

# Door Closer

ASSA ABLOY

The global leader in  
door opening solutions







# 3000 Series

Architectural Door Closer



3000 series | grade 1 door closer

## the perfect choice

The Yale® 3000 Series Architectural Door Closers offer the perfect combination of reliability, appearance and durability in today's market. With features such as staked valves, self-drilling/self-tapping screws, rack and pinion design and precise valve adjustment, and a complete range of arm and cover options, the Yale® 3000 can meet virtually any application challenge.

This U.L. listed, ANSI Grade 1 closer has a long history of proven quality. It is the ideal choice for upscale facilities that demand superior performance such as: conference centers, office buildings, courthouses, religious facilities, banks, nursing homes, restaurants, hotels and medical offices.

### finishes

Product will be painted with a combination of waterborne acrylic and polyester powder coat. Closers will withstand 100 hours of salt spray. (The ANSI requirement is 25 hours.)

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Sprayed Finishes					
Description	Specify Designation (ANSI/BHMA)	Complements the following finishes	Cover		Old Designation
			Metal	Arch Metal	
Aluminum	689	625, 628, 629, 630, 651, 652	No	No	SB
Statuary Bronze	690	613, 640, 695	No	No	STAT
Dull Bronze	691	612, 637, 639	No	No	BL
Black	693	315	No	No	315
Medium Amber	694	312	No	No	312
Gold	696	605, 606, 632, 633	No	No	GB
Dark Oxidized Satin Bronze - equivalent	613E	613	Yes	Yes	—
Prime Coat	600*	—	No	No	SRI

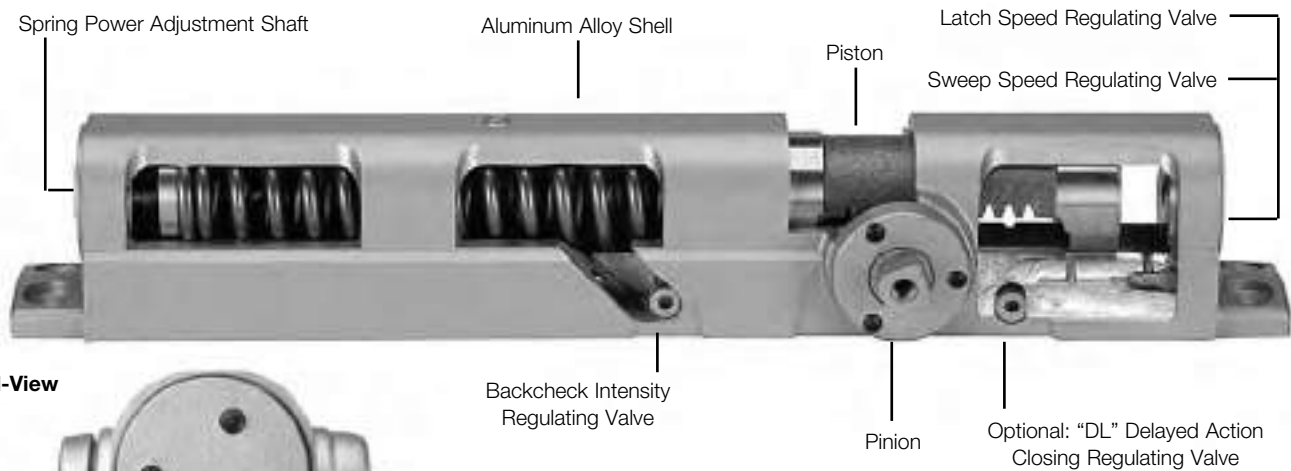
**\* 600 is a special rust inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat (ex: 3501 x 600 x 689).**

Plated Finishes*	Specify Designation (ANSI/BHMA)	Cover		Old Designation
		Metal	Arch. Metal	
Bright Brass	605	Yes	Yes	US3
Satin Brass	606	Yes	Yes	US4
Bright Bronze	611	Yes	Yes	US9
Satin Bronze	612	Yes	Yes	US10
Bright Chrome	625	Yes	Yes	US26
Satin Chrome	626	Yes	Yes	US26D

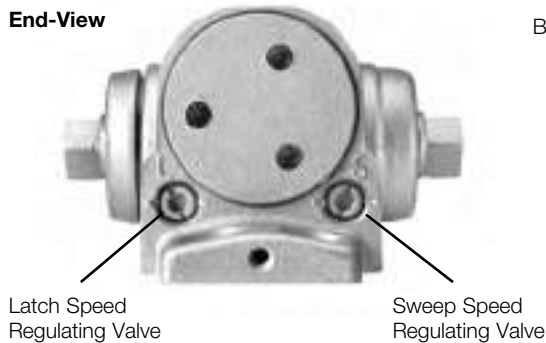
**\* When a plated finish is ordered, arm and cover will be plated unless "cover only" is specified. 3100/3300 - available with plated arm only.**

## overview

### Cutaway View






### End-View



**CAUTION:** Door Closers for Low Opening Force Applications: Door closers installed in openings required to meet the requirements of The Americans with Disabilities Act or ANSI Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.

### compliance standards

 Series 3301 and 3501 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI standard A117.1. All series 3301/3501 are ANSI/BHMA A156.4 Grade 1 certified.   All Yale® series 3301/3501 closers with non-hold open arms are listed by Underwriters Laboratories for labeled fire doors. This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility.

### standard on all 3000 series closers

#### Features

- Exceeds 10 million cycles
- Cast aluminum body
- Adjustable spring sizes 1 through 6
- Tri-packed (regular arm, top jamb and parallel arm mounting)
- Non-handed
- Staked valves
- Rack & pinion design
- 1-1/4" (32mm) diameter piston
- 5/8" (16mm) diameter pinion journals
- Separate and independent, latch, sweep and backcheck intensity valves
- 2-1/8" (54mm) projection (standard covers)
- All standard arm applications (with slim, full or metal covers) allow doors to swing 180 degrees, conditions permitting

- 3301 - shipped with slim-line plastic cover
- 3501 - shipped with full cover
- 25-year limited warranty

#### Optional Features

- Metal and architectural covers (3500 or 3501 only)
- Heavy-duty arms: Regular Rigid, Parallel Rigid, Holder/Stop, Holder/Stop Spring, UNI Stop™
- Delayed action
- Lead-lined metal cover (suffix MLL)

## optional features

### delayed action

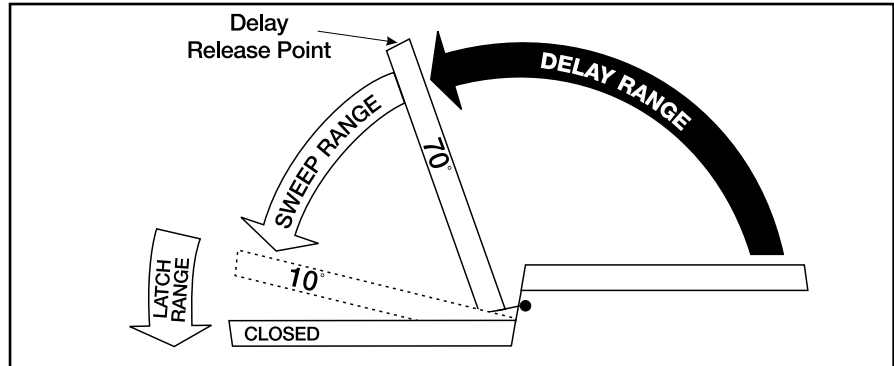
#### Adjustable Delayed Action Closing

An optional hydraulic feature that adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened and Released at	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds

#### Pressure Relief Safety Valve

The delayed action hydraulic system contains a pressure relief valve. Any time the door is forced toward the closed direction while it is in the closing cycle, the valve will open



and permit the door to close. This prevents damage to door, frame and closer.

#### Suggested Applications

Delayed Action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can accommodate

the facility's staff with movement of food service carts, beds, and other wheeled traffic.

Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/ warehouse facilities, doors to workshops or laboratories, kitchens and food processing areas.

### arms

#### Non-Hold Open

Self-closes door every time door is opened. Auxiliary stop (by others) required except when using the Holder/Stop, Holder/Stop Spring or UNI Stop™ arms.

#### Hold Open

Achieved by means of friction or ball and detent/ roller. Friction hold open has a range of 90° to 180° using template location and mechanical adjustment. Ball and detent or roller hold open is effective in a range of 85° to 110°.

Hold open arm door closers are not permitted to be used on fire door assemblies.

#### Door Opening Degrees

Arm Function	Regular Arm, Top Jamb, Parallel Arm	Parallel Rigid Arm	Holder/Stop Parallel Arm	Holder/Stop Spring Parallel Arm	UNI Stop™ Parallel Arm	UNI Stop™ Top Jamb	Low Profile
Non-Hold Open	✓	✓	85° to 110°	85° to 110°	85° to 110°	85° to 110°	✓
Hold Open	90° to 180°	85° to 180°	85° to 110°	85° to 110°	85° to 110°	85° to 110°	N/A

✓=180° trim and template permitting

## applications



**Regular Arm**

3301

This is the only pull side application where a double lever arm is used. It is the most power-efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.



3501

Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.



**Top Jamb**

3301

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 2-1/4" (57mm). This application provides the best door control for doors in exterior walls that swing out of a building.



3501

The entire door closer and arm assembly project from the frame, similar to the regular arm application, where matters of appearance and malicious abuse can be of concern. Consideration must be given to depth of reveal.



**Parallel Arm**

3301

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This also makes it beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

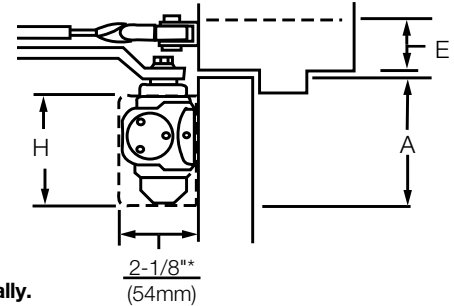
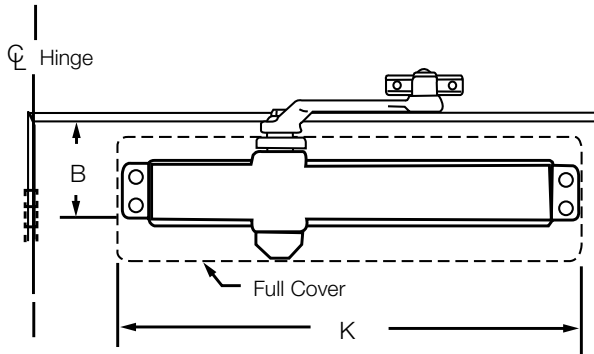


3501

Due to the geometry of the arm it is approximately 25% less power-efficient than a regular arm application. The entire closer and arm assembly are mounted below the frame stop. Top rail clearance dimensions will vary based on the type of cover used. (See page 13.)

## technical details

## regular arm



Mounting holes for closer body are spaced  $3/4''$  (19mm) vertically x  $12''$  (305mm) horizontally.

Note: All measurements are Inches/mm.

Maximum  $180^\circ$  door swing, conditions permitting

Closer Series	Covers	E Minimum Ceiling Clearance			B Minimum Top Rail				A Minimum Top Rail Clearance		K Closer Length	H Closer Height
		NHO	Low Profile	HO	W/O Drop Plate		W/3146 Drop Plate		NHO/ HO	Low Profile		
					NHO/ HO	Low Profile	NHO/ HO	Low Profile				
3100	No Cover										$12\text{-}3/4''$ (324)	
3300	Slim Line Plastic								$3\text{-}1/2''$ (89)	$3\text{-}3/8''$ (86)	$13''$ (330)	$2\text{-}7/8''$ (73)
3500	Full Plastic	$1\text{-}1/2''$ (38)	$1''$ (25)	$1\text{-}5/8''$ (41)	$2\text{-}1/2''$ (64)	$2\text{-}3/8''$ (60)	$1\text{-}5/8''$ (41)	$1\text{-}1/2''$ (38)				
3500M	Metal								$4\text{-}1/4''$ (108)	$4\text{-}1/8''$ (105)	$13\text{-}5/8''$ (346)	$3\text{-}3/4''$ (95)
3500A	Arch. Plastic								$3\text{-}5/8''$ (92)	$3\text{-}1/2''$ (89)	$14''$ (356)	$3\text{-}1/8''$ (79)
3500MA	Arch. Metal								$3\text{-}1/2''$ (89)	$3\text{-}3/8''$ (86)		$3''$ (76)

Door Widths Inches (cm)		Model Numbers	
Interior	Exterior	Non-Hold Open	Hold Open
30" (76)	N/A		
36" (91)	30" (76)		
48" (122)	36" (91)	3301 3501	3311 3511
N/A	48" (122)		
Unusual			

Note: 3301/3501 series door closers are set at midpower range from the factory and can be adjusted for door sizes noted above.

\* Projection is for Slim Line or Full Covers. Projection for Metal Covers =  $2\text{-}3/16''$  (56mm). Projection for Architectural Plastic & Architectural Metal Covers =  $2\text{-}1/4''$  (57mm).





# Overhead Door Closer

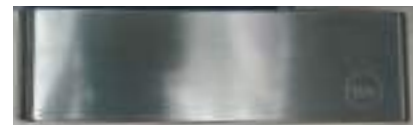
Featuring efficient 'cam action' technology, it has an in-built power adjustment mechanism which allows you to reduce opening force whilst maximising closing force, making it perfect for almost every new door design.

## Major Features

- Cam action for low opening moment
- Power adjustable Size 2 to 4
- For door width from 850mm to 1100mm
- For door weight 45kg to 80kg
- Max opening angle 120°
- Two speed valves:
  - One to control closing speed from 120° to 0°
  - Second to activate final latch from 15° to 0°
- Overpressure relief valve
- Non-handed
- Optional Features:
  - Backcheck, Delay Action, Adjustable hold-open from 70° to 95°
- Optional Satin Stainless Steel (SSS) Cover



Yale YIC6124 Overhead Door Closer



Satin Stainless Steel (SSS) Cover

## Standards

Complied with CE standard with Size EN2 - EN4  
 EN 1154: Product performance standard.  
 EN 1634

## Recommended Maximum Door Size

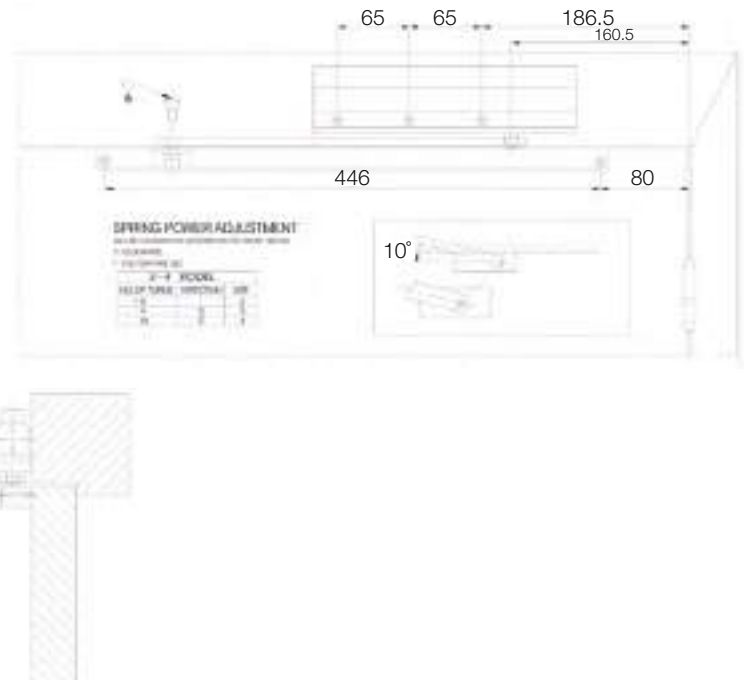
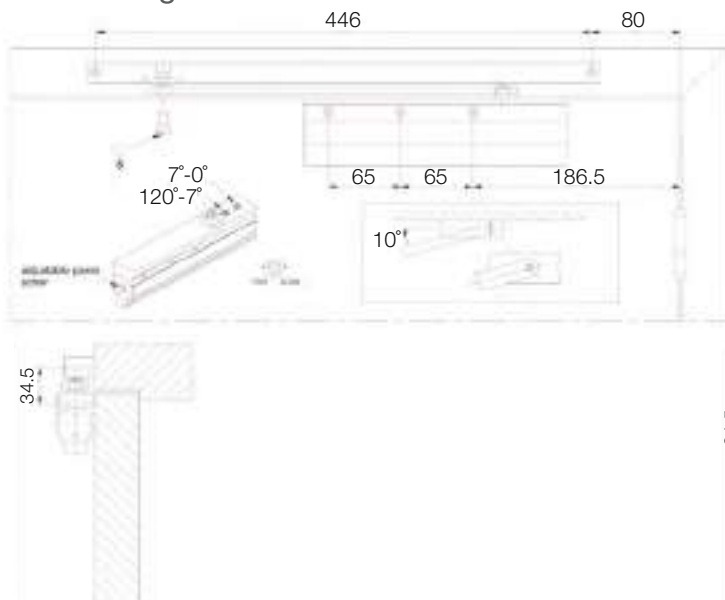
In case of doors subject to wind or air draught select the next size up.

Min power - 2 = 15 Nm  
 Max power - 4 = 32 Nm



Min. 750 x 2100  
 Max. 1100 x 2400

## Limiting Dimensions





# Concealed Door Closer

The beauty of the new Yale YIC5124 Concealed Door Closer is that it stays virtually invisible when the door is closed, keeping your design pure and clean just as you intended. Featuring efficient 'cam action' technology, it has an in-built power adjustment mechanism which allows you to reduce opening force whilst maximising closing force, making it perfect for almost every new door design.

## Major Features

- Cam action for low opening moment
- Power adjustable Size 2 to 4
- Fits timber doors from 45mm thickness
- Fits metal profiles with 36 x 45mm inner chamber
- Max opening angle 120°
- Two speed valves:
  - One to control closing speed from 120° to 0°
  - Second to activate final latch from 15° to 0°
- Overpressure relief valve
- Adjustable hold-open from 70° to 95°
- Non-handed



Yale YIC5124 Concealed Door Closer

## Standards

Complied with CE standard with Size EN2 - EN4  
EN 1154: Product performance standard.

## Recommended Maximum Door Size

In case of doors subject to wind or air draught select the next size up.

Min power - 2 = 15 Nm  
Max power - 4 = 32 Nm



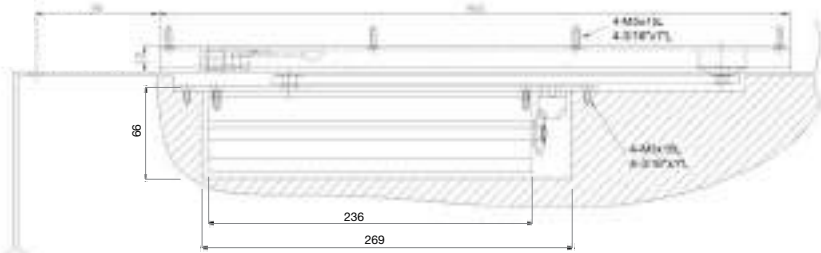
Min. 750 x 2100  
Max. 1100 x 2400

## Limiting Dimensions

Top Rail



Closer Body and Arm Assembly



Door Closer Side Profile



Door Closer Top Plate



# Door Closers

The world's favorite lock



## Yale YIC 3025A Surface Mounted Door Closer

A range of adjustable power door closer units suitable for architectural and commercial applications.

### Standard Features

- Size EN2-EN5 power adjustable
- Door weight range of 20kg ~ 100kg
- Standard arm included; parallel bracket is optional
- Adjustable backcheck
- Closing and latching speed adjustment
- Overload protection
- Non-handed
- Regular & over door mounting; parallel mounting is optional

### Standard Arm

- Closer installed on pull side of door. This mounting position permits opening of 170°.

### Parallel Arm

- Closer installed on push side of door. This mounting position permits opening of 180°.

### Over Door Mounting

- Closer installed on push side of door and top rail where conditions do not allow parallel mounting. This mounting position permits opening of 170°.



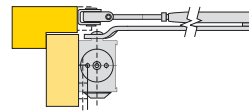
### Standards

- Complied with CE standard with Size EN2 - EN5.
- EN 1154: Product performance standard.
- EN 1634-1:2000

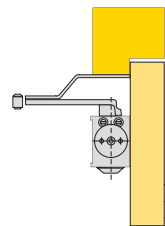
### Standard Finishes

- Silver enamel - SIL

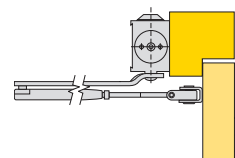
### Applications - Mounting Details



Regular Arm installation closer is fixed to the pull (speed regulating valve towards the hinge) side of the door.



Parallel Arm installation closer is fixed to the push (speed regulating valve opposite to hinge) opposite to hinge side of the door.

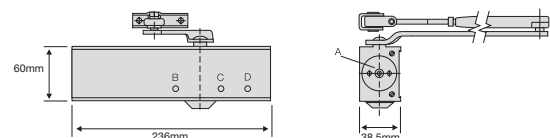


Top jamb installation closer is fixed to the top jamb on the push (speed regulating valve towards the hinge) side of the door.

### How to order

Ordering No.	Product Description	Door Weight Range
YIC 3025A	Yale Surface Mounted Door Closer Power Adjustable Size EN2 - EN5	20kg ~ 100kg

### Technical Data - Limiting Dimensions Regular Arm



Legend - A. Power Adjustment B. Backcheck C. Closing Speed D. Latching Speed

All dimensions are in mm



# 7500/7700 SERIES

Institutional Door Closer



**Norton®**

**ASSA ABLOY**

ASSA ABLOY, the global leader  
in door opening solutions

## OVERVIEW

The 7500 Series Door Closer offers customers the ideal combination of superior performance, strength and quality. Ideal for interior or exterior doors in facilities that demand reliability.

### Features


- Non-handed
- Rack-and-pinion design
- Cast aluminum body
- 2-3/16" (56mm) projection
- 1-1/2" (38mm) diameter piston
- 5/8" (16mm) diameter pinion journals
- Staked valves
- Standard, separate and independent, latch, sweep and backcheck intensity valves
- Backcheck positioning valve
- NorGlide® fluid
- Molded plastic cover
- All standard arm applications allow doors to swing 180°, conditions permitting
- Self-drilling screws
- Full-size template
- Heavy-duty arms: Regular Rigid, Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- Slide Tracks: push or pull side mounting

### Optional Features

- Corrosion resistant model (non-hold open only). Specify 7500SS
- Metal cover. Specify M suffix
- Lead lined metal cover. Specify MLL suffix
- Enhanced backcheck. Specify EBC suffix
- Delayed action with pressure relief valve
- Retrofit plates

Features	7500	7700
Adjustable spring sizes 1 through 6 (ADA Compliant)	X	
Sized springs 2,3,4,5,6 with 50% power adjustment		X
Tri-Style® packaging; tri-packed for regular, top jamb or parallel arm mounting	X	
Bi-packed for regular or top jamb mounting		X

### Compliance Standards

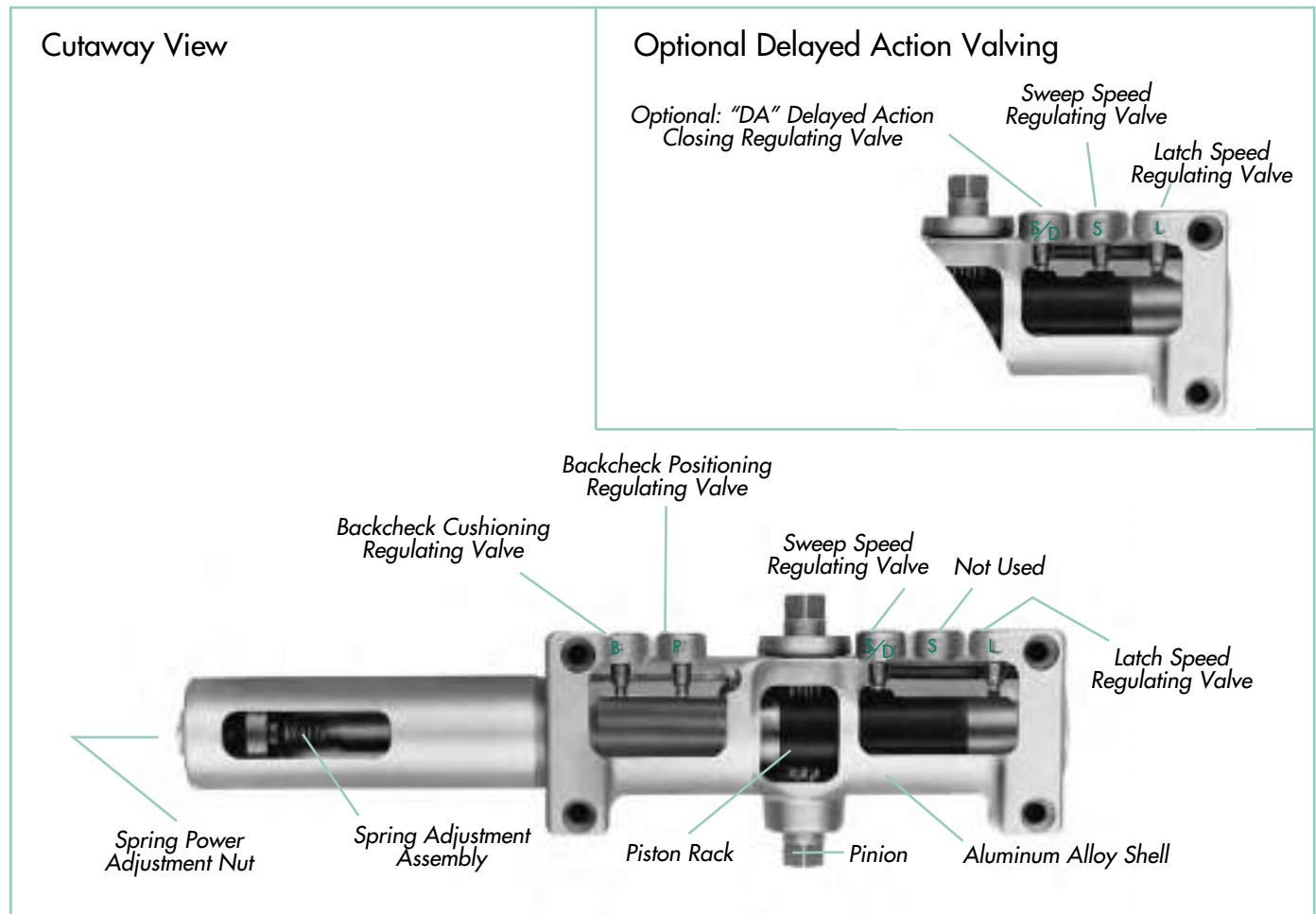
- Exceeds 10 million cycles (witnessed and verified by UL)
- ANSI/BHMA A156.4, Grade 1 certified 
- UL listed
- UL10C compliant for positive pressure
- ADA Compliant (7500)
- 25-year limited warranty

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# 7500/7700 SERIES INSTITUTIONAL DOOR CLOSER

## OVERVIEW



## COMPLIANCE STANDARDS



The series 7500 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI/BHMA standard A117.1. All series 7500/7700 door closers are ANSI/BHMA A156.4 Grade 1 certified. **BHMA** All Norton series 7500/7700 closers with non-hold open arms are listed by Underwriters' Laboratories for labeled fire doors. **UL** This includes compliance to UL10C for 3-hour assemblies. The product is manufactured in an ISO 9001 facility.

### Windstorm

Norton 7500 door closers are UL certified for inswing and outswing single and pair (up to 8'0" x 8'0") door assemblies to ICC 500 for Storm Shelters. Additionally, the 7500 meets FEMA 361 guidelines.

7500 is part of a complete ASSA ABLOY tornado and hurricane shelter solutions utilizing Ceco StormPro 361, Curries StormPro 361, Fleming F5 doors and frames and McKinney SP hinges.

### CAUTION: Door Closers for Low Opening Force Applications:

Door closers installed in openings required to meet the requirements of the Americans With Disabilities Act or ANSI/BHMA Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.

# 7500/7700 SERIES

## INSTITUTIONAL DOOR CLOSER

### FASTENERS

Type	Description	Arm								
		RA	PA	TJ	Low Profile	PR	CLP/CPS	UNI	UNI-J	Slide Track
<b>DOOR</b>										
SDST	Self Drilling Self Tapping	S	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S	S
SN	Sleeve Nut	O	O	O	O	S	S	S	S	S
TBGN	Thru Bolts & Grommet Nuts	O	O	O	O	O	O	O	O	O
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O	O
TORX®	Torx Drive Security Screw	O	O	O	O	O	O	O	O	O
<b>FRAME</b>										
SDST	Self Drilling Self Tapping	S	S	S	S	S	S	S	S	S
MS	Machine Screw	S	S	S	S	S	S	S	S	S
SMS	Sheet Metal Screws	O	O	O	O	O	O	O	O	O
TORX	Torx Drive Security Screw	O	O	O	O	O	O	O	O	O

**S = standard; O = optional**

**SN** are for use on unreinforced hollow metal doors or to prevent any hollow metal door from collapse/dimpling. They can also be used for thru bolting on wood doors. SN are supplied for 1-3/4" (44mm) thick doors unless specified for 2-1/4" (57mm) thick doors.

**TBGN** are an alternative to SN for wood doors. TBGN are supplied standard for 1-3/4" (44mm) thick doors. They can be specified for 1-3/8" (35mm) thick doors.

**SMS** - when specified, closer will be packed with sheet metal screws for the door AND sheet metal screws plus machine screws for the frame.

**TORX** screws with security pin are standard with 7570/7770 Security Door Closers. Torx may be specified for all other series applications. Torx are only available with machine screw threads. Sheet metal screw threads are not available.

### FINISHES

Norton offers waterborne acrylic, polyester powder coat and plated finishes. Custom finishes are available on special order. A sample and approval is required.

Waterborne acrylic and polyester powder coat will withstand 100 hours of salt spray (ANSI requires 25 hours).

ANSI/BHMA	US	Description
600*	SRI	Prime Coat
605	US3	Bright Brass
606	US4	Satin Brass
611	US9	Bright Bronze
612	US10	Satin Bronze
613E	US10BE	Dark Oxidized Satin Bronze - Equivalent
625	US26	Bright Chrome
626	US26D	Satin Chrome
689	AL	Aluminum

ANSI/BHMA	US	Description
690	STAT	Statuary Bronze
691	DB	Dull Bronze
693	315	Black
694	312	Medium Amber
696	GB	Gold

\* 600 is a special rust-inhibiting prime coat. Closers can be ordered prime coat only (specify closer x 600). An additional charge applies if finish coat is required over prime coat.

- Norton closer bodies and plastic covers are available in waterborne acrylic finishes. Arms and metal covers are available in powder coat or plated finishes.
- When a plated finish is ordered, arm and cover will be plated unless "cover only" is specified.



## FEATURES

### Aluminum Alloy Housing

Closer bodies are constructed of a special aluminum alloy, carefully selected to accommodate interactive steel components and operating conditions.

### Rack & Pinion Operation

Provides a smooth constant control of the door through its full opening and closing cycle. 180° door swing can be achieved when door, frame, hardware and arm function do not interfere.

### Non-handed

With few exceptions all series 7500 and 7700 door closers are non-handed and can be installed on either right or left hand swing doors. Pinion shaft extends vertically through the closer body in both directions. Some options, as noted on pages 6-8, will require that the hand of the closer be specified.

### Sweep Speed Control Valve

Allows adjustment of door speed from the door's full open position down to approximately 10° from the closed position.

### Latch Speed Control Valve

Allows adjustment of door speed from approximately 10° down to the door's fully closed position.

### Tri-Style® Packing

7500 comes with screws, brackets and soffit plates to allow for regular, top jamb, and parallel arm installations.

### Adjustable Backcheck Cushion Valve

Provides control of the door in the opening cycle, beginning at approximately 75° of door opening. It slows/cushions the door opening, when the door is forcibly opened beyond its pre-adjusted limits.

### Adjustable Backcheck Position Valve

Allows the door opening position, where backcheck cushioning begins, to be adjusted to a greater door angle, up to a maximum of 20° farther (approximately 95°).

### Standard Molded Cover

Molded of high-impact U.L. listed material and covers the entire closer body assembly. This cover is non-handed for all applications.

### Warranty

These closers carry a limited 25-year warranty against defect, and life of the building on the aluminum housing.

### Closer Fluid

NorGlide® closer fluid is a specially formulated multi-viscosity hydraulic fluid that contains lubricity and anti-oxidation agents that provide optimum performance and efficiency. This fluid complements the interaction of the door closer's aluminum housing with its steel and brass components, while maintaining stable viscosity to allow the door closer to perform in temperatures ranging from extremely high to as low as -40° F.

### Door Closer Power Options

#### Series 7700 Sized Door Closer

Available in five different power sizes (2, 3, 4, 5 or 6). Each power size is adjustable up to 50% stronger than the minimum closing force for that size, as outlined in ANSI/BHMA specification A156.4.

#### Series 7500 Multi-Sized Door Closer

Adjustable through the entire power range of door closer sizes 1 through 6, as outlined in ANSI/BHMA standard A156.4.

The series 7500 also conforms to the minimum opening force requirements of the Americans with Disabilities Act (A.D.A.) and ANSI/BHMA standard A117.1 for interior doors.

## OPTIONAL FEATURES

### Corrosion-Resistant Door Closer

The series 7500SS door closers with molded plastic cover are available for use where corrosive conditions exist. This series is provided with brass adjustment valves, a 440 grade stainless steel pinion shaft, an all-aluminum body and bronze closer arm bushings; all other components are of 302/303 grade stainless steel. Fasteners are 8-18 stainless steel. This product is available for standard regular arm, top jamb and parallel arm, non-hold open, applications only.

### Optional Metal Cover

This steel cover is non-handed for regular and parallel arm applications, but is handed for top jamb applications. Cover is available in sprayed or architectural plated finishes.



### Security Cover

Supplied standard with all series 7570/7770 door closers. This deep drawn steel cover is handed for all applications. The cover is fastened to the closer body at two points on top and to the door closer body stand-offs at two points on the bottom.

### Optional ABS Cover

Consult factory for details

## OPTIONAL FEATURES

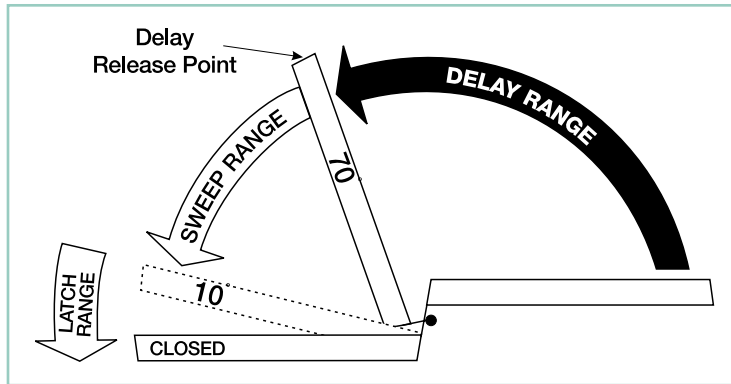
### Enhanced Backcheck

This feature provides adjustable backcheck intensity beginning at approximately 15 degrees of the door opening cycle. It is intended for use in situations where the standard backcheck beginning at approximately 75° of door opening allows too much unrestricted door travel to obtain control of the door without the fear of peripheral damage to the door closer, door, frame, hinges or pivots; or adjacent walls or structures. This feature is most frequently used in schools and detention facilities. Specify suffix EBC.

### Adjustable Delayed Action Closing

An optional hydraulic feature that adds a third speed range to the closing cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. The amount of time delay depends upon the combination of the angle of door release and valve adjustment. The valve can be adjusted with a 1/8" (3mm) hex key from no delay time up to maximum delay times of:

Door Opened and Released at	Approximate Time of Delay Cycle
180°	4-5 minutes
120°	2-3 minutes
90°	25-30 seconds



### Pressure Relief Safety Valve

The delayed action hydraulic system contains a pressure relief valve. Any time the door is forced toward the closed direction while it is in the closing cycle, the valve will open and permit the door to close. This prevents damage to door, frame and closer.

### Suggested Applications

Delayed Action closing allows slow-moving traffic to clear the opening before the door closer's normal closing cycle begins. This feature can be helpful in health care facilities such as hospitals and nursing homes. It provides sufficient time for persons on crutches or in wheelchairs to pass through a door without concern of it closing. At the same time, it can accommodate the facility's staff with movement of food service carts, beds, and other wheeled traffic.

Use of delayed action closers on many doors throughout industrial and commercial buildings can also assist the flow of traffic. Locations where additional time to clear the opening is advantageous are doors between office and factory/warehouse facilities, doors to workshops or laboratories, to kitchen and food processing areas, etc.

## OPTIONAL FEATURES ARMS

### Non-Hold Open

Self-closes door every time door is opened. Auxiliary stop (by others) required except when using the CloserPlus®, CloserPlus Spring™ or Unitrol® arms.

### Hold Open

Achieved by means of friction or ball and detent/roller. Friction hold open has a range of 90° to 180° using template location and mechanical adjustment. Ball and detent or roller hold open is effective in a range of 85° to 110°.

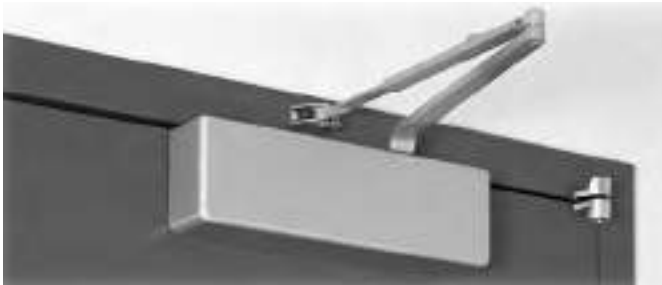
Hold open arm door closers are not permitted to be used on fire door assemblies.

### Door Opening Degrees

Arm Function	Regular Arm, Top Jamb Parallel Arm	Parallel Rigid Arm	CloserPlus® Parallel Arm	CloserPlus Spring™ Parallel Arm	Unitrol® Parallel Arm	Unitrol Top Jamb	Low Profile Regular, Parallel	Slide Track
Non-Hold Open	✓	✓	85° to 110°	85° to 110°	85° to 110°	85° to 110°	✓	85° to 110°/180°
Hold Open	90° to 180°	85° to 180°	85° to 110°	85° to 110°	85° to 110°	85° to 110°	N/A	85° to 110°

✓=180° trim and template permitting

## APPLICATIONS



Non-hold open arm shown

### Regular Arm

This is the only pull-side application where a double lever arm is used. It is the most power efficient application for a door closer. Sufficient frame, door and/or ceiling clearance must be considered.

Since the arm assembly projects directly out from the frame, this application may present an aesthetics issue or be prone to vandalism.



Non-hold open arm shown

### Top Jamb

For efficiency reasons this application provides the best alternative to the regular arm application. There must be sufficient frame face and/or ceiling clearance for this application. It requires a top rail on the door of just 2-1/8" (54mm). This application provides the best door control for doors in exterior walls that swing out of a building.

The entire door closer and arm assembly project from the frame, similar to the regular arm application, where matters of appearance and malicious abuse can be of concern. Consideration must be given to depth of frame reveal.



Non-hold open arm shown

### Parallel Arm

This application provides the most appealing design appearance for a surface-mounted door closer having a double lever arm. This also makes it beneficial in vandalism-prone areas. It is on the push side of the door and the arm assembly extends almost parallel to the door. In the closed position, there is very little or no hardware projecting beyond the frame face in most situations.

Due to the geometry of the arm it is approximately 25% less power-efficient than a regular arm application. The entire closer and arm assembly are mounted below the frame stop, requiring a top rail clearance on the door of between 6-5/8" (168mm), when using a low profile arm, to 7-1/4" (184mm), when using the hold open arm.



Non-hold open arm shown

### Corner Bracket

This application can be used where top jamb and parallel arm application will not accommodate the door and frame conditions. Requires minimal top rail on the door; however, vertical clearance to the floor within the door opening should be checked to ensure code compliance.

The close proximity, for this application, of the door closer to the door's pivot point reduces the door closer's power efficiency by approximately 25% when compared to a regular arm. The projection of the arm from the door face might pose questions regarding design parameters.

APPLICATIONS



Pull Side



Low Profile Pull Side



Push Side



Low Profile Push Side

**Slide Track**

Whether pull or push side mounted, slide track applications provide the designer with the smoothest lines available in a surface mounted door closer. The single lever arm allows components to be located in a stack configuration to minimize projection and eliminate obtrusive arm angles. The arm geometry reduces door closer power efficiency by approximately 25% from that of a regular arm.

A variation of the standard slide track application is available for pocket doors, where it is desirable to have the door closer completely concealed when the door is in the 90° open position. See page 26 for details.

**Standard Unit:**

- Adjustable 85° to 110° (hold open and non-hold open). Track is supplied with a spring buffered stop. An auxiliary stop, by others, is recommended.
- Specify if hold open unit is required.
- 180° swing (non-hold open, pull side only) is also available. This track assembly requires that a door stop, by others, be supplied to stop the door.



**Regular Arm** - Regular Arm allows closer to be installed where there is as little as 1" (25mm) of frame face or ceiling clearance.



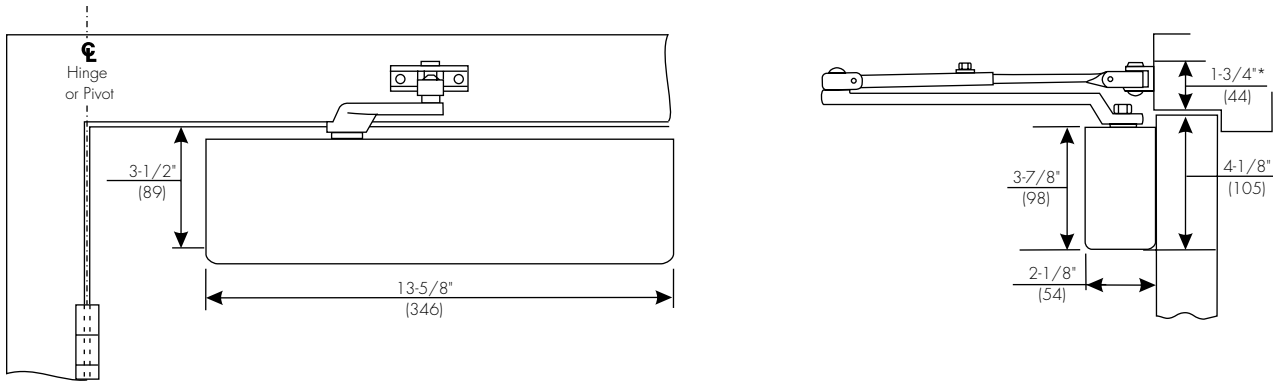
**Parallel Arm** - Parallel Arm allows closer to be installed 1/2" (13mm) higher up on door than standard parallel arm application.

**Low Profile Arm**

Supplied with 7580/7780 series door closers for non-hold open installations only. Low profile arms have a reduced height elbow joint and a straight main arm. This enables the door closer to be installed in less vertical space.

# 7500/7700 SERIES INSTITUTIONAL DOOR CLOSER

## REGULAR ARM



Mounting holes for closer body are spaced 2-3/8" (60mm) vertically x 6-3/4" (171mm) horizontally.  
 \* This dimension will vary. Standard non-hold open arm illustrated.

Maximum Door Width Inches (cm)		Model Number			
		Sized Closers		Multi-Sized Closers	
Interior	Exterior	Non-Hold Open	Hold Open	Non-Hold Open	Hold Open
32" (81)	30" (76)	7702	7702H	7500	7500H
38" (97)	34" (86)	7703	7703H		
48" (122)	42" (107)	7704	7704H		
54" (137)	48" (122)	7705	7705H		
Unusual Conditions		7706	7706H		

Note: Contact factory if door weight exceeds 250 lbs.



# 7900 SERIES

Overhead Concealed  
Door Closers



**Norton**<sup>®</sup>  
**ASSA ABLOY**

ASSA ABLOY, the global leader  
in door opening solutions

OVERVIEW

**Introduction**

Overhead concealed closers provide an aesthetically appealing way to close a door. In situations where a closer is needed but concealment in the frame header is required or desired, the Norton® 7900 closer is the ideal solution for door control. Once installed, only the solid one-piece arm is visible when the door is open; therefore, this unit provides a high degree of vandal resistance. When the door is closed, the closer, arm and slide track are fully concealed. For applications where concealment is required and security is the main concern, the 7970 should be used.

This heavy-duty, durable closer package includes a steel track, steel slider, polymer slider pads and dress plates. The steel track and slider offer additional strength to the unit, while the polymer pads provide quiet operation and easy assembly. Standard features include rack and pinion operation, adjustable sweep and latch, and adjustable backcheck cushioning and positioning.

The 7900 overhead closers are best suited for high-profile applications such as office buildings or conference centers. The 7970 security closers offer the necessary concealment and tamper resistance required in detention and psychiatric facilities. Used in conjunction with the door position switch (DPS) they provide the ability to monitor door status remotely.

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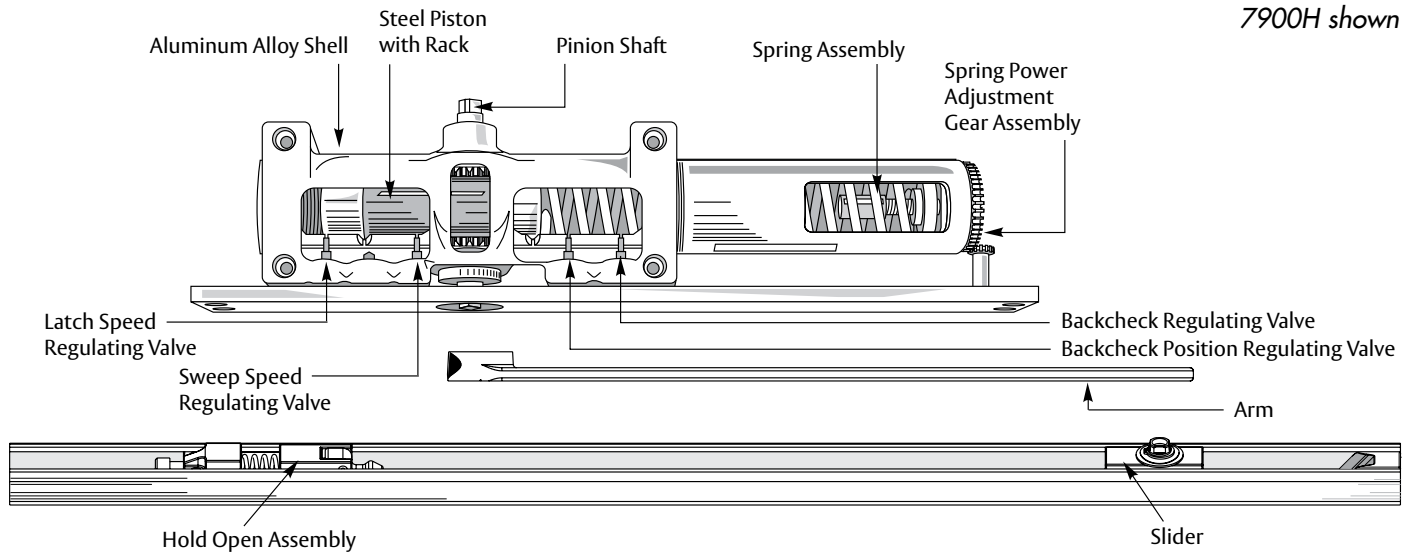
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# 7900 SERIES OVERHEAD CONCEALED DOOR CLOSERS

## OVERVIEW

7900H shown



## FEATURES


- Steel track
- Steel slider
- Polymer slider pads
- Fully adjustable, multi-point hold open (7900)
- Dress plates furnished standard
- Shock absorbing door stop
- Aluminum alloy shell
- Rack & pinion operation
- Non-critical valves
- Adjustable sweep speed
- Adjustable latch speed
- Adjustable backcheck cushioning
- Adjustable backcheck positioning

- Delayed action option
- Enhanced backcheck option
- Power choices
  - Sized closer (4, 5, 6)
  - Multi-size closer (0)
- ANSI A156.4, Grade 1
- Models available to meet ADA/A117.1
- UL listed
- Torx® screws furnished standard (7970 only)
- Door Position Switch (DPS) option (7970 only)
- 10-year limited warranty

# 7900 SERIES

## OVERHEAD CONCEALED DOOR CLOSERS

### DOOR SIZE

Maximum Door Size Wood or Metal Inches (Centimeters)		Model Number	
Interior	Exterior	Non-Hold Open	Hold Open
32 (81)	–	7904/7974	7904H
38 (97)	32 (81)	7905/7975	7905H
48 (122)	38 (97)	7906/7976	7906H
 Accessibility Code Compliance			
48 (122)	36 (91)	7900	7900H

Door sizing information is based on installation on standard weight doors hung on anti-friction hinges or pivots and operating under normal conditions. For doors in excess of 7'6" or on extra-heavy doors, where draft conditions exist or where door swings beyond 150°, use next larger size closer.

Ball-bearing or anti-friction hinges or pivots are always recommended for use with doors having door closers. They are required for fire door applications, except where a door manufacturer has a specifically listed fire door assembly.

When requesting templates, specify door hanging hardware (i.e. B= butt hinges, CP= center hung pivots, OP= offset pivots).

### FINISHES

#### Sprayed Finishes

Description	BHMA Designation	Complements the following finishes	Old Norton® Designation
Aluminum	689	628, 625, 629, 630, 651, 652	AL
Statuary Bronze	690	640, 613	STAT
Dull Bronze	691	612, 637, 639	DB
Black	693	315	315
Medium Amber	694	312	312
Gold	696	605, 606, 632, 633	GB

#### Plated Finishes

Description	BHMA Designation	Old Norton Designation
Bright Brass	605E	US3
Satin Brass	606E	US4
Bright Chrome	625E	US26
Satin Chrome	626E	US26D

Order sprayed and plated finishes by BHMA designations.

**FEATURES****Concealed Transom Mounting:**

Closer is concealed in the header of hollow metal, aluminum or wood frames. Installation requires a minimum 4" (102mm) high frame header. A removable frame stop furnished by the frame supplier is required where doors are less than 2" (51mm) thick. A dust/grout box 2" x 4" (51 x 102mm) x required length furnished by the frame supplier where conditions warrant the need for one. Consult factory for wood header installations.

**Door Thickness:** 1-3/4" - 2-1/4" (44-57mm) thick doors

**Top Rail Mounted Slide Track:**

Slide track is mounted into a recess prepared in the top rail of wood, aluminum or hollow metal doors. Depth of cutout at top of door 1-3/16" (30mm).

**Fire Block Door Liner:**

Available for use in 20-minute fire door assemblies where recognized by the local authority having jurisdiction.

**Standard Door Hanging Hardware:**

Closer and slide track can be installed on doors hung with butt hinges, offset pivots or center pivots. Hinges or pivots furnished by others.

**Concealed Arm:**

Closer arm is concealed when the door is closed. Requires a 3/8" (9.5mm) deep stop side door cutout for arm clearance.

**Shock-Absorbing Door Stop:**

Non-hold open and hold open units have a shock-absorbing adjustable position stop in the slide track. Use of auxiliary door stop is always recommended, not supplied.

**Hold Open:**

Sliding mechanism in channel changes position of hold open. The range of hold open points is dependent upon how the door is hung:

- 85° to 110° for doors hung on butt hinges
- 85° to 95° for doors hung on offset pivots
- 85° to 100° for doors hung on center pivots

**Adjustable Hold Open Tension:**

Hold Open tension can be increased or decreased by adjusting the tension on the slide track spring with a hex-key drive adjusting screw; or the hold open function can be totally eliminated by this same means.

**Aluminum Alloy Shell:**

Series 7900 closer bodies are constructed of a special aluminum alloy carefully selected to accommodate individual closer characteristics and operating conditions.

**Rack & Pinion Operation:**

A smooth power transmission through entire opening and closing cycle is provided by a long addendum gear form.

**Spring Power Adjustment:**

- 50% power adjustment for closer sizes 4, 5 and 6. Each closer can be adjusted by 50% over the minimum closing force for each size.
- Multi-sized power adjustment for closer sizes "0".

**Adjustable Sweep Speed:**

An independent, hex-key operated regulating valve permits adjustment of the general closing speed.

**Adjustable Latch Speed:**

An independent, hex-key operated regulating valve permits adjustment of the door's speed for approximately the last 5 degrees of the closing cycle.

**Adjustable Backcheck Cushioning:**

An independent, hex-key operated regulating valve provides an adjustable hydraulic cushion to the door opening speed toward the end of the opening cycle.

**Adjustable Backcheck Positioning:**

An independent hex-key operated regulating valve allows adjustment of the point in the door's opening cycle at which backcheck cushioning takes effect. It provides a range of 20° within which backcheck can be set.

**Non-Critical Valves:**

All control valves for sweep/latch speed, backcheck control and delayed action closing are non-critical and are adjusted by a standard 1/8" hex-key.

**Non-Hold Open and Hold Open Arms:**

Arm is 13" (330mm) long with an offset bend to permit door openings to 180°. Arm is handed. A special arm is furnished when hold open is required and the door is hung on center hung pivots. This straight arm is 16" long and non-handed.

**Separate Hinges/Pivots:**

Door is hung with butt hinges, 3/4" offset pivots or center pivots (by others). There is no need to open the door closer packaging to supply the hinges/pivots to the job or the door supplier. This eliminates problems with coordination of the hardware with other trades and reduces the probability of lost hardware.

### OPTIONAL FEATURES

#### Enhanced Backcheck:

Adjustable backcheck intensity beginning at approximately 15° of the door opening cycle. It is intended for use in situations where the standard backcheck beginning at approximately 75° of opening allows too much unrestricted door travel to obtain control of the door without the fear of peripheral damage to the door closer, door, frame, hinges or pivots; or adjacent walls or structures. Specify EBC when ordering. **Offered in lieu of standard backcheck and backcheck positioning.**

#### Door Position Switch (7970 only):

This switch is Single Pole Double Throw (SPDT) momentary contact, with one normally open and one normally closed set of contacts. The three switch terminals are wired to the integral conduit box for connection to incoming wiring. The switch and wiring are for operation with 6 to 24 VAC/DC systems.

- **Door Position Switch Adjustment:** Can be made at the opening without removing the closer from the frame. The door position adjustment test socket is accessible during installation for easy adjustment of the switch cam. Test probes from a volt meter are inserted into the test socket while using 1/8" hex wrench to adjust the position switch adjustment.
- **Test Socket:** Volt meter or test light may be connected to test socket to test normally open circuit or normally closed circuit at the door opening. The door position switch may be adjusted at the same time without removal of closer from door.
- **Adjustable Delayed Action Closing:** An optional hydraulic feature that adds a third speed range to the closing control cycle. This feature becomes effective when the door is opened and released at any point beyond 70°. This delayed closing enables traffic to clear the opening before the normal closing cycle starts. This feature is advantageous to the handicapped, elderly or wheeled traffic. **Order by suffixing "DA" to the model number.**

#### Accessibility Code Closer:

These closers provide reduced opening forces to conform with barrier code requirements (as specified in ANSI A117.1) for the handicapped while still providing acceptable door control. **Specify 7900 or 7970.**

**SUGGESTED SPECIFICATIONS**

Closers for exterior (and) interior doors shall be full rack and pinion type with cast aluminum alloy shell. Closers shall be concealed in a 4" (102 mm) high frame header. The slide track shall be concealed in the top rail of the door. Hydraulic fluid shall be non-gumming and non-freezing. (Closer shall be provided with a fire-blocking door liner to permit installation in 20-minute wood fire door assemblies.) Closer shall have (four) (five) noncritical valves, hex-key operated, to independently regulate sweep speed, latch speed, backcheck cushioning (and backcheck positioning) (and delayed action closing). [Closers shall be sized units (4, 5 or 6)].

[Closers shall have power adjustment to permit a 50% increase in power over the minimum closing force for any size.] [Closers shall have multi-sized adjustment for (interior doors)(exterior doors)]. Closer shall conform to Accessibility Code specifications. Degree of stop shall be field adjustable.

Slide track shall have a built-in cushioning shock absorber mechanism. (Hold open mechanism shall be capable of release when holding function is not required. Hold open mechanism shall have an adjustable range 85°-110° of door opening and shall release with a manual

pressure on the edge of the door in the direction of closer). Closer to be Norton® [Series 7900] [Series 7970] (with Norton® #790 Fire Block). 7970/7970DPS shall be supplied with Torx® lobular drive fasteners having a center security pin.

**7970 DPS**

Closer to have a door position switch to indicate "Door Open/Door Closed" condition.

**STANDARDS****ADA**

The 7900 and 7970 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A) and ANSI standard A117.1.

**ANSI/BHMA/Federal Specs**

All series 7900/7970 closers comply with ANSI A156.4 Grade 1 Specifications, Federal FF-H-121D Specifications (CO5030,CO5040, CO5050 w/o PT4B-4C-4D) and FF-H-121c Specifications (3210-3215-3220).

**NYC Listing**

These closers are also listed with New York City Materials and Equipment Acceptance Division (41-60-SM).

**U.L. Listing**

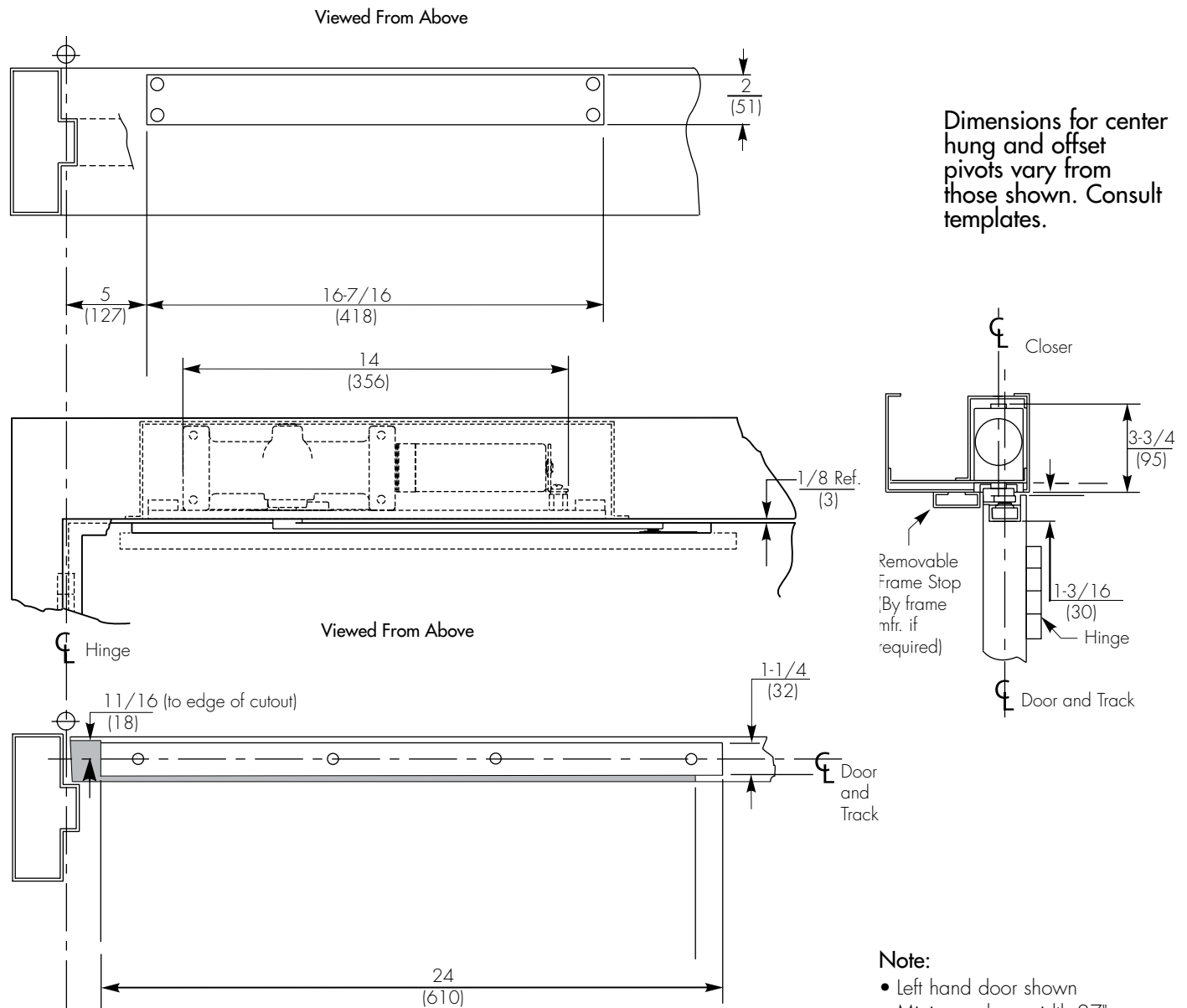
All Norton series 7900/7970 closers with non-hold open arms are listed by Underwriters' Laboratories Inc. and Underwriters' Laboratories of Canada for use on labeled fire doors.

**WHI**

The Norton Fire Block door liner is listed with Warnock Hersey International for use in 20-minute (wood) fire doors that are listed with WHI, when used with the Series 7900 door closer. Specify model number 790. The combination of a 7900 door closer installed in a UL labeled hollow metal door frame and a Norton Fire Block installed in a WHI labeled 20-minute (wood) fire door, which has the tested preparation, may qualify as a 20-minute fire door assembly. Always consult local authorities to determine the acceptance and proper application of fire door and hardware applications.

# 7900 SERIES OVERHEAD CONCEALED DOOR CLOSERS

## 7900 BUTT HINGE INSTALLATION



CONTACT US AT:

Norton Door Controls  
3000 Highway 74 East  
Monroe, NC 28112  
Tel: 877-974-2255  
Fax: 800-338-0965

ABLOY Door Security Solutions Canada  
160 Four Valley Drive  
Vaughan, Ontario, L4K 4T9 Canada  
Tel: 800-461-3007  
Fax: 905-738-2478

For a complete listing of products and applications please visit our web site.  
[www.nortondoорcontrols.com](http://www.nortondoорcontrols.com)  
[www.assaabloy.ca](http://www.assaabloy.ca)

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# **ABLOY® DOOR CLOSERS**

*Excactly the right choice*





## *Superior performance and reliability*

**ABLOY®** high security products are known and highly respected all over the world.

Every item in our wide product range represents top quality and superior performance.

**ABLOY®** door closers protect door constructions by controlling the opening and closing actions of the door. Reliable performance over a wide operational temperature range guarantees that energy will be saved and security increased.

Production of **ABLOY®** door closers started in the 1930s. Today, we exploit the high quality and advanced technology in our purpose-built production

facilities. Our long experience and extensive expertise combined with customer-oriented research and development mean that we have a wide range of solutions for the varying demands of different door environments.

Our global network of sales offices and distributors will help you to choose right products to increase security and convenience in your specific application. The functions, features, and wide variety of installation alternatives offered by **ABLOY®** door closers give you convenient operation, simplified installation and ease of adjustment and maintenance.





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## COLOURS AVAILABLE

### PLASTIC COVERS

White (RAL 9010)

Silver (RAL 9006)

Brass

Brown (RAL 8014)

Black (RAL 9005)



### METAL COVERS

Stainless steel

Bright brass



Note: **ABLOY® DC270** is available only with metal cover. Colours white, brass, silver and stainless steel.

# OPERATION OF DOOR CLOSERS

## OPERATION

Operation is based on a hydraulically controlled rack and pinion or CAM-action mechanism (DC330, DC250). Within the closer there is oil to control the closing and latching speeds and delayed closing and back check features. The adjustable valves enable the adjustment of the speeds and features.

Opening a door, the spring inside the closer is becoming tense. When door is released the potential of the spring push the piston back and door closes. Pressure relief valves are standard feature (excluding DC210 and DC215) to protect the door from abuse and ensure reliable operation in demanding conditions.

## ADJUSTMENT (C- AND L-VALVE)

Closing speed (Valve C):

The closing speed can be adjusted 180 - 15 degrees (DC330 and DC250 170 - 7 degrees).

Latching speed (Valve L): The latching speed can be adjusted 15 - 0 degrees (DC330 and DC250 7-0 degrees).

## BACK CHECK (BC)

A brake affects door movement from 70°-80° to fully open (180°) and protects the door by preventing it from being pulled open by the wind. This feature can be adjusted by selecting the desired arm position. Adjustment by using valve B. Recommended for use with external doors.

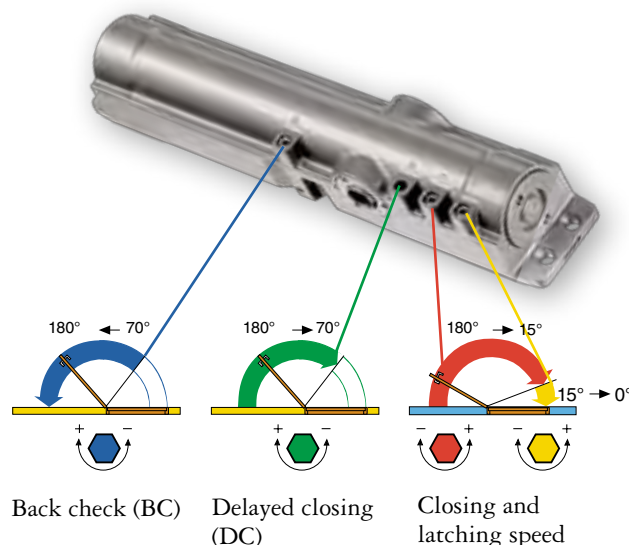
## DELAYED CLOSING (DC)

Delayed closing slows down the movement of the door from fully open (180°) to approximately 70°, after passing this point the door closes at normal speed. The starting angle can be adjusted by selecting desired arm position. Closing speed can be adjusted by adjustable valve D. Adjustable valve enables the adjustment of closing speed. Recommended for internal doors.

## ADJUSTABLE CLOSING FORCE

**ABLOY®** DC334, DC335, DC240, DC247, DC250, DC330, DC270 door closers are equipped with adjustable spring power which ensures the presetting of spring.

Due to adjustable spring power, the same door closer can be used in various applications.

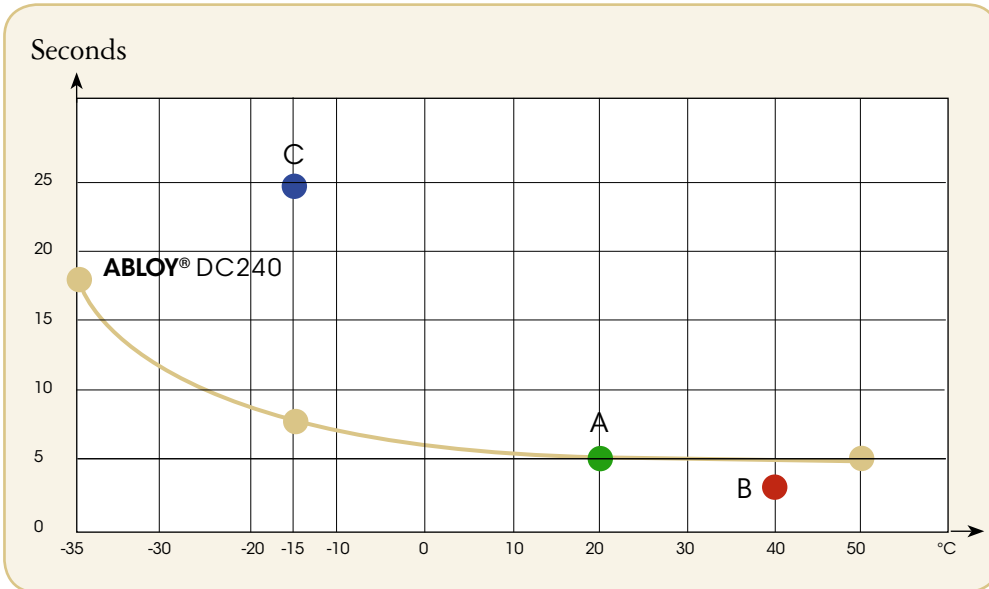


# FUNCTION OF TEMPERATURE

## CLOSING TIME AS A FUNCTION OF TEMPERATURE

Changes in temperature have only a minimal effect on the performance of **ABLOY®** door closers.

**ABLOY®** DC240 guarantee constant closing speed in every situation. High quality hydraulic oil and patented valve systems have already earned this product a legendary reputation.

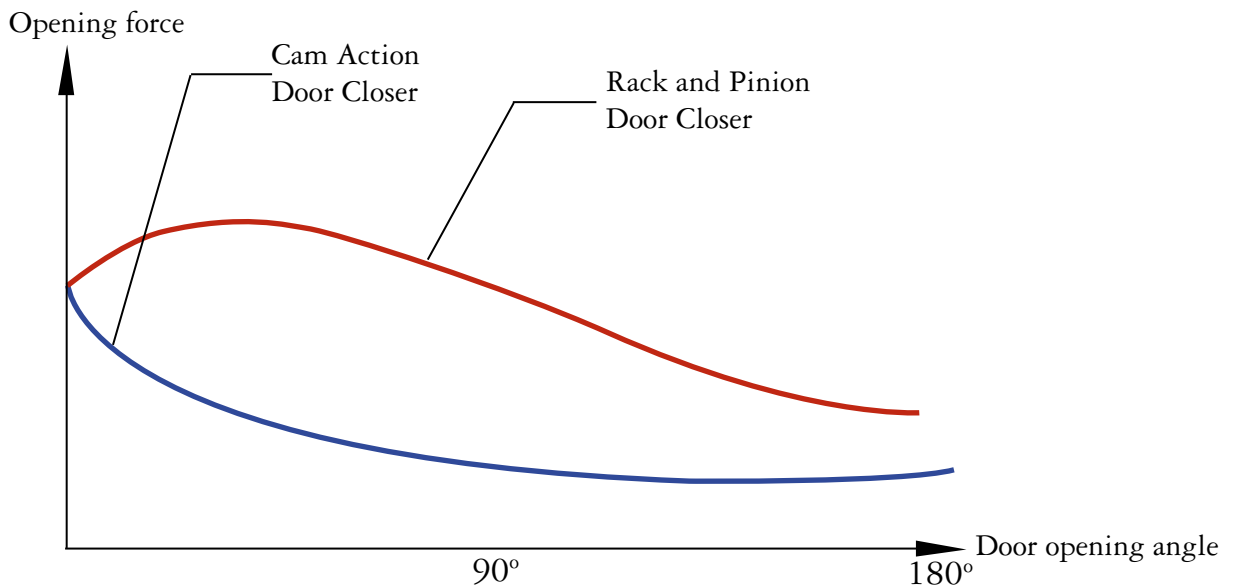


Changes in temperature have only a minimal effect on the performance of **ABLOY®** door closers and adjusted features. **ABLOY®** door closer exceeds standards demands for temperature area.

The EN1154 standard specifies the following:

- A A standard closing time of 5 seconds at +20 °C
- B A minimum closing time of 3 seconds at +40 °C (check point only)
- C A maximum closing time of 25 seconds at -15 °C (check point only)

## DOOR OPENING FORCE WITH SLIDING ARM



# ABLOY® DC330 DOOR CLOSER



## ABLOY® DC330

Non-handed cam action door closer. Thanks to CAM it is light to open but still strong enough to close the door in every situation. **ABLOY® DC330** can be adjusted to meet the requirements of the light opening resistance, for example the DDA (Disability Discrimination Act) in UK. Suitable for external and internal doors. The Maximum door weight 80 kg and door leaf width 1100 mm with a sliding arm installation.

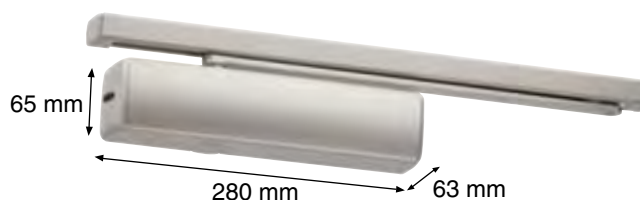
### FEATURES

- CE certified with the sliding arm
- Adjustable closing force size EN 1-4 with the sliding arm according EN1154
- Separate adjusting valves for closing and latching speed
- Wide operating temperature range:  $-15^{\circ}\text{C} \dots +45^{\circ}\text{C}$
- Adjustable latching starting angle by grooved spindle
- Easy adjustment of arm height (14 mm)
- Pressure relief valve to protect against abuse
- Die-cast aluminium body manufactured from high performance silicon alloy

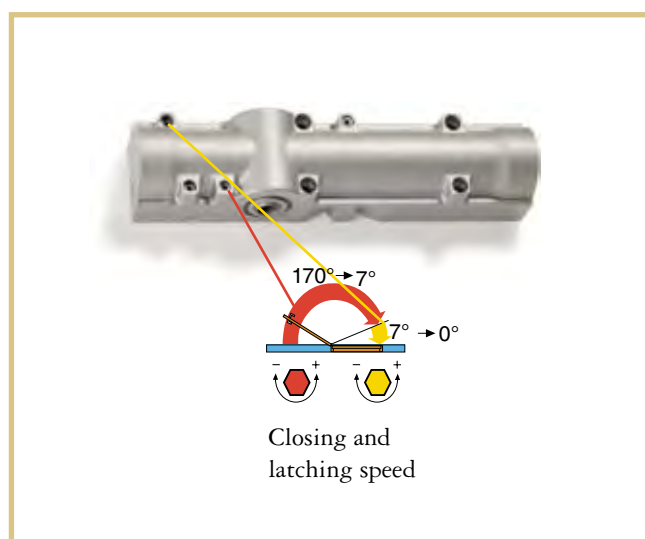
When ordering, please specify

- Door closer model and colour e.g. DC330 (silver)
- Quantity
- Arm type and colour e.g. DC193 silver
- The arm is not included in the delivery or price of the door closer.
- Mounting plate e.g. DC130.

## DIMENSIONS



## ADJUSTMENT



# ABLOY® DC250 DOOR CLOSER



## ABLOY® DC250

**ABLOY® DC250** is non handed cam action door closer and therefore very easy to install. Thanks to the cam construction it is extremely light to open, yet in terms of closing force strong enough for heavy duty applications. Suitable for external and internal doors. For use with **ABLOY® FD460** series fire door closing systems. Maximum door weight 120 kg and door leaf width 1400 mm with sliding arm installation.

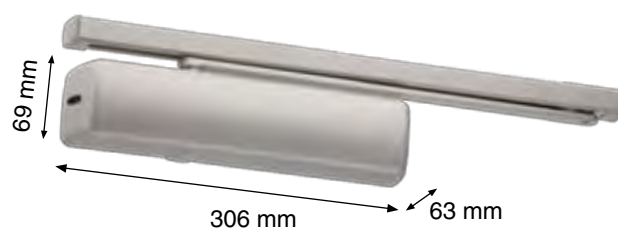
### FEATURES

- CE certified with sliding arm
- Adjustable closing force size EN 1-6 with sliding arm according EN1154
- Separate adjusting valves for closing and latching speed
- Back check (BC) as a standard feature
- Delayed closing (DC) as an option
- Wide operating temperature range:  $-15^{\circ}\text{C} \dots +45^{\circ}\text{C}$
- Adjustable latching and back check starting angle by grooved spindle
- Easy adjustment of arm height (14 mm)
- Two pressure relief valves to protect against abuse
- Die-cast aluminium body manufactured from high performance silicon alloy

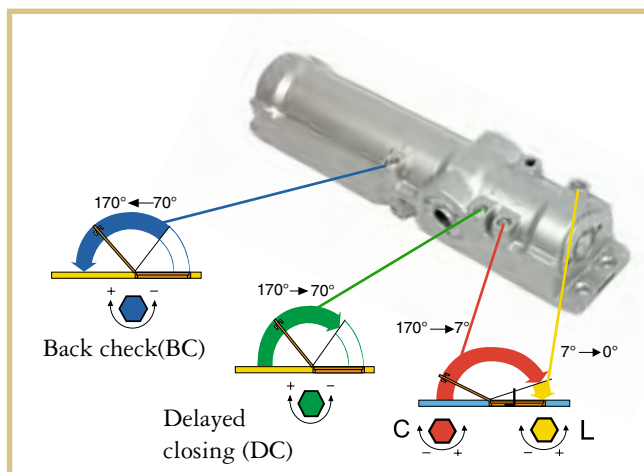
When ordering, please specify

- Door closer model and colour e.g. DC250 (silver)
- Quantity
- Arm type and colour e.g. DC193 silver
- The arm is not included in the delivery or price of the door closer.
- Mounting plate e.g. DC106.

## DIMENSIONS



## ADJUSTMENT







# ABLOY® CONCEALED PRODUCTS

*Prefers the aesthetic advantages*



# ABLOY® DOOR CLOSERS



## *Superior performance and reliability*

**ABLOY®** high security products are known and highly respected all over the world. Every item in our wide product range represents top quality and superior performance.

**ABLOY®** door closers protect door constructions by controlling the opening and closing actions of the door. Reliable performance over a wide operational temperature range guarantees that energy will be saved and security increased.

Production of **ABLOY®** door closers started in the 1930s. Today, we provide high quality and advanced technology in our production facilities.

Our long extensive experience and expertise combined with customer-oriented research and development mean that we have a wide range of solutions for the varying demands of different door environments.

Our global network of sales offices and distributors will help you to choose right products to increase security and convenience in your specific application. The functions, features, and wide variety of installation alternatives offered by **ABLOY®** door closers give you convenient operation, simplified installation and ease of adjustment and maintenance.



# ABLOY® OPERATION OF CONCEALED DOOR CLOSERS



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## OPERATION

The operation of the door closers is based on a hydraulically controlled CAM-action mechanism. Inside the closer oil is used to control the closing and latching speeds. The adjustable valves enable the adjustment of the speeds and features.

Opening a door, the spring inside the closer is becoming tense. When the door is released, the potential of the spring pushes the piston back and the door closes. Pressure relief valve is the standard feature to protect the door from abuse and ensure reliable operation in demanding conditions.

## CONCEALED DOOR CLOSER

Door closer and rail system are mounted inside the door leaf and frame. When the door is open the only visible part is arm. After installation it is easy to adjust the closing force as well as closing and latching speed. Non-handed closer and arm system enable the use of the same products in left and right handed doors.

## ADJUSTABLE CLOSING FORCE

**ABLOY® DC840** and **DC860** door closers are equipped with adjustable spring power which ensures presetting of the spring.

Due to adjustable spring power, the same door closer can be used in various applications

## ADJUSTMENT (C- AND L-VALVE)

Closing speed (Valve C):

The closing speed can be adjusted 120-7 degrees.

Latching speed (Valve L):

The latching speed can be adjusted 7-0 degrees.

## MECHANICAL BACK CHECK

A brake affects door movement from 80 degrees to fully open and protects the door by preventing it from being pulled open by the wind.

# ABLOY® DC840

*“Non handed cam action concealed door closer for heavy duty use”*

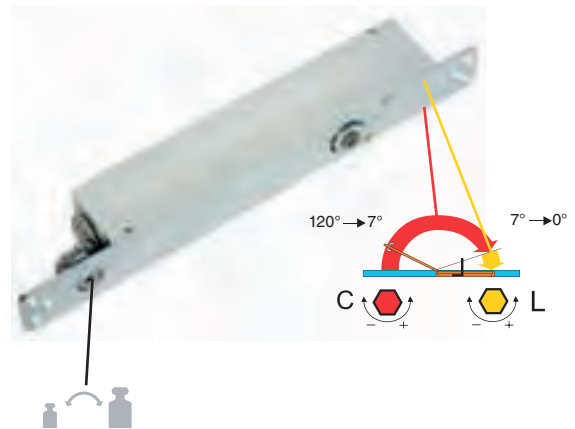
Thanks to the cam construction it is extremely light to open but strong enough to close the door in every situation. **ABLOY® DC840** can be adjusted to meet the requirements of the light opening resistance for example the DDA (Disability Discrimination Act) in UK. **ABLOY® DC840** is suitable for 40 mm doors, internal and fire doors. For use with **ABLOY® FD480** series fire door closing systems.



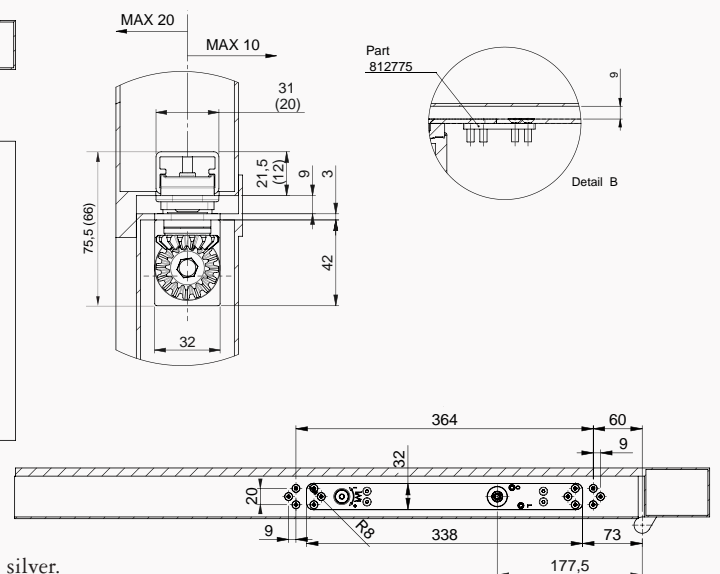
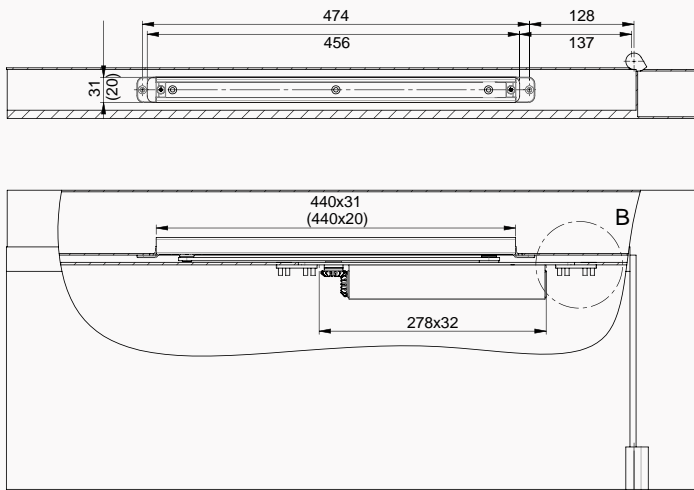
## FEATURES

- CE certified
- Adjustable closing force size EN 1-4
- Separate adjusting valves for closing and latching speed, mechanical BC
- Pressure relief valve to protect against abuse
- Wide operating temperature range: -15...45°C
- Anodized aluminium door closer body
- Two different arm systems: DC892, DC893

## ADJUSTMENT



## INSTALLATION AND DIMENSIONS



Dimensions for DC893  
Dimensions shown in ( ) = DC892  
When ordering, please specify

- Door closer model e.g. DC840, quantity, arm type and colour e.g. DC892 silver.
- The arm is not included in the delivery or price of the door closer.

# ABLOY® DC860

*“Concealed door closer for demanding applications”*

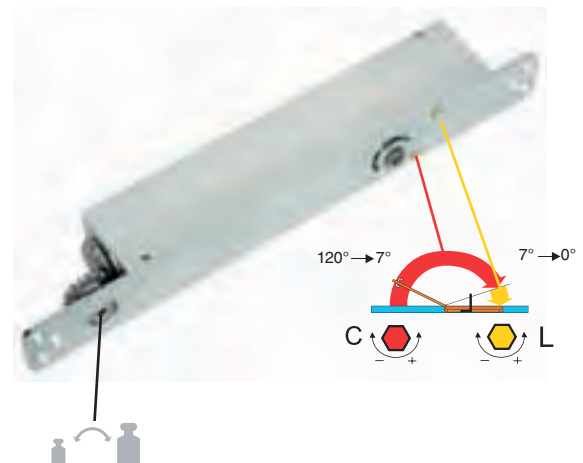
**ABLOY®** DC860 is non-handed cam action door closer and therefore very easy to install. Thanks to the cam construction it is extremely light to open but strong enough to close heavy doors. **ABLOY®** DC860 is suitable for external and internal doors and heavy duty doors. For use with **ABLOY®** FD480 series fire door closing systems.



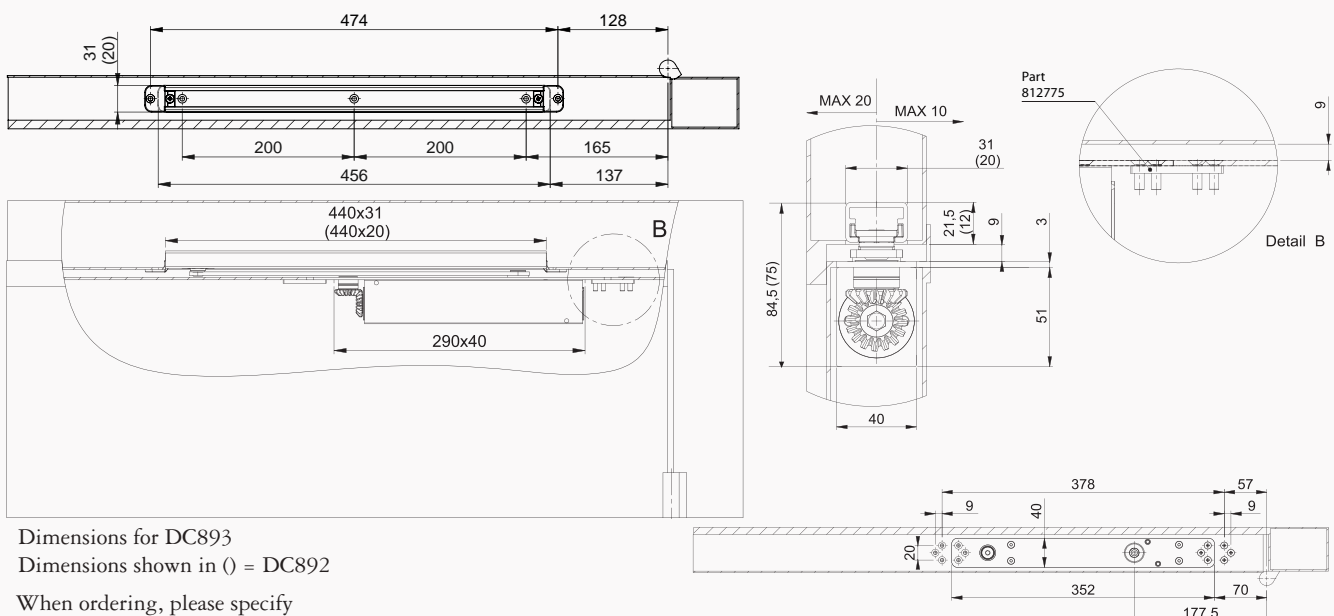
## FEATURES

- CE certified
- Adjustable closing force size EN 1-5
- Separate adjusting valves for closing and latching speed, mechanical BC
- Pressure relief valve to protect against abuse
- Wide operating temperature range: -15...45°C
- Anodized aluminium door closer body
- Two different arm systems: DC892, DC893

## ADJUSTMENT



## INSTALLATION AND DIMENSIONS



Dimensions for DC893

Dimensions shown in ( ) = DC892

When ordering, please specify

- Door closer model e.g. DC860, quantity, arm type and colour e.g. DC892 silver.
- The arm is not included in the delivery or price of the door closer.

# ABLOY® OPERATION OF FIRE DOOR CLOSING SYSTEMS



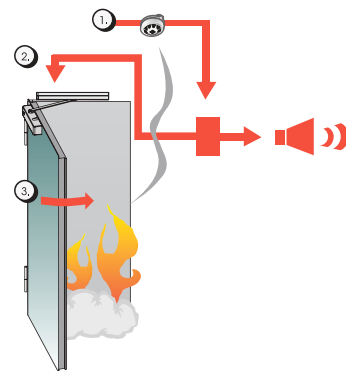
## *Easy access and convenience*

It is vital for fire doors to close in the event of fire. The fire door must close and latch automatically in order to limit the spread of smoke and fire into other parts of the building. During daytime the normal use of fire doors requires the doors to remain open.

**ABLOY®** fire door closing systems guarantee easy access and convenience for use in the day time as well as maximum security in the event of fire. **ABLOY®** fire door closing systems are composed of reliable and compatible components that enable building up a safe, individual solution for each application.

## FUNCTION OF FIRE DOOR CLOSING SYSTEMS

If fire doors are held open they must close in the break out of a fire to retain smoke and flames and prevent the fire from spreading throughout the building. The smoke detector (1) reacts to smoke and activates the alarm to the hold open device of the door (2). The door closer (3) closes and latches the door into closed position. The fire alarm central panel or the fire detector (in a single door system) can activate the alarm.



When ordering, please specify

- Product number (including arm and sliding rail) and colour for the fire door closing system (including arm and sliding rail) e.g. FD481 silver
- Product number for the door closer e.g. DC860



# ABLOY® CONCEALED FIRE DOOR CLOSING SYSTEMS

*“Designed for places that require aesthetic and flexible use”*



## ABLOY® FD480 ELECTROMECHANICAL HOLD-OPEN DEVICE FOR SINGLE DOOR

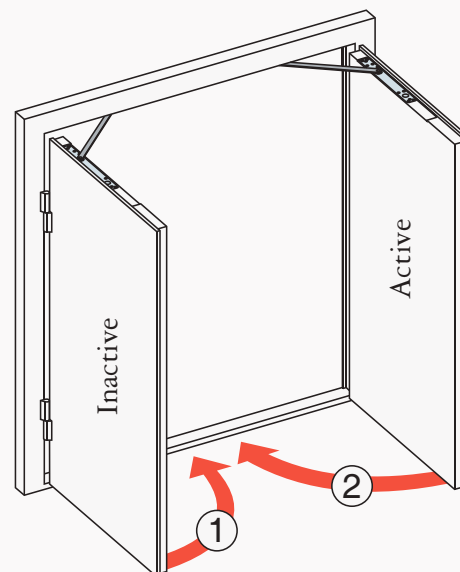
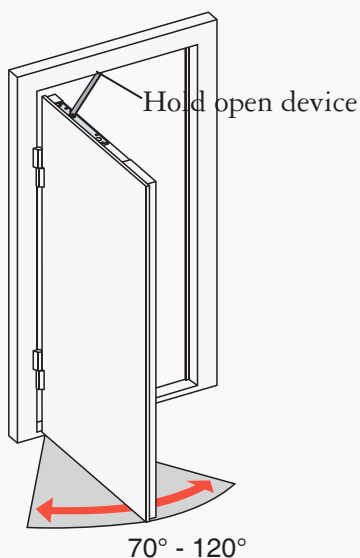
FD480 is applicable for places, where fire doors are constantly kept open. Applications for FD480 are hotels, office buildings and fire doors where hold open function is needed. The maximum door width is 1400 mm.

Fire door is held open by FD480 at the selected angle. When power is switched off, e.g. when smoke detectors react to smoke, the door closes. The hold open angle for the door can be adjusted from 70° to 120°. Hold-open device has adjustable hold-open function. Current consumption 1 x 60 mA (24 VDC).

## ABLOY® FD481 MECHANICAL DOOR COORDINATOR FOR DOUBLE DOORS

FD481 is useful in applications where doors are normally kept closed and the active door is used as a passage door. FD481 is designed for double doors with hinge distance 1350 - 2800 mm.

FD481 mechanical coordinator keeps the active door open when inactive door is open. Active door starts to close when the inactive door is almost closed. After active door is closed it latches the inactive door.



# ABLOY® CONCEALED FIRE DOOR CLOSING SYSTEMS

*“Advanced fire door closing systems for double doors”*



## ABLOY® FD482 FOR DOUBLE DOORS WITH COORDINATOR AND TWO ELECTROMECHANICAL HOLD-OPEN DEVICES

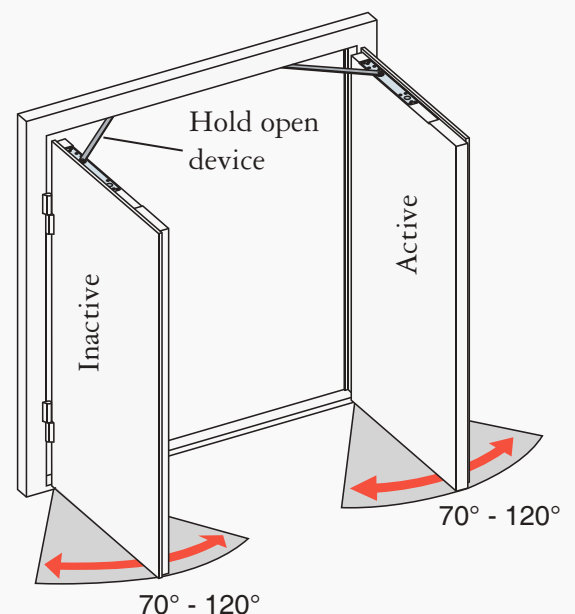
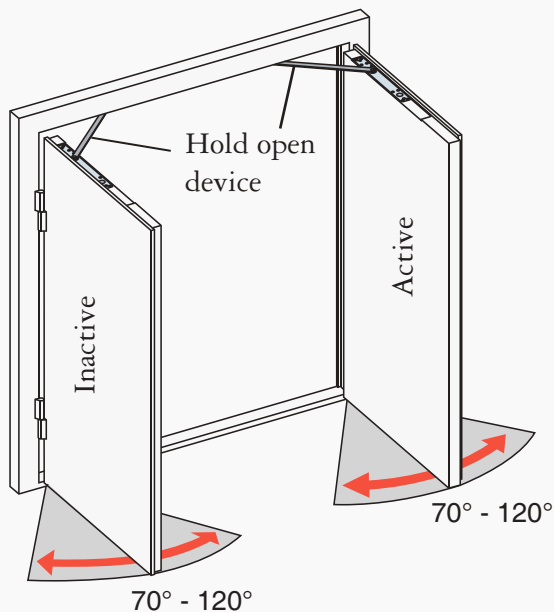
FD482 is designed for places that requires flexible use. Two hold-open devices provide possibility to keep either only the active door or both door leaves open. FD482 is designed for double doors with hinge distance 1350-2800 mm.

The doors are held open by the hold-open devices at the selected angle. When the power is switched off, e.g. when the smoke detectors react to smoke, the inactive door closes first and when it is almost closed, the active door starts to close. Hold-open angle for both doors can be adjusted from 70° to 120°. Current consumption 2 x 60 mA (24 VDC).

## ABLOY® FD484 FOR DOUBLE DOORS WITH COORDINATOR AND ELECTROMECHANICAL HOLD-OPEN DEVICE

FD484 is designed for example hotels and hospital corridors, where both door leaves are usually kept open. FD484 is designed for double doors with hinge distance 1350-2800 mm.

In normal day use both doors are open. The hold open angle for inactive door can be adjusted from 70° to 120°. The hold-open device keeps the inactive door open whereas the coordinator keeps the active door open. When the power is switched off, e.g. when the smoke detectors react to smoke, the inactive door closes first and when it is almost closed, the active door starts to close. Hold-open device include adjustable hold-open force. Current consumption 1 x 60 mA (24 VDC).





# ABLOY® FIRE DOOR CLOSING SYSTEMS

*Maximum security*



# ABLOY® FIREDOOR CLOSING SYSTEMS

## *Maximum security and easy access*

**ABLOY®** high security products are well known and highly respected all over the world. Every item in our wide product range represents top quality and superior performance. Our long extensive experience and expertise combined with customer-oriented research and development ensure a wide range of solutions for the varying demands of different door environments.

Our global network of sales offices and distributors will help you to choose the right products to increase security and convenience in your specific application. The function and features offered by **ABLOY®** fire door closing systems give you convenient operation, simple installation as well as ease of adjustment and maintenance.

*Individual solution for each application*  
*Slim design*   *Simplified installation*  
*Wide range of colours*



### When ordering, please specify

- Product number and colour for the fire door closing system e.g. FD460 Silver (FD460 series includes arm and sliding rail)
- Product number and colour for the door closer e.g. DC250 Aluminium
- Product number and colour for the mounting plate e.g. DC115 White
- Product number and colour for the closing side accessory kit FD120 White, if needed



## Security in the event of fire

It is vital for fire doors to close in the case of fire. The fire door must close and latch automatically in order to limit the spread of smoke and fire into other parts of the building. During daytime the normal use of fire doors requires the doors to remain open.

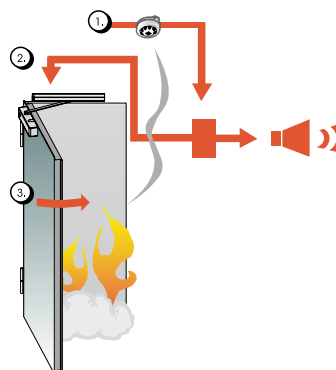
**ABLOY®** fire door closing systems guarantee easy access and convenience for use in the day time as well as maximum security in the event of fire.

**ABLOY®** fire door closing systems are composed of reliable and compatible components that enable building up a safe, individual solution for each application.

**ABLOY®** fire door closing systems are CE certified. Our products are available with wide variety of standard colours as well as all RAL-colours.

## FUNCTION OF FIRE DOOR CLOSING SYSTEMS

If fire doors are held open they must close in the break out of a fire to retain smoke and flames and prevent the fire from spreading throughout the building. The smoke detector (1) reacts to smoke and activates the alarm to the hold open device of the door (2). The door closer (3) closes and latches the door into closed position. The fire alarm central panel or the fire detector (in a single door system) can activate the alarm.



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### COLOURS (Door closers, arms and mounting plates)

White (RAL 9010)



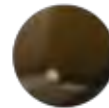
Aluminium (RAL 9006)



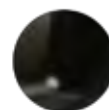
Brass



Brown (RAL 8014)



Black (RAL 9005)



### METAL COVERS

Stainless Steel



# ABLOY® FD440



## ABLOY® FD440 FREESWING SOLUTION FOR SINGLE DOOR

**ABLOY®** FD440 is particularly useful for applications where the door is in frequent use and the opening resistance of a standard door closer may be too heavy, such applications are kindergartens, schools, retirement homes and day centres.

**ABLOY®** FD440 incorporate adjustable closing force sizes EN 2-6 with standard arm FD499. When installed with FD499 arm, the maximum door weight is 120 kg and door width 1400 mm. Adjustable closing force size EN3-4 with sliding free swing arm FD494. When installed with FD494 arm, the maximum door weight is 80 kg and door width 1100 mm.

### PRODUCTS

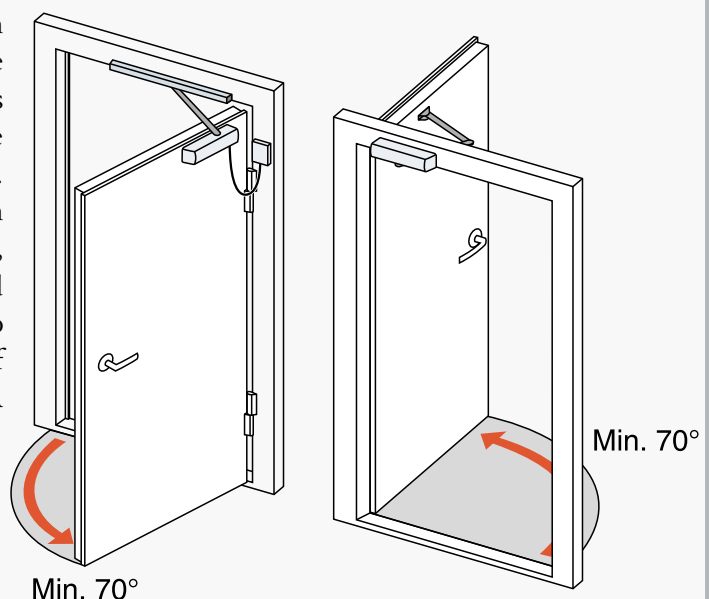
- **ABLOY®** FD440
- Arm type FD494 or FD499
- Power supply EA701 or control unit 7400
- Door release button 7462

If needed:

- Optical smoke detector FD600 2 pcs or heat detector FD602 2 pcs
- FD140 connection box for opening side installation

### FUNCTION

When freeswing arms are used and power is on the first door opening, the opening resistance is like with a normal door closer. The door is opened to the desired angle to determine the opening angle for later use (min. approx. 70°). After the first opening, the freeswing function enables the door to be opened and closed freely, without resistance. When the power is switched off, i.e. when the smoke detectors react to smoke, the FD440 closes the door regardless of the door position. Current consumption 90 mA (24 VDC).



# ABLOY® FD460



## ABLOY® FD460 ELECTROMECHANICAL HOLD OPEN DEVICE FOR SINGLE DOOR

**ABLOY®** FD460 is a small and aesthetic electromechanical hold open device system with a sliding arm. It is applicable for places, where fire doors are constantly kept open. The door is kept open at a selected angle. If fire breaks out, the door is closed, preventing smoke and flames from spreading. Applications for FD460 are hotels, office buildings and other fire doors where hold open function is needed.

The maximum door leaf width is 1400 mm and the maximum door weight 120 kg. **ABLOY®** FD460 is recommended to be used with CAM closers. FD460 is CE certified according EN 1155.

### PRODUCTS

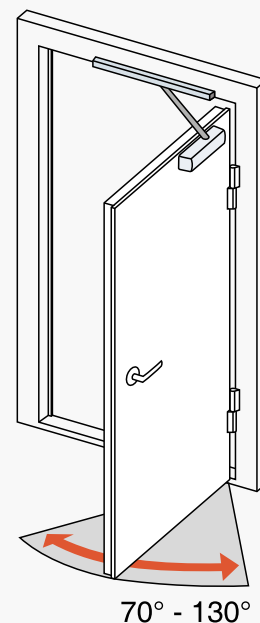
- **ABLOY®** FD460
- Door Closer DC250 / DC330
- Power supply EA701 or control unit 7400
- Door release button 7462

If needed:

- Optical smoke detector FD600 2 pcs or heat detector FD602 2 pcs.

### FUNCTION

The door is held open by hold open device in the selected angle. When power is switched off, e.g. when smoke detectors react to smoke, the door closes. Hold open angle can be adjusted from 70° up to 130°. Hold open device has adjustable hold open force. Current consumption 60 mA (24 VDC).



# ABLOY® FD461



## ABLOY® FD461 MECHANICAL COORDINATOR FOR DOUBLE DOORS

**ABLOY®** FD461 is a stylish and small mechanical coordinator for double doors. FD461 is useful in applications where doors are normally kept closed. The coordinator is integrated inside the covered sliding rails which protects the coordinator from abuse e.g. in schools. FD461 is suitable for all kinds of double doors e.g. entrance halls in office and commercial buildings.

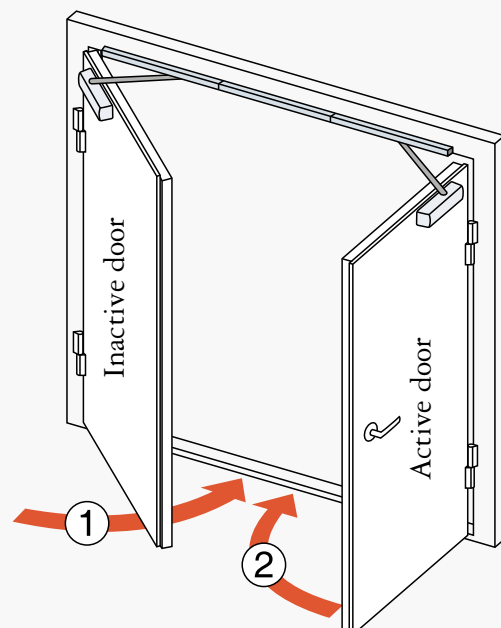
**ABLOY®** FD461 is suitable for double doors with hinge distance 1250-2800 mm and maximum door leaf weight of 120 kg. FD461 is recommended to be used with CAM closers. FD461 is CE certified according EN1158.

## PRODUCTS

- **ABLOY®** FD461
- Door Closers DC250/DC330 2 pcs
- Flush bolt FD108 2 pcs
- Accessory set FD120 for closing side installation
- Carry bar FD101 or FD102

## FUNCTION

FD461 mechanical coordinator keeps the active door open when inactive door is open. Active door starts to close when the inactive door is almost closed. After the active door is closed it latches the inactive door. FD120 must be used with closing side installations.



# ABLOY® FD462



## ABLOY® FD462 COORDINATOR AND TWO ELECTROMECHANICAL HOLD OPEN DEVICES

**ABLOY®** FD462 is a small, aesthetic fire door closing system with a sliding arm, a built-in coordinator and two electromechanical hold open devices for double doors. FD462 has been designed for places that require flexible use. Two electromechanical hold open devices provide possibility to keep either only the active door or both door leaves open.

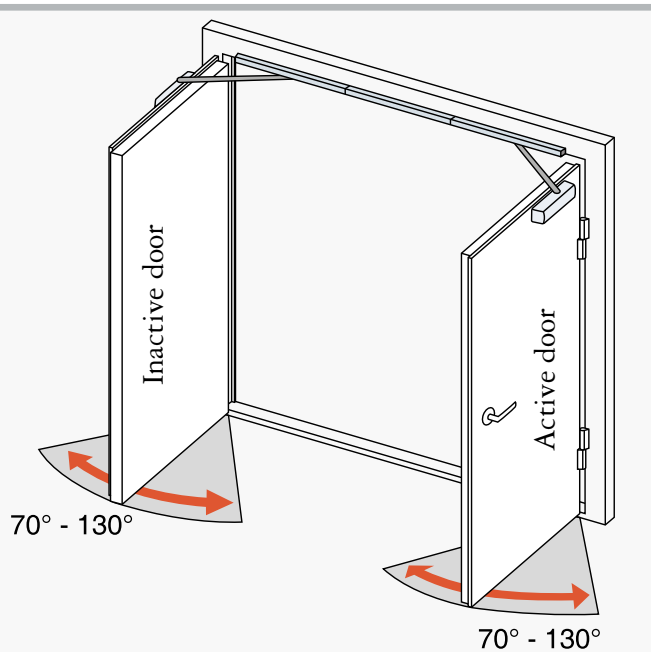
**ABLOY®** FD462 is designed for double doors with hinge distance 1250-2800 mm and maximum door leaf weight 120 kg. FD462 is recommended to be used with CAM closers. FD462 is CE certified according EN1155 and EN1158.

### PRODUCTS

- **ABLOY®** FD462
- Door Closers DC250/330 2 pcs
- Power supply EA701 or control unit 7400
- Door release button 7462
- Optical smoke detector FD600 2 pcs or heat detector FD602 2 pcs
- Flush bolt FD108 2 pcs
- Accessory set FD120 for closing side installation
- Carry bar FD101 or FD102

### FUNCTION

With FD462 the normal day use is convenient because both door leaves can be used independently. Only the active door or both door leaves can be kept open. The mechanical coordinator keeps the active door open when inactive door is open. When the power is switched off, i.e. when the smoke detectors react to smoke, the inactive door closes first and when it is almost closed, the active door starts to close. After the active door is closed it latches the inactive door. Hold open angle for both doors can be adjusted from 70 to 130 degrees. The Hold open devices include adjustable hold open force. Current consumption 120 mA (24 VDC). FD120 must be used with closing side installation of FD462.



# ABLOY® FD464



## ABLOY® FD464 COORDINATOR WITH ONE ELECTROMECHANICAL HOLD OPEN DEVICE

**ABLOY®** FD464 is a small, aesthetic fire door closing system with a sliding arm, one hold open device and the built-in coordinator for double doors. The applications for FD464 are for example hotels and hospital corridors, where both doorleaves are usually kept open.

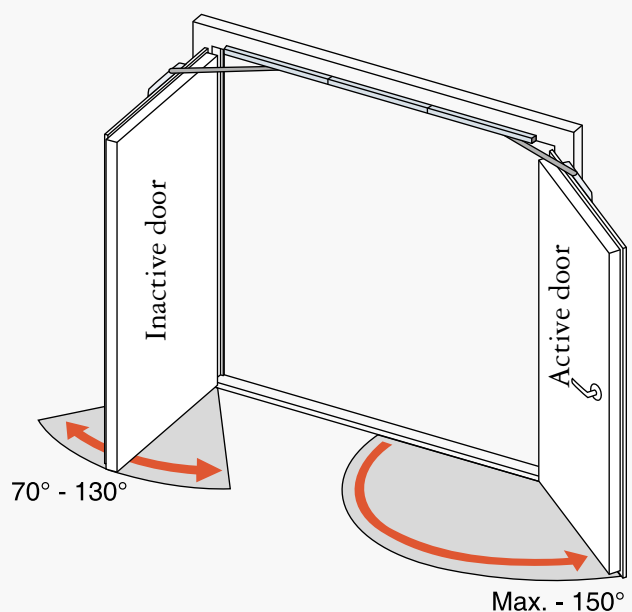
**ABLOY®** FD464 is designed for double doors with hinge distance 1250-2800 mm and maximum door leaf weight 120 kg. FD464 is recommended to be used with CAM closers. CE certified according EN1155 and EN1158.

## PRODUCTS

- FD464
- Door closers DC250/DC330 2 pcs
- Power supply EA701 or control unit 7400
- Door release button 7462
- Optical smoke detector FD600 2 pcs or heat detector FD602 2 pcs
- Flush bolt FD108 2 pcs
- Accessory set FD120 for closing side installation
- Carry bar FD101 or FD102

## FUNCTION

In normal day use both doors are open. The hold open angle for inactive door can be adjusted 70-130 degrees. The hold open device keeps the inactive door open whereas the coordinator keeps the active door open. The maximum hold angle for the active door is 150°. When the power is switched off, i.e. when the smoke detectors react to smoke, the inactive door closes first and when it is almost closed, the active door starts to close. Hold open device includes adjustable hold open force. Current consumption 60mA (24 VDC). FD120 must be used with closing side installations of FD464.







# Door closers

## Technical information

**ASSA ABLOY**

The global leader in door opening solutions.

## Come closer!

### ASSA ABLOY door closers

Come closer and learn about the new door closers from ASSA ABLOY.

#### For a whole range of applications and door types

ASSA ABLOY's door closers are ideal for a wide range of situations – from private homes to the commercial or public sector and for heavy or lightweight doors. The modular design simplifies planning, while the intelligent setting adjustment and installation features ensure easy installation. The door closer range is a joint development between companies in the ASSA ABLOY Group.

#### Advantages in brief

- Cam-motion® technology for optimum convenience in opening doors
- A single Cam-Motion® closer design for all four mounting positions
- Invisible mounting plate for all models
- Height-adjustable axis
- Height-adjustable guide rail
- Adjustable starting point for latching speed and backcheck
- Uniform mounting points
- Smoke detector harmoniously integrated into the guide rails
- Traversable, electromechanical hold open device
- Contemporary, uniform design
- Unrestricted functionality even in the event of extreme temperature fluctuations

#### Invisible mounting plate



#### Height-adjustable axis



#### Adjustable backcheck



#### Height-adjustable guide rail



#### Adjustment settings easily made

A door is exposed to various stresses on a daily basis: operation by its users, temperature fluctuations, air humidity.

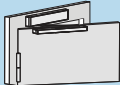
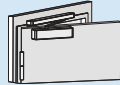
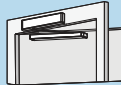

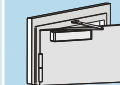
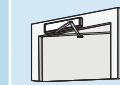
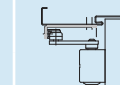
The door hinge wears out, the door “settles” and the door’s closing performance can deteriorate. ASSA ABLOY door closers can be easily adapted to any changes in structural or usage conditions after being installed. ASSA ABLOY door closers simplify adjustments during the mounting process with clever functions. Installation tolerances can be compensated without special components thanks to the height-adjustable axis. Height compensation of 14mm takes all structural conditions into account. The arm height can be adjusted quickly and easily and the closing function is set up optimally.

## ASSA ABLOY door closers

## Overview of functions and mounting positions

PRODUCT NAME	DOOR CLOSERS WITH GUIDE RAILS						CONCEALED DOOR CLOSERS	
	DC700	DC700G-FT	DC640	DC500	DC340	DC130	DC860	DC840
Cam Motion® Technology	✓	✓		✓			✓	✓
ASSA ABLOY Unigue Design	✓	✓	✓	✓	✓	✓	✓	✓
<b>CLOSING FORCE</b>	3-6	3-6	3-4	1-4	1-4	3	1-5	1-4
EN1 (≤750mm)				✓	✓		✓	✓
EN2 (≤850mm)		✓		✓	✓		✓	✓
EN3 (≤950mm)	✓	✓	✓	✓	✓	✓	✓	✓
EN4 (≤1100mm)	✓	✓	✓	✓	✓		✓	✓
EN5 (≤1250mm)	✓	✓					✓	
EN6 (≤1400mm)	✓							
Fire protection doors (≥ EN3)	✓	✓	✓	✓	✓	✓	✓	✓
Recommended for exterior doors	✓	✓					✓	
1-leaf doors	✓	✓	✓	✓	✓	✓	✓	✓
1-leaf doors with el.mech. HO (EN1155)	✓						✓	✓
2-leaf doors (EN1158)	✓						✓	✓
2-leaf doors with el.mech. HO (EN1155/EN1158)	✓						✓	✓
Free swing (EN1155)			✓					
Tandem application								
Double action doors								
<b>FUNCTIONS</b>								
Closing speed adjustable	✓	✓	✓	✓	✓	✓	✓	✓
Latching speed adjustable	✓	✓	✓	✓	✓	✓	✓	✓
Backcheck	✓	✓	✓	✓	✓	✓		
Delayed Action	o				o			
Spindle height adjustable (0-14 mm)	✓	✓	✓	✓	✓			
Spindle extension							✓	✓
Hold Open mechanical (not for fire doors)	o			o	o	o	o	o
Thermodynamic valves	✓	✓	✓	✓	✓	✓	✓	✓
Max. opening angle	180°	170°	180°	170°	180°	180°	120°	120°
Glass door application	✓			✓				
Non-handed (left/right)	✓	✓	✓	✓	✓	✓	✓	✓
EN1154	✓	✓	✓	✓	✓	✓	✓	✓
EN1158	✓						✓	✓
EN1155	✓		✓				✓	✓
CEN/TR 15894	✓	✓		✓			✓	✓
<b>PAGE</b>	x-x	x-x	x-x	x-x	x-x	x-x	x-x	x-x

✓: standard o: option CE: all products are CE marked

ASSA ABLOY door closers – mounting positions			GUIDE RAIL				LINK ARM		
			Hinge side Frame mounting	Hinge side Door leaf mounting	Non-Hinge side Frame mounting	Non-Hinge side Door leaf mounting	Hinge side Door Leaf mounting	Non-Hinge side Frame mounting	Non-Hinge side door leaf mounting (parallel arm inst.)
Type	Technology	EN							
DC700	Cam-Motion®	3-6	✓	✓	✓	✓			
DC700G-FT	Cam-Motion®	3-6		✓		✓(BGS)			
DC500	Cam-Motion®	1-4	✓	✓	✓	✓			
DC640	R&P Free-swing	3-6	✓ (EN 3-4)	✓ (EN 3-4)	✓ (EN 3-4)		✓	✓	
DC340	Rack & Pinion	2-6		✓ (EN 1-4)	✓ (EN 1-4)		✓	✓	
DC347	Rack & Pinion	5-7					✓	✓	
DC300	Rack & Pinion	3-6					✓	✓	✓
DC300 Tandem	Rack & Pinion	> 7					✓	✓	
DC200	Rack & Pinion	2-4					✓	✓	✓
DC140	Rack & Pinion	2/3/4/5					✓	✓	✓
DC130	Rack & Pinion	3					✓		
DC120	Rack & Pinion	2/3/4					✓	✓	✓

## ASSA ABLOY door closers

## Overview of functions and mounting positions

PRODUCT NAME	DOOR CLOSERS WITH LINK ARM							FLOOR SPRINGS			
	DC640	DC347	DC340	DC300	DC200	DC140	DC120	DC477	DC475	DC460	DC420
Cam Motion® Technology								✓	✓	✓	✓
ASSA ABLOY Unigie Design	✓	✓	✓	✓	✓	✓		✓	✓	✓	✓
<b>CLOSING FORCE</b>	3-6	5-7	2-6	3-6	2-4	2/3/4/5	2/3/4	2-4	3-6	2 or 3 or 4	2 or 3 or 4
EN1 (≤750mm)											
EN2 (≤850mm)			✓		✓	✓	✓	✓ (170kg)	✓ (300kg)	✓ (120kg)	✓ (100kg)
EN3 (≤950mm)	✓		✓	✓	✓	✓	✓				
EN4 (≤1100mm)	✓		✓	✓	✓	✓	✓				
EN5 (≤1250mm)	✓	✓	✓	✓		✓					
EN6 (≤1400mm)	✓	✓	✓	✓							
EN7 (≤1600mm)		✓									
Fire protection doors (≥ EN3)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Recommended for ext. doors		✓	✓	✓				✓	✓		
1-leaf doors	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
1-leaf doors with el.HO (EN1155)											
2-leaf doors (EN1158)											
2-leaf doors with el.HO (EN1155 / EN1158)											
Free swing (EN1155)	✓										
Tandem application				✓							
Double action doors								✓	✓	✓	✓
<b>FUNCTIONS</b>											
Closing speed adjustable	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Latching speed adjustable	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Backcheck adjustable	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	
Delayed Action			o	o							
Spindle height adjustable (0-14 mm)	✓	✓	✓	✓	✓						
Spindle extension								✓	✓	✓	✓
Hold Open mechanical (not for fire doors)		o	o	o	o	o	o	o	o	o	o
Thermodynamic valves	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Max. opening angle	180°	180°	180°	180°	180°	180°	180°	175°	175°	130°	175°
Glass door application				✓	✓			✓	✓	✓	✓
Non-handed (left/right)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN1154	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
EN1158											
EN1155	✓										
CEN/TR 15894									✓		✓

✓: standard o: option CE: all products are CE marked

# ASSA ABLOY door closers

## use state-of-the-art technology

**Explanation of standards:**

**Safe in an emergency**

You'll be on the safe side with ASSA ABLOY, since our door closers meet national and international provisions and regulations.

Smoke protection and fire doors may only be fitted with door closer systems complying with EN1154/ EN1155/EN1158..

ASSA ABLOY supplies approved door closer systems for single and double leaf smoke and fire doors with different usage requirements.

**EN 1154**

This standard specifies the technical requirements, including those for fire and smoke protection doors, for hand-operated door closing devices on swing doors

with a controlled closing cycle, for which the closing energy is applied by the user when opening the door.

**EN 1155**

This standard specifies the requirements for stand-alone hold open devices or those built into door closers which may be used on fire and smoke protection doors.

**EN 1158**

This standard specifies requirements for both separately mounted door coordinator devices and door coordinator mechanisms incorporated in door closers. There are additional requirements for devices for use on fire/ smoke door assemblies included.

EN 1154:  
Controlled door closing devices.  
Overview recommended door closer data.

Door closer EN size	Recommended door leaf width mm max.	Closing torque between 0° and 4°		Opening torque between 0° and 60° Nm max.
		Nm min.	Nm max.	
1	750	9	13	26
2	850	13	18	36
3	950	18	26	47
4	1,100	26	37	62
5	1,250	37	54	83
6	1,400	54	87	134
7	1,600	87	140	215

Example and explanation of CE marking on Door Closer DC300 in accordance with DIN EN1154:

The diagram shows a CE mark with the following information:
 

- CE mark**: The CE symbol itself.
- Manufacturer & address**: ASSA ABLOY Sicherheitstechnik GmbH, Bildstockstraße 20, 72458 Albstadt.
- Year of issue for CE mark**: 10 (the last two figures).
- Certification centre number**: 1162-CPD-0485.
- Standard for door closer**: EN1154:1996+A1:2002.
- Dangerous substances**: None.
- Door closer classification**: 4 8 3/6 1 1 4.

**\* Explanation of classification key**

- 4 = Closing of doors from open position of 180°
- 8 = Endurance test of 500,000 test cycles
- 3/6 = Door closer size 3-6
- 1 = Suitable for use with fire and smoke protection doors
- 1 = Meets key requirements for safe usage
- 4 = Very high corrosion resistance

# The door closer matrix

Use this table to find the right door closer for your requirements

Single leaf door systems		Single leaf doors up to 1,100 mm	Single leaf doors up to 1,400 mm	Single leaf doors up to 1,400 mm hold-open function	Single leaf doors up to 1,400 mm smoke detector
Guide rail	Hinge side	DC500, DC 340 (DA), DC130 (950 mm)	DC700	DC700G-E, DC700/G460	DC700G-S
	Non-hinge side	DC500, DC 340 (DA), DC130 (950 mm)	DC700	DC700G-E, DC700/G460	DC700G-S
Concealed		DC840 (950 mm)	DC860 (1,250 mm)	DC860/G880 (1,250 mm)	
Rack and pinion	Hinge side	DC200, DC120	DC140 (1,250 mm), DC347 (1600 mm), DC 340 (DA), DC300 Tandem, DC300 (DA)		
	Non-hinge side	DC200, DC120	DC140 (1,250 mm), DC347 (1600 mm), DC340 (DA), DC300 Tandem, DC300 (DA)		
Floor spring		DC477, DC420, DC460	DC475		
Free swing		DC640 (guide rail)	DC640 (link arm)		
Security door closer	Hinge side	DC700G-FT (1,200 mm)			
	Non-hinge side	DC700G-FT BGS (1,200 mm)			

Double leaf door systems		Double leaf doors up to 2,800 mm	Double leaf doors up to 2,800 mm hold-open function	Double leaf doors up to 2,800 mm smoke detector
Guide rail	Hinge side	DC700G-CO, DC700/G461	DC700G-CO-E, DC700/G462, DC700/G464	DC700G-CO-S
	Non-hinge side	DC700/G461	DC700/G462, DC700/G464	
Concealed		DC860/G881 (2,500 mm)	DC860/G884, DC860/G882 (2,500mm)	

This overview will help you to find the right closer system for your usage requirements with rapidly decreasing opening torque thanks to Cam-Motion®.

All mounting positions with a guide rail door closer



Normal mounting on hinge side



Frame mounting on hinge side

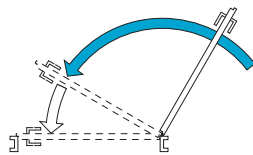


Normal mounting on non-hinge side

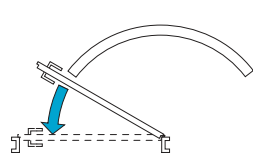


Frame mounting on non-hinge side

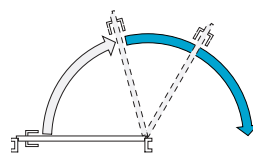
Description of adjustable functions:



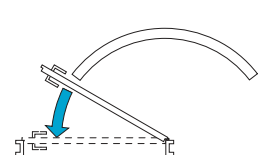
**Closing speed**  
Speed of door leaf during closing.



**Latching speed**  
Speed of closing door leaf at opening angles between 0° and 15° until it reaches its closed position.



**Backcheck**  
Opening motion is hydraulically slowed down from an opening angle of about 75°.



**Closing delay**  
Delay in the closing speed between about 120° and 70°.

# ASSA ABLOY Cam-Motion® technology

## For improved accessibility and reliable closing

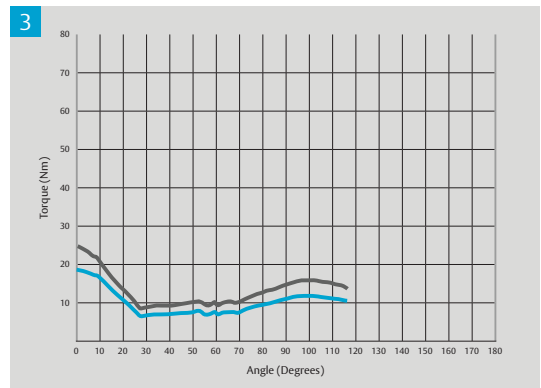
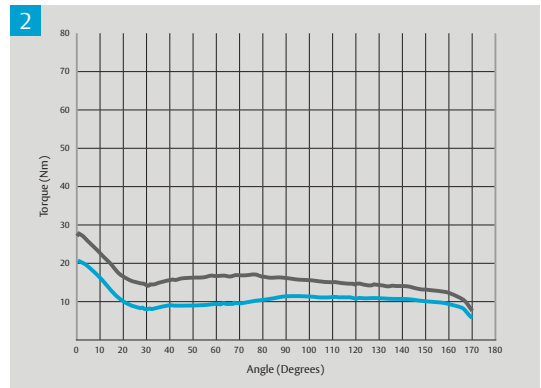
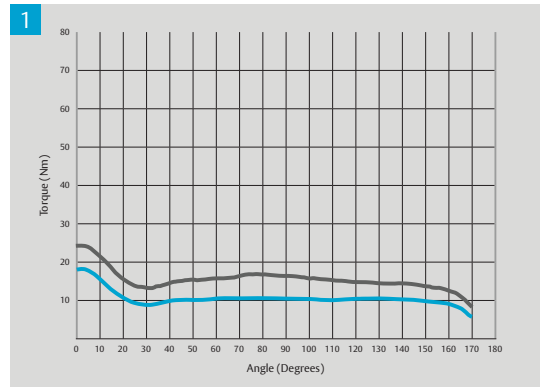
Torque curves:  
 1 Model DC700  
 2 Model DC500  
 3 Model DC840

The graphs demonstrate the most important advantage of ASSA ABLOY Cam-Motion® door closers, which is the rapidly decreasing opening force.

The accessibility is improved due to the rapidly decreasing opening force which enables easier and more comfortable opening of the doors by children, the elderly and the less able, as the closing moment of the door can be easily overcome.

However, this may be only half the story. If the door is a fire door, then according to EN 1154 the minimum door closer power setting must be size 3, and the minimum closing torque requirement is 18Nm. Again, as can be seen, the ASSA ABLOY Cam-Motion® door closers comply with this requirement, ensuring that the door sits firmly in the frame preventing the spread of fire and smoke.

It is the superior design and engineering excellence of ASSA ABLOY's high efficiency Cam-Motion® door closers that permit the co-existence of improved door opening for accessibility, whilst retaining reliable door closing for fire and smoke control



Black line: Opening torque  
 Blue line: Closing torque

## DC700

## Door closer with Cam-Motion® technology and guide rail



## ASSA ABLOY DC700

- Available with height-adjustable guide rail G195 or standard guide rail G193
- Fulfills barrier-free building requirements (CEN TR 15894)
- Certified in compliance with EN 1154, size 3-6
- Suitable for fire and smoke protection doors
- For single action doors up to 1400 mm wide
- Can be used in four installation types: hinge and non-hinge sides in standard and frame installation



CE	Abloy OY PO Box 108 80101 Joensuu, Finland	13
	1162-CPD-0630 EN 1154:1996+A1:2002	3 8 $\frac{6}{3}$ 1 1 4

CE	Abloy OY PO Box 108 80101 Joensuu, Finland	13
	1162-CPD-0631 EN 1154:1996+A1:2002	4 8 $\frac{6}{3}$ 1 1 4

## Characteristics for DC700

- Can be used with integrated concealed mounting plate, suitable for fire and smoke protection doors
- Can be used for left and right-handed doors
- Axis continuously height adjustable up to 14 mm
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Thermodynamic valves for consistent performance
- Variable adjustable closing force
- Opening angle up to 170°
- Effective backcheck and latching speed range adjustable
- Large range of applications
- Standard colours: silver EV1; white, similar to RAL9016; brown, similar to RAL8014; black, similar to RAL9005, stainless steel
- Customised finishes available on request

## Characteristics for special model DC700AC

- Opening angle of 180° for standard installation on hinge side
- Other features as in Model DC700

## Characteristics for special model DC700DA

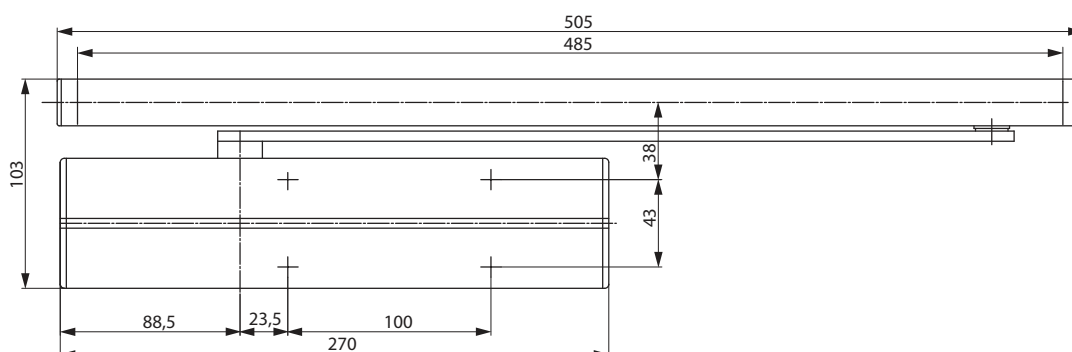
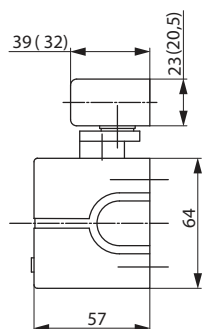
- Delayed closing adjustable from front
- Other features as in Model DC700

## Characteristics for guide rail G195

- Height-adjustable by 2 mm for tolerance
- Concealed fastening screws
- Installation dimensions: see diagram

## Characteristics for standard guide rail G193

- Without protective cover
- Visible fastening screws
- Installation dimensions: see diagram (dimensions in brackets)





# DC700

## Technical attributes

Technical attributes	
Variable adjustable closing force	EN 3-6
Door width up to	1400 mm
Fire and smoke protection	yes
DIN door swing directions	left / right handed
Standard and frame installation	yes
Closing speed	Variable between 170°-10°
Latching speed	Variable between 10°-0°
Backcheck	Variable above 75°
Opening angle, hinge side (DC700)	ca. 170°
Opening angle, hinge side (DC700AC)	180°
Opening angle non-hinge side	ca. 120°
Delayed closing (DC700DA)	variable 120° - 70°
Weight	2.7 kg
Height	64 mm
Depth	57 mm
Length	270 mm
Certified in compliance with	EN 1154
CE marking for building products	yes

### The advantages at a glance

Our service for you: here you can see the individual advantages of our door closer models for your respective field of business.

Customer segment	Advantages
Project planners	<ul style="list-style-type: none"> <li>- Extensive range of uses: Fire and smoke protection doors as well as standard doors</li> <li>- Modern design</li> <li>- Compact design</li> <li>- Fulfils barrier-free building requirements (DDA, CEN/TR 15894)</li> <li>- Same dimensions and design with and without mounting plate</li> <li>- Comprehensive functions, standard and optional</li> </ul>
Builders	<ul style="list-style-type: none"> <li>- One drilling template overall</li> <li>- Adjustable to nearly all door and frame types</li> <li>- Quick and easy installation</li> <li>- Quickly and easily adjustable</li> <li>- Suitable for left and right handed doors for standard and frame mounting on hinge and non-hinge side</li> </ul>
Trade	<ul style="list-style-type: none"> <li>- Reduced inventory costs due to modular product range</li> <li>- One single product suitable for a large variety of mounting positions</li> <li>- Complementary accessories available for the whole product range</li> </ul>
User	<ul style="list-style-type: none"> <li>- Largely unaffected by temperature fluctuations thanks to thermodynamic valves</li> <li>- Easier door opening and improved accessibility due to rapidly decreasing torque</li> <li>- Backcheck feature offers optimum protection for doors and walls</li> </ul>

### Specifications for DC700

ASSA ABLOY Door Closer DC700 with Cam-Motion® technology and guide rail in compliance with EN 1154

- Closing power adjustable, EN size 3-6, for doors up to 1400 mm wide
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Can be used with integrated concealed mounting plate, suitable for fire and smoke protection doors
- CE approved
- 14 mm height adjustable arm system for ease of fitting
- Standard and frame mounting on hinge and non-hinge side of the door
- Suitable for left and right handed doors

#### Accessories:

- Standard guide rail G193
- Height-adjustable guide rail G195
- Mounting plate A120
- Mounting plate A130 for guide rail G193 and G195
- Angle bracket A104 for guide rail G193
- Mechanical opening damper A153
- Mechanical hold open device A152 (not for fire and smoke protection doors)
- Glass door shoe A166

#### Colour:

- Silver EV1
- White, similar to RAL9016
- Brown, similar to RAL8014
- Black, similar to RAL9005
- Stainless steel
- Customised finish

You can find the complete specifications on the Internet at: (Link of your companies homepage)

## DC700G-E

### Door closer with Cam-Motion® technology and electro-mechanical hold-open device



#### ASSA ABLOY DC700G-E

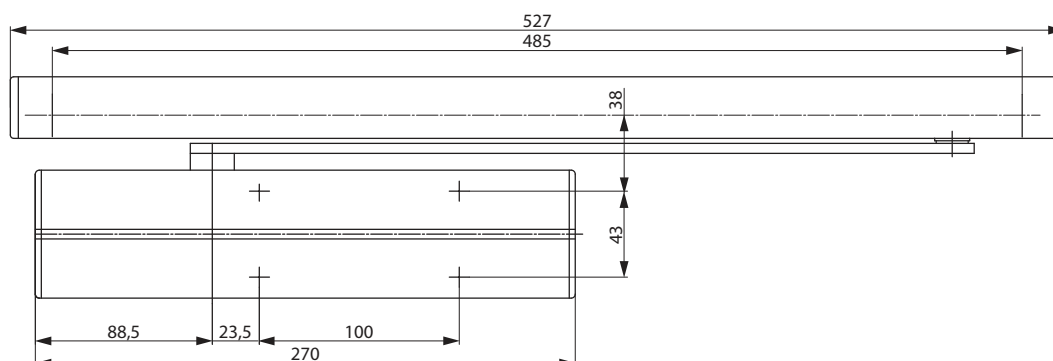
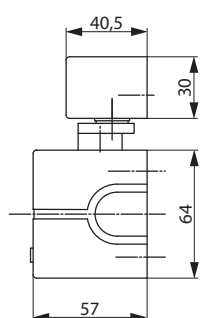
- Certified in compliance with EN 1154/1155, size 3-6
- Hold-open angle continuously adjustable between ca. 80° and 130°
- Hold-open device is traversable
- For fire and smoke protection doors up to 1400 mm
- Fulfills barrier-free building requirements (DDA/ CEN TR 15894)
- DIBt approval with different smoke detection systems

#### Characteristics for DC700G-E

- Electro-mechanical hold-open device
- Supply line 24 V DC, flush or surface mounting
- Continuously adjustable holding force
- Traversable hold-open device, continuously adjustable between ca. 80°-130°
- Can be used for left and right-handed doors
- Standard installation types on the hinge and non-hinge side
- Same drilling template as standard guide rails
- Axis continuously height-adjustable up to 14 mm
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Thermodynamic valves for consistent performance
- Variable adjustable closing force
- Effective backcheck and latching speed range adjustable
- Large range of applications
- Entry-point in surface- and flush-mounted
- Standard colours: silver EV1, white similar to RAL9016, stainless steel
- Customised finishes available on request



CE	ASSA ABLOY Sicherheitstechnik GmbH Bildstockstraße 20 72458 Albstadt		10			
	0432-CPD-152	EN 1155:1997+A1:2002	3	8	$\frac{6}{3}$	1 1 4
Dangerous substances: None						



# DC700G-E

## Technical attributes

### Guide rail G-E

Technical attributes	
Power supply	24 V DC
Continuous duty	100 % ED
Class of protection	IP 43
Weight	1.1 kg
Height	30 mm
Depth	40.5 mm
Length	527 mm
Fire and smoke protection	Yes
CE marking for building products	yes
Certified in compliance with	EN 1155

Facts for door closer see DC700

### The advantages at a glance

Our service for you: here you can see the individual advantages of our door closer models for your respective field of business.

Customer segment	Advantages
Project planners	- Extensive range of uses: Fire and smoke protection doors as well as standard doors - Modern design - Compact design
Builders	- One drilling template overall - Adjustable to nearly all door and frame types - Quick and easy installation - Quickly and easily adjustable - Suitable for left and right hand doors for standard mounting on hinge and non-hinge side
Trade	- Reduced inventory costs due to modular product range - One single product suitable for a large variety of mounting positions - A single model for both hinge and non-hinge side
User	- Adjustable operating force, to meet door construction requirements and user need

### Specifications for DC700G-E

ASSA ABLOY Door Closer DC700 with Cam-Motion® technology, guide rail with electro-mechanical hold-open device, 24 V DC

- Closing power adjustable, EN size 3-6, for doors up to 1400 mm wide
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Can be used with mounting plate for fire and smoke protection doors
- CE approved
- 14 mm height adjustable arm system for ease of fitting
- Standard and frame mounting on hinge and non hinge side of the door
- Suitable for left and right handed doors
- Hold-open device continuously adjustable between ca. 80° and 130°
- Hold-open device is traversable

#### Accessories:

- Guide rail G-E
- Mounting plate A131 for guide rail G-E
- Smoke detector station RZ100
- Ceiling smoke detector ORS 142 / TDS 247
- Smoke protection switch
- Optical smoke detector 60060
- Flush-mounted or surface-mounted release button

#### Colour:

- Silver EV1
- White, similar to RAL9016
- Stainless steel
- Customised finish

You can find the complete specifications on the Internet at: [\(Link of your companies homepage\)](#)

## DC700G-CO-E

# Door closer with Cam-Motion® technology, electro-mechanical hold-open device and integrated mechanical door coordinator



### ASSA ABLOY DC700G-CO-E

- Certified in compliance with EN 1155/1158, size 3-6
- Mechanical door coordinator in continuous guide rail
- Hold-open angle continuously adjustable between 80° and 130°
- Hold-open device is traversable
- All components fully integrated into continuous guide rail
- Fulfils barrier-free building requirements (DDA/ CEN TR 15894)
- For fire and smoke protection doors with hinge distance up to 2800 mm
- DIBt approval with different smoke detection systems

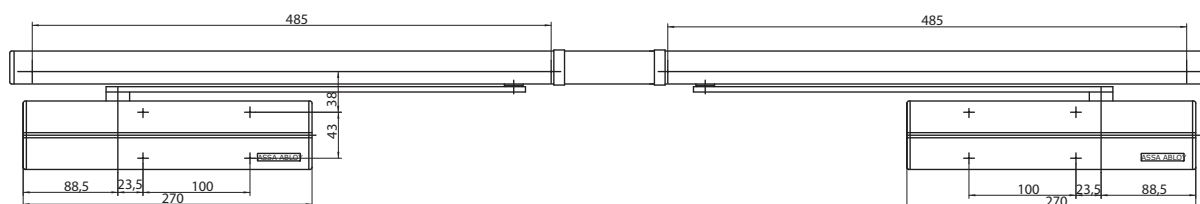
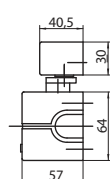
### Characteristics for DC700G-CO-E

- Door coordinator based on wedge system
- Electro-mechanical hold-open device
- Continuously adjustable holding force
- Traversable hold-open device, continuously adjustable between ca. 80°-130°
- Flush or surface installation of wiring possible, 24 V DC
- Can be used for left and right-handed doors
- For standard mounting on hinge side
- Same drilling template as standard guide rails
- Guide rail height-adjustable by 2 mm for tolerance
- Axis continuously height-adjustable up to 14 mm
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Variable adjustable closing force
- Thermodynamic valves for consistent performance
- Effective backcheck and latching speed range adjustable
- Standard colours: silver EV1, white similar to RAL9016, stainless steel
- Customised finishes available on request



CE	ASSA ABLOY Sicherheitstechnik GmbH Bildstockstraße 20 72458 Albstadt	11
	0432-CPD-152 EN 1155:1997+A1:2002	
	3 5 $\frac{6}{3}$ 1 1 4	
Dangerous substances: None		

CE	ASSA ABLOY Sicherheitstechnik GmbH Bildstockstraße 20 72458 Albstadt	11
	0432-CPD-160 EN 1158:1997+A1:2002	
	3 5 $\frac{6}{3}$ 1 1 4	
Dangerous substances: None		



# DC700G-CO-E

## Technical attributes

### Guide rail G-CO-E

Technical attributes	
Power supply	24 V DC
Continuous duty	100%
Class of protection	IP 43
Weight	4.5 kg
Height	30 mm
Depth	40.5 mm
Length	Depending on overall door width
Fire and smoke protection	Yes
Certified in compliance with	EN 1155/1158
CE marking for building products	Yes

Facts for door closer see DC700

### The advantages at a glance

Our service for you: here you can see the individual advantages of our door closer models for your respective field of business.

Customer segment	Advantages
Project planners	<ul style="list-style-type: none"> <li>- Extensive range of uses: Fire and smoke protection doors as well as standard doors</li> <li>- Modern design</li> <li>- Compact design</li> <li>- Hold-open device is traversable</li> <li>- Mechanical door coordinator for optimum functional reliability</li> </ul>
Builders	<ul style="list-style-type: none"> <li>- One drilling template overall</li> <li>- Simple, rapid installation and adjustment</li> <li>- Can be used for left and right handed doors for standard mounting on hinge side</li> <li>- Adjustable to nearly all door and frame types</li> <li>- Optimum reliability and service life for door coordinator</li> </ul>
Trade	<ul style="list-style-type: none"> <li>- Reduced inventory costs due to modular product range</li> </ul>
User	<ul style="list-style-type: none"> <li>- Adjustable operating force, to meet door construction requirements and user need</li> <li>- Optimum usage convenience thanks to controlled closing of door in correct order</li> </ul>

### Specifications for DC700G-CO-E

ASSA ABLOY door closer with Cam-Motion® technology, continuous guide rail with mechanical door selector, electro-mechanical hold-open device, EN size 3-6

- Variable adjustable closing force
- 14 mm height adjustable arm system for ease of fitting
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Can be used for left and right handed doors for standard mounting on hinge side
- Hold-open angle continuously adjustable between 80° and 130°, holding force adjustable
- Hold-open device is traversable

#### Accessories:

- Guide rail G-CO-E
- Mounting plate A160 for guide rail G-CO-E
- Smoke detector station RZ100
- Ceiling smoke detector ORS 142 / TDS 247
- Smoke protection switch
- Optical smoke detector 60060
- Flush-mounted or surface-mounted release button

#### Colour:

- Silver EV1
- White, similar to RAL9016
- Stainless steel
- Customised finish

You can find the complete specifications on the Internet at: (Link of your companies homepage)

# DC347

## Rack and pinion door closer with extra strong link arm



### ASSA ABLOY DC347

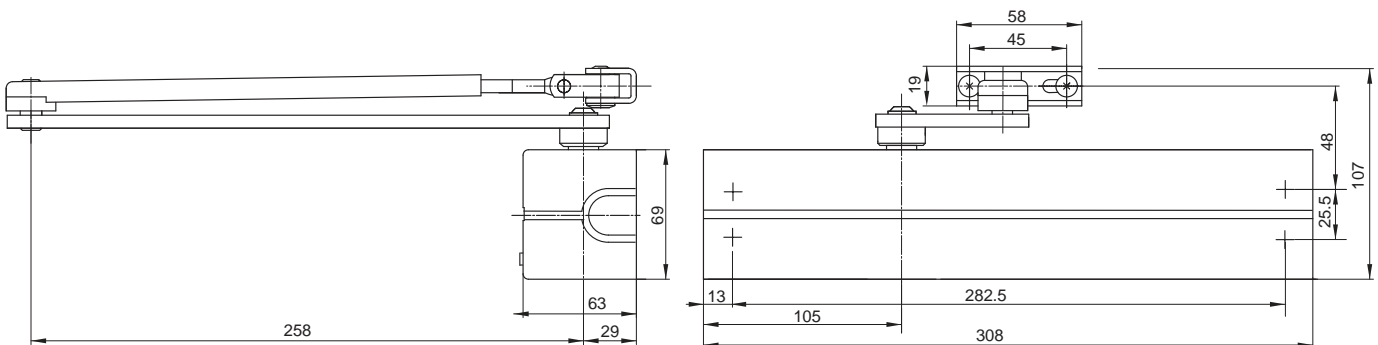
- Certified in compliance with EN 1154, size 5 - 7
- Suitable for fire and smoke protection doors
- For single action doors up to 1600 mm wide

### Characteristics for DC347

- For single action doors up to 1600 mm wide
- Can be used with integrated concealed mounting plate, suitable for fire and smoke protection doors
- Can be used for left and right handed doors
- Axis height-adjustable up to 14 mm
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Thermodynamic valves for consistent performance
- Variable adjustable closing force
- Opening angle up to 180°
- For heavy door applications
- Standard colours: silver EV1; white, similar to RAL9016; brown, similar to RAL8014; black, similar to RAL9005
- Customised finishes available on request



CE	Abloy Oy	04
	PO Box 108 80101 Joensuu, Finland	
1162-CPD-0131	EN1154:1996+A1:2002	4 8 7/5 1 1 3



# DC347

## Technical attributes

Technical attributes	
Door width up to	1600 mm
Variable adjustable closing force	EN 5-7
DIN door swing directions	left / right handed
Closing speed	Variable between 180°-0°
Latching speed	Variable between 15°-0°
Backcheck	Variable above 75°
Weight	2.2 kg
Height	69 mm
Depth	63 mm
Length	308 mm
Fire and smoke protection	yes
Certified in compliance with	EN 1154
CE marking for building products	yes

### The advantages at a glance

Our service for you: here you can see the individual advantages of our door closer models for your respective field of business.

Customer segment	Advantages
Project planners	- For heavy doors, fire and smoke protection doors as well as standard doors - Modern design - Compact design - Same dimensions and design with and without mounting plate
Builders	- Quick and easy installation - Quickly and easily adjustable - Suitable for left and right handed doors, in both door and frame mounted applications
Trade	- One single product suitable for a large variety of mounting positions - Complimentary accessories available
User	- Largely unaffected by temperature fluctuations thanks to thermodynamic valves - Enough closing force for all type of heavy doors - Backcheck feature offers optimum protection for doors and walls

### Specifications for DC347

ASSA ABLOY Door Closer DC347 featuring rack and pinion technology in compliance with EN 1154

- Closing power variable adjustable, EN size 5 - 7, for doors up to 1600 mm wide
- Closing speed, latching speed and backcheck adjustable via front facing regulating valves
- Can be used with integrated concealed mounting plate, suitable for fire and smoke protection doors
- CE approved
- 14 mm height adjustable arm system for ease of fitting
- Suitable for left and right handed doors

#### Accessories:

- Extra strong link arm L197
- Mounting plate A126
- Angle bracket A107

#### Colour:

- Silver EV1
- White, similar to RAL9016
- Brown, similar to RAL8014
- Black, similar to RAL9005
- Customised finish

You can find the complete specifications on the Internet at: (Link of your companies homepage)

# DC475

Floor spring with Cam-Motion® technology and adjustable closing force for large or very heavy doors



### ASSA ABLOY DC475

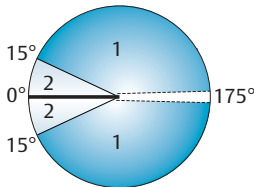
- Certified in compliance with EN 1154, size 3-6, cycle test over 1,000,000 cycles
- Suitable for fire and smoke protection doors
- For double and single action door up to 300 kg

### Characteristics for DC475

- Closing from 175° in both door swing directions with hydraulic control from 175°
- Two thermodynamic valves for consistent performance
- Adjustable door speed and latching speed from top regulating valves
- Backcheck
- Cast iron body
- Adjustments in all directions within the cement box
- Cement box in hot zinc plated
- Cover plates and eyelets made in polished or satin stainless steel and polished brass
- Interchangeable spindle from 0 to +30 mm
- Available without hold-open or with hold-open angle 90° and 105°

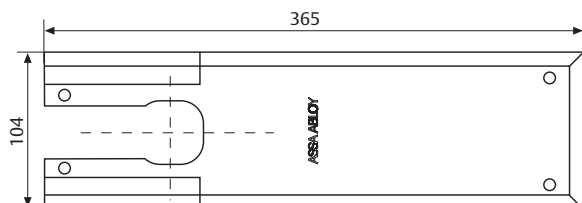
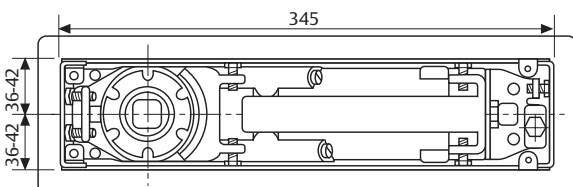
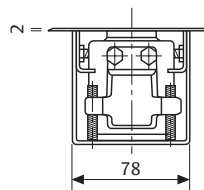
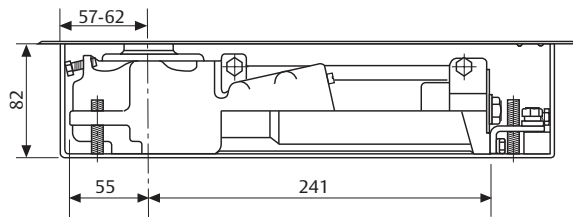


CE	ASSA ABLOY Italia S.p.A. Via Boverese, 13 46017 San Giovanni in Persiceto Bologna - Italy	04					
	0425 DO.0663	EN 1154:1996+A1:2002	3	8	3 6	1	1



### Speed adjustment

- 1 Variable closing speed 175° – 15°
- 2 Variable latching speed 15° – 0°





## Technical attributes

Technical attributes	
Variable adjustable closing force	EN 3 - 6
Door width up to	1400 mm
Door weight up to	300 kg
Max. opening angle	175°
Closing speed	Variable between 175° - 15°
Latching speed	Variable between 15°- 0°
Backcheck	mechanical
Weight	7.3 kg
Height	82 mm
Length	345 mm
Width	78 mm
Body adjustment within cement box	vertical 9 mm, side 6 mm, front 5 mm, angular 2°
DIN-direction	Left / Right handed doors or double action
Hold-open mode	90°/105°/Non Hold Open
Certified in compliance with	EN 1154
CE marking for building products	Yes
Fire and smoke protection	Yes

### The advantages at a glance

Our service for you: here you can see the individual advantages of our door closer models for your respective field of business.

Customer segment	Advantages
Project planners	<ul style="list-style-type: none"> <li>- Extensive range of uses: Fire and smoke protection doors as well as standard doors</li> <li>- Hold-open at 90°, 105° and non hold-open</li> <li>- Variety of available spindles: square Italian, rectangular German</li> <li>- Architectural finishes: cover plates and eyelets in satin and polished stainless steel or polished brass.</li> </ul>
Builders	<ul style="list-style-type: none"> <li>- Universal for left/right handed and double action doors</li> <li>- Overpressure relief valve to protect unit against abuse</li> <li>- Large range of adjustment within cement box to solve possible alignment problems on the site without taking down the door</li> </ul>
Trade	<ul style="list-style-type: none"> <li>- Reduced inventory costs due to modular product range</li> <li>- One single product suitable for a large variety of mounting positions</li> <li>- Complementary accessories available for the whole product range</li> </ul>
User	<ul style="list-style-type: none"> <li>- Adjustable operating force to meet door construction requirements and user needs</li> <li>- Easier door opening and improved accessibility due to Cam-Motion® technology</li> <li>- Backcheck feature offers optimum protection for doors and walls</li> </ul>

You can find the complete specifications on the Internet at: (Link of your companies homepage)

### Specifications for DC475

ASSA ABLOY Floor spring DC475 featuring Cam-Motion® technology in compliance with EN 1154, cycle test over 1,000,000 cycles

- Closing power variable adjustable, EN size 3-6, for doors up to 1400 mm wide
- Closing speed, latch speed adjustable from top regulating valves
- CE approved
- 9 mm height adjustable within cement box
- Suitable for Left/Right handed and double leaf doors

### Accessories:

- AC115 - Reversible Bottom Arm Italian spindle
  - AC393 - Reversible Bottom Arm German Spindle
  - AC8 - Double action Top Pivot
  - AC375 - Double action Top Pivot for fire doors
  - AC583 - Right and left bottom arm. Socket for Italian square spindle.
  - AC392 - Right & Left bottom Arm. Socket for German rectangular spindle.
  - AC384 - Top pivot for left or right doors
  - AC612 - Sealing Compound for floor springs
  - AC269 - Cover plate for DC475
- Colour:
- Polished stainless steel
  - Satin stainless steel
  - Polished brass



# Surface Mounted Door Closers



We take the worry out of  
protecting what's valuable to you.  
Lockwood: *no worries*<sup>®</sup>

**LOCKWOOD**

**ASSA ABLOY**

**25YEAR**

**MECHANICAL  
WARRANTY**

[www.lockweb.com.au](http://www.lockweb.com.au)

# Lockwood Surface Mounted Door Closers



Designed and manufactured to exacting standards. These world recognised standards ensure the highest possible quality, efficiency and reliable performance.

All models (except hold-open) are tested and approved on fire doors in accordance with Australian Standard AS1905:1:2005 Fire Resistant Doorsets.

New multi functional designs offer the specifier, stockist or the installer outstanding versatility and low inventory levels.

Effective door installation requires that the door and frame be of sufficient strength or reinforced to ensure secure anchorage of the door closer unit.

A door fitted with a door closer must be hung on good quality, aligned hinges so it swings freely without bias in both directions.

The closed door must be clear in the door frame and when a lock is fitted the latch bolt must engage freely within the strike.

When specifying manually operated door closers the following should be considered: door size, in particular width of door; door weight; type of installation; environmental conditions; location of door; operation frequency of door; the people using the door.

Door size and the pressure exerted on the surface area of the door due to wind gusts or air conditioning and the spring strength required to

hold or close the door against this pressure must be considered along with the ability of the user to exert the force necessary to push or pull the door open. The location of door furniture will influence the leverage available to the person opening the door.

## About Lockwood

Lockwood is the leading brand in the Australian locking industry. With an established reputation for high quality products, this iconic brand provides a wide range of locking solutions to residential housing, commercial building and industrial application markets. Lockwood is supported by an extensive distribution and after-sales support network. Our customers include retailers, architects, trade and industrial personnel, locksmiths and security dealers.

## About ASSA ABLOY

ASSA ABLOY is the global leader in door opening solutions, dedicated to satisfying end-user needs for security, safety and convenience.

ASSA ABLOY is represented in all major regions, in both mature and emerging markets, with leading positions in Australia, Europe and North America.



## The Lockwood 25 Year Mechanical Warranty

Our belief that we manufacture the finest premium products available in today's market place is backed by the Lockwood 25 Year Mechanical Warranty, ensuring that Lockwood continues to keep Australians safe by delivering security and peace of mind.

For warranty terms and conditions, please visit [www.lockweb.com.au](http://www.lockweb.com.au) or call 1300WARRANTY

# Door Closer Selection

Selection of door closer size is judged in two ways.

1. Does the door closer have the strength to effectively close the door against unexpected air pressures?
2. Is the door closer oversized for the application and therefore affecting the ease of operation?

Efficiency of the door closer also has a major bearing on ease of operation. For optimum performance it is essential that a highly efficient door closer of a correct size is selected.

The use of spring strength adjustability, which allows fine tuning of strength on site, has simplified this task but not removed all of the guesswork. With more architects and engineers becoming conscious of the problems caused by incorrect selection of door closer strength, it has become the responsibility of manufacturers to provide better technical information, such as closing torque and efficiency of their products.

The following chart has been produced to cover most conditions. If you have an unusual application which you feel requires special consideration, please forward all relevant information to your local office and we will be happy to advise the best door control for your application.

Fire doors and pressurised stairwells pose significant challenges in ensuring closing and latching of fire doors. The problems are created by differential air pressures resulting from air conditioning systems on either side of the door. To achieve complete fire safety, fire doors must latch securely at all times. If this performance is not achieved the stairwell may be unsafe, and in the event of fire, loss of life and property may occur. Correct selection of door hardware is of paramount importance in ensuring that the appropriate operating standards are met.

Fire doors which open into a pressurised stairwell must meet the following criteria:

- the door must close against a pressure differential between the air conditioned floor area and non-air conditioned stairwell;
- the door must latch securely every time it closes;
- the door must be able to be opened with a force not exceeding 110N when the stairwell is pressurised; and
- the door must be protected from damage when it is opened by means of a back check action which is built into the door closer.

## Note

- Always round up to the next door width (i.e. for 870 mm door use 950 mm).
- If parallel arm installation, then use next door width (i.e. for 830 mm door use 950 mm).
- For internal doors deduct 200 mm from actual door width (i.e. for 1250 mm internal door use 1050 mm).
- This chart is based on normal climatic conditions (i.e. pressure differential of 30Pa or wind of 15 knots).
- If more severe conditions are expected then use the next door width or contact customer service for more information (refer back page).
- When specifying parallel arm and slide rail functions, allowance should be made for the following power loss:

## Parallel Arm Mounting

Approximately 20% power loss

## Slide Rail Mounting

Approximately 30% power loss

## Power Selection Chart

This chart below will be most useful in selecting the correct door closer. Simply identify the dimensions of the appropriate door and select the recommended door closer.

The chart is intended as a guide only and as such the following variations should be taken into account when making your selection:

- Environmental factors such as the effect of wind or air conditioning pressures.
- An unsheltered external door is a door on which prevailing wind gusts will directly produce a "sail area" effect.
- A sheltered external door is a doorway which is protected by a wind break or wall which acts as a barrier against direct wind gusts.

## Door Closer Selection Chart

Recommended Door Width	Door Weight (kg) Max	Closer Power Size	Closing Torque (Nm)
750mm	20	1	9 - <13
850mm	40	2	13 - <18
950mm	60	3	18 - <26
1100mm	80	4	26 - <37
1250mm	100	5	37 - <54
1400mm	120	6	54 - <87
1600mm	160	7	87 - <140

# 7726DA Series Premium Range Surface Mounted Door Closer



Rack and pinion adjustable power door closer suitable for architectural and commercial applications.

## Specifications

<b>Power</b>	EN adjustable 2 to 6.
<b>Back check (BC)</b>	Adjustable.
<b>Hold Open</b>	Adjustable. Hold-open can be set at any angle up to 150° of opening.
<b>Handing</b>	Non-handed. Suitable for left or right hand doors.
<b>Cover</b>	Fully formed metal.
<b>Materials</b>	Extruded aluminium body manufactured from high-performance silicon alloy.
<b>Mechanism</b>	Rack and pinion design.
<b>Mounting</b>	Regular, parallel and over-door mounting.
<b>Valves</b>	Adjustable closing and latching speed valves with overload protection.
<b>Delayed Action</b>	Adjustable.

## Ordering Information

Model	Part Numbers	Finishes
<b>Standard Arm</b>	7726DASSS	Satin Stainless Steel
	7726DAPSS	Polished Stainless Steel
	7726DASIL	Silver
<b>Hold-Open</b>	7726HDASSS	Satin Stainless Steel
	7726HDAPSS	Polished Stainless Steel
	7726HDASIL	Silver

Other finishes available on request

## Standards and Compliance



The Lockwood 7726DA series closer has been successfully tested up to four hours (depending on type of doorset) on fire door assemblies in accordance with Australian Standard AS1905.1:2005, Part: Fire Resistant Door sets.

Note: Hold open option is not approved on any fire door.

# 7726SRDA Series Premium Range Surface Mounted Door Closer



The Slide Arm Series permit smoother opening by way of reducing power as the door opens. Ideally suited for schools, hospitals or doors where children, disabled or the aged may enter.

## Specifications

<b>Power</b>	EN adjustable 1 to 5.
<b>Back check (BC)</b>	Adjustable.
<b>Hold Open</b>	Adjustable. Hold-open can be set at any angle up to 130° of opening.
<b>Handing</b>	Non-handed. Suitable for left or right hand doors.
<b>Cover</b>	Fully formed metal.
<b>Materials</b>	Extruded aluminium body manufactured from high-performance silicon alloy.
<b>Mechanism</b>	Rack and pinion design.
<b>Mounting</b>	Regular, parallel and over-door mounting.
<b>Valves</b>	Adjustable closing and latching speed valves with overload protection.
<b>Delayed Action</b>	Adjustable.

## Ordering Information

Model	Part Numbers	Finishes
<b>Slide Arm</b>	7726SRDASSS	Satin Stainless Steel
	7726SRDAPSS	Polished Stainless Steel
	7726SRDASIL	Silver

Other finishes available on request

## Standards and Compliance



The Lockwood 7726SRDA series closer has been successfully tested up to four hours (depending on type of doorset) on fire door assemblies in accordance with Australian Standard AS1905.1:2005, Part: Fire Resistant Door sets.

Note: Hold open option is not approved on any fire door.

# 7714DA Series Premium Range Surface Mounted Door Closer



Rack and pinion adjustable power door closer suitable for architectural and commercial applications.

## Specifications

<b>Power</b>	EN adjustable 1 to 4.
<b>Back check (BC)</b>	Adjustable.
<b>Hold Open</b>	Adjustable. Hold-open can be set at any angle up to 150° of opening.
<b>Handing</b>	Non-handed. Suitable for left or right hand doors.
<b>Cover</b>	Fully formed metal.
<b>Materials</b>	Extruded aluminium body manufactured from high-performance silicon alloy.
<b>Mechanism</b>	Rack and pinion design.
<b>Mounting</b>	Regular, parallel and over-door mounting.
<b>Valves</b>	Adjustable closing and latching speed valves with overload protection.
<b>Delayed Action</b>	Adjustable.

## Ordering Information

Model	Part Numbers	Finishes
<b>Standard Arm</b>	7714DASSS	Satin Stainless Steel
	7714DAPSS	Polished Stainless Steel
	7714DASIL	Silver
<b>Hold-Open</b>	7714HDASSS	Satin Stainless Steel
	7714HDAPSS	Polished Stainless Steel
	7714HDASIL	Silver

Other finishes available upon request

## Standards and Compliance



The Lockwood 7714DA series closer has been successfully tested up to four hours (depending on type of doorset) on fire door assemblies in accordance with Australian Standard AS1905.1:2005, Part: Fire Resistant Door sets.

Note: Hold open option is not approved on any fire door.



# 726 Series Door Closer



A range of adjustable power door closer units suitable for architectural and commercial applications.

## Specifications

<b>Power</b>	EN adjustable 2 to 6.
<b>Back check (BC)</b>	Adjustable.
<b>Hold Open</b>	Adjustable. Hold-open can be set at any angle up to 150° of opening.
<b>Handing</b>	Non-handed. Suitable for left or right hand doors.
<b>Cover</b>	Clip-on.
<b>Materials</b>	Extruded aluminium body manufactured from high-performance silicon alloy.
<b>Mechanism</b>	Rack and pinion design.
<b>Mounting</b>	Regular, parallel and over-door mounting.
<b>Valves</b>	Adjustable closing and latching speed valves with overload protection.

## Ordering Information

Model	Part Numbers	Finishes
<b>Standard Arm</b>	726SSS	Satin Stainless Steel
	726PSS	Polished Stainless Steel
	726SIL	Silver
<b>Hold-Open</b>	726HSSS	Satin Stainless Steel
	726HPSS	Polished Stainless Steel
	726HSIL	Silver

For formed cover with these finishes add:  
 7726-171 (SSS,PSS) option  
 726SIL + 726-171SSS = 726SSS

## Standards and Compliance



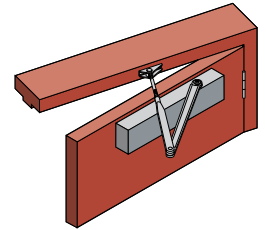
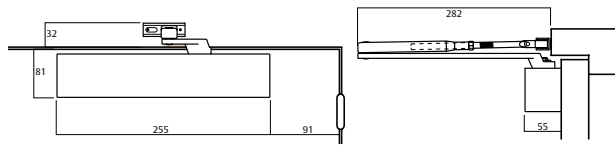
The Lockwood 726 series closer has been successfully tested up to four hours (depending on type of doorset) on fire door assemblies in accordance with Australian Standard AS1905.1:2005, Part: Fire Resistant Door sets.

Note: Hold open option is not approved on any fire door.

# 726 Series Door Closer

## 726 Standard Arm

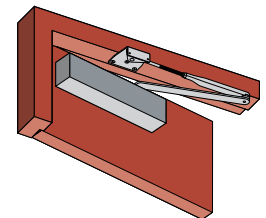
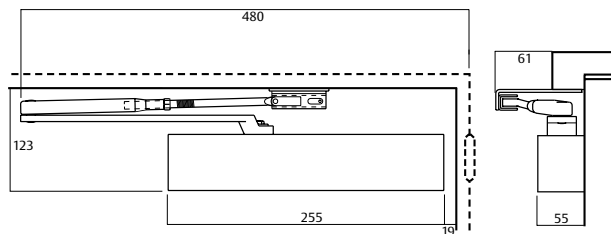
Part Numbers	Description
726	Non hold-open
726H	Hold-open



Closer installed on pull side of door. This mounting position permits opening of 180°.

## 726 Parallel Arm

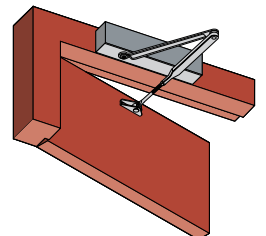
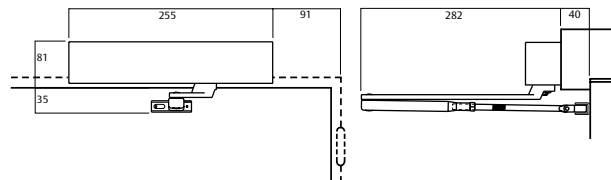
Part Numbers	Description
726	Non hold-open
726H	Hold-open



Closer installed on push side of door. This mounting position permits opening of 180°.

## 726 Over Door Mounting

Part Numbers	Description
726	Non hold-open
726H	Hold-open



Closer installed on push side of door and top rail where conditions do not allow parallel mounting. This mounting position permits opening of 180°.

# 726SR Series Slide Door Closer



The Slide Arm Series permit smoother opening by way of reducing power as the door opens. Ideally suited for schools, hospitals or doors where children, disabled or the aged may enter.

## Specifications

<b>Power</b>	EN adjustable 1 to 5.
<b>Back check (BC)</b>	Adjustable.
<b>Hold Open</b>	Adjustable. Hold-open can be set at any angle up to 130° of opening.
<b>Handing</b>	Non-handed. Suitable for left or right hand doors.
<b>Cover</b>	Clip-on.
<b>Materials</b>	Extruded aluminium body manufactured from high-performance silicon alloy.
<b>Mechanism</b>	Rack and pinion design.
<b>Mounting</b>	Regular, parallel and over-door mounting.
<b>Valves</b>	Adjustable closing and latching speed valves with overload protection.

## Ordering Information

Model	Part Numbers	Finishes
<b>Slide Arm</b>	726SRSSS	Satin Stainless Steel
	726SRPSS	Polished Stainless Steel
	726SR SIL	Silver
	726SRGLD	Gold

For formed cover with these finishes add:  
 7726-171 (SSS,PSS,GLD) option  
 726SR SIL + 726-171SSS = 726SRSSS

## Standards and Compliance



The Lockwood 726SR series closer has been successfully tested upto four hours (depending on type of doorset) on fire door assemblies in accordance with Australian Standard AS1905.1:2005, Part: Fire Resistant Door sets.

Note: Hold open option is not approved on any fire door.

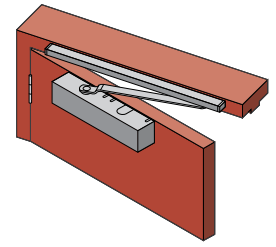
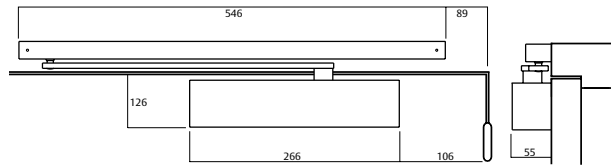
# 726SR Series Slide Door Closer

## 726SR Slide Arm Pull Side

### Part Numbers

726SR

Closer installed on pull side of door. This mounting position permits opening of 130°.

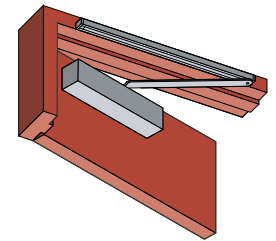
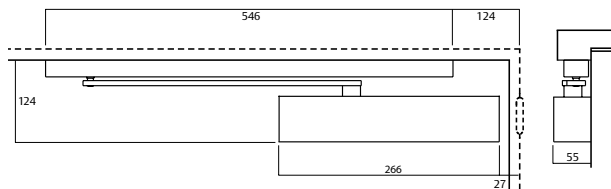


## 726SR Slide Arm Push Side

### Part Numbers

726SR

Closer installed on push side of door. This mounting position permits opening of 130°.

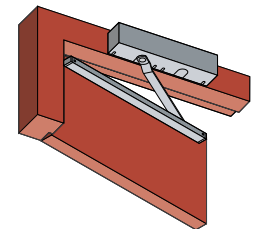
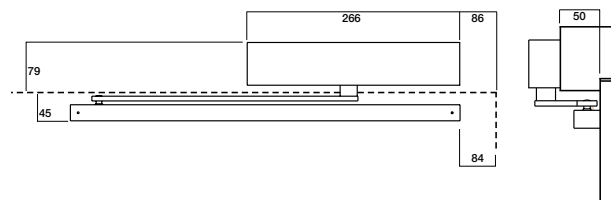


## 726SR Slide Arm Over Door Mounting Push Side

### Part Numbers

726SR

Closer installed on push side of door and top rail where conditions do not allow parallel mounting. This mounting position permits opening of 130°.



**king<sup>®</sup>**

ASSA ABLOY

# FLOOR SPRING

Safety, Security, Stability

## ST80



The global leader in door opening solutions

Samhwa Precision Co.,Ltd./Korea  
ASSA ABLOY Group Company

# ST80 series

Floor spring with adjustable closing force for large and very heavy doors.  
 Certified in compliance with EN 1154 Adjustable size 3~6 or fixed 4, 5, 6  
 Suitable for fire and smoke protection doors (No fire test conducted yet)  
 For double and single action door up to 300kg

## Characteristics

- | Closing from 175° in both door swing directions with hydraulic control from 170°.
- | Three thermodynamic valves for consistent performance.
- | Adjustable closing speed (175°~15°) and latching speed (15°~0°) from top regulating valves.
- | Adjustable hold-open or delay action angle 80° ~ 175°.
- | Cast iron body.
- | Universal cover plate in stainless steel.
- | Standard built-in Back check function.
- | Cement box in hot zinc plated.
- | Extended spindle.

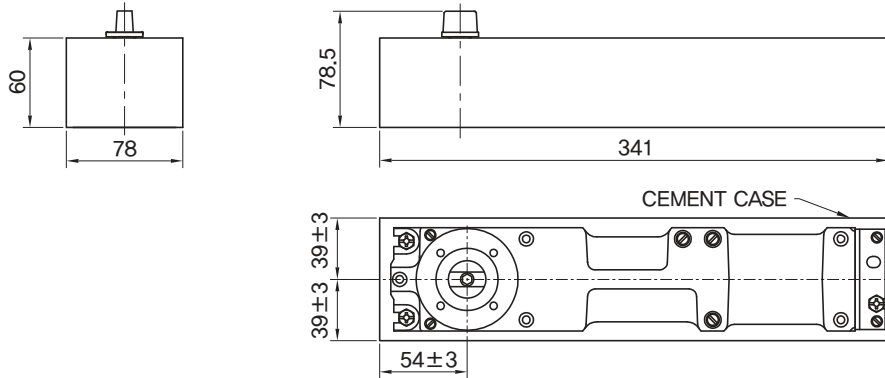
## The advantages at a glance

Project planners	Extensive range of uses: Fire and smoke protection doors as well as standard doors. Variable hold open between 80°~175° or delay action. Independent closing and latching valve for easy control. Variety of available spindles: square Italian, square French, rectangular German. Architectural finishes: coverplate in polished stainless steel, satin stainless steel, polished brass
Builders	Universal for left/right handed and double action doors. Overpressure relief valve to protect unit against abuse. Large range of adjustment within cement box to solve possible alignment problems on the site without taking down the door. Meet door weight up to 300kgs.
Traders	Reduced inventory costs due to modular product range. One single product suitable for a large variety of mounting positions. Complementary accessories available for the whole product range. Extensive interchangeable
User	Adjustable operating force to meet door construction requirements and user needs. Easier door opening and improved accessibility due to Cam-Motion technology. Backcheck feature offers optimum protection for doors and walls. Independent closing and latching valve for easy control Variable hold open range

Technical attributes		ST80			ST80P
Spring strength (EN)		4	5	6	3~6
Spring strength adjustment		–	–	–	●
Standard and external doors	≤ 950mm	–	–	–	–
	≤ 1100mm	●	–	–	●
	≤ 1250mm	–	●	–	●
	≤ 1400mm	–	–	●	●
Max. leaf weight (kg)		300			
Non-handed, suitable for		●			
Single and double action doors		●			
Closing speed adjustable by valve	175° ~ 85°	●			
	85° ~ 15°	●			
	15° ~ 0°	●			
Backcheck, mechanical		●			
Delayed action adjustable by valve (selectable alternative to the hold-open feature)		●			
Hold-open	Adjustable	●			
Weight (kg)		9			
Dimensions in mm	Length	341			
	Width	78			
	Height	60			
Floor spring tested to EN 1154		●	○	○	●
CE mark for building products (products with factory-fitted hold-open do not carry a CE mark)		–	–	–	–
ANSI 156.4 Grade 1		○	–	–	○

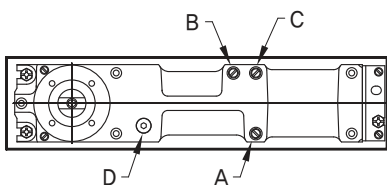
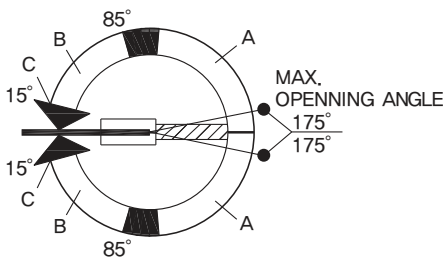
● : Yes    – : No    ○ : On going

**ST80**



**Standard and optional functions**

**Adjust Closing Speed**



- ▮ VALVE "A" – controls closing speed from MAX. (OPENING - 85°)
- ▮ VALVE "B" – controls closing speed from approx.. (85° ~ 15°)
- ▮ VALVE "C" – controls closing speed from approx. (15° ~ 0°)
- ▮ VALVE "D" – Adjustable closing force (EN3~6)

**BACK-CHECK**

The integrated mechanical back-check function offers optimum protection for doors and wall

**DELAYED ACTION**

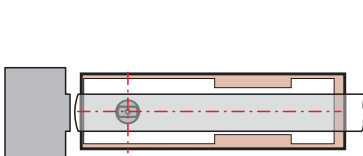
Turn valve "A" clockwise until desired delay time is obtained.

**HOLD OPEN**

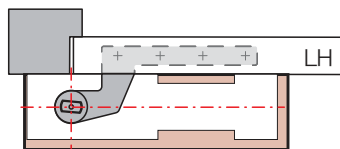
Turn valve "A" completely clockwise. Door will hold at any point beyond approx. 85°. Allow for approx. 4° fall away when considering hold open position.

To release door, manually pull door closed a few inches.

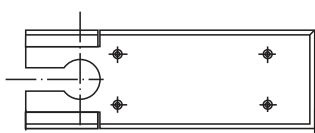
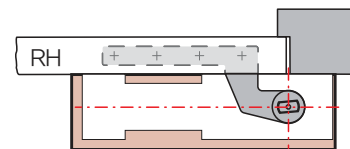
**Application and Installation**



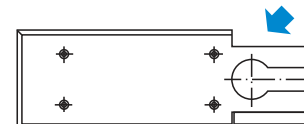
Double action door mounting



Single action door mounting



Application for LH offset pivoted door



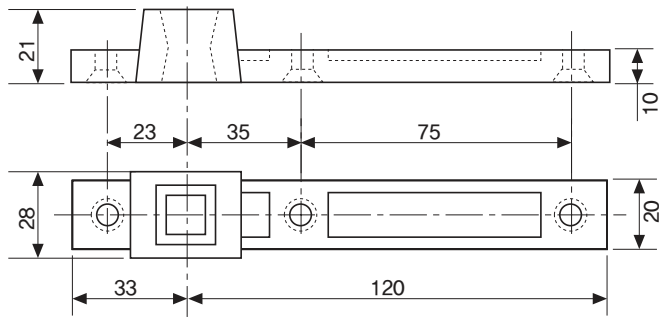
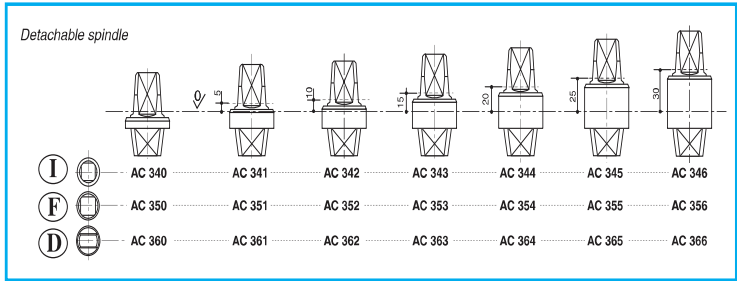
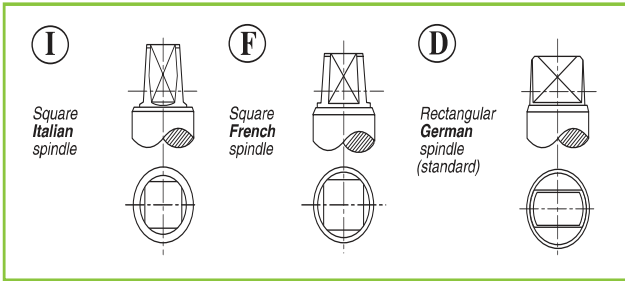
Application for RH offset pivoted door





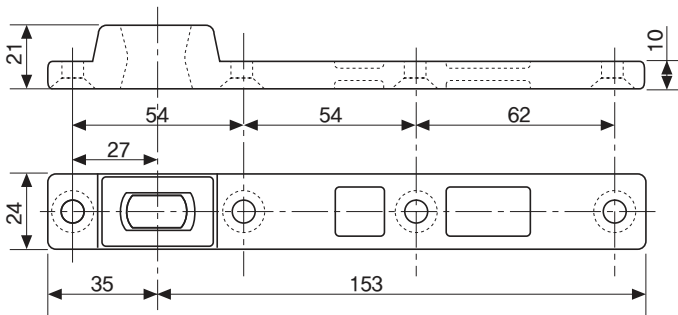
Other accessories

MAB TYPE



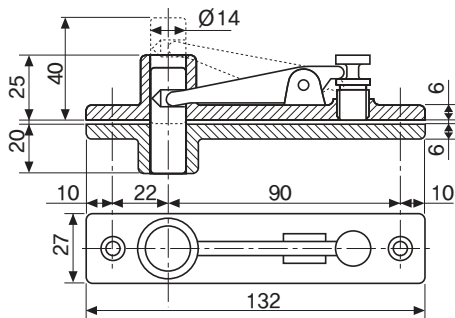
AC115

Reversible bottom arm in steel for double action doors.



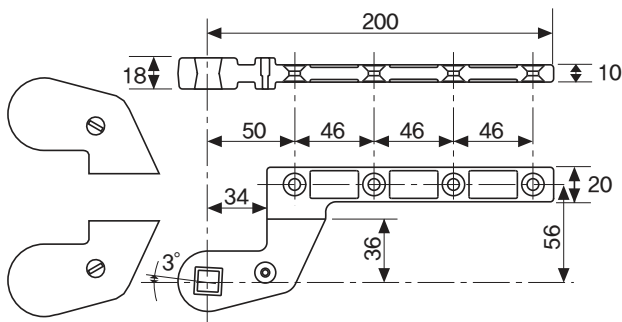
AC393

Reversible bottom arm in steel for double action doors.



AC8

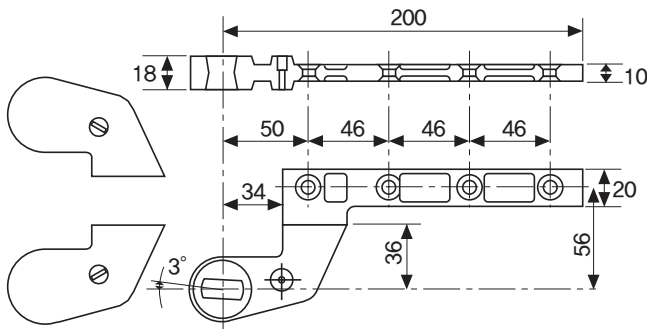
Double action top pivot.



AC583

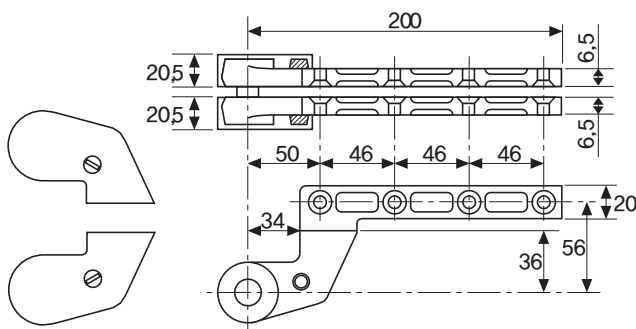
Right and left bottom arm in steel for single action doors, 36 mm offset. Square Italian spindle. Silver painted ABS covers.

Other accessories



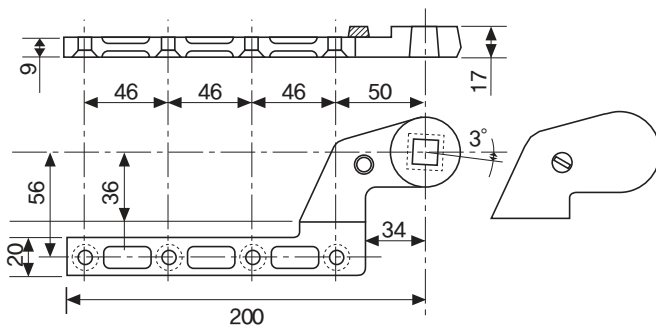
**AC392**

Right and left bottom arm in steel for single action doors, 36 mm off-set, Rectangular German socket. Silver painted ABS covers.



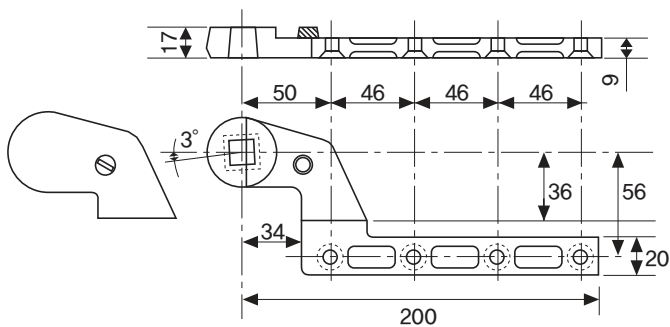
**AC384**

Double action top pivot in full steel 36 mm-off set, Silver painted ABS covers.



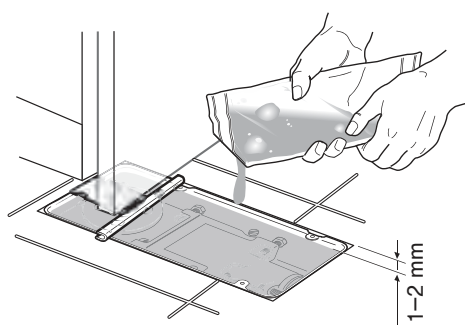
**AC373**

Right bottom arm in steel for single action doors, 36mm offset, Square French spindle. Silver painted ABS covers.



**AC374**

Left bottom arm in steel for single action doors, Square French spindle. Silver painted ABS cover.

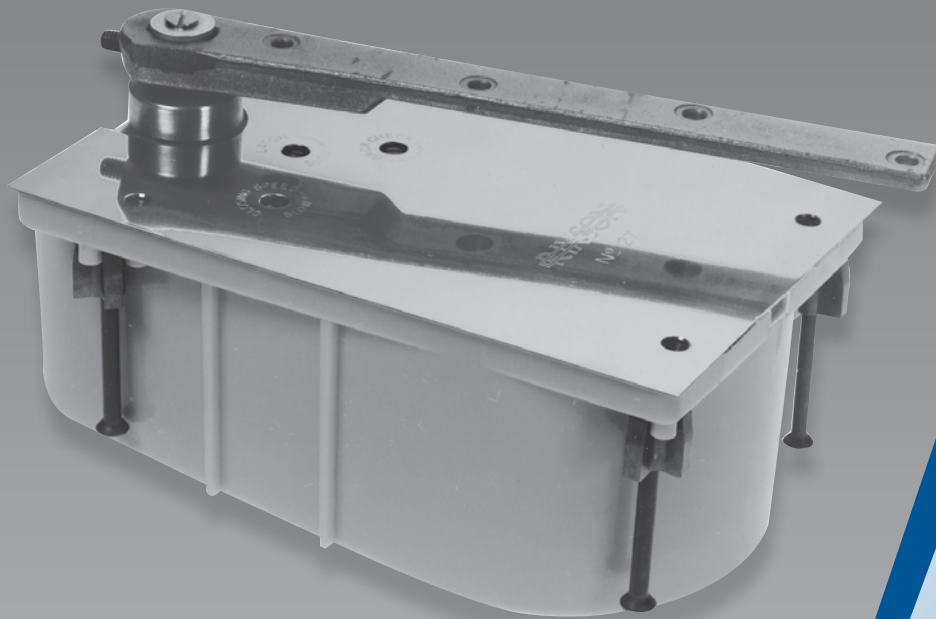


**AC612**

Sealing Compound for floor springs.

# Heavy-Duty Floor Closers

Complete Door Control for  
Exterior and Interior, High Traffic, Heavy  
Doors, Where Concealment is Desired



**RIXSON®**  
**ASSA ABLOY**

ASSA ABLOY, the global leader  
in door opening solutions

Floor closers provide the best mechanical means to support and control a door. They are designed to work with the laws of physics to provide long-lasting performance and reliability.

### The weight of the door is supported by bottom arm and floor

- Uses laws of gravity to its advantage
- Door swings with less resistance
- Heavier doors can be accommodated
- Reduced stress on frame
- Fasteners are in shear, not tension
- Eliminates door sag
- Vertically adjustable

### Heavy-duty, hardened, one piece steel spindles

- Designed to provide positive dead stop
- Thrust bearing supports vertical load
- Needle bearings for lateral forces
- Extra heavy-duty models also have an additional surface applied thrust bearing to handle heavier doors or doors that have very high traffic

### Bottom arm attached directly to closer spindle

- A mechanical advantage that increases efficiency insuring that ICC/ANSI A117.1 compliant, lower opening forces, will still close the door
- One to one ratio of door swing to spindle rotation makes control more precise
- Floor closers are more efficient than a regular arm surface closer

### Helical torsion spring

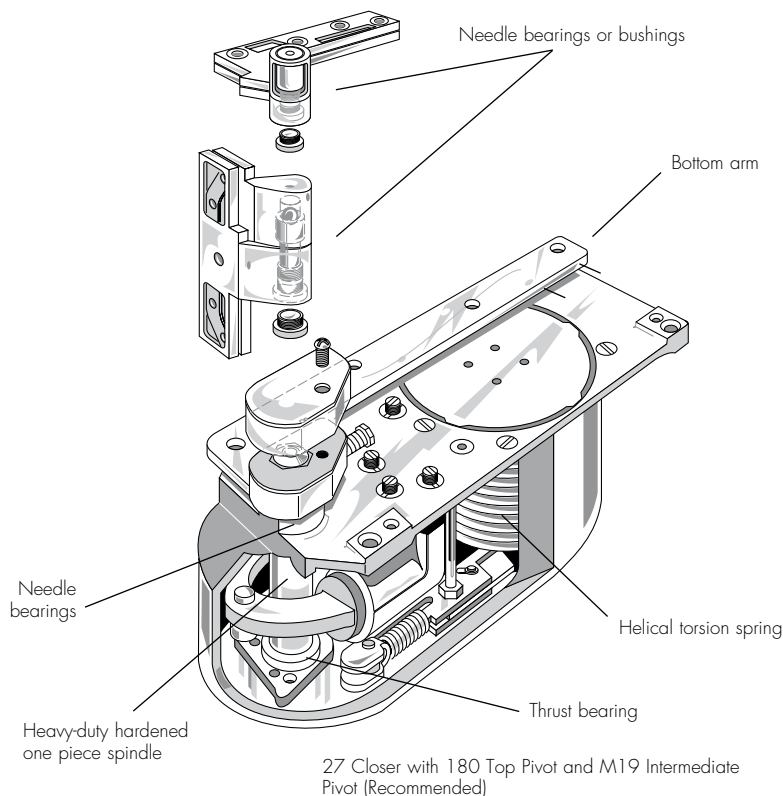
- Operates in same direction as door movement and contributes to even higher closer efficiency
- A torsion spring has a much longer life than standard compression springs

### Advantages of concealed floor closers

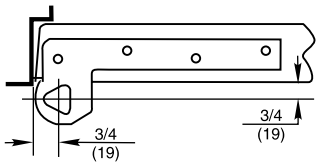
- Aesthetics – let the beauty of the door and its surroundings take center stage
- Vandal resistant – mechanism not exposed
- The solution for arch top doors – offset floor closers
- Both mechanical advantage and aesthetics – a concealed floor closer exclusive

### Many different models to choose from

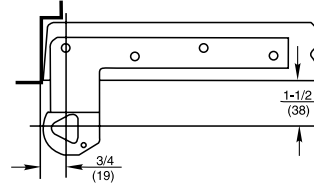
- Use standard product with a top pivot for the best efficiency
- Use a quick install (Q) model to facilitate easy closer removal
- Use extra heavy-duty (L & H) (L-offset) (H-center hung) models for higher traffic/lead lined or extremely heavy doors
- Use model HM with 3/4" offset hinges for hollow metal doors and frames prepared for 4-1/2" hinges
- Closers can be offset hung, center hung or independently hung, single or double acting (center hung only)



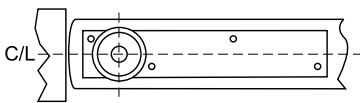
1. OFFSET VS. CENTER HUNG APPLICATION



**3/4" Offset**  
Pivot point located 3/4" from the heel edge of the door and 3/4" from face of door



**1-1/2" Offset**  
Pivot point located 3/4" from the heel edge of the door and 1-1/2" from face of door. Used on doors with cladding on face or trim on frame



**Center Hung**  
Pivot point centered in thickness of door. Distance from heel edge can vary 2-3/4" and up (Not for use on fire rated doors)

2. SIZE OF DOOR (WIDTH, HEIGHT, THICKNESS)

DOOR MATERIAL	DOOR THICKNESS		
	1-3/4"	2-1/4"	3"
Hollow Metal	6.5	7	—
Solid Core Wood	7	9	11.5
Aluminum/Glass Storefront	3.5	4	—
Bullet Resistant	20	21	
MDF	7	9	11.5
	GLASS THICKNESS		
TEMPERED GLASS	3/8"	1/2"	3/4"
	5	7	9.75
	LEAD THICKNESS		
LEAD LINING (add to door material weight)	1/16"	1/8"	1/4"
	5	8	9.75
	CLADDING MATERIAL		
3/4" CLADDING (add to door material weight)	Wood	Stone	Bronze
	3	10.5	28

**Example: 3/0 X 7/0 X 1-3/4" WD X 1/4" Lead lining**  
Door: 21sq ft x 7lb./sq ft = 147lbs  
Lead Lining: 21sq ft x 9.75lb./sq ft = 204.75lbs  
Total Door weight = 351.75lbs

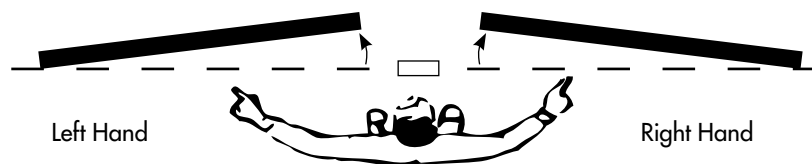
**Example: 3/6 X 8/0 X 1/2" Tempered Glass Door**  
Door: 28sq ft x 7lb./sq ft = 196lbs

For doors of other sizes consult factory

### 3. EXPECTED FREQUENCY OF DOOR OPENING

Application	Daily	Yearly	
Large department store entrance	5,000	1,500,000	High
Large office building entrance	4,000	1,200,000	
Theater entrance	1,000	365,000	
School entrance	1,250	225,000	
School restroom door	1,250	225,000	
Store or bank entrance	500	150,000	
Office building restroom door	400	118,000	
School corridor door	80	15,000	Average
Office building corridor door	75	22,000	
Store restroom door	60	18,000	
Residential entrance door	40	15,000	
Residential restroom door	25	9,000	Low
Residential hallway door	10	3,600	
Residential closet door	6	2,200	

#### How to Determine Hand of Door



Face a door swinging open away from you. If it opens to the right, it is right handed. If it opens to the left, it is left handed.

**Sealed Closer – Prefix SC**

This option for exterior doors or interior doors, with heavy exposure to water or cleaning solvents, protects the body. The closer body is placed in the cement case. A stainless steel cover plate is then gasketed and fastened to the cement case. This must be ordered with closer and cannot be ordered less the cement case.

**Delayed Action – Prefix DA**

After full open, permits door to remain ajar (at 70 degrees) for up to 40 seconds. Operates by separate valve and can be shut off if not needed. Not available on closers with hold open feature.

**Physically Handicapped – Prefix PH** 


To comply with ICC/ANSI A117.1 established by the Americans with Disabilities Act. PH prefix indicates 5 pounds of opening force, based at 30" from centerline of pivot. PH closers may not be used on labeled fire doors or exterior doors. Rixson accepts no responsibility for PH closers and door latching. Also, be advised that ADA guidelines DO NOT apply to fire rated openings or exterior doors.

**Wood Door – Prefix W**

When using a center hung product with the centering arm (e.g. 28, 30 or 40) a special plate and less obtrusive adjusting screws are needed for wood doors. This plate is reinforcement to the deep mortise required for that arm, protecting veneer.

**Fire Rated – Prefix F** 

Closer packages for fire rated doors (up to 3 hours) include a steel top pivot and must have additional steel intermediate pivots. These closers are non-hold open.

**Twenty Minute Label – Suffix -20** 

This UL rating is for 20 minute doors. Pivots are brass base material and include a visible label.

**8-1/2 Lbs. Opening Force – Prefix PH Suffix 8-1/2**

This is a lighter than normal opening force. Be aware that this may not be strong enough to close fire rated or exterior doors. Rixson accepts no responsibility for PH closers and door latching. Also, be advised that ADA guidelines DO NOT apply to fire rated openings or exterior doors.

**Less All Parts – Suffix LAP**

If a closer is needed for replacement, the arm, cover, cement case, top pivot and floor plate are omitted.

**Less Floor Plate – Suffix LFP**

When thresholds or cover pans are being used, the closer doesn't need the decorative floor plate.

**Less Cement Case – Suffix LCC**

For existing installations or when cement case has been sent earlier in construction. Closer will be packaged without the cement case.

**Less Top Pivot – Suffix LTP**

For unusual head conditions, where the top pivot cannot be used, the closer is shipped without the top pivot. For offset installations, an additional load bearing intermediate (side jamb) M190 pivot is required. All intermediate pivots for that opening should be M190's, not M19's

**Degree of Swing – Follows Model Number**

Single acting heavy-duty floor closers have a deadstop. This means that the door cannot go past a certain point. If ordered as a hold open closer, the hold open position is exactly the same as the deadstop. The degrees available are 85°, 90°, 95° or 105° (180° for model 27 only). It is recommended that the maximum degree of swing be ordered.

Double acting closers have a deadstop at 103° and are available with hold open options at 90° or 100°.

**Non Hold Open – Suffix N**

These closers do not hold the door open. This feature cannot be changed in the field.

**Automatic Hold Open – Suffix A**

These closers hold the door open. This feature cannot be changed in the field. Models 27-180, 30 & 40 only.

**Selective Hold Open – Suffix S**

These closers can be set to hold open or non-hold open. This is done via a screw control on the top of the closer. Available on Models 27 and 28 only.

**Hand- Suffix RH or LH**

All single acting floor closers are handed. All double acting floor closers (30, 40, H40) are non-handed.

### Door Thickness – Suffix 1-3/4, 2, 2-1/4, 2-1/2 or 3

When ordering L product for lead lined doors, the thickness of the door must be given. The purpose of the L product is to have screws spaced so that they straddle the lead in the center of the door. Also used when lead lining is under the skins of the door. Recommended for use on extra heavy or high traffic doors.

### Cold Weather Fluid – Suffix CWF

Cold weather fluid should be specified for exterior doors in consistently cold climates under 32° F for weeks at a time. The hydraulic fluid is of a lower viscosity to prevent sluggish closing. Cannot be used with the delayed action feature.

### Extended Spindle – Suffix Extra Length

Any special floor coverings, or severe door undercuts, will affect the spindle height. In these applications an extended spindle may be required. See product template to determine if an extended spindle is needed. Extended spindles available in 1/2" increments up to 2" longer than standard.

### 1-1/2" Offset – Suffix 1-1/2

Offset is the distance from the face of the door to the pivot point. Extended offsets should not be used unless there is cladding on the face of the door or there is trim to clear on the frame. 1-1/2" offset arms and pivots are for doors with cladding or trim that project 3/4" from the face of the door.

### Cover Pan (Terrazzo) – Suffix Part Number

Closers should always be accessible. They should never be buried beneath flooring materials. A cover pan sits on top of the closer and has the flooring material set in it. This way the sight line for the floor is consistent. Cover pans may require closers with longer spindles. See cover pan template to determine spindle length needed.

### Special Layouts – Suffix SPLO#

Unique installations or specially engineered products are called special layouts. These numbers must be assigned by the technical support department and they must be called out specifically, by their number, when ordered.

## CERTIFICATIONS



All Rixson® heavy-duty floor closers are in compliance with ANSI/BHMA A156.4 Standards. See individual products for sub sections.

## LIMITED WARRANTY

Rixson heavy-duty floor closers models 27/28 and 30/40 are warranted for 10 years against defect. The model 20 closer carries a 2 year warranty. See Rixson Price Book for specific details of the limited warranty.

## SPECIFICATION

Floor closers shall be heavy-duty model 27 (offset) or model 28 (center hung). All closers shall be handed. Choose appropriate functions and strengths to accommodate lead lining, extra high traffic, fire rating, independently hung or quick install models. These closers shall have separate and independent checking valves, to control latch speed, closing speed and adjustable hydraulic backcheck. All single acting closers shall have a built in dead stop feature. All closers shall have one piece spindle assembly. Extra heavy-duty closers shall have minimum of two thrust bearings and one needle bearing. Closers shall not have compression spring.



MODEL 27

**Application**

- Single Acting, Handed
- Exterior or Interior Doors
- Weight to 450 lbs.\*
- Door Width up to 4'0" (1219mm)



ANSI/C06041/C06051

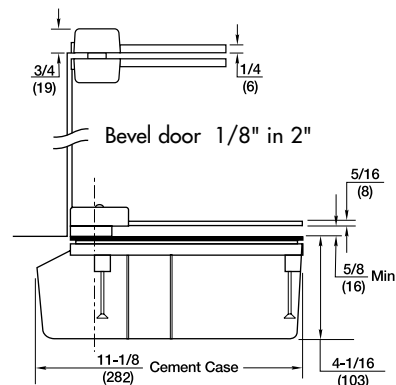
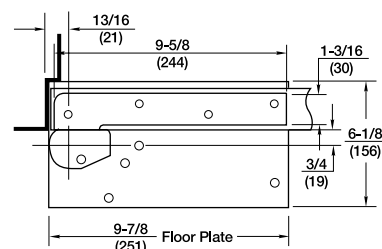
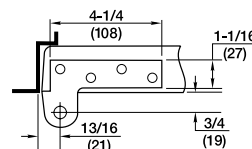
\* Door size & weight guidelines are determined using the appropriate number of intermediate pivots

**Product Description & Features**

- Built-in positive dead stop prevents door from swinging beyond the desired opening degree (specify 85°, 90°, 95°, 105°)
- Separate and independent valves for closing speed, latch speed and backcheck
- Available non-hold open (N) or selective hold open (S) at same degree as dead stop
- Delayed action option-prefix "DA" (Non-hold open closers only)
- Models available to meet ICC/ANSI A117.1 low opening force requirements, prefix "PH". (For 8-1/2 lbs. of opening force prefix PH and suffix 8-1/2 lbs.)
- Cold weather fluid available – specify "CWF" (not available for closers with "DA")
- Sealed closer option – specify "SC"
- Available with floor plate or threshold installation (floor plate shown)
- Available 1-1/2" offset, for doors with 3/4" cladding or frames with applied molding, maximum door weight 250 lbs.
- Cylolac, rust-proof cement case
- Vertical door adjustment
- Standard top pivot: #180 included
- For arch top doors or applications when the 180 top pivot cannot be used, supply at least two each M190 load-bearing intermediate pivots, mounted together at the top of the straight vertical edge
- Intermediate pivot(s) required: M19 (order separately), see page 18
- Doors 60" (1524mm) to 90" (2286mm) in height should use one intermediate pivot. Each additional 30" (762mm) warrants another intermediate pivot
- For fire rated openings (up to 3 hour assemblies) prefix "F". This package will be supplied with a steel top pivot (F180) and a non-hold open closer. Intermediate pivot required: FM19 (order separately), see page 18
- UL listed closers cannot have PH option
- For 20-minute labeled doors suffix "-20" to the part number
- Furnished with wood and machine screws
- Extended spindles available in 1/2" increments up to 2" longer than standard

**Technical Information**

(Frame stop required)



# HEAVY-DUTY FLOOR CLOSERS

## 3/4" OFFSET HUNG

**RIXSON**  
**ASSA ABLOY**

MODEL 27-180

### Application

- Single Acting, Handed
- Exterior or Interior Doors
- Weight to 450 lbs.\*
- Door Width up to 4'0" (1219mm)



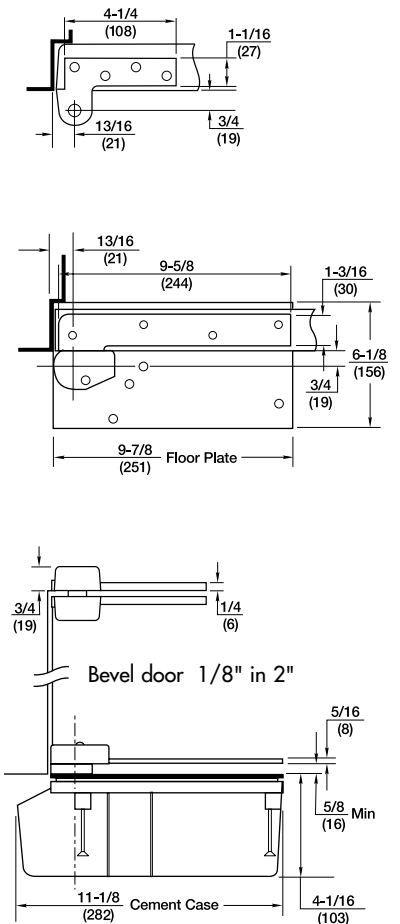
\* Door size & weight guidelines are determined using the appropriate number of intermediate pivots

### Product Description & Features

- Maximum opening 180°, auxiliary floor or wall stop recommended
- Separate and independent valves for closing speed and latch speed
- Adjustable hydraulic backcheck
- Available non-hold open (N) or automatic hold open (A)
- Not available with delayed action (DA)
- Models available to meet ICC/ANSI A117.1 low opening force requirements, prefix "PH". (For 8-1/2 lbs. of opening force prefix "PH" and suffix "8-1/2 lbs.")
- Cold weather option – specify "CWF"
- Sealed closer option – specify "SC"
- Available with floor plate or threshold installation (floor plate shown)
- Available 1-1/2" offset, for doors with 3/4" cladding or frames with applied molding, maximum door weight 250 lbs.
- Cylolac, rustproof cement case
- Vertical door adjustment
- Standard top pivot: #180 included
- For arch top doors or applications where a 180 top pivot cannot be used, supply at least two each M190 load-bearing intermediate pivots, mounted together at the top of the vertical edge
- Intermediate pivot(s) required: M19 (order separately), see page 18
- Doors 60" (1524mm) to 90" (2286mm) in height should use one intermediate pivot. Each additional 30" (762mm) warrants another intermediate pivot
- For fire rated openings (up to 3 hour assemblies) prefix "F". This package will be supplied with a steel top pivot (F180) and a non-hold open closer. Intermediate pivot required: FM19 (order separately), see page 18
- UL labeled closers cannot have PH option
- For 20-minute labeled doors suffix "-20" to the part number
- Furnished with wood and machine screws
- Extended spindles available in 1/2" increments up to 2" longer than standard

### Technical Information

(Frame stop required)



MODEL L27-180

**Application**

- Single Acting, Handed
- Exterior or Interior Doors
- Lead-Lined/Heavy/High Traffic Doors
- Weight to 1500 lbs.\*
- Door Width up to 4'0" (1219mm)



ANSI/C06071

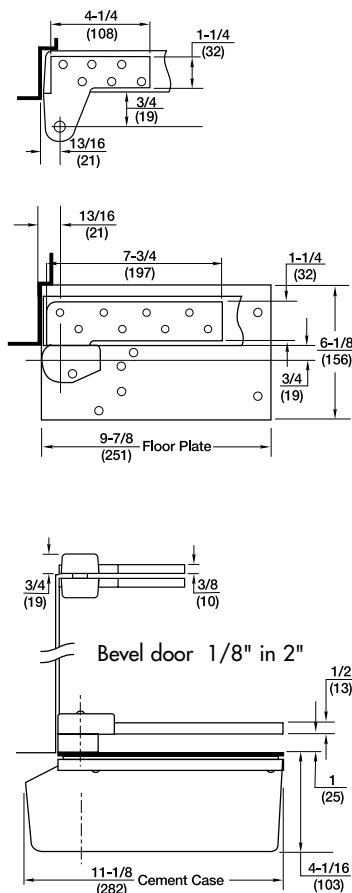
**Product Description & Features**

Heavy-duty bottom arm and top pivot with screw holes spaced to straddle lead lining, or for extra heavy or very high traffic doors.

- Available for the following lead-lined door thicknesses: 1-3/4" (44mm), 2" (51mm), 2-1/4" (57mm), 2-1/2" (63mm) or 3" (76mm)
- Additional thrust bearing for greater load capacity
- Built-in positive dead stop prevents door from swinging beyond 180° only
- Separate and independent valves for closing speed, latch speed and backcheck
- Available non-hold open (N) or automatic hold open (A) at 180°
- Delayed action option – prefix "DA" (non-hold open closers only)
- Models available to meet ICC/ANSI A117.1 low opening force requirements, prefix "PH". (For 8-1/2 lbs. of opening force prefix PH and suffix 8-1/2 lbs.)
- Cold weather fluid option – specify "CWF" (not available for closers with "DA")
- Sealed closer option – specify "SC"
- Available with floor plate or threshold installation (floor plate shown)
- For extended offsets, consult factory
- Cast iron cement case
- Vertical door adjustment
- Standard top pivot: L180 included
- For arch top doors or applications where a L180 top pivot cannot be used, supply at least two each ML19 load bearing intermediate pivots, mounted together at the top of the vertical edge
- Intermediate pivot(s) required: ML19 (order separately), see page 19
- Doors 60" (1524mm) to 90" (2286mm) in height should use one intermediate pivot. Each additional 30" (762mm) warrants another intermediate pivot
- For fire rated openings (up to 3 hour assemblies) prefix "F". This package will be supplied with steel top pivot (FL180) and non-hold open closer. Furnish intermediate pivot FML19, order separately, see page 19. Note: UL listing for 1-3/4" thick doors only.
- UL labeled closers cannot have PH option
- For 20-minute labeled doors suffix "-20" to the part number
- Furnished with wood and machine screws
- Extended spindles available in 1/2" increments up to 2" longer than standard

**Technical Information**

(Frame stop required)



# HEAVY-DUTY FLOOR CLOSERS CENTER HUNG SINGLE ACTING

**RIXSON®**  
**ASSA ABLOY**

## MODEL 28

### Application

- Single Acting, Handed
- Exterior or Interior Doors
- Weight to 350 lbs.
- Centering Arm
- Sizes up to 4'0" x 8'6"\*  
(1219 x 2591mm)



ANSI/C06021

\* For doors taller than 8'6"  
use top pivot # 345 in lieu  
of 340

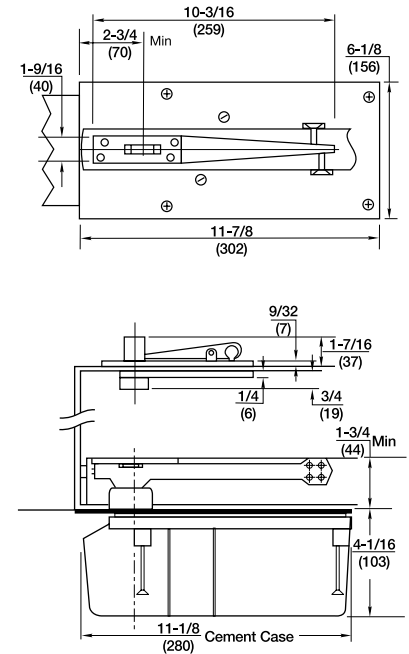
### Product Description & Features

Centering arm with adjusting screws in face of door

- Built-in positive dead stop prevents door from swinging beyond the desired opening degree (specify 85°, 90°, 95° or 105°)
- Separate and independent valves for closing speed, latch speed and backcheck
- Available non-hold open (N) or selective hold open (S) at same degree as dead stop
- Delayed action option – prefix "DA" (non-hold open closers only)
- Models available to meet ICC/ANSI A117.1 low opening force requirements, prefix "PH". (For 8-1/2 lbs. of opening force prefix "PH" and suffix 8-1/2 lbs.)
- Cold weather fluid option – specify "CWF" (not available for closers with "DA")
- Sealed closer option – specify "SC"
- Available with floor plate or threshold installation (floor plate shown)
- Arm reinforcement bracket for wood doors - prefix W
- Cylolac, rustproof cement case
- Standard top pivot: #340 included
- Not allowed for fire rated doors
- Frame stop required on the header at the lock side. If not supplied by frame manufacturer, recommend use of 60131 (see Door Control Accessories page 8).
- Furnished with wood and machine screws
- Extended spindles available in 1/2" increments up to 2" longer than standard

### Technical Information

(Frame stop required at lock edge)



Pivot edge of door  
must be radiused.

MODEL H28

**Application**

- Single Acting, Handed
- Exterior or Interior Doors
- Extra Heavy High Traffic Doors
- Weight to 1000 lbs.
- Sizes up to 4'0" x 8'6"\*  
(1219 x 2591mm)



ANSI/CO6061

\* For doors taller than 8'6"  
use top pivot #H345 in lieu  
of H340

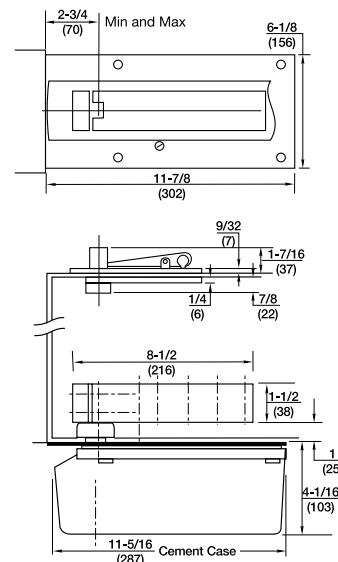
**Product Description & Features**

For high traffic or extra heavy doors (2" min. thickness)

- Additional thrust bearing for greater load capacity
- Built-in positive dead stop prevents door from swinging beyond the desired opening degree (specify 85, 90, 95 or 105°)
- Separate and independent valves for closing speed, latch speed and backcheck
- Available non-hold open (N) or selective hold open (S) at same degree as dead stop
- Delayed action option – prefix "DA" (non-hold open closers only)
- Models available to meet ICC/ANSI A117.1 low opening force requirements, prefix "PH". (For 8-1/2 lbs. of opening force prefix "PH" and suffix "8-1/2 lbs.")
- Cold weather fluid option – specify "CWF" (not available for closers with "DA")
- Sealed closer option – specify "SC"
- Available with floor plate or threshold installation (floor plate shown)
- Cast iron cement case
- Standard top pivot: H340 included
- Not allowed for fire rated doors
- Frame stop required at header on lock side. If not supplied by frame manufacturer, recommend use of 60131 (see Door Control Accessories page 8).
- Furnished with wood and machine screws
- Extended spindles available in 1/2" increments up to 2" longer than standard

**Technical Information**

(Frame stop required at lock edge)



Pivot edge of door  
must be radiused.

MODEL H28 X 587 ARM

**Application**

- Side Load Arm

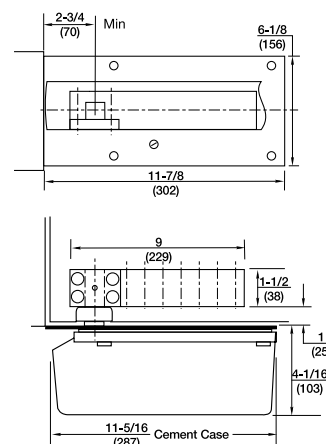


**Product Description & Features**

Identical to Model H28 except:

- Special side load arm for 1-3/4" thick doors
- Allows pivot point to be moved away from pivot edge of door – minimum 2-3/4" backset

**Technical Information**



# HEAVY-DUTY FLOOR CLOSERS CENTER HUNG SINGLE ACTING

**RIXSON®**  
**ASSA ABLOY**

## MODEL EH28

### Application

- Single Acting, Handed
- Interior or Exterior Doors
- Floor Closer for Power Transfer
- Weight to 500 lbs.
- Sizes up to 4'0" x 8'6" \*  
(1219 x 2591mm)



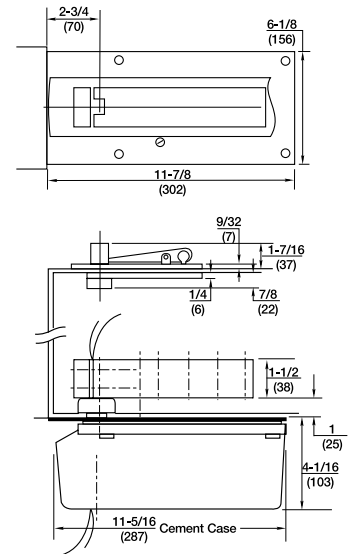
\* For doors taller than 8'6" use top pivot H345 in lieu of H340

### Product Description & Features

- Provides power transfer through closer spindle. Low voltage, Class II wiring (2 wire, 18 gauge only)
- 2" min. door thickness
- Additional thrust bearing for greater load capacity
- Built-in positive dead stop prevents door from swinging beyond the desired opening degree (specify 85°, 90°, 95° or 105°)
- Separate and independent valves for closing speed, latch speed and backcheck
- Available non-hold open (N) or selective hold open (S) at same degree as dead stop
- Delayed action option – prefix "DA"
- Models available to meet ICC/ANSI A117.1 low opening force requirements, prefix "PH". (For 8-1/2 lbs. of opening force prefix "PH" and suffix "8-1/2 lbs.")
- Cold weather fluid option – specify "CWF" (not available for closers with "DA")
- Sealed closer option – specify "SC"
- Available with floor plate or threshold installation (floor plate shown)
- Cast iron cement case
- Standard top pivot: H340 included
- Not allowed for fire rated doors
- Frame stop required on header on lock side. If not supplied by frame manufacturer, recommend use of 60131 (see Door Control Accessories page 8)
- Furnished with wood and machine screws
- Extended spindles available in 1/2" increments up to 2" longer than standard

### Technical Information

(Frame stop required at lock edge)



Not available with Electrolynx®

Pivot edge of door must be radiused.

## MODEL EH28 X 587 ARM

### Application

- Side Load Arm
- Single Acting, Handed
- Interior or Exterior Doors
- Floor Closer for Power Transfer
- Weight to 500 lbs.
- Sizes up to 4'0" x 8'6" \*  
(1219 x 2591mm)\*



### Product Description & Features

Identical to Model EH28 except:

- Special side load arm for 1-3/4" thick doors
- Allows pivot point to be moved away from pivot edge of door – minimum 2-3/4" backset

### Technical Information

