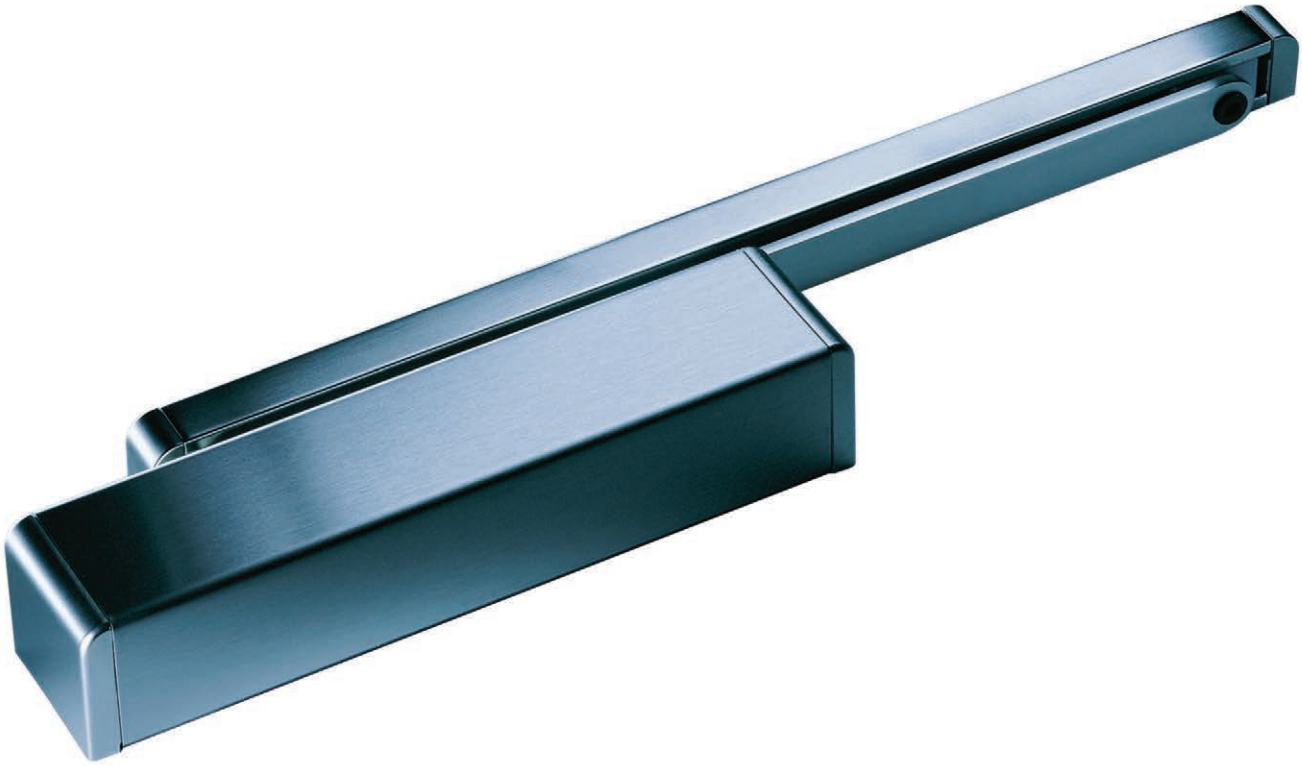


Door Controls/by John Planck

JOHN **PLANCK** Ltd
architectural hardware

Door Controls

Together with hinges, the door closer is an important component required to make sure that the door operates efficiently, requiring minimal opening effort without obstruction to the operator and maintaining the door's position in the event of a fire. Therefore the correct selection of a door closer for its situation is vital.

There are many different types of door closers intended for different scenarios, including face fixing, concealed fixing, door mounted, transom mounted, underfloor fixing as well as automatic or electro-magnetically operated.

Door closers can be used for a variety of reasons with the most important being to close a barrier in the event of a fire to help contain it within an area enabling people to escape. But they also have their use where security is important, when privacy is required or simply for convenience to make sure the door closes properly.

When deciding on the most suitable closer for each application, consideration should be given to mounting position (i.e. pull or push side), application (i.e. what type of door its being used on and what usage it will get) and aesthetics.

Icons

- Overall length or width
- Maximum Opening Angle
- Power Size
- Maximum Door Leaf Weight
- BS8300:2009/ADM Compliant
- Certifire Approved Products
- CE Marked

CE Marking

CE Marking is the easiest and safest route to providing compliance with the latest UK Construction Products Directive for hardware used on fire, smoke and escape doors.

CE Marking indicates that the product has been 3rd party performance tested where applicable and is produced in a factory which has satisfactory production control systems. All of these have been assessed by an authorised certification body.

Certifire

An independent third party scheme providing high quality voluntary product conformity certification for the passive fire sector.

Finishes

AB	Antique Brass	**PBP**	Polished Brass Plated	**SNP**	Satin Nickel Plated
BMA	Bronze Metal Antique	**PCP**	Polished Chrome Plated	**SSS**	Satin Stainless Steel
BRZP	Bronze Plated	**PSSP**	Polished Stainless Steel Plated	**SSSP**	Satin Stainless Steel Plated
COL	Coloured	**SAA**	Satin Anodised Aluminium	**WHT**	White
EG	Electro Galvanised	**SB**	Satin Brass	**ZP**	Zinc Plated
GE	Gold Enamelled	**SCP**	Satin Chrome Plated		
PB	Polished Brass	**SE**	Silver Enamelled		

Spring Stengths and Door Sizes

The information contained in the adjacent table is extracted from the requirements of the European Standard EN 1154 for Door Controlling Devices.

The table includes data relating to spring strengths and their relation to door sizes and weights in an internal situation. Should there be any exceptional requirements, it would be advisable to increase the spring strength or speak to one of our trained technical staff.

Please seek guidance when specifying closers for external doors.

Door Closer Size	Maximum Door Weight	Maximum Door Size
EN1	20kg	up to 750mm
EN2	40kg	up to 850mm
EN3	60kg	up to 950mm
EN4	80kg	up to 1100mm
EN5	100kg	up to 1250mm
EN6	120kg	up to 1400mm
EN7	160kg	up to 1600mm

Specification Notes / Terminology

Latch Action: From approximately 20 - 0 degrees the door closer speeds up to help overcome any resistance to the door closing fully, for example, a latch bolt or door intumescent strips/seals.

Speed Valve: Controls the speed at which the door will close prior to the latch action point.

Backcheck: A valve adjustment within the door closer unit which slows the door whilst opening to prevent damage to the door and hinges. Is generally adjustable from approximately 70 degrees upwards.

Delayed Action: A valve adjustment within the door closer unit which delays closing of the door for a pre-determined time to allow free un-restricted passage through the door way. Generally used in schools, hospitals and with the elderly.

Hold Open: An arm or valve adjustment which holds the door open until the door is pulled to close.

Electromagnetic: As Hold Open but using an electromagnet wired into the fire alarm circuit. Generally used on fire doors where free passage is required during every day usage. Can be specified as Hold Open or Free Swinging.

Spring Strength: The power exerted by the door closer.

Swing Free: A free swing door closer enables a door to operate without any resistance, just like a door without a door closer. This allows the door to be left in any position, such as ajar if preferred, until on activation of the fire alarm the electromagnetic control releases enabling the door closer to close the door. A free swing door closer ensures that it will, when required, perform the job it is designed to do and close the door positively to prevent the spread of smoke and flames. Free swing is a popular solution for individual rooms within hospitals, nursing homes or residential care situations.

Finishes: Standard finishes are available on most of the door controls contained in this section. If the finish or design you require is not contained in this section, please speak to our sales office.
NOTE: Some door closer arm assemblies are also available in the above finishes please check with us for availability.

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.

Specification Notes

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

BUILDING REGULATIONS CE

Approved Document B in England and Wales, (Section 2 in Scotland and Part S in Northern Ireland) requires Third Party Fire Test Certificate (such as CERTIFIRE) to ensure that they are fit for purpose.

CERTIFIRE certifire

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.

EQUALITY ACT 2010

Previously known as the Disability Discrimination Act, it has introduced 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: BS8300: 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 of the opening cycle"

It is important to remember that when the Disability Discrimination Act was first brought out, it was only for civil rights legislation and does not set out specific requirements or guidance in the design of buildings. As such it is therefore not appropriate to attach any notion of conformity to products, such as "The Equality Act 2010 (formerly The DDA) compliant" or "Conforms to The Equality Act 2010 (formerly the DDA) requirements". The legislation came into force on 1st October 2004. Any new building or alterations to existing buildings, in order to satisfy obligations under The Equality Act 2010 (formerly The DDA) must comply (in England & Wales) with The Building Regulations and in particular, the 2004 edition of Approved Document M, ADM which became effective in May 2004. Where certain issues are not covered in ADM, further reference will be made to BS 8300.

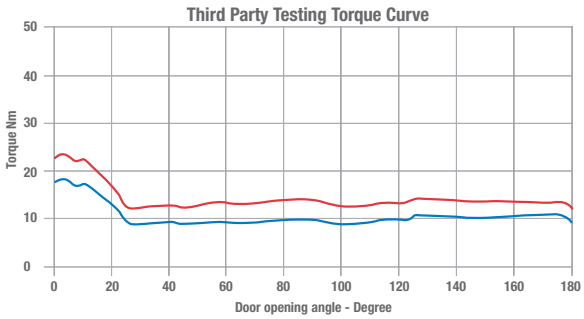
DOOR CLOSER OPENING FORCES AND THIRD PARTY CERTIFICATION

Whilst BS8300 and ADM (Section 3 in Scotland, Part R in Northern Ireland) 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, as well as site conditions.

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.

This torque graph shows the results from an independent test for our DM4020 high efficiency closer, demonstrating how the 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.



BS8300/ADM (Section 3 in Scotland, Part R in Northern Ireland) 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 BS8300/ADM* compliant clear openings. However some closers can achieve the required opening forces on smaller door widths as detailed above. For more information please contact our sales office.

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

Minimum effective clear widths of doors

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

High efficiency cam action surface mounted door closer
with adjustable power, back check & delayed action
Tested to EN1154

SE SSS PCP SB PB AB BMA Col

DM4020 Complete door closer with standard slide arm and channel door/pull and frame/push side mounting

DM4021 Complete door closer with standard slide arm and channel door/push and frame/pull side mounting

- P/S 2-5 — 180° (145° on push side) — 1250mm (internal & external)
- P/S 5-7 — 180° (145° on push side) — 1600mm (internal & external)

Arm Options:

/C c/w Integral co-ordinator closing system to suit pairs of rebated doors, tested to EN1155

/HO Electro-mechanical hold open slide arm & channel, 24vDC, tested to EN1155

- 80 - 180°

/SD c/w Integral smoke detector

/CSD c/w Integral smoke detector and co-ordinator closing system to suit pairs of rebated doors

High efficiency cam action surface mounted door closer
with adjustable power
Tested to EN1154

SE SSS PCP SB PB AB BMA CoI

DM4018 Complete door closer with standard slide arm and channel door/pull and frame/push side mounting

DM4C19 Complete door closer with standard slide arm and channel door/push and frame/pull side mounting

P/S 2-4 180° (145° on push side) 1100mm (Not suitable for outward opening external doors)

Arm Options:

/C c/w Integral co-ordinator closing system to suit pairs of rebated doors, tested to EN1155

/HO Electro-mechanical hold open slide arm and channel, 24vDC, tested to EN1155

80 - 120°

/SD c/w Integral smoke detector

/CSD c/w Integral smoke detector and co-ordinator closing system to suit pairs of rebated doors

High efficiency cam action surface mounted door closer, fixed power

DM4017 Complete door closer with standard slide arm and channel door/pull and frame/push side mounting

P/S 3 180° (145° on push side) 950mm (internal)

Optional extra for all slide arm, face fixed door closers:

DM4062 Dampening limiting stay

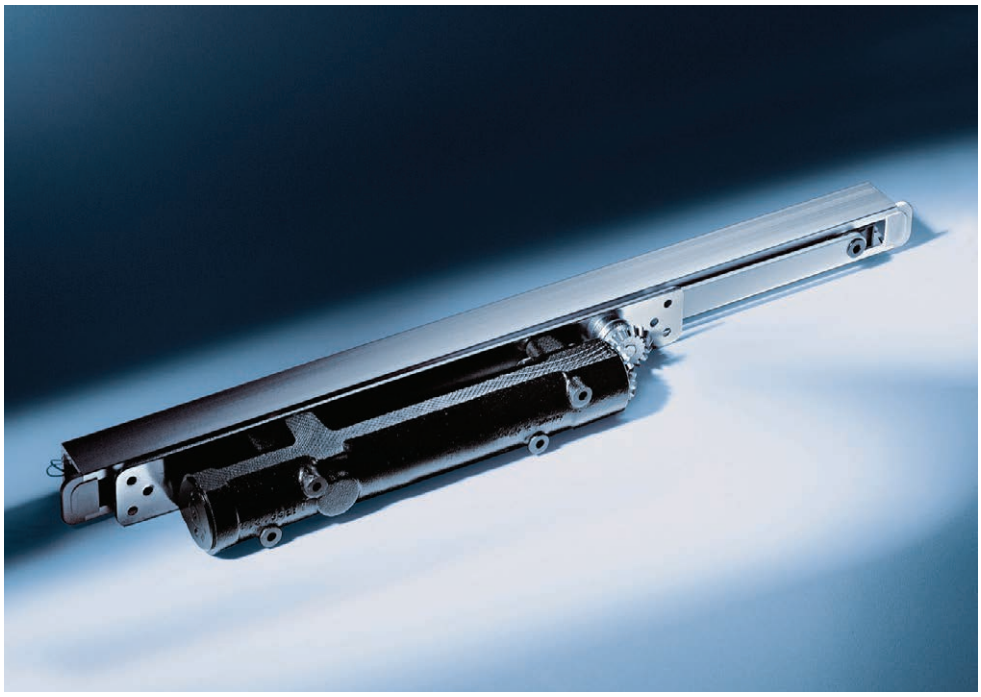
80-120° *This is not to be used in lieu of a physical door stop*

DM4063 Mechanical hold open device

150° *Not for use on Fire Doors*

Concealed overhead door closer, standard

SE SSS PCP PB BMA CoI



DM4070/ Complete door closer with standard slide arm and channel
Third party tested to EN1154, EN1155 when used with an electro-magnetic hold-open arm
c/w cushioned limiting stay

/A P/S 2-4 120° 1100mm (internal) 100kg
/B P/S 3-6 120° 1400mm (internal) 180kg

Arm Options:

/HO Electro-mag hold open slide arm & channel 24vDC
/L left hand
/R right hand
80-120°

L = LH - Anticlockwise closing (ISO 6)

R = RH - Clockwise closing (ISO 5)

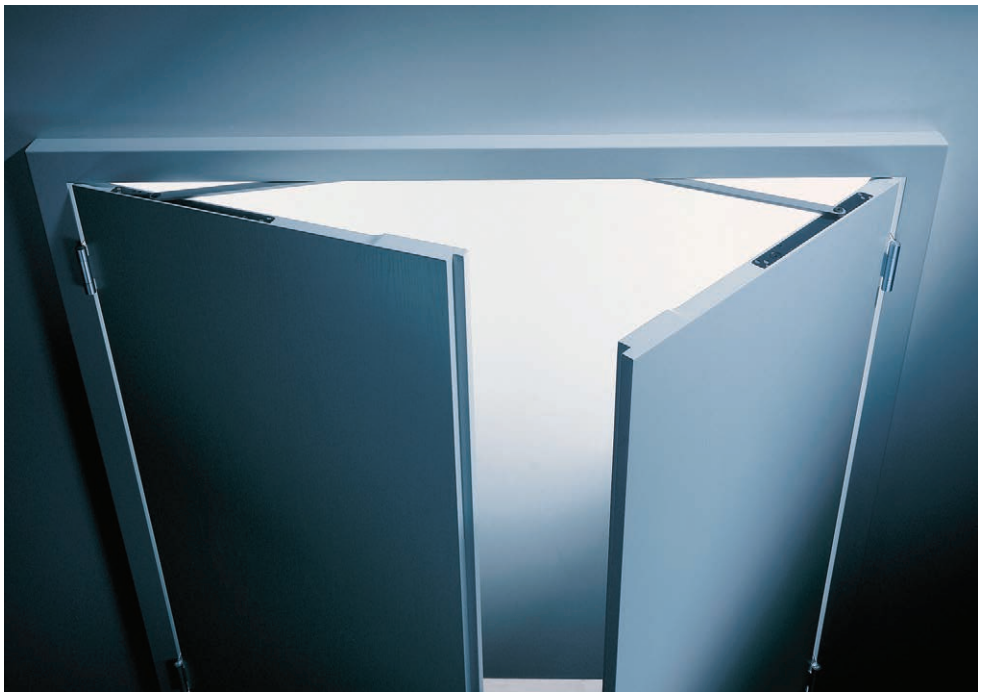
Optional Extras:

DM4073 Mechanical hold open unit
For use with standard slide arms and channels *(Not for use on Fire Doors)*

DM4074 Cushioned limit stop

Concealed overhead door closer, door co-ordinator system

SE SSS PCP PB BMA CoI



DM4075 Complete door closer with slide channel door co-ordinator system for pairs of rebated doors

Size 2-4 Door thickness up to 49mm Max

P/S 2-4 120° 1400-2200mm 100kg

Size 3-6 Door thickness from 50mm Min

P/S 3-6 120° 1400-2800mm 180kg

DM4076 Complete door closer with electro-mechanical hold open slide channel door co-ordinator system for pairs of rebated doors

Size 2-4 door thickness up to 49mm max

P/S 2-4 120° 1400-2200mm 100kg

Size 3-6 door thickness from 50mm min

P/S 3-6 120° 1400-2800mm 180kg

DM4100 Intumescent Pack

/30 30 Mins - to suit single action door closer

/60 60 Mins - to suit single action door closer

Adjustable power, slide arm, face fix door closer
Tested to EN1154

SE SSS PCP SB PB AB BMA CoI

DM4064 Compact, pull side fixing door closer
c/w Dead stop device

P/S 2-4 150° 1100mm *(Not suitable for outward opening external doors)*

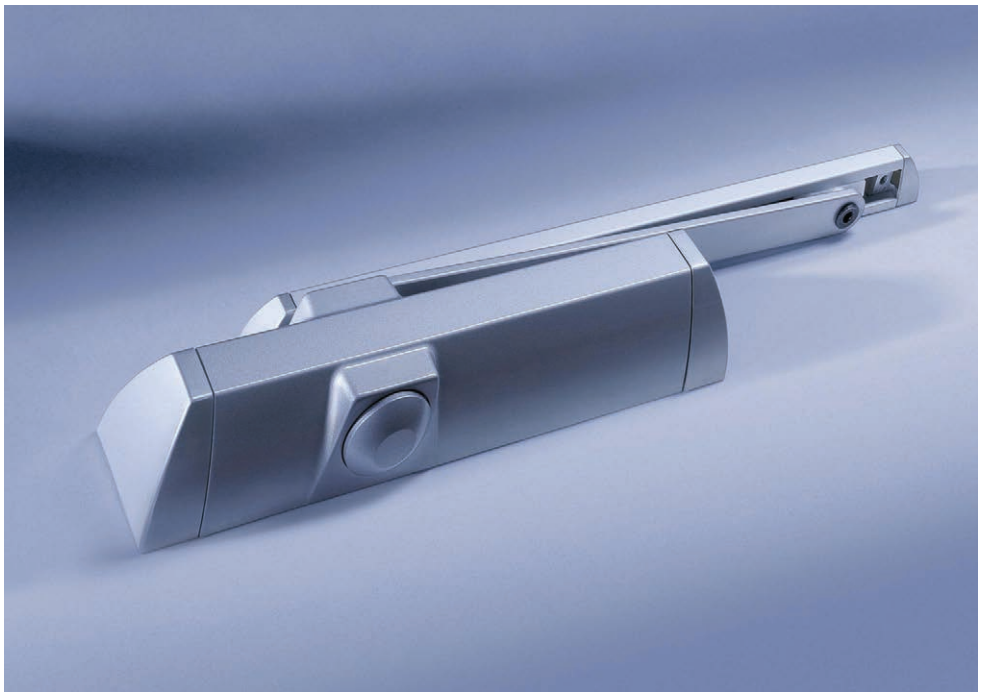
DM4110 Mechanical hold open device *(Not for use on Fire Doors)*

120°

Fixed power slide arm face fix door closer

Tested to EN1154

SE CoI



DM4066 Door closer

P/S 3 160° 950mm Push side only (internal)

DM4067 Mounting backplate

DM4068 Dampening limiting stay

Adjustable between 80 - 120°

DM4069 Mechanical hold open device *(Not for use on Fire Doors)*

Holds open up to 145°

Fixed power electro-magnetic hold open & free swing face fix overhead door closer and slide arm.
Tested to EN1154 & EN1155

SE CoI

DM4070/ **24vDC**
P/S 4 180° 1100mm (internal)

/PD **Pull side, door leaf fixing**
c/w armoured power loop & test switch

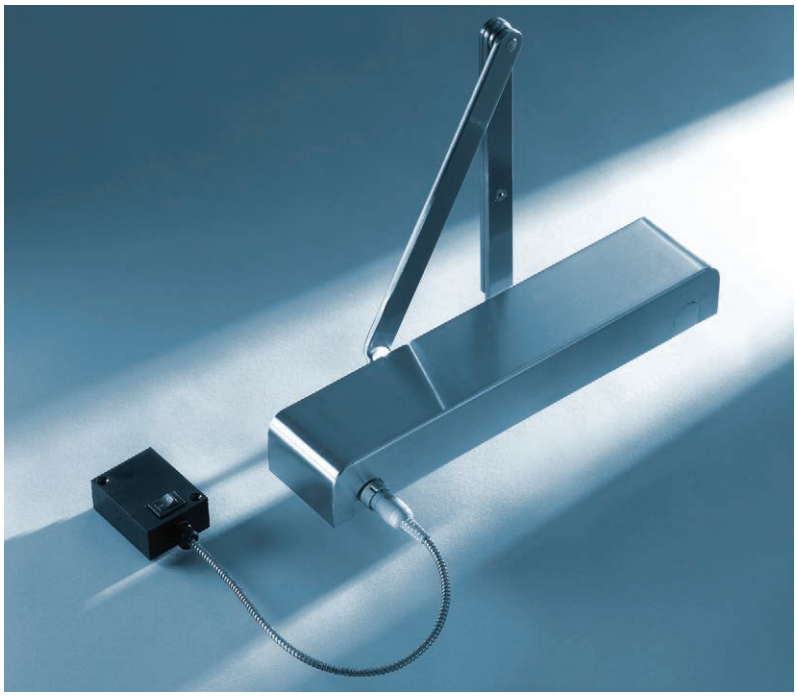
/PT **Pull side, transom fixing**

/PDS **Pull side, door leaf fixing**
c/w integral power supply & smoke detector in slide arm channel

/PTS **Pull side, transom fixing**
c/w integral power supply & smoke detector in closer unit

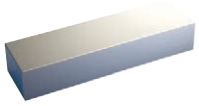
Fixed power electro-magnetic hold open face fix overhead door closer
Tested to EN1154 & EN1155

SE SNP SSS PCP PB BMA CoI



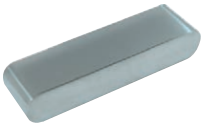
Cover Options:

SQ Square Cover



SL Slide Cover

FR Full Radius Cover



SR Semi Radius Cover

The following 4 products are c/w standard arm

DM4025/ Pull side, door leaf fixing c/w armoured power loop & test switch
DM4026/ Push side, frame fixing
DM4027/ Push side, frame fixing c/w integral power supply & smoke detector
DM4028/ Push side, frame fixing for use with smoke detection system on double doors

P/S 4 75-180° 1100mm (internal)
P/S 5 75-180° 1250mm (internal)
P/S 6 75-180° 1400mm (internal)
All 24vDC

F3005 Free swing arm assembly (for EMF/EMR)

F3006 Extended adjustable arm (for transom mounted application)
To suit frame reveal depths between 70 and 135mm

F3007 Extended adjustable arm assembly (for push side fixing)
To increase door opening to 180° for doorsets with reveal up to 70mm

F3008 Mounting backplate, pull and push side fixing
For doors where no direct fixing is possible

F3009 Upstand bracket for pull side installation of arm to narrow door frames

F3010/ 2-Pin extended cable & distributor box
420, 500, 600, 650, 750 or 800mm
BLACK

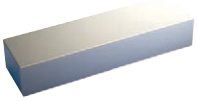
Power adjustable face fix overhead door closer

Tested to EN1154

SE SNP SSS PCP PB BMA CoI

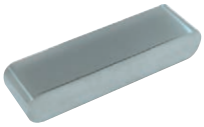
Cover Options:

SQ Square Cover



SL Slide Cover

FR Full Radius Cover



SR Semi Radius Cover

DM4004 Power adj face fix overhead door closer
- P/S 2-4 ∠ 100° ↔ 1100mm (internal)

/BC c/w Back check
- P/S 2-4 ∠ 180° ↔ 1100mm (internal)
- P/S 2-5 ∠ 180° ↔ 1250mm (internal & external)
- P/S 7 ∠ 100° ↔ 1600mm (internal & external)

/DA c/w Back check and delayed action
- P/S 1-4 ∠ 180° ↔ 1100mm
- P/S 2-5 ∠ 180° ↔ 1250mm
- P/S 3-6 ∠ 180° ↔ 1400mm

DM4077 Mechanical hold open arm to suit above closers
- ∠ 150° *(Not for use on Fire Doors)*

DM4078 Parallel arm bracket

DM4079 Soffit bracket and arm
For standard installation with shaped architrave

DM4080 Parallel arm bracket with upstand

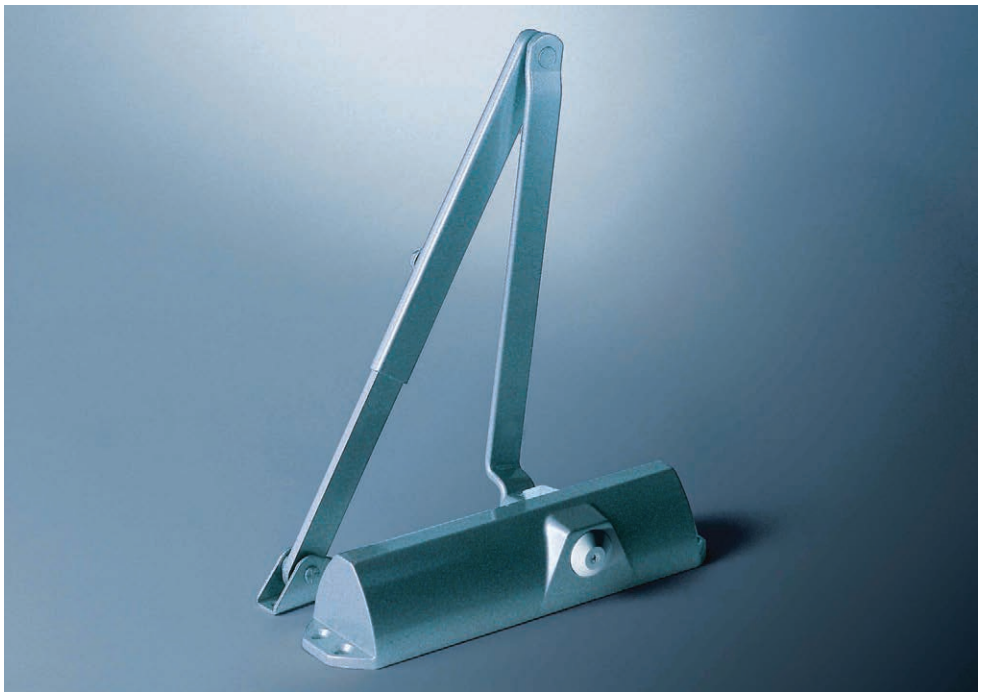
DM4081 Angle bracket for use with (DM4004)
Frame installation on outward opening doors with extra deep reveal

DM4082 Drop plate installation for use with (DM4004)
Installation on frame or door when direct fixing of closer is not possible

Template adjustable power, face fix overhead door closer

Tested to EN1154

SE GE



DM4000 Door closer

P/S 2/3/4 180° 1100mm pull side, 950mm push side (internal)

DM4071 Mechanical hold open arm to suit above

(Not for use on Fire Doors)

SE Only

DM4072 Parallel arm bracket

Underfloor spring closers

Tested to EN1154 & EN1155

CE certifire

DM4054 Adjustable power universal underfloor spring closer. c/w 8mm spindle and cement box.

/40 40mm shallow depth

Not recommended for external use.

/MHO c/w Mechanical hold open @ 90°

Not for use on Fire Doors.

P/S 2, 3 or 4 | 130° | 850, 950 or 1100mm | 100kg

DM4031 50mm depth, c/w mechanical backcheck, 8mm spindle and cement box.

Can be used on Fire Doors.

/MHO/90 c/w Mechanical hold open @ 90°

Not for use on Fire Doors.

/MHO/105 c/w Mechanical Hold Open @ 105°

Not for use on Fire Doors.

P/S 1 - 4 | 180° | 1100mm (internal & external) | 120kg

DM4032 60mm depth, c/w mechanical backcheck, adjustable delayed action, mechanical on/off hold open feature, 8mm spindle and cement box.

Not for use on Fire Doors.

P/S 3, 4, or 6 | 180° | 950, 1100 or 1400mm (internal & external) | 300kg

DM4033 60mm Depth, c/w Mechanical backcheck and cement box.

/EHO c/w Electro-hydraulic hold open.

/EFS c/w Electro-hydraulic swing free (handed)

P/S 4, 5, or 6 | 180° | 1100, 1250 or 1400mm (internal & external) | 300kg

DM4052 Underfloor spring closer cover plate

A/ 324x130mm B/ 308x105mm C/ 358x105mm

SSS PSS SB PB AB BMA COL

Roller bearing floor pivot:

DM4053 Square thrust 200kg
DM4053/S Square angular contact 300kg
DM4053/R Rectangular angular contact 300kg

DM4051 Square floor pivot cover plate
85x85mm

SSS PSS (Only)

Spindle options:

DM4050 Standard 8mm clearance from top of spring closer unit to underside of door

DM4042 Extended clearance from top of spring closer unit to underside of door
13, 15.5, 18, 20.5, 23, 28, 33, 36, 38, 43, 48, 53 and 58mm
Sizes are in addition to standard 8mm clearance.

DM4042/3 Standard 8mm clearance from top of spring closer unit to underside of door, 3° offset
Left hand or right hand available.

Complete door accessories set: comprising bottom strap, top centre and floor cover plate

DM4037 Single action
DM4037/D Double action

Top centre:

DM4045 Single action: 5mm offset for timber doors
DM4045/36 Single action: 36mm offset for timber doors
DM4045/D Double action: for timber doors

Bottom strap:

DM4046 Single action: 5mm offset for timber doors
DM4046/36 Single action: 36mm offset for timber doors
DM4046/D Double action: for timber doors

Cover caps:

DM4043/T Single action: for top centre (pair)

DM4043/B Single action: for bottom strap
Please state Left Hand (ISO6 Anti-Clockwise closing) or Right Hand (ISO5 Clockwise closing) when ordering.

DM4043/DT Double action: top centre cover strip

SE SNP PCP SB PB AB BMA Col

Miscellaneous Accessories:

DM4055 Sealing compound for floor springs,
To fill cavity between spring body and cement box to prevent moisture penetration
one compound per spring requirement

DM4056 Underfloor cavity frame boxes,
To raise spring body up to finished floor level

DM4057 Underfloor spring body suspension boxes,
To suspend spring from floor where no fixing to floor below is possible
Made to suit spring being used

DM4058 Underfloor spring tray,
For use instead of cover plate to show client's own flooring (e.g marble or carpet tile)

DM4059 Intumescent pack
to suit single action offset (suits both 5 and 36mm) door straps and top centres
For use on 60 minute Fire Doors

DM4060 Intumescent pack
to suit double action door straps and top centres
For use on 60 minute Fire Doors

DM4061 Underfloor door co-ordinator system
c/w spindle for pairs of rebated doors to suit electro-magnetic hold open floor springs

Concealed chain jamb mounted door closer

PB PCP SCP BMA

For light to medium internal doors
Approved to BSEN1634-1:2000. For use on 1/2 and 1 hour fire doors.

DM4011 **Single chain** 50kg
DM4012 **Double chain** 75kg

Rounded end and rectangular end plates are both available

Concealed link controlled hydraulic door closer

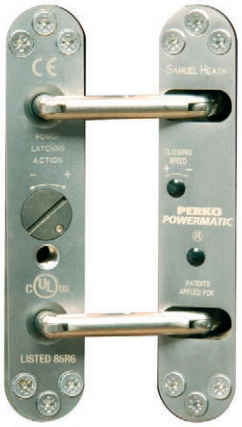
PB PCP SCP BMA

Adjustable closing and latching action

DM4086/S **Single link**

- P/S 1, 2, 3 or 4 individual units
- P/S Sizes 3 & 4 = EN1154
- 120°

Rounded end and rectangular end plates are both available



DM4086/D **Double link**

EN1154, Approved to BSEN1634-1:2000.
For use on 1/2 and 1 hour fire doors

P/S 3 105° 950mm (internal) 80kg

certifire

Rounded end and rectangular end plates are both available

Adjustable power transom concealed door closer

Tested to EN1154

SE

DM4024 Complete door closer with standard arm

P/S 1 - 4 175° 1100mm (internal & external)

Max door weight: see floor pivot

/HO Electro-magnetic multi-point hold open 24vDC, tested to EN1155

P/S 4 175° 1100mm

P/S 5 175° 1250mm

Minimum transom depth required: 58mm for standard unit, 65mm for hold open unit.

Accessories:

DM4088 SSS cover plate only to suit DM4024

DM4089 SSS dover plate only to suit DM4024/HO

DM4046/D Double action bottom strap

Pivots:

DM4053/R Floor Pivot 300kg

Hold-Open Magnet

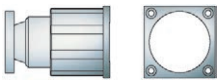
Tested to EN1155

CE

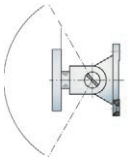
WHT SSS

DM4092

DM4093



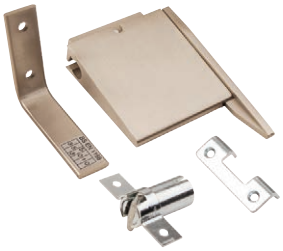
DM4094



DM4095

DM4090/	**Hold-open magnet** 400N Holding force, 24vAC/DC Can be floor mounted when used in conjunction with a floor angle bracket
/SM	**Surface mounted**
/SMO	**Surface mounted c/w test/manual override button**
/FM	**Flush wall mounted**
DM4091/	**Floor, ceiling or wall mounted** 490N holding force, 24vDC. c/w test/manual override button ↔ 150mm ↕ 175mm ↔ 300mm ↕ 325mm ↔ 450mm ↕ 475mm
DM4092	**Flexible armature strike plate for hold-open magnet**
DM4093	**Telescopic heavy duty armature strike plate for hold-open magnet** (can not be used with DM4091/)
DM4094	**Swivelling armature strike plate for hold-open magnet** (can not be used with DM4091/)
DM4095	**Angle bracket for enabling floor mounting of hold-open magnets DM4090/SM and DM4090/SMO** (can not be used with DM4091/)

DM4015
Door selector BS EN1158
CE
1220mm (maximum internal door width)
SE GE SSS PSS PB Col

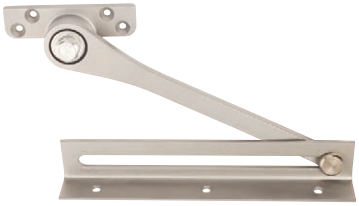


DM4016
Roller arm door selector
190, 220, 250, 300 or 350mm
SE GE SSS PSS PB Col

HM8014
Adjustable mortice Door limiting stay c/w hold open
To limit opening angle of door
110°
EG ZP SSSP PSSP PCP PB

DM4096
Face fixing door friction stay
90° or 180°
SE

HM8015
Face fixing adjustable friction door limiting stay
203 or 229mm 90°
SE GE SSS SCP PCP PB



DM4097
Telescopic pattern friction door holder
500-700mm or 700-910mm
SE

DM4098
Adjustable friction restraining stay
Surface mounted
513mm 90-100°
SAA PCP PBP SSSP BRZP COL

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