Multi-sized closer with sleek design
for busy architectural openings

8000 SERIES

DOOR CLOSER

CATALOG

Norton®
ASSA ABLOY

Experience a safer
and more open world

INTRODUCTION

Multi-sized surface closer offering a complete range of arms and a sleek, minimal design suited for moderate- to high-traffic, architectural openings.

FEATURES

- Exceeds 25 million cycles
- Adjustable spring sizes 1 through 6
- Tri-Style® packaging standard (regular arm, top jamb and parallel arm mounting)
- Non-handed
- Staked valves
- Cast aluminum closer body
- Rack and pinion design
- 1-1/4" (32mm) diameter piston
- 5/8" (16mm) diameter pinion journals
- 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
- Full size template
- Standard, separate and independent, latch, sweep and back check intensity valves
- Application specific arms: Regular (S), Top Jamb (JS) and Parallel (P)
- Heavy-duty arms; Regular Rigid, Parallel Rigid, CloserPlus®, CloserPlus Spring™, Unitrol®
- Slide Tracks: push or pull side mounting
- 25-year limited warranty

OPTIONAL FEATURES

- Lead lined metal cover - suffix MLL
- Metal, architectural plastic or architectural metal covers (8501 only)
- Delayed action

Features	8301	8501
Slim Line Cover	✓	
Full cover		✓

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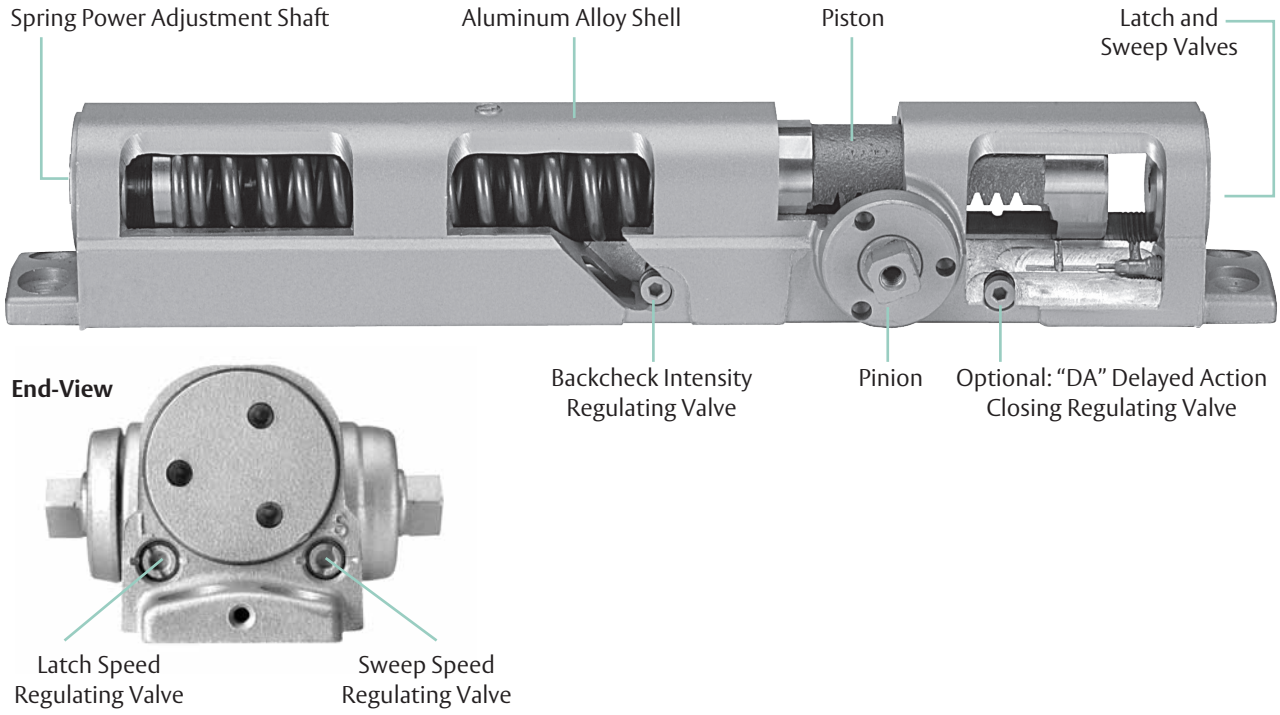
OVERVIEW

CUTAWAY VIEW



CERTIFICATIONS

- ANSI/BHMA A156.4, Grade 1 certified
- UL / cUL listed for use on fire rated doors
- UL10C listed for positive pressure fire test
- 8301 and 8501 door closers are designed to comply with requirements for the Americans with Disabilities Act (A.D.A)and ANSI standard A117.1
- This product is manufactured in an ISO 9001, ISO 14001 facility
- UL certified environmental product declaration

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 based on opening or site conditions.

EXPLANATION OF 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 8301/ 8501 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 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 Value

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

Tri-Style®

8301/8501 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 cushions the door opening when the door is forcibly opened beyond its pre-adjusted limits.

Standard Molded Covers

Molded of high-impact U.L. listed material. These covers are non-handed for all applications.

Warranty

Limited 25-year warranty for defects 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 8301/8501 Multi-Sized Door Closer

Adjustable through the power range of sizes 1 through 6; as outlined in ANSI/ BHMA specification A156.4 option PT 4H.

Closers will also comply with the opening force requirements as outlined in the Americans with Disabilities Act (ADA) and ANSI/BHMA standard A117.1 for interior doors.

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 plated finishes.

Optional Architectural Covers *

Plastic

Architectural plastic covers are molded of high-impact U.L. listed material. They are non-handed and available in sprayed finishes.

Metal

The architectural metal covers are steel and non-handed for all applications. These covers are available in sprayed or plated finishes.

Optional ABS Cover

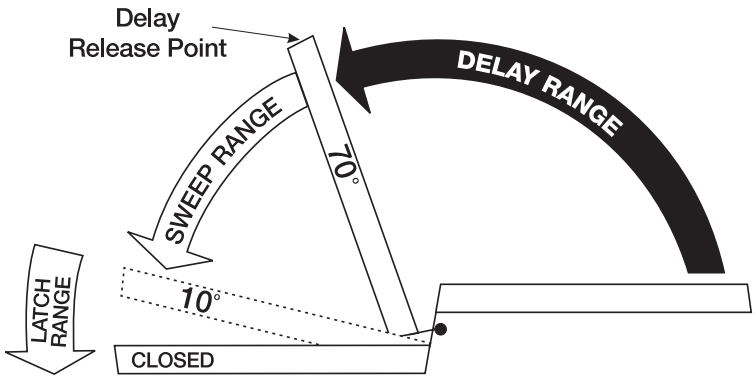
Consult factory for details

EXPLANATION OF FEATURES

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.

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 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 180°	85° to 180°	N/A	85° to 110°

✓=180° trim and template permitting

SUGGESTED SPECIFICATIONS

8301/8501 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 2-1/8" from the surface of the door with standard cover. 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. Closers shall have two non-critical valves, hex key adjusted, to independently regulate sweep speed and latch speed. Closers shall have adjustable backcheck intensity 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% (+ or – 7-1/2%) power adjustment. **Closers shall be enclosed in a [molded resin cover] [plated or sprayed metal cover], Closers to be Norton® [8301/8501] [8501M] [8501MA] [8501A].

**For special arms insert the appropriate specification from 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 a rigid steel main arm and secondary arm lengths proportional to the door width.] [Closers shall be provided for top jamb installation using a forged steel, rigid main arm and telescoping secondary arm adequate for the frame reveal of the openings.]

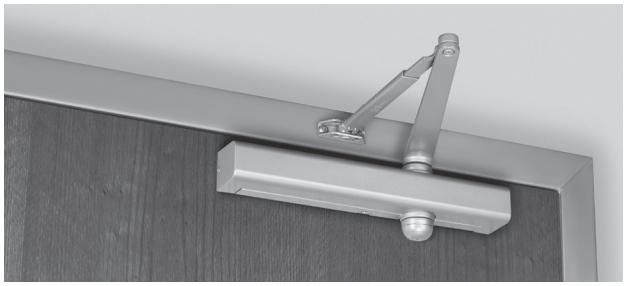
****CloserPlus® Arm**

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 non-handed and 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



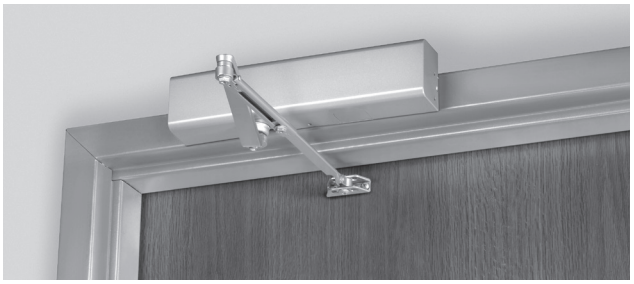
8301 - slim cover

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.

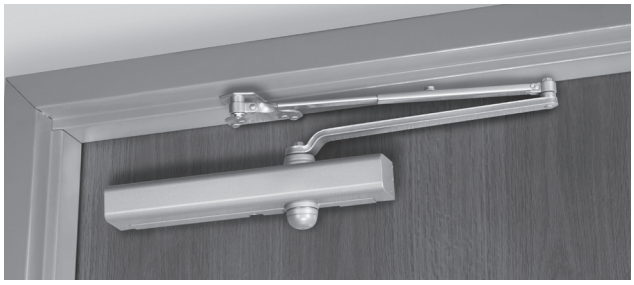
8501 - full cover

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

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 2-1/4" (57mm). 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.



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. Top rail clearance dimensions will vary based on the type of cover used.

APPLICATIONS

Non-hold open arm shown

Parallel Rigid Arm

An enhanced variation of the standard parallel arm assembly that is intended for use in heavy traffic areas where auxiliary door stops are installed.

Hold open available - specify hand when ordering.

Non-hold open arm shown

CloserPlus® Arm

Similar to the Parallel Rigid arm, this arm incorporates a stop at the arm's soffit plate to dead stop the door at a predetermined degree of door swing between 85° to 110°, in 5° increments. Prior to dead stop the door closer's backcheck feature slows the door speed to reduce the impact of the stop action.

The CloserPlus Arm is intended for use where an auxiliary door stop cannot be utilized and no more than moderate abuse is anticipated. Where more extreme conditions are expected, use of a Unitrol arm is recommended.

Available with or without hold open. (Hold open strength is adjustable.)

Non-hold open arm shown

CloserPlus Spring™

This arm has all the characteristics of the CloserPlus arm with an additional steel buffer spring that provides greater protection at the end of the door opening cycle.

For extreme conditions, use of a Unitrol arm is recommended. Available with or without hold open.

CloserPlus Ramp™

The CLP-R uses a patent pending ramp and plunger design that easily slides into place reducing wear often seen on traditional hold open arms. Ideal for applications where the door will constantly be pulled out of hold open.

APPLICATIONS

Regular Rigid Arm

This double lever arm features a non-adjustable secondary arm. Orbitally riveted joints prevent tampering or disassembly. Prefix "R" to model number. Available non-hold open only.

Non-hold open arm shown

Parallel Rigid Offset Arm

This heavy-duty parallel rigid arm provides additional vertical clearance. It is well suited for applications where weather stripping or other hardware prevents the use of the standard Parallel Rigid (PR) soffit plate. The non-hold open and hold arms allow 1-1/4" clearance. When used in conjunction with a 6891 spacer block, the PRO arm provides 1-7/8" clearance to accommodate the use of a surface overhead stop/holder.

Parallel

Top Jamb

Unitrol® Arm

Can be used for either parallel arm or top jamb applications. Unitrol arms combine the features of a double lever arm overhead door stop/holder with the backcheck feature of the door closer to reduce door stopping shock loads to a minimum. The Unitrol uses a compression spring buffer at the soffit plate/arm shoe that will absorb 30 lbs. of force, 5° prior to the door's dead stop. Coupled with the door closer's backcheck feature, this arm provides the most controlled stop available with a surface door closer.

For parallel arm applications there are three different length arm assemblies. Each length is designed for a specific range of door widths, to provide precise door control. This further lessens the dead stop impact on the door's hinges/pivots.

Only available in painted finishes.

APPLICATIONS

Pull Side

Low Profile Pull Side

Push Side

Low Profile Push Side

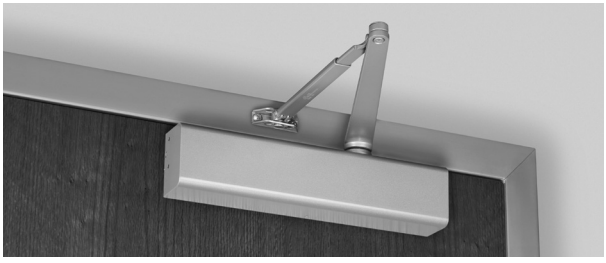
Slide Track

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.

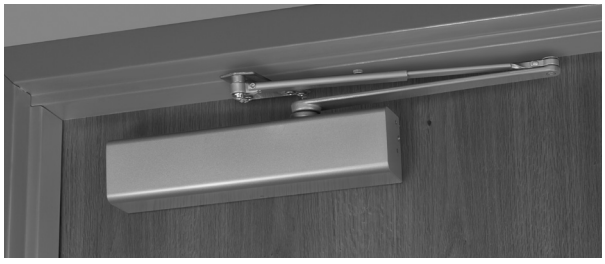
Standard Unit

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 8381/8581 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.

- **Note:** Low profile arm door closers are not supplied with Tri-Style® packaging.