

Carey Automatic Door, LLC MAGIC-DOOR Pneumatic Door Operators

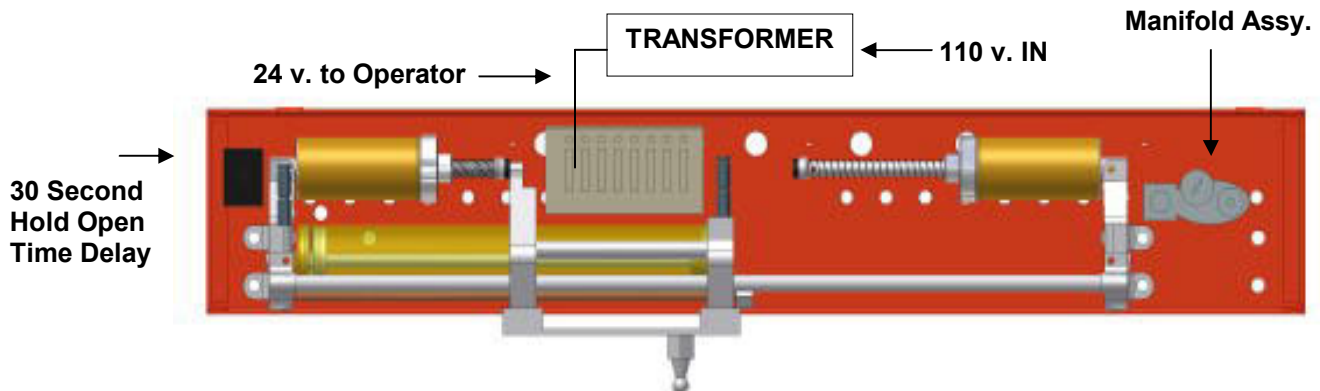
Description of a MAGIC-DOOR Electro-Pneumatic Operator:

1. An Operator powered from a central air supply or separate Compressor.
 - a. This may be a single or double unit depending on the width and weight of door.
 - b. May be mounted to header above the door.
 - c. May be concealed either above or below the door with special pivots.
2. Connecting links from Operator to door which permit door movement when Operator is actuated.
 - a. Swinging and Bi-Folding Doors:
 1. Door Bracket on door.
 2. Door Rod which couples Door Bracket to Operator Slide.
 - b. Sliding doors:
 1. Lever and connecting links coupling door to Operator and slide.
3. Opening and Closing Valves (electronically energized) mounted in Operator to control opening speed.
 - a. Closing may be by:
 1. Springs mounted in Operator.
 2. Electrically energized closing valve mounted in Operator.
4. Controls to actuate Operator:
 - a. Infrared safety systems.
 - b. Radio controls and motion sensors.
 - c. Carpets/mats for pedestrian traffic.
 - d. Photoelectric for fully automatic operation.

How a Electro-Pneumatic Door Operator Works:

The Operator is an air powered cylinder which is plunger actuated when air is introduced into the Power Cylinder through controlling valves.

When a signal is sent to the Operator, the air valve is actuated and compressed air is admitted into the Power Cylinder. The compressed air drives the Power Cylinder Piston which moves the Slide Assembly. A Door Rod and Bracket attached to the Slide Assembly opens the door. As the door comes to a completely open position, a Trip Rod on the Slide Assembly actuates the holding Micro-Switch with a 30 second Hold Open Time Delay. When the door has reached the full open position and the signal is deactivated, the valve is de-energized - thus shutting off the air power to the cylinder. This action allows the air in the cylinder to exhaust through an adjustable port located on the air valve. The power springs or closing air then returns the Slide Assembly to the closed position, closing the door. Checking Cylinders are provided to smooth out the final opening and closing door motions. ALL regulators and valves are self-contained within Operator case.



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MAGIC-DOOR Pneumatic Door Operator Product Overview

Industrial Pneumatic Operator:

Heavy-duty pneumatic swing and slide door operators are ideal for door panels that require industrial strength performance. The MAGIC-DOOR Pneumatic Operator is available in three operational modes, OS Single Acting, OD Double Acting and ALL AIR. The operator stroke will vary in length from 14" to 36" depending on factors of width and weight of the door to be opened. Select the operator that best fits your application requirements.

Airlock & Interlock System for Explosion Proof Applications:

100% ALL AIR, Explosion Proof Automatic Door Operators. The airlock and interlock system consists of two pairs of swinging ("IN" or "OUT") or sliding doors with a specific requirement to ensure that one pair of doors is disabled while the other set of doors is in motion. In addition, pneumatic exit devices can be incorporated into the swinging door system for automatic unlatching and safe exiting. The entire system is driven by pneumatic cylinders and valves without the use of electrical or electronic components. Components are manufactured from non-sparking materials. Easy installation with state of the art valves with condensed valve configuration. Time delay option (1 to 60 seconds) available on opening and closing cycle.

OS Single Acting Pneumatic Operator:

Air Power Opening and Spring Closing - pneumatically powered from a central air supply or separate compressor. Opening action shall be controlled by built-in pressure regulator which is adjustable for pressure and volume for required speed and power at the door location. The closing speed is controlled by power springs and valve exhaust adjustment. Built-in two stage checking cylinders for both opening and closing limits. The operator will contain a plug-in electrical control relay with adjustable time delay. The operator will instantaneously recycle the door to full open position from any point in the closing cycle.

OD Double Acting Pneumatic Operator:

Air Power Opening and Air Power Closing - pneumatically powered from a central air supply or separate compressor. Opening and closing action will be individually controlled by separate built-in pressure regulators which are adjustable for pressure and volume for required speed and power at the door location. The operator will be capable of operating doors against wind velocities (and equivalent stack pressures) up to 40 miles per hour. Built-in two-stage checking cylinder for both opening and closing limits. The operator will contain a plug-in electrical control relay with adjustable time delay. The operator will instantaneously recycle the door to full open position from any point in the closing cycle.

OSX ALL AIR, Explosion Proof Applications:

Air Opening and Air Closing (no electricity involved) - pneumatically controlled from central air supply or separate compressor. Opening and closing action will be individually controlled by separate built-in pressure regulators and opening and closing valves, which are all adjustable for pressure and volume for required speed and power. All regulators and valves can be self-contained within a control box at the door location. The operator will be capable of operating doors against wind velocities (and equivalent stack pressures) up to 40 miles per hour. Built-in two-stage checking cylinders for both opening and closing limits. The operator will instantaneously recycle the door to the full open position from any point in closing cycle. The operator will be activated by two class 10 MA-10 pull cord valve assemblies or palm buttons.

NOTE: The OSX ALL AIR Operator can not be used in the O-20 and O-21 slide packages. The OSX operator will be factory modified to function as a single acting air operator for labeled sliding fire door packages.

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MAGIC-DOOR Pneumatic Door Operator System Applications

Single Swinging Doors:

0-1S Pneumatic Operator Packages. For use with single swinging doors in industrial applications. One operator designed to swing a single hinge hung door either IN or OUT. Maximum door opening width is 72”.

Double Swinging Doors:

0-2S Pneumatic Operator Packages. For use with pairs of swinging doors that require complete speed control for varying conditions in industrial applications. One operator designed to swing a pair of hinge hung doors, one IN and one OUT (double egress). Balances door loads due to stack pressure or wind, assures smooth operation. Maximum door opening width is 120”.

0-11S Pneumatic Operator Packages. For use with pairs of swinging doors in industrial applications. One operator designed to operate a pair of doors swinging IN or OUT. Maximum door opening width is 72”.

0-4S Pneumatic Operator Packages. For use with pairs of swinging doors that require complete speed control for varying conditions in industrial applications. Two operators coupled to operate a pair of doors swinging IN or OUT. Maximum door opening width is 144”.

Swinging Fire Door Packages. An automatic fire door package is available and will interface with the single acting 14” stroke operator.

Single Sliding Doors:

0-7 Pneumatic Operator Packages. For use with single sliding doors in industrial applications. Available for labeled fire door applications. For doors that slide either Left or Right of the opening. Maximum door opening width is 96”.

07-D Pneumatic Operator Packages. For use with heavy single sliding doors in industrial applications. Available for labeled fire door applications. For doors that slide either Left or Right of the opening. Maximum door opening width is 144”.

0-20 Pneumatic Operator Packages. For use with single sliding doors in commercial applications. Not available for labeled fire door applications. For doors that slide either Left or Right of the opening. For cosmetic reasons, the drive arm linkage is replaced by a cable drive mechanism. Maximum door opening width is 71”.

Bi-Part Sliding Doors:

0-9 Pneumatic Operator Packages. For use with pairs of sliding doors in industrial applications. Available for labeled fire door applications. Maximum door opening width is 192”.

09-D Pneumatic Operator Packages. For use with pairs of heavy sliding doors in industrial applications. Not available for labeled fire door applications. Maximum door opening width is 288”.

0-21 Pneumatic Operator Packages. For use with pairs of sliding doors in industrial and commercial applications. Not available for fire door applications. For cosmetic reasons, the drive arm linkage is replaced by a cable driven mechanism. Maximum door opening width is 144”.