

## HORTON AUTOMATICS - ARCHITECTURAL SPECIFICATIONS, 8/2006

### HD-SWING™ POWER SWING PACKAGE – SERIES 4700HD HEAVY DUTY ELECTRIC SWING DOOR OPERATOR

#### DIVISION 8 - DOORS AND WINDOWS SECTION 08460 - AUTOMATIC ENTRANCE DOORS

*Specifier Note: Coordinate and edit articles and paragraphs below to suit project requirements. Add section numbers and titles per CSI "MasterFormat" and specifier's practice. Consult with manufacturer regarding performance requirements for units applicable to project, as well as, related equipment and accessories required.*

#### PART I - GENERAL

##### 1.01 SUMMARY

- A. WORK INCLUDED: Furnish complete automatic swing door operator, as specified, that has been manufactured, fabricated and installed to maintain performance criteria stated by manufacturer without defects, damage or failure.
- B. RELATED WORK:
1. Masonry: Division 4, applicable sections.
  2. Electrical: Division 16, applicable sections.
  3. Storefront; Hardware: Division 8, applicable sections.
  4. Perimeter Sealants; Insulation: Division 7, applicable sections.

##### 1.02 REFERENCES

- A. [AMERICAN ARCHITECTURAL MANUFACTURERS ASSOCIATION \(AAMA\) 101: Appendix Dissimilar Materials.](#)
- B. [AMERICAN ASSOCIATION OF AUTOMATIC DOOR MANUFACTURERS \(AAADM\).](#)
- C. [AMERICAN NATIONAL STANDARDS INSTITUTE \(ANSI\):](#)
1. [ANSI A156.10:](#) For Power Operated Pedestrian Doors; Swing Doors section.
- D. [AMERICAN SOCIETY FOR TESTING AND MATERIALS \(ASTM\) B221:](#) Aluminum-Alloy Extruded Bars, Rods, Shapes and Tubes.
- E. INTERNATIONAL BUILDING CODE: Power-operated door section
- F. [NATIONAL FIRE PROTECTION ASSOCIATION \(NFPA\) 101:](#) Code for Safety to Life from Fire in Buildings & Structures.
- G. [THE ALUMINUM ASSOCIATION \(AA\)](#) Aluminum Finishes Manual.
- H. [UNDERWRITERS LABORATORY, INC.](#)(USA & CANADA) [UL 325:](#) Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.

##### 1.03 SUBMITTALS

- A. PRODUCT DATA: Submit manufacturer's complete product and installation data.
- B. SHOP DRAWINGS: Submit drawings showing layout, profiles, product components including anchorage, accessories, finish and glazing details (where required).

C. **QUALITY ASSURANCE AND CLOSEOUT SUBMITTALS:** Submit the following:

1. Manufacturer's Operation and Maintenance Data (Owner's manual).
2. Warranty document as specified herein.
3. AAADM inspection compliance form completed and signed by certified AAADM inspector prior to doors being placed in operation as proof of compliance with ANSI A156.10.

#### **1.04 QUALITY ASSURANCE**

A. **INSTALLERS QUALIFICATIONS:** Installer shall be factory trained, certified by AAADM, and experienced to perform work of this section.

B. **MANUFACTURER'S QUALIFICATIONS:** Manufacturer to have minimum (5) five years successful experience in the fabrication of automatic doors of the type required for this project. Manufacturer capable of providing field service representation during installation, approving acceptable installer and approving application method.

#### **1.05 WARRANTIES**

A. **MANUFACTURER'S WARRANTY:** Units to be warranted against defect in material and workmanship for a period of one year from the Date of Substantial Completion. Manufacturer's warranty is in addition to, and not a limitation of, other rights owner may have under Contract Documents.

B. **DISTRIBUTOR'S WARRANTY:** One year warranty: Labor and transportation charges for defective parts replacement.

#### **1.06 PROJECT CONDITIONS**

**FIELD MEASUREMENTS:** Verify actual dimensions/openings by field measurements before fabrication and record on shop drawings. Coordinate with fabrication and construction schedule to avoid construction delays.

#### **1.07 DELIVERY, STORAGE AND HANDLING**

A. **ORDERING AND DELIVERY:** Comply with factory's ordering instructions and lead time requirements. Delivery shall be in factory's original, unopened, undamaged containers with identification labels intact.

B. **STORAGE AND PROTECTION:** Provide protection from exposure to harmful weather conditions and vandalism.

### **PART II - PRODUCTS**

#### **2.01 MANUFACTURER**

HORTON AUTOMATICS, a division of Overhead Door Corporation, shall manufacture automatic swing door operator(s) of type(s) and size(s) specified on plans and door schedule.

#### **2.02 EQUIPMENT**

A. **HD-SWING™ HEADER:** Shall be Side Access, extruded aluminum case 6" x 6" (152 mm x 152 mm)

B. **OPERATOR:** The Electric Operating Mechanism shall be Series 4700. Maximum current draw shall not exceed 3.15 amps. Operator shall be isolation mounted and concealed in an extruded aluminum case for smooth and quiet operation.

1. Opening action shall be accomplished by a 1/4 HP D.C. permanent magnet motor with encoder working through reduction gears to the output shaft. Gear train bearings shall be sealed ball bearing types.
2. Closing action shall be accomplished by a maximum-duty Quadracoil™ spring (four independent coil springs separated by teflon discs and enclosed in an external spring box) with a lifetime warranty and power assist closing option from microprocessor control. Close speed control shall be supplied by dynamic braking based on encoder pulses and shall be fully adjustable. Operator to act as a manual closer when power is off or when the master control unit is removed. An On/Off/Hold Open switch shall be supplied.
3. Master Control shall be C2150 microprocessor based Version 8 software and shall incorporate the following features:
  - a. Adjustable time delay of 1 to 60 seconds.
  - b. Infinite adjustment to opening and open check speeds.
  - c. Motor Protection Circuit: A locked door motor protection circuit will be supplied that will limit current to the motor when the door is inadvertently locked or otherwise prevented from opening.

C. MANUFACTURED DOOR UNITS: Surface Applied Operator with Connecting Arms: The operator header shall be mounted to the surface of the existing door frame or wall. Connecting hardware shall be a double arm arrangement that can either push the door or pull the door open to suit the job condition. When the operator mounting is on the pull side and adjacent wall is within 4" (102 mm) of the door frame, specify a parallel arm.

### **2.03 RELATED EQUIPMENT**

- A. OPTIONAL SENSOR SYSTEM: Shall be 24 VAC, class II circuit Vista™ package and shall incorporate the following:
1. Activation sensor: Shall be one of the following:
    - a. Microwave unidirectional/bidirectional motion sensor shall activate the door (approach side).
    - b. Active infrared motion/presense sensor shall activate the door (approach side).
  2. Swing Side safety sensor: Overhead-mounted active infrared sensor shall utilize diffused technology.
    - a. Sensor shall keep a closed door from opening or an open door from closing when safety zone (swing door area) is occupied.
    - b. When door is in open position the swing side safety sensor shall provide threshold protection covering the full width of door overlapping into activating zone.
  3. Pulsed infrared Sentinel™ photo beam shall be mounted beyond the swing of the door for ANSI compliance.
- B. GUIDE RAILS: Shall be of type selected and to be provided on swing side of door unless protected by adjacent wall in accordance with ANSI A156.10.

### **2.04 RELATED WORK REQUIREMENTS**

- A. ELECTRICAL: 120 VAC, 60 cycle, 1 phase, 15 amp. Non-North American voltages can be 240 VAC (operator must have 240 volt power supply)
- B. MAXIMUM DOOR WEIGHT: The ability of a swing door operator to open and close a swing door is directly related to the amount of force required to move the door and not totally related to actual door weight.

The opening and closing force provided by this operator is fully adjustable and capable of delivering substantial torque at the output shaft. Thus, this operator is capable of opening and closing doors weighing several thousand pounds such as doors used in

hospital x-ray treatment rooms. Typically these very heavy doors are balanced and equipped with precision hinges which significantly reduce opening and closing force.

Additionally, very heavy doors must be equipped with either a floor mounted or wall mounted open bumper to stop the door in the full open position. Do not rely on the internal open stop of the operator to stop the door in the open position.

## **2.05 MATERIALS, FINISHES AND FABRICATION**

- A. EXTRUDED ALUMINUM: ASTM B221, 6063-T5 alloy and temper, anodized: Structural Header Sections shall be minimum 1/8" (3 mm) thickness.
- B. FINISHES (for all exposed aluminum surfaces): Shall be one of the following:
  - 1. 204-R1 Clear: Arch. Class II Clear Anodized Coating, AA-MI2C22A31.
  - 2. 313-R1 Dark Bronze: Arch. Class II Anodized Coating, AA-MI2C22A32.
  - 3. 312-R1 Light Bronze: Arch. Class II Anodic Coating, AA-MI2C22A32.
  - 4. 315-R1 Black: Arch. Class II Anodic Coating, AA-MI2C22A32.
  - 5. Special Paint Coating: Color as selected.
  - 6. Clad with stainless steel or muntz metal (brass alloy): #7 or #4 finish.
- C. OPERATOR CONSTRUCTION: Electromechanical.

## **PART III - EXECUTION**

### **3.01 EXAMINATION**

SITE VERIFICATION OF CONDITIONS: Installer must verify that base conditions previously installed under other sections are acceptable for product installation according to manufacturer's instructions. Notify the Contractor in writing of conditions detrimental to the proper and timely completion of work. Do not start work until all negative conditions are corrected in a manner acceptable to the installer and manufacturer.

### **3.02 INSTALLATION**

- A. GENERAL: Install door units plumb, level and true to line, with manufacturer's prescribed tolerances. Provide support and anchor in place.
- B. DISSIMILAR MATERIALS: Comply with AAMA 101, Appendix Dissimilar Materials by separating aluminum materials and other corrodible surfaces from sources of corrosion or electrolytic action contact points.
- C. WEATHER-TIGHT CONSTRUCTION: Install header with joint filler or gaskets. Coordinate installation with wall flashings and other components of construction.
- D. ELECTRICAL: General or electrical contractor to install all wiring to operator on a separate circuit breaker routed into header.

### **3.03 CLEANING, ADJUSTMENT AND PROTECTION**

- A. CLEANING: After installation, installer shall clean product surfaces and lubricate operating equipment for optimum condition and safety.
- B. ADJUSTMENT: AAADM certified technician shall inspect and adjust installation to assure compliance with ANSI A156.10.
- C. ADVISE CONTRACTOR: Of precautions required through the remainder of the construction period, to ensure that doors will be without damage or deterioration (other than normal weathering) at the time of acceptance.

**END OF SECTION**