

8.31: SPECIFICATIONS FOR E-600 AIR FORCE® AUTOMATIC DOOR OPENERS

Explosion Proof Environment Applications

MANUFACTURER:

Operators specified herein are AIR FORCE® Automatic Door Openers as manufactured by Erich Industries, Inc., Performance Products Division, 550 N. Nine Mound Road, Verona, WI 53593, SwingDoorOpeners.com, 1-800-882-5839.

GENERAL:

Model E-600S will be utilized for a single door. Model E-600D will be utilized for a double set of doors.

Automatic door opener to be heavy-duty industrial type capable of opening free swinging door panels weighing up to 600 pounds.

Automatic door opening mechanisms, or electronics will not be damaged if activated when doors are locked or blocked in the closed position, or if doors are activated and then struck with a load, or by continuous manual operation. The E-600 opener is not attached to the door.

In case of emergency or power failure the door(s) shall operate independent of the pneumatic operator. Manual door action to be controlled by the normal operation of the pull side door closer.

Automatic door opening system shall allow for the future addition of a safety zone, if required, by adding the proper safety device. No change is required for control box or basic unit. This safety device would need to be located outside the rated environment.

Automatic door opening system shall be adaptable to one way, two way, and two way bi-parting traffic. Simultaneous operation of double doors is standard.

Field adjustments on the pull side closer shall be restricted to back check, opening/closing force, sweep speed, latch speed and range setting. The opener air pressure adjustment for opening speed, force, and time delay set to customer's preference. No other adjustments shall be required in the field.

TECHNICAL SPECIFICATIONS:

E-600 model automatic door operator(s) shall be pneumatic, without gears, clutches or motors and not attached to the door(s).

The control system shall be microprocessor based, no micro switches; this insures maximum flexibility for end user. The system shall include built in diagnostics, on/off reset switch, and hold-open switches. Our control box is not required to be mounted directly above the door opening on the header like a standard opener. As a result our standard control box (which is NOT for rated areas) is typically mounted in an adjacent, non rated area such as above ceiling or in mechanical room with the flexible ¼" air line(s) run to the opener arms.

Automatic door operator(s) shall be mounted on the door frame head (1 1/2" wood or 1/4" steel minimum), not to the transom or building wall.

Automatic door operator(s) shall deliver opening force by Ultra-Power™ actuator arm and roller wheel.

Opening force shall be adjustable up to 200 pounds.

Activation controls that will be positioned in the rated area must be specified as explosion proof. The rated area controls we utilize for these applications include motion detectors, photocell, push button, pneumatic push button, or pull cord. Standard environment push plates, push buttons and pull cords can also be utilized with the addition of an intrinsic barrier box. Consult factory for other activation options if required.

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Door closing action shall be accomplished by the installation of a pull side door closer, such as the LCN 4011 or its acceptable equivalent, equipped with adjustable force, back and latch check action.

Manufacturer will also provide:

- Floor mounted powder coated doorstops for each door panel.
- For center hung doors, a head mounted powder coated doorstop for each opening.

PRIOR TO INSTALLATION:

Door(s) must be inspected to insure that they are in good operating condition and are free swinging.

Frame head must be adequate for mounting operator. Metal thickness of 1/4" or wood thickness of 1 1/2" (minimum) recommended.

Adequate air pressure and volume must be available. See plumbing section for pressure specifications and volume calculation method.

INSTALLATION:

Templates shall be provided for installation of operator, closer, and control unit.

Specific instructions shall be provided for installation of all equipment supplied. The units can be installed by a competent tradesman or maintenance person.

ADJUSTMENT:

Speed of door opening is governed by the air pressure adjustment system in the control unit.

Opening/closing hold open time delay can be adjusted from 1 to 99 seconds using the microprocessor system in the control unit.

Closer back check, opening/closing force, sweep speed, latch speed and range are controlled by adjustments on the outside of the closer.

WARRANTY:

The automatic door actuator(s) and control unit(s) shall carry a standard 1 year warranty.

The door closer(s) and electronic actuators or safety devices shall carry warranty as provided by their manufacturer(s).

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OPTIONS:

- T304 stainless steel bracket arm assemblies w/uniform #4 satin finish (pneumatic air cylinders are standard in stainless steel).
- When utilizing our Class 1 Div 2 electromagnetic locks on doors consideration should be given on sizing and location issues as the door closers would be positioned on the pull side of the door and the opener arms would require 24" on the top of the door panel push side from the hinge edge of the door panel towards the opposite side.
- Applications that may require additional opening force due to factors including door type and weight, hinge vs. pivot, any negative or positive pressure, etc. for overcoming static to kinetic inertia should include our E-1000 Power-Push option.
- Custom controls including but not limited to interlock, airlock, etc.
- Air compressors for applications where air supply is not available but must be mounted out of rated environment.
- Consult factory to determine appropriate control panel configuration when connecting to devices such as strikes, electromagnetic locks, card readers, time locks and push button key pads.
- Consult www.DoorSensors.com/explosionproofenvironment.cfm for appropriate explosion proof environment activators and controls for application.
- Contact factory for other available custom options

SERVICE:

Factory shall maintain a toll free (800) telephone number, prominently displayed on the equipment for technical assistance.

TO BE FURNISHED UNDER PLUMBING SECTION

AIR SUPPLY FOR AUTOMATIC DOOR OPERATORS:

Air required shall be 70 PSI with sufficient capacity to furnish volume as required. These calculations are based on one door leaf cycling six times per minute at 70 PSI = 1 cylinder requires .073 SCFM (assumes temp of 70F and operating at sea level) per cycle open. Provide added available capacity if unsure regarding anticipated volume of cycles or outside standard SCFM parameters (i.e. differing temperature or non sea level).

If air supply is from air compressor, contact factory for capacity details.

AIR SUPPLY LINES AND FITTINGS FOR AUTOMATIC DOOR OPERATORS:

Air supply lines from air supply or compressor to each control unit shall be: 5 to 200; 1/2", 200' to 1000' 3/4" and reduced at terminus to 1/4" with 1/4" NPTF female fitting (plugged until final connection is made). Shut off valve can be included prior to reducing for service.

Recommended fittings, in listed order, upon existing compressor, shall be 1 shut off valve, 1-40 micron filter with gauge, site glass and auto-drain (equal to Watts #B12-04VJRCG) 1 coalescing filter with auto drain (equal to Watts #F701-04W3PT). Watts Fluid air Telephone: 207-439-9511.

Terminus of line to be 5" to right of control unit centerline and 8" (minimum) above the control unit.

Purge air supply prior to connecting to control unit or warranty may be voided.

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TO BE FURNISHED UNDER ELECTRICAL SECTION

ELECTRICAL SUPPLY FOR AUTOMATIC DOOR OPERATORS:

Junction box suitable for environment (4") 110/120 VAC, 60 HZ 2 AMP to be furnished at each control unit location, 10: to left of control unit centerline and 6: (minimum) above the control unit. Low voltage wiring from activating switches or devices to control box to terminate at same junction box, (or per local code). Rated environment conduits, fittings, etc. such as Seal Tite or other brand to be used as applicable for all electrical connections.

RETROFITTING IN EXISTING CENTER HUNG DOOR INSTALLATIONS

CAM LIFT HINGE CONVERSION FOR AUTOMATIC DOOR OPERATORS:

When converting cam lift hinged door to automatic operation, the door or operator manufacturer shall provide a NO-RISE CONVERSION KIT with each operator. A steel filler tube or a fabricated or structural channel should then be utilized to fill approximate 2" gap on top of doors at header or extended bottom seal should be used on door panels.