

**AUTOMATED ENTRANCE**  
**Revised February 26, 2002**

**HEAVY DUTY LOW ENERGY**  
**AUTOMATIC SWINGING DOOR OPERATOR**

**SERIES 2000 ELECTRIC OPERATOR**

**PART I - GENERAL**

**1.01 DESCRIPTION**

This section includes furnishing of all labor, material and equipment to perform all operations in connection with the automatic swing door operators, specified herein and as shown on drawings. The General Contractor shall coordinate the work of all trades including the automatic door supplier, door and frame supplier, hardware supplier, carpenter, mason, and electrician as so specified.

**1.02 RELATED WORK COVERED BY OTHER APPLICABLE SECTIONS OF SPECIFICATION SHALL INCLUDE:**

- A.** Preparation of Opening
- B.** Floor Preparation
- C.** Electrical Supply and Connections (120 VAC Dedicated Circuit)
- D.** Glass and glazing
- E.** Caulking

**1.03 QUALITY ASSURANCE**

**A. ANSI A156.19 STANDARD**

Provide automatic entrance doors complying with applicable requirements of Power Operated Pedestrian Door Standard where applicable to door type.

**B. UL 325**

Provide powered door operators complying with UL 325, Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.

**C. MANUFACTURER'S QUALIFICATIONS**

Provide units produced by a firm with not less than 5 years successful experience in the fabrication of automatic doors of the type required for this project.

**D. INSTALLER'S QUALIFICATIONS**

Engage an installer who has an AAADM certified inspector on staff and is an authorized representative of the automatic door

manufacturer for both the installation and maintenance of the type of units required for this project.

#### **1.04 SUBMITTALS**

##### **A. PRODUCT DATA**

Submit manufacturer's product data and standard details for automatic doors, including fabrication, finishing hardware, operators, accessories, and other components of the work. Include rough-in diagrams, wiring diagrams, parts lists, and maintenance instructions, as well as certified test data (where required).

##### **B. TEMPLATES AND DIAGRAMS**

Furnish templates, diagrams, and other data to fabricators and installers of related work, as needed for coordination of automatic entrance installation.

##### **C. SHOP DRAWINGS**

Submit shop drawings for the fabrication and installation of automatic entrance doors and associated components of the work. Indicate anchors, joint system, expansion provisions, hardware, and other components not included in manufacturer's standard data. Include glazing details (where required).

#### **1.05 WARRANTY**

Units to be warranted against defect in material and workmanship for a period of one year from the date of installation.

### **PART II - PRODUCT**

#### **2.01 MANUFACTURER**

Series 2000 automatic swinging door operator(s) shall be of type(s) and size(s) as indicated on plans, as manufactured by AUTOMATED ENTRANCE.

## **2.02 EQUIPMENT**

### **A. OPERATOR**

The Electric Operating Mechanism shall be Series 2000. It shall be self-contained electromechanical construction. The operator shall be shock mounted and concealed in an extruded aluminum case 4½" x 7" side access header cover. The operator shall be readily convertible to any hand required. Opening force shall be accomplished by a 1/8 HP D.C. permanent magnet motor working through reduction gears to the output shaft. Gear train bearings shall be sealed ball bearing types. Closing force shall be supplied by a field replaceable Clock spring. Close speed control shall be accomplished by dynamic braking of the motor 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 reset switch shall be supplied. The control circuit to the actuating switches shall be 24 VAC, Class II Circuit. The master control unit shall incorporate an adjustable time delay of 1 to 20 seconds. It shall provide infinite adjustment to opening and back check speeds. The master control unit shall provide for immediate reversal of door motion without undue strain on the drive train by supplying stepped voltage to the motor. A locked door motor protection circuit will be supplied that will shut off current to the motor if it is applied when the door is inadvertently locked or otherwise prevented from opening. Power to the motor is restored when the On/Off reset switch is turned back on.

### **MANUAL/AUTOMATIC**

Manual operation when pushed open, automatic operation when actuated by pushbutton switch. This feature is switched on or off at the option of the customer.

### **AUTOMATIC**

Automatic operation by pushbutton switch.

The operator shall include the following variable adjustments to enable it to comply with Standard ANSI A156.19 and American with Disabilities Act of 1990.

Opening speed - 4 to 6 seconds

Closing speed - 4 to 6 seconds

Time delay before closing - 2 to 30 seconds (ANSI requirement is 5 second minimum time delay).

Opening and closing force, measured 1" (25.4 mm) out from the lock stile of the door, not to exceed 15 pounds (67 N) of force to stop the door when operating in either direction.

The operator shall include "Time Out" feature. This feature will turn off the opening force when the door is stopped for one second. The door then begins to close. The operator immediately resets and will accept another opening signal.

*SoftTouch* an optional feature reverses the door to the open position if it is stopped during closing cycle (90° - 10°).

The operator shall be mounted to the surface of the wall above the door, or, concealed in an extruded aluminum cover not less than .125 (3 mm) thickness in clear anodize or dark bronze anodize. Cover shall run the full width of the door and be 4 7/8" x 7".

**OPTION:**

*Emergency Breakout. Inswinging doors shall be equipped with an emergency breakout. When door is in emergency breakout position, power shall be removed from the operator.*

**B. DOOR AND FRAME CONSTRUCTION** (Series 2000 OHC only)

**OPTION: (Delete door and frame section if operator only is furnished and state which section covers the door.)**

Door and Frame shall be of heavy duty construction suitable for continuous automatic door service. All structural members shall be of extruded tubular aluminum thickness of .125 inch (3.175 mm). Alloy shall be 6063-T5. Frame members shall be 1-3/4" x 4" (44.45 mm x 101.6 mm) dimensions. Swing panel shall be assembled by means of tongue-and-groove, key-fitted gussets that are bolted to prevent racking failure. Lock and pivot rails shall have adjustable dual weatherstripping. Vinyl finger guards shall be provided. Snap-in glazing beads with vinyl gasket shall be provided. The following hardware shall be provided: (1) Maximum security lock, (2) Push bars, (3) Pivots, (4) Finger guards, (5) Threshold.

All exposed surfaces shall be:

**OPTIONS:**

(1) Standard Finish: Caustic etch and anodic oxide treatment to conform to aluminum association standards AA-M12C22A31 (204-R1).

(2) Stock Finish: An integral color hard coat finish dark bronze.

(3) *Special Finish: An integral color hard coat finish (specify color).*

OPTION: The operator shall be (select operator type)

Series 2000

mounted to the surface of the existing door frame or wall and be concealed in a 4 7/8"x7" aluminum cover. 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 an adjacent wall is within 4" (101.6 mm) of the door frame, specify a parallel arm.

Series 2000 (complete package including door)

The operator is mounted directly over the door and is concealed in a 4 7/8"x7" aluminum cover that serves as the door frame header. The cover shall be self-supporting to transom glass above. The operator output shaft shall connect to an arm that transmits power to the door via a slide block connected to the arm. The arm works in a track that is mounted in the top web of the door. The door pivot is independent of the operator and the bottom door pivot is included.

OPTION: In swinging doors shall be equipped with an emergency breakout. When door is in emergency breakout position, power shall be removed from the operator.

**C. FINISH**

**OPTIONS: All exposed surfaces shall be (Select desired finish)**

- 1) 204-R1 clear anodized aluminum.
- 2) 313-R1 dark bronze anodized aluminum.
- 3) Manufacturer's standard two coat Duranar finish. Color to be selected by architect from manufacturer's standard color chart.
- 4) Manufacturer's standard three coat Duranar XL finish. Color to be selected by architect from manufacturer's standard XL color chart.
- 5) Manufacturer's standard exotic Duranar finish. Color to be selected by architect from manufacturer's standard exotic color chart.
- 6) Special color and finish as indicated (optional)

## **2.03 CONTROL SWITCHES**

Provide a Curran Engineering Co. model CE 635 4½" x 4½" push plate switch engraved with the international handicap insignia and "Press to Operate Door", - on each side of the opening at the location shown on the drawing.

*Option: Model CE 605 is a 6" round, push plate switch - engraved with international handicap insignia and marked "Press to Open".*

*Option: BEA model SuperScan LE hold open presence sensor.*

## **2.04 REQUIREMENTS FOR ELECTRICAL WORK BY OTHERS**

The Electrical Contractor shall furnish and install all wiring to operator. Provide 120 VAC, 60 cycle, 1 phase, 15 amp service to each operator (header) on a separate circuit breaker routed into header. Remote switches (if specified) shall be provided with control wire and electrical boxes from switches to operators. Remote switches provided under this section shall be installed by the electrical contractor.

NOTE: Maximum current draw is 5 amps per operator protected by internal circuit breaker in operator.

## **PART III - EXECUTION**

### **3.01 INSPECTION**

Installer must examine the areas and conditions under which automatic doors are to be installed and notify the Contractor in writing of conditions detrimental to the proper and timely completion of work. Do not proceed with the work until all unsatisfactory conditions have been corrected in a manner acceptable to the installer and in accordance with approved shop drawings.

### **3.02 INSTALLATION**

Comply with specifications and recommendations. Set track and operator plumb, level and true to line, without warp or rack of doors. Anchor securely in place. Isolate aluminum and other corrodible materials from sources of electrolytic action at points of contact. Install complete door operator system in accordance with manufacturer's instructions, including drive mechanism, controls, and control switches.

### **3.03 ADJUST AND CLEAN**

Adjust operator and controls for optimum condition and safety. Lubricate operating equipment. Clean surfaces promptly after installation, exercising care to avoid damage of the protective coating (if any). Advise contractor of protective treatment and other 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**