Door Controls - Introduction

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Door control solutions from our most trusted global brands

Setting the industry standard for quality, durability and innovation, Allegion has a door control and closer for any application. From the simplicity of a mechanical non-fire door closer for basic functionality, to microprocessor low energy operators for special applications where doors are required to satisfy Part M of the Building Regulations.

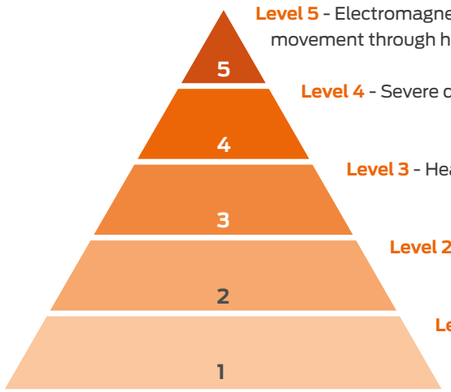
Specifying door controls

When specifying a door closer you can be assured that an uncompromising attention to detail has been given to every stage of its design and manufacture. This ensures that its products and systems meet the highest possible quality and conformity certifications and exceed the requirements of all applicable European Standards.

A global leader in every sense of the word, Allegion has an unrivalled track record in satisfying the demands of architects, designers, specifiers and building contractors throughout the world.

Performance levels

Our multi-level approach to door controls ensures there is a solution for all projects, door applications and budgets.



Level 5 - Electromagnetic & Low Energy operators designed to allow easy or free movement through hold-open, swing-free or automatic operation

Level 4 - Severe duty mechanical door controls with multiple features

Level 3 - Heavy duty mechanical door controls with multiple features

Level 2 - Medium to heavy duty door controls with options

Level 1 - Light to medium duty door controls - limited options

Door Controls - Legislation

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CE Mark explained

Door closers are an important link in the control of fire and smoke and their usage can help save lives.

From July 2013 it became a legal requirement for all products which are covered by a harmonised EN standard to be CE marked before they can be placed on the market.

For door closing devices, EN 1154 and EN 1155 became harmonised standards across Europe and are now the standards required in order to attain CE marking. Validation of the CE mark requires the production of a Declaration of Performance (DoP) by the manufacturer.

DoPs for all Briton door controls are available on our website at:

www.doorhardware-online.co.uk

Performance across the range

Compliance to EN 1154/EN 1155 and CE marking covers the majority of Briton door controls, from our budget range of fixed power closers through to our high efficiency cam action slide arm closers and heavy duty floor springs.

Door size chart - EN 1154

	Recommended Door Sizes	
EN Closer Size	Maximum Door Width	Maximum Door Weight
1	750mm	20kg
2	850mm	40kg
3	950mm	60kg
4	1100mm	80kg
5	1250mm	100kg
6	1400mm	120kg
7	1600mm	160kg

Note:

For fire door applications, power size 3 is a minimum requirement.

EN 1154 & EN 1155

All forms of "Controlled Door Closing Devices" are covered by a harmonised European Standard, **EN 1154**. It provides details on product types by use, test cycles, door mass, corrosion resistance and product performance requirements using a **6 digit classification code**.

EN 1155 specifies the requirements for devices which provide an electrically controlled hold-open or swing-free function on doors used for fire/smoke compartmentation. This includes separate electrically controlled hold-open devices which may be used in conjunction with a standard mechanical door closer.

Each standard prescribes the test methodology for randomly selected production line products. Compliance with the standards, supported by suitable evidence of audit testing of the certified product, and regular factory process control inspections, allows the application of the CE mark.

EN 1154	EN 1155
4 (3 / 4)	3 (3)
8 (8)	8 (5 / 8)
3 (1 - 7)	3 (3 - 7)
1 (0 / 1)	1 (1)
1 (1)	1 (1)
3 (0 - 4)	3 (0 - 4)

	EN 1154	EN 1155
Category of use	Defines the angle from which the device will close the door in a controlled manner. Grade 3 - 105° Grade 4 - 180°	Only Grade 3 category of use is identified for electrically powered hold-open devices for use by the public and others with little incentive to take care - where there is some chance of misuse of the door
Test cycles	Prescribes a series of test cycles. Only one grade is identified. Grade 8 - 500,000 cycles	Prescribes a series of test cycles. Grade 5 - 50,000 cycles for all electrically powered hold-open devices Grade 8 - 500,000 cycles for electrically controlled hold-open or swing-free closers that contain operating arms
Door mass/ size	Identifies the closer power size as defined by the door width and mass. Adjustable power closers are defined by their upper and lower power sizes. See table on page 13	Hold open power size is suitable for a range of power sizes. Both the max. and min. power sizes are defined. See table on page 13
Suitability for fire/smoke doors	Having successfully completed a fire test to EN 1634. Grade 1 - suitable for use on fire/smoke door assemblies Grade 0 - not suitable for use on fire/ smoke door assemblies	Having successfully completed a fire test to EN 1634. Only Grade 1 is identified Grade 1 - suitable for use on fire/smoke door assemblies
Safety	Ensures the operation and suitability of the closer is hazard free - operates without risk to the user. Only Grade 1 is identified	All electrically powered devices are required to satisfy the requirement of safety in use. Only Grade 1 is identified
Corrosion resistance	Level of corrosion resistance to EN 1670 Neutral Salt Spray test and operation of the product at extreme temperatures. Five grades are identified. Grade 0 - no identified resistance Grade 1 - mild resistance Grade 2 - moderate resistance Grade 3 - high resistance Grade 4 - very high resistance (240 hrs)	

Door Controls - Legislation

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The Equalities Act - disability legislation

For some building users a self-closing fire door can become a barrier – or at least an obstacle which hampers their movement into and within the building.

Legislation aimed at providing universal accessibility of buildings requires service providers to make *"reasonable adjustments to the physical features of their premises to overcome barriers to access".*

To meet obligations under the Equalities Act, Approved Document M (ADM) of The Building Regulations and BS 8300 continue to be the yardsticks by which conformity is measured.

ADM and BS 8300 provide guidance in establishing recommended maximum opening forces for door controls to assist less able users.

Opening v Closing Forces

For accessibility, Approved Document M and BS8300 are concerned with overcoming the resistance to opening which a door closer imparts. Both documents stipulate maximum "opening force" whereas for fire safety, EN 1154 is concerned with ensuring the door closes fully in order to maintain the door's fire integrity and is measured as "closing moment" (a combination of the door's mass and width). The two forces are not directly comparable.

Doors which need to be fire resisting and accessible must satisfy both the requirements of the maximum opening force for accessibility and minimum closing moment for fire safety. Non fire resisting doors only need to satisfy the maximum opening force requirements of BS8300.

BS8300 Incorporating Amendment No.1 – 7.3.1 states:

"For disabled people to have independent access through single or double swing doors, the opening force, when measured at the leading edge of the door, should not be more than 30N from 0˚ (door in the closed position) to 30˚ open, and not more than 22.5N from 30˚ to 60˚ of the opening cycle."

"The ability of a controlled door closing device to close effectively while keeping within the opening force limits depends on its efficiency and the resistances from edge seals, hinge friction, latch resistance and differential air pressure. The opening force should be checked using a plunger type force measuring instrument."

Accessibility guidance

We offer guidance and product solutions to cover the following areas:

Low energy door controls

Electromagnetic door controls

High efficiency mechanical door controls to meet the conflicting requirements of BS 8300 and fire safety requirements of EN 1154

Door closers which are capable of meeting these demands and disability legislation are identified by this symbol.

Fire Safety & Approved Document B

Fire Safety Order

The Regulatory Reform (Fire Safety) Order covers general fire safety in England and Wales.

Proof of compliance rests with the building owner or other reasonable person and policing of this is done through spot checks by the Fire Service. Failure to comply can result in a fine or prison sentence and would invalidate any insurance cover.

Approved Document B

In England and Wales, Approved Document B of Building Regulations requires third party fire testing to ensure that door controls and other life safety products are fit for purpose.

All Briton door controls which are used for fire and smoke door assemblies are third party fire tested and approved by Certifire.

Certifire approval is a means of providing reassurance to specifiers and authorities that all aspects of the product's testing, assessment and manufacturing have been checked and verified to ensure:

- They have been included in successful fire door tests
- The have been tested and comply with the relevant EN or BS standards
- They are manufactured in quality assured facilities under ISO 9000 certification

Certification documentation for all Briton door controls is readily available on request.

certifire

Recommendation

High efficiency Briton closers which are capable of meeting the required levels of opening and closing forces are marked with the "Wheelchair Symbol" but accurate installation, hinge friction, door seals and variable air pressure can all have a bearing on the opening resistance of the doorset.

For doors which must also meet the stringent closing force requirements for fire door applications, it may be more appropriate to use an electromagnetic hold-open or swing-free closer or a powered opening solution.

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Door Controls - Selection Guide

Is your door a fire door?

No.

Non-fire resisting doors which are required to be self closing do not need to be EN 3 power size. For doors which need to have low opening forces to BS 8300/ADM, we recommend an adjustable power closer which can be adjusted to keep the opening resistance low whilst ensuring the door closes as required.

Select

Any Briton door control may be used for non-fire door applications.
Selection can be based on aesthetics and/or features required including delayed action and mechanical hold-open armsets.
Closers should be selected which are suitable for the door weight and width.

Yes.

No.

Would hold-open or swing free capability be an advantage?

Select

Concealed Closers
Briton 2420

Projecting Arm Closers
Briton 121CE
Briton 131
Briton 1110/1120B/1130B
Briton 2003/2003V/2004
Briton 2130B

Slide Arm Closers
Briton 2720
Briton 2320
Briton 2130B.T
Briton 1130B.T

Floor Springs
Briton 2823 or Briton 2824

Will it require low opening forces to suit BS 8300/AD M?

No.

Would hold-open or swing free capability be an advantage?

Yes.

Do you want a manual or automatic solution?

Manual

Select

Projecting Arm Closers
Briton 996
Briton 3934

Slide Arm Closers
Briton 2720BD.TE
Briton 2130B.TE
Briton 1130B.TE

Hold-Open Magnets
Briton 533CE
+
Standard Closer with min. EN 3 power size

Yes.

Do you want a manual or automatic solution?

Automatic

Select

Low Energy Operator
Briton 2550

Yes.

Do you want a manual or automatic solution?

Manual

Would hold-open or swing free capability be an advantage?

Yes.

Select

Slide Arm Closers
Briton 2720BD.TE
Briton 2130B.TE
Briton 1130B.TE

Projecting Arm Closers
Briton 996
Briton 3934

Hold-Open Magnets
Briton 533CE
+
Standard Closer with min. EN 3 power size

No.

Select

Concealed Closers
Briton 2420

Slide Arm Closers
Briton 2720
Briton 2320

Projecting Arm Closers
Briton 2130B
Briton 1130B
Briton 1120B
Briton 2003V

Door Closers - Attributes

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Fixing Applications Guide

Door control options

There are fundamentally 2 types of door control, door closers which are mounted on the door or frame and floor springs which are concealed within the floor.

Regular fixing *

Closers are door mounted on the pull or opening face of the door.

Transom fixing *

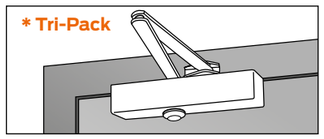
Closers are transom mounted on the push or closing face of the door.

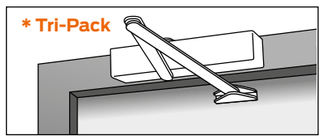
Parallel fixing *

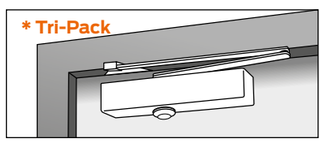
Closers are door mounted on the push or closing face of the door.

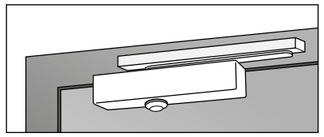
Slide track fixing

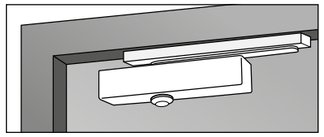
Closers with slide arm and track can also be door or transom mounted on the pull or push side of the door. Tracks can be mounted on the face or underside of the transom when mounted on the push side of the door.











Concealed closer mounting

Closers for concealed mounting offer the ultimate aesthetic option. The closer is discreetly concealed within the door leaf (or the head frame) and a single arm operates within a slide track mounted in the underside of the head frame (or top of the door leaf).

Unlike surface mounted closers, the concealed option usually has limitations on its fire performance and requires a certain minimum door thickness.

*** Tri-Pack**

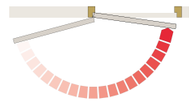
Most Allegion door closers are "Tri-packed" meaning that they contain the necessary arm, bracket and fixings to enable them to be fitted in any of these applications.

Refer to certification or DOP to ensure the application is approved for fire doors.

Closer Adjustments

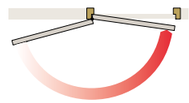
Adjustable closing power

PowerAdjust mechanism provides a visual guide on the EN power level at which the closer has been adjusted.



Adjustable closing speed

Adjustable from 180˚ opening through to the final 15˚.

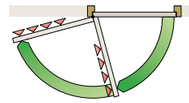


Adjustable latch action

The speed of closing in the last 15˚ can be adjusted to overcome seals and latches.

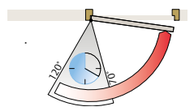
Adjustable backcheck

To prevent damage to the door, hardware and adjacent walls caused by the door being flung open or caught by a gust of wind. Angle at which the backcheck is activated is usually adjustable.



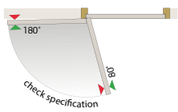
Adjustable delayed action

The closer can be set to close more slowly to give people extra time to pass through the doorway. Adjustable timing between 70˚ and 120˚.

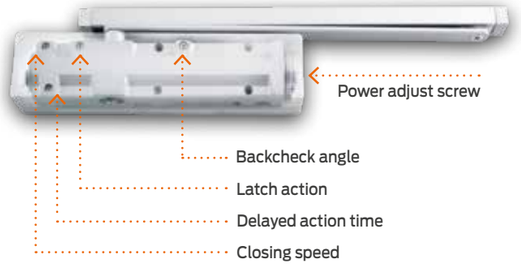


Adjustable hold-open

Mechanical and electro-magnetic hold-open variants are available to hold the door in the open position.



Adjustment screws will vary from model to model (2700 shown)



Mechanical hold-open unit

Mechanical hold-open is achieved by substituting the standard armset with a hold-open armset (or a component concealed within the slide track). It enables doors to be securely held in the open position at a pre-set angle (adjustable on installation depending on model and the mounting application).

The hold-open facility can be easily overridden and the force required to release the hold-open action can be adjusted to suit the weight of door.

Please note, mechanical hold-open is not permitted on fire door applications.

Electromagnetic hold-open or swing-free

Electromagnetic hold-open or swing-free closers allow a door to be held open (or free to swing) in normal use but close under spring power in the event of a fire or power failure. This can be achieved using a closer which has an electromagnetic function integrated into the closer mechanism, or by using a separate electromagnetic holder in conjunction with a standard door closer. The electromagnet temporarily disables the spring mechanism which is automatically re-connected in the event of an alarm or power failure.

Please note, electromagnetic hold-open or swing-free is permitted on fire door applications when connected into the building fire alarm or smoke detection system.

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Door Controls - Overview & Selector

		LEVEL 5 Electromagnetic & Low Energy													LEVEL 4 Floor Springs			LEVEL 4 Overhead Closers					LEVEL 3 - 2 Overhead Closers									LEVEL 1 Closers	
Performance & Features		Briton 2720BD.TE	Briton 2721BD.TE	Briton 2130B.TE	Briton 1130B.TE	Briton 9963/01	Briton 9963/66	Briton 9964/01	Briton 9964/66	Briton 9965/01	Briton 9965/66	Briton 3934	Briton 2550		Briton 2822	Briton 2823	Briton 2824	Briton 2720BD.T	Briton 2721BD.T	Briton 2130B	Briton 2130BD[3]	Briton 2130B.T	Briton 2320.T[4]	Briton 2420B.T	Briton 2003V	Briton 2004	Briton 2003	Briton 1130B.T	Briton 1130B	Briton 1120B	Briton 1110	Briton 131	Briton 121CE
EN 1154 Categories	Category of Use	3	3	3	3	3	3	3	3	3	3	3			-	3	3	4	4	4	4	4	4	3	4	4	4	4	4	4	3	3	4
	No. of Test Cycles	8	8	8	8	8	8	8	8	8	8	8			-	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
	Door Mass/Size	3-5	3-5	3-4	3-4	3	3	4	4	5	5	3-4			-	3	4	2-5	2-5	2-6	2-6	2-4	2-4	2-4	1-4	4	3	2-4	2-6	2-4	2-4	2-4	3
	Fire Behaviour	1	1	1	1	1	1	1	1	1	1	1			-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Safety	1	1	1	1	1	1	1	1	1	1	1			-	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Corrosion Resistance	3	3	3	3	3	3	3	3	3	3	3			-	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
Regular Fixing (Power size)[1]		#3-5	#3-5	#3-4	#3-4	#3		#4		#5		#3-4	#2-5		#2	#3	#4	#2-5	#2-5	#2-6	#2-6	#2-4	#2-4	#2-4	#1-4	#4	#3	#2-4	#2-6	#2-4	#2-4	#2-4	#3
Transom Fixing (Power size)[1]						#3		#4		#5		#3-4						#2-4	#2-5	#2-6	#2-6		#2-4	#2-4	#1-4	#4	#3	#2-4		#2-4	#2-4	#2-4	#3
Parallel Fixing (Power size)[1]							#3		#4		#5	#3								#2-5	#1-5				#1-4			#2-4	#2-5	#3-4	#3	#3	#3
Slide Track Mounted (Pull side)		■	■	■	■								■					■	■				■					■					
Slide Track Mounted (Push side)		■	■	■	■								■					■	■				■					■					
Concealed Door/Transom Mount																								■									
High efficiency Cam Action technology		■	■															■	■				■	■									
Timber fire doors up to		2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2hr			1 hr	1 hr		2 hr	2 hr	2 hr		2 hr	2 hr	1 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr	2 hr
Steel fire doors up to		1 hr	1 hr	4hr[2]														1 hr	1 hr	4 hr		4 hr			4 hr	4 hr	4 hr	4 hr	4 hr	4 hr	4 hr	4 hr	4 hr
Certifire Approval (Cert. No.)		738	738	111	388	109	109	109	109	109	109	5598						738	738	111		111	5291	5292	111	111	111	388	388	388	388	5512	390
EPD (Environmental Product Declaration)		■	■	■	■										■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Adjustable Power		■	■	■	■							■	■					■	■	■	■	■	■	■	■			■	■	■	■	■		
Adjustable Closing Speed		■	■	■	■	■	■	■	■	■	■	■	■		■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■	■
Backcheck Facility		■	■	■	■													■	■	■	■	■	■	CS	■			■	■	■				
Delayed Action		■	■										■					■	■		■													
Mechanical Hold-Open															□	□	□	□	□	□	□		□	□	□	□	□		□			□	
Electro-mechanical Hold-Open		■	■	■	■	■	■	■	■	■	■	■																					
Electro-mechanical Swing Free						■	■	■	■	■	■	■																						
Power assisted opening/spring closing													■																					

■ Feature as standard

□ Available as an option

CS - Cushion Stop facility

1 figures represent the Certifire Approved applications and the power sizes this covers.

2 2130 with classic cover is certified only for 1 hr on steel doors

3 2130BD is NOT CE marked and therefore should not be used on fire doors

4 applies to 2320.T and 2321.T

IMPORTANT NOTE: Mechanical hold-open armsets must not be used on fire doors.

Closer finishes explained

For overhead closers which comprise a body and armset, the finish of the complete closer is specified either with black armset (including regular or parallel fixing bracket) or with matching armset.

For example, a closer in a sprayed silver finish is specified as:

SE - with black armset

SES - with matching silver armset

NB: Black armsets only available on Briton 996 closers.

When ordering simply add the finish code to the end of the product code

e.g. 1120B.SES

Please note: a more detailed description of Briton finish options can be found on page 74 of this brochure.