



8100 Series Swing Door Heavy Duty Operator

Automatic door technology as you've never seen it before!



record

your global partner for entrance solutions

8100 Series

A proven planetary gear system in tandem with a perfected lever-system arm assures the smoothest, most quiet operation available without exception. Libraries, doctor offices, and healthcare facilities demand that their daily routines proceed without the common noisy distractions associated with many competitive products. Eliminate your worry of post install performance by specifying record-usa's 8100 series without hesitation.

Combined with World famed Swiss precision technology and a patented control system with 32 bit processor technology, the 8100 series is powerful and intelligent. The 8100 guarantees rapid and reliable door control performance, even when complex functions are desired.

When programming the 8100 series with record-usa's available hand held remote you will be greatly impressed with the quick and easy diagnostics and software updates that make field adjustment easy to configure and program. Using state of the art computer chip technology incorporating flash memory, the installing contractor can program multiple entrance ways to open and close at the exact same speed with each and every opening.



record-usa's 8100 series swinging door operator makes everyone's decision making process simpler in that it truly can be selected for most any application. An ingenious design platform allows each unit to be used on virtually any door configuration including:

- Right hand or left hand doors
- Inswinging or outswinging doors
- Single, pairs or double egress doors
- Balanced doors
- Swing clear doors
- Interior doors
- Surface applied
- Center hung doors
- Butt hung doors
- Deep reveal applications
- Libraries, elderly care facilities, universities, hospitality, storefronts
- Front entrances in retail applications
- Meets ANSI A 156.19 requirements when adjusted properly
- Meets ANSI A 156.10 requirements when adjusted properly
- Exterior doors
- Fire rated openings
- Available clear or dark bronze anodized, custom painted, and clad
- ADA applications
- Electric strikes without additional relays or delays
- Up to 350 pounds per door leaf
- 30" doors through 96" door openings
- Push to start applications eliminate the need for additional activation accessories and complex field wiring
- Latch assist function assures closing in areas with heavy stack conditions commonly associated with doors in air conditioned and heated environments
- Specify 8200 Series when a squared header is desired.

Brake Feature

An optional feature for the 8000 series Swing Door Operator systems is an internal clutch/ brake to maintain door position at the full-open and/ or full closed position(s). This electro-mechanical unit is integrated within the encoder assembly and will hold door position with 90 ft-lbs. torque. If forces are applied to the door which exceeds this force, the clutch feature of the unit will allow rotation without physical damage to the operator.

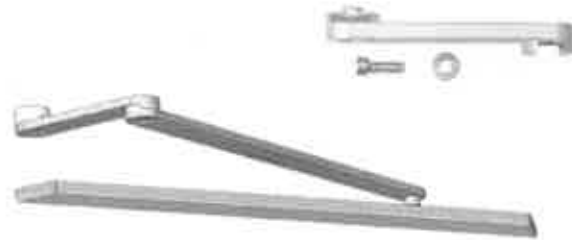
Arm Options



The Standard Arm Assembly, 9-80-0010-CL, will work in out swing (push) applications up to a 12" reveal, and in swing (pull) applications up to a 6" reveal.



The Slide Track Arm Assembly, 9-80-0012-CL, will work in out swing (push) applications up to a 3" reveal, and in swing (pull) applications up to a 6" reveal.



The Offset Arm Adapter, 9-80-0011-CL, can be used with the above Slide Track Arm Assembly to provide a solution for special applications, such as center-pivoted doors with breakout capability, or double-egress installations using a continuous header.

Extended Reveal Applications will require an extension of the secondary (adjustable) arm portion of the Standard Arm Assembly. This is accomplished by combining two secondary arm assemblies. Reveals of up to 24" are possible.

8100 Series



SECTION 08 71 13 [08716]

AUTOMATIC DOOR OPERATORS (Heavy Duty-Low Energy)

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. The heavy duty low energy automatic swing door operator shall consist of aluminum operator housing, electro-mechanical motor, operator assembly, swing arm and electronic control. Installation shall be performed by a local AAADM certified installer.

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. Unit is listed with UL991 Tests for Safety-Related Controls Employing Solid-State Devices
- D. CNL approved (UL listing for use in Canada).
- E. Unit complies with NFPA 101 Life Safety Code. (Section 1.4 of UL 325 includes NFPA 101)
- F. Unit complies with NFPA 70 National Electrical Code. (Section 1.1 of UL 325 includes NFPA 70)
- G. Unit complies with IBC (2003)
- H. Unit exceeds BHMA testing - ANSI BHMA A156.19 Section 5 Cycle Testing. (tested 1,000,000 ops)
- I. 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 350 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 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 and installation services through one source from a single manufacturer.

1.8 INSTALLER QUALIFICATIONS

- A. Equipment must be installed by an AAADM Certified, record-USA factory trained and record-USA authorized company with a minimum of 5 years experience in the installation this the specified product type.
- B. Installing company of the equipment, to provide local central dispatch system for warranty service, this is to be available 24 hours a day, 365 days per year. A sticker will be placed in a prominent position on the header of each installed unit giving details of local service company, name and telephone number. If a SMART panel option is used, then details of the telephone number to be called will be programmed into the device.

1.9 WARRANTY

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

PART 2 PRODUCTS

2.1 MANUFACTURER

- A. Acceptable manufacturer:

record-usa series 8100 Electromechanical Automatic Operator.

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, electronic control, wire harnesses and connecting hardware.

2.3 AUTOMATIC SWING DOOR OPERATOR

- A. Operator: Electro-mechanical operator, powered by 24 volt, 1/4 hp motor.
- B. Operator is to be non-handed to ensure maximum versatility in adapting to varying field conditions. Opening Force shall be adjustable by means of one screw, to compensate for different manual push forces required on varying door widths.
- C. The non-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. External Control: A three position switch will be mounted in the end cover of the housing, along with a "fault warning" LED. The switch will be clearly marked, ON/OFF/HOLD OPEN. The LED will flash if the microprocessor detects a fault of any kind.
- H. Simplified Access: An access port that eliminates the need to remove the cover for service or adjustment is included as standard and located on the bottom of the unit unless specified elsewhere.
- I. 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).
- J. Field Adjustable Open Stop: The operator shall provide a field adjustable mechanical open stop to accommodate opening angles from 80 to 180 degrees.
- K. Normal Close: Closing shall be provided by means of spring, adjustable tension will be by means of a single screw.
- L. 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.

- M. 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.
- N. 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.
- O. 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.
- P. 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.
- Q. Test of Safety Sensors: If optional safety sensors are specified, the control will monitor the sensors before opening and closing the door. If sensors are not functioning correctly, automation is deactivated and the door will function as a manual swing door with a door closer and a fault is registered in the controls log.
- R. 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.
- S. 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.
- T. Signage: Provide signage in accordance with ANSI/BHMA A156.19.

2.4 OPTIONAL FEATURES

- A. S.M.A.R.T. panel LCD display: Will display the current status of the operator, any faults that the control sees and if required display a screen giving contact details for fault notification.
- B. Battery back-up: Accessibility and convenience at non-fire rated opening under power failure. The minimum size Uninterrupted Power Supply (UPS) should be rated at 1500VA.

2.5 PUSH PLATE CONTROL DEVICE

Actuation device is either:

- A. Hard wired push plate switches. These will be either surface mounted with an appropriate enclosure or in a concealed single gang electrical box.
- B. Radio controlled push plate switches.
- C. Touch less Activation sensor plates, 4 ½ inch square microwave technology, adjustable from 2" to 24."

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). Custom finishes such as stainless steel clad, powder coatings or paint are available, if specified (architect to provide color).

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