

# LCN PNEUMATICALLY POWERED SYSTEMS

## PNEUMATICALLY (AIR) POWERED SYSTEMS

LCN Pneumatic Auto Equalizer systems use the power of pressurized air to do the work of automatically opening the door. These systems have exceeded 3 Million full load automatic operating cycles; that's 10 times the industry standard! A basic pneumatic system consists of an automatic operator to provide the door control, a control box that contains the valves and electrical timing circuits, actuators to start the system, and a compressed air source.

## UNIQUE FEATURES

### ► Multi-Door & Single-Door Solutions

The pneumatic automatic operators are ideal for multi-door applications because the cost per door leaf decreases significantly as the number of door leaves increase. A single control box may power up to two pairs of doors simultaneously making it a cost-effective solution for single or multi-door applications. This flexibility results in significant savings in material and installation costs.

### ► Quiet Operation

Since the pneumatic automatic operators are powered by pressurized air, they are quiet, efficient, and very reliable. Flexible LCN pneumatic tubing is the only connection between the control box and the door frame. There is no need for high-voltage wiring at the door frame since all of the power for operation is generated by pressurized air located away from the door frame. (Note: special fittings are available by special template so 3/16" metal tubing (by others) can be used in fire rated plenums.)

### ► Pneumatically (Air) Powered

All pneumatic automatic operators require a compressed air source. LCN's pneumatic systems have the flexibility to run as an independent unit (7980 series has a compressor built into the control box) or to run off an existing air supply (7900 series has connections for utilizing existing air supply). Using a self-contained 7980 series control box for single or double door leaf applications eliminates the need for an independent compressor. Existing building air compressors with a storage tank can be used to reduce the cost of multi-door systems and must utilize the 7900 series control boxes.

### ► Easy Adjustment/Installation

The air pressure and timing cycle are easily adjustable to meet the need of a specific installation. Because the control box can be located anywhere within 100 linear tubing feet from the controlled door for the 7900 series or within 50 linear tubing feet for the 7980 series, they can be placed in easily accessible locations. Convenient features such as sequential operation of vestibule doors are available.

### ► Multiple Mounting Configurations

Available in three different mounting configurations:

- Concealed in the frame (2610 series).
- Top Jamb Surface Mounted on the pull side of the door (4810 series).
- Top Jamb Surface Mounted on the push side of the door (4820 series).
- Door mounted, parallel arm on the push side of the door (4840 series).

### ► Hazardous Location Use

Since there is no high-voltage wiring at the door frame, pneumatically powered systems are ideal for use in hazardous areas. The control box, which contain the valves and electrical timing circuits, is remotely located outside the hazardous area.

### ► Blow-Open (Smoke Evacuations Systems)

An auxiliary "blow-open" box is available and is controlled by the building smoke evacuation system to allow fresh air into the building. When activated, the normal pneumatic power operator functions are not available. The 7949 series "blow-open" box works with or without the 7900 series control boxes.

## STANDARDS, LISTINGS & APPROVALS

- UL listed for self-closing doors without hold open under "SWINGING DOOR CLOSERS (GVEV)" file R1943.
- Tested and certified under ANSI Standard A156.19. Refer to Section 2.1 and consult factory for details.
- ANSI Standard A117.1, Section 4.13.13
- ADA law, Section 4.13.12.
- UBC 7.2 (1997) for positive pressure plus UL 10B and UL 10C listing.
- Consult the factory for other listings such as; Department of Labor and Industry of the Commonwealth of Pennsylvania, The Board of Standards and Appeals of the City of New York, Fire and Panic Safety Standards of the California State Fire Marshal.
- UL Listed for Fire Rated Door Operators with Automatic Closers, File No. (GUJY).

## WARRANTY

- 2 year limited warranty. See General Section for complete details.

## MAINTENANCE

- Operators mounted according to the LCN installation instructions require no periodic maintenance or adjustments.
- Monthly, quarterly and annual visual inspections are recommended.
- Service filter assembly in 7900 Series control boxes as required.
- No service contracts.

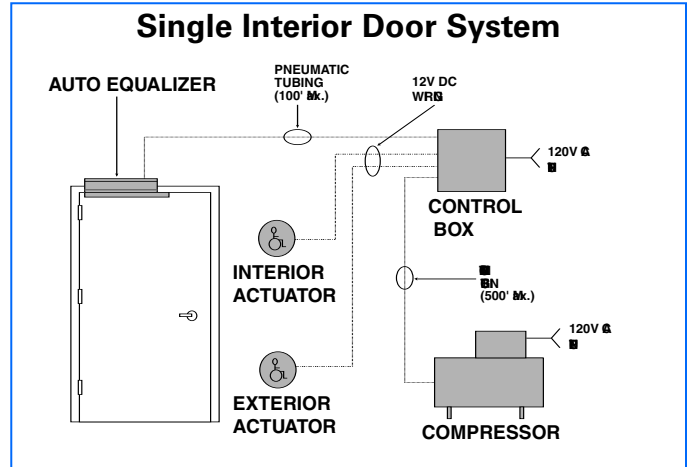
# TYPICAL LCN PNEUMATIC POWERED SYSTEMS

These pages illustrate examples of typical Pneumatic LCN systems. Please consult your local SSC representative or LCN for assistance with specific installations and material requirements.

## SINGLE INTERIOR DOOR SYSTEM

- ▶ Slow opening interior door leaf.
- ▶ System may be expanded to include an additional simultaneous door.
- ▶ No guide rails or safety devices.

**How It Works:** A person requiring assistance triggers the system using either actuator. The control box supplies pressurized air to the Auto Equalizer which opens the door slowly to 90°, holds it for up to 30 seconds, then applies full spring power to reliably close and latch the door. If not actuated, the Auto Equalizer functions as a full featured door closer.



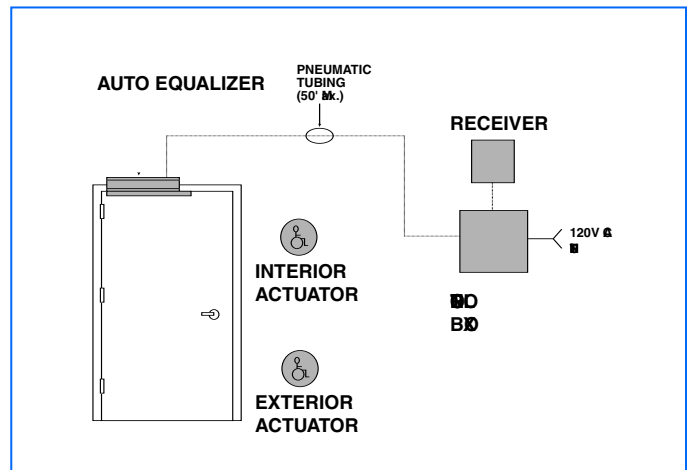
### BILL OF MATERIALS

Qty.	Part No.	Description
1	4811	Auto Equalizer
1	8310-856	Actuator (exterior)
1	8310-856	Actuator (interior)
1	7901	Control Box
1	920	Compressor
(as needed)	925	Tubing

## SINGLE INTERIOR DOOR SYSTEM

- ▶ Slow opening automatic door on door leaf.
- ▶ Wireless RF actuators.
- ▶ Stand alone system, no planned expansion.
- ▶ No guide rails or safety devices.

**How It Works:** A person requiring assistance triggers the system using either actuator. The RF transmitter in the actuator sends a signal to the RF receiver which triggers the control box. The control box supplies pressurized air to the Auto Equalizer which slowly swings door to 90°, holds it for up to 30 seconds, then applies full spring power to reliably close and latch the door. If not actuated, the Auto Equalizer functions as a full featured door closer.



### BILL OF MATERIALS

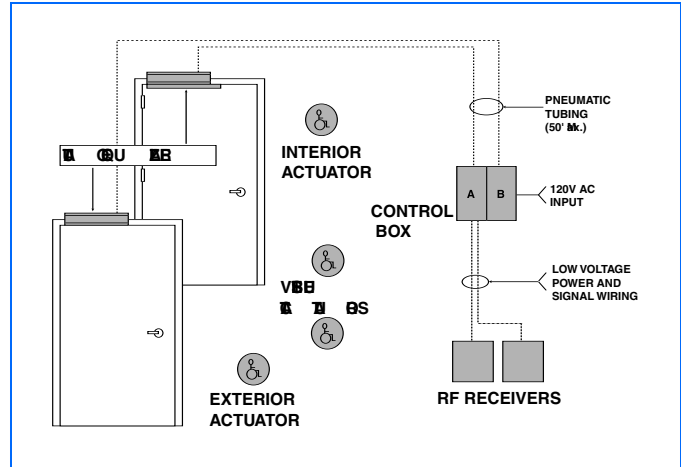
Qty.	Part No.	Description
1	4811	Auto Equalizer
2	8310-3856WS	RF Actuator
1	8310-865	RF Receiver
1	7981	Control Box
(as needed)	925	Tubing

# TYPICAL LCN PNEUMATIC POWERED SYSTEMS

## VESTIBULE DOOR SYSTEM

- ▶ Slow opening automatic doors with sequential operation for single exterior and vestibule doors.
- ▶ No guide rails or safety devices.

**How It Works:** People requiring assistance press exterior actuator for entry. The exterior door opens and after a short delay the interior door opens. When the system times out, first the exterior, then the interior door closes. Pressing the interior actuator reverses the process to exit the building. This allows passage through the vestibule without both doors open for the entire cycle. If a person stops in the vestibule and the system times out before they exit, pressing either vestibule actuator opens the appropriate door. Sequential operation is not recommended with scanners or motion sensors. If not actuated, the Auto Equalizer functions as a full featured door closer.



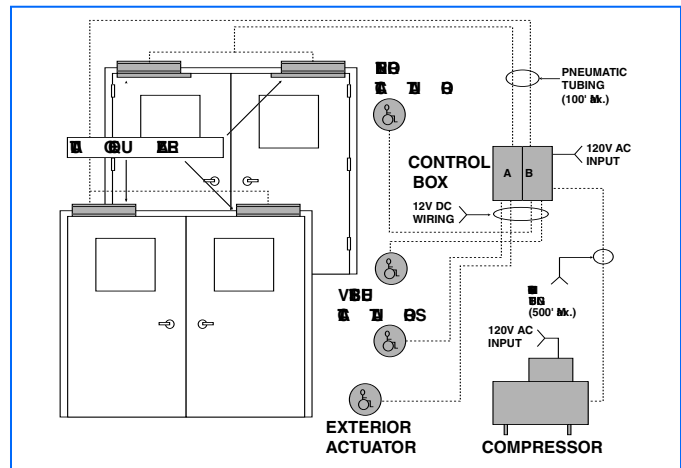
### BILL OF MATERIALS

Qty.	Part No.	Description
1	4822	Auto Equalizer (exterior)
1	4811	Auto Equalizer (interior)
1	7982S	Control Box with Sequencer Card
4	8310-3856WS	RF Actuators
2	8310-865	RF Receiver
(as needed)	925	Tubing

## ALTERNATE VESTIBULE DOOR SYSTEM

- ▶ Slow opening automatic doors with sequential operation for exterior and vestibule pairs of doors.
- ▶ No guide rails or safety devices.

**How It Works:** People requiring assistance press exterior actuator for entry. The exterior pair opens and after a short sequential delay the interior pair opens. As the system times out, first the exterior, then the interior doors close. Pressing the interior actuator reverses the process to exit the building. This allows passage through the vestibule without all doors open for the entire cycle. If a person stops in the vestibule and the system times out before they exit, pressing either vestibule actuator opens the appropriate doors. Compressor is sized for multiple systems. Sequential operation is not recommended with scanners or motion sensors. If not actuated, the Auto Equalizer functions as a full feature door closer.



### BILL OF MATERIALS

Qty.	Part No.	Description
2	4822	Auto Equalizer (exterior)
2	4811	Auto Equalizer (interior)
1	7902S	Control Box with Sequencer Card
1	922	Compressor
4	8310-856	Actuator
(as needed)	925	Tubing