



ASSA ABLOY

7500/7700 Series Institutional Door Closers



ASSA ABLOY, the global leader
in door opening solutions

OVERVIEW

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
- Spring Force Indicator (7500 Series only)
- 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
- 10-year limited warranty
- Heavy-duty arms: Regular Rigid, Parallel Rigid, CloserPlus®, CloserPlus Spring™ and Unitrol®
- Slide Tracks: push or pull side mounting

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

- ANSI/BHMA A156.4, Grade 1 certified
- UL listed
- UL10C compliant for positive pressure
- ADA Compliant (7500)
- New York City, MEA 41-60-5M



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

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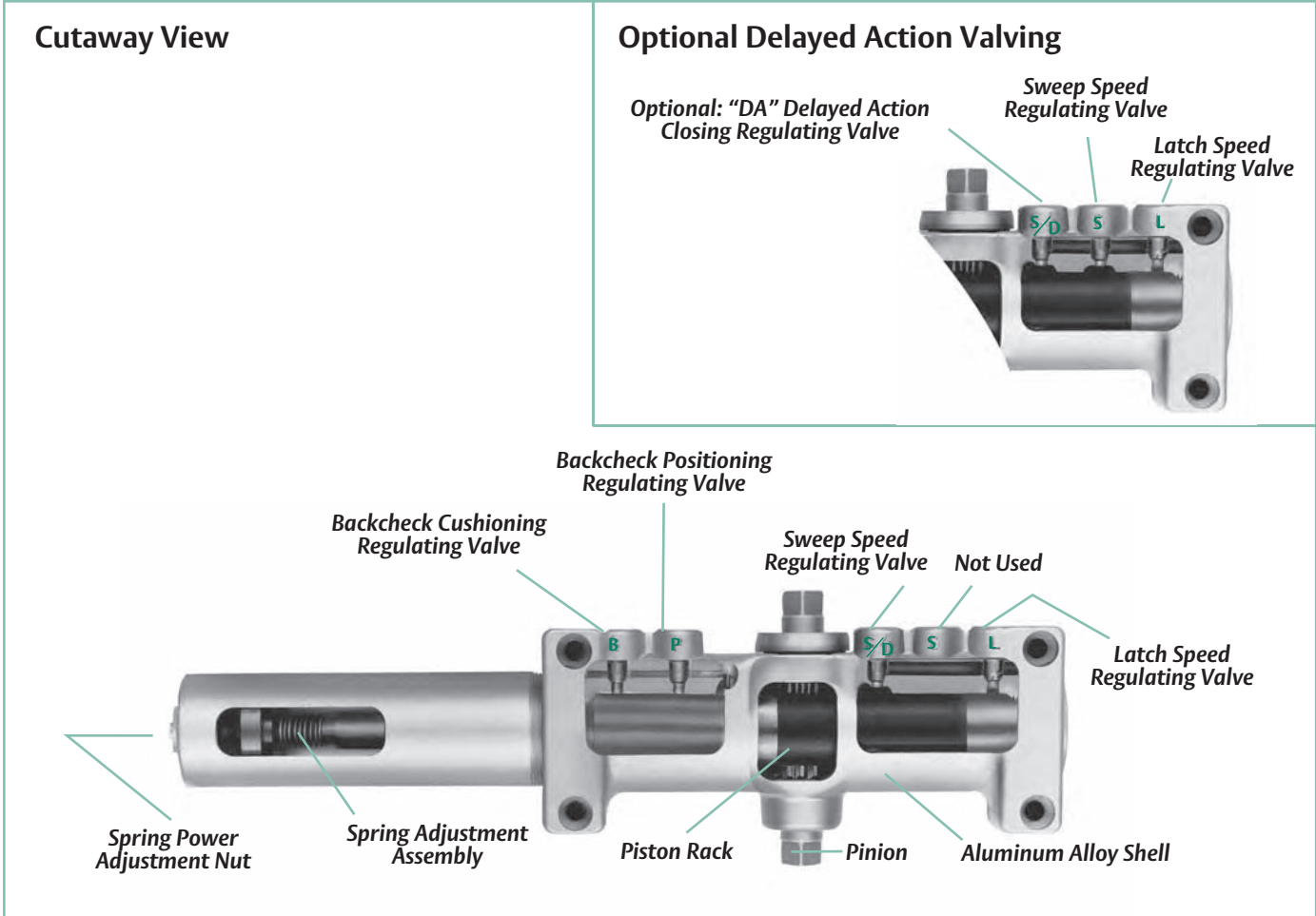
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OVERVIEW



COMPLIANCE STANDARDS

The series 7500 door closers are designed to comply with requirements of the Americans with Disabilities Act (A.D.A.) and ANSI standard A117.1. All series 7500/7700 door closers are ANSI/BHMA A156.4 Grade 1 certified. All Norton series 7500/7700 closers with non-hold open arms are listed by Underwriters' Laboratories for labeled fire doors. This includes compliance to UL10C and UBC-72 (1997) for 3-hour assemblies. The product is manufactured in an ISO 9001 facility. These closers are also listed by the New York City Materials and Equipment Acceptance Division.

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 Standard A117.1, when adjusted to meet those requirements, may not provide adequate closing power to dependably close and latch the door.

HOW TO ORDER

NOTE: For optimum protection of door and frame assemblies, always use auxiliary wall, floor, or overhead door stop.

No Prefix } 7700 series designates bi-packed (regular & top jamb). (Top jamb up to 3" reveal. For frame face less than 3", order 7786 backplate.)
 7500 series designates Tri-Style® packaging (tri-packed).

J - Top jamb installation. Supplied with 7786 backplate 2-3/4" - 7" reveal, 150° swing.
JL - Top jamb Installation. Supplied with 7786 back plate 2-3/4" - 7" reveal, 180° swing.
P - 7700 parallel arm only.
 - 7500 parallel arm units with specialty brackets.
 - 7580 low-profile closer.
 - 7500SS corrosion-resistant closer.
PR - Parallel rigid arm (parallel arm only); specify hand for hold open functions.
PRO - Parallel rigid arm with offset soffit plate (parallel arm only); specify hand for hold open applications.
PS - 7500ST / 7540ST / 7700ST / 7740ST for push side mounting only.
R - Rigid heavy-duty regular arm. (Torx® screws not included) (N/A in stainless steel)
CLP - CloserPlus® arm (parallel arm only).
CPS - CloserPlus Spring™ arm (parallel arm only).
UNI - Unicontrol® arm (parallel arm only - specify **door width**).
 Frame reveals 1-7/8" to 4-5/8" (48mm-117mm) standard.
UNIJ - Unicontrol arm (top jamb only - specify **frame reveal**). 7-3/8" (187mm) maximum.

Sizing charts provided on pages 13-25 are based on 1-3/4" (44mm) x 70" (2.13m) standard weight doors swinging to 110°. Other conditions (such as door height or weight, or wind/draft conditions) may require a larger size closer.

0 - Series 7500 power range 1 through 6

Series 7700

- "2" - ANSI size 2
- "3" - ANSI size 3
- "4" - ANSI size 4
- "5" - ANSI size 5
- "6" - ANSI size 6

JL
PREFIXES

75
FIRST & SECOND DIGIT
Defines closer series

0
THIRD DIGIT
Specifies some options

0
FORTH DIGIT
Closer power sizing

H
SUFFIXES

77 = 7700 sized closer
 75 = 7500 multi-sized closer

- 0** - Specifies standard arm.
- 3** - Indicates top jamb (J prefix) for frame reveal 0 to 3" (0-76mm). 7786 back plate included.
- 4** - Specifies shallow 11/16" (17mm) depth slide track for closer with "ST" suffix.
- 7** - Specifies closer having a security arm, security cover and Torx® security screws (specify hand).
- 8** - Specifies low-profile arm (use prefix "P" parallel arm or "J" for top jamb). Non-hold open only.

- None** - Non-hold open arm function
- H** - Hold open arm function (specify hand when "PR" prefix is ordered)
- M** - Metal cover (cover is handed for top jamb applications)
- MLL** - Lead lined metal cover
- DA** - Optional delayed action feature
- EBC** - Optional enhanced backcheck
- HOSP** - 7703 or 7704 only. Hospital hold open (specify hand)
- COUP** - 7702 or 7703 only. Coupon both hold open (specify hand)
- TEL** - 7702 only - Telephone booth function (non-handed)
- ST** - Slide track - single lever arm (auxiliary stop recommended). For push side - prefix PS
- ST-180** - Slide track - single lever arm, pull side track without buffer assembly for maximum door swing (auxiliary stop required)
- ST-DE** - Slide track - pull side double egress
- SS** - Series 7500 only. Corrosion-resistant closer. Available with non-hold open adjustable arm only; for regular arm, top jamb "J" prefix or parallel arm "P" prefix
- STP** - 7706 and 7706EP door closers only, slide track for pocket door application
- EP** - Extra power door closer (for 7706 closer only)
- T** - Thumbturn hold open on CloserPlus® (CLP) or CloserPlus Spring™ (CPS) arm
- G** - ABS cover

- Note:
- Door closer warranty becomes void if it is installed on the exterior side of a door in the exterior wall of a building
 - It is strongly recommended, and it is required on fire door assemblies, that doors having a door closer be hung on ball-bearing or anti-friction hinges or pivots
 - Failure to use the correct type and size fasteners may void factory warranty
 - Fasteners for fire/smoke door assemblies must conform to NFPA 80. In some applications additional fasteners may be mandated by NFPA 80 that are not shipped with Norton's standard product, such as sleeve nuts or through-bolts and grommet nuts
 - Sizing charts provided on pages 13-25 are based on 1-3/4" (44mm) x 7" (2.13m) standard weight doors swinging to 110 degrees. Other conditions (such as door height or weight; or wind/draft conditions) may require a larger size closer.

Fasteners

Type	Description	Arm								
		RA	PA	TJ	Low Profile	PR	CLP/CPS	UNI	UNI-J	Slide Track
DOOR										
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
FRAME										
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: Product will be painted with a combination of waterborne acrylic and polyester powder coat. Closers will withstand 100 hours of salt spray. ANSI requires 25 hours.

Sprayed Finishes	Specify BHMA Designation	Complements the following finishes	Old 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
Prime Coat*	600	—	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: 7500 x 600 x 690).

Plated Finishes	Specify BHMA Designation (Metal Covers Only)	Old Designation
Bright Brass	605E	US3
Satin Brass	606E	US4
Bright Bronze	611E	US9
Satin Bronze	612E	US10
Oxidized Oil Rubbed Bronze	613E	US10B
Bright Chrome	625E	US26
Satin Chrome	626E	US26D

Finishes other than those listed above may be available on special order. A sample will be required.

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 ten-year warranty against defect, and life of the building on the aluminum housing.

Spring Force Indicator

This visual indicator enables the installer to quickly set and verify the spring size on the closer, eliminating the guesswork of setting the spring force. Standard on all 7500 Series door closers.



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.

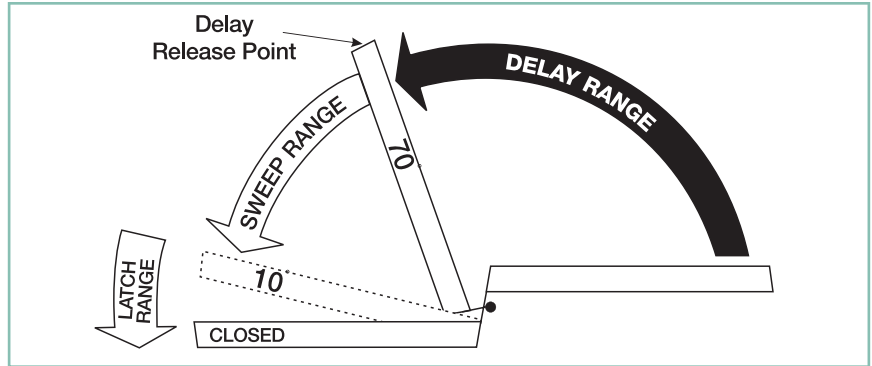
Optional ABS Cover

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.

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

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

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

**SPECIAL
FUNCTION DOOR
CLOSER**

7700 Special Function Door Closers

Telephone Booth Operation

Closer holds the door to the telephone booth open at 5° from the closed position. This prevents the light switch from being activated and allows the booth to be ventilated. It also indicates to users that the booth is unoccupied. Available in size 2 only for regular arm or top jamb application only.

Coupon Booth Hold Open

Most commonly used on doors to safe deposit box inspection cubicles. Closer holds the door to the booth open at 15° to indicate that the booth is available for use by a safe-deposit-box renter. When the door is opened beyond 70°, the closer will close the door and engage the lock, providing the occupant with the desired privacy. Available in sizes 2 and 3 only for regular arm, top jamb or parallel arm application. Specify hand.

Hospital Hold Open

Closer will hold door open at approximately 15° for ventilation, 45° for observation and beyond 90° for full access.

Closer is supplied with a standard hold open arm for the beyond 90° hold open position. Available in sizes 3 and 4 only for regular arm, top jamb or parallel arm application. Specify hand.

**SUGGESTED
SPECIFICATIONS**

7500 Series

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy body. Closers shall be surface mounted and shall project no more than 2-3/16" (55mm) from the surface of the door. Closers shall be non-handed to permit installation on doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have multi-size spring power adjustment to permit setting of spring from size 1 through size 6. Closer shall have visual indicator noting spring size. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have backcheck cushioning controlled by a hex key adjusted valve. Closers shall have backcheck position controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed-action closing controlled by a hex key adjustable valve.]

[Closers shall be highly corrosion resistant and shall have all external body components of aluminum, brass or stainless steel material and all fasteners of stainless steel.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+/- 7-1/2%) power adjustment. **Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover]. Closers to be Norton [7500] [7500M] [7500SS].

**For special arms insert the appropriate specification from column three on this page.

7700 Series

Closers for interior and exterior doors shall be full rack-and-pinion type with cast aluminum alloy shell. Closers shall be surface mounted and shall project no more than 2-3/16" (55mm) from the surface of the door. Closers shall be non-handed to permit installation of doors of either hand. Closer fluid shall contain lubricity and anti-oxidation agents. Closer fluid shall maintain stable viscosity to allow door closer to perform in temperatures ranging from extremely high to as low as -40°F. Closers shall have power adjustment to permit a 50% increase in power over the minimum closing force for each size. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have backcheck cushioning controlled by a hex key adjusted valve. Closers shall have backcheck position controlled by a hex key adjusted valve.

[Closers shall have adjustable delayed action closing controlled by a hex key adjustable valve.]

Regular arm and top jamb closers shall have a non-hold open shoe permitting 15% (+/- 7-1/2%) power adjustment. **Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover]. Closers to be Norton [7700] [7700M].

**For special arms insert that specification here (see column three on this page).

****Unitrol® Arm**

Door closers shall have a fixed door stop feature effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop shall be cushioned by a shock-absorbing heavy-duty spring action effective at the [soffit plate] [arm shoe] pivot. [Closers shall be provided for parallel arm installation using rigid steel main arm and secondary arm lengths proportional to the door width.] [Closers shall be provided for top jamb installation using steel, rigid main arm and telescoping secondary arm adequate for the frame reveal of the openings.]

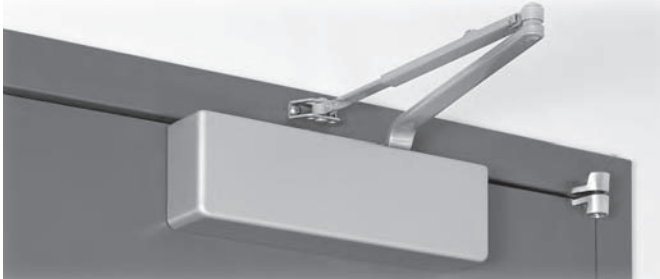
****CloserPlus® Arm**

Door closers shall have a field reversible door stop. Door closer shall have a feature with selectable on and off ball and detent hold open. Hold open tension shall be adjustable effective at one point selected at installation, from 85° - 110° in five degree increments. [Hold open mechanism shall have engage/ disengage selection actuated by thumbturn]. Closers shall be provided for parallel arm installation using a forged rigid steel main arm and secondary arm.

****CloserPlus Spring™ Arm**

Door closers shall have built-in door stop [and holder] effective at one point selected at installation, from 85° - 110° in five-degree increments. Door stop mechanism shall be reversible and have a buffer spring that engages prior to the dead stop feature, reducing shock loads to the door and frame assembly. Door stop mechanism shall be attached to soffit plate. [Hold open mechanism shall have engage/disengage selection actuated by thumbturn]. Closers shall be provided for parallel installation using a forged rigid steel main arm and secondary arm.

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.

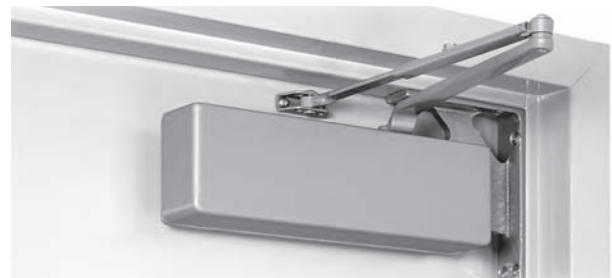


Non-hold open arm shown

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.