

# M100 FireGard™ and FireGard™ Closing Systems



Cornell answers the call for safe, reliable and simplified fire door closing options with its full line of FireGard™ and Advanced M100 FireGard™ fire door closing systems. Unlike old fashioned, conventional fire door operators, all FireGard systems close fire rated doors without releasing spring tension or disengaging the operator drive mechanism. Cornell's FireGard Systems eliminate dangerous closing speeds while allowing for simplified testing and automatic resetting. Besides saving time and money, FireGard's unique features help ensure that your fire doors are fully functional and ready to protect the safety of building occupants and property during an emergency.

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# M100 FireGard™ Closing Systems



## Recommended Applications for M100 Closing Systems:

- Any application where mechanical testing and resetting is impractical or not desired.
- Activation by fire alarm system or smoke detector is desired or required.
- Where fire doors are installed within pedestrian thoroughfares.
- Fire-rated units in recessed applications.
- Units in areas susceptible to frequent power outages.

## M100 FireGard Operating System Benefits:

- Automatic resetting of the automatic, fail safe closing system yields dramatic savings for building owners in testing and resetting costs as well as minimized opening downtime.
- M100 systems can be activated by fire alarm systems, local detectors or power failure **without the need for a separate alarm interface release device.**
- Eliminates mechanical spring release and complicated testing and resetting, especially critical for recessed and larger doors.
  - System automatically resets to normal operation upon clearing of alarm signal and/or restoration of power.
  - Routine testing of the automatic closing system occurs in minutes from floor level by factory personnel.
  - Required annual inspection by a trained fire door systems technician is simplified.
- Safe, controlled, automatic closing speed will not exceed 12" per second.
- Can be applied consistently on fire door, insulated fire door, counter fire door and SmokeShield® products.
- UL approval allows Cornell to retrofit M100 motor, chain and crank operators to most manufacturer's fire doors while maintaining the door's UL and FM ratings.
- Optional fuselink activation is available, if required.



## M100 FireGard Motor Operated Systems

These systems close the fire door in response to an alarm signal and are fail-safe by design, safely closing the door during a prolonged power failure. When the alarm is cleared and/or power is restored, resetting is done at floor level with the touch of the "open" button. Unlike conventional fire door operators, M100 FireGard Motor Operators do not require an additional mechanical release device to respond to central alarm signals or local smoke detectors. For doors up to 51' wide, 36' high or a maximum 1200 sq. ft.

### Benefits:

- Slower, safer, uniform closing speed not to exceed nine inches per second.
- 0 or 10 second selectable time delay.

**Recommended Applications:** All motor operated fire doors.

**Options:** Battery Back-Up, Horn Strobe, Voice Warning Module, Sensing Devices and more.



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## M100 FireGard Tube Motor Operated Systems

### For Counter Fire Doors with or without Integral Frame and Sill

M100 FireGard Tube Motor operators are concealed in the Counter Fire Door's shaft assembly making them ideal for openings with tight clearances around the coil area or to neatly conceal the operator and drive components. Closing speed not to exceed 12" per second. 115 VAC power required for motor, 24 VDC, 115 VAC or 24 VAC required for control panel. Available for Counter Fire Doors up to 14' 0" wide, 9' 0" high up to 90 square feet or Counter Fire Doors with Integral Frame and Sill up to 10' wide by 4' 9" high.

### Benefits:

- Convenience of ergonomic motor operation in an aesthetic, low profile design.
- Full height openings from floor to 9' 0" high.

### Recommended Applications:

- Fire shutters that require the convenience of a motor operator in limited headroom conditions.
- Aesthetic motor operation that eliminates the need for a bulky motor cover.

**Options:** Control Stations, Key Test Station, Sensing Devices, Battery Back-Up and more.

## Manual M100 FireGard Chain, M100 FireGard Crank Operated Systems

These compact designs include a built-in automatic reset release device for connection to a central alarm system or local detectors - **no external release device is required.** Units will close automatically upon alarm or power failure in excess of 10 seconds. Resetting spring tension or re-engaging the operator is not required. M100 Chain and Crank Operators are available for use on all Counter Fire Doors and Fire Doors up to 34' wide or 28' high standard construction. Crank units available to 12' high.

### Benefits:

- Integral governing device provides safer closing speed, not to exceed 12" per second.
- Accepts 24V DC, 115V AC or 24V AC power supply.
- UL 864 Listing.
- 10 second alarm and power failure time delay.
- 24V DC output for close warning device.

### Recommended Applications:

- Use for fire products that do not require the daily operating convenience of a motor operator.
- Clearance and access to the hand chain or crank eye is required.

**Options:** Electric Key Switch, Battery Back-Up, Horn Strobe and more.



Protected by US Patent #6,155,324



## Fire Door Closing System Alternatives

	M100 Motor	M100 Tube	M100 Chain, M100 Crank	FireGard Motor	FireGard Chain, FireGard Crank	Fuselink Closing (Push Up Only)
Activation by fire alarm systems, local detectors or power failure without separate interface / device.	•	•	•			
Fail safe operation: fire doors will close during power failure.	•	•	•			
System automatically resets on clearing of alarm or restoration of power.	•	•	•			
No mechanical spring release, avoiding tension reset at coil.	•	•	•	•	•	
Routine testing of closing system occurs in minutes from floor level by factory personnel.	•	•	•	○	○	
Required annual inspection by trained fire systems technician is simplified.	•	•	•	•	•	
Controlled rate of descent not to exceed (inches per second)	9 ips	12 ips	12 ips	6-24 ips avg	12 ips	
Power is unavailable at opening.				•	•	•
UL approval for retrofit while maintaining door's listing.	•		•		•	
Fuselink closing. Testing releases spring tension, causing extended opening down time and requiring mechanical reset at coil by trained technician. Not fail safe. Consistent with conventional systems.						•

○ Available as an option

### Recommended Applications for FireGard Closing Systems:

- Opening is not a pedestrian thoroughfare.
- Connection to Central Alarm System or Local Smoke Detectors is not required by local building officials.
- Applications where the installation of fusible links, turnbuckles, chains and eyebolts to the face of both sides of the wall above the opening will not detract from the intended aesthetics.

### FireGard™ Operating System Benefits

- Close fire rated doors without releasing spring tension, avoiding dangerous resetting process.
- Fuselink activated.
- Simple system reset by reconnecting the fuselink.
- Annual inspection by a trained fire door system technician is required.
- Systems will not automatically close upon power failure.
- Economical.

#### System Options:

- Floor level test switch - allows system testing at floor level rather than above coil at fuselink location.



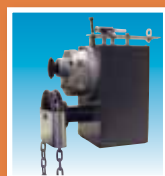
### FireGard Motor Operated Systems

UL and FM listed, industrial duty gear head operator recommended for units that normally cycle up to 20 times per day. HP Available: 1/3, 1/2 and 3/4. Available for fire doors up to 225 square feet, insulated fire doors up to 165 square feet.

#### Features and Benefits

- Economical.
- Spring tension is not released upon fuselink closing.
- Convenience of motor operation.
- Auxiliary Chain for emergency operation, just pull to operate.
- Average closing speed of 6 - 24" per second.

**Options:** Floor Level Test Switch, Sensing Devices, Release Devices, Battery Back-Up



### FireGard Chain, FireGard Crank Operated Systems

Available for use on all Counter Fire Doors and Fire Doors up to 34' wide or 28' high standard construction. Crank units available to 12' high.

#### Features and Benefits

- Economical.
- Power not required.
- Spring tension is not released upon fuselink closing.
- Maximum closing speed of 12" per second.

**Options:** Floor Level Test Switch, Releasing Devices, Battery Back-Up

### Retrofit Operators

Specialty UL approval allows Cornell to retrofit M100 FireGard and FireGard operators to most manufacturer's fire doors while maintaining the door's listing agency ratings. See chart above for models.

### Push Up Operation, Specialty Operators

Specialty Operators and Push Up Operation are available. These conventional systems release spring tension and require mechanical resetting by a trained door system technician.

## Fire Door Closing System Accessories



### Battery Back Up Devices

Available for M100 FireGard™ and FireGard™ Motor, Chain and Crank Operators. Prevents the door from closing due to a power failure for a minimum of 4 hours. For M100 FireGard Motor Operators the battery backup also functions as a DC power source for local warning devices and detectors to keep them functioning during a power outage and can be programmed to cycle the door a selected number of times should the optional sensing edge contact an obstruction during alarm signal AC power closing.



### UL 325 Compliant Entrapment Protection Devices for Motor Operated Systems

Per UL 325-2010, doors without a connected and properly functioning primary entrapment protection device will only function by constant pressure close operation. The primary entrapment protection devices below enable momentary contact to close operation.



- **ELR Electric Sensing Edge** - 2 wire monitored electric sensing/smoke seal edge. Contact with the edge before the door fully closes causes the door to immediately stop downward travel and reverse direction to the fully open position. Requires a retracting safety cord and reel or a self-coiling cable connection to control the circuit.
  - **Photo Eyes** - Interruption of the beam before the door fully closes causes the door to immediately stop downward travel and reverse direction to the fully open position.
- Optional Secondary Entrapment Protection Device:** may be used in conjunction with a set of primary entrapment photo eyes or with constant pressure to close operation.
- **Electric Sensing Edge with Wireless Edge Kit** - Eliminates the need for a physical traveling electric cord connection between the bottom bar sensing edge device and the motor operator. This system is self-monitoring and fail-safe.



### FireGard Floor Level Test Device

Enables the convenience and safety of testing of the fire door at floor level rather than at the fuselink above the coil. Designed for surface mounting.



FireGard AR-D

### FireGard Release Devices

Electro-mechanical devices enable FireGard Closing systems to respond to alarm signals from detection devices such as smoke detectors, heat sensors and central alarm signals, permitting doors to close long before high temperatures melt fusible links. Fusible links should always be used as backup to the release device.

**Note that M100 FireGard Closing Systems include the functionality of release devices as standard.**

- **FireGard AR-D** - A fail-safe and UL listed tri-voltage releasing device that accepts 120 or 24 VAC or 24 VDC input voltage. Does not require or have a battery back-up system or require up front electrical coordination with alarm system providers. Down limit detection: requires closed door signal.
- Other Release Device models available including integral battery back-up model: Consult factory.



### Annunciators

Optional safety devices that provide a visual and/or audible advanced warning when the door is about to close. Can be activated upon alarm signal or loss of power when supported by a battery back-up device.

- **Horn Strobe** - ADA compliant, 24 VDC warning devices that are powered by a release device power source to provide an advanced fire door closing warning. Activation upon alarm signal and power failure and or alarm signal only depending on release device.
- **Voice Warning Module** - An ADA compliant warning device. Provides up to four different voice warning messages upon activation. Messages are in English and are field selectable.

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Crestwood Industrial Park • Mountaintop, PA 18707  
Tel. 800.233.8366 • Fax 800.526.0841  
[www.cornelliron.com](http://www.cornelliron.com)

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