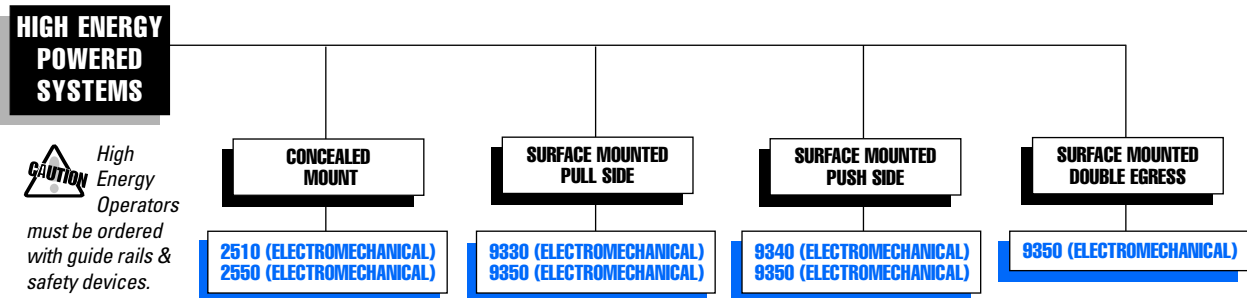
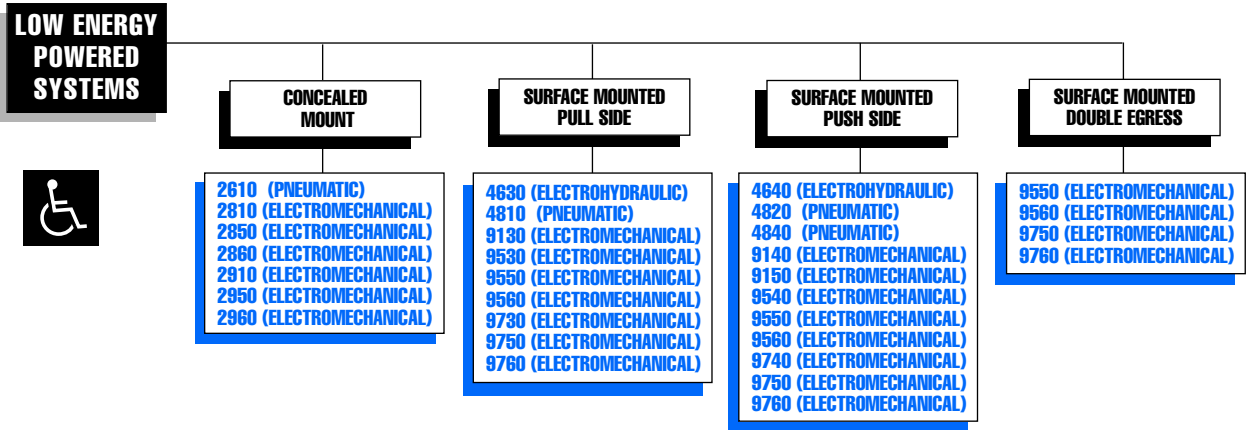


AUTOMATIC OPERATORS

PRODUCT SELECTION GUIDE

LCN automatic operators are the proven standard in schools and health care facilities for over 20 years. They are easily retrofitted into existing doors and frames, as well as new construction. LCN low energy electrohydraulic and pneumatic automatic operators feature a heavy duty closer with a slow opening function. LCN's electromechanical automatic operators utilizes a motor gearbox and control box to perform the opening and closing function.



Note: LCN offers manual closers that have reduced opening force to meet ADA requirements. See applicable catalog section.

AUTOMATIC OPERATORS

PRODUCT COMPARISON - ELECTROHYDRAULIC/PNEUMATIC PRODUCT COMPARISON

This chart shows a basic features comparison of the LCN electrohydraulic and pneumatic power operator systems designed to provide easy access without sacrificing closing power. Refer to the specific closer chapter for complete details.


CLOSER SERIES	MOUNTING				FINISH		COVER		CYLINDER			*ARM FUNCTION						
	TOP JAMB (PULL SIDE)	TOP JAMB (PUSH SIDE)	PARALLEL ARM	CONCEALED	POWDER COAT	PLATED	PLASTIC	METAL	NON-HANDED	NON-SIZED	ACCESSIBILITY*	POWER OPERATOR	HOLD-OPEN	STANDARD (SINGLE)	REGULAR (DOUBLE)	EXTRA DUTY ARM	CUSH-IN-STOP	SPRING CUSH
2610	○	○	○	●	●	●	○	●	○	○	♿	●	○	90°	○	○	○	○
4630	●	○	○	○	●	●	○	●	●	●	♿	●	●**	90°	○	○	○	○
4630CS	●	○	○	○	●	●	○	●	●	●	♿	●	●**	90°	○	○	○	○
4640	○	●	○	○	●	●	○	●	●	●	♿	●	●**	○	90°	○	○	○
4640CS	○	●	○	○	●	●	○	●	●	●	♿	●	●**	○	90°	○	○	○
4810	●	○	○	○	●	●	○	●	●	●	♿	●	○	90°	○	○	○	○
4820	○	●	○	○	●	●	○	●	●	●	♿	●	○	○	90°	○	○	○
4840	○	○	●	○	●	●	○	●	●	●	♿	●	○	○	○	90°	90°	90°

● AVAILABLE
 ○ NOT AVAILABLE
 ♿ Meets ADA requirements (power mode).
 * See individual series for maximum manual opening.
 ** Switch provided for continuous Hold Open (4630 & 4640 only).

PRODUCT COMPARISON - ELECTROMECHANICAL PRODUCT COMPARISON

This chart shows a basic features comparison of the LCN electromechanical power operator systems designed to provide easy access without sacrificing closing power. Refer to the specific operator chapter for complete details.

OPERATOR SERIES	MOUNTING						HANDING		FINISH			COVER		ARM FUNCTION			
	SURFACE MOUNT SINGLE DOOR	SURFACE MOUNT SIMULTANEOUS PAIR	SURFACE MOUNT INDEPENDENT PAIR	CONCEALED SINGLE DOOR	CONCEALED SIMULTANEOUS PAIR	CONCEALED INDEPENDENT PAIR	HANDED	NON-HANDED	STANDARD ANODIZED	CUSTOM ANODIZED	CUSTOM PAINT	METAL	STANDARD (SINGLE)	REGULAR (DOUBLE)	DOUBLE EGRESS (PUSH/PULL)	OFFSET PIVOT ARM	CENTER PIVOT ARM
2510	○	○	○	○	●	○	○	○	○	○	○	○	○	○	○	○	○
2550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2810	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2850	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2860	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2910	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2950	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
2960	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9130	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9140	●	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9150	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9330	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9340	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9350	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9530	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9540	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9550	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9560	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9730	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9740	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9750	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○
9760	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○	○

● AVAILABLE
 ○ NOT AVAILABLE
 Note: Series 2510, 2550, 9330, 9340, 9350 are high-energy products & must be ordered with guide rails and safety devices.

AUTOMATIC OPERATORS

WHAT IS THE ADA?

The ADA is a civil rights law, not a building code. This act is designed to provide protection for people with disabilities. The law is divided into four major titles that prohibit discrimination against the disabled in Employment, Title I, Public Services and Transportation Title II, Public Accommodations Title III, and Telecommunications Title IV. Title III concerns doors and door controls.

WHAT IS THE INTENT OF ADA, TITLE III?

Essentially, owners of certain types of buildings must remove barriers and provide people with disabilities with access equal to, or similar to, that available to the general public. The deadline for compliance was January 26, 1992.

The final rules implementing Title III were published in the Federal Register of July 26, 1991. To obtain a copy or ask questions, contact the U.S. DEPARTMENT OF JUSTICE. Technical information can be obtained from The U.S. ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD.

HOW DOES ADA AFFECT DOORS?

The ADA defines an "accessible" opening which means, among other things, providing a door with a minimum 32" (813 mm) clear opening, easily manipulated handles, a maximum opening force, a minimum closing time, and capable of opening to at least 90°.

ADA criteria, based on OPENING FORCE, are similar to American National Standards Institute (ANSI) Standard A117.1. This is different from ANSI Standard A156.4, which is based on CLOSING FORCE.

WHAT ARE THE OPENING FORCE LIMITS?

DOOR TYPE	OPENING FORCE
Fire Rated	Note 1
Interior Non-Fire-Rated	5.0 lbs. (22.2 N)
Exterior Non-Fire-Rated	"Reserved"

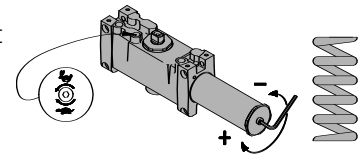
Note 1: All fire rated doors should have the minimum opening force allowable by the appropriate administrative authority, typically the local Fire Marshal. Closing and latching a fire door takes precedence over ADA opening force limits.

HOW IS THE DOOR MEASURED?

Two ADA criteria affect the door closer selection, adjustments, opening force, and time to close. Since the law does not clearly define the method of measurement, this is LCN's recommendation.

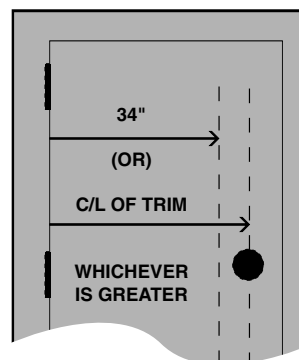
1. On the push side of the door, locate a point at the center line of the push plate/lock trim or 34" (864 mm), from the hinge edge of the door, whichever is greater.
2. Mark the floor at a point where the push side of the doors' latch stile is at 70°. Mark a second point where the push side is 3" (76 mm) from the latch.
3. Open the door so the latch is clear of the strike and the door is slightly off the stop.
4. Using a force gauge on the mark determined in Step #1, push the door open to the 70° mark established in Step #2. Observe the force readings. (Accuracy of the readings varies with the gauge quality.)
5. Adjust the closer spring power to meet the maximum opening force.
6. Hold the door at the 70° mark. Release the door and time the closing sweep between the two marks.
7. Adjust the closer main speed regulation valve to obtain a minimum 3 second "time to close".

NOTE: Delayed action closers are not necessary to meet the ADA 3 second "time to close" requirement but do offer additional time for people to pass through the door.



CAUTION! Any manual door closer, including those certified by BHMA to conform to ANSI Standard 156.4, that is selected, installed, and adjusted based on ADA

requirements may not provide sufficient power to reliably close and latch a door. Auto Equalizer systems offer an alternate solution.



AUTOMATIC OPERATORS

WHAT ARE THE CHOICES FOR ADA COMPLIANT DOOR CONTROLS?

LCN offers both surface and concealed mountings for powered systems or manual closers.

POWERED SYSTEMS

LCN Power Operator Systems offer easy access for the disabled and resolve the problem of obtaining reduced opening force while providing adequate closing force.

MANUAL CLOSERS

Manual closers rely on reduced spring power to meet opening force requirements. Four principle factors affect the performance of manual closers:

1. *DOOR WIDTH:*

A wider door provides more leverage for the user, thus reducing the opening force required.

2. *SPRING POWER:*

Adjusting spring power to achieve a lower opening force also reduces the closing force available.

3. *ARM SELECTION:*

The superior mechanical advantage of a regular arm system offers the user significantly lower average opening forces through the 70° measurement range compared to a standard arm (track type) closer. Regular arms also provide superior latching power.

4. *ADDITIONAL FORCES*

Improperly hung doors, stiff latches, HVAC or environmental pressures, and other forces acting on the door require increasing the closer spring power to reliably close and latch a door which produces a corresponding increase in opening force.

INFORMATION SOURCES

LCN CLOSERS

121 W. RAILROAD AVE.
P.O. BOX 100
PRINCETON, IL, USA 61356-0100

U.S. DEPARTMENT OF JUSTICE

The Office of the Americans with Disabilities Act, Civil Rights Div.,
P.O. Box 66118, Washington, D.C. 20035-6118
(202) 514-0301

THE U.S. ARCHITECTURAL AND TRANSPORTATION BARRIERS COMPLIANCE BOARD

1111 18th Street N.W., Suite 501, Washington, D.C. 20036
(800) 872-2253

AMERICAN NATIONAL STANDARDS INSTITUTE

11 West 42nd Street, New York, N.Y. 10036
(212) 642-4900

- ANSI A117.1 Providing Accessibility and Usability for Physically

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