIC flange or "O" ring fittings.
 - g. Hydraulic Fluid: Biodegradable.
7. Operation:
- a. Design: Platform compensates for canted truck beds up to 4 inches (102 mm) and remains flush with rear of pit to eliminate pinch points.
 - b. Raising Platforms: Push and hold the "Raise" button on the control box.
 - c. Extending Lips:
 - 1) After lip clears trailer floor, push and hold the "Lip Out" button while continuing to hold the "Raise" button to extend lip.
 - 2) Release push buttons to allow leveler platform and lip to lower to truck bed, above and below dock height, without manual chain pulling.
 - d. Control Boxes: Gasketed, NEMA 4X enclosure and panel assembly; dual push-button control boxes provide infinite lip control allowing operator to extend lip or stop platform any time during leveler travel. Interlock capable, solid state components, UL approved.
8. Motors: 208/230/460/575V, 60 Hz, three phase.
9. Subframes: Quick clean.
10. Weatherseals: NBI Nylon Brush.
11. Toeguards: Full-range, telescoping toeguards close off sides when leveler is in highest position.
12. Bumpers: Two laminated bumpers per unit.
13. Strut Support System: Integral Maintenance Support System remains in place if unit is impacted by a fork truck; system also provides lock-out, tag-out capability.
14. Lips: Yieldable.
- a. Lip Keepers: Provides cross-traffic support and act as automatic night locks to help prevent building break-in attempts through dock areas.
 - b. Lip Type: Slotted 18 inches (460 mm) lip, with 5 inch (125 mm) SAFE-T-LIP barriers; will stop a 10,000 lb (4,535 kg) load moving at 4 mph (6.4 kph).
15. Finish: Standard, one coat of gray enamel paint.
16. Optional Product Features: Provide optional features for units as listed below.
- a. End Load Legs: For at or below dock level end loads.
 - b. Automatic Return to Dock: Prevents void in the floor.
 - c. Hydraulic Package: Hydra-Rite.
 - d. Cylinder return lines.
 - e. 1 HP motors.

2.4 VEHICLE RESTRAINTS

- A. Vertical Barrier Restraints: VBR-100 (Wall Mounted) Vertical Barrier Restraints as manufactured by Rite-Hite, or approved equal.

Bidding on:

Manufacturer: _____

Brand: _____

No.: _____

1. Function:
 - a. Designed to secure semi-trailer to loading dock by engaging trailer's rear impact guard (RIG) with a large, vertical barrier.
 - b. Spring-loaded, structural steel housing automatically positions the unit when contacted by a backing truck. Barrier controlled manually by a dock attendant inside the building.
2. Mounting Type, Configuration and Hardware: In accordance with manufacturer's recommendations for product application; as scheduled and indicated on Drawings.
3. Operation:
 - a. After truck is backed into dock, the vertical barrier mechanism shall be engaged by inserting a steel control rod into the lifting fork on the barrier which allows the dock attendant to raise the vehicle restraint into a locked position on the trailer's RIG or ICC bar.
 - b. Once the barrier is raised, the outside communication will immediately change to red.
 - c. Dock attendant visually verifies proper engagement, depresses the lock button on the control panel, and inside lights change to green.
 - d. Barrier maintains constant contact with the rear impact guard (RIG) and adjusts automatically with trailer float motion to ensure proper engagement during loading and unloading operation.
 - e. Provides holding force of 32,000 lbs (14,500 kg) minimum.
 - f. Light communication system automatically adjusts to proper operational mode.
 - g. Servicing: After servicing is completed, the dock attendant inserts the control rod into a hook release ring and releases the hook to its stored position, changing the outside lights from red to green. Operator then depresses the unlock button on the control box to change the inside lights from red to green.

4. Operator Controls:
 - a. Provide flexibility for customizing sequence of operation to most requirements.
 - b. Operator controls mounted in a gasketed control panel. NEMA 4X panel and enclosure assembly. UL approved.
 - c. Control panel is fully operational at all times, does not require key activation.
 - d. Barrier, sensor, and magnetic-resistive switches protected by structural steel housing.
 - e. Interlock capable. Optimizes sequence of operation to specific customer needs.
 - f. Electrical Components and Wiring: UL listed or recognized.
5. Housing:
 - a. Enclosed welded structural steel, constructed of 5/16 inch (8 mm) steel.
 - b. Designed to receive the impact of trailers backing into position.
 - c. Housing protects components from damage by weather, dirt. and debris.
6. Finishes:
 - a. Corrosive resistant finish, per ASTM B117 salt spray testing standard, protects inside and outside of steel housing.
 - b. Vertical Barrier: Yellow dichromate finish.
7. Mounting:
 - a. Mounting: Low-profile Dok-Lok restraint mounted to steel plate embedded in dock face or secured by 15 anchor bolts plus 22 inches (559 mm) of weld to pit curb angle.
 - b. Installation does not require modification to the dock leveler.
 - c. Mounting force is in excess of 100,000 lbs. (45,359 kg.)
8. Electrical: Power source of 110/115 volt, single phase with a 1 Amp service circuit.
9. Communication Systems:
 - a. Lights: LED light package.
 - b. Outside Communication System:
 - 1) Lights: Full-time flashing red or green lights with signs instruct truck driver when it is safe to back in or pull out.
 - 2) Light Box: Low profile design helps avoid damage from backing trailers.
 - c. Inside Communication System:
 - 1) Full-time flashing red or green lights with signs help dock attendant know when it is safe

- to perform loading and unloading operations.
- 2) Inside Lights: In opposing mode to outside lights.
- 3) LED outside light monitor at operator control. Communicates full-time safety status of outside lights..
- d. Audible Alarm: Inside alarm helps warn dock attendant when a normal rear impact guard has not been properly engaged.
- e. Audible Alarm Override:
 - 1) Single push-button control horn override control allows dock attendant to override audible alarm.
 - 2) When the audible alarm is overridden, inside red and green lights continue to flash simultaneously.
- f. Provide Interlocks and Interconnects: To customize sequence of operation to meet specific customer needs.
- g. Optional security system interface and coded horn override

2.5 CONTROL PANELS

- A. Control Panels: Dok-Commander Control Panels, multiple touch button control station as manufactured by Rite-Hite, or approved equal.

Bidding on:

Manufacturer: _____

Brand: _____

No.: _____

- B. Standard Features
 - 1. NEMA 4X rated panel and enclosure assembly.
 - 2. Interlock capable.
 - 3. Integrated Dock leveler controls.
 - 4. Integrated Dok-Lok Vehicle restraint controls.
 - 5. Branch fusing.
 - 6. Optional:
 - a. Integrated Overhead door push buttons.
 - b. 5 amp duplex outlet.
 - c. Dock light power.
 - d. Dock light on/off switch.
 - e. Rotary disconnect.
 - f. Security system interface.
- C. Operating System: Loading dock equipment connected to the Dok-Commander Control Panel is controlled via touch buttons that

correspond to the equipment's function, and is interlock capable to optimize sequence of operation to specific customer needs.

- D. Construction and Finish: The Dok-Commander is a multiple touch button control panel with constant pressure buttons. NEMA 4X (water and corrosion resistant) rated polycarbonate enclosure and panel assembly.
- E. Approvals: UL and ULc approved panel assembly.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Installer shall examine the opening and conditions under which dock equipment is to be installed and notify the Architect and Contractor in writing of any conditions detrimental to the proper and timely completion of the work. Do not proceed with the work until unsatisfactory conditions have been corrected in a manner acceptable to the installer.
- B. Do not begin installation until openings have been properly prepared.
- C. If preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. Clean surfaces thoroughly prior to installation.
- B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.3 INSTALLATION

- A. Install in accordance with manufacturer's instructions, and in proper relationship with adjacent construction.
- B. Before acceptance, a demonstration shall be conducted in the presence of the COR that all equipment operates properly in every aspect. Conduct a detailed user/operator training session at time and place agreed upon by COR.

3.4 PROTECTION

- A. Protect installed products until completion of project.
- B. Touch-up, repair or replace damaged products before Substantial Completion.

--END OF SECTION--