4324 Phil Hargett Court
Monroe, NC 28110
1-800-438-1937

SECTION 08 17 13
ARCHITECTURAL SPECIFICATIONS – record-usa SERIES 8100 AUTOMATIC SWING DOOR SYSTEMS

PART 1: GENERAL

1.01 SUMMARY

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.

1.02 SUBMITTALS

A. Submit under provisions of Section 071300
B. PRODUCT DATA: Submit manufacturer's product data and standard details for automatic operators.
C. SHOP DRAWINGS: Submit shop drawings 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
E. Provide manufacturer's warranty documentation and Owner's Manual.

1.03 QUALITY ASSURANCE

A. Operator shall be manufactured by an AAADM registered manufacturer. Operator shall be 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.

1.04 REFERENCES

A. UNDERWRITERS LABORATORIES (UL):
    1. UL 325 – Standard for Door, Drapery, Gate, Louver, and Window Operators and Systems.
B. American National Standards Institute (ANSI) / Builders Hardware Manufacturers Association (BHMA):
    1. ANSI/BHMA A156.19: Standard for Low Energy Power Operated Pedestrian Doors

4324 Phil Hargett Court
Monroe, NC 28110
1-800-438-1937

C. American Society for Testing and Materials (ASTM):
   1. ASTM B221 - Standard Specification for Aluminum and Aluminum-Alloy Extruded Bars, Rods, Wire, Profiles, and Tubes.
D. American Association of Automatic Door Manufacturers (AAADM)
E. National Fire Protection Association (NFPA):
   1. NFPA 101 – Life Safety Code.
   2. NFPA 70 – National Electric Code.
F. International Code Council (ICC):
   1. IBC: International Building
G. Building Officials and Code Administrators International (BOCA), 1999:
H. International Conference of Building Officials (ICBO):
   1. UBC 1997: Uniform Building Code
I. National Association of Architectural Metal Manufacturers (NAAMM):
   1. Metal Finishes Manual for Architectural and Metal Products.
J. American Architectural Manufacturers Association (AAMA):
   1. AAMA 607.1 - Clear Anodic Finishes for Architectural Aluminum.
K. Listed in accordance with the Uniform Building Code standard 7-2, "Fire Tests of Door Assemblies" (1997) Part I in addition to UL 10C.

1.05 PERFORMANCE REQUIREMENTS

A. Operator capable of operating within temperature ranges of -40°F and 140°F
B. Operator to be used on door weighing up to 350 pounds per leaf.

1.06 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: PRODUCT

2.01 MANUFACTURER

record-usa
Monroe, North Carolina, USA
(800) 438-1937

Consideration will be given to products proven to be equivalent or better than those specified. Only those manufactures listed or a product approved by the architect as an equivalent will be allowed to be used.

4324 Phil Hargett Court
Monroe, NC 28110
1-800-438-1937

2.02 EQUIPMENT

A. The swing door package consists of operator housing, swing power operator, electronic control, wire harnesses and connecting hardware.

2.03 AUTOMATIC SWING DOOR OPERATOR

A. OPERATOR: Electro-mechanical operator, powered by 24 volt, ¼ hp pulse-modulated motor. The pulse-modulation allows for the motor to turn on and off very quickly during use, eliminating heat and excessive wear and tear. This also allows the motor to last longer and use up to six times less energy than the industry standard.

B. Operator is to be non-handed to ensure maximum versatility in adapting to varying field conditions.

C. Opening Force shall be adjustable by means of one screw, to compensate for different manual push forces required on varying door widths.

D. The non-handed operator is completely contained in an 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"). The access cover (non-structural) has a minimum wall thickness of 0.09" (3/32"). The operator housing width by height shall not exceed 4-1/2" x 5". The Length of the operator housing determined by site conditions and/or specifications herein. The Motor/gear box shall be secured to the operator housing via a tamper proof extruded channel on the back member of the operator housing.

E. 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. This eliminates problematic external limit switches and other hardware

1. Can/Bus based control that will accept can/bus signals from peripheral devices such as motion and safety sensors.
2. On board system monitoring with 24/7 feedback when equipped with a S.M.A.R.T. Panel LCD Display.
3. Easily updated with new software versions. No hardware replacement required.

F. CONNECTING HARDWARE: Surface mounted operator is connected to the door by means of an aluminum door arm.

1. The door arm is secured to the top rail of the swing door using one piece of threaded tubular inserts for aluminum doors, ¼-20 binding head and post screws (sex bolts) for wood and hollow metal doors.
2. The standard power arm and connecting arm shall accommodate up to 12" reveals and opening angles to 130 degrees.
3. 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 or high wind.

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 available 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°.

1. Standard arm push side- opening angle 130° max.
2. Standard arm pull side- opening angle 98° max.
3. Track arm pull side- opening angle 180° max.
4. Track arm push side- opening angle 98° max.

K. NORMAL CLOSE: Closing shall be provided by means of a spring. Adjustable tension will be provided 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 the motor. The door will slow to low speed at latch check before it reached 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: The operator is to include standard electric dampening system which automatically counteracts additional forces applied to the door during the opening or closing cycle by reducing the 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 reached the closed position, the operator will automatically reverse open 10 degrees and reclose in an attempt to successfully lock the door.

Q. BUILT-IN ELECTONIC DOOR COORDINATOR: This allows one door to be coordinated with another in case of an astragal. The coordinated door will always be opened first and closed last, eliminating out of sequence operation.

4324 Phil Hargett Court
Monroe, NC 28110
1-800-438-1937

R. INTERNAL MONITORING 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.

S. Fire rated surface applied operators connect to the surface of an existing fire rated labeled door frame or wall. Connecting hardware and UL approved fire exit hardware is required (UL 228).

T. SIGNAGE: Provide signage in accordance with ANSI/BHMA A156.19.

2.04 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.

C. Planned Maintenance: Doors must have integrated cycle counters that include total operation time. Maintenance schedules should be able to be programmed for specific time period or cycle counts as part of a comprehensive or preventative maintenance plan.

2.05 ACTIVATION 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. Touchless Activation sensor plates, 4-1/2” square microwave technology, adjustable to meet ANSI/BHMA A156.19.

Option: Suitable bollard for remotely mounting actuation in areas where no suitable option is feasible.

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.

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

2.06 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.

4324 Phil Hargett Court
Monroe, NC 28110
1-800-438-1937

B. OVERLOAD PROTECTION: Electric pulse-modulation 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).

2.07 ALUMINUM FINISHES

A. All exposed aluminum surfaces are black anodized (AAM12C22A44) 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

3.01 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.

3.02 INSTALLATION AND ADJUSTMENT

A. Install equipment in accordance with the manufacturer's 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, push plates, and safety sensors.

End of section

4324 Phil Hargett Court
Monroe, NC 28110
1-800-438-1937

Specification Notes

This operator can also accommodate the high energy standard: ANSI/BHMA A156.10 Power Operated Pedestrian Doors. Please contact us should you require the specification to reflect A156.10.

In the specification you will notice red highlighted sections. These are propriety technologies of record-usa that are unavailable elsewhere or options that can be added that we would like to bring to your attention.

Should you require a custom 3-part spec, please contact us:
1-800-438-1937
Daniel May- Architectural Specification Manager
daniel.may@recorddoors.com