

**DETEX ARCHITECTURAL SPECIFICATIONS, JULY 2010
AO19 SERIES/MODEL M2000 HEAVY DUTY LOW-ENERGY
ELECTRIC SWING DOOR OPERATOR**

**SECTION (08713)
LOW ENERGY AUTOMATIC OPERATORS**

Specifier Note: Coordinate and edit articles and paragraphs below to suit project requirements. Add section numbers and titles per CSI "Master Format" 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. SECTION INCLUDES: Provide complete automatic Heavy Duty Low Energy Operators as specified.
- B. RELATED REQUIREMENTS:
 - 1. Electrical: Division -26, applicable sections.

Entrances, Storefronts, & Curtain Walls: Section 08 40 00.
Hardware: Section 08 70 00, applicable sections.

1.02. REFERENCES

- A. AMERICAN ASSOCIATION OF AUTOMATIC DOOR MANUFACTURERS (AAADM).
- B. AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI):
 - 1. ANSI A156.19: For Power Assist and Low Energy Power Operated Doors.
 - 2. ANSI 117.1: Accessibility Standards
- C. NATIONAL FIRE PROTECTION ASSOCIATION (NFPA)
 - 1. 101: Code for Safety to Life from Fire in Buildings & Structures
 - 2. 80: Fire Doors and Fire Windows.
- D. THE ALUMINUM ASSOCIATION (AA) Aluminum Finishes Manual.
- E. UNDERWRITERS LABORATORY, INC. (USA & CANADA)
 - 1. UL Standard 325: Electrical Door, Drapery, Gate, Louver, and Window Operators and Systems.
 - 2. UL Standard 228: Standard for Door Closers-Holders, With or without Integral Smoke Detectors.
- F. BUILDER'S HARDWARE MANUFACTURERS ASSOCIATION (BHMA).

1.03 SUBMITTALS

A. PRODUCT DATA:

1. Submit manufacturer's complete product and installation documents.
2. Submit Shop drawings showing layout, profiles, elevations and product components including anchorage, accessories, and electrical access locations.
3. Manufacturer's Operation and Maintenance documents.
4. Warranty document as specified herein.
5. AAADM inspection compliance form completed and signed by certified AAADM inspector prior to doors being placed in operation as proof of compliance with ANSI A156.19.

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 capable of providing field service representation during installation, approving acceptable installer and approving application method.
- C. Equipment supplied shall comply with ANSI A156.19 and UL 325.

1.05 WARRANTIES

- A. **MANUFACTURER'S WARRANTY:** Units to be warranted against defect in material and workmanship for a period of THREE YEARS 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.

1.06 PROJECT CONDITIONS

MEASUREMENTS: Verify actual dimensions/openings by field measurements before fabrication and record on shop drawings. Coordinate production, shipping 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 APPROVED MANUFACTURER

**Automatic door operator shall be manufactured by:
DETEX CORPORATION
302 Detex Drive
New Braunfels, Texas 78130
Phone 800-729-3839
Fax 830-620-6711**

2.02 EQUIPMENT

- A. AO19 SERIES/MODEL 2000 HEADER: Shall be available in the following configurations:
1. Surface Mounted. Shall be extruded aluminum case 7" x 4.5" x required length determined by door/frame size.
- B. OPERATOR: The Electric Operating Mechanism shall be Model 2000.
1. Maximum current draw shall not exceed 3.15 amps. Operator shall be concealed in an extruded aluminum case and provide smooth and quiet operation.
 2. Opening action 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.
 3. Closing action shall be accomplished by a clock spring (enclosed in an external spring box). Close speed control shall be supplied by dynamic braking of the motor and shall be fully adjustable. Operator must act as a manual closer when power is off. An On/Off /Hold switch shall be supplied.
- C. OPERATOR CONTROL: Shall incorporate the following features:
1. Adjustable time delay of 2 to 30 seconds (ANSI A156.19 requirements 5 second minimum time delay).
 2. Finite adjustment to opening and open check speeds including adjusting the opening force without affecting the opening speed.
 3. Immediate reverse on obstruction during the closing and opening cycles.
 4. Motor Current Limit: An adjustable current limit will be supplied that will shut off current to the motor when the door is inadvertently locked or otherwise prevented from opening, protecting motor and control from damage.
 5. Power Assist Close: power is applied to reverse motor when the door stalls in the latch position. Field selectable on/off. Power level field adjustable.
 6. Door Seal: The control will provide a small current to motor to hold door closed after Power Assist Close has closed the door fully. Field selectable on/off.
 7. Delayed Activation: This signal to ground will start the delayed activation timer. When the timer expires, activation is generated. This signal is used to do door sequencing.

8. Lockout (Safety A): When using an overhead presence detection sensor, the lock-out function is incorporated into door control without the need for additional modules.
9. (Safety B): For use with door mounted presence sensors. When this option is used and the door is closed it will prevent activation if an obstruction is detected. During the opening cycle, the door will go to safety speed upon detection of an obstacle in its path. During the closing cycle the door will go to a safety speed. When the door reaches back-check the sensor will be inhibited from stalling the door. When the door is fully opened, the door will be prevented from entering the closing cycle. No additional modules required.
10. Electric Lock Contacts (Normally Open): To control an electric strike.
11. Electric Lock Control (Normally Close): To control an electric magnetic lock.
12. Secondary activation; automatically reopens door upon closing, when Secondary traffic approaches. Activation is inactive when door reaches latch-check in accordance with ANSI/BHMA A156.19.

D.OPERATION: Automatic and/or Manual:

1. Automatic: Push button switch actuates door open; door closes after time delay expires.
2. Manual: Opening and closing force, measured 1" (25.4 mm) out from the lock stile of the door, not to exceed 15 pounds (67 N). Not to exceed 15 pounds of force to stop the door when operating in either direction. Operator to include the following variable adjustments so as to comply with ANSI Standard A156.19: Opening speed .4 to 8 seconds; Closing speed .4 to 20 seconds.
3. Push-N-Go: Manually pushing door activates automatic opening cycle; door closes after dedicated Push and Go timer expires.

2.03 RELATED EQUIPMENT

A.ACTIVATION DEVICES:

1. Shall be located on each side of door in accordance with ANSI Standard A117.
2. Push Button: 4/12" x 4 1/2" surface or flush mounted Hard Wired or Radio Control with Clearpath™ Transmission system.
3. Push Plate shall be Stainless Steel or Blue powder coat with International Symbol for wheelchair accessibility logo and "Press to open" or "PUSH TO OPEN" legend.

2.04 RELATED WORK REQUIREMENTS

- A.ELECTRICAL:** 120 VAC, 60 cycle, 1 phase, 15 amp.

2.05 MATERIALS, FINISHES AND FABRICATION *(select one)*

- A. FINISHES (for all exposed aluminum surfaces): Shall be one of the following:
1. 204-Ri Clear: Arch. Class II Clear Anodized Coating, AA-M12C22A31.
 2. 313-Ri Dark Bronze: Arch. Class II Anodized Coating, AA-M12C22.

PART III EXECUTION

3.01 EXAMINATION

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

3.02 INSTALLATION

- A. GENERAL: Install door operator unit(s) plumb and level. Provide support and anchor in place.
1. Install activation and safety devices as required.
 2. Make low voltage connections of related devices.
 3. Make operator control adjustments in accordance with AAADM guidelines.
- B. ELECTRICAL (Provided under Division 26 sections): Electrical wiring for each operator shall be on a separate circuit breaker and shall be routed into the operator header..
- C. LOW VOLTAGE (Provided under Division 26 sections): Provide low voltage wiring for actuators to activate door operators.

3.03 CLEANING, ADJUSTMENT AND PROTECTION

- A. CLEANING: After installation:
1. Repair or provide new product where installed products are damaged..
 2. Clean product surfaces and remove debris from immediate area of operating equipment for optimum condition and safety.
- B. ADJUSTMENT: Arrange for an AAADM certified technician to inspect and adjust installation to assure compliance with ANSI A156.10.
- C. PROTECTION: Take precautions required through the remainder of the construction period, to ensure that door operators will be without damage or

deterioration at the time of acceptance.

END OF SECTION