



# DORMA

## DOOR CLOSER RANGE



# AC LEIGH

ARCHITECTURAL IRONMONGERS  
SECURITY SPECIALISTS

## INTRODUCTION

There are two main considerations in specifying door controls:

- Does it meet the requirements of the Equality Act 2010?
- And if applied to a fire door - Does it satisfy the fire regulations?

This brochure will help you select the correct door control for your application.

## EQUALITY ACT 2010



The Equality Act places a duty upon service providers to remove the physical barriers that prevent people with disabilities from accessing a service. The Special Education Needs & Disability Act (SENDA) details this requirement for schools and educational institutions.

The specific performance of door closers in meeting this requirement is detailed within the Building Regulations: BS 8300: 2009 and Approved Document M (ADM) in England and Wales, Section 3 in Scotland and Part R in Northern Ireland. These state that:

“...a door closer must produce an opening force of below 30N between 0° and 30° degrees and below 22.5N between 30° and 60° degrees...”

Not all door closers available in the market can meet the criteria, DORMA door closers carry third party test evidence to demonstrate their ability to produce low opening forces and help doorsets meet the requirements of BS 8300 and ADM\*.

## ALL DOOR CLOSERS

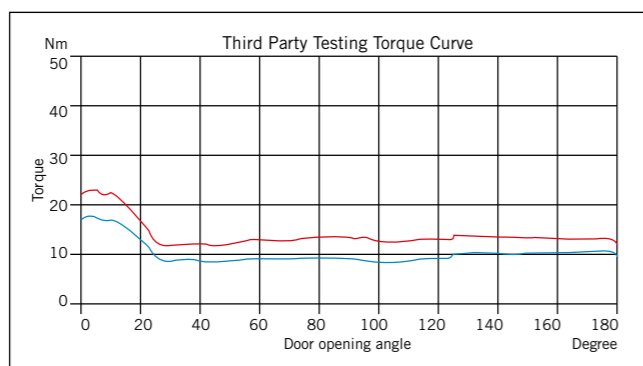
for the BS 8300/ADM\* Applications must be power adjustable by spring and conform to BS:EN 1154

Whilst BS 8300 and ADM\* state maximum opening force requirements in respect of the door closer, the complete doorset must be compliant with this opening force. A Torque Curve shows the opening and closing forces throughout the opening and closing cycle in Nm from initial opening through and beyond 60° of opening. They allow calculation of tolerances the door closer will allow for resistance from other fitted items, such as door seals and hinges, and site conditions.

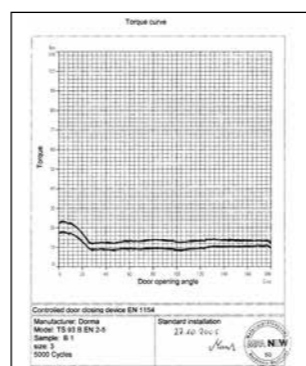
All the DORMA closers detailed in this guide have been third party tested using pivots as detailed in BS:EN 1154 (maximum resistance 0.4Nm). High quality accompanying ironmongery such as hinges, latches and intumescent seals should be selected in order to keep the resistance added to the door set to a minimum. BS:EN 1935 details the maximum allowable resistance provided by hinges, however no such standard currently exists for door seals. Contact manufacturers directly for information on the resistance of their ironmongery.

This torque graph shows the results from an independent test for the DORMA T593 cam action closer, demonstrating how the opening force at 0° to 30° degrees of the door opening angle starts at less than 30N and rapidly falls away to less than 22.5N for the remainder of the opening cycle.

This measurement was taken at power setting EN 3, the minimum requirement for fire doors as detailed in BS:EN 1154. For non-fire resisting doors the closer can be set to a lower power setting and therefore the opening forces will be even lower.



\*Section 3 in Scotland, Part R in Northern Ireland



Original graph provided by MPA

## FIRE REGULATIONS



### BS:EN 1154 Controlled Door Closing Devices

This gives the minimum performance levels for door closing devices, in relation to door width and mass. It also classifies closers for general suitability for use on fire doors, safety in use, and corrosion resistance. Closers must complete 500,000 opening and closing cycles without loss of performance or significant wear. The standard requires that closers fitted to fire doors be no less than size EN 3. Adjustable closers must be able to achieve this as a minimum. All DORMA Door Closers are CE Marked to BS:EN 1154.



### Building Regulations

Approved Document B in England and Wales, (Section 2 in Scotland and Part S in Northern Ireland) requires Third Party Fire Test Certification (such as CERTIFIRE). All DORMA door closers, locks and panic hardware have been fire tested and approved by CERTIFIRE to ensure that they are fit for purpose.

## DOOR CLOSERS and third party fire testing



CERTIFIRE is a third party certification authority originally set up by Warrington Fire Research and BSI. It specialises in certification for a wide range of passive fire protection products which includes fire doors and their hardware. To gain CERTIFIRE approval for use on a fire door:

- Items of door hardware must have been included in successful fire door tests
- They must be independently tested against the relevant BS:EN or BS, to ensure their durability and safety
- They must be manufactured on quality assured production lines registered under an ISO 9000 regime

These three requirements give confidence to specifiers, regulating authorities and purchasers, that all relevant aspects of the product have been assessed.

CERTIFIRE approval does not give carte blanche for the use of an item of hardware on any fire door. Check the following:

CF No.	Certificate number issued by CERTIFIRE
ITT120	Suitable for timber fire doors
MM240	Suitable for uninsulated metal doors
IMM240	Suitable for insulated metal doors

The number indicates that some items may be suitable for doors up to 120 mins fire resistance, whereas others may be suitable for up to 240 mins.

### Check Certificates

DORMA is always willing to supply copies of certificates relating to their products. Certificates give details of any extra intumescent protection required in the locality of some mortised items. DORMA supplies such extra protection as ready cut gasket packs for those products which require them.

### BS:EN 1155 Electrically powered hold open devices for swing doors

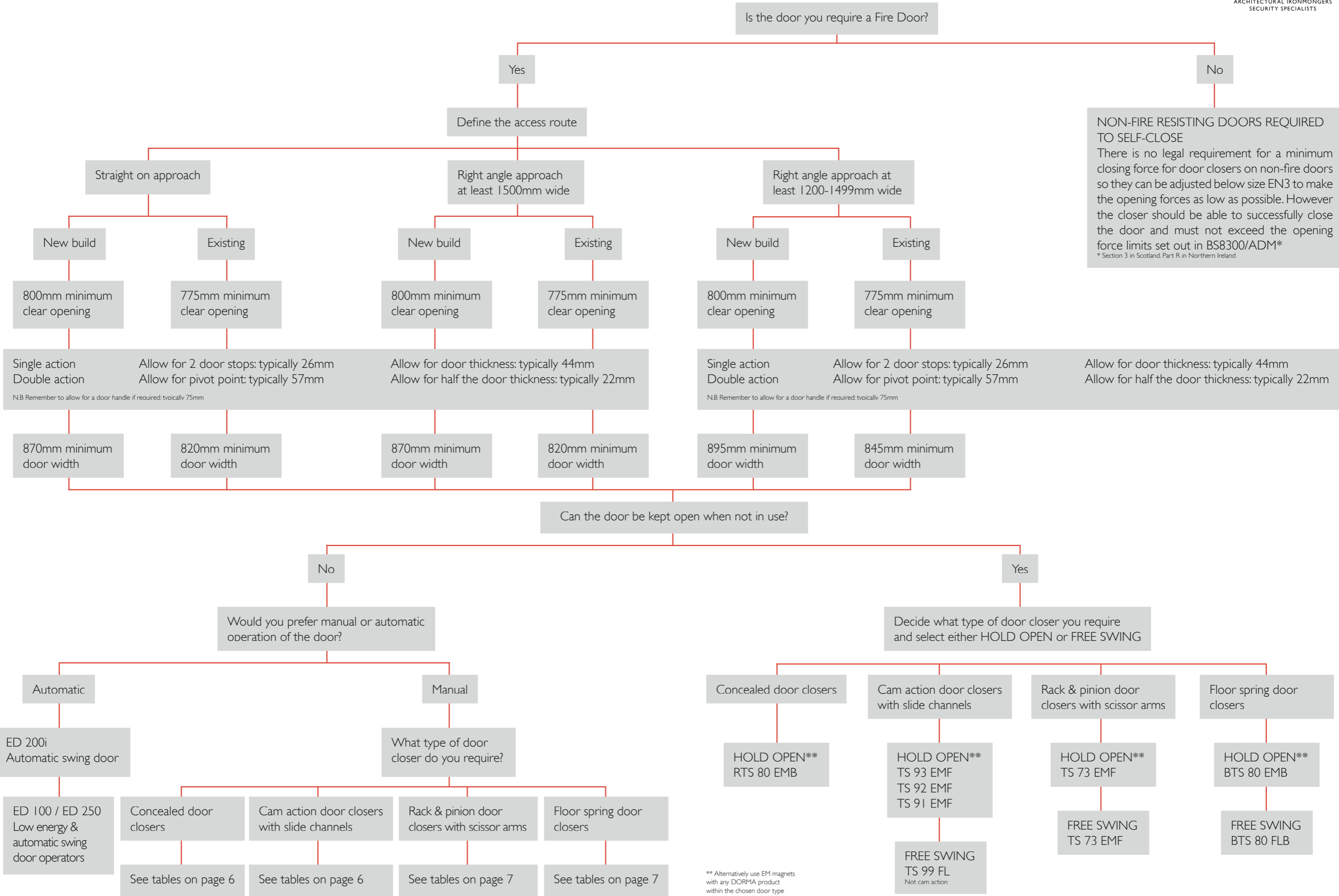
Covers both electro-magnetic devices incorporated into door closers, and hold open magnets. To comply, the devices must be capable of both manual and electric release. Any door closing element must comply with BS:EN 1154 - controlled door closing devices.

## THE FIRE SAFETY ORDER (FSO) 2005

With the introduction of the FSO, the Fire Certificate was abolished, leaving the risk assessment and proof of compliance in the hands of the building owner or other reasonable person. Instead of inspecting premises and issuing certificates, the Fire Service now performs spot checks to ensure compliance with the regulations. Failure to comply could result in a fine or imprisonment (or both) and would invalidate any building insurance. The risk assessment includes checking all fire doors and emergency exit doors to see if they meet the requirements of the new FSO.

Further details are available at [www.communities.gov.uk/fire](http://www.communities.gov.uk/fire).

# HOW TO SELECT A DOOR CLOSER THAT COMPLIES WITH BS8300 & ADM\*



## DOOR CLOSERS FOR FIRE DOORS

Door closers on fire doors must be set at a minimum power size of EN3. Under BS:EN 1154, size EN3 closers are recommended for use on doors up to 950mm wide. For more information on door closer power settings on other door sizes see page 8.

## ADJUSTABLE DOOR CLOSERS

### CAM ACTION DOOR CLOSERS

**NEW improved performance**

Product TS93 Size EN2-5

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 767mm  
DoP Certificate No. 0001

**NEW improved performance**

Product TS92 Size EN1-4

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 733mm  
DoP Certificate No. 0016

Product TS97 Size EN2-4

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 783mm  
DoP Certificate No. 0003

### CONCEALED DOOR CLOSERS

**NEW improved performance**

Product ITS96 Size EN2-4

Typical Door Sizes (mm)				
826	850	875	900	926

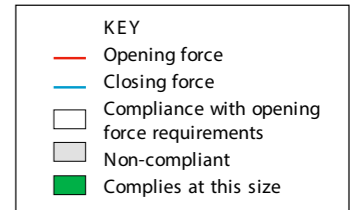
Minimum achievable door width at EN3 = 733mm  
DoP Certificate No. 0051

Product ITS96 Size EN3-6

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 867mm  
DoP Certificate No. 0052

All DORMA door closers have been third party tested using pivots as detailed in BS:EN 1154 (maximum resistance 0.4Nm).



### TRANSOM CLOSERS

**NEW improved performance**

Product RTS87 Size EN1-4

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 800mm  
DoP Certificate No. 0033

### RACK & PINION DOOR CLOSERS

**NEW improved performance**

Product TS83 Size EN2-5

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 833mm  
DoP Certificate No. 0006

Product TS73V Size EN2-4

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 792mm  
DoP Certificate No. 0004

**NEW improved performance**

Product TS72V/TS72VBC Size EN2-4

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 833mm  
DoP Certificate No. 0010

### FLOOR SPRING

**NEW improved performance**

Product BTS75V Size EN1-4

Typical Door Sizes (mm)				
826	850	875	900	926

Minimum achievable door width at EN3 = 767mm  
DoP Certificate No. 0034





## DOOR CLOSER POWER SETTINGS

Under BS:EN 1154 door closer power sizes are recommended as follows in respect of door width. However any fire door must be fitted with a closer size EN3 minimum, irrespective of width.

BS:EN 1154	Door Sizes (mm)	BS:EN 1154	Door Sizes (mm)	BS:EN 1154	Door Sizes (mm)
EN1	750 & below	EN3	850-950	EN5	1100-1250
EN2	750-850	EN4	950-1100	EN6	1250-1400

## BS 8300/ADM\* Effective Clear Widths Through Doorways

Note: The effective clear width is the width of the opening measured at right angles to the wall in which the door width is situated from the outside of the door stop on the door closing side to any obstruction on the hinge side, whether this be projecting door opening furniture, a weather board, the door or the door stop.

Please note that for the purposes of this brochure an 826mm door width has been used as the starting point in order to achieve BS 8300/ADM\* compliant clear openings, however some DORMA closers can achieve the required opening forces on smaller door widths as detailed above. For more information please contact AC Leigh.

Under Approved Document M, doors will satisfy the requirements if they have the following minimum clear openings:

Minimum effective clear widths of doors

Direction and width of approach	New Buildings (mm)	Existing Buildings (mm)
Straight-on (without a turn or oblique approach)	800	750
At right angles from an access route at least 1500mm wide	800	750
At right angles from an access route at least 1200mm wide	825	775
At right angles from an access route at least 900mm wide	N/A	800
External doors and internal lobby doors at the entrance of buildings used by the general public	1000	775

\*Section 3 in Scotland, Part R in Northern Ireland

## EXTERNAL DOORS

ADM\* states that "a non-powered manually operated entrance door, fitted with a self-closing device capable of closing the door against wind forces and the resistance of draught seals, is unlikely to be openable by many people, particularly those who are wheelchair users or who have limited strength".

Indeed ADM\* goes on to state "a powered door opening and closing system, either manually controlled or automatically operated by sensors, is the most satisfactory solution for most people. An automatic sliding door arrangement is particularly beneficial ... and its use can make it possible to reduce the length of any entrance lobby."

Provided one of the entrance doors is fully accessible and automatically operated, then the remaining doors can utilise manual door closers set at a suitable spring strength to ensure closure of the door. DORMA can provide both manual and automatic solutions for external doors.



## AUTOMATIC DOORS

DORMA offers a full supply and installation package for automatic doors. All installations are completed to the highest safety standards as recommended under EN 16005.

When selecting an automatic door there are six main types to choose from:



### Sliding doors:

- DORMA ES 200 range
- BST curved doors
- Preferred solution as recommended by ADM



### Folding doors:

- DORMA FFT
- Ideal where space is restricted



### Swing doors:

- DORMA ED 100 / 250 A
- ED200i in-head unit
- Ideal for retro-fit or new build



### Space saving doors:

- DORMA RST
- Unique swivelling action means the sweep of the door is only a few centimetres outside the door line



### Low energy swing doors:

- DORMA ED 100 / 250 LE
- Ideal for retro-fit or new build
- Activated by push pad or remote control



### Revolving doors:

- DORMA KTV or KTC
- Can act as an airlock keeping out draughts, noise and dirt
- Manual, positional, servo-assist or fully automatic operation
- If a revolving door is used, an ADM compliant entrance door should be provided immediately adjacent and signed to show that it is accessible

\*Section 3 in Scotland, Part R in Northern Ireland



## TS 71

With the TS 71, DORMA has developed a door closer that rounds off its ClassicLine series perfectly. The ease and speed with which it can be fixed, the fact that its spring strength can be so easily adapted to the door size – by simply turning round the hinge plate – and its competitive price should make it the ideal choice for your application.

## TS 72

The DORMA TS 72 is the ideal multi-purpose door closer for all standard door designs and constructions. Without a backplate, it is particularly easy and quick to fix.

The spring strength can be individually adapted to the door size by means of an allen key ensuring optimum performance in every situation.

		TS 71	TS 72V	TS 72VBC
Variable closing force		EN 3-4	EN 2-4	EN 2-4
Standard doors	≤ 1100mm <sup>1</sup>	●	●	●
External doors, outward opening		-	-	-
Fire doors		●	●	●
Non-handed		●	●	●
Arm type	Standard	●	●	●
Variable closing force		●	●	●
Closing speed adjustable at 2 separate valves		180° - 15° 115° - 10°	180° - 15° 15° - 0°	180° - 15° 15° - 0°
Adjustable latching action	by arm	●	●	●
Backcheck		-	-	●
Delayed action		-	-	-
Anti-corrosive model		-	-	-
Hold-open		○	○	○
Weight in kg		1.2	1.2	1.2
Dimensions in mm	length	232	232	232
	overall depth	45	45	45
	height	68	68	68
Door closer tested to EN 1154		●	●	●
CE marked		●	●	●

<sup>1</sup>With parallel-arm fixing, the max closing force is approx. 20 Nm (for doors up to 950 mm)

## “THINKING” BACKCHECK (TS 72VBC ONLY)

Thanks to an innovative design concept, the resistance developed by this backcheck system is directly proportional to door acceleration as the door is opened beyond approx. 70°. It is almost imperceptible when the door is opened slowly. However, if the door is opened roughly, the backcheck responds in equal measure. If the door should be flung open at speed – whether deliberately, accidentally or as a result of a gust of wind – the backcheck reacts at full strength, protecting the wall and door from damage.

## PLUS POINTS...

### ...for the trade

- Increased stocking flexibility thanks to use of the standard ClassicLine series arm

### ...for the specifier/architect

- Outstanding value for money, competitive and reliable
- Compact construction combined with classic design

### ...for the installer

- Non-handed design
- Easy and quick to fix

### ...for the user

- Constant closing action virtually unaffected by temperature fluctuations
- Optimum closing speed adjustment with two regulating valves
- Reliable closing with adjustable latching action
- Optimum wall and door protection thanks to “thinking” backcheck on TS 72VBC



## TS 83

Outstanding versatility, quality assured. Tested to EN 1154

Decades of experience have gone into the development of the DORMA TS 83. The result is user comfort coupled with outstanding versatility. It can be adjusted to suit almost all types of door.

Additional anti-corrosion protection for exposed or aggressive conditions is available to special order.

Fixing couldn't be easier and last but not least – it's engineered for excellence. Certified to ISO 9001.

		EN 2-5	EN 3-6	EN 7
Variable closing force				
Standard doors	≤ 1250mm	●	-	-
	≤ 1400mm	-	●	-
	≤ 1600mm	-	-	●
External doors, outward opening	≤ 1250mm	●	-	-
	≤ 1400mm	-	●	-
	≤ 1600mm	-	-	●
Fire and smoke check doors	≤ 1250mm	●	-	-
	≤ 1400mm	-	●	-
	≤ 1600mm	-	-	●
Non-handed		●	●	●
Arm type	standard	●	●	●
Variable closing force	adjustment screw	●	●	-
Closing speed adjustable at 2 separate valves	180° - 15° 15° - 0°	● ●	● ●	- -
Variable closing speed	valve adjustment	-	-	●
Adjustable latching action	by arm	●	●	●
Backcheck	self-regulating	●	●	●
	adjustable at valve	●	●	●
Delayed action	variable at valve	○	○	-
Anti-corrosive model		-	○	-
Hold-open		○	○	○
Weight in kg		1.7	1.7	3.3
Dimensions in mm	length	245	245	293
	overall depth	46	46	47,5
	height	60	60	60
Door closer tested to EN 1154		●	●	●
CE mark for construction products		●	●	●

## PLUS POINTS...

### ...for the trade

- Streamlined product range means low inventory costs and reduced stocking requirement
- Comprehensive choice of accessories provides practical and effective solutions to meet special applications

### ...for the specifier/architect

- Compact closer design and sturdy flat-form arm assembly
- Wide range of standard functions supplemented by optional extras
- Suitable for fire doors. CERTIFIRE approved Ref. CF 118

### ...for the installer

- Easy to fix
- Can be “tailored” to the requirements of the door by simple adjustment
- Just one model for RH (ISO 5) and LH (ISO 6) doors and for standard and frame/lintel fixing and parallel arm
- Spring strength range EN 2–5/EN 3-6 to suit virtually every application.

### ...for the user

- Optimum wall and door protection thanks to “thinking” backcheck
- Closing speed virtually unaffected by temperature fluctuations
- High mechanical efficiency gives easy-action opening



## TS 91 & 92 PLUS POINTS...

### ...for the trade

- Inexpensive cam-action technology for standard interior doors
- Low storage costs and reduced inventory requirement thanks to uniform slide channels of the Contur series

### ...for the specifier/architect

- Excellent value for money
- Uniform appearance throughout the entire Contur slide channel range

### ...for the installer

- Non-handed
- Easy to fix and quickly adjustable

### ...for the user

- Exceptional ease of use and fully controlled closing action
- Optimum adaptability of the closing speed with reliable latching thanks to two regulating valves.

## TS 93 PLUS POINTS...

### ...for the trade

- Clear product allocation ensures use of the right models for the right applications
- Identical door closer model for single and double doors

### ...for the specifier/architect

- High-quality design ensures an ideal solution for all project applications
- Harmonious appearance thanks to integral smoke detector
- Available in a wide range of colours and finishes

### ...for the installer

- The TS 93 system is suitable for all fixing positions. Mounting bracket with universal fixing hole pattern for optimal fixing
- Simple, fast installation

### ...for the user

- Easy opening action and fully controlled closing
- Smoke detector with convenient service and maintenance indicator
- Adjustable hydraulic functions for easy adaptation to each specific door situation



## TS 91 & TS 92

As units designed especially for interior applications, the TS 92 and TS 91 door closers constitute the perfect complement to the DORMA TS 93 cam-action door closer system. They likewise come in the Contur design and, thanks to their linear drive mechanism with heart shaped cam, they offer the same ease of use. Moreover, their competitive pricing combined with their outstanding level of assured quality make them particularly attractive from an economic standpoint as well. Certified to ISO 9001

## TS 93

The perfect project solution for all application needs the TS 93 cam action door closer system sets new standards in user convenience in project applications. The proven DORMA technology of the heart-shaped cam ensures exceptional ease of opening. The TS 93 series comprises a modular system which enables just a few door closer models to be combined with a number of different slide channels to meet virtually every conceivable functional requirement. Doors of varying designs can be equipped for a wide range of different applications.

		TS 91 B	TS92 B/G <sup>1</sup>	TS93 B	TS93 G <sup>1</sup>
Variable closing force		EN 3	EN 1-4	EN 2-5	EN 5-7
Standard doors <sup>2</sup>	≤ 950mm	●	-	-	-
	≤ 1100mm	-	●	-	-
	≤ 1250mm	-	-	●	-
	≤ 1600mm	-	-	-	●
External doors, outward opening <sup>2</sup>	≤ 1250mm	-	-	●	-
	≤ 1600mm	-	-	-	●
Fire and smoke check doors <sup>2</sup>	≤ 950mm	●	●	-	-
	≤ 1100mm	●	●	-	-
	≤ 1250mm	-	-	●	-
	≤ 1600mm	-	-	-	●
Non-handed		●	●	●	●
Arm type	slide channel	●	●	●	●
Variable closing force	adjustment screw	●	●	●	●
Closing speed adjustable at 2 separate valves	180° - 15°	●	●	-	-
	15° - 0°	●	●	-	-
Variable closing speed	valve adjustment	-	-	●	●
Adjustable latching action	valve adjustment	●	●	●	●
Cushioned limit stay, mechanical		○	○	-	-
Backcheck	at valve	-	-	●	●
Delayed action	adjustable at valve	-	-	●	●
Anti-corrosive model		-	-	-	-
Hold-open		○	○	○	○
Weight in kg		1.9	2	3.5	5.2
Dimensions in mm	length	267	281	275	285
	overall depth	47	47	53	62
	height	65	65	60	71
Door closer tested to EN 1154		●	●	●	●
CE mark for construction products		●	●	●	●

<sup>1</sup>B = Standard model for pull-side door leaf fixing/push-side transom fixing  
G = Special model for push-side door leaf fixing/pull-side transom fixing

<sup>2</sup>For applications involving particularly heavy or wide doors, and doors which have to close against wind resistance we recommend the TS93. The next highest door closer size should be selected, or the closing force adjusted to a higher setting.



## ITS 96

The DORMA ITS 96 has ushered in a new era in door closer technology. The closer body and slide channel are so compact that they can be installed out of sight in doors and their frames. These devices offer the same high quality expected of DORMA door closers, as characterised by their ease of operation for the user, and wide range of functions.

Thanks to the exceptionally slender dimensions of the unit, the DORMA ITS 96 can be installed in virtually all doors with thicknesses of 40mm or more, and offers all the advantages of quality assured manufacture with third-party auditing. Certified to ISO 9001.

### PLUS POINTS...

#### ...for the trade

- Low inventory costs and reduced stocking requirements thanks to streamlined modular system and separate packaging of closer body and slide channel assemblies
- Tailor-made applications with special accessories

#### ...for the specifier/architect

- Unblemished appearance of prestige doors thanks to concealed installation
- Ideal for doors integral to the interior design

#### ...for the installer

- Non-handed system
- Can be incorporated within the door pre-fabrication process, allowing complete installation in the factory
- Easy adjustment of the closing strength, closing speed and latch action after hanging of the doors

#### ...for the user

- Optimum protection against vandalism thanks to the concealed installation
- Enhanced user convenience and fully controlled, reliable closing with adjustable latch action
- Cushioned limit stay with progressive damping for protection of wall and door

Variable closing force		EN 2-4	EN 3-6
Standard doors	≤ 1100mm	●	●
	≤ 1400mm	-	●
External doors, outward opening		-	-
Fire and smoke check doors	≤ 1100mm	●	●
	≤ 1400mm	-	●
Door leaf thickness	≥ 40mm	●	-
	≥ 50mm	●	●
Max. door leaf weight in kg		100	180
Non-handed design (closer)		●	●
Arm type	slide channel	●	●
Variable closing force	adjustment screw	●	●
Variable closing speed	valve adjustment	●	●
Adjustable latching speed	by value	●	●
Cushioned limit stay	mechanical	●	●
Double action		○	-
Hold-open		○	○
Max. door opening angle (depends on door design)		approx. 120°	
Weight in kg		1.3	2.5
Dimensions in mm	length	277	291
	overall depth	32	39.5
	height	42	51
Door closer tested to EN 1154 A		●	●
Hold-open devices tested to EN 1155		●	●
Door co-ordinators tested to EN 1158		●	●
CE mark for construction products		●	●





## TS 97

With its new model TS 97, DORMA is able to offer a very compact surface-mounted cam-action door closer available in the project sector.

Single-piece face plates with internal end caps and uniform lengths of the door closer body and slide channel characterise the impressive design credentials of this product.

Like all DORMA cam-action door closers, the TS 97 features the proven heart shaped cam for maximum user convenience based on minimum opening effort. With its compact dimensions, the TS 97 ideally complements the overall appearance of any door. Certified to ISO 9001.

Variable closing force		EN 2-4
Standard doors <sup>1</sup>	≤ 1100mm	●
External doors, outward opening		-
Fire and smoke check doors		●
Non-handed		●
Arm assembly	slide channel	●
Adjustable closing speed	by valve	●
Adjustable latching action	by valve	●
Dead stop unit (mechanical)		●
Backcheck		-
Delayed action		-
Anti-corrosive model		-
Hold-open		○
Weight in kg		2.5
Dimensions in mm	length	340
	overall depth	37
	height	49
Door closer tested to EN 1154		●
CE mark for construction products		●

<sup>1</sup>In the case of particularly heavy doors and doors that have to close against wind pressure, we recommend the DORMA TS 93



## PLUS POINTS...

### ...for the trade

- One closer model for all applications to simplify materials management and stocking
- Single pack for easy

### ...for the specifier/architect

- High-quality architectural solution for superior interior designs
- Uniform lengths of body and slide channel for enhanced harmony of appearance
- Single-piece faceplate without slots or fixing points

### ...for the installer


- Universally applicable on both LH and RH doors
- Quick and easy to fix with mounting bracket

### ...for the user

- High ease of use and fully controlled, reliable closing with adjustable latching action
- Dead stop unit as standard to protect the wall and door

	TS 71	TS 72 V	TS 72 VBC	TS 83			TS 91 B	TS92 B/G	TS93 B	TS93 G	ITS 96		TS 97
	EN 3-4	EN 2-4	EN 2-4	EN 2-5	EN 3-6	EN 7	EN 3	EN 1-4	EN 2-5	EN 5-7	EN 2-4	EN 3-6	EN 2-4
Variable closing force													
Standard doors							●	-	-	-			
≤ 950mm							●	-	-	-			
≤ 1100mm	●	●	●				-	●	-	-	●	●	●
≤ 1250mm	-	-	-	●	-	-	-	-	●	-			
≤ 1400mm	-	-	-	-	●	-	-	-	-	-		●	
≤ 1600mm	-	-	-	-	-	●	-	-	-	●			
External doors, outward opening													
≤ 1250mm	-	-	-	●	-	-	-	-	●	-	-	-	-
≤ 1400mm	-	-	-	-	●	-	-	-	-	-	-	-	-
≤ 1600mm	-	-	-	-	-	●	-	-	-	●	-	-	-
Fire doors	●	●	●										
Fire and smoke check doors													
≤ 950mm							●	●	-	-			
≤ 1100mm							●	●	-	-	●	●	●
≤ 1250mm	-	-	-	●	-	-	-	-	●	-			
≤ 1400mm	-	-	-	-	●	-	-	-	-	-		●	
≤ 1600mm	-	-	-	-	-	●	-	-	-	●			
Door leaf thickness													
≥ 40mm	-	-	-	-	-	-	-	-	-	-	●	-	
≥ 50mm	-	-	-	-	-	-	-	-	-	-	●	●	
Max. door leaf weight in kg	-	-	-	-	-	-	-	-	-	-	100	180	
Non-handed	●	●	●	●	●	●	●	●	●	●	●	●	●
Arm type	Standard	Standard	Standard	Standard	Standard	Standard	Slide channel	Slide channel	Slide channel	Slide channel	Slide channel	Slide channel	Slide channel
Variable closing force	●	●	●	●	●	-	●	●	●	●	●	●	
Closing speed adjustable at 2 separate valves	●	●	●	●	●	-	●	●	-	-	-	-	
Variable closing speed	-	-	-	-	-	●	-	-	●	●	●	●	●
Adjustable latching action	●	●	●	●	●	●	●	●	●	●	●	●	●
Backcheck	-	-	●	●	●	●	-	-	●	●	-	-	-
Delayed action	-	-	-	○	○	-	-	-	●	●	-	-	-
Anti-corrosive model	-	-	-	-	○	-	-	-	-	-	-	-	-
Hold-open	○	○	○	○	○	○	○	○	○	○	○	○	○
Weight in kg	1.2	1.2	1.2	1.7	1.7	3.3	1.9	2	3.5	5.2	1.3	2.5	2.5
Dimensions in mm													
length	232	232	232	245	245	293	267	281	275	285	277	291	340
overall depth	45	45	45	46	46	47.5	47	47	53	62	32	39.5	37
height	68	68	68	60	60	60	65	65	60	71	42	51	49
Door closer tested to EN 1154	●	●	●	●	●	●	●	●	●	●	-	-	●
Door closer tested to EN 1154 A	-	-	-	-	-	-	-	-	-	-	●	●	-
Hold-open devices tested to EN 1155	-	-	-	-	-	-	-	-	-	-	●	●	-
Door co-ordinators tested to EN 1158	-	-	-	-	-	-	-	-	-	-	●	●	-
CE marked	●	●	●	-	-	-	-	-	-	-	-	-	-
CE mark for construction products	●	●	●	●	●	●	●	●	●	●	●	●	●

● Yes    ○ Option    - No

		TS 71	TS 72V	TS 72VBC	TS 83	TS 91 B	TS92 B/G	TS93 B	TS93 G	ITS 96	TS 97
Standard Format Silver/Gold		•	•	•	•					•	
Full Square Metal Cover		•	•	•	•						
Full Softline Metal Cover		•	•	•	•	•	•	•	•		•
Full Softline Metal Cover & separate end caps						•	•	•	•		
Colour Coated Softline Metal Cover		•	•	•	•	•	•	•	•		•
Colour Coated Softline Metal Cover & separate end caps						•	•	•	•		
White											•
Silver		•	•	•	•						•
Satin Stainless Steel		•	•	•	•	•	•	•	•		•
Polished Chrome		•	•	•	•	•	•	•	•		
Polished Brass		•	•	•	•	•	•	•	•		•

## DORMA FINISHES

A range of finishes to suit your design. When specifying DORMA Door Closers you can choose between a number of different "finish" and cover options.



# FREQUENTLY ASKED QUESTIONS

## 1. In BS8300 it states that the door closer should be of a variable power type. Can a fixed size door closer be used on fire doors?

In general a fixed powered closer with a typical efficiency of 60-65% (BS:EN 1154 requires a minimum of 55% at EN3) would be unlikely to comply with the 30N opening force. Similarly, door closers with power adjustable only by template (selectable power) are not recommended. However, very high efficiency fixed power closers such as the TS91 Cam Action Closer can comply with the required opening forces on certain door widths. A variable power closer however is a more flexible solution as it allows for on-site adjustment to site conditions and can be adjusted to ensure minimal opening force.



## 2. BS 8300 states that “in general” fire doors should be of a width greater than 900mm. Why have DORMA offered solutions at lower widths?

We have based the solutions on the minimum requirements of BS 8300/ADM\*, starting with a typical 826mm wide door and have then gone up in approximately 25mm increments. A number of DORMA high efficient door closers are capable of coping with doors at these and smaller sizes.



## 3. BS 8300 refers to electrically powered hold open devices. Which suitable products are available from DORMA?

DORMA offer the following electrically powered hold open door closers: ITS96 EMF, TS93 EMF, TS92 EMF, TS91 EMF and TS73 EMF. We also offer the BTS80 EMB floor spring and the RTS 80 EMB hold open double action transom closer. Alternatively any DORMA door closer can be used in conjunction with independent hold open magnets (EM).

When using electrically powered hold open devices the door closing device is not required to comply with the opening force of less than 30N (when the electrical supply has been cut through activation of the alarm or power failure). However

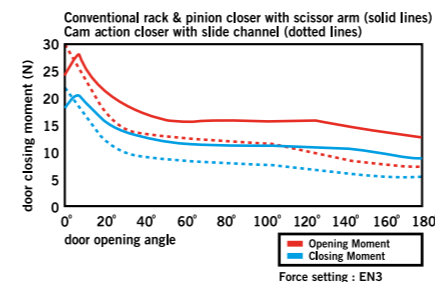
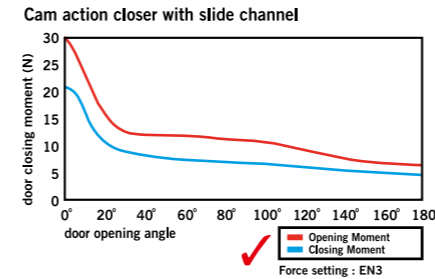
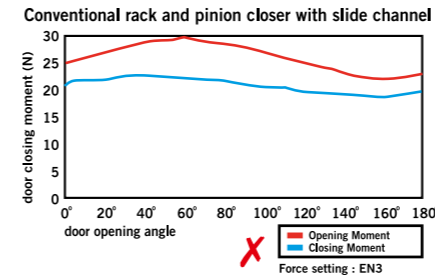
certain buildings may benefit from having electromagnetic devices that, when the power is removed, they still comply with the 30N maximum opening force. Here the use of Cam Action EMF Door Closers, or Cam Action Door Closers used with EM magnets will provide opening forces of 30N or less when fitted at size EN3 on door widths as detailed earlier.

## 4. BS8300 refers to “swing free” controlled door closing devices. Which suitable products are available from DORMA?

“Swing free” door closers operate without the resistance of a door closer; the closer is only activated in the event of a fire or power failure making them most suitable for door access to individual rooms rather than part of a circulation route. DORMA offer: TS73 EMF Free Swing option, TS99 FL and BTS80 FLB floor spring.

## 5. BS 8300 talks about lower power sizes for non-fire resisting doors in comparison to fire doors using a door closer. What if a higher power size is required?

As there is no legal requirement for a minimum closing force on non-fire doors the door closer can be adjusted below size EN3 (18Nm, as required for fire doors). However the door closer should always be adjusted to successfully close the door. If this increases the force to exceed BS8300/ADM\* requirements, for example to overcome heavy duty seals on an acoustic door, DORMA can supply a supplement to an access statement detailing the measures taken to ensure opening forces have been kept to a minimum.



## 6. BS 8300 mentions avoiding door closers where the maximum closing force is not between 0-15 degrees. What type of closers exhibit these properties?

If a rack and pinion type closer is used in conjunction with a slide arm and channel, any user will experience an increase in opening resistance throughout the opening cycle and thus be denied ease of access.

DORMA's unique cam action closer combined with a slide arm and channel do not experience an increase in the opening resistance but a rapid fall in opening resistance on operation of the door.

As opening and closing forces are directly proportional, Cam Action closers exert their maximum closing force between 0-15 degrees of final closure as required in the guidance to ensure the correct latching action.

## 7. Why should Cam Action closers be preferred over standard rack and pinion closers?

Cam Action closers provide greater benefit to any user when operating a door fitted with a closing device. BS 8300 and ADM\* requires the opening resistance to drop to 22.5N by 30 degrees, and although Rack and Pinion mechanisms with scissor arms can achieve this, a Cam Action mechanism achieves it far easier and much more quickly, resulting in easier access for all.

## 8. Can full opening of the door be achieved when using the backcheck facility?

BS 8300 details minimal resistance on a door when opened slowly. However this is only possible when using door closers with 'thinking backcheck'. With 'thinking backcheck' as opposed to 'fixed or standard backcheck', the backcheck facility only engages fully when the door is opened with great force or speed, if the door is opened slowly then the backcheck will not engage. All DORMA overhead door closers with backcheck facility have 'thinking backcheck'.

## 9. How important is regular maintenance?

BS 8300 notes that without regular maintenance of all door fittings, the resistances to opening and closing can increase to an extent that the ability of disabled people to pass through the door can be affected therefore building owners and users must check doors regularly to ensure they meet the opening force requirements.

Independent studies by PSA Research showed that where doors and ironmongery represent as little as 1% of a building's cost, they can account for 80% of the total maintenance bill in use.

\*Section 3 in Scotland, Part R in Northern Ireland

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