



Buyers Guide

# DOOR CLOSERS


2021



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Door closers are a key part of the door hardware and play an essential role in ensuring the effectiveness of fire doors. However, they are also one of the elements of a building that are exposed to the highest levels of use throughout their lifespan. Therefore, selecting the correct product for each building and even each door is crucial.



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# OVERVIEW OF KEY CONSIDERATIONS

When selecting door closers, there are a number of factors that need to be considered to ensure it meets the needs of the building, will function correctly and comply with building regulations. These include:

## **THE WEIGHT AND WIDTH OF THE DOOR**

Not all door closers have the same capacity and the door will not open and close correctly if an unsuitable closer is fitted.

## **FIRE DOORS**

To help prevent the spread of smoke and fire, and to protect escape routes, fire doors must fully and reliably close. Choosing the right door closer will ensure compliance with the Building Regulations.

## **LEVEL OF TRAFFIC THROUGH THE DOOR**

In high traffic areas, such as busy corridors, the door closer will potentially be subjected to thousands of open/close cycles each year. A product that is not suitable for this level of use will require more frequent maintenance and have a shorter lifespan.

## **THE TYPE OF BUILDING**

Different buildings will have specific requirements that must be met. For example, in hospitals, the need to move beds and wheelchairs easily through the building needs to be considered when choosing a door closer. Similarly, the movement patterns in a school environment may also impact the selection of door closers.

## **THE RISK OF ACCIDENTAL DAMAGE OR VANDALISM**

Similarly, in certain environments, there may be a higher risk of either accidental or deliberate damage to the door hardware. The selection of the right door closer can help minimise this, therefore reducing the repair, maintenance and replacement costs.



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# **BUILDING REGULATIONS – FIRE AND ACCESS**

One of the key considerations when choosing a door closer is compliance with the Building Regulations and balancing the requirements of both fire and accessibility legislation.

## **FIRE SAFETY**

Fire doors are an important part of the overall fire strategy for a building and are essential for safe evacuation in the event of a fire. However, fire doors are only effective when closed fully. Approved Document B (Fire safety) in England and Wales, Section 2 in Scotland and Part E in Northern Ireland, require fire doors to be fitted with a self-closing device that will fully and reliably close the door from any angle. Any such door closing device should comply with BS EN1154 Controlled Door Closing Devices, or BS EN1155 for electromagnetic closers and fire door holders, and be CE marked to this standard. It is also important to look for CERTIFIRE Approved fire doors and door closers. Fitting a non-approved product to a CERTIFIRE door will invalidate the certification.

Furthermore, the Regulatory Reform (Fire Safety) Order 2005 makes ensuring the fire doors operate correctly the duty of the ‘responsible person’, usually the employer, building owner or building manager.





## ACCESS

A building must also be designed and constructed in a way that allows everyone access and use of the building. The Equality Act 2010 states that physical features of a building, including fixtures, fittings and equipment, must not restrict access to people with disabilities. Therefore, doors must not have an excessively high opening force that would prevent people with disabilities from opening the door. Approved Document M in England and Wales, Section 4 in Scotland and Part R in Northern Ireland all require that a 'door set' (which includes all door hardware) produces an opening force of below 30 Newtons (N) between 0° and 30° and below 22.5N beyond 30°.

To help calculate this, many manufacturers will provide torque curve data that shows the forces produced throughout the full opening and closing cycle in Newtons. While this does not account for the resistance exerted by other door hardware such as the hinges and door seals it can help indicate if a given door closer can comply.

In essence, door closers fitted to fire doors must have enough power to reliably close the door and keep it closed in the event of a fire but not restrict day to day access into and through the building, for any group of users.

There are a range of door closers available that offer compliance with both fire and equality regulations and offer adjustability that allows the force to be modified on site. For example, the **ARRONE**® AR3500 Door Closer is CERTIFIRE approved and meets the BS 8300 standard for accessibility. It is adjustable, can be fitted to exterior and interior doors up to 1100mm wide or 80kg and has a 120-minute fire rating.



Alternatively, electro-mechanical door operators can be used to ensure the door can be opened with minimal force. These can either provide fully automatic opening, using a push pad button, or offer assisted operation to minimise the force required. As an example, the **DORMA** ED100 LE Door Operator, which is also CERTIFIRE approved and BS 8300 compliant, allows easy opening and reliable closing. Using built-in sensors, it responds automatically to changes in the surrounding environment to boost power when required to open and close reliably and consistently, despite air pressure differences or other types of resistance.





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# MEETING BUILDING SPECIFIC REQUIREMENTS

In some types of building or certain areas within a building, it may be that self-closing doors disrupt or hinder normal operations. Hospitals are a clear example as beds and wheelchairs need to be moved through the building frequently. Also, in schools and colleges, the pattern of use means that at certain times of the day, such as during room changes, there will be a large number of people moving about the building. Here, self-closing doors will impede the smooth movement of staff and students and potentially cause frustration. It will also mean the door closer mechanism will be operated more frequently, increasing wear and tear.

A possible solution is selecting a door closer with a delayed action feature, to allow more time for people to pass through before the door begins to close, but on a fire door it should not take more than 25 seconds to close from 120 degrees to comply with EN1154. The **Rutland®** TS9205 Door Closer, which can be fitted to interior doors up to 1250mm or 110kg offers the delayed action feature. It is also power adjustable, compliant with BS 8300 and is supplied with a 25-year guarantee.



Another option is to select hold-open devices that will keep the door open until a fire alarm is triggered, at which point it releases the door to close under the force from the door closer. These can either be ones linked directly to the alarm system or operate as a standalone unit. These devices must be CE marked EN1155 as per legal compliance.



For example, the **GEZE** TS4000EFS Electromagnetic Door Closer will operate to close the door in the event of an alarm being triggered or a loss of power. It features a ‘free swing’ function that enables the door to be opened and closed with minimal force but the electro hydraulic mechanism ensures a safe automatic closing of the door in the event of a fire. This makes it ideal for health care environments such as care homes and hospitals.

The alternative to this is a standalone product such as the **Dorgard** hold-open device that releases the door when it detects a continuous fire alarm sound and the door closes using a standard door closer. It offers reliable operation, has its own power source and is simple to install. It also has the option for an automatic release at night and fails-safe, by releasing the door if the battery runs low.

Delayed action or hold open devices also have an additional advantage in reducing the temptation for building occupants to prop or wedge the door open to prevent it closing automatically.





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# PREVENTING DAMAGE AND VANDALISM

A further consideration when choosing a door closer is the risk of damage to the door, closer and surrounding area – either accidentally or deliberately. This is especially important for fire doors where damage can compromise its fire performance.

Doors that feature a backcheck function, such as the **Briton 2003V** Door Closer, will protect the door and the surrounding area from aggressive or out of control door opening. This feature does not provide any additional resistance when the door is opened normally but will slow or even stop the doors movement as it approaches the fully open position.

To minimise the risk of damage to the door closer mechanism itself, a concealed closer could be considered. With the mechanism hidden when the door is closed, it minimises the temptation and opportunity to damage the closer. This is ideal in areas that are accessible to the public but not easily monitored.

Concealed overhead closers such as the **Rutland® ITS 11204** operate in the same way as a surface mounted closer with easy adjustments to the closing speed and force, BS 8300 compliant design and fire ratings.

Jamb mounted concealed closers are fitted into the hinge edge of the door and provide controlled and reliable door closing. For example, the **Perko Powermatic R100** is CERTIFIRE approved for use on fire doors, is accessibility compliant and has been tested through 500,000 closing cycles.

Selecting the correct door closer for each application can help ensure compliance with the regulations, provide easy use of the building for occupants and keep maintenance, repair and replacement costs down.



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# ABOUT

We are the UK's largest supplier of specialist ironmongery, and have been supplying to the trade for over 50 years.

Starting out as a traditional hardware shop, we have since expanded to now providing over 18,000 quality products in stock, ready for next day delivery, as standard. Customers can order via our website, call centre and trade counter in Basildon, Essex.

Since 2013 we have been part of the Manutan Group, a leader in the supply of industrial, commercial and office equipment to business. We are a group of 25 subsidiaries across 18 countries who work closely together to be able to offer the highest quality products at low prices.

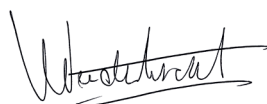
We are proud to have been named one of the UK's Best Workplaces™ 2020, in a report compiled by Great Place to Work®.

The Best Workplaces™ Award celebrates the companies that promote a healthy workplace culture through a combination of factors including employee trust, pride and camaraderie. To be recognised as one of the UK's Best Workplaces is a huge achievement and is testament to our dedication to create a healthy workplace culture where our employees feel trusted, valued and loyal to achieving organisational goals.

We are committed to driving our business performance through our biggest asset: our people, and we believe that the value and pride our employees place on working at IronmongeryDirect will ultimately be reflected in the customer experience.



**“It all comes down to our passion for customers, and making sure that they get the service and the product that they want”**



Marco Verdonkschot,  
Managing Director  
marcov@electricaldirect.com



# ADDITIONAL RESOURCES

To help select the right closer, **IronmongeryDirect** has created a useful online calculator to make specification a simple and quick process. The tool calculates the specifications of the fire door and the expected footfall to identify the recommended closer for the job.

To use the calculator, visit:

<https://www.ironmongerydirect.co.uk/door-closer-guide>

Plus use our Fire Door Checklist:

<https://www.ironmongerydirect.co.uk/fire-door-checklist>



At **IronmongeryDirect** we have a wide range of door closer options available among the products we have in stock.

To find out more visit [www.IronmongeryDirect.co.uk](http://www.IronmongeryDirect.co.uk)

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