

**SECTION 08 71 13 [08716]
AUTOMATIC DOOR OPERATORS (Heavy Duty-Low Energy)**

PART 1 - GENERAL

1.1 SECTION INCLUDES

- A. The low energy automatic swing door operator shall consist of an aluminum operator housing, electro-mechanical motor, operator assembly, swing arm and electronic control.

1.2 RELATED SECTIONS

- A. Section 08410 - Aluminum entrances & storefronts
- B. Section 08120 - Aluminum doors & frames
- C. Section 08210 - Wood doors & frames
- D. Section 08110 - Hollow metal doors & frames
- E. Section 08710 - Door hardware
- F. Section 08810 - Glass and glazing
- G. Section 07920 - Caulking & sealants
- H. Division 1600 - Electrical
- I. Division 26 and 28 Sections for emergency generated power source electrical connections including conduit and wiring for automatic entrance door operators, fire alarm, smoke EVAC system, electrified hardware and related power supply terminations, and access control devices.

1.3 REFERENCES – (Codes & Approvals)

- A. Unit described complies with current ANSI A156.19 for Power Assist and Low Energy Power Operated Doors.
- B. Unit is listed with UL 325-1997 standard for Door, Drapery, Gate, Louver, and Window Operators and Systems (File E218616).
- C. CNL approved (UL listing for use in Canada).
- D. Unit complies with NFPA 101 Life Safety Code. (Section 1.4 of UL 325 includes NFPA 101)
- E. Unit complies with NFPA 70 National Electrical Code. (Section 1.1 of UL 325 includes NFPA 70)
- F. Unit complies with IBC (2003)
- G. Unit exceeds BHMA testing - ANSI BHMA A156.19 Section 5 Cycle Testing. (tested 1,000,000 ops)
- H. Listed in accordance with the Uniform Building Code standard 7-2, "Fire Tests of Door Assemblies", (1997) Part I in addition to UL 10C.

1.4 PERFORMANCE REQUIREMENTS

- A. Operator to be used on doors weighing up to 750 pounds per leaf.
- B. Operator capable of operating within temperature ranges of -40°F and +140°F

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300

- B. Product Data: Submit manufacturer's product data and standard details for low energy automatic operators.
- C. Shop Drawings: Submit shop drawings detailing exact dimensions for each door unit including door operator details, activation components, and electric hardware interface, wiring details and electrical requirements.
- D. Anodized/Finish Samples

1.6 OPERATION AND MAINTENANCE DATA

- A. Owner's manual will be supplied as part of the close out documentation.

1.7 QUALITY ASSURANCE

- A. Operator shall be manufactured by an AAADM registered manufacture. Manufactured to meet or exceed the American National Standard for Low Energy Power Operated Pedestrian Doors ANSI / BHMA 156.19.
- B. Source Limitations: Obtain automatic door operators through one source from a single manufacturer.

1.8 WARRANTY

- A. All automatic door components are warranted to be free of defects in materials or workmanship under normal use for a period of three years from the date of installation.

PART 2 - PRODUCTS

2.1 MANUFACTURER

- A. Acceptable manufacturer:
- B. record-usa series SimpleSwing Electromechanical Automatic Operator.
- C. Consideration will be given to products considered to be equal or better than those specified. Only those manufacturers listed or a product approved by the architect as an equal will be allowed to be used.

2.2 EQUIPMENT

The swing door operator consists of operator housing, swing power operator, SimpleLynk Display, two push plates and universal arm connecting hardware.

3 AUTOMATIC SWING DOOR OPERATOR

- A. Operator: Electro-mechanical operator, powered by 24 volt, 1/4 hp motor.
- B. Operator is to be handed to match the door swing. Opening Force shall be adjustable by means of one screw, to compensate for different manual push forces required on varying door widths.
- C. The handed operator is completely contained in extruded aluminum housing. All aluminum sections are 6063-T5 alloy while the structural walls of the base plate have a minimum thickness of 0.187" (3/16") while the access cover (non-structural) has a minimum wall thickness of 0.094" (3/32"). The operator housing width by height shall not exceed 4-1/2" x 5". Length of operator housing determined by site conditions and/or specifications herein. Motor/gear box shall be secured to operator housing via tamper proof extruded channel on the back member of operator housing.
- D. Electronic Controls: Microprocessor controlled unit shall control the operation and switching of the swing power operator. The microprocessor control to provide low voltage power supply for all means of actuation. No external or auxiliary low voltage power source will be allowed. The controls include time delay for normal cycle.

- E. Connecting Hardware: Surface mounted operator is connected to the door by means of a steel door arm. The door arm is secured to the top rail of the swing door using one piece threaded tubular inserts for aluminum doors, 1/4-20 binding head and post screws (sex bolts) for wood and hollow metal doors. The standard power arm and connecting arm shall accommodate up to 12" reveals and opening angles to 120 degrees. The arm will be equipped with a mechanical device which will in the case of extreme force, "sheer" thus protecting any internal mechanical components from damage, in the case of abuse.
- F. Manual Use: The operator shall serve as a manual door closer in the direction of swing with or without electrical power.
- G. Power Open: When an opening signal is received by the control unit, the door shall be opened at the operator-adjusted opening speed. Before the door is fully open at back check, it slows automatically to low speed. The motor stops when the selected door opening angle has been reached. The open position is held by the motor. If the door is obstructed while opening, it will either stop or reverse (field selectable).
- H. Field Adjustable Open Stop: The operator shall provide a field adjustable mechanical open stop to accommodate opening angles from 80 to 180 degrees.
- I. Normal Close: Closing shall be provided by means of spring, adjustable tension will be by means of a single screw.
- J. Power Close: Closing shall be provided by means of a spring and motor. When the hold open time has elapsed, the operator will close the door automatically, using spring force and motor. The door will slow to low speed at latch check before it reaches the fully closed position. The door is kept closed by spring power or extended closing force by the motor.
- K. Power Assist: Operator can be adjusted to lower the open forces when used manually. Power Assist will be active only while pushing or pulling the door and will allow the door to close when an opening force is no longer applied to the door.
- L. Electronic Dampening: Operator to include standard electric dampening system which automatically counteracts additional forces applied to the door during the opening or closing cycle by reducing door speed.
- M. Stack Pressure Feature: The electronic control allows for increases of forces to overcome stack pressure issues. The control automatically compensates for lower manual push forces when the door is used in manual mode. The door must comply with ANSI A156.19, when using this feature.
- N. Lock engage circuit: If locking is unsuccessful when the door reaches the closed position, the operator will automatically reverse open 10 degrees and reclose in an attempt to successfully lock the door.
- O. Fire rated surface applied operators connect to the surface of an existing fire rated labelled door frame or wall. Connecting hardware and UL approved fire exit hardware is required. See UL materials directory.
- P. A separate contact will be provided that upon receipt of a signal from an external source (fire alarm), the unit will close if in an open condition and not operate as an automatic door, until the signal from the external source has been reset.
- Q. Signage: Provide signage in accordance with ANSI/BHMA A156.19.

2.4 Programmability

- A. The SimpleLynk communications LCD display shall allow the door operator to be set up and programmed on site without the need for an external programming device.

- B. The SimpleLynk will display the current status of the door operator, the last ten fault codes and can be programmed to display a phone number to call for local service. The SimpleLynk can be programmed to require a access code to prevent unwanted access to the SimpleLynk.

2.5 PUSH PLATE CONTROL DEVICE

Actuation device is either:

- A. Hard wired push plate switches included with "Push to Operate" in green letters on a stainless steel background. These will be either surface mounted with an appropriate enclosure or in a concealed single gang electrical box (by others).
- B. Radio controlled push plate switches. (by others)
- C. Touch less Activation sensor plates, 4 ½ inch square microwave technology, adjustable from 2" to 24:" (by others)

Option: Suitable bollard for remotely mounting push plates in areas where no suitable mounting for existing methods of mounting the push plates exist.

Option: Push to Activate - is a programmable feature. Push or pull the door open from any position, and the door will gently power open, time out and slowly close.

Door can be used as a manual door with no damage to the operator.

ELECTRICAL CHARACTERISTICS AND COMPONENTS

- A. ELECTRICAL CHARACTERISTICS: Power consumption must be less than or equal to the following: Nominal power 67 watts, Nominal current .08A at 120 VAC. Peak power consumption 2.9A, Standby .02A with power consumption of 13 watts.
- B. OVERLOAD PROTECTION: Electric motor is equipped standard with a built-in thermal overload protection.
- C. ELECTRICAL CONTRACTOR NOTE: provide two low voltage 18 gauge stranded wires from automatic operator to (50 feet max.) activation devices (if required).

2.6 ALUMINUM FINISHES

- A. All exposed aluminum surfaces are dark bronze anodized (AAC23A44) or clear anodized (AAC22A31).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify the openings are plumb and are dimensioned properly. Insure adequate support has been provided at the operator header. Proceed with the installation only after conditions are deemed satisfactory.

3.2 INSTALLATION AND ADJUSTMENT

- A. Install equipment in accordance with the manufacturers' installation instructions. Adjust equipment per instructions and current ANSI/BHMA 156.19 American National Standard for Power assist and low energy power operated doors.
- B. Door Operators: Connect door operators to electrical power distribution system as specified in Division 26 Sections.
- C. Controls: terminate wire to: controls, press plates, safety sensors.

End of Section