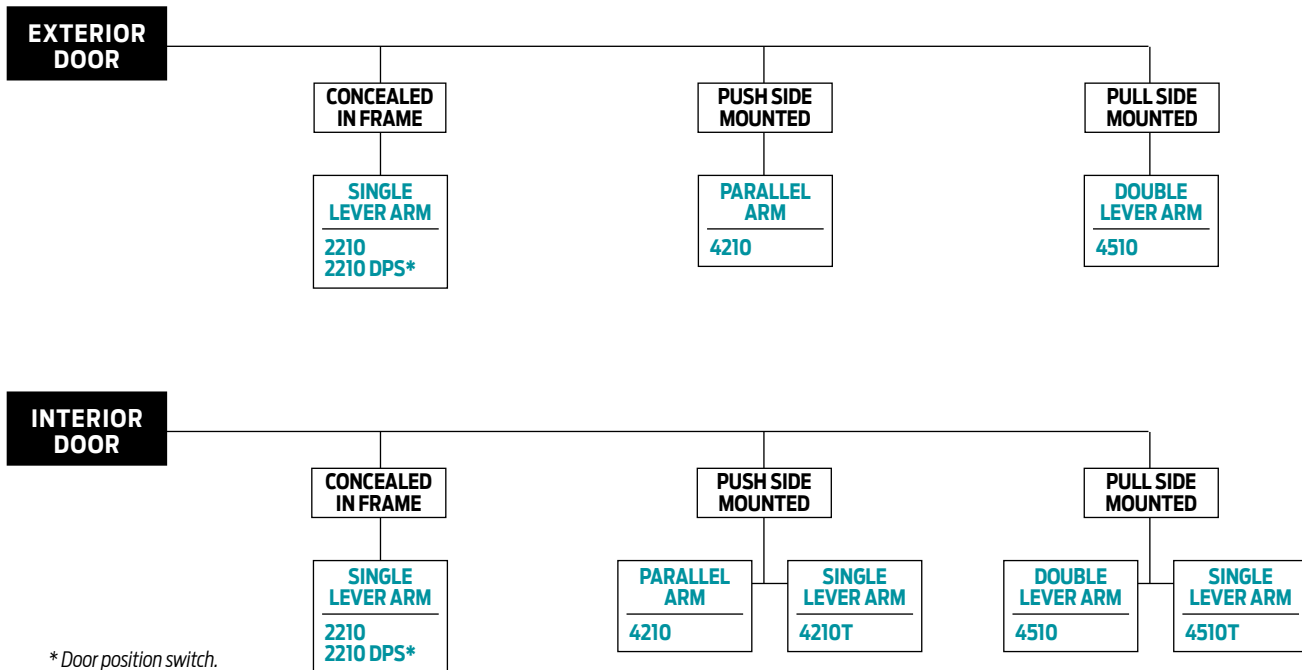


Product selection guide

High Security LCN closers feature a vandal resistant design engineered for each application, easy installation, and superior performance. This guide is based on the desired mounting of the closer.



Product comparison

This chart shows a basic comparison of LCN High Security closers. Refer to the specific closer chapter for complete details.

CLOSER SERIES	MOUNTING				FINISH		COVER		CYLINDER			**ARM FUNCTION							
	HINGE (PULL) SIDE	PARALLEL ARM (PUSH)	STOP FACE	CONCEALED (FRAME)	POWDER COAT	PLATED	PLASTIC	METAL	HANDED	NON-SIZED	SIZED	ACCESSIBILITY	DELAYED ACTION	AVB***	DPS SWITCH	STANDARD (SINGLE)	EDA	CUSH/HCUSH	
2210	○	○	○	●	●	●	○	○	●	○	●	○	○	○	○	180°	○	○	
2210DPS	○	○	○	●	●	●	○	○	●	○	●	○	○	●	●	○	180°	○	○
4210	○	●	○	○	●	●	○	●	●	●	●	♿	●	●	○	○	180°	110°	○
4210T	○	○	●	○	●	●	○	●	●	○	●	♿	○	●	○	○	110°	○	○
4510	●	○	○	○	●	●	○	●	●	●	●	♿	●	●	○	○	140°	○	○
4510T	●	○	○	○	●	●	○	●	●	○	●	♿	○	●	○	○	180°	○	○

● AVAILABLE
○ NOT AVAILABLE

♿ Closer available with less than 5.0 lbs. opening force on 36" door.
 ** Maximum opening with standard template. See individual closer series for degrees of opening per installation.
 *** Advanced Variable Backcheck.

High Security Closers Series

APPLICATIONS

- For any concealed or surface mounted installation subject to potential abuse or vandalism.
- For correctional, aluminum, hollow metal, or wood doors and frames.
- Can be used with hinge or pivot mounted door.
- Adapter plates and other installation accessories available for unusual conditions.

FEATURES COMMON TO HIGH SECURITY CLOSERS

- Each closer is a vandal resistant design for a specific mounting; hinge side, parallel arm, stop face, or concealed.
- All high security closers are based on a cylinder certified to exceed 10,000,000 cycles in independent testing.
- Handed for right or left swinging doors.
- Closers to meet ADA reduced opening force requirements.
- All closers furnished with TORX tamper resistant machine screws.
- All surface mount closers include a heavy gauge steel cover with four attachment points.
- All closer adjustments are protected when installation is complete.
- All track closers use a jam resistant track and tamper resistant arm/roller assembly.
- Adjustable hydraulic backcheck cushions opening swing prior to 90°.
- Advanced variable backcheck (AVB) is available on all high security closers.
- Separate regulation of general closing speed and latching speed.

DESIGN ASSISTANCE

LCN has been providing reliable solutions to unique door control problems since 1925. Design and specification assistance are only a phone call away.

WARRANTY

High Security Series closers carry a 15 year limited warranty, except for the 2210DPS Series closer that carries a 2 year limited warranty. See General Information Section for complete warranty details.

MATERIALS

- High strength **cast iron** cylinder.
- **Forged steel** main arms and forearms.
- One piece **forged steel** piston.
- LCN's all weather "**Liquid X**" fluid performs to temperature ranges from 120°F (49°C) to -30°F (-35°C) without any seasonal adjustment.
- **High efficiency, full complement**, low friction bearings.
- **Double heat treated** pinions.
- Tamper resistant regulating screws.
- Full rack and pinion hydraulic action.
- Quiet, low friction track and roller combination for all single lever arm closers.

FINISHES

- Available in six standard or a wide selection of optional custom powder coat finishes to blend with door and frame.
- LCN's powder coat finishes surpass 100 hours of salt spray which is over four times the ANSI standard for corrosion resistance.
- For installations where a higher level of corrosive resistance is required, LCN offers an optional special rust inhibiting (SRI) pre-treatment. Closers that combine the exclusive LCN powder coat finish and the SRI

pre-treatment exceed the ANSI standard for corrosion resistance even further.

- Plated finishes are available as an option to accent door and frame.

LISTINGS & APPROVALS

UL listed for self-closing doors without hold-open under "SWINGING DOOR CLOSERS"(GVEV) file R 1943.

Tested and certified under ANSI Standard A 156.4. Consult factory for details.

Consult factory for other listings such as; ULC, California State Fire Marshal, Bureau of Standards and Appeals.

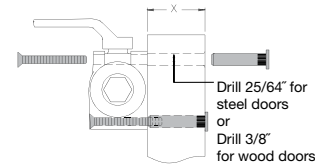
POSITIVE PRESSURE

LCN closers have been certified for three hours by UL to be in compliance with UL 10 C. Contact LCN for specific details on door closer fire ratings.

FASTENERS

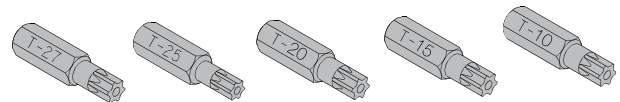
TORX MACHINE SCREW (TORX) pack contains tamper resistant machine screws to install the closer. Thru Bolts for TORX machine screws are available for all high security closers, except 2210 series.

LCN thru bolts (TB) can be installed on 1-3/4" thick doors with the 1/4-20 TORX screws supplied with the closer. Optional sizes are available for 1-5/8" or 1-3/8" door thicknesses, but this must be specified when ordering.



Note 1: For Thru Bolts, specify door thickness if other than 1-3/4" (44mm).

Special driver bits are required for installation or removal of TORX machine screws with a security pin as supplied with LCN High Security closers. All bits fit a 1/4" hex drive socket. For 1/4-20 screws use T-27, for #12 machine screws use T-25, for 10# machine screws use T-20, for #8 (and undercut #10) machine screws use T15, and for #6 machine screws use T10. The specific bits required for installation are listed on the "HOW TO ORDER" page for each closer. Sold separately.

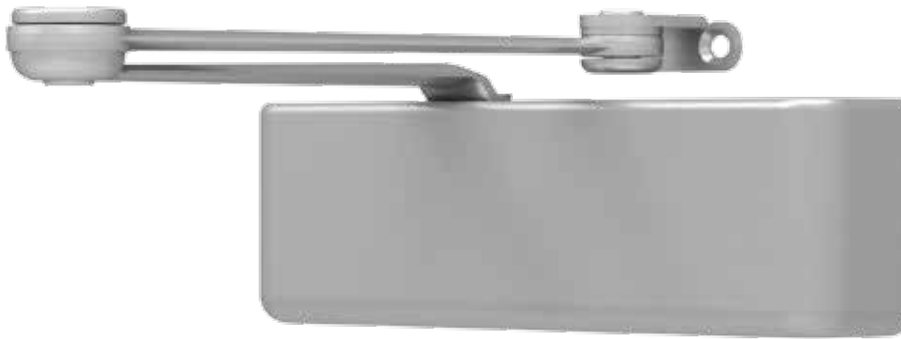


FASTENERS

TORX MACHINE SCREW (TORX) pack contains tamper resistant machine screws to install the closer. Thru Bolts for TORX machine screws are available for all high security closers, except 2210 series.

SPECIFICATIONS

Refer to "SPECIFICATIONS" section for suggested architectural specifications.

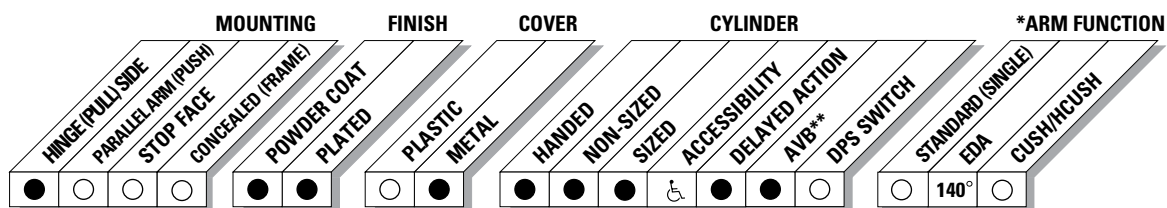


The 4510 SMOOTHIE® Series is a heavy duty, high security closer with special components to minimize tampering and vandalism. Forged steel double lever arms and heavy gauge metal security covers are designed for correctional, vandal prone, institutional and other high traffic applications. The closer has passed 10 million cycles in independent testing. A choice of finishes and cylinder functions meet correctional and vandal resistant requirements.

Certifications	Grade 1 - ANSI A156.4, UL 10C, ADA*, 100 Hour Salt Spray, Meets BAA - Buy American Act	Cover	Metal Security
	<i>*4511 cylinder meets ADA requirements</i>	Fasteners	TORX machine screw pack
Body Construction	<ul style="list-style-type: none"> Cast Iron Body Full Complement Bearing 1-1/2" Diameter Piston 11/16" Diameter Double Heat Treated Pinion Journal 	Mounting	Hinge (Pull Side)
Fluid	All Weather Fluid	Arms	Extra heavy duty, non-hold open
Handing	Handed	Finishes/Colors/ Powder Coat	<ul style="list-style-type: none"> Aluminum (689) Statuary Bronze (690) Light Bronze (691) Black (693) Dark Bronze (695) Brass (696) Custom colors optional
Size	Exterior and Vestibule, Adjustable Size 1-5 Interior, Adjustable Size 1-5		<ul style="list-style-type: none"> Optional SRI primer - powder coat only Optional plated finishes
Warranty	15 years		

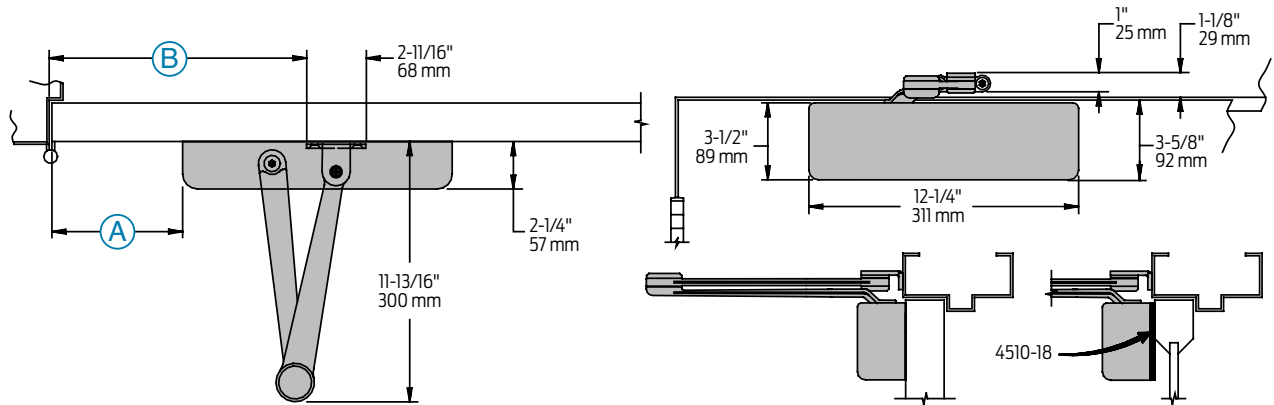
Special Templates

Customized installation templates or products may be available to solve unusual applications. Contact LCN Product Support for assistance.



● AVAILABLE
○ NOT AVAILABLE

♿ Closer available with less than 5.0 lbs. opening force on 36" door.
* Maximum opening with standard template.
** Advanced Variable Backcheck.



Butt Hinges	Should not exceed 5" (127 mm) in width
Auxiliary Stop	Recommended where a door cannot swing 140°
Reveal	Should not exceed 1/8" (3 mm)
Top Rail	<ul style="list-style-type: none"> Less than 3-1/2" (89 mm), requires PLATE 4510-18 Plate requires 2" (51mm) minimum top rail
Head Frame	Less than 1" (25 mm), consult factory
Clearance	2-1/4" (57 mm) behind door required for installation
Arm Clearance	Above door 1-1/8" (29 mm) required
Delay Action	<ul style="list-style-type: none"> Add suffix "DEL" to selected cylinder. Not available with 4516 cylinder. Delays closing from maximum opening to approximately 70°. Delay time adjustable up to approximately 1 minute.
Advanced Variable Backcheck	<ul style="list-style-type: none"> Cylinder starts backcheck at approximately 45° instead of the normal 75° Add suffix "AVB" to selected cylinder
Maximum opening	Can be templated for 140°: A = 4-3/16" (106 mm) B = 9-7/8" (251 mm)
Options	<ul style="list-style-type: none"> Delayed action or Advanced Variable Backcheck cylinder

Cylinder



4511(6)-3071
Cylinder Assembly

- Handed
- Cast iron
- Standard

Cover



4510-72MC
Metal Security Cover

- Handed
- Four point mounting for extra security
- Closer adjustments not accessible with cover installed
- Standard

Arms



4510-3077EDA
Extra Duty Arm

- Non-handed
- Solid forged steel main arm and forearm for potentially abusive installations
- Double slab arm/pinion attachment for maximum strength
- Standard

Installation Accessories



4510-18
Plate

- Required where top rail is less than 3-1/2" (89 mm)
- Requires minimum 2" (51 mm) top rail

How-to-order 4510 Series

Select cylinder size

- 4511 (adjustable from size 1 to 5)
- 4516 (DEL not available)

Select hand

- RH
- LH

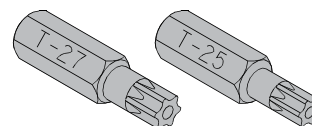
Specify finish

- Standard Powder Coat _____
- Aluminum, Dark Bronze, Statuary, Light Bronze, Black, Brass

Closer will be shipped with:

- Standard cylinder
- Security cover
- Extra duty arm
- TORX machine screw pack, unless options listed below are selected.

NOTE: Installation of this closer requires T-27 and T-25 driver bits for TORX machine screws with a security pin. Sold separately.



Closer options

Cylinder

- Delayed Action (DEL)
- Advanced Variable Backcheck (AVB)

Finishes

- Custom Powder Coat (RAL) _____
- Plated Finish, US _____
- SRI primer (use with powder coat finishes only)

Screw pack

- TB* and TORX Machine Screw (TBTRX)
- * Specify door thickness if other than 1-3/4".

Installation accessories

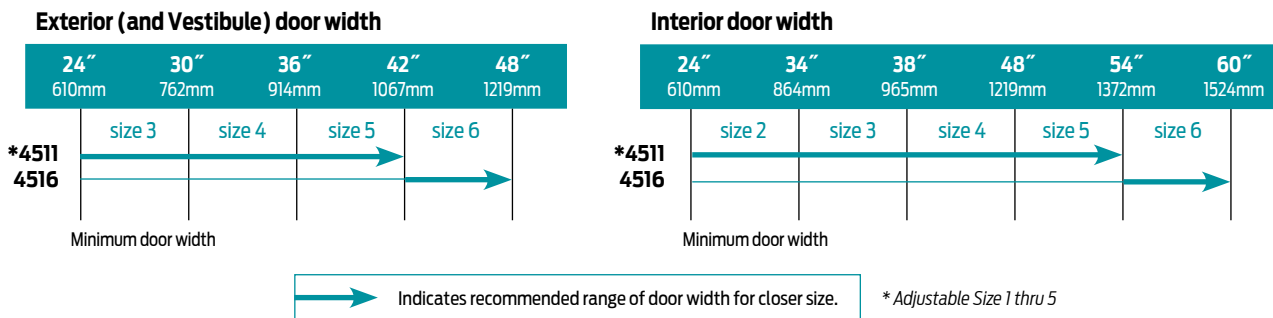
- PLATE, 4510-18

Special template

- ST- _____

Table of sizes

- Select closer based on width of door
- The spring power of non-sized 4511 cylinder is adjustable from size 1 through size 5 and is shipped set to size 3
- Sized 4510 Series cylinder available in size 6
- Delayed action not available with 4516 cylinder



Reduced opening force 4510 Series closers

CAUTION! Any manual door closer, including those certified by BHMA to conform to ANSI Standard A156.4, that is selected, installed and adjusted based on ADA or other reduced opening force requirements may not provide sufficient power to reliably close and latch a door.

Refer to POWER OPERATORS section for information on systems that meet reduced opening force requirements without affecting closing power.

* Maximum opening force.

	DOOR WIDTH	36"	42"	48"
	8.5* lbs.	4511	4511	4511
5.0* lbs.	4511	4511	4511	

* Maximum opening force.