



Door Closers

for Fire Rated Doors

by Adam Fisk



Fire doors are vital to a building's fire safety. Without them, a small apartment fire can quickly turn into a building-wide emergency. A proper fire-rated opening is designed to stop or at least slow the spread of smoke and fire, giving first responders time to act, and people time to find safety. They can be the difference between a scary situation and a fatal one.

During a fire, fire-rated doors must be closed and latched to function properly. Not only does a closed fire door help contain the emergency, but it also can prevent a vacuum of fresh air from feeding the fire. This essential function leads us to a critical component with features to prevent these doors from staying open during a fire: the door closer.

LCN® offers a wide range of mechanical and automatic door closers. Which are suitable for fire doors? All of them. Every LCN product is listed to UL 10C, the standard for positive pressure fire tests of door assemblies, meaning they are all approved for use on a fire door.

NFPA 80 is the Standard for Fire Doors and Other Opening Protectives. This standard divides the operation of fire doors into three categories – self-closing, automatic-closing, and power-operated. There are several distinctions between these categories, but the key piece is the hold-open functionality (or lack thereof). By understanding the categories below, you can better determine which closer is best for the day-to-day operation of each fire-rated opening.

Self-Closing Fire Doors:

A fire door with a standard, mechanical closer and no hold open capability

Closers used on self-closing fire doors include our full roster of LCN mechanical products. From the [light-duty, cast aluminum 1250](#) to the [heavy-duty, cast iron 4040XP](#), all of our LCN closers are UL listed for self-closing doors and follow the NFPA 80 standard. This also includes our full suite of arm options, from parallel to SCUSH, with the important exception of any hold-open configuration. Mechanical hold-open options are not permitted on fire-rated doors.

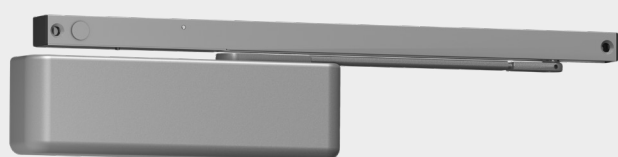
Automatic-Closing Fire Doors:

A fire door that will automatically close upon fire alarm activation



The most straight-forward automatic-closing fire door is equipped with any LCN mechanical closer and one of our [LCN Sentronic 7800 Series magnets](#) to hold the door open. These magnets automatically release when the fire alarm is triggered and allow the mechanical closer to operate and close the door. These magnets should be reviewed during system checks to ensure they are releasing properly.

Beyond the standard mechanical closers, our LCN Sentronic Series offers a mix of single point, multi point, and scanner operated hold open options.



3130SE / 4040SE

The [3130SE concealed and 4040SE surface mounts](#) have a single-point hold-open, which is adjustable between 85° and 110°. Once the closer receives a fire alarm signal, the electric current will be cut off and the hold-open will release, allowing the door to close.

They're recommended for interior openings and are ideal for doors that will be kept fully open given they cannot be repositioned without disabling the hold-open.

These closers can be tested with a built in "Release Test Switch" next to the solenoid assembly. With the door in the hold-open position, push this switch, and the door should close immediately.

2310ME / 4310ME / 4410ME

The [2310ME concealed and 4310/4410ME surface mounts](#) can hold doors open at any angle and can be repositioned while maintaining the hold-open function. The hold-open is then disabled once the closer receives a signal from the fire alarm and cuts the electrical current to the closer, resulting in the door closing mechanically.

These closers are recommended for interior doors and are a great choice for hospital patient areas, senior living centers, and retirement homes due to the ability to hold-open past 120° of opening and the swing free arm on the 4310MESF.



4310HSA / 4410HSA

The [4310/4410HSA surfaced mounted closers](#) include a scanner activated hold-open function. Once the door is opened past the 80° point, the hold-open engages. As pedestrians use the doorway,

they trigger the scanner, resetting the hold-open timer, which can be up to 30 seconds. If the timer elapses with no new movement, the hold open function will disengage and allow the door to close.

They can be used on both interior and exterior facing doors and are ideal for areas that may receive large amounts of traffic over a short time. Openings in theaters, concert halls, and stadiums are great examples of ideal settings.

Power-Operated Fire Doors:

A fire door controlled by an automatic door operator

The third option for fire rated doors is an automatic operator. Once connected to the building's fire alarm system, all LCN low energy operators—from our [4600 AutoEQ](#) to our [6400 COMPACT](#)—meet the NFPA 80 standards and will become disconnected from power upon fire alarm activation.

With low energy door operators, the hold open has a great deal of flexibility. It can be set as a timer after the door is open or configured with an overhead occupancy sensor. Some LCN operators can also be set into a continuous hold open mode. Regardless of which is chosen, once the operator receives a signal from the alarm system, the power will be disconnected, and the door will close mechanically.

These operators are perfect to add accessibility, convenience or touchless access to any opening, whether that's a high-traffic entryway or a lower traffic office suite. Visit our [LCN Low Energy Operators](#) page for more specifics on each product.

Conclusion

As a vital part of the fire safety system, it's essential to choose right closer for each fire door configuration. With a full range of UL 10C listed products, LCN offers solutions for every fire-rated opening, easing the intimidation of combing through dozens of options. Whether it's our [light duty 1260](#) or a heavy-duty operator like our [Senior Swing](#), you can install our products with confidence knowing they've been through rigorous testing and designed with fire containment in mind.

For more information on which closers are best for your fire doors, please [contact](#) an Allegion representative and we'll be happy to walk you through our product library.

